

BLUEPRINT FOR A CLEAN BAY

PROJECT NAME:

Fresh Concrete and Mortar Application

Who should use this information?



Doing the Job Right

General Business Practices

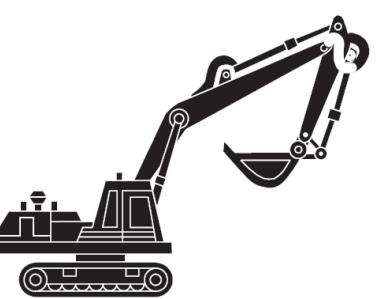
- Wash out concrete mixers only in designated wash-out areas in your yard, away from storm drains and waterways, where the water will flow into a temporary waste pit in a dirt area. Let water percolate through soil and dispose of settled, hardened concrete as garbage. Whenever possible, recycle washout by pumping back into mixers for reuse.
- Wash out chutes onto dirt areas at site that do not flow to streets or drains.
- Always store both dry and wet materials under cover, protected from rainfall and runoff and away from storm drains or waterways. Protect dry materials from wind.
- Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from streets, gutters, storm drains, rainfall, and runoff.
- Do not use diesel fuel as a lubricant on concrete forms, tools, or trailers.
- Never bury waste material. Dispose of small amounts of excess dry concrete, grout, and mortar in the trash.
- Never dispose of washout into the street, storm drains, drainage ditches, or streams.

Storm Drain Pollution from Fresh Concrete and Mortar Applications

Fresh concrete and cement-related mortars that wash into lakes, streams, or estuaries are toxic to fish and the aquatic environment. Disposing of these materials to the storm drains or creeks can block storm drains, causes serious problems, and is prohibited by law.

Heavy Equipment Operation

Who should use this information?



Stormwater Pollution from Heavy Equipment on Construction Sites

Poorly maintained vehicles and heavy equipment that leak fuel, oil, antifreeze or other fluids on the construction site are common sources of storm drain pollution. Prevent spills and leaks by isolating equipment from runoff channels, and by watching for leaks and other maintenance problems. Remove construction equipment from the site as soon as possible.

Earth-Moving and Dewatering Activities

Who should use this information?



Storm Drain Pollution from Earth-Moving Activities

Soil excavation and grading operations loosen large amounts of soil that can flow or blow into storm drains when handled improperly. Sediments in runoff can clog storm drains, smother aquatic life, and destroy habitats in creeks and the Bay. Effective erosion control practices reduce the amount of runoff crossing a site and slow the flow with check dams or roughened ground surfaces.

Contaminated groundwater is a common problem in the Santa Clara Valley. Depending on soil types and site history, groundwater pumped from construction sites may be contaminated with toxics (such as oil or solvents) or laden with sediments. Any of these pollutants can harm wildlife in creeks or the Bay, or interfere with wastewater treatment plant operation. Discharging sediment-laden water from a dewatering site into any water of the state without treatment is prohibited.

Doing the Job Right

General Business Practices

- Schedule excavation and grading work during dry weather.
- Perform major equipment repairs away from the job site.
- When refueling or vehicle/equipment maintenance must be done on site, designate a location away from storm drains.
- Do not use diesel oil to lubricate equipment parts, or clean equipment.
- Cover stockpiles and excavated soil with secured tarps or plastic sheeting.

Practices During Construction

- Remove existing vegetation only when absolutely necessary. Plant temporary vegetation for erosion control on slopes or where construction is not immediately planned.
- Protect downspout drainage courses, streams, and storm drains with wattles, or temporary drainage swales. Use check dams or ditches to divert runoff around excavations. Refer to the Regional Water Quality Control Board's Erosion and Sediment Control

Field Manual I for Proper Erosion and Sediment Control Measures, and California Stormwater Quality Association Stormwater Best Management Practice Handbook (Construction, 2003)

Dewatering Operations

Check for Toxic Pollutants

- Check for odors, discoloration, or an oily sheen on groundwater.
- Call your local wastewater treatment agency and ask whether the groundwater must be tested.
- If contamination is suspected, have the water tested by a certified laboratory.
- Depending on the test results, you may be allowed to discharge pumped groundwater to the storm drain (if no sediments present) or sanitary sewer. OR, you may be required to collect and haul pumped groundwater offsite for treatment and disposal at an appropriate treatment facility.

