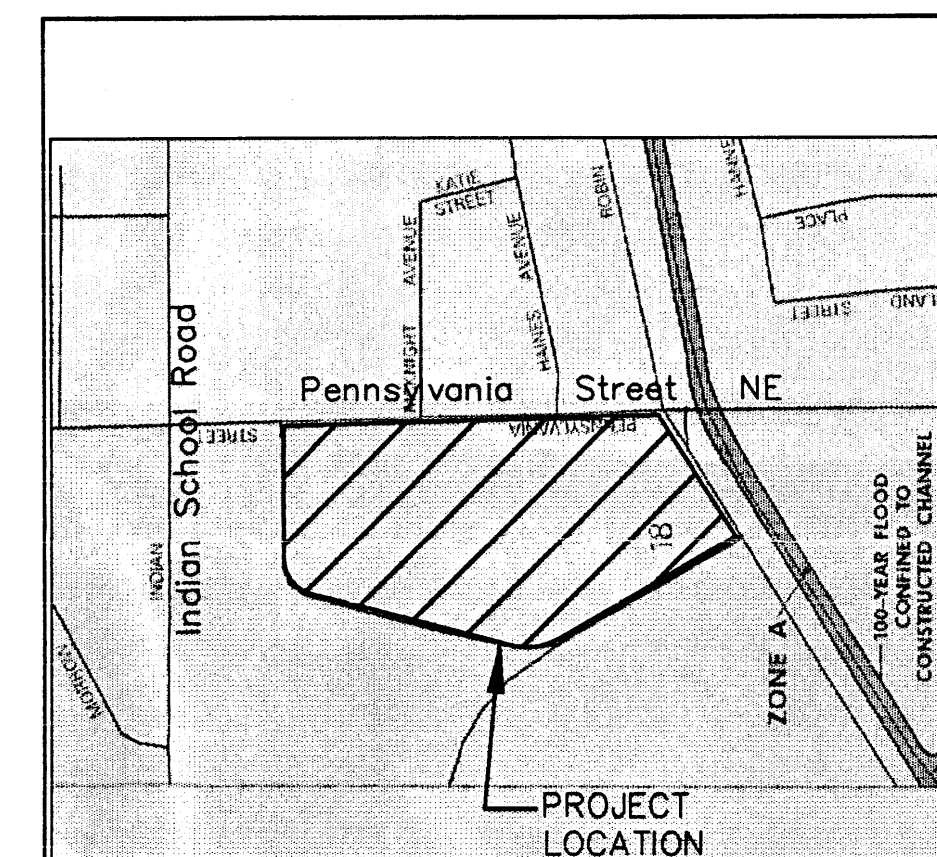


VICINITY MAP J-19



FIRM MAP 35001C0356 D

DRAINAGE CALCULATIONS:

THE FOLLOWING ITEMS CONCERNING PARCEL K, WINROCK CENTER ADDITION, ALBUQUERQUE, NEW MEXICO, GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

1. DRAINAGE CALCULATIONS
2. WINDY MAP (1-19)
3. FLOOD INSURANCE RATE MAP 35001C0356 D

EXISTING CONDITIONS
AS SHOWN BY THE VICINITY MAP, THE SITE CONTAINS APPROXIMATELY 12.3 ACRES AND IS LOCATED WEST OF PENNSYLVANIA STREET, JUST SOUTH OF INDIAN SCHOOL ROAD NE, AND BORDERS WINROCK MALL ALONG THE EAST PROPERTY LINE. (SEE ATTACHED VICINITY MAP (1-19). THIS DEVELOPMENT IS CURRENTLY FULLY DEVELOPED WITH CONDOMINIUMS, COVERED CARPORTS, ASPHALT PARKING, CONCRETE SIDEWALKS AND LANDSCAPING IMPROVEMENTS.

PROPOSED CONDITIONS
AS SHOWN BY THE DRAINAGE PLAN, THE IMPROVEMENTS PROPOSED IS TO RECONSTRUCT CERTAIN ACCESS ROADS AND PARKING AREAS. THE PLAN IS TO MAINTAIN THE CURRENT GRADING CONCEPT AS IT CURRENTLY EXIST IN ORDER TO MAINTAIN EXISTING DRAINAGE PATTERNS.

THE CALCULATIONS THAT APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR 6-HOUR RAINFALL RUNOFF FOR PEAK FLOWS AND STORM DURATION FOR VOLUME REQUIREMENTS. 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. THIS D.P.M. PROCEDURE IS USED FOR ANALYZING ONSITE FLOWS.

DOWNSTREAM CAPACITY
BASED ON A REVIEW OF THE DRAINAGE FILE J19/D30 FOR THE WINROCK MALL, THIS DRAINAGE STUDY ACCOUNTED FOR FULLY DEVELOPED STORM WATER DISCHARGE FROM THIS SITE INTO THE WINROCK MALL. SINCE THIS IS THE CASE, THE DEVELOPMENT OF THIS SITE WILL CONTINUE TO FREE DISCHARGE. AN ANALYSIS WAS PERFORMED FOR THE EXISTING SPILLWAYS THAT CURRENTLY DRAIN THIS SITE INTO THE WINROCK MALL ALONG THE WEST PROPERTY LINE. BASED ON THIS ANALYSIS IT HAS BEEN DETERMINED THAT THESE SPILLWAYS ARE UNDERSIZED. THE PLAN WITH THIS DEVELOPMENT IS TO REGRADE THE EXISTING EMERGENCY ACCESS ROAD ADJACENT TO THESE EXISTING SPILLWAYS. THIS EMERGENCY ROAD CONNECT THIS SITE INTO THE WINROCK MALL SITE.

EROSION CONTROL
TEMPORARY EROSION CONTROL WILL BE REQUIRED DURING THE CONSTRUCTION PHASE TO PROTECT DOWNSTREAM PROPERTY AND IMPROVEMENTS FROM SEDIMENT AND UNCONTROLLED RUNOFF. THE CONTRACTOR SHALL INCLUDE TEMPORARY EARTH BERMING ALONG THE SOUTH, NORTH, EAST AND WEST SIDE OF THE PROJECT BOUNDARIES TO HOLD RUNOFF DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY MAINTAIN THESE FACILITIES DURING THE CONSTRUCTION PHASE OF THE PROJECT.

OFFSITE FLOWS
BASED ON A FIELD VISIT OF THE SITE IT APPEARS THAT NO OFFSITE FLOWS ENTER THIS PROPERTY.

- DRAINAGE CALCULATIONS**
1. PRECIPITATION ZONE = 3
 2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM
 - 6-HOUR = 2.60 INCHES
 - 24-HOUR = 3.10 INCHES
 - 10 DAY = 4.90 INCHES

3. PEAK DISCHARGE (CFS/ACRE) FOR 100-YEAR, ZONE 2, TABLE A-3:

- Q = 1.87 CFS/ACRE SOIL UNCOMPACTED "A"
- Q = 2.60 CFS/ACRE LANDSCAPED "B"
- Q = 3.45 CFS/ACRE COMPACTED SOIL "C"
- Q = 3.02 CFS/ACRE IMPERVIOUS AREA "D"
- FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES
- EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 2, TABLE A-3:
- E = 0.66 INCHES SOIL UNCOMPACTED "A"
- E = 0.92 INCHES LANDSCAPED "B"
- E = 1.29 INCHES COMPACTED SOIL "C"
- E = 2.36 INCHES IMPERVIOUS AREA "D"
- EXISTING EQUALS PROPOSED CONDITIONS (SINCE NO INCREASE IN LAND TREATMENT "D" PROPOSED WITH THESE PAVING IMPROVEMENTS)

DETERMINE LAND TREATMENTS PERCENT, BASED ON TABLE A-5 OF SECTION 22.7 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, MULTIPLE UNIT RESIDENTIAL ATTACHED: D=70% IMPERVIOUS B=30% LANDSCAPING

DRAINAGE BASIN A:	
TREATMENT AREA(ACRES)	
A	0
B	0.30X3.08AC (LANDSCAPING) = 1.53AC
C	0
D	0.70X 5.09 (ROOF AREA + ASPHALT & CONCRETE AREA) = 3.56AC

$$Q = (2.60 \times 1.53) + (5.02 \times 3.56) = 18.80 \text{ CFS (6HR) ONSITE FLOW INTO WINROCK MALL}$$
$$V = ((18.80 \times 1.53) + (2.36 \times 3.56)) / 12 = 0.82AC-FT = 35.607CF$$

DRAINAGE BASIN B:	
TREATMENT AREA(ACRES)	
A	0
B	0.30X3.46AC (LANDSCAPING) = 1.04AC
C	0
D	0.70X3.46 (ROOF AREA + ASPHALT & CONCRETE AREA) = 2.42AC

$$Q = (2.60 \times 1.04) + (5.02 \times 2.42) = 14.90 \text{ CFS (6HR) ONSITE FLOW INTO WINROCK MALL}$$
$$V = ((14.90 \times 1.04) + (2.36 \times 2.42)) / 12 = 0.56AC-FT = 24.205CF$$

DRAINAGE BASIN C:	
TREATMENT AREA(ACRES)	
A	0
B	0.30X3.80 (LANDSCAPING) = 1.14AC
C	0
D	0.70X3.80(ROOF AREA + ASPHALT & CONCRETE AREA) = 2.66AC

$$Q = (2.60 \times 1.14) + (5.02 \times 2.66) = 16.30 \text{ CFS (6HR) ONSITE FLOW INTO WINROCK MALL}$$
$$V = ((16.30 \times 1.14) + (2.36 \times 2.66)) / 12 = 0.82AC-FT = 35.607CF$$

6. SPILLWAY CAPACITY ANALYSIS

$$Q_{CFS(TOTAL)} = 21.9 + 14.9 + 16.30 \text{ CFS} = 53.10 \text{ CFS INTO WINROCK MALL}$$

CHECK EXISTING RUNDOWN CAPACITY

$$Q = C \times L \times H^{3/2}$$
$$C = 3.0$$
$$H = 0.5 \text{ FEET CURB HEIGHT}$$
$$L = 13 \text{ FEET EXISTING SPILLWAY WIDTH}$$
$$Q (\text{CAPACITY}) = 3.0 \times 13 \times (0.5)^{3/2} = 13.80 \text{ CFS}$$
$$Q (\text{CAPACITY}) = 13.80 \text{ CFS}$$

ADDITIONAL WEIR CAPACITY REQUIRED

$$Q (\text{NEW SPILLWAY}) = 53.1 - 13.80 \text{ CFS} = 39.30 \text{ CFS}$$
$$L (\text{NEW SPILLWAY WIDTH}) = Q / (C \times H^{3/2})$$
$$L (\text{NEW SPILLWAY WIDTH}) = 39.3 / (3.0 \times 0.5^{3/2}) = 37 \text{ FEET}$$

EXISTING EMERGENCY ACCESS ROAD = 40 FEET > 37 FEET REQUIRED

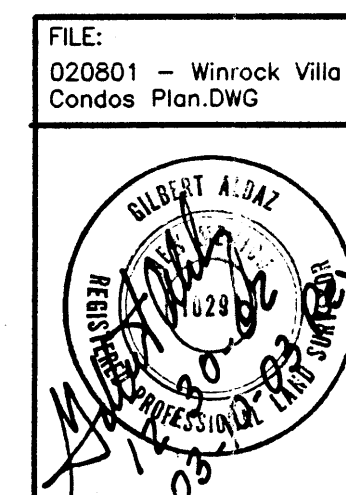
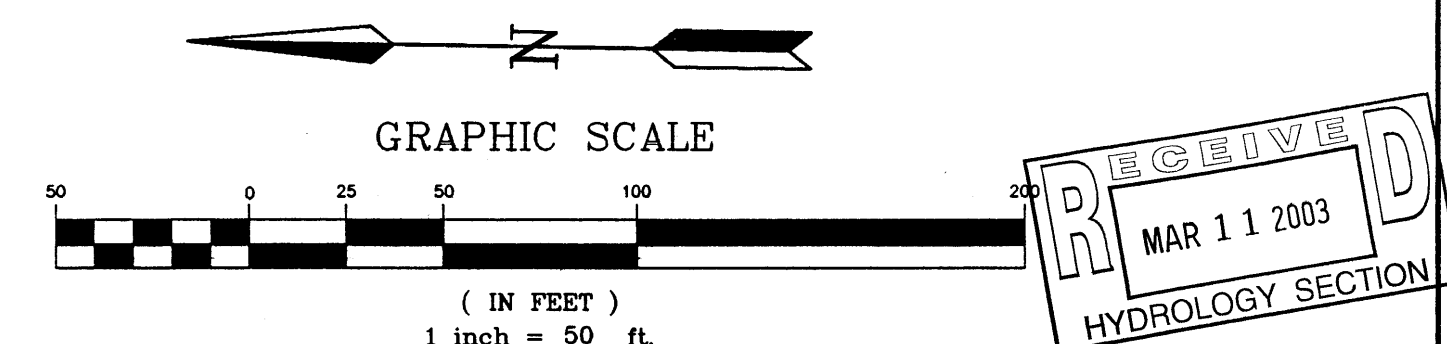
SOLUTION IS TO REGRADE EXISTING EMERGENCY ACCESS ROAD TO ALSO SERVE AS EMERGENCY SPILLWAY

GENERAL NOTES:

1. EXISTING PROPERTY LINE.
2. THIS SITE HAS HISTORICALLY DRAINED INTO THE WINROCK MALL AREA.
3. EXISTING WROUGHT IRON FENCE.
4. EXISTING CONCRETE SPILLWAYS - UNDERSIZED FOR 100-YEAR EVENT.
5. EXISTING EMERGENCY GATED ACCESS - TO BE RECONSTRUCTED IN ORDER TO PROVIDE SUFFICIENT SPILLWAY CAPACITY FOR THIS SITE.
6. EXISTING ASPHALT PAVING TO BE REMOVED AND REPLACED WITH NEW ASPHALT PAVING PER LIMITS SHOWN.
7. EXISTING CONCRETE VALLEY GUTTER TO BE REMOVED.
8. NOT USED
9. EXISTING INLET.

UTILITY PRECAUTIONS

THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.



FILE:
020801 - Winrock Villa
Condos Plan.DWG

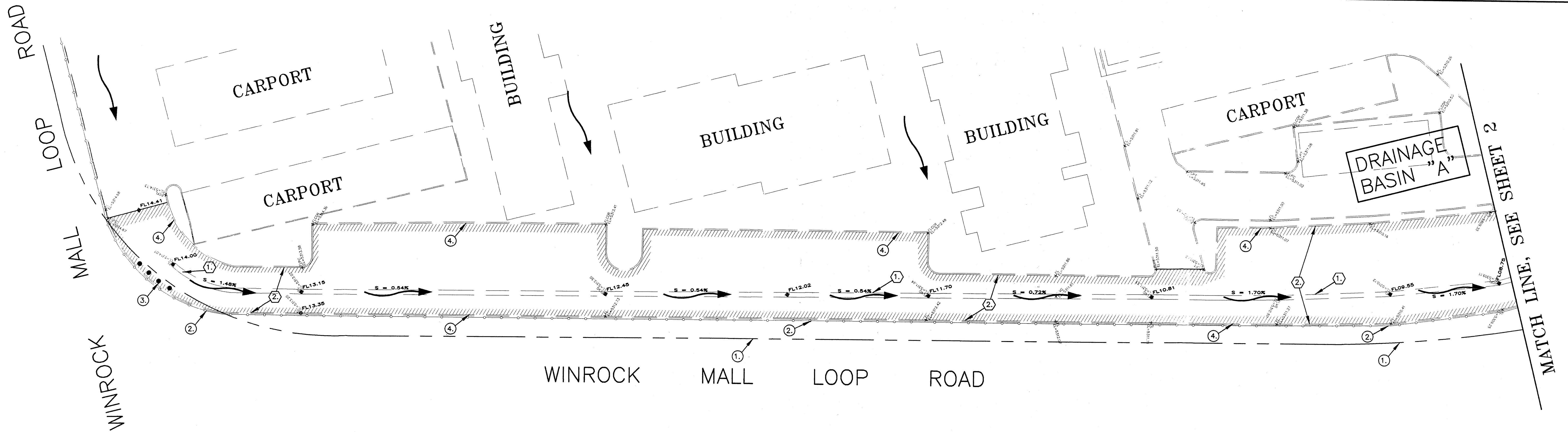
DRAINAGE BASIN MAP FOR WINROCK VILLAS

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

DATE/REVISIONS:

SHEET NUMBER:

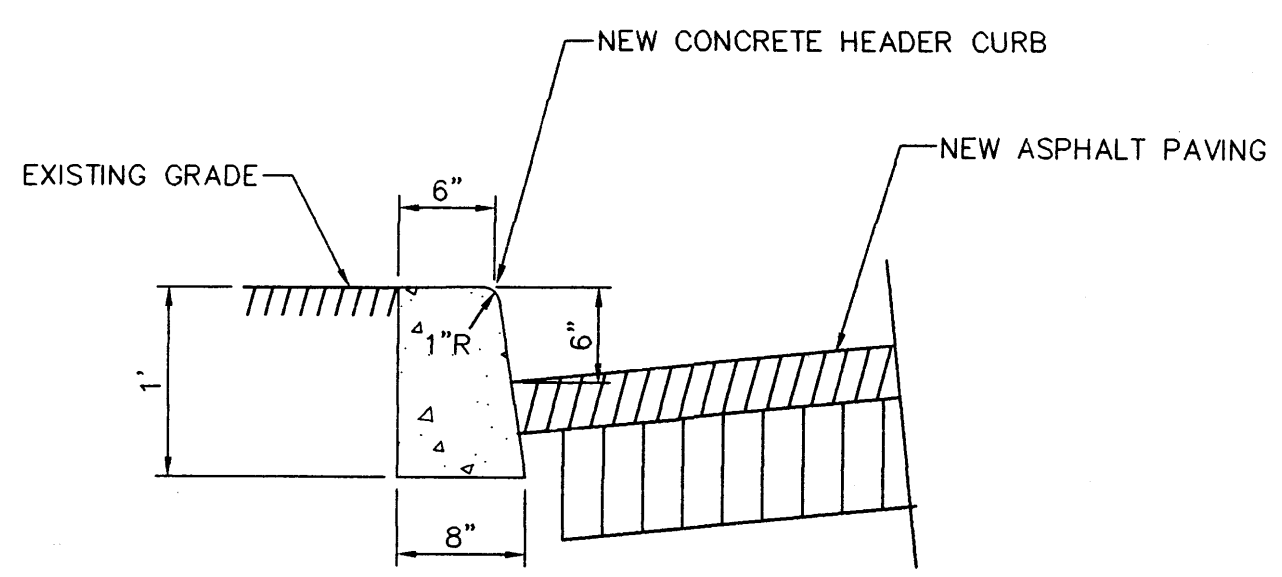
1 of 3



MATCH LINE, SEE SHEET 2

BENCH MARK
Bench Mark 8-J19, located in the intersection of Pennsylvania Street and Indian School Road.
An ACS 3-1/4" aluminum disk stamped "8-J19 1984", set 0.05 feet below the pavement.
Spirit Level Elevation = 5321.67

LEGEND			
5360	NEW CONTOUR GRADE		NEW GRADE BREAK
5362	EXISTING CONTOUR GRADE		EXISTING GRADE ELEVATION
	DRAINAGE FLOW DIRECTION		NEW GRADE ABOVE PIPE
TC62.50	NEW TOP OF CURB ELEVATION		NEW TOP OF GRATE ELEVATION
FL62.00	NEW FLOWLINE ELEVATION		NEW TOP OF WALL ELEVATION
TABO.11	NEW TOP OF ASPHALT ELEVATION		NEW TOP OF SIDEWALK ELEVATION
TSW61.67	NEW TOP OF SIDEWALK ELEVATION		



TYPICAL CONCRETE HEADER CURB
SCALE: 1" = 1'

GENERAL NOTES:

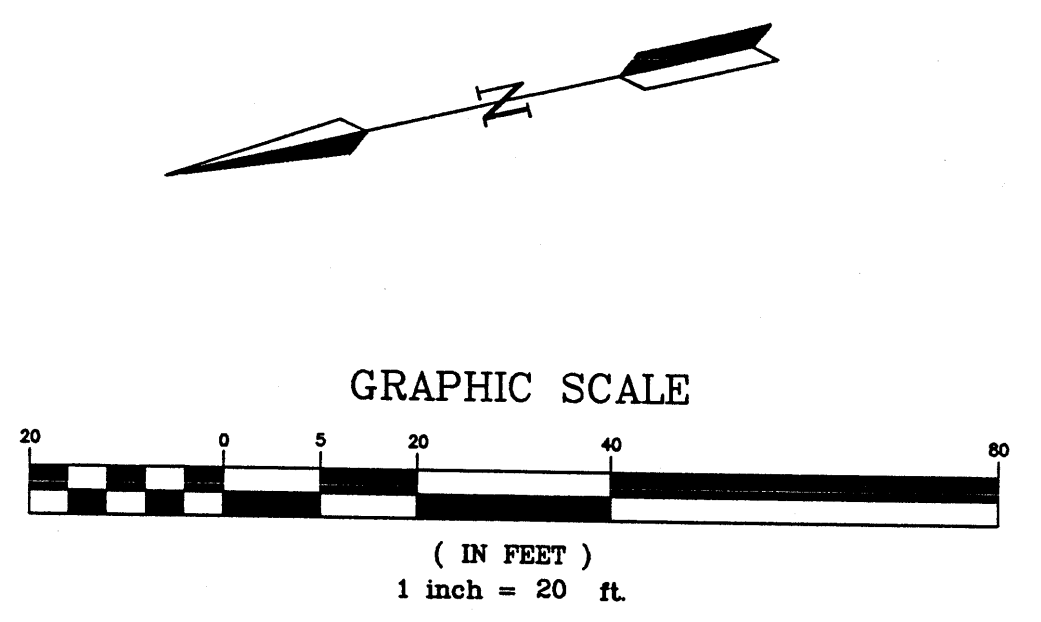
- ① EXISTING PROPERTY LINE.
- ② EXISTING WROUGHT IRON FENCE.
- ③ EXISTING 4" ROUND STEEL POSTS.
- ④ EXISTING CONCRETE CURB.

NOTE:
PAVING SECTION AND PAVING METHODS PROPOSED BY CONTRACTOR AND OWNER ARE NOT PART OF THIS DESIGN

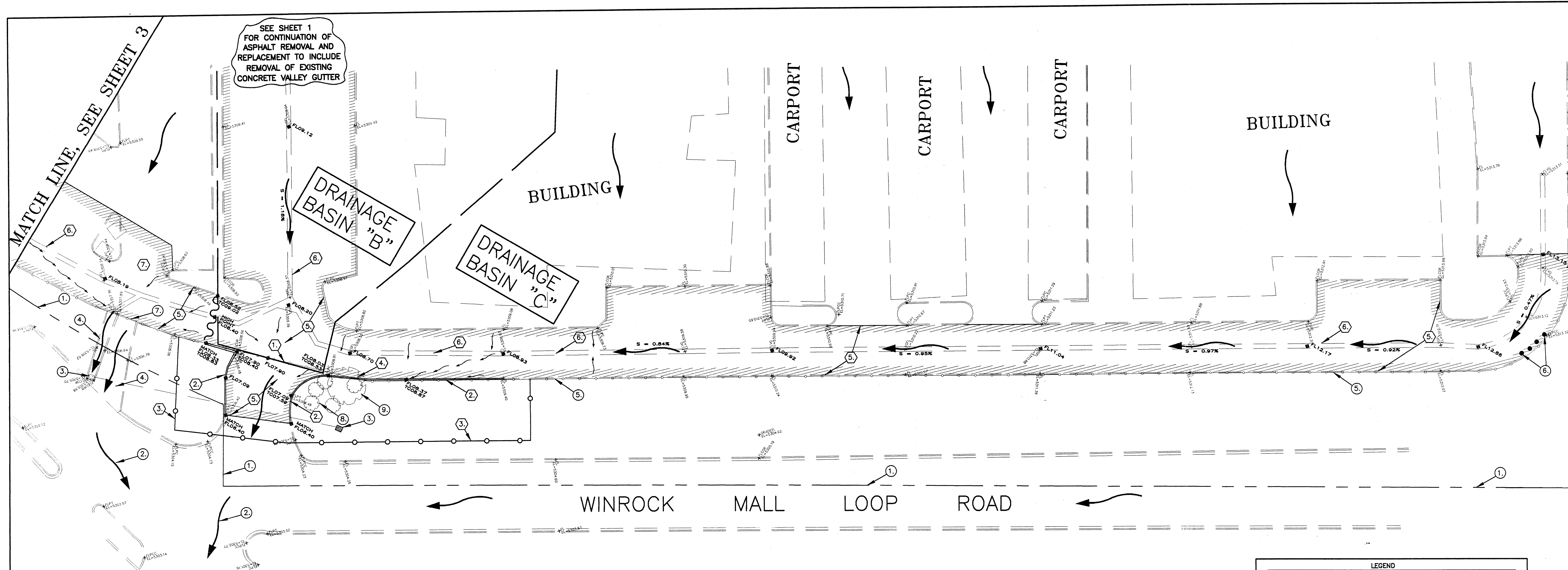
CONSTRUCTION NOTES:

- ① EXISTING CONCRETE VALLEY GUTTER TO BE REMOVED.
- ② EXISTING ASPHALT PAVING TO BE REMOVED AND REPLACED WITH NEW ASPHALT PAVING PER LIMITS SHOWN.

UTILITY PRECAUTIONS
THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.



FILE: 020802 - WINROCK VILLA CONDOS DETAILS.DWG 	RE-GRADING/RE-PAVING PLAN FOR WINROCK VILLAS	DATE/REVISIONS:
	Applied Engineering & Surveying, Inc. 1605 BLAIR DRIVE, NE ALBUQUERQUE, NEW MEXICO 87112 PH: (505)237-1456	SHEET NUMBER: <div style="font-size: 24pt;">3 of 3</div>



GENERAL NOTES:

1. EXISTING PROPERTY LINE.
2. THIS SITE HAS HISTORICALLY DRAINED INTO THE WINROCK MALL AREA.
3. EXISTING INLET.
4. EXISTING EMERGENCY GATED ACCESS - TO BE RECONSTRUCTED IN ORDER TO PROVIDE SUFFICIENT SPILLWAY CAPACITY FOR THIS SITE.
5. EXISTING WROUGHT IRON FENCE.
6. EXISTING 4" ROUND STEEL POSTS.
7. EXISTING WROUGHT IRON PEDESTRIAN GATE.
8. EXISTING SHRUBS.
9. EXISTING LARGE TREE.

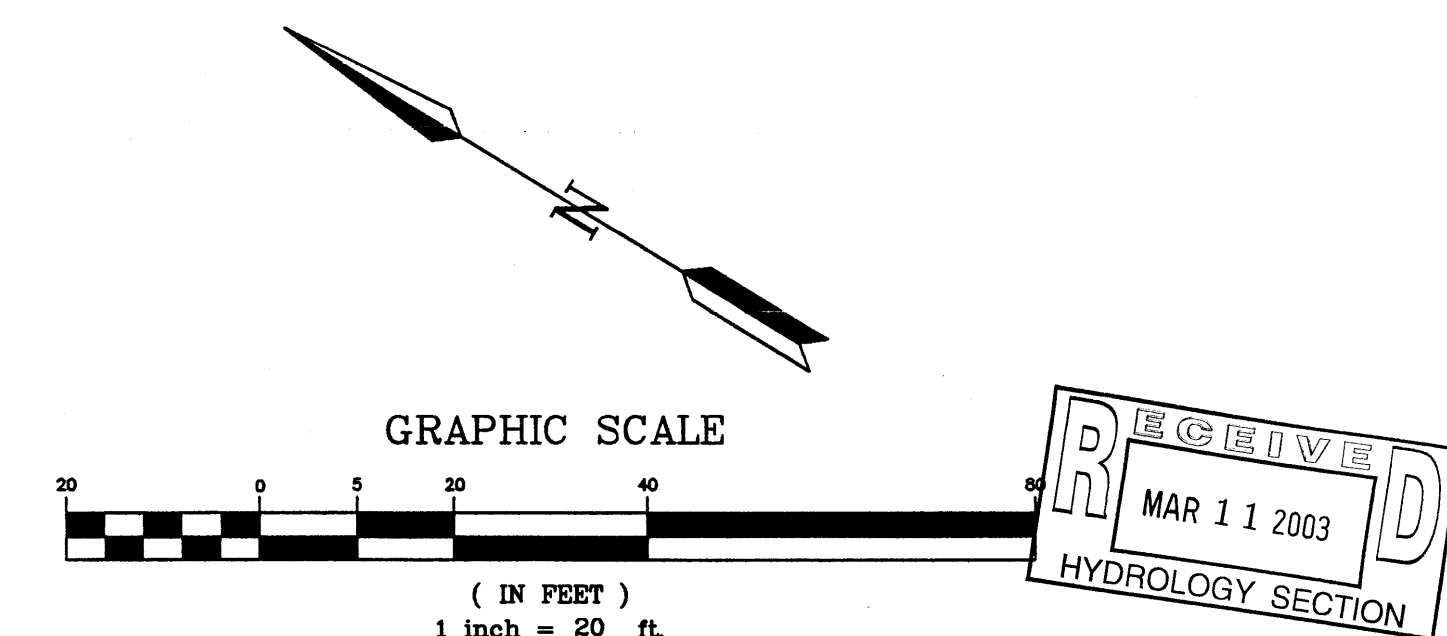
CONSTRUCTION NOTES:

1. 2 - 17' LONG EXISTING WROUGHT IRON GATES AND TRACK TO BE REMOVED FOR CONSTRUCTION OF THE NEW ASPHALT PAVING. GATES TO BE REINSTALLED AT COMPLETION OF ASPHALT PAVING. VERTICAL ALIGNMENT OF GATES WILL REQUIRE ADJUSTMENT IN ORDER TO ACCOMMODATE NEW VERTICAL ASPHALT GRADES. CONTRACTOR TO PROVIDE RECOMMENDATIONS OF VERTICAL ADJUSTMENT FOR GATES TO OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION OF THIS PROJECT.
2. CONSTRUCT NEW CONCRETE HEADER CURB PER DETAIL SHOWN ON SHEET 3.
3. ERECT TEMPORARY CHAIN LINK PANEL FENCING PRIOR TO WROUGHT IRON GATE REMOVAL. REMOVE TEMPORARY CHAIN LINK PANEL FENCING AT COMPLETION OF PROJECT.
4. REMOVE TREE ROOTS AS NECESSARY IN ORDER TO CONSTRUCT NEW CURB AND ASPHALT PAVING.
5. EXISTING ASPHALT PAVING TO BE REMOVED AND REPLACED WITH NEW ASPHALT PAVING PER LIMITS SHOWN.
6. EXISTING CONCRETE VALLEY GUTTER TO BE REMOVED.

BENCH MARK
Bench Mark 8-J19, located in the intersection of Pennsylvania Street and Indian School Road. An ACS 3-1/4" aluminum disk stamped "8-J19 1984", set 0.05 feet below the pavement. Spirit Level Elevation = 5321.67

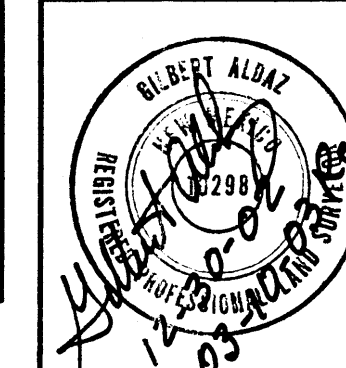
NOTE:
PAVING SECTION AND PAVING METHODS PROPOSED BY CONTRACTOR AND OWNER ARE NOT PART OF THIS DESIGN

LEGEND			
5360	NEW CONTOUR GRADE		NEW GRADE BREAK
5362	EXISTING CONTOUR GRADE		EXISTING GRADE ELEVATION
	DRAINAGE FLOW DIRECTION		
TC62.50	NEW TOP OF CURB ELEVATION		NEW GRADE ABOVE PIPE
FL62.00	NEW FLOWLINE ELEVATION		NEW TOP OF GRATE ELEVATION
TA60.11	NEW TOP OF ASPHALT ELEVATION		NEW TOP OF WALL ELEVATION
TSW61.87	NEW TOP OF SIDEWALK ELEVATION		



UTILITY PRECAUTIONS
THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

FILE:
020802 - WINROCK VILLA
CONDOS DETAILS.DWG

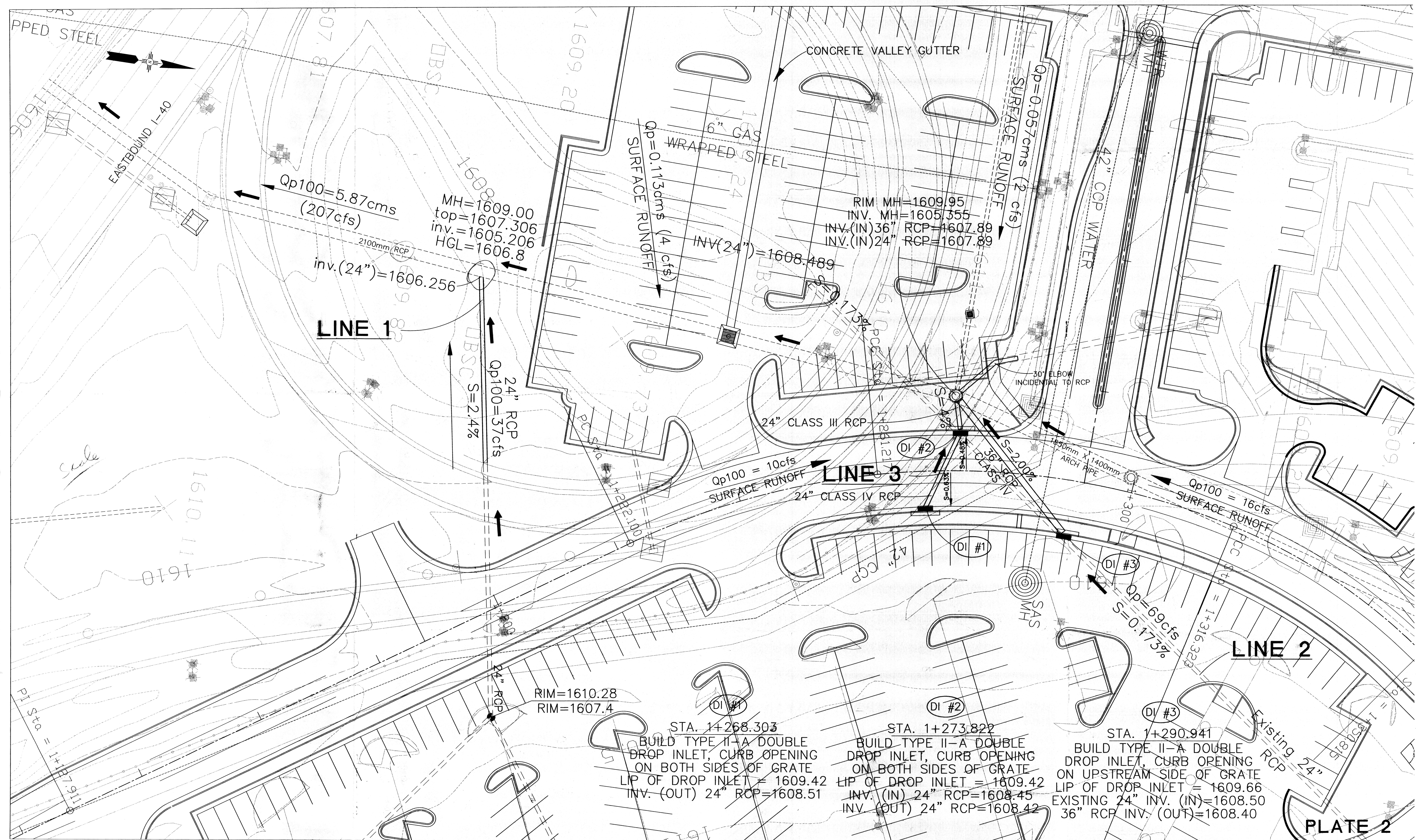


RE-GRADING/RE-PAVING
FOR
WINROCK VILLAS

DATE/REVISIONS:
MAR 11 2003
HYDROLOGY SECTION

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

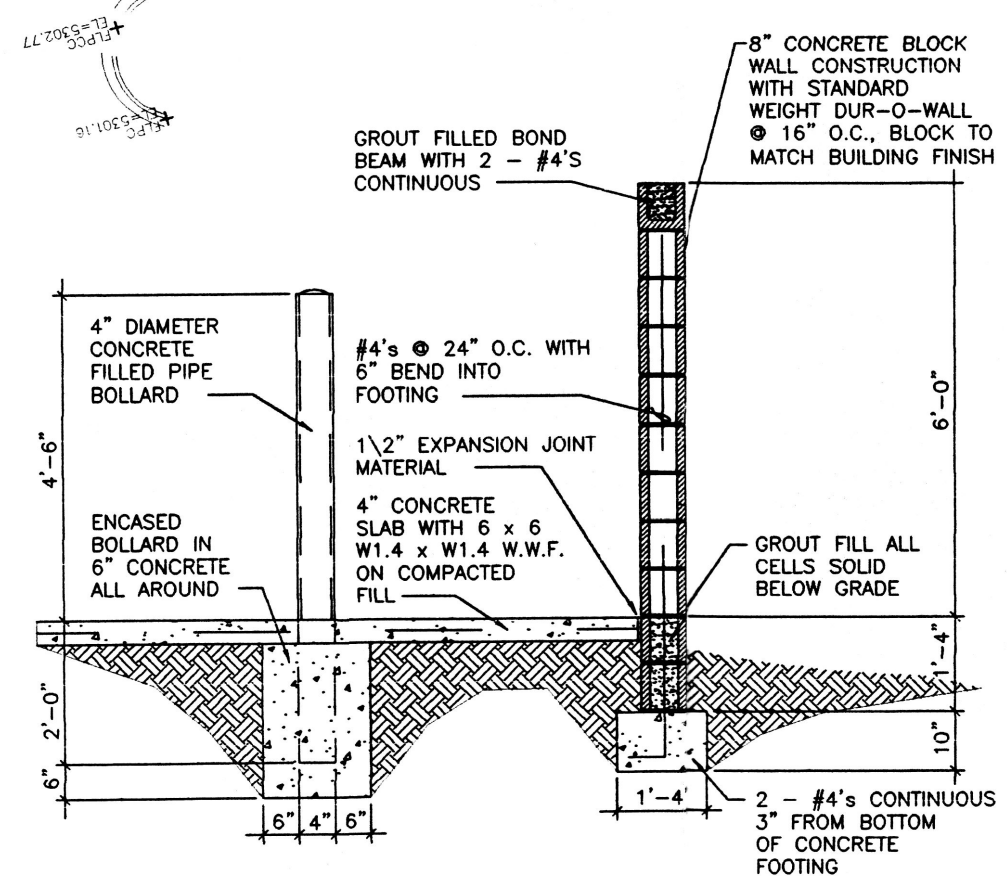
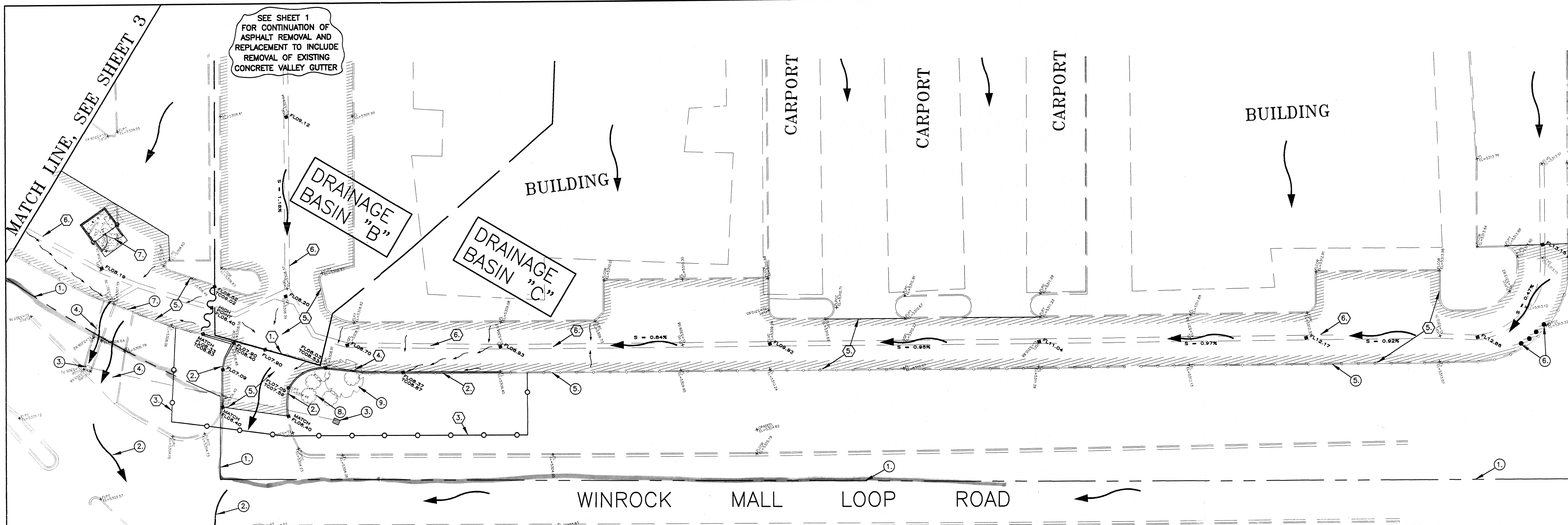
2 of 3



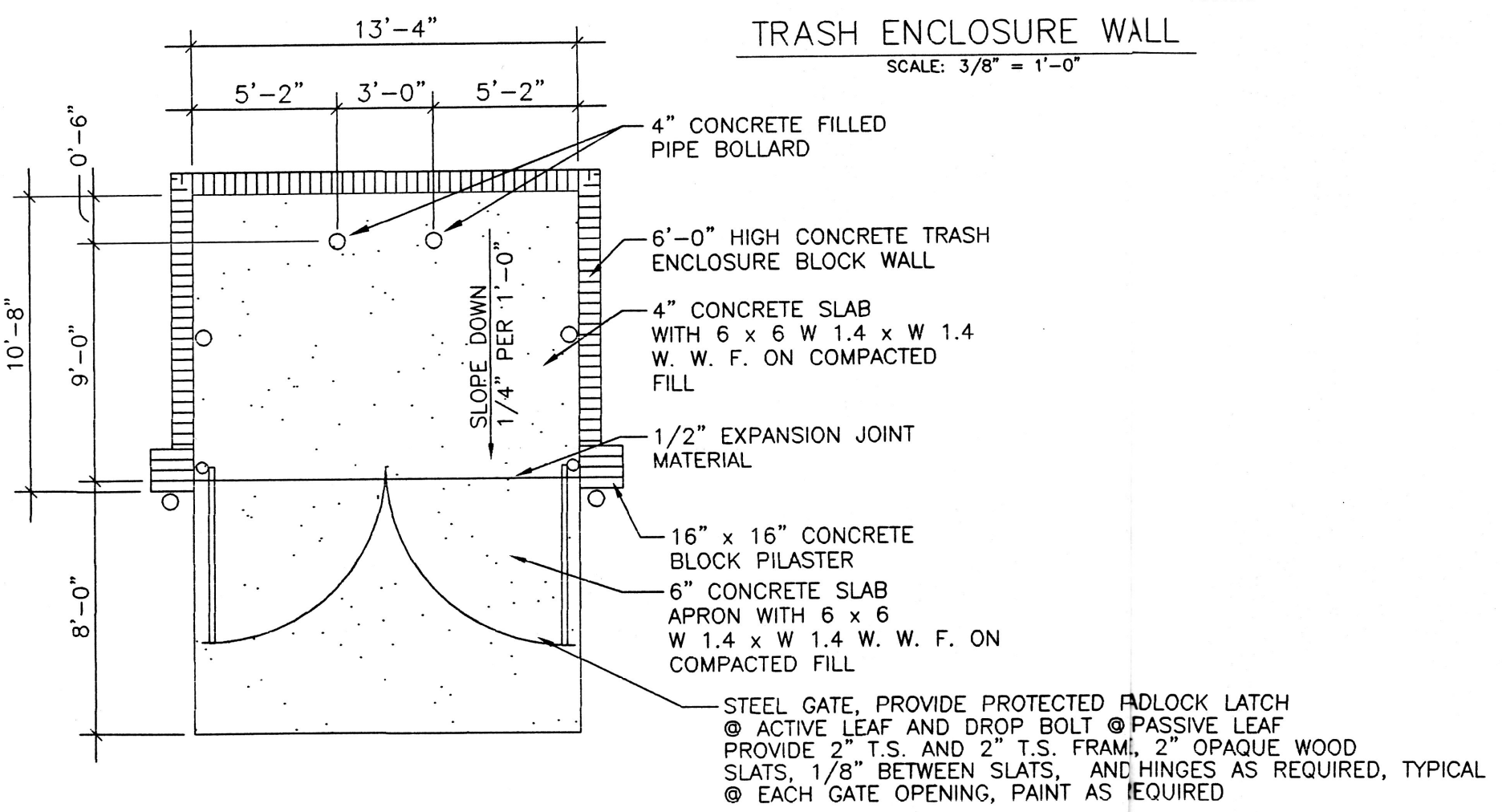


CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING DEVELOPMENT GROUP			
TITLE: WINROCK RING ROAD IMPROVEMENTS PLATE 3 - GRADING AND LANDSCAPING PLAN			
Design Review Committee	City Engineer Approval	Last Design Update	Iss./Day/Yr.
			Iss./Day/Yr.
			Iss./Day/Yr.
			Iss./Day/Yr.
			Iss./Day/Yr.
City Project No. 660193		Zone Map No. J-19	Sheet 22 OF 61

[illegible]



TRASH ENCLOSURE WALL
SCALE: 3/8" = 1'-0"



TRASH ENCLOSURE PLAN
SCALE: 3/8" = 1'-0"

GENERAL NOTES:

1. EXISTING PROPERTY LINE.
2. THIS SITE HAS HISTORICALLY DRAINED INTO THE WINROCK MALL AREA.
3. EXISTING INLET.
4. EXISTING EMERGENCY GATED ACCESS - TO BE RECONSTRUCTED IN ORDER TO PROVIDE SUFFICIENT SPILLWAY CAPACITY FOR THIS SITE.
5. EXISTING WROUGHT IRON FENCE.
6. EXISTING 4" ROUND STEEL POSTS.
7. EXISTING WROUGHT IRON PEDESTRIAN GATE.
8. EXISTING SHRUBS.
9. EXISTING LARGE TREE.

