

APPENDIX C

**On-Site Emission Reduction Checklist for Proposed
Rule 9510 (Indirect Source Review) and
Rule 3180 (Administrative Fees for Air Impact
Assessment Applications)
and
On-Site Enhancing Measures List**

November 17, 2005

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

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SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

MIXED USE OR NON-RESIDENTIAL ON-SITE EMISSION REDUCTION LIST

| No. | Measure – Objective |
|-----------------|---------------------|
| LOCATION | |

Bicycle Infrastructure

| | |
|-----|--|
| M-1 | Project is located within 1/2 mile of existing or planned Class I or II bike lanes on arterial/collector streets, or where a suitable parallel route exists. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Bicycle and Pedestrian Node)</i> |
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Mass Transit Infrastructure

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| M-2 | Project is located within 1/4-1/2 mile of a transit stop. <i>(URBEMIS Location: Operation Emissions: Mitigation Measures: Transit Service Node)</i> |
| | * Office floor area ratio is 0.75 greater within 1/4 mile of existing transit stop. |

Mixed Use/Density

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|-----|---|
| M-3 | Include high density residential, mixed, or retail/commercial uses on site or locate near (within a 1/2 mile of project center). <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Mix of Uses Node and/or Operational Emissions: Mitigation Measures: Local Serving Retail)</i> |
| | * Day care facilities |
| | * Restaurant or cafeteria |
| | * Bank or ATM |
| | * Dry cleaners |
| | * Post office / services |
| | * Entertainment (movie / video) |
| | * Recreation facility / fitness center |
| | * Public Park |
| | * Residential development / On-site employee living spaces |
| M-4 | Average Residential density is 7 Dwelling Units (DU) per acre or greater. <i>(URBEMIS Location: Land Use Selection - Acreage)</i> |
| | ■ Project contains ancillary residential units - "Granny Flats" |
| M-5 | Designate a portion of residential units as deed-restricted below-market-rate (BMR) housing. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Affordable Housing Node)</i> |
| | ■ Include Affordable Housing/Senior Housing/ Assisted Living |

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|---------------------------|
| BICYCLE/PEDESTRIAN |
|---------------------------|

Bicycle Storage

| | |
|-----|---|
| M-6 | Provide Class I and Class II bicycle parking facilities on-site. Bicycle parking facilities should be near destination points and easy to find. At least one bicycle parking space for every 20 vehicle parking spaces. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| | * One bicycle parking space for every 10 car parking spaces is considered appropriate. |
| | * Provide secure bicycle storage at public parking facilities. |

⊗ These operational, program-oriented measures must be implemented for at least 10years from build-out to qualify as an emission reduction measure

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

Appendix C: On-Site Mitigation Checklist Rule for 9510 and 3180

November 17, 2005

| No. | Measure - Objective |
|-----|---|
| M-7 | Provide shower and locker facilities to encourage employees to bike and/or walk to work, typically one shower and three lockers for every 25 employees. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| M-8 | Provide Class I bicycle parking at apartment complexes or condos without garages. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |

Pedestrian- Bicycle Oriented Infrastructure

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|------|---|
| M-9 | Install Class I or II bike lanes on arterial/collector streets, or where a suitable route exists. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Bicycle and Pedestrian Node)</i> |
| M-10 | Install complete, separate, safe, and convenient pedestrian sidewalks/paths that connect multiple uses. This can be implemented through the following project designs: <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Bicycle and Pedestrian Node)</i> |
| | * Provide direct pedestrian connections |
| | * Provide paths and building access which are physically separated from street parking lot traffic and that eliminates physical barriers such as walls, berms, landscaping and slopes that impede the use of pedestrians, bicycle facilities, or public transportation vehicles |
| | * Place store entrances close to adjacent sidewalks. |
| | * Provide pedestrian signalization and signage to improve pedestrian safety |
| | * Provide continuous sidewalks separated from the roadway by landscaping and on-street parking. |
| | * Provide clearly delineated crosswalks at intersections. |
| | * Provide on and off-site pedestrian facility improvements such as overpasses and wider sidewalks |
| | * Provide on and off-site pedestrian facility improvements such as trails linking them to designated pedestrian commuting routes and/or on-site overpasses and wider sidewalks. |
| | * Provide street lighting |
| | * Provide shaded pathways (e.g. provide street trees or building overhangs) |
| | * Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel |
| | * Provide traffic calming modifications to project roads, such as narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds, to encourage pedestrian and bicycle travel. |
| | * Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances |
| | * Provide pedestrian access between bus service and major transportation points and destination points within the project. |
| | * Minimize building setback to adjacent existing or planned pedestrian infrastructure |
| | * Setback distance is minimized between development and transit, bicycle, or pedestrian corridor |
| | * Setback distance is minimized between development and neighboring properties |

