# Blueprint for a Clean Bay

## BEST MANAGEMENT PRACTICES FOR THE CONSTRUCTION INDUSTRY.

SANTA CLARA VALLEY NONPOINT SOURCE POLLUTION CONTROL PROGRAM

## FRESH CONCRETE AND MORTAR APPLICATION

BEST MANAGEMENT PRACTICES FOR

- Masons and bricklayers
- Sidewalk construction crews
- Patio construction workers
- Construction inspectors
- General contractors
- Home builders
- Developers

GENERAL BUSINESS PRACTICES

- Both at your yard and the construction site, always store both dry and wet materials under cover, protected from rainfall and runoff. Protect dry materials from wind.
- Secure bags of cement after they are open. Be sure to keep wind-blown cement powder away from gutters, storm drains, rainfall, and runoff.
- Wash out concrete mixers only in designated wash-out areas in your yard, where the water will flow into containment ponds or onto dirt. Whenever possible, recycle washout by pumping back into mixers for reuse. Never dispose of washout into the street, storm drains, drainage ditches, or streams.
- Do not allow wastewater containing concrete, sand, or fine sediment to reach storm drain inlets.
- Provide protection measures that will capture wastewater for proper disposal.

DURING CONSTRUCTION

- Don't mix up more fresh concrete or cement than you will use in a day.
- Set up and operate small mixers on tarps or heavy plastic drop cloths.
- When cleaning up after driveway or sidewalk construction, wash fines onto dirt areas, not down the driveway or into the street or storm drain.
- Place hay bales or other erosion controls down-slope to capture runoff carrying mortar or cement before it reaches the storm drain.
- When breaking up paving, be sure to pick up all the pieces and dispose properly.
- Recycle large chunks of broken concrete at a landfill.
- Dispose of small amounts of excess dry concrete, grout, and mortar in the trash.
- Never bury waste material.

STORM DRAIN POLLUTION FROM MASONRY AND PAVING

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 causes serious problems and is prohibited by law.

## LANDSCAPING, GARDENING, AND POOL MAINTENANCE

BEST MANAGEMENT PRACTICES FOR THE:

- Landscapers
- Gardeners
- Swimming pool/spa service and repair workers
- General contractors
- Home builders
- Developers

GENERAL BUSINESS PRACTICES

- Protect stockpiles and landscaping materials from wind and rain by storing them under tarps or secured plastic sheeting.
- Store pesticides, fertilizers, and other chemicals indoors or in a shed or storage cabinet.
- Schedule grading and excavation projects for dry weather.
- Use temporary check dams or ditches to divert runoff away from storm drains.
- Protect storm drains with hay bales or other erosion controls.
- Revegetation is an excellent form of erosion control for any site.

POOL/FOUNTAIN/SPA MAINTENANCE

- Never discharge pool or spa water to a street or storm drain.

OR

- 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.
- Contact the local sewage treatment authority. You may be able to discharge to the sanitary sewer by running a hose to a utility sink or sewer pipe cleanout junction.
- Do not use copper-based algaecides unless absolutely necessary. Control algae with chlorine or other alternatives to copper-based pool chemicals. Copper is a powerful herbicide. Sewage treatment technology cannot remove all of the metals that enter a treatment plant.

LANDSCAPING/GARDEN MAINTENANCE

- Use up pesticides. Rinse containers, and use rinse water as product. Dispose of rinsed containers in the trash.
- Dispose of unused pesticide as hazardous waste.
- Collect lawn and garden clippings, pruning waste, and tree trimmings. Chip if necessary, and compost the material.
- In communities with curbside yard waste recycling, leave clippings and pruning waste for pickup in approved bags or containers. Or, take to a landfill that composts yard waste.
- Do not blow or rake leaves, etc. into the street unless you are piling them for recycling.

STORM DRAIN POLLUTION FROM LANDSCAPING AND SWIMMING POOL MAINTENANCE

Many landscaping activities decompose soils and increase the likelihood that earth and garden chemicals will runoff into the storm drains during irrigation or when it rains. Swimming pool water containing chlorine and copper-based algaecides should never be discharged to storm drains. These chemicals are toxic to aquatic life.

