

INSTALLATION REQUIREMENTS FOR:  
**ABOVE-GROUND STORAGE  
and DISPENSING TANKS**

INFORMATION  
GUIDELINE  
**22**  
June 2009

CITY OF ESCONDIDO • BUILDING DIVISION • 201 N. BROADWAY, ESCONDIDO, CA 92025 • (760) 839-4647

GUIDELINE INTENT

This guideline is intended to aid individuals with the plan preparation, permit process and installation requirements for above-ground tanks.

Tanks are regulated by the California Building Code, the California Fire Code, the Zoning Code, and other regulations enforced by the County Health Department and the APCD.

Attached are checklists for your use in complying with the various regulations. Sample plans are also included. The Hazardous Material Questionnaire must be completed and approved (if required) prior to permit issuance.

CITY DEPARTMENT/  
OTHER AGENCY CONTACTS

- Planning Division  
(760) 839-4671
- Fire Department  
(760) 839-5400
- Building Division  
(760) 839-4647
- Engineering Department  
(760) 839-4651
- County Hazardous Material Management  
Division (HMMD)  
(619) 338-2222
- County Air Pollution Control District (APCD)  
(619) 694-3307

PERMIT REQUIREMENTS

Permits are required as listed below:

- Building Division - Permit required for the structural aspects of the tank installation, retaining walls (if required), electrical installation, etc.

Note: No permit for water tanks supported directly on grade if less than 5,000 gallons and the ratio of height to diameter or width does not exceed 2:1.

- Fire Department - Permit required for storage, use, and dispensing of compressed gases, flammable and/or combustible liquids per Appendix Chapter 1, C.F.C., CALIFORNIA FIRE CODE.
- County Hazmat - Contact this agency for permit and submittal requirements.
- APCD - Contact this agency for permit and submittal requirements.

FEES REQUIRED

- Building Division - Plan check and building permit based on valuation of work plus electrical permit.
- Fire Department - payable at Fire Department Administration prior to building permit issuance. Contact Fire Admin. 839-5400

## FEES REQUIRED (continued)

- Planning Division - fee is to be paid to Planning Division prior to obtaining Planning approval. Contact Planning Div. at 839-4671.
- County Hazmat - Contact HMMD and APCD for their fee requirements.

## PLAN SUBMITTAL

Use the attached as a guide in preparing your plans. Once you've prepared your plans...

- Submit 3 sets of plans plus a 4<sup>th</sup> Plot Plan to the Building Division. Complete a permit application. A plan check fee will be required.
- Your plans will be routed to and checked by Building, Planning, and Fire. If corrections are needed, you will be notified to make the corrections and resubmit.
- When corrections are required they are to be made on the original tracings and two (2) complete sets of revised plans are to be resubmitted to the Building Division.
- It is your responsibility to obtain County Hazmat & APCD approvals. If applicable, a signed-off Hazmat questionnaire will be required prior to building permit issuance.
- When all approvals are obtained, and fees paid, your permit will be issued.

## INSPECTIONS

Once you've obtained your permit, work can be started and inspections requested.

- Building Division - Arrange for inspections by calling the 24-hour inspection request line, 839-4646: footing, foundation, reinforcing steel. This inspection to be approved prior to placing concrete; masonry block and grouting.  
Electrical - Underground conduit; rough wiring prior to backfilling trench. Final - When all work is complete
- Fire Department - Arrange for inspection 48 hours in advance. (839-5400)
- County Hazmat - Contact appropriate departments.
- Planning Division - If a final inspection is required, it will be noted on the approved plans. Call the project planner at 839-4671 to arrange the inspection.

## LOCATION AND SCREENING CRITERIA FOR ABOVE GROUND STORAGE TANKS - PLANNING DIVISION

Each request for approval of an above ground tank will be reviewed by the Planning Division staff to determine if the proposed tank location meets the criteria below. If additional screening is necessary, staff will work with the applicant to develop the most appropriate combination of methods to adequately screen the tank.