TRANSPORTATION DESIGN

Signage

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|------|--|
| M-11 | Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees, residents, or visitors. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| | * Display Bike Route Maps |
| | * Display Bus Schedules |
| | * Display other transportation information such as carpooling, carsharing, etc. |

☒ These operational, program-oriented measures must be implemented for at least 10 years from build-out to qualify as an emission reduction measure

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

Appendix C: On-Site Mitigation Checklist Rule for 9510 and 3180

November 17, 2005

| No. | Measure - Objective |
|----------------|--|
| Streets | |
| M-12 | Project design uses models by the Local Government Commission (LGC) in the "Smart Growth Guidebook," such as: street block patterns that form an interconnected grid, short block faces, numerous alleys and narrow streets. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Bicycle and Pedestrian Node)</i> |

PARKING

Strategies: Pricing and Preferential Parking

| | |
|------|---|
| M-13 | Develop and implement parking pricing strategies, such as charging parking lot fees to low occupancy (single occupant vehicles) vehicles. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| M-14 | Provide preferential parking spaces near the entrance of buildings for those who carpool/vanpool/rideshare and provide signage. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |

Parking Amount

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|------|---|
| M-15 | Provide parking reduction. The following are guidelines: <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Parking Supply)</i> |
| | * Office 25% |
| | * Medical office 8% |
| | * Commercial 5% |
| | * Industrial 10% |
| | * Additional 10-20% if located along transit station |

BUILDING/SITE DESIGN

Energy Efficiency

| | |
|------|---|
| M-16 | Increase the building energy efficiency rating above what is required by Title 24 requirements. This can be accomplished by any combination of measures. The following is an idea list of measures that may be implemented to achieve this measure (this list should not be considered comprehensive): <i>(URBEMIS Location: Area Emissions: Mitigation Measures Node)</i> |
| | <i>General</i> |
| | * Participate in and implement available PUC energy-efficient rebate programs including air conditioning, gas heating, refrigeration, and lighting programs. |
| | * Install efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units beyond Title 24 requirements (see Title 24, Part 6, Energy Efficiency Standards for Residential and Nonresidential Buildings: http://www.energy.ca.gov/title24/standard) |
| | * Capture waste heat and re-employ it in nonresidential buildings. |
| | * Trees should be carefully selected and located to protect the building(s) from energy consuming environmental conditions and to shade paved areas |
| | * Improve the thermal integrity/efficiency of buildings, and reduce the thermal load with automated and timed temperature controls or occupant sensors. |
| | <i>Roof</i> |
| | * Install "Green Roof" System |
| | * Install EPA/DOE Energy Star labeled roof materials |
| | * Install roof photovoltaic energy systems as a standard feature (on new homes) |

☒ These operational, program-oriented measures must be implemented for at least 10 years from build-out to qualify as an emission reduction measure

