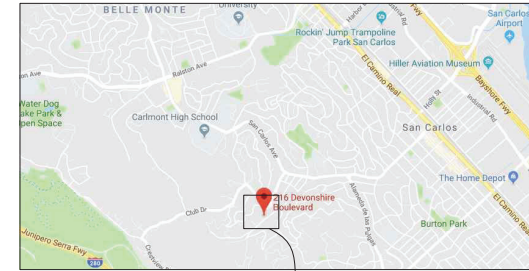


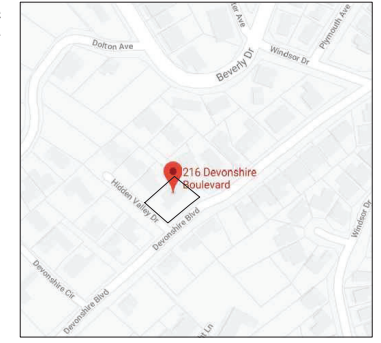
# IMPROVEMENT PLANS

## SINGLE FAMILY HOME REMODEL/ ADDITION

### 216 DEVONSHIRE BLVD., SAN CARLOS, CA 94070



LOCATION MAP  
N.T.S.



VICINITY MAP  
N.T.S.

#### SHEET INDEX:

- C-1 COVER SHEET/ NOTES
- C-2 GRADING AND DRAINAGE PLANS
- C-3 UTILITY PLAN
- C-4 DETAILS
- C-5 EROSION CONTROL PLAN
- C-6 BEST MANAGEMENT PRACTICES

REFERENCED ASSUMED BENCHMARK:  
TOP OF SANITARY SEWER MANHOLE LOCATED AT DEVONSHIRE BLVD., IN FRONT OF PROPERTY EL: 100.00

**BASIS OF BEARINGS:**  
THE BEARING S 42°33'37" W BETWEEN FOUND MONUMENT AT THE INTERSECTION OF DEVONSHIRE BLVD. & HOODEN VALLEY WAY, AND FOUND 3/4" IRON PIPE AS SET PER CORNER RECORD 1562, SAN MATEO COUNTY RECORDS, WAS USED AS THE BASIS OF BEARINGS SHOWN ON THIS MAP.

#### GEOTECHNICAL REVIEW:

GRADING AND DRAINAGE PLANS SHALL BE REVIEWED AND APPROVED BY THE PROJECT GEOTECHNICAL/ SOILS ENGINEER. GEOTECHNICAL/ SOILS ENGINEER TO PROVIDE AND FURNISH LETTER OF APPROVAL TO CITY.

**NOTICE TO CONTRACTORS**  
CONTRACTOR TO NOTIFY U.S.A. (UNDERGROUND SERVICE ALERT) AT 800-227-2600 A MINIMUM OF 2 WORKING DAYS BEFORE BEGINNING UNDERGROUND WORK FOR VERIFICATION OF THE LOCATION AND DEPTH OF UNDERGROUND UTILITIES.



1534 CAROL LANE  
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FAX: (650) 941-8755

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**GRADING AND DRAINAGE PLANS**  
**SINGLE FAMILY HOME REMODEL/ ADDITION**  
**216 DEVONSHIRE BLVD.,**  
**SAN CARLOS, CA 94070**  
**COVER SHEET**

Revisions:



Date: 5/16/2019  
Scale: NTS  
Prepared by: V.G.  
Checked by: S.R.  
Job #: 219046  
Sheet:

ABBREVIATIONS	
DESCRIPTION	DESCRIPTION
AB	AGGREGATE BASE (CLASS AS NOTED)
AC	ASPHALT CONCRETE
AD	AREA DRAIN
BC	BACK OF CURB
BFL	BACK FLOW WATER PREVENTOR VALVE
BW	BACK OF WALL
BW	SECTION OF WALL
C&G	CURB AND GUTTER
CF	GARAGE FINISH FLOOR (BACK)
C/L	CENTERLINE SWALE
CD	CLEANOUT
CP	CONTROL POINT
DWY	DRIVEWAY
DI	DROP INLET
DET	DETAIL
ELECT	ELECTRIC
EP	EDGE OF PAVEMENT ELEVATION
ELOC	ELOC OPTIC TREE
(E)EX	EXISTING
FF	FISHED FLOOR
FG	FRESH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FNC	FENCE
FG	FOG LINE
GB	GRADE BREAK
GFF	GARAGE FINISHED FLOOR (FRONT)
GUY	GUY WIRE
HP	HIGH POINT
IP	IRON PIPE
INV	INVERT
JP	JOINT POLE
JB	JUNCTION BOX (UTILITY)
LP	UP OF CUTTER
LD	LOW POINT
MD	MONUMENT
NG	NEIGHBOR GROUND
PB	PULL BOX
PCEV	POGE VAULT
PL	PROPERTY LINE
PP	POWER POLE
PPF	PLASTIC PERFORATED PIPE
PERF	PUBLIC SERVICE EASEMENT
PVC	POLYVINYL CHLORIDE
R/W	RIGHT OF WAY
RCP	REINFORCED CONCRETE PIPE
SD	STORM DRAIN
SDM	STORM DRAIN MANHOLE
STD	STANDARD
SS	SANITARY SEWER
SSMH	SANITARY SEWER MANHOLE
SW	SIDEWALK
TC	TOP OF CURB
TF	TOP OF FOUNDATION
TOS	TOP OF SLAB
TOW	TOP OF WALL
TP	TOP OF PAVEMENT
(TYP)	TYPICAL
USS	UNDERGROUND SANITARY SEWER
UST	UNDERGROUND STORM DRAIN
UT	UNDERGROUND TELEPHONE
UW	UNDERGROUND WATER
VCP	VITRIFIED CLAY PIPE
WL	WHITE LINE STRIPE
WALK	WALKWAY
WM	WATER METER
WV	WATER VALVE

#### LEGEND

EXISTING	PROPOSED	DESCRIPTION
---	---	PROPERTY LINE
---	---	FILL AREA LIMIT
---	---	CUT AREA LIMIT
---	---	CONTOUR
---	---	WATER LINE
---	---	STORM DRAIN PIPE (SOLID)
---	---	SANITARY SEWER PIPE
---	---	SUBDRAIN PIPE (PERFORATED)
---	---	OVERHEAD UTILITIES WITH POLE
---	---	GAS LINE
---	---	ELECTRIC LINE (UNDERGROUND)
---	---	JOINT TRENCH
---	---	STREET LIGHT VAULT
---	---	SANITARY SEWER CLEANOUT
---	---	SANITARY SEWER MANHOLE
---	---	STORM DRAIN MANHOLE
---	---	ELECTROUER
---	---	WATER METER
---	---	TREE WITH TRUNK
---	---	6" WOODEN FENCE
---	---	SPOT ELEVATION
---	---	TREE PROTECTION FENCE
---	---	5' TALL CHAIN LINK
---	---	SWALE
---	---	DETENTION PIPE
---	---	DIRECTION OF FLOW IN PIPE
---	---	AREA DRAIN/ INLET
---	---	OVERLAND RELEASE PATH
---	---	GRADE TO DRAIN, 5% MIN. AWAY FROM HOUSE FOR PERVIOUS AREAS 2% MIN. AWAY FROM HOUSE FOR IMPERVIOUS AREAS 1% MIN. FROM PROPERTY LINE TO SWALE
---	---	(E) TREE TO BE REMOVE
---	---	DOWN-SPOUT
---	---	POP-UP EMITTER

#### UTILITY NOTES:

- CONTRACTOR SHALL VERIFY THE LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
- CONNECT GAS AND ELECTRIC LINES PER PG&E STANDARDS.
- CONTRACTOR SHALL COORDINATE ANY DISRUPTIONS TO EXISTING UTILITY SERVICES WITH ADJACENT PROPERTY OWNERS.
- ALL ELECTRIC, TELEPHONE AND GAS EXTENSIONS INCLUDING SERVICE LINES SHALL BE CONSTRUCTED TO THE APPROPRIATE UTILITY COMPANY SPECIFICATIONS. ALL UTILITY DISCONNECTIONS SHALL BE COORDINATED WITH THE DESIGNATED UTILITY COMPANIES.
- PRIOR TO THE CONSTRUCTION OF OR CONNECTION TO ANY STORM DRAIN, SANITARY SEWER, WATER MAIN OR ANY OF THE DRY UTILITIES, THE CONTRACTOR SHALL EXCAVATE, VERIFY AND CALCULATE ALL POINTS OF CONNECTION AND ALL UTILITY CROSSING AND INFORM THE OWNER/ DEVELOPER OF ANY CONFLICT OR REQUIRED DEVIATIONS FROM THE PLANS.

