City of Albuquerque

September 15, 2000

Kim R. Kemper, P.E.
Kemper-Vaughan Consulting Engineers
3700 Coors Road NW Suite C
Albuquerque, NM 87120

RE: SOMBRA COSMETICS, INC (D17-D79). GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT AND SO#19 PERMIT APPROVALS. ENGINEER'S STAMP DATED AUGUST 28, 2000. Original date July 19, 2000.

Dear Mr.Kemper:

Based on the information provided on your August 29, 2000 resubmittal, the above referenced project is approved for Building Permit and SO#19 Permit..

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

A separate permit is required for construction within the City right-of-way. A copy of this approval letter must be on hand when applying for the excavation permit. Please note that only the Inspector's Signature is now required for the SO#19 sign-off.

Prior to Certificate of Occpancy approval, an Engineer's Certification per the DPM will be required.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Pam Lujan
Whitney Reierson
File

SOMBRA COSMETICS, INC.

GRADING PLAN & DRAINAGE PLAN

July 19, 2000

Prepared for:

JLS Architecture

1600 Rio Grande Blvd. NW

Albuquerque, New Mexico 87104

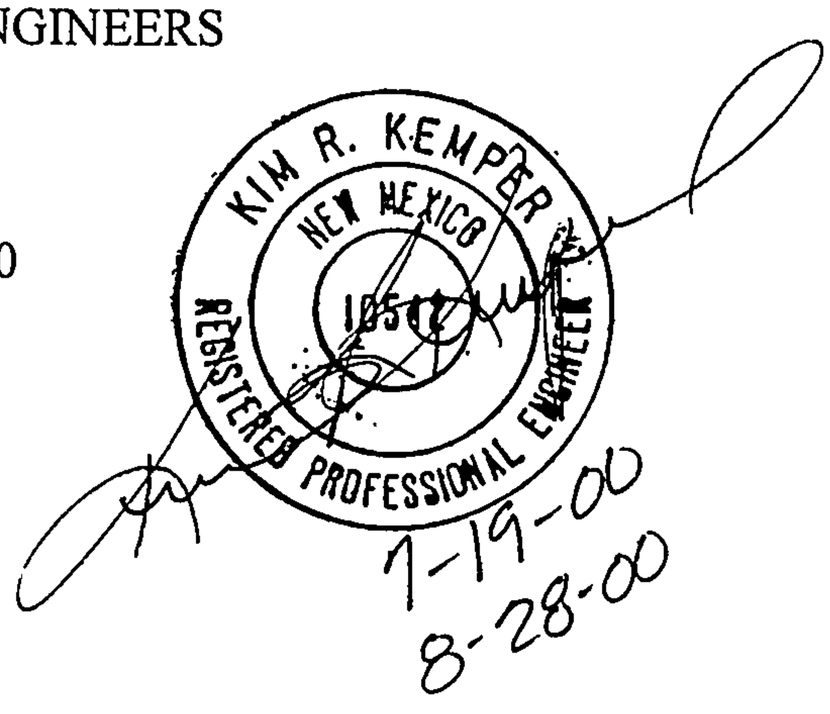
Prepared by:

KEMPER-VAUGHAN CONSULTING ENGINEERS

3700 Coors Road NW

Albuquerque, New Mexico 87120

RECEIVED
AUG 29 2000
HYDROLOGY SECTION



PROJECT OVERVIEW

The site is located on the north side of Hawkins Street north of Ellison and west of Jefferson. The properties in the area are mostly developed including the parcels immediate west & east of the site. As such the site would be considered and infill site. As shown on panel 136 of the 1996 FIRM (attached), this site does not lie within a designated flood hazard area. The site is 1.0 acres in total and is currently vacant. The proposed project includes the construction of a new office/warehouse building facility and related parking and landscaping.