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

| No. | Measure - Objective |
|------|---|
| M-16 | <i>Solar Design</i> |
| Cont | * Design buildings with proper orientation, fenestration, and other design components that maximize the potential of passive cooling and heating, include shading master plan |
| | <i>Components</i> |
| | * Use devices that minimize the combustion of fossil fuels. |
| | * Install low nitrogen oxide (NOx) hot water heaters. |
| | * Install high efficiency Energy Star heating or ground source heat pumps |
| | * Install energy efficient interior lighting. |
| | * Install built-in energy efficient appliances. |
| | * Install door sweeps and weather stripping if more efficient doors and windows are not available. |
| | * Install energy-efficient and automated controls for air conditioning |
| | * Install of energy-efficient lighting (includes controls) and process systems such as water heaters, furnaces and boiler units. |
| | * Install electrical outlets on the exterior walls of both the front and back of residences or all commercial buildings to promote the use of electric landscape maintenance equipment. |
| | * Install electric vehicle recharging station with both conductive and inductive charging capabilities in residential garages / parking lots. |
| | * Install a gas outlet for use with outdoor cooking appliances, and in any proposed fireplaces, including outdoor recreational fireplaces or pits. |
| | * Use low energy street lights (i.e. sodium). |
| | * Use low energy traffic signals (i.e. light emitting diode). |
| | * Install Medium Efficiency Filters |
| | * Install High Efficiency Filters |
| | * Install HEPA (High Efficiency Particle Arrestance) Filters |
| | * Install "whole-house" or "fresh-air" ventilation system |

Building Maintenance/Indoor Air Quality

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|------|---|
| M-17 | Reduce VOC emissions from Architectural Coatings [⊗] (<i>URBEMIS Location: Area Emissions: Architectural Coatings - Nonresidential</i>) |
| | * Use Low-VOC Coatings |
| | * Use surfaces that do not require coatings, such as stone or brick |
| | * Use No-VOC Coatings |

Fuel Combustion

| | |
|------|---|
| M-18 | Provide Electrical outlets at front and rear of residences for the use of electrically powered landscape equipment (See Measure 47 below) (<i>URBEMIS Location: Area Emissions: Mitigation Measures Node</i>) |
| M-19 | Provide electrical outlets at non-residential units for the use of electrically powered landscape equipment. In combination with Measure M-31 below. (<i>URBEMIS Location: Area Emissions: Mitigation Measures Node</i>) |
| M-20 | Reduce Wood Fireplaces and/or Woodstove above that required by District Rule 4901. (<i>URBEMIS Location: Area Emissions: Hearth Fuel Combustion Node</i>) |

OPERATIONAL MEASURES

Telecommunication

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|------|--|
| M-23 | Implement an employee telecommuting policy (<i>URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node</i>) |
| | * Install videoconferencing system |
| | * Include teleconferencing capabilities, such as web cams or satellite linkage, which will allow employees to attend meetings remotely without requiring them to travel out of the area. |

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SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

Appendix C: On-Site Mitigation Checklist Rule for 9510 and 3180

November 17, 2005

| No. | Measure - Objective |
|------|---|
| M-23 | * Offer low cost financing to employees for the purchase of telecommuting equipment, or lend company-owned equipment. |
| Cont | * Provide satellite work offices when appropriate. Applicable to office/industrial and educational institutions. |

Alternative Transit

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|---|---|
| M-24 | Provide guaranteed ride home⊗ <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| M-25 | Provide carpool matching assistance⊗ <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| M-26 | Provide Car-Sharing Services⊗ <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| M-27 | Employ or appoint an Employee Transportation Coordinator to work with the TMA and the District⊗ <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| | * Implement a rideshare program |
| | * Provide incentives to employees to carpool/vanpool, take public transportation, telecommute, walk, bike, etc. |
| | * Participate in an employee "flash-pass" program, which provides free travel on transit buses. |
| | * Provide transit pass subsidy (100%) and/or commute alternative allowance |
| | * Participate in alternative transportation programs such as CalTrans rideshare where deemed appropriate by local transportation planning agencies and/or APCD |
| | * Provide transit-use incentives, as approved by applicable transportation planning agencies such as subsidized transit passes and accommodation of unusual work schedules to encourage transit use |
| | * Provide funds for on line computer rideshare matching. |
| | * Provide an employer subsidized shuttle service to connect to existing transit sites. |
| | * Provide an employer subsidized free or reduced transit fares for midday central business district trips. |
| | * Provide financial incentives to carpoolers for vehicle tune-up or maintenance |
| | * Implement a lunchtime shuttle to reduce single occupant vehicle trips. |
| * Provide Flextime for non-SOV (single occupancy vehicle) commuters | |
| * Maintain a fleet of bicycles for employee and business use | |
| M-28 | Provide transit pass subsidy (100%) and/or commute alternative allowance⊗ <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| M-29 | Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees or residents. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| | * Provide ridesharing information in a homeowner's association package. |