CONSTRUCTION NOTES:

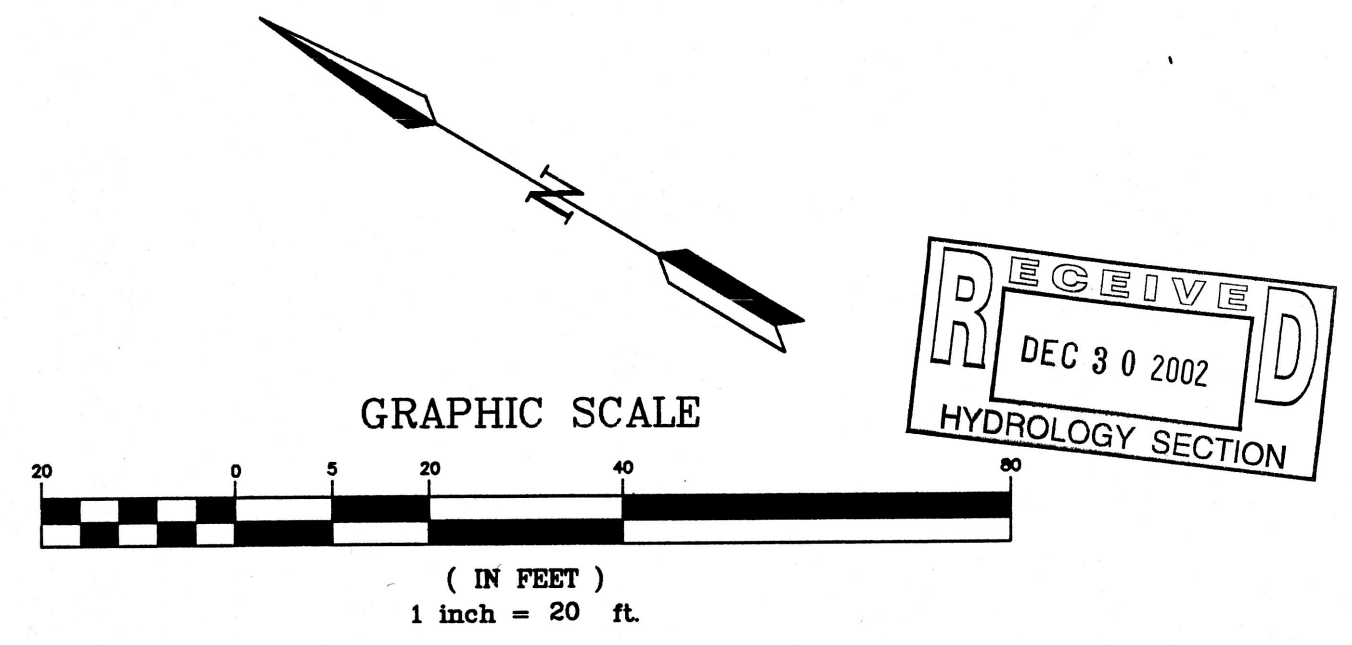
1. 2 - 17' LONG EXISTING WROUGHT IRON GATES AND TRACK TO BE REMOVED FOR CONSTRUCTION OF THE NEW ASPHALT PAVING. GATES TO BE REINSTALLED AT COMPLETION OF ASPHALT PAVING. VERTICAL ALIGNMENT OF GATES WILL REQUIRE ADJUSTMENT IN ORDER TO ACCOMMODATE NEW VERTICAL ASPHALT GRADES. CONTRACTOR TO PROVIDE RECOMMENDATIONS OF VERTICAL ADJUSTMENT FOR GATES TO OWNER PRIOR TO PROCEEDING WITH CONSTRUCTION OF THIS PROJECT.
2. CONSTRUCT NEW CONCRETE HEADER CURB PER DETAIL SHOWN ON SHEET 3.
3. ERECT TEMPORARY CHAIN LINK PANEL FENCING PRIOR TO WROUGHT IRON GATE REMOVAL. REMOVE TEMPORARY CHAIN LINK PANEL FENCING AT COMPLETION OF PROJECT.
4. REMOVE TREE ROOTS AS NECESSARY IN ORDER TO CONSTRUCT NEW CURB AND ASPHALT PAVING.
5. EXISTING ASPHALT PAVING TO BE REMOVED AND REPLACED WITH NEW ASPHALT PAVING PER LIMITS SHOWN.
6. EXISTING CONCRETE VALLEY GUTTER TO BE REMOVED.
7. CONSTRUCT NEW TRASH ENCLOSURE, SEE DETAIL THIS SHEET.

BENCH MARK
Bench Mark 8-J19, located in the intersection of Pennsylvania Street and Indian School Road.
An ACS 3-1/4" aluminum disk stamped "8-J19 1984", set 0.05 feet below the pavement.
Spirit Level Elevation = 5321.67

NOTE:
PAVING SECTION AND PAVING METHODS PROPOSED BY CONTRACTOR AND OWNER ARE NOT PART OF THIS DESIGN

UTILITY PRECAUTIONS
THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

LEGEND			
5.360	NEW CONTOUR GRADE	NEW GRADE BREAK	
5.362	EXISTING CONTOUR GRADE	EXISTING GRADE ELEVATION	
	DRAINAGE FLOW DIRECTION	T.O.P. P62.50	NEW GRADE ABOVE PIPE
TC62.50	NEW TOP OF CURB ELEVATION	T.O.G62.50	NEW TOP OF GATE ELEVATION
FL62.00	NEW FLOWLINE ELEVATION	TW62.50	NEW TOP OF WALL ELEVATION
TA60.11	NEW TOP OF ASPHALT ELEVATION		
TSW61.87	NEW TOP OF SIDEWALK ELEVATION		



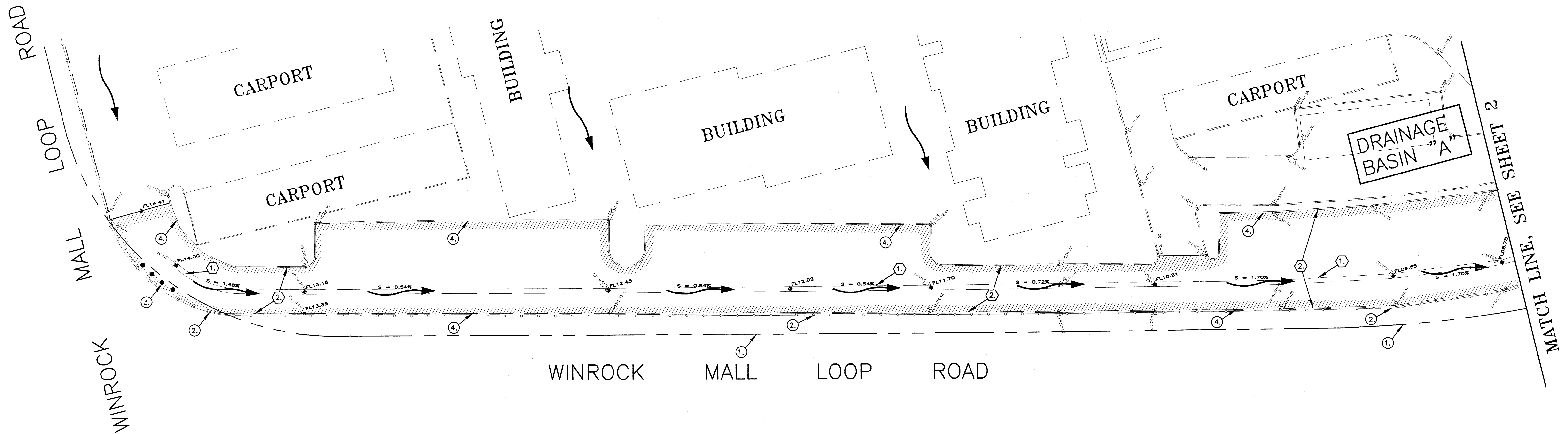
RE-GRADING/RE-PAVING PLAN
FOR
WINROCK VILLAS