## HEAVY EQUIPMENT OPERATION

BEST MANAGEMENT PRACTICES FOR THE:

- Vehicle and equipment operators
- Site supervisors
- General contractors
- Home builders
- Developers

SITE PLANNING AND PREVENTIVE VEHICLE MAINTENANCE

- Designate one area of the construction site, well away from streams or storm drain inlets, for auto and equipment parking, refueling, and routine vehicle and equipment maintenance.
- Maintain all vehicles and heavy equipment. Inspect frequently for leaks.
- Perform major maintenance, repair jobs, vehicle and equipment washing off site.
- If you must drain and replace motor oil, radiator coolant, or other fluids on site, use drip pans or drop cloths to catch drips and spills. Collect all spent fluids, store in separate containers, and recycle whenever possible.
- Do not use diesel oil to lubricate equipment or parts.
- Clean up spills immediately when they happen.
- Never hose down dirty pavement or impermeable surfaces where fluids have spilled. Use dry cleanup method (absorbent materials, cat litter, and/or rags) whenever possible. If you must use water, use just enough to keep the dust down.
- Sweep up spilled dry materials immediately. Never attempt to wash them away with water or bury them. Use as little water as possible for dust control.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report significant spills to the appropriate spill response agencies immediately.

STORM DRAIN POLLUTION FROM HEAVY EQUIPMENT ON THE CONSTRUCTION SITE

Poorly maintained vehicles and heavy equipment leaking fuel, oil, antifreeze or other fluids on the construction site are common sources of storm water 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.

## PAINTING AND APPLICATION OF SOLVENTS AND ADHESIVES

BEST MANAGEMENT PRACTICES FOR THE:

- Painters
- Paperhangers
- Plasterers
- Graphic artists
- Dry wall crews
- Floor covering installers
- General contractors
- Home builders
- Developers

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. When they are thoroughly dry, empty paint cans, spent brushes, rags, and drop cloths may be disposed of as trash.

PAINT REMOVAL

- Chemical paint stripping residue is a hazardous waste.
- Chips and dust from marine paints or paints containing lead or tributyl tin are hazardous wastes. Dry sweep and dispose of appropriately.
- Paint chips and dust from non-hazardous dry stripping and sand blasting may be swept up and disposed as trash.
- When stripping or cleaning building exteriors with high-pressure water, block storm drains. Wash water onto a dirt area and spade into soil. Or, check with the local wastewater treatment authority to find out if you can collect (mop or vacuum) building cleaning water and dispose to the sanitary sewer.

PAINTING CLEANUP

- Never clean brushes or rinse paint containers into a street, gutter, storm drain, or stream.
- For water based paints, paint out brushes to the extent possible, and rinse to the sanitary sewer.
- For oil based paints, paint out brushes to the extent possible, filter and reuse thinners and solvents. Dispose of excess liquids and residue as hazardous waste.

WHAT CAN YOU DO?

- Recycle/reuse leftover paints whenever possible.
- Recycle excess water-based paint, or use up. Dispose of excess liquid, including sludges, as hazardous waste.
- Reuse leftover oil-based paint. Dispose of excess liquid, including sludges, as hazardous waste.

STORM DRAIN POLLUTION FROM PAINTS, SOLVENTS, AND ADHESIVES

All paints, solvents, and adhesives contain chemicals that are harmful to the wildlife in our creeks and Bay. Toxic chemicals may come from liquid or solid products or from cleaning residues or rags. It is especially important not to clean brushes in an area where paint residue can flow to a gutter, street, or storm drain.

## EARTH MOVING ACTIVITIES

BEST MANAGEMENT PRACTICES FOR THE:

- Bulldozers, backhoe, and grading machine operators
- Dump truck drivers
- Site supervisors
- General contractors
- Home builders
- Developers

Erosion is one of the natural processes of streams, but activities like grading, sloping, loosening soils, and removing vegetation cause significantly more sediment to enter waterways than would otherwise occur. This entire sediment load can disturb the natural stream processes and harm aquatic life. Best Management Practices for erosion and sediment control are designed to prevent or minimize this type of pollution.

As a contractor, site supervisor, owner, or operator of a site, you may be responsible for any environmental damage caused by your subcontractors or employees. Pollution violations at construction sites are being increasingly actively enforced and penalties can be severe.

DURING CONSTRUCTION

- Remove existing vegetation only when absolutely necessary.
- Consider planting temporary vegetation for erosion control on slopes or where construction is not immediately planned.
- Protect downslope drainage courses, streams, and storm drains with hay bales or temporary drainage swales.
- Use check dams or ditches to divert runoff around excavations.
- Cover stockpiles and excavated soil with secured tarps or plastic sheeting.