Work Schedules

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|------|---|
| M-30 | Implement alternative work schedules such as compressed workweek schedules where weekly work hours are compressed into fewer than five days.⊗ Examples of these options are: 9/80, 4/40, 3/36 <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
|------|---|

Landscaping

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|------|--|
| M-31 | Project provides and/or requires use of electric maintenance equipment; including, but not limited to electric lawn mowers, electric leaf blowers. In combination with measure M-19. <i>(URBEMIS Location: Area Emission: Mitigation Measures Node)</i> |
| | * Prohibit gas powered landscape maintenance equipment within developments. |

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SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

| No. | Measure - Objective |
|---------------------|---|
| M-31 <i>Cont</i> | <ul style="list-style-type: none"> * Contract only with commercial landscapers who operate with equipment that complies with the most recent California Air Resources Board certification standards, or standards adopted no more than three years prior to date of use. * Provide battery powered or electric landscape maintenance equipment for new residences, commercial and industrial land uses. |

Fleet / Engines

| | |
|------|---|
| M-32 | <p>Implement clean air business practices such as using low-emission delivery vehicles, contract with alternative-fuel waste hauling companies, contracting with carrier, delivery, security, or other services utilizing electric, low-emission, alternative fuel, convert fleet to cleaner vehicles or utilizing heavy-duty vehicles that are CARB certified to optional low-emission standards for NOx. ⊗ (URBEMIS Location: Operational Emissions: Mitigation Measures: On-Road Trucks)</p> |
| | <i>Medium Trucks - 5,751 to 8,500 lbs</i> |
| | * ESW Particulate Reactor |
| | * PuriNOx Emulsified Diesel fuel |
| | * CCRT Particulate Filter |
| | * CRT Particulate Filter |
| | * Claire Longview (ultra low diesel) |
| | <i>Light Heavy - 8,501 to 10,000 lbs</i> |
| | * DCM DOC Muffler w/series 6000 or 6100 catalyst |
| | * ESW Particulate Reactor |
| | * PuriNOx Emulsified Diesel fuel |
| | * CCRT Particulate Filter |
| | * CRT Particulate Filter |
| | * Claire Longview (ultra low diesel) |
| | <i>Light Heavy - 10,001 to 14,000 lbs</i> |
| | * DCM DOC Muffler w/series 6000 or 6100 catalyst |
| | * ESW Particulate Reactor |
| | * PuriNOx Emulsified Diesel fuel |
| | * CCRT Particulate Filter |
| | * CRT Particulate Filter |
| | * Claire Longview (ultra low diesel) |
| | <i>Medium Heavy - 14,001 to 33,000 lbs</i> |
| | * AZ Purifier & AZ Purimuffler (Cummins & Navistar: 1991-03) |
| | * DCM DOC Muffler w/series 6000 or 6100 catalyst |
| | * ESW Particulate Reactor |
| | * PuriNOx Emulsified Diesel fuel |
| | * DPM DPF muffler with/Series 6300 catalyst formulation |
| | * CCRT Particulate Filter |
| | * CRT Particulate Filter |
| | * Lubrizol Engine Control Systems Purifilter |
| | * Claire Longview (ultra low diesel) |

⊗ These operational, program-oriented measures must be implemented for at least 10years from build-out to qualify as an emission reduction measure