1. Tanks shall not be located within required building setbacks.
2. Locate tanks so as not to restrict circulation, or reduce the number of required parking spaces or vehicle back up space. Adequate space should be available to allow for access to the dispensing mechanism by users (vehicles, etc.) without interfering with other circulation needs.
3. The installation of a tank should not reduce the amount of landscaping on site.
4. Tanks shall be located so as to be screened from view from public rights-of-way, residential land uses, and/or other public areas. Tanks which are less than 500 gallons in size and lower than 5 feet in height shall be exempt from screening requirements. Screening methods may include, but not be limited to:
  - a. A solid wall, good-neighbor fence, or chain-link fence with slats; as tall as the proposed storage tank (8 ft. high max.). An approved Anti-Graffiti surface is required. Walls and fences over 6 ft. require a building permit.
  - b. Dense landscaping of trees, shrubs, and/or vines; located on site so as to screen the tank from public view.
  - c. Installation of the tank behind existing buildings, walls, fences, and/or landscaping.
  - d. Location of the tank in an area which would be screened by intervening topography.
  - e. Painting of the tank a color to blend with the adjacent structures or surroundings.
  - f. Changing the configuration of a highly visible vertical tank to a horizontal installation.
  - g. Combinations of the above.
6. The following information is to be shown on the plans:
  - a. North arrow and scale of drawing.
  - b. Site address. Name, address, and phone number of business owner, property owner, and person preparing plans.
  - c. Street location and name. Tank location, dimensions, and size. Distance to property lines.
  - d. Detail or picture of tank, including height. Type of materials being stored/dispensed.
  - e. Existing and proposed screening material, landscaping, and proposed irrigation at tank.
  - f. Existing and proposed structures, parking spaces, and driveways on site.
  - g. Use of existing buildings on property.

Staff may refer unusual requests, involving exceptionally large storage tanks or unusual situations, to the Design Review Board (DRB) for recommendations.

Staff decisions may be appealed to the DRB upon submittal of a written request and a design review fee. Determinations of the DRB may be appealed to the Planning Commission, pursuant to Section 33-1362 of the Escondido Zoning Code.

**ABOVE GROUND STORAGE AND  
DISPENSING TANKS REQUIREMENTS  
ESCONDIDO FIRE DEPARTMENT**

Permit # \_\_\_\_\_

Those items circled require correction to be shown on plans being resubmitted.

**Show the following:**

1. All support documents showing testing and certification are to accompany plans to be reviewed.
2. Collision barriers per **California Fire Code**
3. No smoking signs – **CFC Standards**
4. Warning labels/signing
5. Tank identification
6. Venting shall meet Fire Code and San Diego Air Pollution Control District Standards
7. Vessel shall be placed on a concrete foundation meeting seismic design and soil compaction standards.
8. Property lines to tank location--**Note:** Tanks storing Class 1 and 2 liquids shall be no closer than 25 feet from property line that can be built on, and ten feet from a street, alley or public way.
9. Neighboring structures
10. On-site structure(s) and the type of construction of said structure(s) and any fire protection--**Note:** Tanks storing Class 1 and 2 liquids shall be no closer than ten feet from structures on the same property.
11. Access roads
12. Location of storage/dispensing unit(s)
13. Public ways, i.e., streets and sidewalks
14. Emergency shut-off switches
15. Location of emergency extinguishing devices

16. Tank size
17. Type of material to be stored/dispensed
18. Permit required
19. Application fee due in the amount of \$\_\_\_\_\_
20. Spacing between adjacent tanks
21. Supports, foundations and anchorage
22. Diking and drain controls
23. Valves
24. Spill control/secondary containment
25. All Class 1 and 2 liquids shall have overfill reservoirs a minimum of seven U.S. gallons on tanks up 1,100 U.S. gallons capacity.
26. All other class liquids shall have overfill reservoirs of a minimum of 15 U.S. gallon capacity.
27. The primary vessel of Class 1 and 2 liquids shall be of double wall construction. It shall be protected by an integral exterior weather resistive fire resistive barrier with a minimum rating to two (2) hours.
28. Pressure relief devices on compressed gases
29. Compressed gases from exposures
30. Liquefied petroleum gases
31. Security
32. Other:  
\_\_\_\_\_  
\_\_\_\_\_
33. Approved    Approved as Noted
34. Denied - resubmit

Reviewed by \_\_\_\_\_

Date \_\_\_\_\_

<p style="text-align: center;"><b>BUILDING DIVISION</b> <b>ABOVE GROUND STORAGE TANK REQUIREMENTS</b></p>
---

The following information must be shown on plans. Incomplete plan submittals will not be reviewed:

1. Each sheet to be signed by person preparing plans.
2. Structural calculations prepared by a California Registered Architect or Civil Engineer to show compliance with CBC (California Building Code) Section 1604 for resistance to minimum lateral forces per the mentioned section (Default Site Class D), or  
  
U.L. listed assembly or equally nationally recognized standard.
3. Containment areas for Class I, II or III-A liquids must be designed by a California Registered Architect or Civil Engineer.
4. Show anchorage of tanks, footing types - depths, widths. Concrete strength for tank support system, slab and wall reinforcement and details.
5. Soils report or assumed bearing capacity per California registered Civil Engineer or architect.
6. Show height of the tank above grade plane.
7. Show footing plan and related details.
8. Electrical locations as necessary for normal operations.
9. Electrical installation method - wiring, raceway type.
10. Hazardous locations to comply with Article 500, N.E.C., show requirements on plans.