DRAINAGE PLAN

The subject property is one of the last parcels to develop on Hawkins Street. Judging from the existing drainage patterns on the adjacent properties, it appears that, at least the parcel to the east, had developed quite some time ago. Currently, approximately three-quarters (3/4) of the parcel to the east drains to the subject parcel which in turn drains to the property to the west. West of this site improvements have been made to consolidate these flows and convey them to Hawkins. The intent of this plan is to divert all onsite flows directly to Hawkins and, insofar as possible, accept the flows from the east and convey them to Hawkins without entering the property to the west.

The offsite flows were divided into two (2) basins for purposes of sizing drainage improvements. These basins are shown on the attached Figure 1. Basin 1 will flow onto the site parking area and will be conveyed south to Hawkins. Basins 2 will flow along the northern edge of the site and will enter a planned concrete rundown. The grades along this area are very flat. Due to the lack of the available grade, it is not possible to adequately capture these basin 2 flows without performing grading on the adjacent property. It is possible that in a larger event, these offsite flows could breach the onsite improvements and enter the parcel to the west, which is currently the condition.

The onsite flows were also divided into two (2) separate basins for purposes of sizing drainage improvements (also shown on Figure 1). All flows with drain to Hawkins through new sidewalk culverts at the southwest corner of the property. The project also includes a new standard height dock. A small sump and pump are proposed to evacuate these waters. Only the rainfall which falls within the dock area will be pumped (see grading plan). The proposed pump will discharge at approximately 80 gpm which is just slightly higher than the 100-yr peak flow rate for the same area.

The calculations provided herein include the design event peak discharge and volumetric runoff for each individual basin defined on Figure 1 (4 sets of calculations in total). Also included is a rating curve identifying the capacity of the proposed concrete rundown along the western boundary.

SOMBRA AREA = 0.74 ac. **ON-SITE FLOWS BASIN A**

DRAINAGE ZONE 2
PRECIPITATION: 360 = 2.35 in.
1140 = 2.75 in.
10day = 3.95 in.

	EXCESS PRECIPITATION:	PEAK DISCHARGE:	
TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:	AREA	PROPOSED CONDITIONS: AREA
TREATMENT A	0.00 ac.	0.00 ac.
TREATMENT B	0.00 ac.	0.07 ac.
TREATMENT C	0.74 ac.	0.00 ac.
TREATMENT D	0.00 ac.	0.67 ac.

EXISTING EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(0.00)+(1.13)x(0.74)+(2.12)x(0.00)/ 0.74 ac.
= 1.13 in.
V100-360 = (1.13)x(0.74)/ 12 = 0.069683 ac-ft = 3035 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(0.00)+(3.14)x(0.74)+(4.70)x(0.00)= 2.32 cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(0.07)+(1.13)x(0.00)+(2.12)x(0.67)/ 0.74 ac.
= 1.99 in.
V100-360 = (1.99)x(0.74)/ 12.0 = 0.122917 ac-ft = 5354 cf

V100-1440 = (0.12)+(0.67)x(2.75 - 2.35)/ 12 = 0.145250 ac-ft = 6327 cf

V100-10day = (0.12)+(0.67)x(3.95 - 2.35)/ 12 = 0.212250 ac-ft = 9246 cf

PROPOSED PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(0.07)+(3.14)x(0.00)+(4.70)x(0.67)= 3.31 cfs

RESULTS

3.31	- 2.32	= 0.99	cfs	Increase in peak discharge
5354	- 3035	= 2319	cf	Increase in runoff volume

SOMBRA AREA = 0.26 ac. **ON-SITE FLOWS BASIN B**

DRAINAGE ZONE 2
PRECIPITATION: 360 = 2.35 in.
1140 = 2.75 in.
10day = 3.95 in.

	EXCESS PRECIPITATION:	PEAK DISCHARGE:	
TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:	AREA	PROPOSED CONDITIONS: AREA
TREATMENT A	0.00 ac.	0.00 ac.
TREATMENT B	0.00 ac.	0.05 ac.
TREATMENT C	0.26 ac.	0.00 ac.
TREATMENT D	0.00 ac.	0.21 ac.