#### DRAINAGE NOTES

- SURFACE WATER SHALL BE DIRECTED AWAY FROM ALL BUILDINGS INTO DRAINAGE SWALES, GUTTERS, STORM DRAIN INLETS AND DRAINAGE SYSTEMS.
- ALL ROOF DOWNSPOUTS SHALL DISCHARGE TO CONCRETE SPLASH PADS DRAINING AWAY FROM THE FOUNDATION. SEE ARCHITECTURAL PLANS FOR ROOF DOWNSPOUT LOCATIONS.

#### NOTE:

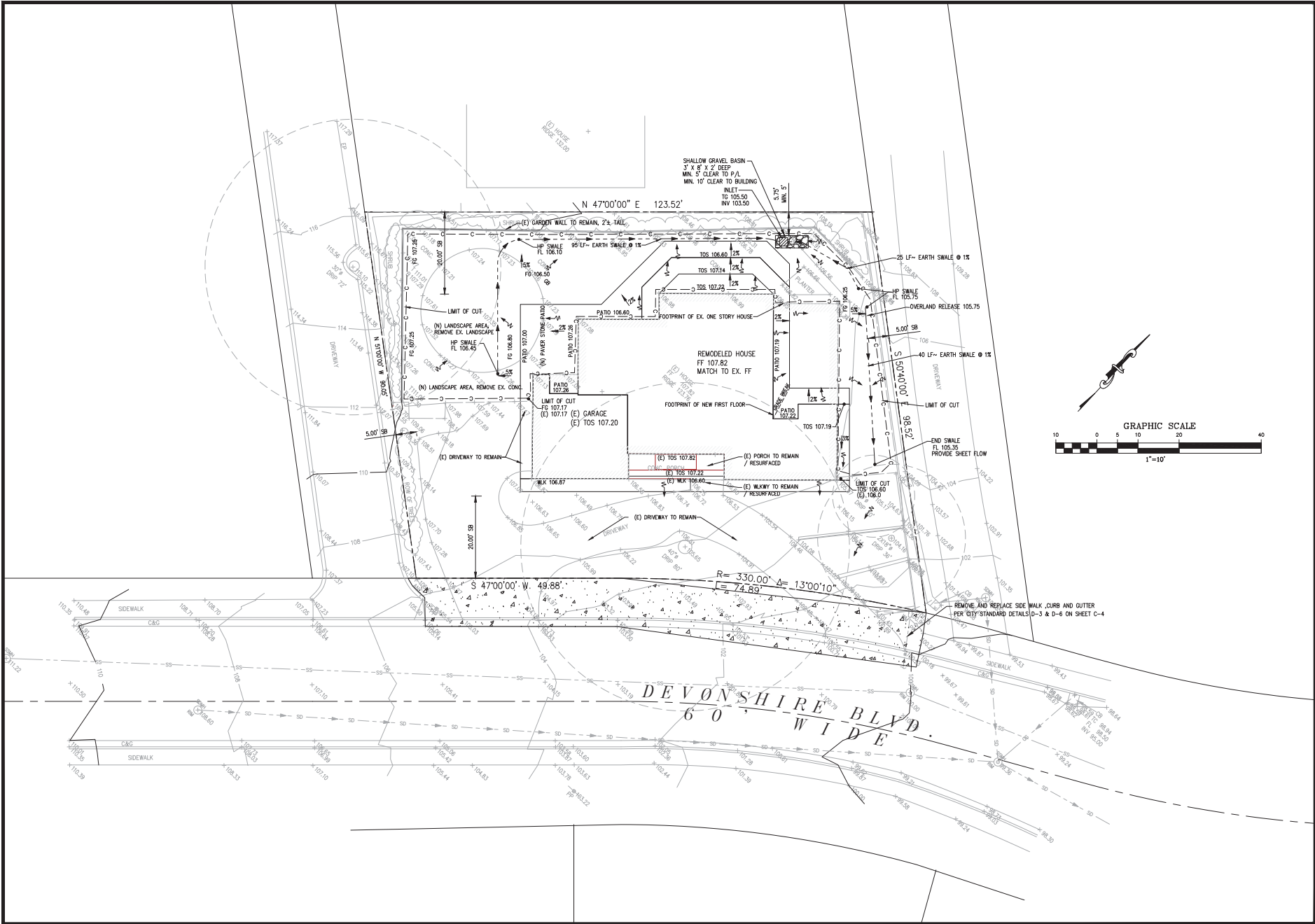
- A SEWER PERMIT MUST BE OBTAINED FROM THE PUBLIC WORKS DEPARTMENT PRIOR TO THE START OF ANY SEWER CONSTRUCTION WORK.
- NO GRADING IS PERMITTED BETWEEN OCTOBER 1ST AND APRIL 30TH.
- A GRADING/HAULING PERMIT MUST BE OBTAINED FROM THE PUBLIC WORKS DEPARTMENT PRIOR TO THE START OF CONSTRUCTION.
- AN ENCROACHMENT PERMIT MUST BE OBTAINED FROM THE PUBLIC WORKS DEPARTMENT PRIOR TO START OF ANY WORK WITHIN THE PUBLIC RIGHT-OF-WAY OR A PUBLIC UTILITIES EASEMENT INCLUDING, BUT NOT LIMITED TO, THE INSTALLATION OF SEWERS AND OTHER UTILITIES, SIDEWALK, CURB AND GUTTER, DRIVEWAY APRON, WALL FENCE, OR OTHER CONSTRUCTION. AN ENCROACHMENT PERMIT IS ALSO REQUIRED FOR THE PLACEMENT OF DEBRIS BOXES, STORAGE CONTAINERS, OR CONSTRUCTION MATERIALS WITHIN THE PUBLIC RIGHT-OF-WAY.

#### EARTHWORK TABLE

LOCATION	CUT (CY)	FILL (CY)	IMPORT (CY)	EXPORT (CY)
POOL	33	0		
BACKYARD PATIO	40	0		
BACKYARD LANDSCAPE	20	0		
EX. CRAWL SPACE FILL	0	8		
TOTAL	93	8	0	85

#### NOTES:

- EARTHWORK QUANTITIES ON THIS TABLE ARE FOR INFORMATION ONLY. CONTRACTORS ARE TO PERFORM THEIR OWN QUANTITY TAKE OFFS.