# SAN DIEGO REGIONAL HAZARDOUS MATERIALS QUESTIONNAIRE

OFFICE USE ONLY	
UPFP#	_____
HV#	_____
BP DATE	___ / ___ / ___

Business Name	Business Contact	Telephone # ( )		
Project Address	City	State	Zip Code	APN#
Mailing Address	City	State	Zip Code	Plan File#
Project Contact	Telephone # ( )			

The following questions represent the facility's activities, NOT the specific project description.

**PART I: FIRE DEPARTMENT – HAZARDOUS MATERIALS DIVISION: OCCUPANCY CLASSIFICATION:** Indicate by circling the item, whether your business will use, process, or store any of the following hazardous materials. If any of the items are circled, applicant must contact the Fire Protection Agency with jurisdiction prior to plan submittal.

- |                                  |                       |                                     |                          |
|----------------------------------|-----------------------|-------------------------------------|--------------------------|
| 1. Explosive or Blasting Agents  | 5. Organic Peroxides  | 9. Water Reactives                  | 13. Corrosives           |
| 2. Compressed Gases              | 6. Oxidizers          | 10. Cryogenics                      | 14. Other Health Hazards |
| 3. Flammable/Combustible Liquids | 7. Pyrophorics        | 11. Highly Toxic or Toxic Materials | 15. None of These.       |
| 4. Flammable Solids              | 8. Unstable Reactives | 12. Radioactives                    |                          |

**PART II: SAN DIEGO COUNTY DEPARTMENT OF ENVIRONMENTAL HEALTH – HAZARDOUS MATERIALS DIVISIONS (HMD):** If the answer to any of the questions is yes, applicant must contact the County of San Diego Hazardous Materials Division, 1255 Imperial Avenue, 3<sup>rd</sup> floor, San Diego, CA 92101. Call (619) 338-2222 prior to the issuance of a building permit.

FEES ARE REQUIRED.

Expected Date of Occupancy: \_\_\_ / \_\_\_ / \_\_\_

YES NO

- |    |                          |                          |  |
|----|--------------------------|--------------------------|--|
| 1. | <input type="checkbox"/> | <input type="checkbox"/> | Is your business listed on the reverse side of this form? (check all that apply).  |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> | Will your business dispose of Hazardous Substances or Medical Waste in any amount?   |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> | Will your business store or handle Hazardous Substances in quantities equal to or greater than 55 gallons, 500 pounds, 200 cubic feet, or carcinogens/reproductive toxins in any quantity? |
| 4. | <input type="checkbox"/> | <input type="checkbox"/> | Will your business use an existing or install an underground storage tank?   |
| 5. | <input type="checkbox"/> | <input type="checkbox"/> | Will your business store or handle Regulated Substances (CalARP)?  |
| 6. | <input type="checkbox"/> | <input type="checkbox"/> | Will your business use or install a Hazardous Waste Tank System (Title 22, Article 10)?  |

<input type="checkbox"/>	CalARP Exempt	_____ / _____
	Date	Initials
<input type="checkbox"/>	CalARP Required	_____ / _____
	Date	Initials
<input type="checkbox"/>	CalARP Complete	_____ / _____
	Date	Initials

**PART III: SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT:** If the answer to any of the questions below is yes, applicant must contact the Air Pollution Control District (APCD), 10124 Old Grove Road, San Diego, CA 92131-1649, telephone (858) 586-2600 prior to the issuance of a building or demolition permit. Note: if the answer to questions 3 or 4 is yes, applicant must also submit an asbestos notification form to the APCD at least 10 working days prior to commencing demolition or renovation, except demolition or renovation of residential structures of four units or less. Contact the APCD for more information.

