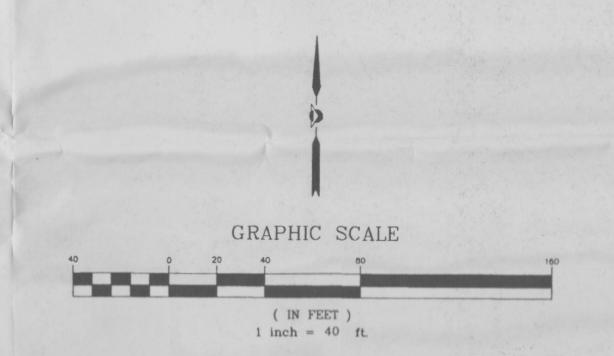


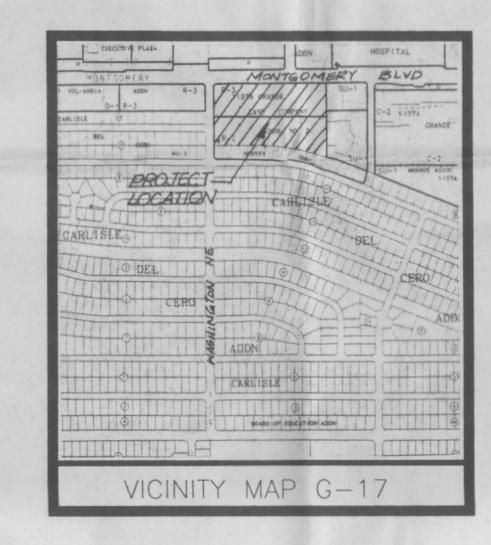
Montgomery Boulevard, N.E. F=5168.86 BASIN C4: 4. EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 3, TREATMENT AREA(ACRES) DRAINAGE PLAN FOR SUN PLAZA APARTMENTS E = 0.53 INCHES SOIL UNCOMPACTED "A" 0.151 (LANDSCAPING) DRAINAGE PLAN E = 0.78 INCHES LANDSCAPED "B"

DRAINAGE AND GRADING PLAN FOR SUN PLAZA APARTMENTS AT MONARCH PROPERTIES, INC. BEING LOT C

VISTA GRANDE LAND COMPANY SUN PLAZA APARTMENTS

> ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO APRIL 1996







THE FOLLOWING ITEMS CONCERNING THE SUN PLAZA APARTMENTS GRADING

AND DRAINAGE PLAN ARE CONTAINED HEREON: VICINITY MAP GRADING AND DRAINAGE PLAN

> FLOOD MAP DRAINAGE CALCULATIONS 5. DRAINAGE DETAILS

EXITING CONDITIONS AS SHOWN BY THE VICINITY MAP, THE SITE IS AT THE SOUTHEAST CORNER OF WASHINGTON STREET NE AND MONTGOMERY BLVD NE. THE SITE IS BOUNDED BY A COMMERCIAL AREA TO THE EAST AND A RESIDENTIAL AREA TO THE SOUTH. THE SITE CONTAINS ABOUT 9.7 ACRES AND IS ZONED R-2 AND R-3. AT PRESENT THE SITE IS FULLY DEVELOPED WITH APARTMENTS, PAVED PARKING LOTS AND TURF TYPE LANDSCAPING. THE SITE SLOPES IN A EAST TO WEST DIRECTION ..

ACCORDING TO THE FLOOD INSURANCE RATE MAP, PANEL 350002-0023C, DATED OCTOBER 14, 1983, THIS SITE DOES NOT LIE IN A DESIGNATED 100-YEAR FLOOD PLAIN, HOWEVER, MONTGOMERY BOULEVARD DOES LIE IN A 100-YEAR FLOOD PLAIN, ZONED A0-1.

PROPOSED CONDITIONS THE PROPOSAL IS TO REHABILITATE ALL THE EXISTING PAVED PARKING LOTS WITHIN THIS APARTMENT COMPLEX DUE TO THE SEVERE DETERIORATION OF THE EXISTING PAVEMENT. THE PAVEMENT WILL REQUIRE COMPLETE REMOVAL AND REPLACEMENT. IT IS THE INTENT OF THIS PLAN TO PROVIDE ADDITIONAL SLOPE ON THE NEW PAVING AS POSSIBLE WITHOUT COMPLETE RECONSTRUCTION OF THE CURB IN ORDER TO ELIMINATE BIRD BATHS WHICH HAS CAUSED THE SUBGRADE TO FAIL BECAUSE OF STANDING WATER.