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

| No. | Measure - Objective |
|--------------|---|
| M-32 Cont | <i>Heavy Heavy - 33,001 to 60,000 lbs</i> |
| | * DCM DOC Muffler w/series 6000 or 6100 catalyst |
| | * Cleaire Flash and Match oxidation catalyst |
| | * ESW Particulate Reactor |
| | * PuriNOx Emulsified Diesel Fuel |
| | * DPM DPF muffler w/series 6300 catalyst formulation |
| | * CCRT Particulate Filter |
| | * CRT Particulate Filter |
| | * Lubrizol Engine Control Systems Purifier |
| | * Cleaire Flash Match system (Cummins M11 engines only) |
| | * Cleaire Longview (ultra low diesel) |
| | <i>Line Haul Vehicles >60,000 lbs</i> |
| | * DCM DOC Muffler w/series 6000 or 6100 catalyst |
| | * Cleaire Flash and Match oxidation catalyst |
| | * ESW Particulate Reactor |
| | * PuriNOx Emulsified Diesel Fuel |
| | * DPM DPF muffler w/series 6300 catalyst formulation |
| | * CCRT Particulate Filter |
| | * CRT Particulate Filter |
| | * Lubrizol Engine Control Systems Purifier |
| | * Cleaire Flash Match system (Cummins M11 engines only) |
| | * Cleaire Longview (ultra low diesel) |
| | <i>Urban Bus</i> |
| | * ESW Particulate Reactor |
| | * PuriNOx Emulsified Diesel Fuel |
| | * CCRT Particulate Filter |
| | * CRT Particulate Filter |
| | * Cleaire Longview (ultra low diesel) |
| | <i>School Bus</i> |
| | * ESW Particulate Reactor |
| | * PuriNOx Emulsified Diesel Fuel |
| | * CCRT Particulate Filter |
| | * CRT Particulate Filter |
| | * Cleaire Longview (ultra low diesel) |
| | <i>General</i> |
| | * Utilize electric fleet vehicles |
| | * Utilize Ultra Low-Emission fleet vehicles |
| | * Utilize methanol fleet vehicles |
| | * Utilize liquid propane gas fleet vehicles |

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SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

| No. | Measure - Objective |
|-------------|---|
| M-32 | * Utilize compressed natural gas fleet vehicles |
| <i>Cont</i> | * Replace diesel fleet with alternative fuel engine technology and infrastructure |
| | * Retrofit existing equipment to reduce emissions using methods such as particulate filters, oxidation catalysts, or other approved technologies. |
| | * Fleet vehicles that use clean-burning fuels as may be practicable |
| | * Adopt a Vehicle Idling Policy requiring all vehicles under company control to adhere to a 5 minute idling policy. |
| | * Conversion to cleaner engines |
| | * Use of cleaner (reduced sulfur) fuel |
| | * Regular maintenance – keep equipment well tuned |
| | * Add-on control devices, e.g., particulate traps, catalytic oxidizers |
| | * Repower/Retrofit heavy-duty diesel fleet with cleaner diesel engine technology and/or diesel particulate filter after-treatment technology |
| | * Replace diesel fleet with alternative fuel engine technology and infrastructure |
| | * Replace auxiliary power units with cleaner engine technology, alternative fuels, or require electric connection while at loading dock |
| | * Replace diesel fleet vehicles with cleaner fueled low emission vehicles (i.e. school buses, buses, on- and off- road heavy duty vehicles, lighter duty trucks and passenger vehicles) |

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SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

RESIDENTIAL ON-SITE EMISSION REDUCTION LIST

| No. | Measure - Objective |
|--|---|
| LOCATION | |
| Bicycle Infrastructure | |
| R-1 | Project is located within 1/2 mile of existing or planned Class I or II bike lanes on arterial/collector streets, or where a suitable parallel route exists. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Bicycle and Pedestrian Node)</i> |
| Mass Transit Infrastructure | |
| R-2 | Project is located within 1/4-1/2 mile of a transit stop. <i>(URBEMIS Location: Operation Emissions: Mitigation Measures: Transit Service Node)</i> |
| Mixed Use/Density | |
| R-3 | Include high density residential, mixed, or retail/commercial uses on site or locate near (within a 1/2 mile of project center) these uses to minimize the need for trips. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Mix of Uses Node and/or Operational Emissions: Mitigation Measures: Local Serving Retail)</i> |
| | * Day care facilities |
| | * Restaurant or cafeteria |
| | * Bank or ATM |
| | * Dry cleaners |
| | * Post office/services |
| | * Entertainment (movie/video) |
| | * Recreation facility/fitness center |
| | * Public Park |
| * Residential development/On-site employee living spaces | |
| R-4 | Average Residential density is 7 Dwelling Units (DU) per acre or greater. <i>(URBEMIS Location: Land Use Selection- Acreage)</i> |
| | * Project contains ancillary residential units - "Granny Flats" |
| R-5 | Designate a portion of residential units as deed-restricted below-market-rate (BMR) housing. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Affordable Housing Node)</i> |
| | * Include Affordable Housing/Senior Housing/ Assisted Living |

BICYCLE/PEDESTRIAN

Bicycle Storage

| | |
|-----|---|
| R-6 | Provide Class I bicycle parking at apartment complexes or condos without garages <i>(URBEMIS Location: Operational Emissions: Mitigation Measure: Transportation Demand Management Node)</i> |
|-----|---|

Pedestrian- Bicycle Oriented Infrastructure

| | |
|-----|--|
| R-7 | Install Class I or II bike lanes on arterial/collector streets, or where a suitable route exists. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Bicycle and Pedestrian Node)</i> |
| R-8 | Install complete, separate, safe, and convenient pedestrian sidewalks/paths that connect multiple uses. This can be implemented through the following project designs: <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Bicycle and Pedestrian Node)</i> |
| | * Provide direct pedestrian connections |

⊗ These operational, program-oriented measures must be implemented for at least 10years from build-out to qualify as an emission reduction measure

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

| No. | Measure - Objective |
|-------------|--|
| R-18 | * Provide paths and building access which are physically separated from street parking lot traffic and that eliminates physical barriers such as walls, berms, landscaping and slopes that impede the use of pedestrians, bicycle facilities, or public transportation vehicles. |
| <i>Cont</i> | * Place store entrances close to adjacent sidewalks. |
| | * Provide pedestrian signalization and signage to improve pedestrian safety |
| | * Provide continuous sidewalks separated from the roadway by landscaping and on-street parking. |
| | * Provide clearly delineated crosswalks at intersections. |
| | * Provide on and off-site pedestrian facility improvements such as overpasses and wider sidewalks |
| | * Provide on and off-site pedestrian facility improvements such as trails linking them to designated pedestrian commuting routes and/or on-site overpasses and wider sidewalks. |
| | * Provide street lighting |
| | * Provide shaded pathways (e.g. provide street trees or building overhangs) |
| | * Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel |
| | * Provide traffic calming modifications to project roads, such as narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds, to encourage pedestrian and bicycle travel. |
| | * Provide pedestrian access between bus service and major transportation points and destination points within the project. |

Transportation Design

Signage

| | |
|-----|---|
| R-9 | Provide a display case or kiosk displaying transportation information in a prominent area accessible to residents, or visitors. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| | * Display Bike Route Maps |
| | * Display Bus Schedules |
| | * Display other transportation information such as carpooling, carsharing, etc. |

Streets

| | |
|------|--|
| R-10 | Project design uses models by the Local Government Commission (LGC) in the "Smart Growth Guidebook," such as: street block patterns that form an interconnected grid, short block faces, numerous alleys and narrow streets. <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Bicycle and Pedestrian Node)</i> |
|------|--|

Building/Site Design

Energy Efficiency

| | |
|------|---|
| R-12 | Increase the building energy efficiency rating above what is required by Title 24 requirements. This can be accomplished by any combination of measures. The following is an idea list of measures that may be implemented to achieve this measure (this list should not be considered comprehensive): <i>(URBEMIS Location: Area Emissions: Mitigation Measures Node)</i> <i>General</i> |
| | * Participate in and implement available PUC energy-efficient rebate programs including air conditioning, gas heating, refrigeration, and lighting programs. |

⊗ These operational, program-oriented measures must be implemented for at least 10 years from build-out to qualify as an emission reduction measure

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

| No. | Measure - Objective |
|-------------|---|
| R-12 | * Install efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units beyond Title 24 requirements (see Title 24, Part 6, Energy Efficiency Standards for Residential and Nonresidential Building) |
| <i>Cont</i> | * Trees should be carefully selected and located to protect the building(s) from energy consuming environmental conditions and to shade paved areas |
| | * Improve the thermal integrity/efficiency of buildings, and reduce the thermal load with automated and timed temperature controls or occupant sensors. |
| | <i>Roof</i> |
| | * Install "Green Roof" Technology |
| | * Install EPA/DOE Energy Star labeled roof materials |
| | * Install roof photovoltaic energy systems as a standard feature (on new homes) |
| | <i>Solar Design</i> |
| | * Design buildings with proper orientation, fenestration, and other design components that maximize the potential of passive cooling and heating, include shading master plan |
| | <i>Components</i> |
| | * Use devices that minimize the combustion of fossil fuels. |
| | * Install low nitrogen oxide (NOx) hot water heaters. |
| | * Install high efficiency Energy Star heating or ground source heat pumps |
| | * Install energy efficient interior lighting. |
| | * Install built-in energy efficient appliances. |
| | * Install door sweeps and weather stripping if more efficient doors and windows are not available. |
| | * Install energy-efficient and automated controls for air conditioning |
| | * Install of energy-efficient lighting (includes controls) and process systems such as water heaters, furnaces and boiler units. |
| | * Install electrical outlets on the exterior walls of both the front and back of residences to promote the use of electric landscape maintenance equipment. |
| | * Install electric vehicle recharging station with both conductive and inductive charging capabilities in residential garages / parking lots. |
| | * Install a gas outlet for use with outdoor cooking appliances, and in any proposed fireplaces, including outdoor recreational fireplaces or pits. |
| | * Use low energy street lights (i.e. sodium). |
| | * Use low energy traffic signals (i.e. light emitting diode). |
| | * Install Medium Efficiency Filters |
| | * Install High Efficiency Filters |
| | * Install HEPA (High Efficiency Particle Arrestance) Filters |
| | * Install "whole-house" or "fresh-air" ventilation system |

Fuel Combustion

| | |
|------|---|
| R-13 | Provide Electrical outlets at front and rear of residences for the use of electrically powered landscape equipment (See Measure R-18 below). <i>(URBEMIS Location: Area Emissions: Mitigation Measures Node)</i> |
| R-14 | Reduce Wood Fireplaces and/or Woodstove above that required by District Rule 4901. <i>(URBEMIS Location: Area Emissions: Hearth Fuel Combustion Node)</i> |

⊗ These operational, program-oriented measures must be implemented for at least 10years from build-out to qualify as an emission reduction measure

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

| No. | Measure - Objective |
|-----------------------------|---|
| OPERATIONAL MEASURES | |
| Alternative Transit | |
| R-15 | Provide Car-Sharing Services⊗ <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| R-16 | Transit pass subsidy (100%) and/or commute alternative allowance⊗ <i>(URBEMIS Location: Operational Emissions: Mitigation Measures: Transportation Demand Management Node)</i> |
| R-17 | Provide a display case or kiosk displaying transportation information in a prominent area accessible to residents. <i>(URBEMIS Location: Operational Emissions: Mitigation Measure: Transportation Demand Management Node)</i> <ul style="list-style-type: none"> * Provide ridesharing information in a homeowner’s association package. * Provide an opportunity to receive either a complimentary bicycle or electric bicycle retrofit kit to each residential buyer * Provide electric shuttle or minibus service to transit stops * Provide free transfers between all shuttles and transit. * Operation of a shuttle bus to shopping, health care, public services sites and other nearby trip attractors to reduce automobile use. |
| Landscaping | |
| R-18 | Project provides and/or requires use of electric maintenance equipment; including, but not limited to electric lawn mowers, electric leaf blowers, etc (In combination with measure R-13 above).⊗ <i>(URBEMIS Location: Area Emissions: Mitigation Measures Node)</i> <ul style="list-style-type: none"> * Prohibit gas powered landscape maintenance equipment within developments. * Contract only with commercial landscapers who operate with equipment that complies with the most recent California Air Resources Board certification standards, or standards adopted no more than three years prior to date of use. * Provide battery powered or electric landscape maintenance equipment for new residences. |

⊗ These operational, program-oriented measures must be implemented for at least 10years from build-out to qualify as an emission reduction measure

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

ON-SITE ENHANCING MEASURES

| No. | Measure - Objective |
|-----------------|---------------------|
| LOCATION | |

Mass Transit Infrastructure

| | |
|---|--|
| A | * Project is located within one mile of a park and ride lot operated by a transportation agency. |
|---|--|

| | |
|------------------------------|--|
| TRANSPORTATION DESIGN | |
|------------------------------|--|

Transit Support

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|---|--|
| B | Include transit support features in the project where deemed appropriate by the local agency with jurisdiction over the project as demand and service routes warrant subject to review and approval by local transportation planning agencies, including (but not limited to): |
| | * On-site/off-site turnouts |
| | * Route signs and displays |
| | * Bus turnouts/bulbs |
| | * Street lighting |
| | * Passenger benches |
| | * Shelters at transit access points |
| C | Develop park-and-ride lots |

Streets

| | |
|---|---|
| D | Make street design/speeds consistent with requirements for neighborhood electric vehicles |
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|----------------|--|
| PARKING | |
|----------------|--|

Parking Amount

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|---|---|
| E | Use of any excess parking over zone code requirements as on-site parking-n-ride lots. |
|---|---|

Parking Construction

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|---|--|
| F | Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances |
| G | Loading and unloading facilities for transit and carpool/vanpool users. (Provide Signage) |
| H | Provide-grass paving or reflective surface paving for unshaded parking lot areas, driveways, or fire lanes that reduce standard paving by 10% or more. |
| | * Portland concrete is the preferred paving material |
| | * Other reflective surfaces to be determined in consultation with SJVAPCD. |
| | * "Chip Seal" methodology |
| | * Green Pavement http://www.invisiblestructures.com/GP2/grasspave.htm |
| I | Structural soil should be used under paved areas to improve tree growth. |
| J | Provide electric vehicle charging facilities with preferential parking |

SAN JOAQUIN VALLEY UNIFIED AIR POLLUTION CONTROL DISTRICT

ON-SITE ENHANCING MEASURES

| No. | Measure - Objective |
|-------------------------------------|--|
| BUILDING/SITE DESIGN | |
| Telecommuting Infrastructure | |
| K | Provide necessary infrastructure for telecommuting |
| | * Provide fiber optic wiring and connections |
| | * Provide T1 wiring and connections |
| | * Install a teleconferencing facility |
| | * Install a on-site telecommunications center |
| | * Build new homes with internal wiring/cabling that allows telecommuting, teleconferencing, and telelearning |

Landscaping

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|---|---|
| L | Plant trees sufficient to shade 1/2 the paved area within 15 years after development is constructed. |
| M | Landscape with low-emission native drought-resistant species (plants, trees and bushes) to reduce the demand for gas powered landscape maintenance equipment. Contact the District for a list of low-emission trees and shrubs. |

OPERATIONAL MEASURES

Telecommunication

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|---|--|
| N | Provide free-access telework terminals in multi-family projects |
| O | Provide a community videoconferencing system coordinated with TMA. |
| P | Design and implement "Shop by Telephone" or "Shop-by-Computer" services. Applicable to shopping centers and retail facilities. |

Goods Movement

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|---|---|
| Q | Establish delivery services. Applicable to retail facilities (frequent use), shopping centers, and restaurants. |
| R | If the development is a grocery store or large retail facility, provide home delivery service for customers. |
| S | Schedule goods movement for off-peak traffic hours. |