EXISTING EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(0.00)+(1.13)x(0.26)+(2.12)x(0.00)/ 0.26 ac.
= 1.13 in.
V100-360 = (1.13)x(0.26)/ 12 = 0.024483 ac-ft = 1066 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(0.00)+(3.14)x(0.26)+(4.70)x(0.00)= 0.82 cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(0.05)+(1.13)x(0.00)+(2.12)x(0.21)/ 0.26 ac.
= 1.86 in.
V100-360 = (1.86)x(0.26)/ 12.0 = 0.040350 ac-ft = 1758 cf

V100-1440 = (0.04)+(0.21)x(2.75 - 2.35)/ 12 = 0.047350 ac-ft = 2063 cf

V100-10day = (0.04)+(0.21)x(3.95 - 2.35)/ 12 = 0.068350 ac-ft = 2977 cf

PROPOSED PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(0.05)+(3.14)x(0.00)+(4.70)x(0.21)= 1.10 cfs

RESULTS

1.10 - 0.82 = 0.28 cfs Increase in peak discharge
1758 - 1066 = 691 cf Increase in runoff volume

SOMBRA AREA = 0.59 ac.

OFF-SITE FLOWS TO NORTH

DRAINAGE ZONE 2
PRECIPITATION: 360 = 2.35 in.
1140 = 2.75 in.
10day = 3.95 in.

	EXCESS PRECIPITATION:	PEAK DISCHARGE:	
TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:	PROPOSED CONDITIONS:
AREA	AREA
TREATMENT A 0.00 ac.	0.00 ac.
TREATMENT B 0.00 ac.	0.00 ac.
TREATMENT C 0.47 ac.	0.47 ac.
TREATMENT D 0.12 ac.	0.12 ac.

EXISTING EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(0.00)+(1.13)x(0.47)+(2.12)x(0.12)/ 0.59 ac.
= 1.33 in.
V100-360 = (1.33)x(0.59)/ 12 = 0.065458 ac-ft = 2851 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(0.00)+(3.14)x(0.47)+(4.70)x(0.12)= 2.04 cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(0.00)+(1.13)x(0.47)+(2.12)x(0.12)/ 0.59 ac.
= 1.33 in.
V100-360 = (1.33)x(0.59)/ 12.0 = 0.065458 ac-ft = 2851 cf

V100-1440 = (0.07)+(0.12)x(2.75 - 2.35)/ 12 = 0.069458 ac-ft = 3026 cf

V100-10day = (0.07)+(0.12)x(3.95 - 2.35)/ 12 = 0.081458 ac-ft = 3548 cf

PROPOSED PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(0.00)+(3.14)x(0.47)+(4.70)x(0.12)= 2.04 cfs

RESULTS

2.04 - 2.04 = 0.00 cfs Increase in peak discharge
2851 - 2851 = 0.00 cf Increase in runoff volume

SOMBRA AREA = 0.21 ac.

OFF-SITE FLOWS TO SOUTH

DRAINAGE ZONE 2
PRECIPITATION: 360 = 2.35 in.
1140 = 2.75 in.
10day = 3.95 in.

	EXCESS PRECIPITATION:	PEAK DISCHARGE:	
TREATMENT A	0.53 in.	1.56	cfs/ac.
TREATMENT B	0.78 in.	2.28	cfs/ac.
TREATMENT C	1.13 in.	3.14	cfs/ac.
TREATMENT D	2.12 in.	4.70	cfs/ac.

EXISTING CONDITIONS:	AREA	PROPOSED CONDITIONS: AREA
TREATMENT A	0.00 ac.	0.00 ac.
TREATMENT B	0.00 ac.	0.00 ac.
TREATMENT C	0.10 ac.	0.10 ac.
TREATMENT D	0.11 ac.	0.11 ac.

EXISTING EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(0.00)+(1.13)x(0.10)+(2.12)x(0.11)/ 0.21 ac.
= 1.65 in.
V100-360 = (1.65)x(0.21)/ 12 = 0.028850 ac-ft = 1257 cf

EXISTING PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(0.00)+(3.14)x(0.10)+(4.70)x(0.11)= 0.83 cfs

PROPOSED EXCESS PRECIPITATION:

Weighted E = (0.53)x(0.00)+(0.78)x(0.00)+(1.13)x(0.10)+(2.12)x(0.11)/ 0.21 ac.
= 1.65 in.
V100-360 = (1.65)x(0.21)/ 12.0 = 0.028850 ac-ft = 1257 cf

V100-1440 = (0.03)+(0.11)x(2.75 - 2.35)/ 12 = 0.032517 ac-ft = 1416 cf

V100-10day = (0.03)+(0.11)x(3.95 - 2.35)/ 12 = 0.043517 ac-ft = 1896 cf

PROPOSED PEAK DISCHARGE:

Q100 = (1.56)x(0.00)+(2.28)x(0.00)+(3.14)x(0.10)+(4.70)x(0.11)= 0.83 cfs

RESULTS

0.83 - 0.83 = 0.00 cfs Increase in peak discharge
1257 - 1257 = 0.00 cf Increase in runoff volume

TRAPEZOIDAL CHANNEL ANALYSIS
RATING CURVE COMPUTATION

June 20, 2000

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PROGRAM INPUT DATA:

DESCRIPTION	VALUE
Channel Bottom Slope (feet per foot).....	0.0050
Manning`s Roughness Coefficient (n-value).....	0.0150
Channel Side Slope - Left Side (horizontal/vertical)....	0.01
Channel Side Slope - Right Side (horizontal/vertical)...	0.01
Channel Bottom Width (feet).....	2.0

==========

PROGRAM RESULTS:

Depth (ft)	Flow Rate (cfs)	Velocity (fps)	Froude Number	Velocity Head(ft)	Energy Head(ft)	Flow Area (sq ft)	Top Width (ft)
0.1	0.3	1.42	0.790	0.031	0.131	0.2	2.0
0.2	0.9	2.12	0.837	0.070	0.270	0.4	2.0
0.3	1.6	2.64	0.849	0.108	0.408	0.6	2.0
0.4	2.4	3.04	0.849	0.144	0.544	0.8	2.0
0.5	3.4	3.37	0.842	0.177	0.677	1.0	2.0
0.6	4.4	3.65	0.832	0.207	0.807	1.2	2.0
0.7	5.5	3.89	0.820	0.235	0.935	1.4	2.0
0.8	6.6	4.09	0.808	0.260	1.060	1.6	2.0
0.9	7.7	4.27	0.795	0.283	1.183	1.8	2.0
1.0	8.9	4.43	0.782	0.304	1.304	2.0	2.0

5.35 →

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TRAPEZOIDAL CHANNEL ANALYSIS COMPUTER PROGRAM, Version 1.3 (c) 1986 Dodson & Associates, Inc., 7015 W. Tidwell, #107, Houston, TX 77092 (713) 895-8322. A manual with equations & flow chart is available.

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

June 16, 2004

Celia Tomlinson, PE
Rhombus P.A., Inc.
2620 San Mateo NE, Ste B
Albuquerque, NM 87110

RE: Sombra Business Park Grading and Drainage Plan
Engineer's Stamp dated 5-21-04 (D17/D79)

Dear Ms. Tomlinson:

Based on the information provided in your submittal received 5-21-04, the above referenced plan is approved for Building Permit. Please take note of the following comments:

- You cannot have developed conditions as land treatment "Type A". Land treatments for developed conditions of pervious areas are "Type B" and/or "Type C".
- Top wall elevations along western boundary are wrong, please show grade on other side of wall.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. If you have any questions regarding this permit please feel free to call the DMD Storm Drainage Design section at 768-3654 (Charles Caruso) or 768-3645 (Bryan Wolfe).