DOWNSTREAM CAPACITY THE CALCULATIONS WHICH APPEAR HEREON, ANALYZE THE 100-YEAR, 6 HOUR RAINFALL RUNOFF FOR PEAK FLOWS. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS AS SET FORTH IN THE REVISION OF SECTION 22.7 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY 1993. IT IS THE INTENT OF THIS PLAN THAT EXISTING AND DEVELOPED FLOWS WILL BE THE SAME SINCE WE WILL BE PLACING THE SAME AMOUNT OF IMPERVIOUS AREA AS EXISTING, SO DOWNSTREAM CAPACITY WILL NOT SEE ADDITIONAL IMPACTS BECAUSE OF THIS PAVING REHAB PROJECT.

OFFSITE FLOWS THERE ARE NO OFFSITE FLOWS THAT ENTER OR IMPACT THIS SITE.

DRAINAGE CALCULATIONS

PRECIPITATION ZONE =2 2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR

STORM 6-HOUR = 2.35 INCHES 3. PEAK DISCHARGE (CFS/ACRE) FIR 100-YEAR, ZONE 3, TABLE A-9 Q = 1.56 CFS/ACRE SOIL UNCOMPACTED "A" Q = 2.28 CFS/ACRE LANDSCAPED "B" Q = 3.14 CFS/AC COMPACTED SOIL "C" Q = 4.70 CFS/ACRE IMPERVIOUS AREA "D" FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES

E = 1.13 INCHES COMPACTED SOIL "C" E = 2.12 INCHES IMPERVIOUS AREA 'D"

5. EXISTING AND PROPOSED CONDITIONS ONSITE BASIN A1: TREATMENT AREA(ACRES) 0.672 (LANDSCAPING) 0.340 (BUILDING AND ASPHALT PAVING)

BASIN B1: TREATMENT AREA(ACRES) 0.439 (LANDSCAPING) 0.465(EXISTING ASPHALT PAVING) $Q(EXISTING) = (2.28 \times 0.439) + (4.70 \times 0.465) = 3.19CFS$

 $Q(EXISTING) = (2.28 \times 0.672) + (4.70 \times 0.340) = 3.13CFS$

BASIN B2: TREATMENT AREA(ACRES) 2.332 (LANDSCAPING)

1.155 (BUILDING AND ASPHALT PAVING) $Q(EXISTING) = (2.28 \times 2.332) + (4.70 \times 1.155) = 10.75CFS$

BASIN C1: TREATMENT AREA(ACRES) 0.264 (LANDSCAPING) 0.072(EXISTING ASPHALT PAVING) $Q(EXISTING) = (2.28 \times 0.264) + (4.70 \times 0.072) = 0.94CFS$ BASIN C2: TREATMENT AREA(ACRES)

0.026 (LANDSCAPING) 0.114 (BUILDING AND ASPHALT PAVING) $Q(EXISTING) = (2.28 \times 0.026) + (4.70 \times 0.114) = 0.54CFS$ BASIN C3: TREATMENT AREA(ACRES)

0.223 (LANDSCAPING) 0.603(BUILDING AND ASPHALT PAVING) $Q(EXISTING) = (2.28 \times 0.223) + (4.70 \times 0.603) = 3.34CFS$

0.318(BUILDING AND ASPHALT PAVING) $Q(EXISTING) = (2.28 \times 0.151) + (4.70 \times 0.318) = 1.84CFS$

TREATMENT AREA(ACRES) 0.039 (LANDSCAPING) 0.134 (BUILDING AND ASPHALT PAVING) $Q(EXISTING) = (2.28 \times 0.039) + (4.70 \times 0.134) = 0.72CFS$ TREATMENT AREA(ACRES) 0.606 (LANDSCAPING) 0.291(BUILDING AND ASPHALT PAVING) $Q(EXISTING) = (2.28 \times 0.606) + (4.70 \times 0.291) = 2.75CFS$

BASIN C7: TREATMENT AREA(ACRES) 0.423 (LANDSCAPING) 0.994(BUILDING AND ASPHALT PAVING) $Q(EXISTING) = (2.28 \times 0.423) + (4.70 \times 0.994) = 5.64CFS$

6. SIZE SIDEWALK CULVERTS FOR 10YEAR FLOWS Q(100YR) = 3.13CFS, Q(10YR) = 0.67(3.13CFS) = 2.10CFSSIZE SIDEWALK CULVERT FOR 10YR FLOW AND MINIMAL VELOCITY AS WEIR Q = CLH** 3/2 ASSUME C= 3.0 L = Q/CH**3/2 = 2.10/3.0 X (0.58)**3/2 L = 1.58 FEET - USE 1-18" WIDE SIDEWALK CULVERT