YES NO

- |    |                          |                          |  |
|----|--------------------------|--------------------------|--|
| 1. | <input type="checkbox"/> | <input type="checkbox"/> | Will the subject facility or construction activities include operations or equipment that emit or are capable of emitting an air contaminant? (See the APCD factsheet at <a href="http://www.sdapcd.org/info/facts/permits.pdf">http://www.sdapcd.org/info/facts/permits.pdf</a> , and the list of typical equipment requiring an APCD permit on the reverse side of this form. Contact APCD if you have any questions). |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> | (ANSWER ONLY IF QUESTION 1 IS YES) Will the subject facility be located within 1,000 feet of the outer boundary of a school (K through 12)? (Public and private schools may be found after search of the California School Directory at <a href="http://www.cde.ca.gov/re/sd/">http://www.cde.ca.gov/re/sd/</a> ; or contact the appropriate school district).   |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> | Will there be renovation that involves handling of any friable asbestos materials, or disturbing any material that contains non-friable asbestos?  |
| 4. | <input type="checkbox"/> | <input type="checkbox"/> | Will there be demolition involving the removal of a load supporting structural member?   |

Briefly describe business activities:

Briefly describe proposed project:

I declare under penalty of perjury that to the best of my knowledge and belief the responses made herein are true and correct.

\_\_\_\_\_  
Name of owner or Authorized Agent

\_\_\_\_\_  
Signature of Owner or Authorized Agent

\_\_\_\_ / \_\_\_\_ / \_\_\_\_  
Date

FOR OFFICIAL USE ONLY:  
FIRE DEPARTMENT OCCUPANCY CLASSIFICATION: \_\_\_\_\_

BY: \_\_\_\_\_ DATE: \_\_\_ / \_\_\_ / \_\_\_

EXEMPT OR NO FURTHER INFORMATION REQUIRED		RELEASED FOR BUILDING PERMIT BUT NOT FOR OCCUPANCY		RELEASED FOR OCCUPANCY	
COUNTY-HMD	APCD	COUNTY-HMD	APCD	COUNTY-HMD	APCD

**LIST OF BUSINESSES WHICH REQUIRE REVIEW AND APPROVAL FROM THE COUNTY OF SAN DIEGO  
DEPARTMENT OF ENVIRONMENTAL HEALTH – HAZARDOUS MATERIALS DIVISION**

**Check all that apply:**

**AUTOMOTIVE**

- Battery Manufacturing/Recycling
- Boat Yard
- Car Wash
- Dealership Maintenance/Painting
- Machine Shop
- Painting
- Radiator Shop
- Rental Yard Equipment
- Repair/Preventive Maintenance
- Spray Booth
- Transportation Services
- Wrecking/Recycling

**CHEMICAL HANDLING**

- Agricultural supplier/distributor
- Chemical Manufacturer
- Chemical Supplier/Distributor
- Coatings/Adhesive
- Compressed Gas Supplier/Distributor
- Dry Cleaning
- Fiberglass/Resin Application
- Gas Station
- Industrial Laundry
- Laboratory
- Laboratory Supplier/Distributor
- Oil and Fuel Bulk Supply
- Pesticide Operator/Distributor

**CHEMICAL HANDLING**

- Photographic Processing
- Pool Supplies/Maintenance
- Printing/Blue Printing
- Road Coatings
- Swimming Pool
- Toxic Gas Handler
- Toxic Gas Manufacturer

**METAL WORKING**

- Anodizing
- Chemical Milling/Etching
- Finish-Coating/Painting
- Flame Spraying
- Foundry
- Machine Shop-Drilling/Lathes/Mills
- Metal Plating
- Metal Prepping/Chemical Coating
- Precious Metal Recovery
- Sand Blasting/Grinding
- Steel Fabricator
- Wrought Iron Manufacturing

**AEROSPACE**

- Aerospace Industry
- Aircraft Maintenance
- Aircraft Manufacturing

**OTHERS AND MISCELLANEOUS**

- Asphalt Plant
- Biotechnology/Research
- Chiropractic Office
- Co-Generation Plant
- Dental Clinic/Office
- Dialysis Center
- Emergency Generator
- Frozen Food Processing Facility
- Hazardous Waste Hauler
- Hospital/Convalescent Home
- Laboratory/Biological Lab
- Medical Clinic/Office
- Nitrous Oxide (NO<sub>x</sub>) Control System
- Pharmaceuticals
- Public Utility
- Refrigeration System
- Rock Quarry
- Ship Repair/Construction
- Telecommunications Cell Site
- Veterinary Clinic/Hospital
- Wood/Furniture Manufacturing/Refinishing

