Section E

Appendices

Appendix A

City of Long Beach Zoning Confirmation Letter

Appendix A

City of Long Beach Zoning Letter.

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REVENUE DEVELOPMENT
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CITY OF LONG BEACH

DEPARTMENT OF PLANNING & BUILDING
333 W. Ocean Blvd, 7th Floor Long Beach, CA 90802 (562) 570-6194 FAX (562) 570-6068

PLANNING BUREAU

ZONING CONFIRMATION LETTER

Date: December 6, 2005

To: Whom It May Concern

Re: Letter of Confirmation of Zoning at Said Address

Address: Southern California Edison Right of Way at the Southern Terminus of Sportsman Drive (AINs 7116018800, 7116018801, 7116018802, 7116018803, 7116018804, 7116018805, 7116018811, 7116018813, 7116019800, 7116019801, 7116019806)

Zone: Medium Industrial (IM)

Permitted Use: Medium Industrial

Comments:

This Zoning Confirmation Letter is a response to a "Temporary Trailer Facility" proposed by Martin Container under the Southern California Edison Right-of-Way at the Southern terminus of Sportsman Drive (see above mentioned Assessors Parcel Numbers and attached site map).

The subject property has a zoning designation of IM. Transportation-Related Uses (SIC codes 41, 421, 4215, 423, 473, 478) with no outdoor container storage and that are located greater than 300 feet from a residential district are permitted by-right in the IM zone as indicated in Long Beach Municipal Code, Chapter 21.33, Table 33-2. The proposed use (summarized below and as described in full in the attached letter from Martin Containers) is deemed to have met each of the standards above, and thereby requires no discretionary action but is allowed by right. In that there is no discretionary action, there is no "project" under the California Environmental Quality Act and no environmental review is required.

Martin Container, currently located at 1400 S. Atlantic Ave. in Compton, intends to use the subject location (just North of the 91 Freeway and just East of the 710 Freeway) for truck parking. Trucks accessing the approximately 13-acre property would do so by exiting the 710 Freeway at Alondra Boulevard, traveling west to Atlantic Ave. then south to Sportsman Drive. Containers would remain mounted to a wheeled chassis and would not be stored on the ground. The attached site plan shows parking spaces for a maximum of 242 trailers and two portable office buildings.

Please note that Transportation related Uses with container storage would require discretionary action in the form of a Conditional Use Permit. "Storage" means placing of a material or vehicle at one location for more than seventy-two hours without use (LBMC 21.15.2920).

Respectfully yours,

Scott Mangum
Planner
(562) 570-6435

CB/sm

Carolyne Bihn
Zoning Administrator
(562) 570-6223

Appendix B

Supporting Hydrology/Hydraulic Calculations

Appendix B

Supporting Hydrology/Hydraulic Calculations

1.1 PROJECT DESCRIPTION

The proposed project involves the development of an approximately 13.5-acre Southern California Edison (SCE) electrical tower/transmission line site into a short-term parking facility operated by Martin Container. The project site is located northeast of the intersection of the SR-91 freeway and I-710 freeway in Long Beach, California and would include a total of 242 storage/parking spaces for truck tractor trailers with two portable office buildings near the entrance on Sportsman Drive. Currently, the site is unpaved and contains high-voltage transmission line towers and poles. Planned improvements include the grading and paving of approximately 10.3 acres with asphaltic concrete, and the installation of fencing and lighting. Approximately 3.2 acres that surround the concrete footings for the transmission line towers will remain unpaved and will be covered with a compacted crushed base material to assist with the infiltration of stormwater runoff from the site.

1.2 PURPOSE AND SCOPE

This project falls under the jurisdiction of the Long Beach Municipal NPDES permit and the Los Angeles County Department of Public Works. The City of Long Beach requires the applicant to prepare and submit a Storm Drain Master Plan to identify all storm runoff and methods of proposed discharge prior to issuance of a grading permit. In addition, the project plans should include a narrative description of best management practices (BMPs) for construction and post-construction phases of the project as well as preparation of a Standard Urban Stormwater Mitigation Plan (SUSMP).

The purpose of this report is to provide supporting hydrologic and hydraulic calculations for the use of the unpaved 3.2 acres of the site as infiltration basins. It should be noted that this is a conceptual phase report; detailed drawings are beyond the scope of this project.

2.0 SITE DRAINAGE

The general topographic gradient at the site is to the east. The surrounding area consists of a truck container parking lot to the north, the Los Angeles River to the east, an on-ramp to the Interstate 710 (Long Beach) freeway to the south, and Interstate 710 to the west.

Based on a site reconnaissance by The Planning Center on November 14, 2008, there did not appear to be any developed drainage structures at the site (i.e., no sign of drainage swales or catch basins or storm drain inlets). The site is almost entirely unpaved with a dirt access road, some trees and shrubs, an old wooden shed, isolated old foundation slabs, and concrete footings to support the transmission line towers. Most of the precipitation that falls onto the site presently infiltrates into the native soil; any excess water will flow via the natural topographic gradient to the east.

The proposed project will include grading of the site so that runoff from the parking lot would flow to the 3.2 acres of unpaved areas at the site that contain the transmission line towers (see attached figure). The plan is to protect the existing towers with precast concrete barriers that will be placed so that there are gaps between the barriers to accommodate the flow of surface water runoff. Into the infiltration basins The site will be graded to direct surface water runoff to the pervious areas in the south, east, and northeast sections of the site, as shown by the flow lines in the attached figure.

2.1 PEAK RUNOFF RATES

To determine the peak hourly flow rate for runoff from the site, modeling was conducted using the Rational Method described in the Los Angeles County Department of Public Works *Hydrology Manual* (2006). This method is appropriate because the project does not involve an area larger than 40 acres. The results of the modeling show that there will be an increase in the peak hourly flow rate with the proposed project. The results are provided in the attached spreadsheets and summarized below:

Table 1.
Peak Runoff Determination

Scenario	*Peak Runoff Flow Rate (cubic feet per second)*
Existing	11.4
Proposed	36.7

Therefore, operational (i.e., treatment control) best management practices (BMPs) are necessary to treat the excess runoff that would be generated from the proposed project.

Because the proposed project will result in an increase in site runoff, operational/treatment control BMPs are applicable as required by the City of Long Beach under the Municipal NPDES permit for priority development projects. The Los Angeles DPW document *Development Planning for Storm Water Management* (2002) was used to determine and design the appropriate treatment control BMPs.

3.1 INFILTRATION BASIN DESIGN

Based on site conditions, it was determined that infiltration basins are an appropriate treatment control BMP to contain site runoff and treat site pollutants. The Los Angeles County Standard Urban Stormwater Mitigation Plan (SUSMP) calculation methodology was used to calculate the required treatment flows and volumes. The runoff coefficient curve for Soil Type 015 – Tujunga Fine Sandy Loam and the LACDPW intensity-duration data and calculations are attached.

An infiltration basin is a shallow impoundment area that uses the natural filtering ability of the soil to remove pollutants in stormwater runoff. The infiltration basin stores runoff as it gradually percolates through the soil and eventually into the water table. The treatment control BMP must be designed to control the volume of runoff produced from a 0.75-inch storm event.

The soils must be able to accept water at a minimum infiltration rate. The soils at the site were identified as Tujunga fine sandy loam (Soil Type 015), which are considered to be Group A with infiltration rates between 0.30 and 0.45 inches/hour. They typically have good permeability and rapid infiltration rates with low runoff potential. Percolation tests were conducted at the site by Martin Engineering (2008) and the site soils were determined to have a permeability of approximately 1.2×10^{-4} cm/sec, which is indicative of silty sandy soils. This rate is lower than what typically is reported for Tujunga fine sandy loam soil and did not account for the upper two feet of soil that contains permeable crushed rock. However, to be conservative, the lower permeability values from the percolation tests were used in the design analysis.

Another siting consideration is that the groundwater separation should be at least 10 feet from the bottom of the infiltration basin to the groundwater elevation. Groundwater at the site is estimated to be approximately 20 feet below grade, based on the proximity of the Los Angeles River to the east. Therefore, the groundwater separation criterion is met.

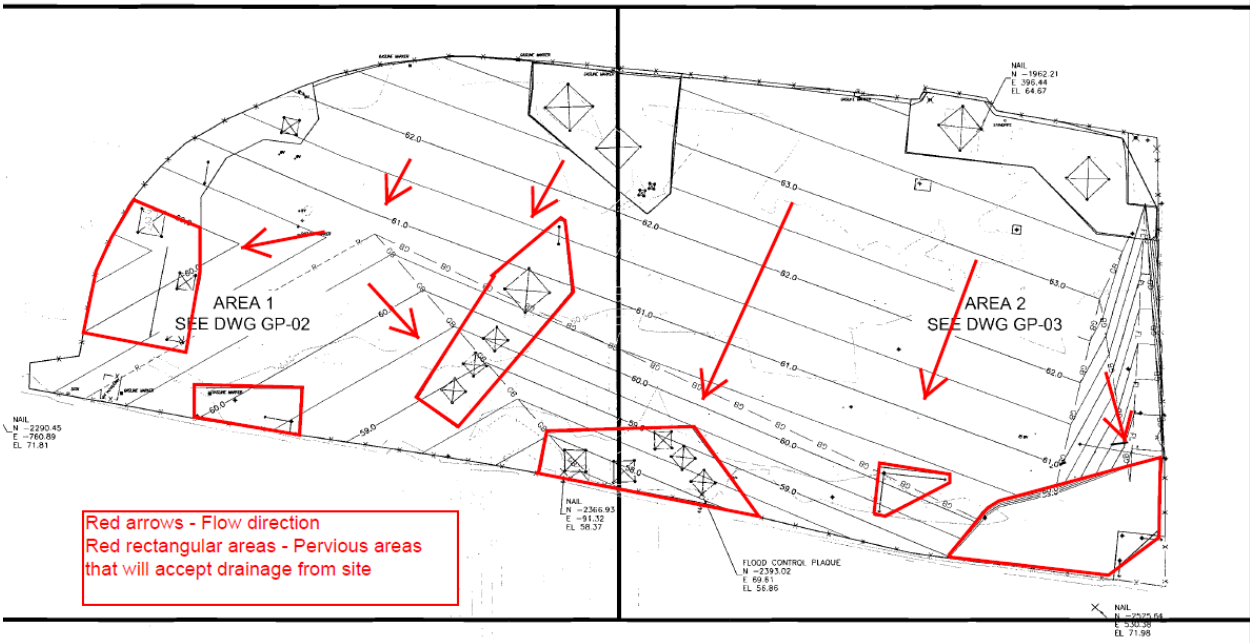
The *California Stormwater BMP Handbook* has a design guideline for determining the appropriate infiltration area for the site based on the following equation:

$$A = RV/kt$$

where A = Infiltration area (ft^2)
RV = Runoff volume (ft^3)
k = Field-measured hydraulic conductivity (ft/hr) x safety factor of 0.5
t = drawndown time (48 hr)

The results are provided in the attached spreadsheet and indicate that the required infiltration area for runoff from the site is 76,232 ft^3. The available infiltration area at the site is 79,575 ft^3; therefore, the size of the infiltration basins is adequate.

Regular maintenance is critical to the successful operation of infiltration basins. It is recommended that regular inspections and maintenance be conducted to ensure that water infiltrates completely into the subsurface. Also, semiannual inspections at the beginning and end of the wet season should be scheduled to identify potential problems, such as standing water, trash and debris, and sediment accumulation.



GRADING PLAN AND
DRAINAGE FLOW DIRECTION

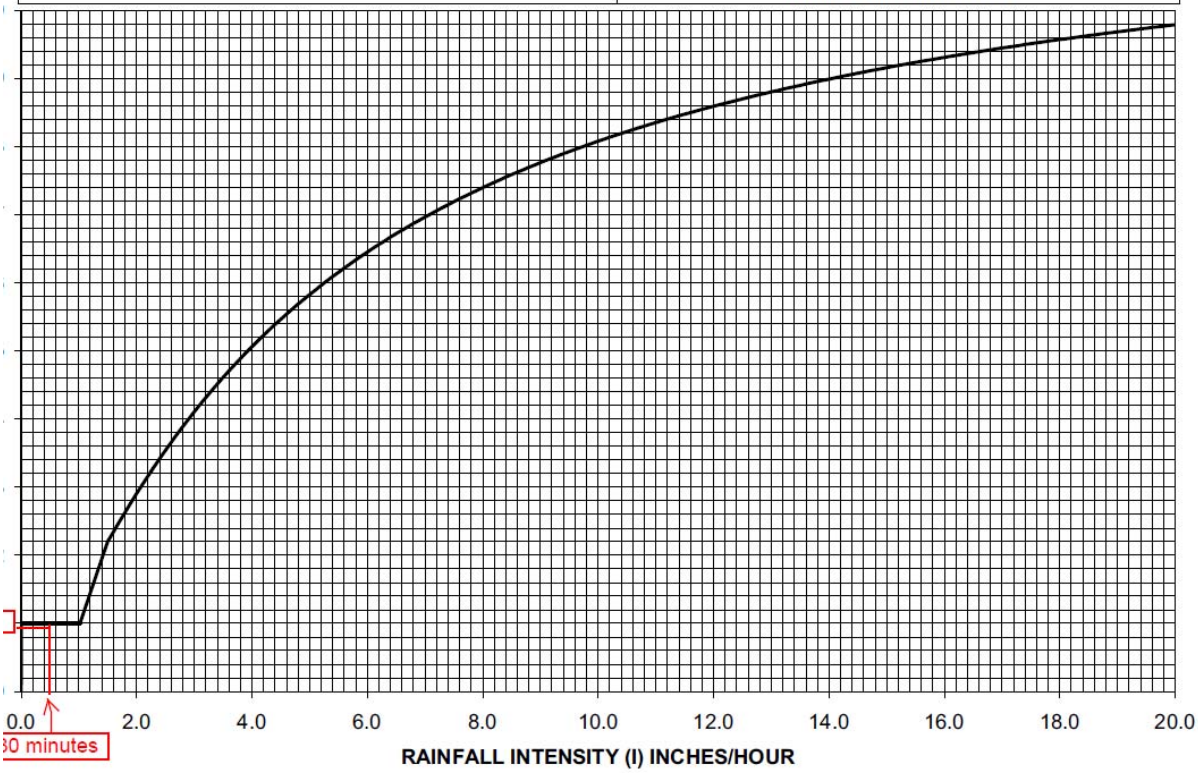
MOFFATT & NICHOL

$C_D = (0.9 * IMP) + (1.0 - IMP) * C_U$

Where: C_D = Developed Runoff Coefficient
IMP = Proportion Impervious
C_U = Undeveloped runoff coefficient

Los Angeles County Department of Public Works

RUNOFF COEFFICIENT CURVE
SOIL TYPE NO. 015



PEAK FLOW CALCULATIONS - EXISTING
FLYING M RANCH, LONG BEACH, CA

Subarea 1	5.85	ac
Slope		
Elevation 1	63.0	ft
Elevation 2	57.6	ft
Length of Flow[(1)]	470.0	ft
Slope	0.011	
Rainfall (50 yr-24hr)		
50 year, 24 hour	6.20	in
I_{1440}	0.26	in/hr
Impervious Factor		
Classification	Electrical Power Facility - Powerlines (Urban)	
Factor	0.02	
Soil Classification	015	(Tujunga Fine Sandy Loam)
Undeveloped Runoff Coefficient (C_u)	0.35	From Runoff Coefficient Curve - Soil Type No. 015 - see graph

Iteration No.	Initial T_c (min)	$I_{T/1440}$	I_t (in/hr)	C_u	C_d	$C_d{}^*I_T$	Calculated T_c (min)
1	12.0	9.49	2.45	0.35	0.36	0.88	11.8
2							
3							
4							

$Q_{peak} = C_d{}^*I_T{}^*Area$ **5.18** **cfs**

PEAK FLOW CALCULATIONS - EXISTING
FLYING M RANCH, LONG BEACH, CA

Subarea 2	7.65	ac
Slope		
Elevation 1	64.0	ft
Elevation 2	57.0	ft
Length of Flow[(2)]	510.0	ft
Slope	0.014	
Rainfall (50 yr-24hr)		
50 year, 24 hour	6.20	in
I_{1440}	0.26	in/hr
Impervious Factor		
Classification	Electrical Power Facility - Powerlines (Urban)	
Factor	0.02	
Soil Classification	015	(Tujunga Fine Sandy Loam)

Iteration No.	Initial T_c (min)	$I_{T/1440}$	I_t (in/hr)	C_u	C_d	$C_d{}^*I_T$	Calculated T_c (min)
1	12.0	9.49	2.45	0.32	0.33	0.81	12.5
2							
3							
4							