GENERAL BUSINESS PRACTICES

- Schedule excavation and grading work for 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 or parts.

DETECTING CONTAMINATED SOIL OR GROUNDWATER

As you know, contaminated groundwater is a common problem in the Santa Clara Valley. It is essential that all contractors and subcontractors involved in excavation and grading know what to look for in detecting contaminated soil or groundwater, and test ponded groundwater before pumping. See Blueprint for a Clean Bay, a construction best management practices guide available from the Santa Clara Valley Nonpoint Source Pollution Control Program, for details.

WATCH FOR ANY OF THESE CONDITIONS:

- Unusual soil conditions, discoloration, or odor
- Abandoned underground tanks
- Abandoned wells
- Buried barrels, debris, or trash

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 if handled improperly. Soil erodes due to a combination of decreased soil stability, increased runoff, and increased flow velocity. Some of the most effective erosion control practices reduce the amount of runoff crossing a site and slow the flow with check dams or roughened ground surfaces.

## ROADWORK AND PAVING

BEST MANAGEMENT PRACTICES FOR THE:

- Road Crews
- Driveway/sidewalk/parking lot construction crews
- Seal coat contractors
- Operators of:
  grading equipment
  paving machines
  dump trucks
  concrete mixers
- Construction inspectors
- General contractors
- Developers

WHAT CAN YOU DO?

GENERAL BUSINESS PRACTICES

- Develop and implement erosion/sediment control plans for embankments.
- Schedule excavation and grading work for dry weather.
- Check for and repair leaking equipment.
- Perform major equipment repairs in designated areas at your yard, away from the construction site.
- When refueling or 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 or parts.
- Recycle used oil, concrete, broken asphalt, etc. whenever possible.

DURING CONSTRUCTION

- Avoid paving and seal coating in wet weather, or when rain is forecast before fresh pavement will have time to cure.
- Cover and seal catch basins and manholes when applying seal coat, slurry seal, fog seal, etc.
- Use check dams, ditches, or berms to divert runoff around excavations.
- Never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain. Collect and recycle, or dispose to dirt area.
- Cover stockpiles (asphalt, sand, etc.) and other materials with plastic tarps. Protect from rainfall and prevent runoff with temporary roofs or plastic sheets and berms.
- Catch drips from paver with drip pans or absorbent material (cloth, rags, etc.) placed under machine when not in use.
- Clean up all spills and leaks using "dry" methods (with absorbent materials and/or rags), or dig up and remove contaminated soil.
- Collect and recycle or appropriately dispose of excess abrasive gravel or sand.
- Avoid over application by water trucks for dust control.

ASPHALT/CONCRETE REMOVAL

- Avoid creating excess dust when breaking asphalt or concrete.
- After breaking old pavement, be sure to remove all chunks and pieces.
- Make sure broken pavement does not come in contact with rainfall or runoff.
- Shovel or vacuum saw-cut slurry and remove from the site. Cover or barricade storm drain during saw-cutting if necessary.
- Never hose down streets to clean up tracked dirt.

STORM DRAIN POLLUTION FROM ROADWORK

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

## GENERAL CONSTRUCTION AND SITE SUPERVISION

BEST MANAGEMENT PRACTICES FOR THE:

- Construction industry

WHAT CAN YOU DO?

- 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, and 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 of 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 a dumpster by hosing it down on the construction site.
- Make sure portable toilets are in good working order. Check frequently for leaks.

ADVANCE PLANNING TO PREVENT POLLUTION

- Schedule excavation and grading activities for dry weather periods.
- Control the amount of runoff crossing your site(especially during excavation) by using berms or drainage ditches to divert water flow around site.
- Train your employees and subcontractors. Make these brochures available to everyone who works on the site. Inform subcontractors about the new storm water requirements and their own responsibilities. Refer to Blueprint for a Clean Bay, a construction best management practices guide available from the Santa Clara Urban Runoff Pollution Prevention Program.
- Prepare, maintain, and implement a site specific Storm water Pollution Prevention Plan if your site is subject to the State's National Pollutant Discharge Elimination System General Permit for Discharges of Storm water Runoff Associated with Construction Activity.