**ELECTRONICS**

- Electronic Assembly/Sub-Assembly
- Electronic Components Manufacturing
- Printed Circuit Board Manufacturing

NOTE: THE ABOVE LIST INCLUDES BUSINESSES, WHICH TYPICALLY USE, STORE, HANDLE, AND DISPOSE OF HAZARDOUS SUBSTANCES. ANY BUSINESS NOT INCLUDED ON THIS LIST, WHICH HANDLES, USES OR DISPOSES OF HAZARDOUS SUBSTANCES MAY STILL REQUIRE HAZARDOUS MATERIALS DIVISION (HMD) REVIEW OF BUSINESS PLANS. FOR MORE INFORMATION CALL (619) 338-2222.

**LIST OF AIR POLLUTION CONTROL DISTRICT PERMIT CATEGORIES**

Businesses, which include any of the following operations or equipment, will require clearance from the Air Pollution Control District.

**CHEMICAL**

- 47 – Organic Gas Sterilizers
- 32 – Acid Chemical Milling
- 33 – Can & Coil Manufacturing
- 44 – Evaporators, Dryers & Stills Processing Organic Materials
- 24 – Dry Chemical Mixing & Detergent Spray Towers
- 35 – Bulk Dry Chemicals Storage
- 55 – Chrome Electroplating Tanks

**COATINGS & ORGANIC SOLVENTS**

- 27 – Coating & Painting
- 37 – Plasma Arc & Ceramic Deposition Spray Booths
- 38 – Paint, Stain & Ink Mfg
- 27 – Printing
- 27 – Polyester Resin/Fiberglass Operations

**METALS**

- 18 – Metal Melting Devices
- 19 – Oil Quenching & Salt Baths
- 32 – Hot Dip Galvanizing
- 39 – Precious Metals Refining

**ORGANIC COMPOUND MARKETING  
(GASOLINE, ETC)**

- 25 – Gasoline & Alcohol Bulk Plants & Terminals
- 25 – Intermediate Refuelers
- 26 – Gasoline & Alcohol Fuel Dispensing

**COMBUSTION**

- 34 – Piston Internal – Combustion Engines
- 13 – Boilers & Heaters (1 million BTU/hr or larger)
- 14 – Incinerators & Crematories
- 15 – Burn Out Ovens
- 16 – Core Ovens
- 20 – Gas Turbines, and Turbine Test Cells & Stands
- 48 – Landfill and/or Digester Gas Flares

**ELECTRONICS**

- 29 – Automated Soldering
- 42 – Electronic Component Mfg

**FOOD**

- 12 – Fish Canneries
- 12 – Smoke Houses
- 50 – Coffee Roasters
- 35 – Bulk Flour & Powered Sugar Storage

**SOLVENT USE**

- 28 – Vapor & Cold Degreasing
- 30 – Solvent & Extract Driers
- 31 – Dry Cleaning