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**GRADING AND DRAINAGE PLANS**  
**SINGLE FAMILY HOME REMODEL/ ADDITION**  
**216 DEVONSHIRE BLVD.,**  
**SAN CARLOS, CA 94070**  
**GRADING AND DRAINAGE PLANS**

Revisions:



Date: 5/16/2019  
 Scale: 1"=10'  
 Prepared by: V.G.  
 Checked by: S.R.  
 Job #: 219046  
 Sheet:



ENGINEERS  
CIVIL ENGINEERS

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GRADING AND DRAINAGE PLANS  
SINGLE FAMILY HOME REMODEL/ ADDITION  
216 DEVONSHIRE BLVD.,  
SAN CARLOS, CA 94070  
UTILITY PLAN

Revisions:



*Srinivasan*

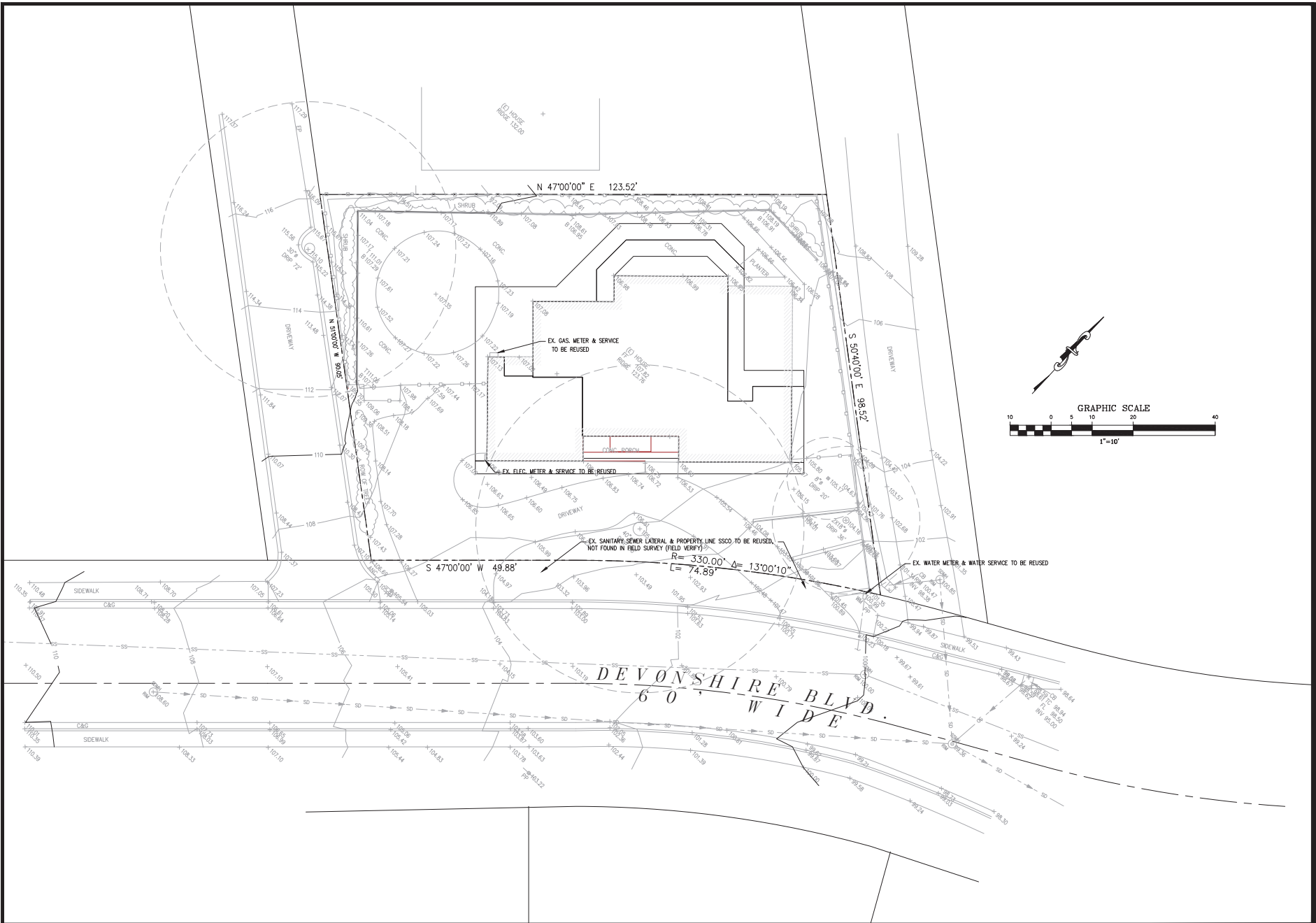
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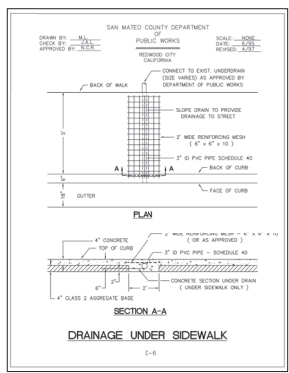
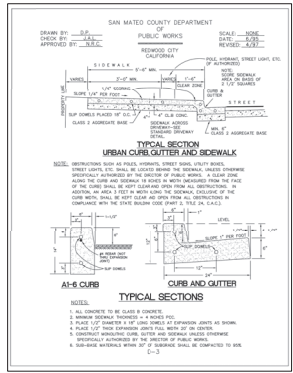
Prepared by: V.G.  
Checked by: S.F.  
Job #: 219046

Sheet:

3 OF 6

C-3

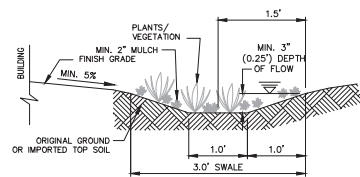




**SPECIAL PROVISIONS**

- ACCEPTANCE OF SPECIAL PROVISIONS.** It is understood and agreed by the Permittee that the doing of any work under the permit shall constitute acceptance of the Special Provisions.
- NO PRECEDENT ESTABLISHMENT.** The Permittee is granted with the understanding that this contract is to be considered a non-precedent contract and no precedent shall be established by the doing of any work under the permit.
- NOTICE PRIOR TO STARTING WORK.** Before starting work, the Permittee shall notify the Director of Public Works, specifically the District Director of Public Works, of the location of the work to be done and the estimated start date of the work. The Permittee shall also notify the Director of Public Works of any changes to the location or extent of the work.
- KEEP FRONTAGE ON SITE.** The Permittee is to keep the frontage on site open and available for use by the public at all times.
- PERMIT FROM OTHER AGENCIES.** The permittee is responsible for obtaining all other necessary permits from other agencies.
- PROTECTION OF PUBLIC.** Adequate provision shall be made for the protection of the public during the work.
- STAKEOUTING OF MATERIAL.** Stakeouting of material shall be done in accordance with the specifications.

- GENERAL CLEANUP.** Upon completion of the work, the Permittee shall remove all materials and debris from the site and restore the site to its original condition.
- STANDARDS OF CONSTRUCTION.** All work shall conform to the Standard Specifications of the County of San Mateo, California.
- SUPERVISION BY DIRECTOR OF PUBLIC WORKS.** The Director of Public Works shall have the authority to inspect and approve the work.
- FUTURE MOVING OF INSTALLATION.** The Permittee is to be responsible for the future moving of the installation.
- EXPENSE OF INSPECTION.** The Permittee is responsible for the expense of inspection.
- LIABILITY FOR DAMAGES.** The Permittee is responsible for any damages caused by the work.
- MAINTENANCE OF ACCESS.** The Permittee shall maintain access to the site at all times.
- SAFETY.** The Permittee shall be responsible for the safety of the work.
- WATER PROTECTION.** The Permittee shall be responsible for protecting the water supply.
- CONSTRUCTION OF CURB AND GUTTER.** The Permittee shall construct the curb and gutter in accordance with the specifications.
- CONSTRUCTION OF SIDEWALK.** The Permittee shall construct the sidewalk in accordance with the specifications.
- CONSTRUCTION OF DRAINAGE.** The Permittee shall construct the drainage system in accordance with the specifications.
- CONSTRUCTION OF OTHER WORK.** The Permittee shall construct any other work in accordance with the specifications.



**EARTH SWALE DETAIL**  
NTS

**PERMITS.** The Director of Public Works shall require a permit before starting any work under the permit. The permit shall be issued by the Director of Public Works.

**CARE OF SURFACE.** The Permittee shall be responsible for the care of the surface during the work.

**MAINTENANCE.** The Permittee shall be responsible for the maintenance of the site during the work.

**PROTECTION OF PUBLIC.** The Permittee shall be responsible for the protection of the public during the work.

**SAFETY.** The Permittee shall be responsible for the safety of the work.

**WATER PROTECTION.** The Permittee shall be responsible for protecting the water supply.

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**CONSTRUCTION OF OTHER WORK.** The Permittee shall construct any other work in accordance with the specifications.

Size Size	Permitted Parking Space
12\"/>	

**CERTIFICATION OF COMPACT AND COMPLETION OF CONSTRUCTION.** The Permittee shall certify the completion of the work to the Director of Public Works.

**CONSTRUCTION OF CURB AND GUTTER.** The Permittee shall construct the curb and gutter in accordance with the specifications.

**CONSTRUCTION OF SIDEWALK.** The Permittee shall construct the sidewalk in accordance with the specifications.

**CONSTRUCTION OF DRAINAGE.** The Permittee shall construct the drainage system in accordance with the specifications.

**CONSTRUCTION OF OTHER WORK.** The Permittee shall construct any other work in accordance with the specifications.

Item	Estimated Cost	Actual Cost	Remaining Balance
Excavation	100	100	0
Backfill	200	200	0
Concrete	300	300	0
Other	400	400	0
<b>Total</b>	<b>1000</b>	<b>1000</b>	<b>0</b>

**CONSTRUCTION OF CURB AND GUTTER.** The Permittee shall construct the curb and gutter in accordance with the specifications.

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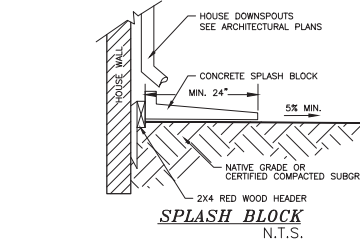
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**CONSTRUCTION OF OTHER WORK.** The Permittee shall construct any other work in accordance with the specifications.



**SPLASH BLOCK**  
N.T.S.

**Washing.** The Permittee shall be responsible for washing the site during the work.

**Excavation and Grading.** The Permittee shall be responsible for excavation and grading during the work.

**General Requirements.** The Permittee shall be responsible for the general requirements of the work.

**CONSTRUCTION OF CURB AND GUTTER.** The Permittee shall construct the curb and gutter in accordance with the specifications.

**CONSTRUCTION OF SIDEWALK.** The Permittee shall construct the sidewalk in accordance with the specifications.

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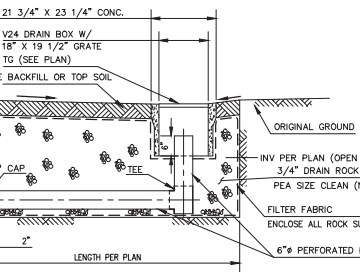
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**CONSTRUCTION OF OTHER WORK.** The Permittee shall construct any other work in accordance with the specifications.



**DETENTION BASIN**  
ELEVATION VIEW - NTS



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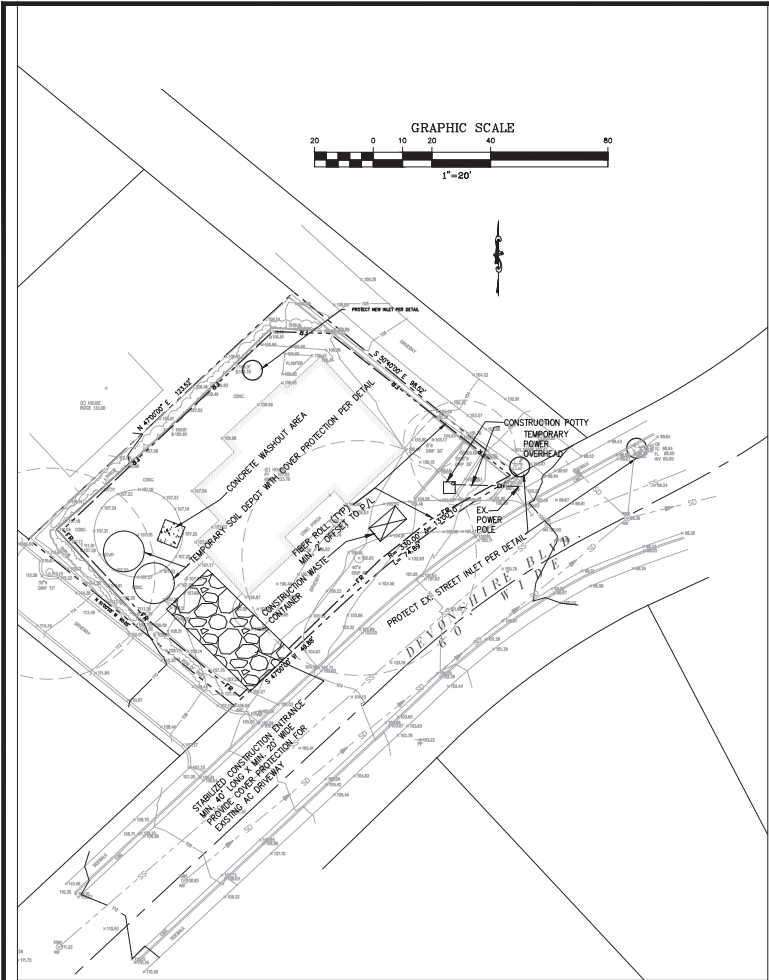
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**GRADING AND DRAINAGE PLANS**  
**SINGLE FAMILY HOME REMODEL/ ADDITION**  
216 DEVONSHIRE BLVD.,  
SAN CARLOS, CA 94070  
**DETAILS**

Revisions:



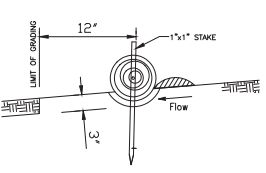
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Scale: AS NOTED  
Prepared by: V.G.  
Checked by: J.B.  
Job #: 219046  
Sheet: 4 OF 6  
C-4



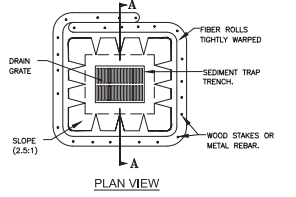
**SITE PLAN**  
1"=10'

**FIBER ROLL NOTES**

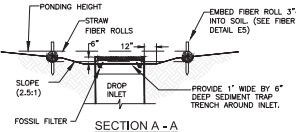
1. Place fiber roll in key trench 3" deep and place excavated soil on uphill or flow side of the roll.
2. On slopes and hillsides, fiber rolls shall be abutted at the ends and not overlapped. Place alternate stakes on both sides of the roll, every 4'.
3. Install fiber roll 12" from limit of grading.