Detecting Contaminated Soil or Groundwater

Contaminated groundwater is a common problem in the Santa Clara Valley. It is essential that all contractors and subcontractors involved know what to look for in detecting contaminated soil or groundwater, and testing ponded groundwater before pumping. Watch for any of these conditions:

1. Unusual soil conditions, discoloration or odor.
2. Abandoned underground tanks.
3. Abandoned wells.
4. Buried barrels, debris or trash.

If any of these are found follow the procedures below.

Roadwork and Paving

Who should use this information?



Storm Drain Pollution from Roadwork

Road paving, surfacing, and pavement removal happen right in the street, where there are numerous opportunities for asphalt, saw-cut slurry, or excavated material to illegally enter storm drains. Extra planning is required to store and dispose of materials properly and guard against pollution of storm drains, creeks, and the Bay.

Doing the Job Right

General Business Practices

- Develop and implement erosion/sediment control plans for roadway embankments.
- Schedule excavation and grading work during dry weather.
- Check for and repair leaking equipment.
- Perform major equipment repairs at designated areas in your maintenance yard, where cleanup is easier. Avoid performing equipment repairs at construction sites.
- When refueling or when vehicle/equipment maintenance must be done on site, designate a location away from storm drains and creeks.
- Do not use diesel oil to lubricate equipment parts or clean equipment.
- Recycle used oil, concrete, broken asphalt, etc. whenever possible, or dispose of properly.

During Construction

- Avoid paving and seal coating in wet weather, or when rain is forecast, to prevent fresh materials from contacting stormwater runoff.
- Cover and seal catch basins and manholes when applying seal coat, slurry seal, fog seal, or similar materials.
- Protect drainage ways by using earth dikes, sand bags, or other controls to divert or trap and filter runoff.
- Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain. Collect and recycle, or dispose of dirt area.
- When making saw cuts, use as little water as possible. Shovel or vacuum saw-cut slurry and remove from the site. Cover or protect storm drain inlets during saw-cutting. Sweep up, and properly dispose of, all residues.
- Park paving machines over drip pans or absorbent material (cloth, rags, etc.) to catch drips when in use.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags). Dig up, remove, and properly dispose of contaminated soil.

Asphalt/Concrete Removal

- Avoid creating excess dust when breaking asphalt or concrete.
- After breaking up old pavement, be sure to remove all chunks and pieces. Make sure broken pavement does not come in contact with rainfall or runoff.
- When making saw cuts, use as little water as possible. Shovel or vacuum saw-cut slurry and remove from the site. Cover or protect storm drain inlets during saw-cutting. Sweep up, and properly dispose of, all residues.
- Park paving machines over drip pans or absorbent material (cloth, rags, etc.) to catch drips when in use.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags). Dig up, remove, and properly dispose of contaminated soil.

Paint Removal

Handling Paint Products

- Keep all liquid paint products and wastes away from the gutter, street, and storm drains. Liquid residues from paints, thinners, solvents, glues, and cleaning fluids are hazardous wastes and must be disposed of as hazardous.
- Wash water from painted buildings constructed before 1978 can contain high amounts of lead, even if paint chips are not present. Before you begin stripping paint or cleaning pre-1978 buildings exterior with water under high pressure, test paint for lead by taking paint scrapings to a local laboratory. See Yellow Pages for a state-certified laboratory.
- If there is loose paint on the building, or if the paint tests positive for lead, block storm drains. Check with the wastewater treatment plant to determine whether you may discharge water to the sanitary sewer, or if you must send it offsite for disposal as hazardous waste.

Paint Removal

- Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up or collected in plastic drop cloths and disposed of as trash.
- Chemical paint stripping residue and chips and dust from marine paints or paints containing lead, mercury or tributyl tin must be disposed of as hazardous wastes. Lead based paint removal requires a state-certified contractor.
- When stripping or cleaning building exteriors with high-pressure water, block storm drains. Direct wash water onto a dirt area to find out if you can detect (not remove) lead paint. If lead paint is found, collect and dispose of it to the sanitary sewer. Sampling of the water may be required to assist the wastewater treatment authority in making its decision.
- Dispose of empty aerosol paint cans as hazardous waste or at household hazardous waste collection events.