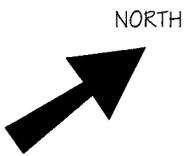
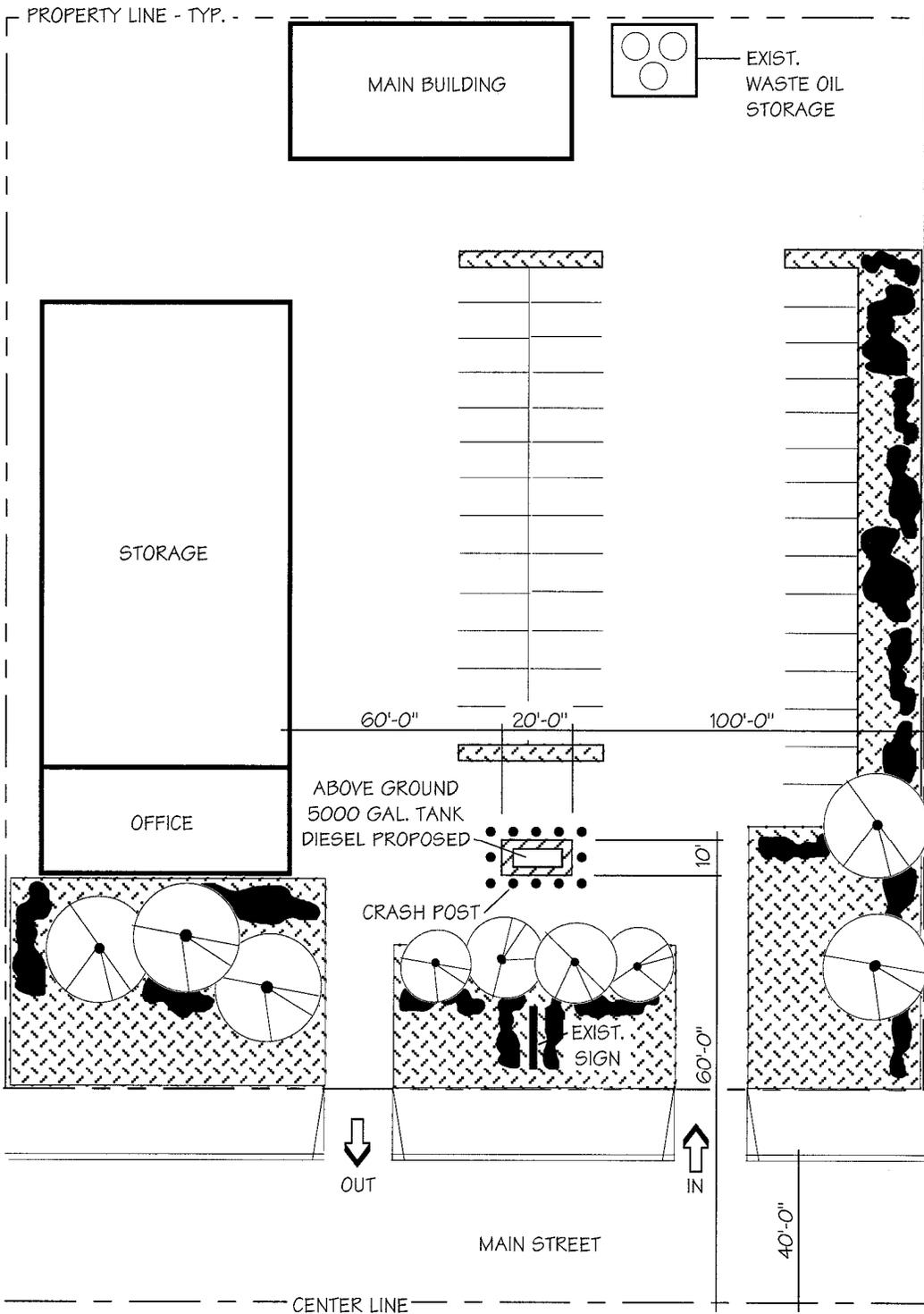
**ROCK AND MINERAL**

- 04 – Hot Asphalt Batch Plants
- 05 – Rock Drills
- 06 – Screening Operations
- 07 – Sand Rock & Aggregate Plants
- 08 – Concrete Batch, CTB, Concrete Mixers, Mixers & Silos
- 10 – Brick Manufacturing

**OTHER**

- 01 – Abrasive Blasting Equipment
- 03 – Asphalt Roofing Kettles & Tankers
- 46 – Reverse Osmosis Membrane Mfg
- 51 – Aqueous Waste Neutralization
- 11 – Tire Buffers
- 17 – Brake Debonders
- 23 – Bulk Grain & Dry Chemical Transfer & Storage
- 45 – Rubber Mixers
- 21 – Waste Disposal & Reclamation Units
- 36 – Grinding Booths & Rooms
- 40 – Asphalt Pavement Heaters
- 43 – Ceramic Slip Casting
- 41 – Perlite Processing
- 40 – Cooling Towers – Registration Only
- 91 – Fumigation Operations
- 56 – WWTP (1 million gal/day or larger) & Pump Station

NOTE: OTHER EQUIPMENT NOT LISTED HERE THAT IS CAPABLE OF EMITTING AIR CONTAMINANTS MAY REQUIRE AN AIR POLLUTION CONTROL DISTRICT PERMIT. IF THERE ARE ANY QUESTIONS, CONTACT THE AIR POLLUTION CONTROL DISTRICT AT (858) 586-2600.