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.
- 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. (See the references list of recycles at the back of Blueprint for a Clean Bay). 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.

STORM DRAIN POLLUTION FROM CONSTRUCTION ACTIVITIES

Construction sites are common sources of storm water pollution. Materials and wastes that blow or wash into a storm drain, gutter or street have a direct impact on local creeks and the Bay. Erosion is one of the natural processes of streams, but activities like grading, sloping, loosening soils, and removing vegetation cause significantly more sediment to enter waterways than would otherwise occur. This entire sediment load can disturb the natural stream processes and harm aquatic life. Best Management Practices for erosion and sediment control are designed to prevent or minimize this type of pollution.

As a contractor, site supervisor, owner, or operator of a site, you may be responsible for any environmental damage caused by your subcontractors or employees. Pollution violations at construction sites are being increasingly actively enforced and penalties can be severe.

## BEST MANAGEMENT PRACTICES FOR STORM WATER POLLUTION PREVENTION

In the Santa Clara Valley, storm drains flow directly to local creeks and San Francisco Bay, with no treatment. Storm water pollution is a serious problem for wildlife dependent on our waterways and for the people who live near polluted streams or baylands. Some common sources of this pollution include spilled oil, fuel, and fluids from vehicles and heavy equipment; construction debris; landscaping 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.

Thirteen valley cities have joined together with Santa Clara County and the Santa Clara Valley Water District to educate local residents and businesses and fight storm drain pollution.

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

Spill Response Agencies

1. Dial 911
2. Santa Clara Valley Water District Environmental Compliance Division (408) 927-0710.
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) 927-0710

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

## ORDINANCE OF THE CITY OF MILPITAS ESTABLISHING REQUIREMENTS FOR STORM WATER POLLUTION CONTROL

**XI-16-8 Accidental Discharge - Notification of Discharge**

(a) All persons shall notify the City by telephone immediately by dialing (911) upon accidentally discharging any material other than an acceptable discharge into a storm drain or watercourse to enable countermeasures to be taken by the City to minimize damage to storm drains and the receiving waters. In conference with Title I, Chapter 20, Section 1 of this code the City may abate any nuisance that obstructs the public right-of-way or poses an immediate danger to persons, property, or wild life. The City, at its sole option, may direct the person or persons responsible for the discharge to perform cleanup activities when it is deemed by the City that the person or persons have the capability to perform such activities.
(b) This notification shall be followed, within ten(10) days of the date of occurrence, by a detailed written statement to the City Engineer describing the causes of the accidental discharge and the measures being taken to prevent future occurrences. Such notification will not relieve persons of liability for violations of this Chapter or for any fines imposed on the City on account thereof under Section 13350 of the California Water Code, or for violation of Section 5650 of the California Fish and Wildlife Code, or any other applicable provisions of State or Federal laws. (ord.239 (part), 8/17/93)

**XI-16-13 Civil Penalties for Illicit Discharges**

Any person who discharges pollutants, in violation of this Chapter, by the use of illicit connections shall be civilly liable to the City in a sum not to exceed Twenty-Five Thousand Dollars($25,000) per day per violation for each day in which such violation occurs. The City may petition the Superior Court pursuant to Government Code Sections 54740 and /or 54740.5 as amended from time to time, to impose, assess and recover such sums. As described in the Government Code Section 54740.5, the City Engineer shall act as the hearing officer and may recommend to the City Council the assessment of civil penalties by the City Council for any violations of this Chapter. The civil penalty provided in this Section is cumulative and not exclusive, and shall be in addition to all other remedies available to the City under local, State, and Federal law. Funds collected pursuant to this Section shall be paid to the City's nonpoint violation account. (ord.239 (part), 8/17/93)

**Record Drawings**
To be competed prior to acceptance of work by the City

Signature & Seal Date
P.E. No._____ Exp. _____

Public Works Inspector:_____
Public Improvements initially Accepted by the City Council on: _____

**Revisions**

| Num. | Date | By | Description | City Engr. | Aprv. | Date |
|---|---|---|---|---|---|---|
| | | | | | | |

**CITY OF MILPITAS**
**ENGINEERING DIVISION**

Approved:
City Engineer Date
Any changes to public improvements shall be approved by the City Engineer

Recommended for approval:
Fire Dept._____ Date:_____
Engineering_____ Date:_____

Project No.
File No.
Sheet ____ of ____