Recycle/Reuse Leftover Paints Whenever Possible

- Donate excess water-based (latex) paint for reuse.
- Reuse leftover oil-based paint. Dispose of non-recyclable thinners, sludge and unwanted paint, as hazardous waste.
- Unopened cans of paint may be able to be returned to the paint vendor. Check with the vendor regarding its "buy-back" policy.

Painting Cleanup

- Never clean brushes or rinse paint containers into a street, gutter, storm drain, French drain, or stream.
- For water-based paints, paint out brushes to the extent possible, and rinse into a drain that goes to the sanitary sewer.

Painting and Application of Solvents and Adhesives

Who should use this information?



Storm Drain Pollution from Paints, Solvents, and Adhesives

All paints, solvents, and adhesives contain chemicals that are harmful to wildlife in local creeks, San Francisco Bay, and the Pacific Ocean. Toxic chemicals may come from liquid or solid products or from cleaning residues or rags. Paint materials and wastes, adhesives and cleaning fluids should be recycled when possible, or disposed of properly to prevent these materials from flowing into storm drains and watercourses.



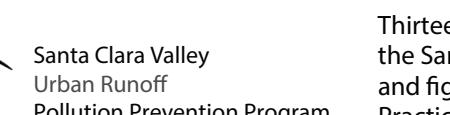
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Best Management Practices for the Construction Industry

Remember: The property owner and the contractor share ultimate responsibility for the activities that occur on a construction site. You may be held responsible for any environmental damage caused by your subcontractors or employees.

Preventing Pollution: It's Up to Us

In the Santa Clara Valley, storm drains transport water directly to local creeks and San Francisco Bay without treatment. Stormwater pollution is a serious problem for wildlife dependent on creeks and bays and for the people who live near polluted streams or baylands. Common sources of this pollution include spilled oil, fuel, and fluids from vehicles and heavy equipment; construction debris; sediment created by erosion; landslides; runoff containing pesticides or weed killers; and materials such as used motor oil, antifreeze, and paint products that people pour or spill into a street or storm drain.



Santa Clara Valley Urban Runoff Pollution Prevention Program

Spill Response Agencies:

1. Dial 911
2. Santa Clara County Environmental Health Services (408) 299-6930
3. Governor's Office of Emergency Services Warning Center (800) 852-7550 (24 hours)

Local Pollution Control Agencies

- Santa Clara County Office of Toxics and Solid Waste Management (408) 441-1195
- Santa Clara Valley Water District (408) 265-2600
- San Jose/Santa Clara Water Pollution Control Plant (408) 945-5300 Serving Milpitas, Cupertino, Los Gatos, Milpitas, Monte Sereno, San Jose, Santa Clara and Saratoga

Small Business Hazardous Waste Disposal Program

Santa Clara County businesses that generate less than 27 gallons or 220 pounds of hazardous waste per month are eligible to use Santa Clara County's Small Business Hazardous Waste Disposal Program. Call (408) 299-7300 for a quote, more information or guidance on disposal.

- Place portable toilets away from storm drains. Make sure portable toilets are in good working order. Check frequently for leaks.

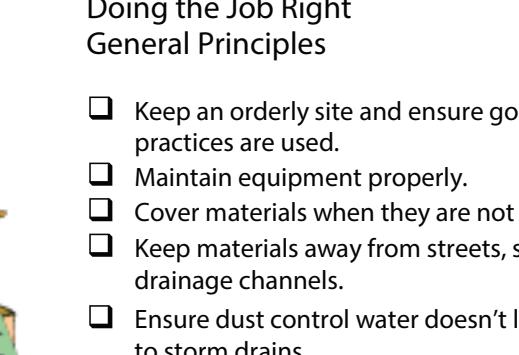
Materials/Waste Handling

- Practice Source Reduction – minimize waste when you order materials. Order only the amount you need to finish the job.
- Use recyclable materials whenever possible. Arrange for pick-up of recyclable materials such as concrete, asphalt, scrap metal, solvents, degreasers, cleared vegetation, paper, rock, and vehicle maintenance materials such as used oil, antifreeze, batteries, and tires.
- Dispose of all wastes properly. Many construction materials and wastes, including solvents, water-based paints, vehicle fluids, broken asphalt and concrete, wood, and cleared vegetation can be recycled.
- Materials that cannot be recycled must be taken to an appropriate landfill or disposed of as hazardous waste. Never bury waste materials or leave them in the street or near a creek or stream bed.