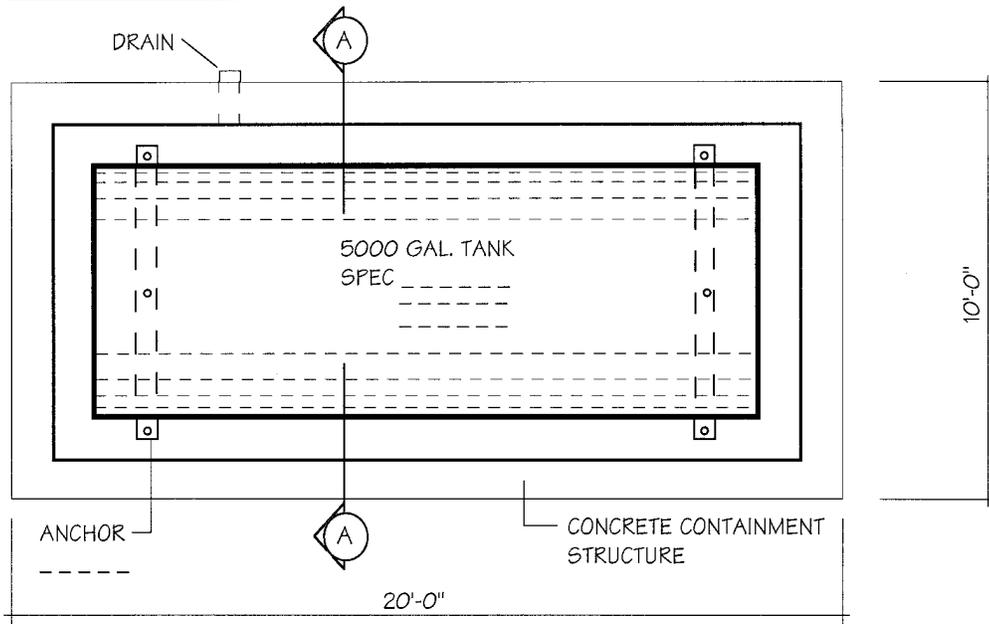
OWNER: ABC TRUCKING  
 435 MAIN ST.  
 ESCONDIDO, CA