$Q_{peak} = C_d{}^*I_T{}^*Area$ **6.22** **cfs**

Total Lot Peak Runoff	**11.4**	**cfs**

PEAK FLOW CALCULATIONS - PROPOSED
FLYING M RANCH, LONG BEACH, CA

Subarea 1	5.85	ac
Slope		
Elevation 1	63.2	ft
Elevation 2	60.0	ft
Length of Flow[1]	430.0	ft
Slope	0.007	
Rainfall (50 yr-24hr)		
50 year, 24 hour	6.20	in
I_{1440}	0.26	in/hr
Impervious Factor		
Classification	Truck Terminal	
Factor	0.72	Impervious area/total area (4.2 ac/5.85 ac)
Soil Classification	015	(Tujunga Fine Sandy Loam)
Undeveloped Runoff Coefficient (C_u)	0.35	From Runoff Coefficient Curve - Soil Type No. 015 - see graph

Iteration No.	Initial T_c (min)	$I_{T/1440}$	I_t (in/hr)	C_u	C_d	C_d*I_T	Calculated T_c (min)
1	12.0	9.49	2.45	0.35	0.75	1.83	8.2
2	8.0	11.48	2.97	0.38	0.75	2.24	7.4
3	7.0	12.22	3.16	0.38	0.75	2.38	7.2
4							

Q_{peak} = C_d*I_T*Area **13.94** **cfs**

PEAK FLOW CALCULATIONS - PROPOSED
FLYING M RANCH, LONG BEACH, CA

Subarea 2	7.65	ac
Slope		
Elevation 1	64.0	ft
Elevation 2	58.8	ft
Length of Flow[(2)]	470.0	ft
Slope	0.011	
Rainfall (50 yr-24hr)		
50 year, 24 hour	6.20	in
I_{1440}	0.26	in/hr
Impervious Factor		
Classification	Truck Terminal	
Factor	0.80	Impervious area/total area (6.1 ac/7.65 ac)
Soil Classification	015	(Tujunga Fine Sandy Loam)

Iteration No.	Initial T_c (min)	$I_{T/1440}$	I_t (in/hr)	C_u	C_d	$C_d{}^*I_T$	Calculated T_c (min)
1	12.0	9.49	2.45	0.76	0.87	2.14	7.5
2	7.0	12.22	3.16	0.78	0.88	2.77	6.5
3	6.0	13.14	3.40	0.79	0.88	2.98	6.3
4							

$Q_{peak} = C_d{}^*I_T{}^*Area$	**22.81**	**cfs**
Total Lot Peak Runoff	**36.7**	**cfs**

INFILTRATION CALCULATIONS - PROPOSED
FLYING M RANCH, LONG BEACH, CA
SUBAREA 1

Acreage	A_T	5.85	ac	Total Area
	A_P	1.65	ac	Pervious Area
	A_I	4.20	ac	Impervious Area
	A_U	0.00	ac	Undeveloped Area Contributing to Runoff
Slope				
Elevation 1	63.2	ft		
Elevation 2	60.0	ft		
Length of Flow	430.0	ft		Longest travel distance from edge of area to pervious area
Slope	0.007			
	0.267	in/hr		
Impervious Factor				
Classification	Truck Terminal - Parking			
Factor	0.72	Impervious area/total area (4.2 ac/5.85 ac)		
Soil Classification	015	(Tujunga Fine Sandy Loam)		
Undeveloped Runoff Coefficient (C_u)	0.10	From Runoff Coefficient Curve - Soil Type No. 015 - see graph for 15 minutes		

Iteration No.	Initial T_c (min)	$I_{T/1440}$	I_t (in/hr)	C_u	C_d	$C_d{}^*I_T$	Calculated T_c (min)
1	15.0		0.267	0.10	0.67	0.18	27.4
2	30.0		0.193	0.10	0.67	0.13	32.4
3	32.0		0.193	0.10	0.67	0.13	32.4
4							

$Q_{peak} = C_d{}^*I_T{}^*Area$ **0.76** **cfs**

Volume of Runoff **10,740.26** **ft^3** $(2{,}722.5\ ft^3/ac) * [(A_I * 0.9) + (A_P + A_U) * C_U)]$
to be Mitigated **0.25** **ac-ft**

INFILTRATION VOLUME AND AREA CALCULATIONS

Volume of Runoff from Site	Area 1	10,740 ft^3	
	Area 2	14,947 ft^3	
	Total	25,687 ft^3	
Hydraulic Conductivity from Perc Test		3.90E-06 ft/sec	
		0.01404 ft/hr	
		0.00702 ft/hr	reduce conductivity by 1/2 - factor of safety
Drawdown time		48 hr	
Infiltration Area Required for Site		76,232 ft^3	
Infiltration Area Available at Site		79,575 ft^3	OK
Difference - Required vs Available		3,343 ft^3	