Permits

- In addition to local grading and building permits, you will need to obtain coverage under the State's General Construction Activity Stormwater Permit if your construction site's disturbed area totals 1 acre or more. Information on the General Permit can be obtained from the Regional Water Quality Control Board.

General Construction and Site Supervision



Doing the Job Right

General Principles

- Keep an orderly site and ensure good housekeeping practices are used.
- Maintain equipment properly.
- Cover materials when they are not in use.
- Keep materials away from streets, storm drains and drainage channels.
- Ensure dust control water doesn't leave site or discharge to storm drains.

Good Housekeeping Practices

- Designate one area of the site for auto parking, vehicle refueling, and routine equipment maintenance. The designated area should be well away from streams or storm drain inlets, bermed if necessary. Make major repairs off site.
- Keep materials out of the rain – prevent runoff contamination at the source. Cover exposed piles of soil or construction materials with plastic sheeting or temporary roofs. Before it rains, sweep and remove materials from surfaces that drain to storm drains, creeks, or channels.
- Keep pollutants off exposed surfaces. Place trash cans and recycling receptacles around the site to minimize litter.
- Clean up leaks, drips and other spills immediately so they do not contaminate soil or groundwater or leave residue on paved surfaces.
- Never hose down "dirty" pavement or surfaces where materials have spilled.
- Use dry cleanup methods whenever possible. If you must use water, use just enough to keep the dust down.
- Cover and maintain dumpsters. Check frequently for leaks. Place dumpsters under roofs or cover with tarps or plastic sheeting secured around the outside of the dumpster. Never clean out a dumpster by hosing it down on the construction site.

Landscaping, Gardening, And Pool Maintenance



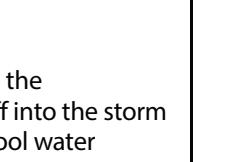
Doing the Job Right

General Business Practices

- Protect stockpiles and ponding water by using berms or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by connecting temporary check dams or berms where appropriate.
- Control the amount of runoff crossing your site (especially during excavation) by using berms or temporary or permanent drainage ditches to divert water flow around the site. Reduce stormwater runoff velocities by connecting temporary check dams or berms where appropriate.
- Train your employees and subcontractors. Make these brochures available to everyone who works on the construction site. Inform subcontractors about the stormwater requirements and their own responsibilities.

Storm Drain Pollution from Landscaping and Swimming Pool Maintenance

Landscaping/Garden Maintenance



- Collect lawn and garden clippings, pruning waste, and tree trimmings. Chip if necessary, and compost if possible.
- Do not blow or rake leaves, etc. into the street, or place yard waste in gutters or on dirt shoulders. Sweep up any leaves, litter or residue in gutters or on street.

Pool/Fountain/Spa Maintenance

- Schedule grading and excavation projects during dry weather.
- Use temporary check dams or ditches to divert runoff away from storm drains.
- Protect storm drains with sandbags or other sediment controls.

Draining pools or spas

- When it's time to drain a pool, spa, or fountain, please be sure to call your local wastewater treatment plant before you start for further guidance on flow rate restrictions, backflow prevention, and handling special cleaning waste (such as acid wash). Discharge flows should be kept to the low levels typically possible through a garden hose. Higher flow rates may be prohibited by local ordinance.
- Never discharge pool or spa water to a street or storm drain; discharge to a sanitary sewer cleanout.
- If possible, when emptying a pool or spa, let chlorine dissipate for a few days and then recycle/reuse water by draining it gradually onto a landscaped area. OR

- San Jose/Santa Clara Water Pollution Control Plant (408) 945-5300. You may be able to discharge to the sanitary sewer by running the hose to a utility sink or sewer pipe clean-out.
- Do not use copper-based algaecides Control algae with chlorine or other alternatives, such as sodium bromide.

Filter Cleaning

- Never clean a filter in the street or near a storm drain. Rinse cartridge and diatomaceous earth filters onto a dirt area, and spade filter residue into the soil. Dispose of spent diatomaceous earth in the garbage.
- If there is no suitable dirt call San Jose/Santa Clara Water Pollution Control Plant (408) 945-5300 for instructions on discharging filter backwash or rinse water to the sanitary sewer.

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