BASIN B-1 Q(100YR) = 3.13CFS, Q(10YR) = 0.67(3.19CFS) = 2.14CFSSIZE SIDEWALK CULVERT FOR 10YR FLOW AND MINIMAL VELOCITY AS WEIR Q = CLH**3/2 ASSUME C = 3.0 $L = Q/CH**3/2 = 2.14/3.0 \times (0.58)**3/2$ L = 1.6 FEET - USE 1 - 18" WIDE SIDEWALK CULVERT

Q(100YR) = 10.75CFS, Q(10YR) = 0.67(10.75CFS) =SIZE SIDEWALK CULVERT FOR 10YR FLOW AND MINIMAL VELOCITY AS WEIR Q = CLH** 3/2 ASSUME C = 3.0 $L = Q/CH**3/2 = 7.20/3.0 \times (0.58)**3/2$ L = 5.4 FEET - USE 3 - 18" WIDE SIDEWALK CULVERT

Q(100YR) = 1.84, Q(10YR) = 0.67(1.84CFS) = 1.23CFSSIZE SIDEWALK CULVERT FOR 10YR FLOW AND MINIMAL VELOCITY AS WEIR Q = CLH** 3/2 ASSUME C= 3.0 $L = Q/CH**3/2 = 1.23/3.0 \times (0.58)**3/2$ L = 0.93 FEET - USE 1 - 12" WIDE SIDEWALK CULVERT

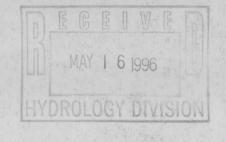
DOWNSTREAM CAPACITY ANALYSIS IN MONTGOMERY BOULEVARD NE ACCORDING TO THE ALBUQUERQUE MASTER DRAINAGE STUDY (AMDS), VOLUME III, FOR THIS AREA. THE NEAREST ANALYSIS POINT 207 (PAGE 3C-1) WAS IDENTIFIED TO BE LOCATED AT THE INTERSECTION OF MONTGOMERY BOULEVARD AND THE NORTH DIVERSION CHANNEL HAS THE FOLLOWING INFORMATION, THIS IS ABOUT 5000 FEET DOWNSTREAM FROM THIS SITE:

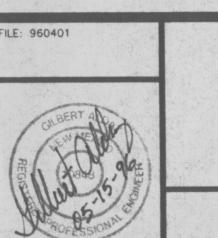
> Q(PEAK) = 295CFSQ(OVERLAND) = 131 CFSSTREET FLOW DEPTH = 0.60 FEET VELOCITY = 5.4 FPS

ACCORDING TO THE DRAINAGE FACILITIES MAP G-17S, THERE IS AN EXISTING 42" STORM DRAIN ON MONTGOMERY BOULEVARD, ADJACENT TO THIS SITE WHICH EVENTUALLY DISCHARGES INTO THE NORTH DIVERSION CHANNEL. THE BASIS OF THE AMDS TOOK THIS SITE AS A FULLY DEVELOPED BASIN WITH FREE DISCHARGE, VIEW OF THE THIS SITE ON THE AERIAL PHOTOGRAPH SHOWS THIS SITE DEVELOPED. SINCE THE STREET FLOW DEPTH ON MONTGOMERY STILL MEETS FLOW DEPTH REQUIREMENTS 5000 FEET DOWNSTREAM FROM THIS SITE, IT WOULD SEEM APPROPRIATE TO CONTINUE TO ALLOW THIS SITE TO FREE DISCHARGE.

THE FLOW THAT ENTERS WASHINGTON STREET (BASIN A-1) WOULD FLOW SOUTH TO DOUGLAS MC ARTHUR THAN WEST TO MORNINGSIDE DRIVE, WHERE IT WILL BE INTERCEPTED BY A 36" STORM DRAIN BUILT TO DIVERT FLOWS INTO THE HAHN ARROYO. SINCE THE AMDS CONSIDERED THIS BASIN DRAINING TO THE HAHN ARROYO AS FULLY DEVELOPED, IT WOULD SEEM APPROPRIATE TO CONTINUE TO ALLOW THIS SITE TO FREE DISCHARGE.

EXISTING ELEVATIONS PROPOSED TOP OF CURB 61.92 FL --- 5361 ----EXISTING CONTOUR REMOVE EXISTING ASPHALT & REPLACE TO NEW GRADES PROPOSED GRADED SWALE





DRAINAGE & GRADING PLAN FOR

PROPOSED CURB & GUTTER

Aldaz Engineering & Suveying, Inc. 1605 BLAIR DRIVE NE ALBUQUERQUE, NEW MEXICO 87112 PH: (505)237-1456

SUN PLAZA APARTMENTS

SHEET NUMBER:

DATE/REVISIONS:

