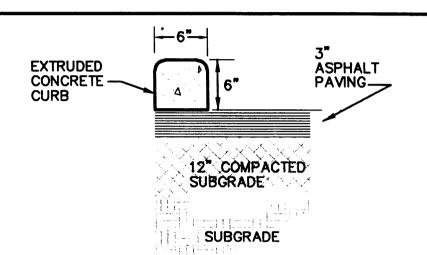


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- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
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- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

APPROVAL NAME DATE INSPECTOR

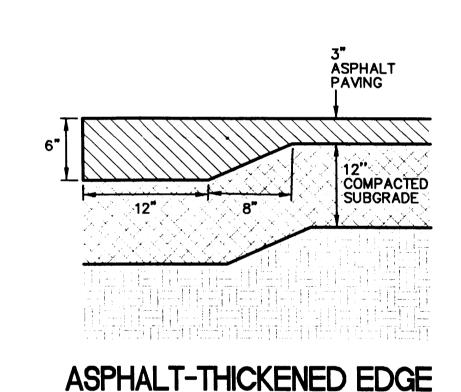


GENERAL NOTES PROVIDE CONTRACTION JOINTS 9 10' O.C. MAX,

2. EDGES SHOULD BE REMOVED WITH 3/8" EDGING TOOL

PROVIDE EXPANSION JOINTS ADJACENT TO CURB

EXTRUDED CONCRETE CURB



CALCULATIONS: 1470 Montbel Paving Plan: Sept. 9, 2005

ON-SITE

Area b

Area c

Total Area

EaAa + EbAb + EcAc + EdAd

Aa + Ab + Ac + Ad

On-Site Developed Land Condition

DEVELOPED FLOWS:

3200 SF

31063 SF

THE PROPOSED IMPROVEMENTS INCLUDE AN APPROXIMATELY 21.000 SF ASPHALT PAVED PARKING AREA WITH ASSOCIATED LANDSCAPING.

THE PRESENT SITE IS AN UNDEVELOPED COMMERCIAL PROPERTY LOCATED IN THE RENAISSANCE CENTER SUBDIVISION. THE PROPERTY SLOPES TO THE NORTHWEST AT APPROXIMATELY 2.0%. THE PROPERTY IS BOUNDED BY MONTBEL PLACE NE TO THE NORTH, AND DEVELOPED COMMERCIAL PROPERTY TO THE EAST AND WEST.

THE INTENT OF THIS PLAN IS TO SHOW:

- GRADING RELATIONSHIPS BETWEEN THE EXISTING GROUND ELEVATIONS AND PROPOSED FINISHED ELEVATIONS IN ORDER TO FACILITATE POSITIVE DRAINAGE TO DESIGNATED DISCHARGE POINTS.
- 2. THE EXTENT OF PROPOSED SITE IMPROVEMENTS, INCLUDING BUILDINGS, WALKS AND PAVEMENT.
- 3. THE FLOW RATE/VOLUME OF RAINFALL RUNOFF ACROSS OR AROUND THESE IMPROVEMENTS AND METHODS OF HANDLING THESE FLOWS TO MEET CITY OF ALBUQUERQUE REQUIREMENTS FOR DRAINAGE MANAGEMENT.
- 4. THE RELATIONSHIP OF ON-SITE IMPROVEMENTS WITH EXISTING NEIGHBORING PROPERTY TO INSURE AN ORDERLY TRANSITION BETWEEN PROPOSED AND SURROUNDING GRADES.

DRAINAGE PLAN CONCEPT

THE STORM WATERS GENERATED BY THE PROPOSED IMPROVEMENTS SHALL COMPLY WITH THE PREVIOUSLY APPROVED HYDROLOGY STUDY PREPARED FOR THE MASTER DRAINAGE REPORT FOR THE RENAISSANCE CENTER BY ANDREWS, ASBURY AND ROBERTS.

PER THE APPROVED MASTER PLAN. THE PROPOSED SITE IS PERMITTED FREE DISCHARGE OF HISTORIC FLOW PLUS 0.1 CFS PER ACRE. ONCE RELEASED, FLOW WILL TRAVEL NORTH TO THE EXISTING MASTER DETENTION FACILITY.

OFFSITE FLOWS: NO OFFSITE FLOW AFFECTS THIS PROPERTY.

GENERAL NOTES:

LEGAL: LOT 17-A, RENAISSANCE CENTER II, ALBUQUERQUE,

ACS STATION 7-F15, A SQUARE CHISELED ON CONCRETE BASE OF A FIRE HYDRANT IN NIKANDA ROAD, NE, APPROX. 0.28 MILE EAST OF EDITH BLVD. ELEV. 5021.14 NAVD 1929

MARK CHISELED ON ELEC. TRANSFORMER BASE AT NE CORNER OF PROPERTY ELEV. 5033.33

FLOOD HAZARD: THE PROPERTY IS LOCATED WITHIN ZONE "X (NO FLOOD HAZARD)", PER FEMA FLOOD INSURANCE RATE MAP PANEL NO. 350002 0138D, DATED SEPTEMBER 20, 1996.

EROSION CONTROL: THE CONTRACTOR IS RESPONSIBLE FOR RETAINING ON-SITE ALL SEDIMENT GENERATED DURING CONSTRUCTION BY MEANS OF TEMPORARY EARTH BERMS OR SILT FENCES AT THE LOW POINTS ON THE WEST PROPERTY LINE.

VICINITY MAP F-15

KEYED NOTES

- (1) SAWCUT AND REMOVE EXISTING ASPHALT PAVING AND CURB/GUTTER THIS AREA TO PREPARE FOR NEW ACCESS DRIVE AND TO PROVIDE CLEAN BONDING EDGE. PROVIDE SMOOTH RIDING TRANSITION.
- ② OWNER'S OPTION FOR PAVEMENT EDGE: CONSTRUCT EXTRUDED CONCRETE CURB OR PROVIDE THICKENED ASPHALT EDGE (NO CURB) TYPICAL THROUGHOUT. SEE DETAILS THIS SHEET.
- 3 CONSTRUCT 3" ASPHALT PAVING OVER 12" COMPACTED SUBGRADE AT ELEVATIONS SHOWN. GENERAL NOTE: ALL SPOT ELEVATIONS WITHIN PAVEMENT AREA REPRESENT TOP OF PAYING UNLESS NOTED. ADD 0.5' TYPICAL FOR TOP OF CURB.
- (4) HIGH POINT IN PAVEMENT THIS AREA.
- 5 PROVIDE 2' WIDE OPENING IN CURB (IF CONSTRUCTED SEE KEYED NOTE #2) AT PAVEMENT LOW POINT THIS AREA TO ALLOW FLOW TO PASS.
- (6) CONSTRUCT DETENTION POND THIS AREA TO CAPTURE DEVELOPED DISCHARGE AND RELEASE AT RATES PER MASTER DRAINAGE REPORT. SEE CALCULATIONS FOR ADDITIONAL INFORMATION. INSTALL 6" AVG. DIA. COBBLES ON ALL 2:1 SIDE SLOPES FOR EROSION PROTECTION AND POND DEFINITION.
- 7 INSTALL 56 LF 12" DIA. PVC STORM DRAIN INVERTS SHOWN TO EQUALIZE POND SYSTEM. MIN. COVER = 12".
- (8) CROSS LOT ACCESS EASEMENT FOR DRIVES TO BE PROVIDED CONCURRENTLY WITH THIS PROJECT.
- (9) CONSTRUCT 12" WIDE COVERED SIDEWALK CULVERT (PER C.O.A. STD. DWG. 2236) FROM PROPERTY LINE THROUGH BACK OF MONTBEL PLACE CURB. NOTE: CONSTRUCTION WITHIN THE PUBLIC R.O.W. REQUIRES CONTRACTOR TO OBTAIN AN S.O.19 PERMIT. SEE S.O.19 FORM THIS SHEET. GRADE LANDSCAPING BETWEEN POND AND R.O.W. TO DRAIN TO SIDEWALK CULVERT. PROVIDE EROSION PROTECTION AS REQUIRED.

LEGEND

EXISTING CONTOUR PROPOSED CONTOUR PROPOSED SPOT ELEVATION FLOW ARROW SIDEWALK CULVERT INVERT ELEVATION INV = 72.5



ISAACSON & ARFMAN, P.A

Consulting Engineering Associates 128 Monroe Street N.E. Albuquerque, New Mexico 87108 Ph. 505-268-8828 Fax. 505-268-2632

MONTBEL PAYING PLAN TRACT 17-A

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DRAINAGE AND GRADING PLAN

Date:	No.	Revision:	Date:	Job No.
11-07-05				1470
Drawn By: BJB				PAGE
Ckd By:				an of

CALCULATIONS: 1470 Montbel Paving Plan : Sept. 9, 2005 HYDROGRAPH FOR SMALL WATERSHED DPM SECTION 22-2 * PAGE A-13/14

Base time, tB, for a small watershed hydrograph is, tB = (2.107 * E * AT / QP) - (0.25 * AD / AT)0.71 acres 0.49 acres 0.**74 hours**

E is the excess precipitation in inches (from DPM TABLE-A-8), QP is the peak flow, AD is the area (acres) of treatment D, and AT is the total area in acres. Using the time of concentration, tC (hours), the time to peak in hours is:

tP = (0.7 * tC) + ((1.6 - (AD / AT)) / 12)tC = 0.20 hours

EXCESS PRECIPITATION

Ea = 0.53

Eb = 0.78

Ec = 1.13

Ed = 2.12

Precip. Zone 2

3200 SF

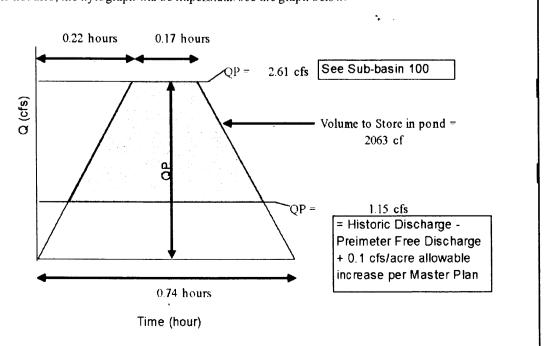
21163 SF

1.68 in.

4336 CF

2.**75** CFS

tP = 0.22 hoursContinue the peak for 0.25 * AD / AT hours. When AD is zero, the hydrograph will be triangular. When AD is not zero, the hyrograph will be trapezoidal, see the graph below:



PERIMETER FREE DISCHARGE Area of basin flows = The following calculations are based on Treatment areas as shown in table to the right Sub-basin Weighted Excess Precipitation (see formula above) Weighted E = TREATMENT Sub-basin Volume of Runoff (see formula above) Sub-basin Peak Discharge Rate: (see formula above) 0.15 cfs BASIN NO. 200 SUB-BASIN DRAINING TO POND Area of basin flows 0.6 Ac. 28038 SF The following calculations are based on Treatment areas as shown in table to the right Sub-basin Weighted Excess Precipitation (see formula above)

0.59 in. Developed E

1532 CF Developed V360

1.23 CFS Developed Qp

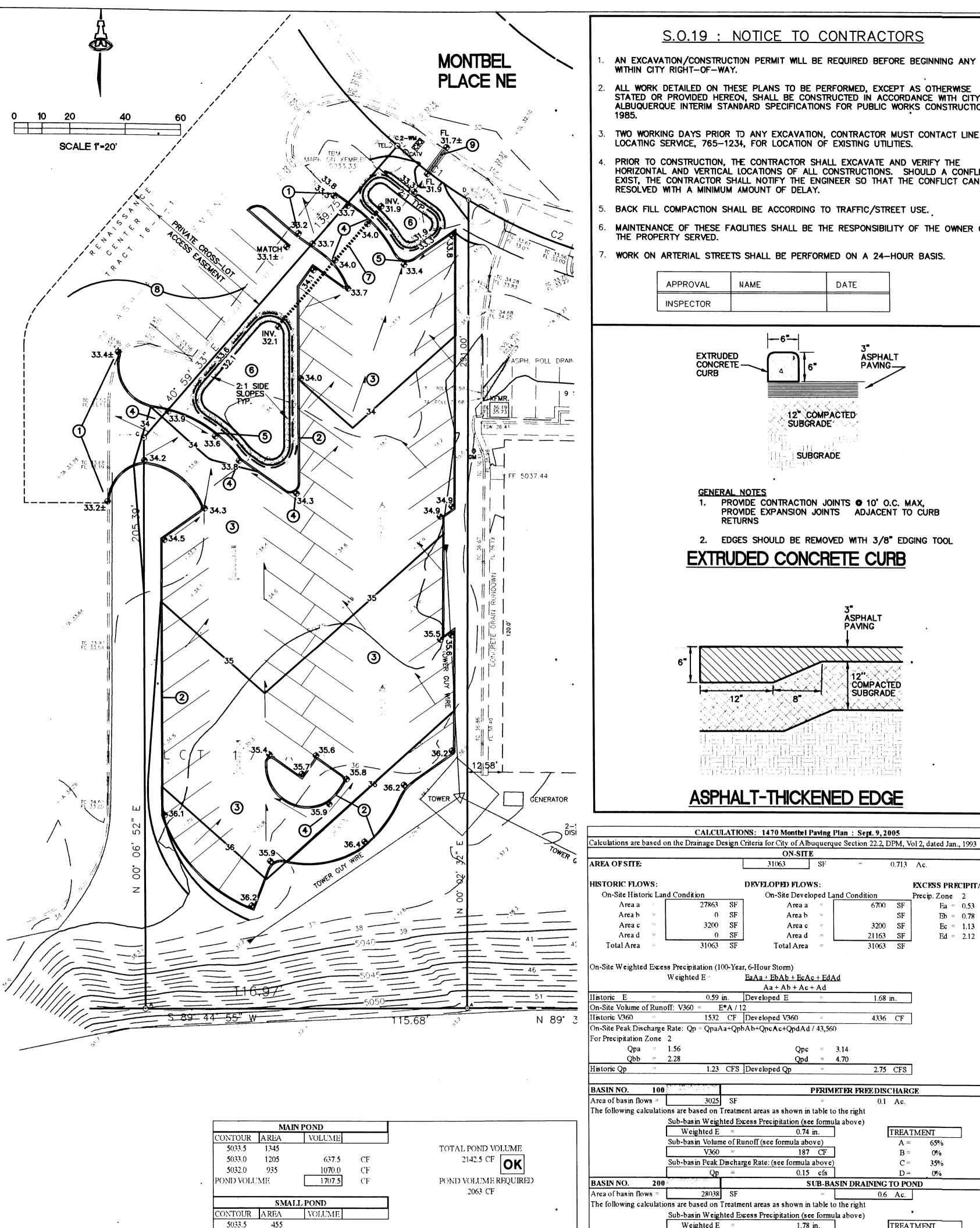
Weighted E 1.78 in. Sub-basin Volume of Runoff (see formula above)

TREATMENT 4150 CF 0% Sub-basin Peak Discharge Rate: (see formula above) C = 8%

= 3.14

= 4.70

INFLOW / OUTFLOW HYDROGRAPH



5033.0

5032.0

POND VOLUME

335

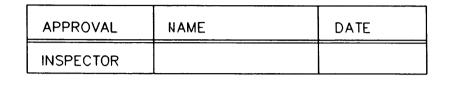
140

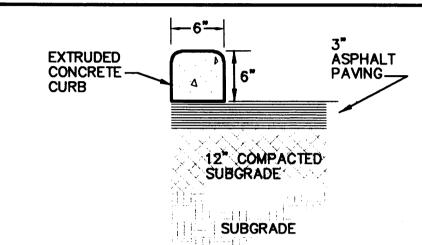
197.5 237.5

435.0

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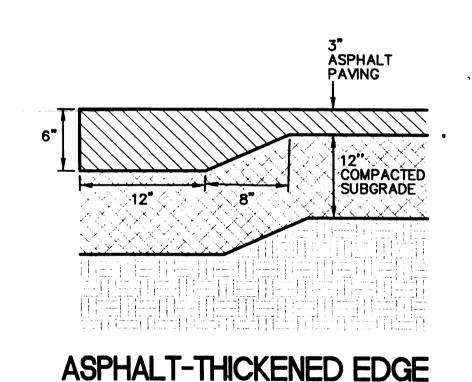




GENERAL NOTES

- PROVIDE CONTRACTION JOINTS 10' O.C. MAX. PROVIDE EXPANSION JOINTS ADJACENT TO CURB RETURNS
- 2. EDGES SHOULD BE REMOVED WITH 3/8" EDGING TOOL

EXTRUDED CONCRETE CURB



CALCULATIONS: 1470 Montbel Paving Plan: Sept. 9, 2005

31063 SF

Area a

Area b

Area d

Total Area

EaAa + EbAb + EcAc + EdAd

Aa + Ab + Ac + Ad

On-Site Developed Land Condition

Qpc = 3.14

Opd = 4.70

DEVELOPED FLOWS:

SCOPE:

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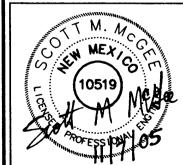
VICINITY MAP F-15

KEYED NOTES

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LEGEND

——5200 — EXISTING CONTOUR PROPOSED CONTOUR PROPOSED SPOT ELEVATION FLOW ARROW SIDEWALK CULVERT INVERT ELEVATION



ISAACSON & ARFMAN, P.A. Consulting Engineering Associates 128 Monroe Street N.E.

Albuquerque, New Mexico 87108

Ph. 505-268-8828 Fax. 505-268-2632 1470GRD.bjb This design, calculations, and concepts are owned by and remain the property of Isaacson & Arfman, P.A. and no part thereof shall be utilized by any person, firm or corporation for any

MONTBEL PAVING PLAN TRACT 17-A

DRAINAGE AND GRADING PLAN

Date: 11-07-05	No.	Revision:	Date:	Job No.
Drawn By: BJB				PAGE
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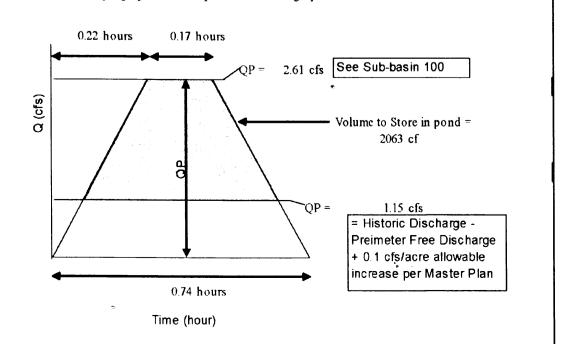
CALCULATIONS: 1470 Montbel Paving Plan : Sept. 9, 2005 HYDROGRAPH FOR SMALL WATERS HED DPM SECTION 22-2 * PAGE A-13/14

Base time, tB, for a small watershed hydrograph is: tB = (2.107 * E * AT / QP) - (0.25 * AD / AT)1.68 inches 0.**71** acres 0.49 acres 0.**74 hours**

> E is the excess precipitation in inches (from DPM TABLE A-8), QP is the peak flow, AD is the area (acres) of treatment D, and AT is the total area in acres. Using the time of concentration, tC (hours), the time to peak in hours is:

tP = (0.7 * tC) + ((1.6 - (AD/AT))/12)tC = 0.20 hours

tP = 0.22 hoursContinue the peak for 0.25 * AD/AT hours. When AD is zero, the hydrograph will be triangular. When AD is not zero, the hyrograph will be trapezoidal, see the graph below:



INFLOW / OUTFLOW HYDROGRAPH

The following calculations are based on Treatment areas as shown in table to the right Sub-basin Weighted Excess Precipitation (see formula above) Weighted E = Sub-basin Volume of Runoff (see formula above) Sub-basin Peak Discharge Rate: (see formula above) BASIN NO. 200 Area of basin flows = 28038 SF

= 1.56

0 SF

3200 SF

31063 SF

0.59 in. Developed E

1532 CF Developed V360

1.23 CFS Developed Qp

The following calculations are based on Treatment areas as shown in table to the right Sub-basin Weighted Excess Precipitation (see formula above) Sub-basin Volume of Runoff (see formula above)

TREATMENT 4150 CF

Sub-basin Peak Discharge Rate: (see formula above)

2.61 cfs

0% 8% 75%

TREATMENT

0%

EXCESS PRECIPITATION:

Ea = 0.53

Eb = 0.78

Ec = 1.13

Ed = 2.12

Precip. Zone 2

3200 SF

21163 SF

31063 SF

1.68 in.

4336 CF

2.**75** CFS

PERIMETER FREEDISCHARGE

SUB-BASIN DRAINING TO POND