**FIBER ROLL**  
N.T.S.



**PLAN VIEW**

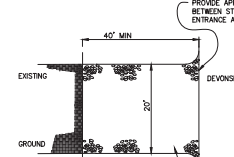


**SECTION A-A**

**STORM INLET SEDIMENT TRAP-FIBER ROLLS**  
N.T.S.



**PROFILE**

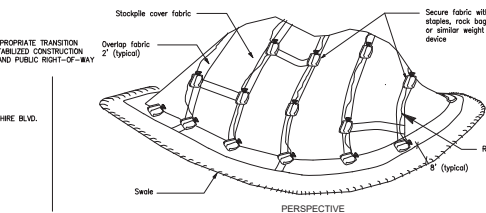


**PLAN**

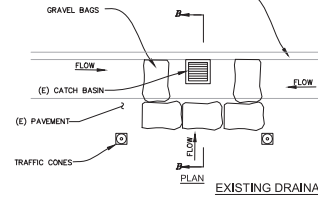
**Maintenance**

- The entrance shall be maintained in a condition that will prevent tracking or flowing sediment onto public rights-of-way. This may require periodic top dressing with additional stone as conditions demand, and repair and/or clean out any measures used to trap sediment.
- All sediment spilled, dropped, washed, or tracked onto public rights-of-way shall be removed immediately.
- When necessary, wheels shall be cleaned to remove sediment prior to entrance onto public rights-of-way. This shall be done at an area stabilized with crushed stone, which drains into an approved sediment trap or sediment basin.

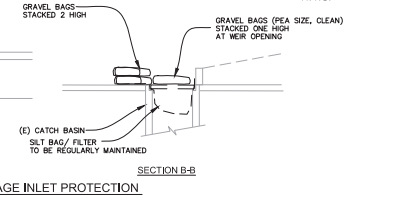
**STABILIZED CONSTRUCTION ENTRANCE**  
(TO BE MAINTAINED)



**TEMPORARY COVER ON STOCK PILE**  
N.T.S.



**PLAN**



**SECTION B-B**

**EXISTING DRAINAGE INLET PROTECTION**  
N.T.S.

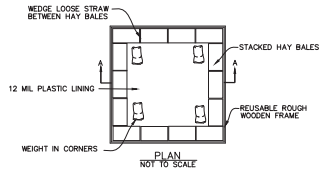
**EROSION AND SEDIMENT CONTROL NOTES AND MEASURES**

1. The facilities shown on this Plan are designed to control Erosion and sediment during the rainy season, October 1st to April 30th. Facilities are to be operable prior to October 1 of any year. Grading operations during the rainy season, which leave denuded slopes shall be protected with erosion control measures immediately following grading on the slopes.
2. This plan covers only the first winter following grading with assumed site conditions as shown on the Erosion Control Plan. Prior to September 15, the completion of site improvement shall be evaluated and revisions made to this plan as necessary with the approval of the city engineer. Plans are to be resubmitted for city approval prior to September 1 of each subsequent year until site improvements are accepted by the city.
3. Construction entrances shall be installed prior to commencement of grading. All construction traffic entering onto the paved roads must cross the stabilized construction entrances.
4. Contractor shall maintain stabilized entrance at each vehicle access point to existing paved streets. Any mud or debris tracked onto public streets shall be removed daily and as required by the city.
5. If hydroseeding is not used or is not effectively 10/10, then other immediate methods shall be implemented, such as Erosion control blankets, or a three-step application of: 1) seed, mulch, fertilizer 2) blown straw 3) topsoil and mulch.
6. Inlet protection shall be installed at open inlets to prevent sediment from entering the storm drain system. Inlets not used in conjunction with erosion control are to be blocked to prevent entry of sediment.
7. Lots with houses under construction will not be hydroseeded. Erosion protection for each lot with a house under construction shall conform to the Typical Lot Erosion Control Detail shown on this sheet.
8. This erosion and sediment control plan may not cover all the situations that may arise during construction due to unanticipated field conditions. Variations and additions may be made to this plan in the field. Notify the city representative of any field changes.
9. This plan is intended to be used for interim erosion and sediment control only and is not to be used for final elevations or permanent improvements.
10. Contractor shall be responsible for monitoring erosion and sediment control prior, during, and after storm events.

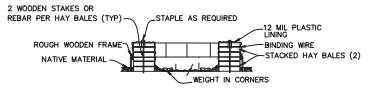
11. Reasonable care shall be taken when hauling any earth, sand, gravel, stone, debris, paper or any other substance over any public street, alley or other public place. Should any blow, spill, or track over and upon said public or adjacent private property, immediately remedy shall occur.
12. Sanitary facilities shall be maintained on the site.
10. During the rainy season, all paved areas shall be kept clear of earth material and debris. The site shall be maintained so as to minimize sediment laden runoff to any storm drainage systems, including existing drainage swales and water courses.
13. Construction operations shall be carried out in such a manner that erosion and water pollution will be minimized. State and local laws concerning pollution abatement shall be complied with.
14. Contractors shall provide dust control as required by the appropriate federal, state, and local agency requirements.
13. With the approval of the city inspector, erosion and sediment controls may be removed after areas above them have been stabilized.

**MAINTENANCE NOTES**

1. Maintenance is to be performed as follows:
  - A. Repair damages caused by soil erosion or construction at the end of each working day.
  - B. Swales shall be inspected periodically and maintained as needed.
  - C. Sediment traps, berms, and swales are to be inspected after each storm and repairs made as needed.
  - D. Sediment shall be removed and sediment traps restored to its original dimensions when sediment has accumulated to a depth of one foot.
  - E. Sediment removed from trap shall be deposited in a suitable area and in such a manner that it will not erode.
  - F. Rills and gullies must be repaired.
2. All existing drainage inlets on St. George Lane within the limit of the project, shall be protected with sand bags during construction. See detail. Sand bag inlet protection shall be cleaned out whenever sediment depth is one half the height of one sand bag.
3. Existing concrete ditch sediment trap shall be cleaned out routinely during construction.



**PLAN**  
NOT TO SCALE



**SECTION A-A**  
NOT TO SCALE

**CONCRETE WASHOUT AREA**  
N.T.S.



OWNER:  
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**GRADING AND DRAINAGE PLANS**  
**SINGLE FAMILY HOME REMODEL/ ADDITION**  
216 DEVONSHIRE BLVD.,  
SAN CARLOS, CA 94070  
EROSION CONTROL PLAN

Revisions:

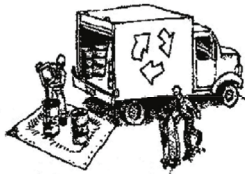


Date: 5/16/2019  
Scale: 1" = 20'  
Prepared by: V.G.  
Checked by: S.F.  
Job #: 219046  
Sheet:

# Construction Best Management Practices (BMPs)

Construction projects are required to implement the stormwater best management practices (BMP) on this page, as they apply to your project, all year long.

## Materials & Waste Management



### Non-Hazardous Materials

- Berm and cover stockpiles of sand, dirt or other construction material with tarps when rain is forecast or if not actively being used within 14 days.
- Use (but don't overuse) reclaimed water for dust control.

### Hazardous Materials

- Label all hazardous materials and hazardous wastes (such as pesticides, paints, thinners, solvents, fuel, oil, and antifreeze) in accordance with city, county, state and federal regulations.
- Store hazardous materials and wastes in water tight containers, store in appropriate secondary containment, and cover them at the end of every work day or during wet weather or when rain is forecast.
- Follow manufacturer's application instructions for hazardous materials and be careful not to use more than necessary. Do not apply chemicals outdoors when rain is forecast within 24 hours.
- Arrange for appropriate disposal of all hazardous wastes.

### Waste Management

- Cover waste disposal containers securely with tarps at the end of every work day and during wet weather.
- Check waste disposal containers frequently for leaks and to make sure they are not overfilled. Never hose down a dumpster on the construction site.
- Clean or replace portable toilets, and inspect them frequently for leaks and spills.
- Dispose of all wastes and debris properly. Recycle materials and wastes that can be recycled (such as asphalt, concrete, aggregate base materials, wood, gyp board, pipe, etc.)
- Dispose of liquid residues from paints, thinners, solvents, glues, and cleaning fluids as hazardous waste.

### Construction Entrances and Perimeter

- Establish and maintain effective perimeter controls and stabilize all construction entrances and exits to sufficiently control erosion and sediment discharges from site and tracking off site.
- Sweep or vacuum any street tracking immediately and secure sediment source to prevent further tracking. Never hose down streets to clean up tracking.

## Equipment Management & Spill Control



### Maintenance and Parking

- Designate an area, fitted with appropriate BMPs, for vehicle and equipment parking and storage.
- Perform major maintenance, repair jobs, and vehicle and equipment washing off site.
- If refueling or vehicle maintenance must be done onsite, work in a bermed area away from storm drains and over a drip pan or drop cloths big enough to collect fluids. Recycle or dispose of fluids as hazardous waste.
- If vehicle or equipment cleaning must be done onsite, clean with water only in a bermed area that will not allow rinse water to run into gutters, streets, storm drains, or surface waters.
- Do not clean vehicle or equipment onsite using soaps, solvents, degreasers, or steam cleaning equipment.

### Spill Prevention and Control

- Keep spill cleanup materials (e.g., rags, absorbents and cat litter) available at the construction site at all times.
- Inspect vehicles and equipment frequently for and repair leaks promptly. Use drip pans to catch leaks until repairs are made.
- Clean up spills or leaks immediately and dispose of cleanup materials properly.
- Do not hose down surfaces where fluids have spilled. Use dry cleanup methods (absorbent materials, cat litter, and/or rags).
- Sweep up spilled dry materials immediately. Do not try to wash them away with water, or bury them.
- Clean up spills on dirt areas by digging up and properly disposing of contaminated soil.
- Report significant spills immediately. You are required by law to report all significant releases of hazardous materials, including oil. To report a spill: 1) Dial 911 or your local emergency response number, 2) Call the Governor's Office of Emergency Services Warning Center, (800) 852-7550 (24 hours).

## Earthmoving



- Schedule grading and excavation work during dry weather.
- Stabilize all denuded areas, install and maintain temporary erosion controls (such as erosion control fabric or bonded fiber matrix) until vegetation is established.
- Remove existing vegetation only when absolutely necessary, and seed or plant vegetation for erosion control on slopes or where construction is not immediately planned.
- Prevent sediment from migrating offsite and protect storm drain inlets, gutters, ditches, and drainage courses by installing and maintaining appropriate BMPs, such as fiber rolls, silt fences, sediment basins, gravel bags, berms, etc.
- Keep excavated soil on site and transfer it to dump trucks on site, not in the streets.

### Contaminated Soils

- If any of the following conditions are observed, test for contamination and contact the Regional Water Quality Control Board:
  - Unusual soil conditions, discoloration, or odor.
  - Abandoned underground tanks.
  - Abandoned wells
  - Buried barrels, debris, or trash.

## Paving/Asphalt Work



- Avoid paving and seal coating in wet weather or when rain is forecast, to prevent materials that have not cured from contacting stormwater runoff.
- Cover storm drain inlets and manholes when applying seal coat, tack coat, slurry seal, fog seal, etc.
- Collect and recycle or appropriately dispose of excess abrasive gravel or sand. Do NOT sweep or wash it into gutters.
- Do not use water to wash down fresh asphalt concrete pavement.

### Sawcutting & Asphalt/Concrete Removal

- Protect nearby storm drain inlets when saw cutting. Use filter fabric, catch basin inlet filters, or gravel bags to keep slurry out of the storm drain system.
- Shovel, absorb, or vacuum saw-cut slurry and dispose of all waste as soon as you are finished in one location or at the end of each work day (whichever is sooner).
- If sawcut slurry enters a catch basin, clean it up immediately.

## Concrete, Grout & Mortar Application



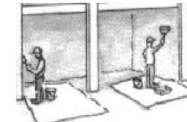
- Store concrete, grout, and mortar away from storm drains or waterways, and on pallets under cover to protect them from rain, runoff, and wind.
- Wash out concrete equipment/trucks offsite or in a designated washout area, where the water will flow into a temporary waste pit, and in a manner that will prevent leaching into the underlying soil or onto surrounding areas. Let concrete harden and dispose of as garbage.
- When washing exposed aggregate, prevent washwater from entering storm drains. Block any inlets and vacuum gutters, hose washwater onto dirt areas, or drain onto a bermed surface to be pumped and disposed of properly.

## Landscaping



- Protect stockpiled landscaping materials from wind and rain by storing them under tarps all year-round.
- Stack bagged material on pallets and under cover.
- Discontinue application of any erodible landscape material within 2 days before a forecast rain event or during wet weather.

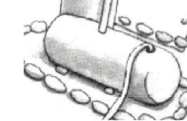
## Painting & Paint Removal



### Painting Cleanup and Removal

- 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 into a drain that goes to the sanitary sewer. Never pour paint down a storm drain.
- For oil-based paints, paint out brushes to the extent possible and clean with thinner or solvent in a proper container. Filter and reuse thinners and solvents. Dispose of excess liquids as hazardous waste.
- 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 tributyltin must be disposed of as hazardous waste. Lead based paint removal requires a state-certified contractor.

## Dewatering



- Discharges of groundwater or captured runoff from dewatering operations must be properly managed and disposed. When possible send dewatering discharge to landscaped area or sanitary sewer. If discharging to the sanitary sewer call your local wastewater treatment plant.
- Divert run-on water from offsite away from all disturbed areas.
- When dewatering, notify and obtain approval from the local municipality before discharging water to a street gutter or storm drain. Filtration or diversion through a basin, tank, or sediment trap may be required.
- In areas of known or suspected contamination, call your local agency to determine whether the groundwater must be tested. Pumped groundwater may need to be collected and hauled off-site for treatment and proper disposal.

**Storm drain polluters may be liable for fines of up to \$10,000 per day!**



**C.3 and C.6 Development Review Checklist**  
Municipal Regional Stormwater Permit (MRP)  
Stormwater Controls for Development Projects

**Project Information**

**I.A Enter Project Data** (For "C.3 Regulated Projects," data will be reported in the municipality's stormwater Annual Report.)

Project Name: 216 DEVONSHIRE Case Number: \_\_\_\_\_  
 Project Address & Cross St.: 216 DEVONSHIRE BLVD., SAN CARLOS, CA 94070  
 Project APN: APN: 049-110-160 Project Watershed: PULGAS CREEK  
 Applicant Name: \_\_\_\_\_ I.A.4 Slope on Site: 3.1 %  
 Applicant Phone: \_\_\_\_\_ Applicant Email Address: \_\_\_\_\_

- Development type: (check all that apply)
- Single Family Residential: A stand-alone home that is not part of a larger project.
  - Single Family Residential: Two or more lot residential development. <sup>1</sup> # of units: \_\_\_\_\_
  - Multi-Family Residential # of units: \_\_\_\_\_
  - Commercial
  - Industrial, Manufacturing
  - Mixed-Use # of units: \_\_\_\_\_
  - Streets, Roads<sup>2</sup>, etc.
  - 'Redevelopment' as defined by MRP: creating, adding and/or replacing exterior existing impervious surface on a site where past development has occurred.

**I.A.1**

- 'Special land use categories' as defined by MRP: (1) auto service facilities<sup>3</sup>, (2) retail gasoline outlets, (3) restaurants, (4) uncovered parking area (stand-alone or part of a larger project)
- Institutions: schools, libraries, jails, etc.
- Parks and trails, camp grounds, other recreational
- Agricultural, wineries
- Kennels, Ranches
- Other, Please specify \_\_\_\_\_

Project Description<sup>4</sup>:  
(Also note any past or future phases of the project.)

SINGLE FAMILY HOME REMODEL/ ADDITION

I.A.2 Total Area of Site: 0.26 acres  
 I.A.3 Total Area of land disturbed during construction (include clearing, grading, excavating and stockpile area): 0.18 acres.

**I.A.5 Certification:**

I certify that the information provided on this form is correct and acknowledge that, should the project exceed the amount of new and/or replaced impervious surface provided in this form, the as-built project may be subject to additional improvements.

- Attach Preliminary Calculations  Attach Final Calculations  Attach copy of site plan showing areas

Name of person completing the form: SAEID RAZAVI Title: CIVIL ENGINEER

Signature:  Date: 9-26-2019

Phone number: 650-941-8055 Email address: SRAZAVI@SMPENGINEERS.COM

<sup>1</sup> Common Plans of Development (subdivisions or contiguous, commonly owned lots, for the construction of two or more homes developed within 1 year of each other) are not considered single family projects by the MRP.  
<sup>2</sup> Roadway projects creating 10,000 sq.ft. or more of contiguous impervious surface are subject to C.3 requirements if the roadway is new or being widened with additional traffic lanes.  
<sup>3</sup> See Standard Industrial Classification (SIC) codes [here](#)  
<sup>4</sup> Project description examples: 5-story office building, industrial warehouse, residential with five 4-story buildings for 200 condominiums, etc.

**I.B Is the project a "C.3 Regulated Project" per MRP Provision C.3.b?**

**I.B.1 Enter the amount of impervious surface<sup>5</sup> Retained, Replaced and/or Created by the project:**

**Table I.B.1 Impervious<sup>5</sup> and Pervious Surfaces**

Type of Impervious <sup>5</sup> Surface	I.B.1.a	I.B.1.b	I.B.1.c	I.B.1.d	I.B.1.e
	Pre-Project Impervious <sup>5</sup> Surface (sq.ft.)	Existing Impervious <sup>5</sup> Surface to be Retained <sup>6</sup> (sq.ft.)	Existing Impervious <sup>5</sup> Surface to be Replaced <sup>6</sup> (sq.ft.)	New Impervious <sup>5</sup> Surface to be Created <sup>6</sup> (sq.ft.)	Post-Project Impervious <sup>5</sup> Surface (sq.ft.) (=b+c+d)
Roof area(s)	2851	2398			2398
Impervious <sup>5</sup> sidewalks, patios, paths, driveways, streets	4045	1917	1019	344	3280
Impervious <sup>5</sup> uncovered parking <sup>7</sup>					0
Totals of Impervious Surfaces:	6896	4315	1019	344	5678
<b>I.B.1.f - Total Impervious<sup>5</sup> Surface Replaced and Created (sum of totals for columns I.B.1.c and I.B.1.d):</b>					
Type of Pervious Surface	Pre-Project Pervious Surface (sq.ft.)				Post-project Pervious Surface (sq.ft.)
Landscaping	4299				5517
Pervious Paving		<b>I.B.1.e.1:</b>			
Green Roof					
Totals of Pervious Surfaces:	4299				5517
Total Site Area (Total Impervious <sup>5</sup> +Total Pervious=I.A.2)	11195				11195

**I.B.2 Please review and attach additional worksheets as required below using the Total Impervious Surface (IS) Replaced and Created in cell I.B.1.f from Table I.B.1 above and other factors:**

	Check all that apply:	Check One		Attach Worksheet
		Yes	No	
I.B.2.a	Does this project involve any earthwork? If YES, then Check Yes, and Complete Worksheet A. If NO, then go to I.B.2.b	<input checked="" type="checkbox"/>	<input type="checkbox"/>	A
I.B.2.b	Is I.B.1.f greater than or equal to 2,500 sq.ft? If YES, then the Project is subject to Provision C.3.i. - complete Worksheets B, C & go to I.B.2.c. If NO, then Stop here - go to I.A.5 and complete Certification or ask municipal staff for Small Project Checklist.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	B, C
I.B.2.c	Is the total Existing IS to be Replaced (column I.B.1.c) 50 percent or more of the total Pre-Project IS (column I.B.1.a)? If YES, site design, source control and treatment requirements apply to the whole site. Continue to I.B.2.d If NO, these requirements apply only to the impervious surface created and/or replaced. Continue to I.B.2.d	<input type="checkbox"/>	<input type="checkbox"/>	
I.B.2.d	Is this project a Special Land Use Category (I.A.1) and is I.B.1.f greater than or equal to 5,000 sq.ft? If YES, project is a Regulated Project. Fill out Worksheet D. Go to I.B.2.f. If NO, go to I.B.2.e	<input type="checkbox"/>	<input type="checkbox"/>	D
I.B.2.e	Is I.B.1.f greater than or equal to 10,000 sq.ft? If YES, project is a C.3 Regulated Project - complete Worksheet D. Then continue to I.B.2.f. If NO, then skip to I.B.2.g.	<input type="checkbox"/>	<input type="checkbox"/>	D
I.B.2.f	Is I.B.1.f greater than or equal to 43,560 sq.ft? If YES, project may be subject to Hydromodification Management requirements - complete Worksheet E then continue to I.B.2.g. If NO, then go to I.B.2.g.	<input type="checkbox"/>	<input type="checkbox"/>	E
I.B.2.g	Is I.A.3 greater than or equal to 1 acre? If YES, check box, obtain coverage under the CA Const. General Permit & submit Notice of Intent to municipality - go to I.B.2.h. If NO, then go to I.B.2.h. For more information see: <a href="http://www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml">www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml</a>	<input type="checkbox"/>	<input type="checkbox"/>	
I.B.2.h	Is this a Special Project or does it have the potential to be a Special Project? If YES, complete Worksheet F - then continue to I.B.2.i. If NO, go to I.B.2.i.	<input type="checkbox"/>	<input type="checkbox"/>	F
I.B.2.i	Is project a High Priority Site? (Determined by the Municipality. High Priority Sites can include those located in or within 100 feet of a sensitive habitat, an Area of Special Biological Significance, a body of water, or starting 7/1/16 on sites disturbing >=5,000 ft <sup>2</sup> with slopes >=15% (see I.A.4) (or per municipal criteria/map) and are subject to monthly inspections from Oct 1 to April 30.) If YES, complete section G-2 on Worksheet G - then continue to I.B.2.j. If NO, then go to I.B.2.j	<input type="checkbox"/>	<input type="checkbox"/>	G
I.B.2.j	For Municipal Staff Use Only: Are you using Alternative Certification for the project review? If YES, then fill out section G-1 on Worksheet G. Fill out other sections of Worksheet G as appropriate. See cell I.B.1.e.1 above - Is the project installing 3,000 square feet or more of pervious paving? If YES, then fill out section G-3 on Worksheet G. Add to Municipal Inspection Lists (C.3.h)	<input type="checkbox"/>	<input type="checkbox"/>	G

<sup>5</sup> Per the MRP, pavement that meets the following definition of pervious pavement is NOT an impervious surface. Pervious pavement is defined as pavement that stores and infiltrates rainfall at a rate equal to immediately surrounding unpaved, landscaped areas, or that stores and infiltrates the rainfall runoff volume described in Provision C.3.

<sup>6</sup> "Retained" means to leave existing impervious surfaces in place, unchanged; "Replaced" means to install new impervious surface where existing impervious surface is removed anywhere on the same property; and "Created" means the amount of new impervious surface being proposed which exceeds the total existing amount of impervious surface at the property.

<sup>7</sup> Uncovered parking includes the top level of a parking structure.



Hydrology calculation  
FOR  
DEVELOPMENT AT  
**216 DEVONSHIRE BLVD.,  
SAN CARLOS, CA 94070**

**May 2019**

**BY  
SMP ENGINEERS  
1534 CAROB LANE  
LOS ALTOS, CA 94024**



**STORM DRAIN CALCULATION  
NEW SINGLE FAMILY HOUSE  
216 DEVONSHIRE BLVD.,  
SAN CARLOS, CA 94070**

**ASSUMPTIONS:**

RATIONAL METHOD HAS BEEN USED, PER SAN MATEO COUNTY DRAINAGE MANUAL, SINCE SITE IS NOT BOUNDING AN EXISTING DRAINAGE COURSE LOCATED ON AND ADJACENT TO THE PROPERTY, CALCULATION IS DONE FOR A 10 YEAR STORM. DURATION OF RAIN TO BE MINIMUM CONCENTRATION TIME (10 MINUTES), PRE OR POST DEVELOPMENT, WHICHEVER IS LONGER, WHEN FLOW REACHES THE PEAK. DETENTION BASINS TO BE SIZED TO HOLD ADDITIONAL WATER RUN-OFF IN SITE.

**PER-DEVELOPMENT WATERSHED TABLE:**

DESCRIPTION:	AREA (SQFT)	AREA (ACRES)	MATERIAL	C	C x AREA
EX. HOUSE	2,851	0.065	ROOF	0.9	2566
EX. FRONT PORCH & WALKWAY	167	0.004	CONC.	0.9	150
EX. DRIVEWAY	1,801	0.041	AC	0.9	1621
EX. BACKYARD PATIO	2,077	0.048	CONC.	0.9	1869
<b>TOTAL OF IMPERVIOUS AREA:</b>	<b>6,896</b>	<b>0.158</b>	<b>IMPERVIOUS</b>		
LANDSCAPE / GROUND	4,299	0.099	L/S, GROUND	0.1	430
<b>TOTAL OF PERVIOUS AREAS</b>	<b>4,299</b>	<b>0.099</b>	<b>PERVIOUS</b>		
<b>TOTAL SITE AREA</b>	<b>11,195</b>	<b>0.257</b>			<b>6,636</b>

WEIGHTED AVERAGE  $C = \frac{\sum(CXA)}{\sum A} = 0.593$  RUNOFF COEFFICIENT

**Concentration time (Tc) in minutes**

C = 0.593 UNITLESS  
 L = 170 FEET ALONG BACKYARD & SIDE YARD  
 HIGH POINT ELEVATION = 107 FEET WESTERLY PROPERTY CORNER  
 LOW POINT ELEVATION = 101.5 FEET EASTERLY PROPERTY CORNER  
 ELEVATION DROP (H) = 5.5 FEET  
 SLOPE (S) =  $100 \times H / L = 3.2 \%$   
 $Tc1 = [1.8 (1.1 - C) \sqrt{L}] / (S^{1/3}) = 8.0$  minutes  
 Tc (MINIMUM) = 10.0 minutes PER SAN MATEO COUNTY DRAINAGE MANUAL,  
**SO USE Tc = 10.0 minutes**

**Rainfall Intensity (I) 10 YEAR STORM**

$I_{10 \text{ YR}, 10 \text{ MINUTES}} = 2.45$  inches/hr  
 Per SAN MATEO COUNTY RAINFALL RUNOFF DATA, TABLE

**INTENSITY FACTOR:**

F = 0.8 UNITLESS  
 Per SAN MATEO COUNTY RAINFALL RUNOFF DATA MAP FOR SAN CARLOS

**Flow calculation, PRE DEVELOPMENT**

(Rational method)

I = 2.45 inches/hr  
 C = 0.593  
 A = 0.257 acres  
 F = 0.80  
 $Q = I.C.A.F. = 0.299$  CFS

**PRE DEVELOPMENT STORM RUN-OFF VOLUME,  
Tc (PRE) DURATION, RECLINE LIMB FACTOR= 1.0**

$V (\text{PRE-DEVELOPMENT}) = Q \times Tc (\text{PRE}) \times 60 (\text{SEC/MIN}) = 179$  CF

**POST-DEVELOPMENT WATERSHED TABLE:**

DESCRIPTION:	AREA (SQFT)	AREA (ACRES)	MATERIAL	C	C x AREA
HOUSE	2,399	0.055	ROOFING	0.9	2,159
FRONT PORCH	167	0.004	CONC.	0.9	150
EX. DRIVEWAY	1,750	0.040	AC	0.9	1,575
PATIO AND WALKWAY	1,362	0.031	PAVER STONE	0.9	1,226
CREDIT FOR HARDSCAPE IN BACKYARD	1,900	0.044	PAVER STONE/ CONC	0.9	1,710
<b>TOTAL OF IMPERVIOUS AREA:</b>	<b>7,578</b>	<b>0.174</b>	<b>IMPERVIOUS</b>		
LANDSCAPE / GROUND	3,617	0.083	LANDSCAPE, GROUND	0.1	362
<b>TOTAL OF PERVIOUS AREAS</b>	<b>3,617</b>	<b>0.083</b>	<b>PERVIOUS</b>		
<b>TOTAL SITE AREA</b>	<b>11,195</b>	<b>0.257</b>			<b>7,182</b>

WEIGHTED AVERAGE  $C = \Sigma(CXA) / \Sigma A = 0.642$  RUNOFF COEFFICIENT

**Concentration time (Tc) in minutes**

C = 0.642  
 LONGEST TRAVEL PATH OF WATER REMAIN UNCHANGED  
 L = 170 FEET  
 HIGH POINT ELEVATION = 107 FEET  
 LOW POINT ELEVATION = 101.5 FEET  
 ELEVATION DROP (H) = 5.5 FEET  
 SLOPE (S) =  $100 \times H / L = 3.2 \%$   
 $T_{c1} = [1.8 (1.1 - C) \sqrt{L}] / (S^{1/3}) = 7.3$  minutes  
 Tc (MINIMUM) = 10.0 minutes  
**SO USE Tc = 10.0 minutes**

**Rainfall Intensity (I) 10 YEAR STORM**

I 10 YR, 10 MINUTES = 2.45 inches/hr  
 Per SAN MATEO COUNTY RAINFALL RUNOFF DATA, TABLE

**INTENSITY FACTOR:**

F = 0.8 UNITLESS  
 Per SAN MATEO COUNTY RAINFALL RUNOFF DATA MAP FOR SAN CARLOS

**Flow calculation, POST DEVELOPMENT**

(Rational method)

I = 2.45 inches/hr  
 C = 0.642  
 A = 0.257 acres  
 F = 0.80  
 $Q = I.C.A.F. = 0.323$  CFS

**POST DEVELOPMENT STORM RUN-OFF VOLUME, Tc DURATION, RECLINE LIMB FACTOR= 1.0**

$V_{(POST-DEVELOPMENT)} = Q \times T_c (PRE) \times 60 = 194$  CF

**DIFFERENCE OF RUN-OFF TO BE STORED IN SITE**

$V = V (POST) - V (PRE) = 15$  CF

**USE DETENTION BASIN WITH DRAIN ROCK 30% VOID SPACE**

$V_{(REQ.)} = V / 0.35 = 42$  CF

**ESTIMATE DEPTH AND AREA OF DETENTION BASIN**

DEPTH (D) = 2 FT  
 $A_{(REQ.)} = V_{(REQ.)} / (D) = 21.0$  SQFT

**ESTIMATE QUANTITY AND SIZE OF EACH DETENTION BASIN**

NUMBER OF DETENTION BASINS (N) = 1  
 LENGTH (L) = 8 FT  
 WIDTH (W) = 3 FT  
 $A_{(DESIGN)} = N \times L \times W = 24.0$  SQFT  
**SHOULD BE MORE THAN  $A_{(REQ.)} = 21.0$  SQFT OK**

**SO USE 1 DETENTION BASIN, 8 FT LONG, 3 FT WIDE AND 2 FT DEEP.**

$V_{(DESIGN)} = N \times L \times W \times D = 48.0$  CF  
**SHOULD BE MORE THAN  $V_{(REQ.)} = 42.1$  CF OK**