REGAL PLASTICS

ADDITION

G16 / D70

1 PLAN

CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION/DESIGN HYDROLOGY SECTION

PRE-DESIGN CONFERENCE RECAP

HYDROLOGY SECTION PROJECT NO.: G16 DATE: 3-19-85

PLANNING DIVISION NOS. EPC: _____ DRB: _____

SUBJECT: Regal Plastic Supply Co.

LEGAL DESCRIP.: at intersection Princeton & Aztec
3455 Princeton

APPROVAL REQUESTED

_____ PRELIMINARY PLAT
_____ SITE DEVELOPMENT PLAN
_____ FINAL PLAT
X BUILDING PERMIT
_____ ROUGH GRADING

ATTENDANCE:	WHO:	REPRESENTING:
	Tucker Green	
	Carla A Martin	

_____ Conceptual Drainage Plan/Report required for Preliminary Plat and/or Site Development Plan sign-off.

X Approved Drainage Plan/Report required for Final Plat and/or Building ~~Permit sign-off.~~

_____ Subdivision Improvements Agreement or Financial Security required.

FINDINGS: ① Drainage plan per DPM ② Free discharge due to ④ infill site ⑤ No flooding downstream ③ minimum impact downstream

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED:	Carla A Martin	SIGNED:	
TITLE:	CE/Hydrology	TITLE:	CE
DATE:	3-19-85	DATE:	3-19-85

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH THE DRAINAGE SUBMITTAL

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Regal Plastics Addition ZONE ATLAS / DRNG FILE: G-16 / D70

LEGAL DESCRIPTION: Tract 1 of the Replat of Tracts A and B of the Lands of Edward F. Statter and Beverly S. Statter

CITY ADDRESS: 3455 Princeton Dr. NE

ENGINEERING FIRM: Engineering Associates CONTACT: Tucker Green

ADDRESS: 532 Adams NE 87102 PHONE: ~~885~~ 265-6545

OWNER: Regal Plastics CONTACT: George Lackman

ADDRESS: 3455 Princeton Dr. NE 87107 PHONE: 884-2651

ARCHITECT: James L. Wright CONTACT: James L. Wright

ADDRESS: 4100 Silver SE, Albq. PHONE: 266-6764

SURVEYOR: Elder Surveying CO. CONTACT: Ned Elder

ADDRESS: 530 Jefferson NE 87108 PHONE: 268-1830

CONTRACTOR: James E. Templeton CONTACT: James Templeton

ADDRESS: 7208-A Jefferson NE 87109 PHONE: 345-5721

RECEIVED
MAY 02 1985
HYDROLOGY SECTION

PREDESIGN MEETING:

_X_YES
___NO
_X_COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB NO. 85-22 1/22/85 delegated
EPC NO.
PROJ. NO.

TYPE OF SUBMITTAL:
___DRAINAGE REPORT
_X_DRAINAGE PLAN
___CONCEPTUAL GRADING & DRAINAGE PLAN
_X_GRADING PLAN
___EROSION CONTROL PLAN
___ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:
___SKETCH PLAT
___PRELIMINARY PLAT
___SITE DEVELOPMENT PLAN
___FINAL PLAT APPROVAL
_X_BUILDING PERMIT APPROVAL
___CERTIFICATE OF OCCUPANCY
___ROUGH GRADING PERMIT
___GRADING/PAVING PERMIT
___OTHER (SPECIFY)

DATE SUBMITTED: 5/1/85

BY: Robert A. Mooney

ADDITION TO REGAL PLASTIC SUPPLY, INC.

3455 Princeton Dr. NE Map G-16
Tract 1 of the Replat of Tracts A and B of the Lands of
Edward S. Statter and Beverly S. Statter

PROJECT DESCRIPTION

The 0.794 acre site is located in an infill area at the southwest corner of Princeton NE and Aztec NE. The site is not in a 100-yr flood hazard area. An existing 8000 sq. ft. building and associated parking occupy approximately the northern half of the site. The remainder of the site is currently gravel and packed dirt parking except for a 10 ft. wide area behind (west of) the existing building. The entire site is generally impervious.

Most of the runoff from the 100-yr design storm will flow either into Princeton and thence to Aztec or else directly into Aztec. This flow enters a pair of concrete culverts at the I-25 frontage road and crosses under the freeway. However, under present conditions, roughly a quarter of the runoff would flow offsite onto adjacent property at the southwest corner.

A 9000 sq. ft. addition with parking and landscaping is proposed for the southern portion of the site. Paving flow will be to Princeton while roof flow will be directed along a swale at the west of the building and out an existing driveway into Aztec Rd.

Because the site is in an infill area and because of the minor impact the proposed addition will have on downstream conditions, it was decided at the predesign conference to permit free discharge of runoff into the streets.

EXISTING CONDITIONS

The runoff coefficient C is taken as 0.90 for this essentially impervious site.

The flow area is 34600 sq. ft. or 0.794 acres.
The flow area is 100% impervious
The soil is Group B, Type WeB (SCS Soil Survey Sheet 21)
The "C" factor is 0.90 (DPM Pl. 22.2 C-1) (& see above)
The runoff Length L is 130 ft.
The slope S is 0.52 %
The time of concentration Tc is 0.0078*(L^.77)/(S^.385) = 2.50 min
(Use 10 minutes minimum)
The average velocity is L / (Tc x 60) = 0.87 ft/sec.
The 100-yr 6-hr precipitation amount AMT is 2.2 in (Pl 22.2 D_1)
The 100-yr intensity I is 2.15 x 2.3 = 4.73 in/hr (Pl 22.2 D-2)
The 100-yr flow rate is CIAc = 0.90 x 4.73 x 0.794 = 3.38 cfs.
The 100-yr volume is 0.90 x 0.183 x 34600 = 5700 cu. ft.
The 10-yr values are 65.7 % of the 100-yr values
for amount, intensity, rate, and volume. (Pl 22.2 D-1)

OFFSITE FLOW

There is no offsite flow.

PROPOSED CONDITIONS

Under proposed conditions there is more roof and paving but there is also more landscaping; C is again taken as 0.90

The flow area is 34600 sq. ft. or 0.794 acres.
The flow area is 100% impervious
The soil is Group B, Type WeB (SCS Soil Survey Sheet 21)
The "C" factor is 0.90 (DPM Pl. 22.2 C-1) (& see above)
The runoff Length L is 295 ft.
The slope S is 1.00 %
The time of concentration Tc is 0.0078*(L^.77)/(S^.385) = 3.66 min
(Use 10 minutes minimum)
The average velocity is L / (Tc x 60) = 1.34 ft/sec.
The 100-yr 6-hr precipitation amount AMT is 2.2 in (Pl 22.2 D_1)
The 100-yr intensity I is 2.15 x 2.3 = 4.73 in/hr (Pl 22.2 D-2)
The 100-yr flow rate is CIAc = 0.90 x 4.73 x 0.794 = 3.38 cfs.
The 100-yr volume is 0.90 x 0.183 x 34600 = 5700 cu. ft.
The 10-yr values are 65.7 % of the 100-yr values

RUNOFF CONTROL

With free discharge permitted by the pre-design meeting, runoff control amounts to ensuring that runoff is directed to the streets in a safe manner. Runoff from the new paved parking area will flow into Princeton and thence to Aztec. Runoff from the existing parking and the north half of the existing building will flow to the streets as before. (See plan.) Runoff from the south half of the existing building will be directed to the roof of the new building. Runoff from the new roof will flow to a prepared swale in the 10 ft strip behind the buildings. The construction of this swale is gravel over a compacted mixture of gravel and earth fill, as shown on the plans, and the location is designed to provide positive drainage away from the building. The swales have a constant slope of 1.0 percent and a minimum overcapacity of 45 %. At the north end of the existing building the asphalt paving will be extended 9 ft. and sloped to direct the runoff from the swale out the existing driveway into Aztec.

The plans direct the contractor to control erosion during construction by depressing the area at the proposed curb cut 0.25 ft and by constructing a 1.5 ft. high berm behind the south and west sides of the proposed building. The contractor is also directed to control dust during construction by wetting exposed earth or by other approved means.

Because there is no flood hazard and because existing paving on the site matches sidewalk elevation no attempt was made to raise the elevation of the property line 0.33 ft. above the adjacent top of curb.

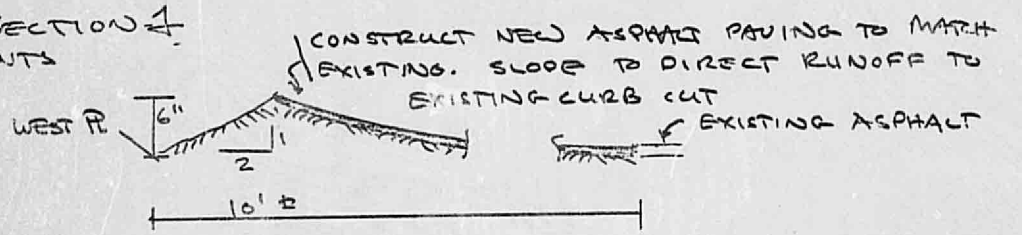
END OF REPORT

APPENDIX

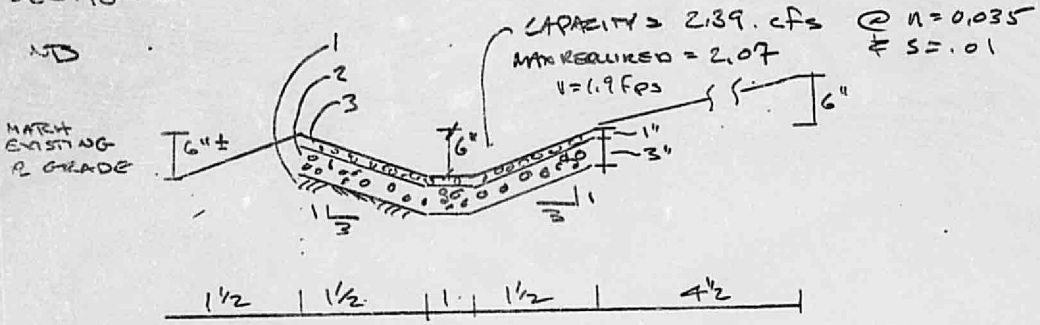
BY DMS DATE ____ SUBJECT DRAINAGE DETAILS SHEET NO 1 OF ____
CHKD. BY ____ DATE ____ CLIENT REGAL PLASTICS JOB NO. ____

engineering associates, inc. • 532 Adams Street, NE • Albuquerque, NM 87108 • (505) 242-7522

SECTION 4
NTS



SECTION 2
NTS



1. COMPACTED FILL
2. 3/4" ϕ GRAVEL & FILL MIXED 50/50 & COMPACTED
3. 3/4" ϕ GRAVEL, COMPACTED

NOTE: CONTRACTOR MAY SUBSTITUTE 1 1/2" ASPHALT PAVING FOR ITEMS 2 & 3 W/ INCREASED CHANNEL CAPACITY

BY DRC DATE ____ SUBJECT DRAINAGE DETAILS SHEET NO 2 OF ____
CHKD. BY ____ DATE ____ CLIENT RECTOR PLASTICS JOB NO. ____

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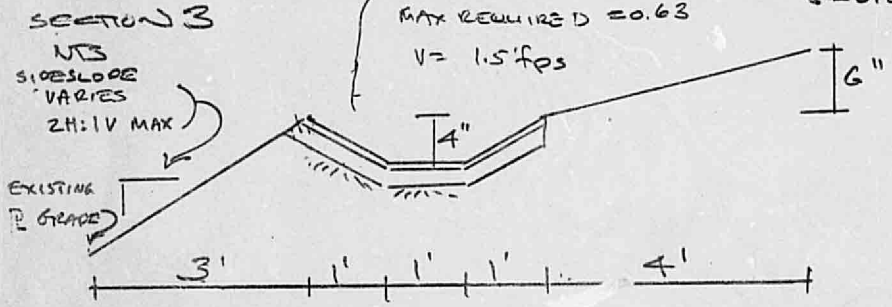
SECTION 3

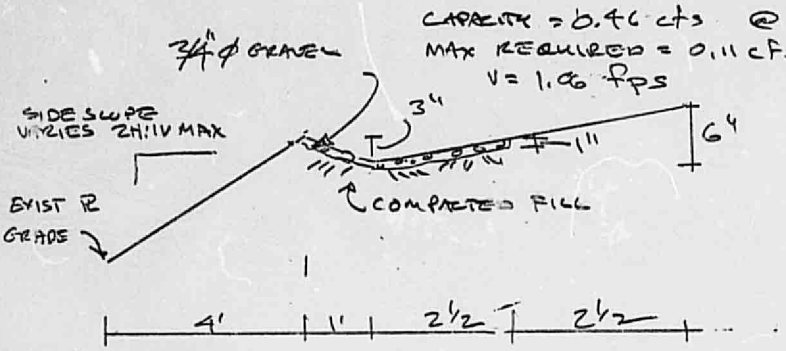
CAPACITY = 1.02 cfs @ n=0.035 S=0.01
MAX REQUIRED = 0.63
V= 1.5 fps



SEE SECTION 2 FOR CHANNEL LINING

SECTION 4

CAPACITY = 0.46 cfs @ n=0.035 S=0.0
MAX REQUIRED = 0.11 cfs
V = 1.06 fps



BY TK DATE ____ SUBJECT DRAINAGE DETAILS SHEET NO. ____ OF ____
CHKD. BY ____ DATE ____ CLIENT RENAISSANCE JOB NO. ____

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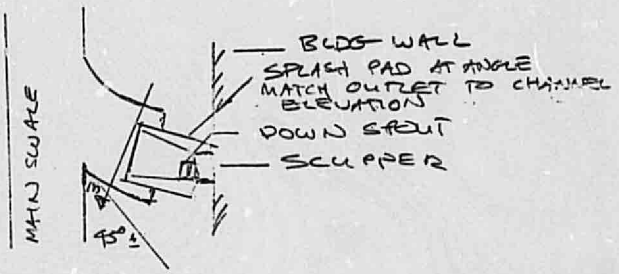
DETAIL A NTS
TYP OF 2



BY THS DATE — SUBJECT DRAINAGE CALCS SHEET NO 1 OF —
CHKD. BY — DATE — CLIENT REGAL PLASTICS JOB NO —

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10' AREA BTW BUILDING & PL

PORTION SLOPED AWAY FROM SWALE VARIES FROM
1½ TO 4' — ASSUME AV = 2'
10 - 2 = 8' WIDE TO CALC RUNOFF

TO CALC REQUIRED SWALE CAPACITY, ASSUME
C = 0.95 INSTEAD OF 0.90
.95/.9 = 1.056 ⇒ 5.6% OVER CAPACITY

FROM SE CORNER TO 1ST DOWNSPOUT
L = 130' I = 4.73
$\frac{130 \times 8}{43560} \times .95 \times 4.73 = 0.107 \sim 0.11$ cfs

FROM SE CORNER TO 2ND DOWNSPOUT
L = 205
$\frac{205 \times 8}{43560} \times .95 \times 4.73 = 0.169 \sim 0.17$ cfs

FROM SE CORNER TO NW CORNER EXISTING
L = 275
$\frac{275 \times 8}{43560} \times .95 \times 4.73 = 0.227 \sim 0.23$ cfs

BY TKC DATE ____ SUBJECT DRAINAGE CALCS SHEET NO 2 OF ____
CHKD. BY ____ DATE ____ CLIENT REAL PLASTICS JOB NO ____

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DRAINAGE SWALE CAPACITY REQUIRED

SMALL SWALE — SECTION 4 0.11 CFS

MEDIUM SWALE SECTION 3

0.17 + .464 = .634 ≈ 0.63 CFS
ROOF

LARGE SWALE SECTION 2

0.23 + .464 + .861 = 1.555 ≈ 1.56 CFS
ROOF ROOF

BY DTC DATE ____ SUBJECT DRAINAGE CALCS. SHEET NO 2 OF ____
CHKD BY ____ DATE ____ CLIENT RETAIL PLASTICS JOB NO. ____

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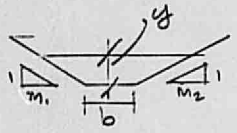
SWALE CAPACITIES – SEE SECTIONS

$n = 0.035$ $S = 0.01$ THROUGHOUT



MANNING'S EQUATION

$Q = \frac{1.49}{n} \cdot \frac{A^{5/3}}{P^{2/3}} \cdot S^{1/2}$

A = FLOW AREA, P = WETTED PERIMETER

$V = Q/A$

SOLVE BY HP-41C PROGRAM

(1) SMALL SWALE SECTION 4

$y_{max} = 0.25'$ $m_1 = 4$ $m_2 = 10$ $b = 0$

y =	0.196 ft	0.25 ft
Q =	0.110 cfs	0.462 cfs
V	0.74 fps	1.06 fps

(2) MEDIUM SWALE SECTION 3

$y_{max} = 0.33'$ $m_1 = 3$ $m_2 = 3$ $b = 1$

y =	0.263 ft	0.333 ft
Q =	0.631 cfs	1.015 cfs
V =	1.34 fps	1.525 fps

(3) LARGE SWALE SECTION 2

$y_{max} = 0.5'$ $m_1 = 3$ $m_2 = 3$ $b = 1$

y =	0.41 ft	0.5 ft
Q =	1.563 cfs	2.386 cfs
V =	1.7 fps	1.909 fps

Pre-Design Investigation
(Additions)

DATE 5-9-85

ADDRESS REGAL PLASTIC 3455 PRINCETON DR NE ZONE ATLAS #

LEGAL DESCRIPTION

OWNER

ARCHITECT/ENGINEER

LOT SIZE

ZONING

PROPOSED DEVELOPMENT

	YES	NO	NA	COMMENTS
FLOOD HAZARD AREA		✓		ZONE C
PART OF AN APPROVED REPORT				
CONSTRUCTION PLANS ON MICRO-FILM				
FIELD INSPECTION	✓			

COMMENTS:

INSPECTION AFTER COMPLETION WILL BE REQ'D DUE TO POSSIBILITY OF RUN OFF INTO ADJACENT PROPERTIES TO SOUTH & WEST.

DRAINAGE REQUIREMENTS:

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

May 24, 1985

Mr. August F. Mosimann
Engineering Associates
532 Adams NE
Albuquerque, NM 87102

REF: ADDITION TO REGAL PLASTIC (G16-D70) ENGINEER STAMP DATE MAY 1, 1985

Dear Mr. Mosimann:

Based on the information provided on your May 2, 1985 submittal, the above referenced drainage plan is approved.

If you have any questions or comments, please feel free to contact me at 766-7644.

Sincerely,

Carlos A. Montoya

Carlos A. Montoya
City/County Flood Plain Admin.

CAM:BJM:mrk