If you have any questions, please contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Principal Engineer, Planning Dept.
Development and Building Services

C: Charles Caruso, DMD Storm Drainage Design
File

THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER

CITY OF ALBUQUERQUE

August 9, 2004

Celia Tomlinson, P.E.
Rhombus P.A., Inc.
2620 San Mateo Blvd., Suite B
Albuquerque, NM 87110

Re: Sombra Business Park Lot 14, 3801 Hawkins Street NE, Grading and Drainage Plan

Engineer's Stamp dated 7-24-04 (D17-D79)

Dear Ms. Tomlinson,

Based upon the information provided in your submittal received 7-30-04, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. If you have any questions regarding this permit please feel free to call the DMD Storm Drainage Design section at 768-3654 (Charles Caruso).

If you have any questions, you can contact me at 924-3981.

Sincerely,

Kristal D. Metro
Engineering Associate, Planning Dept.
Development and Building Services

C: Charles Caruso, DMD Storm Drainage Design
File

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

D-17/D79

PROJECT TITLE: LOT 19, SOMBRA BUSINESS PARK ZONE MAP/DRG. FILE #: D-17-2
DRB #: NA EPC#: NA WORK ORDER#:

LEGAL DESCRIPTION: LOT 19, INTERSTATE INDUSTRIAL ~~PARK~~ TRACT, UNIT 4
CITY ADDRESS: 5801 DAWKINS STR. NE, ALBUQUERQUE, N.M.

ENGINEERING FIRM: RHOMBUS P.A. INC CONTACT: RITA GUETSCHOW
ADDRESS: 2620 SAN MATEO BLVD NE, SUITE B PHONE: 881-6690
CITY, STATE: ALBUQUERQUE, N.M. ~~87102~~ ZIP CODE: 87-110

OWNER: CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

ARCHITECT: GUADALUPE ARCHITECTS CONTACT: DAVID WEATHERMAN
ADDRESS: 5961 GUADALUPE TRAIL NW PHONE: 343-9505
CITY, STATE: ALBUQUERQUE NM ZIP CODE: 87107

SURVEYOR: RHOMBUS P.A., INC CONTACT: RITA GUETSCHOW
ADDRESS 2620 SAN MATEO BLVD. NE, SUITE B PHONE: 881-6690
CITY, STATE: ALBUQUERQUE NM ZIP CODE: 87110

CONTRACTOR: CONTACT:
ADDRESS: PHONE:
CITY, STATE: ZIP CODE:

CHECK TYPE OF SUBMITTAL:

- ___ DRAINAGE REPORT
- ___ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ✓ DRAINAGE PLAN RESUBMITTAL
- ___ CONCEPTUAL GRADING & DRAINAGE PLAN
- ✓ GRADING PLAN
- ___ EROSION CONTROL PLAN
- ___ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ___ CLOMR/LOMR
- ___ TRAFFIC CIRCULATION LAYOUT (TCL)
- ___ ENGINEERS CERTIFICATION (TCL)
- ___ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ___ OTHER

<Resubmittal>

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SIA / FINANCIAL GUARANTEE RELEASE
- ___ PRELIMINARY PLAT APPROVAL
- ___ S. DEV. PLAN FOR SUB'D. APPROVAL
- ___ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ___ SECTOR PLAN APPROVAL
- ___ FINAL PLAT APPROVAL
- ___ FOUNDATION PERMIT APPROVAL
- ✓ BUILDING PERMIT APPROVAL
- ___ CERTIFICATE OF OCCUPANCY (PERM.)
- ___ CERTIFICATE OF OCCUPANCY (TEMP.)
- ___ GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ OTHER (SPECIFY)

RECEIVED
JUL 30 2004
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ✓ YES
- ___ NO
- ___ COPY PROVIDED

DATE SUBMITTED: 7-29-2004 BY: Rita Guetschow

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.