ASSESSOR'S PARCEL NUMBER:  
 -----

DRAWN BY: JOHN JONES  
 890 COMPLIANCE CT.  
 ESCONDIDO, CA

# SITE PLAN

SAMPLE



**PLAN**

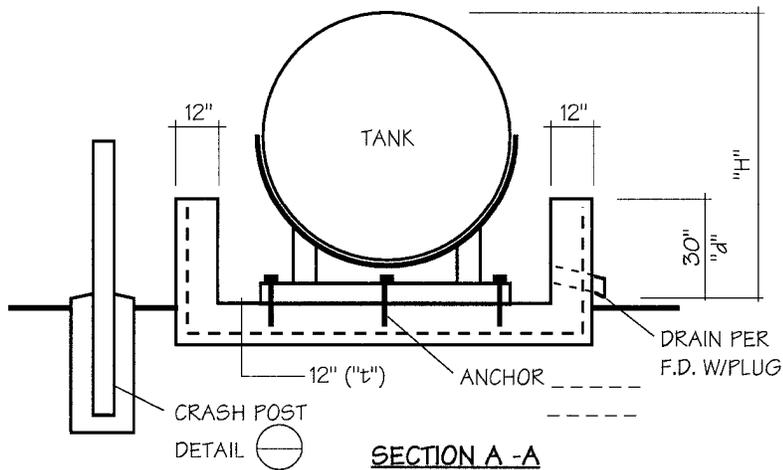
SCALE: \_\_\_\_\_

**CONCRETE SPECIFICATIONS**

-----  
 -----  
 -----

**STEEL SPECIFICATIONS**

-----  
 -----  
 -----

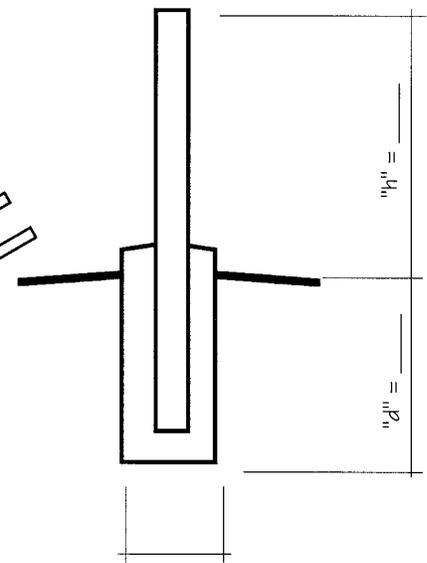


**SECTION A - A**

SCALE: \_\_\_\_\_

**TANK SPECIFICATIONS**

-----  
 -----  
 -----  
 -----  
 -----

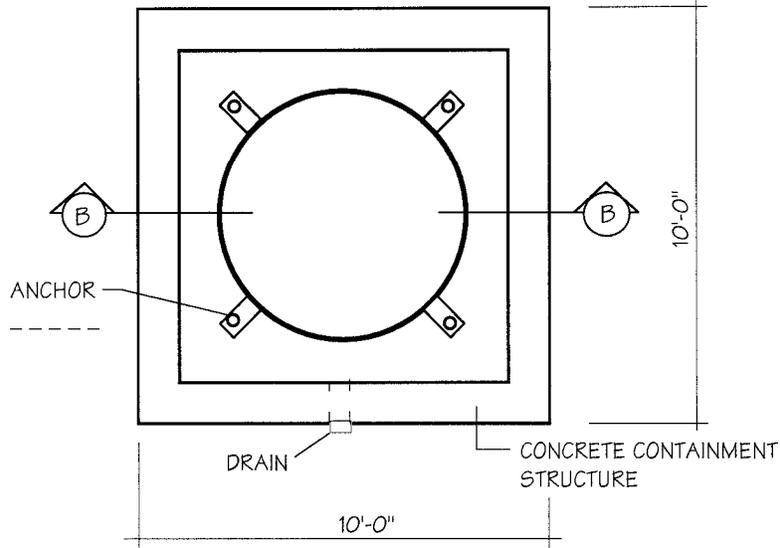


**CRASH POST**

SCALE: \_\_\_\_\_

# HORIZONTAL TANK

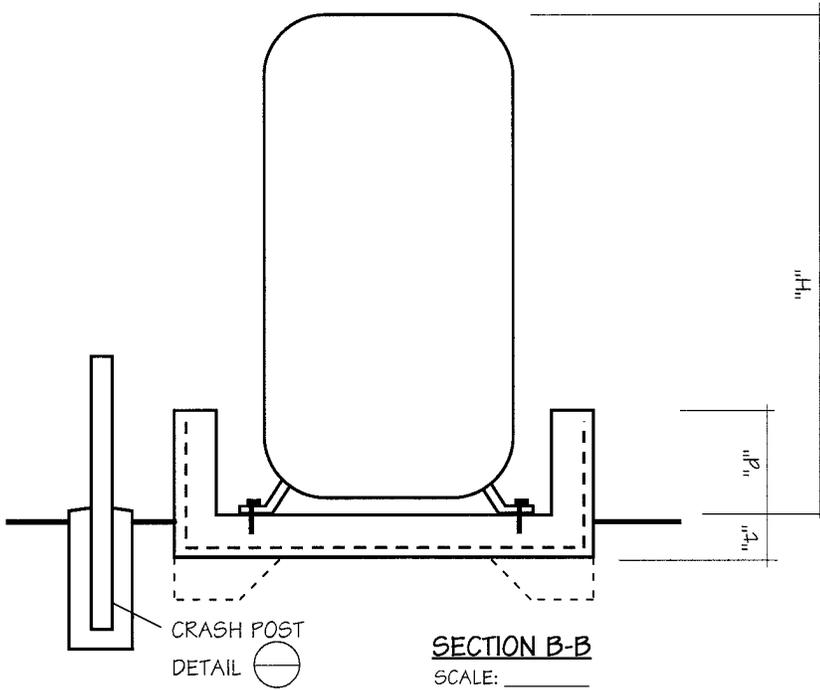
SAMPLE



**PLAN**  
SCALE: \_\_\_\_\_

CONCRETE SPECIFICATIONS

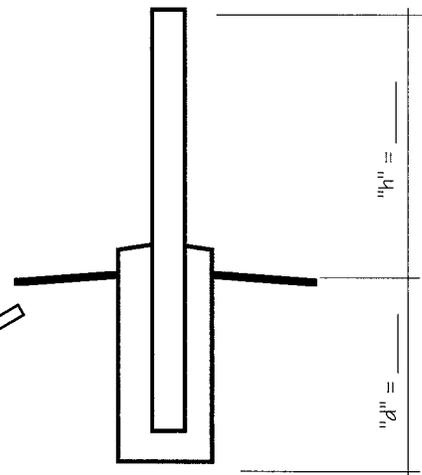
STEEL SPECIFICATIONS



**SECTION B-B**  
SCALE: \_\_\_\_\_

TANK SPECIFICATIONS

-----  
 -----  
 -----  
 -----  
 -----  
 -----  
 -----  
 -----



**CRASH POST**  
SCALE: \_\_\_\_\_

# VERTICAL TANK

SAMPLE