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

DATE/REVISIONS:

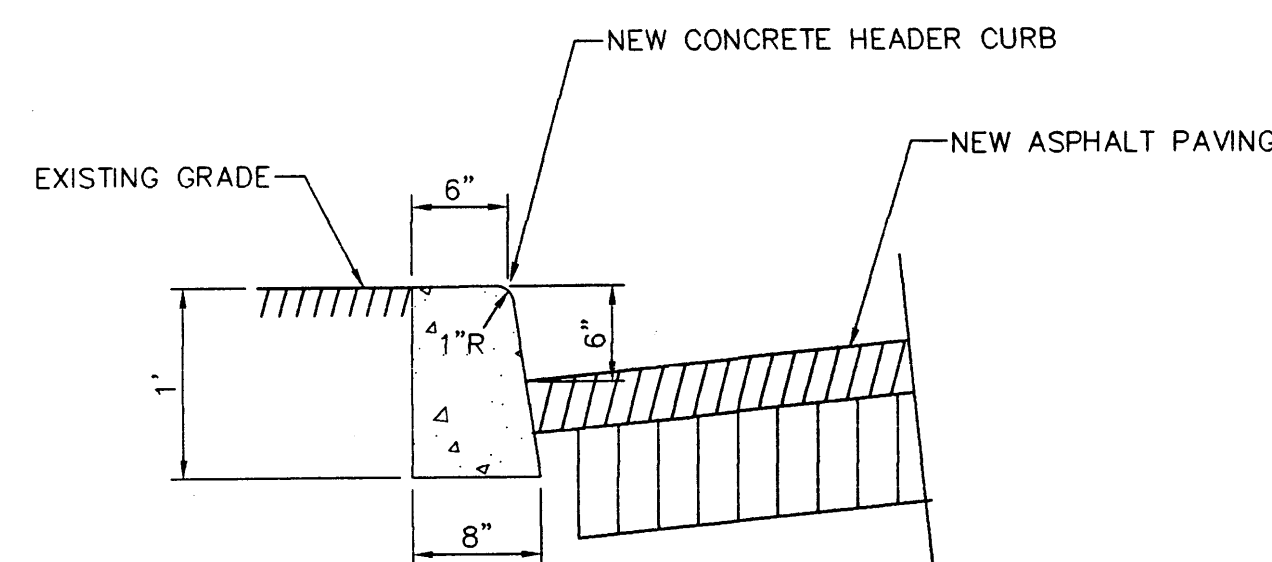
SHEET NUMBER:

2 of 3



BENCH MARK
 Bench Mark B-J19, located in the intersection of Pennsylvania Street and Indian School Road.
 An ACS 3-1/4" aluminum disk stamped "B-J19 1984", set 0.05 feet below the pavement.
 Spirit Level Elevation = 5321.67

LEGEND			
5360	NEW CONTOUR GRADE		NEW GRADE BREAK
5362	EXISTING CONTOUR GRADE	X=5.5'	EXISTING GRADE ELEVATION
	DRAINAGE FLOW DIRECTION	◆ T.O. P62.50	NEW GRADE ABOVE PIPE
TC62.50	NEW TOP OF CURB ELEVATION	◆ T.O. G62.50	NEW TOP OF GRATE ELEVATION
FL62.00	NEW FLOWLINE ELEVATION	◆ TW62.50	NEW TOP OF WALL ELEVATION
TAB0.11	NEW TOP OF ASPHALT ELEVATION		
TSW61.67	NEW TOP OF SIDEWALK ELEVATION		



TYPICAL CONCRETE HEADER CURB
 SCALE: 1" = 1'

GENERAL NOTES:

- ① EXISTING PROPERTY LINE.
- ② EXISTING WROUGHT IRON FENCE.
- ③ EXISTING 4" ROUND STEEL POSTS.
- ④ EXISTING CONCRETE CURB.

NOTE:
 PAVING SECTION AND PAVING METHODS PROPOSED BY CONTRACTOR AND OWNER ARE NOT PART OF THIS DESIGN

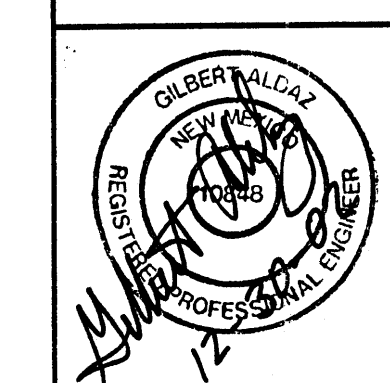
CONSTRUCTION NOTES:

- ① EXISTING CONCRETE VALLEY GUTTER TO BE REMOVED.
- ② EXISTING ASPHALT PAVING TO BE REMOVED AND REPLACED WITH NEW ASPHALT PAVING PER LIMITS SHOWN.

UTILITY PRECAUTIONS

THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY, AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.

FILE:
 020802 - WINROCK VILLA
 CONDOS DETAILS.DWG



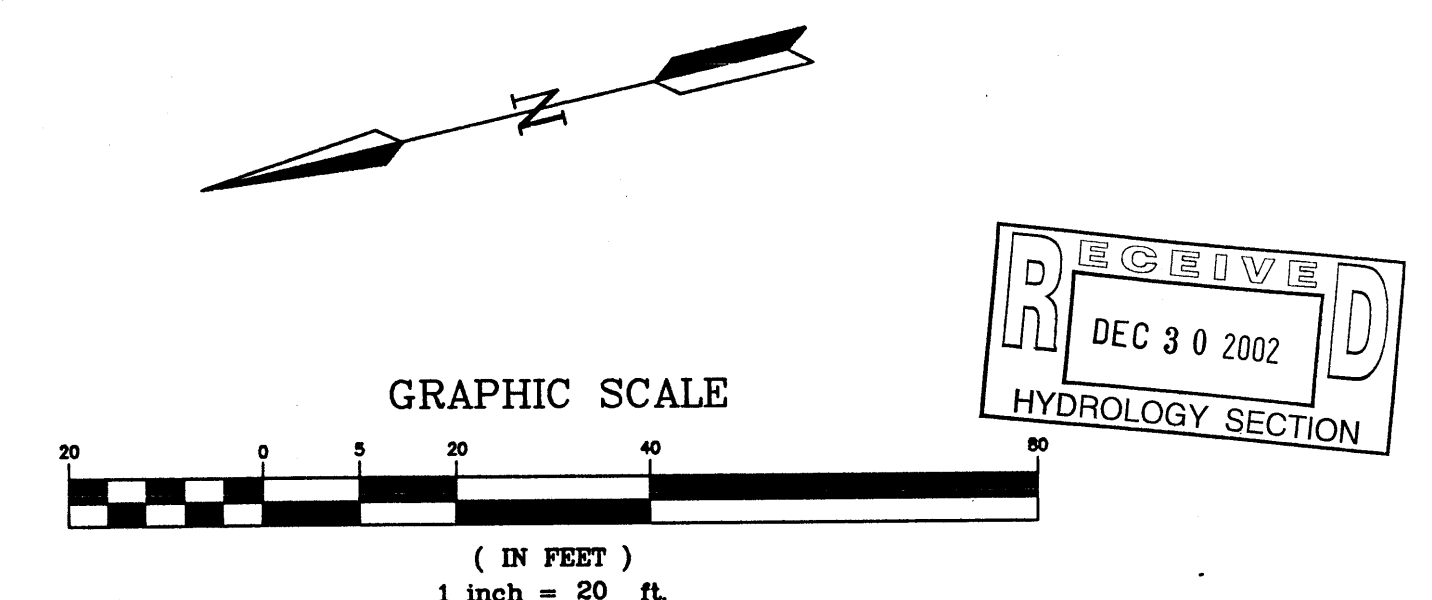
RE-GRADING/RE-PAVING PLAN FOR WINROCK VILLAS

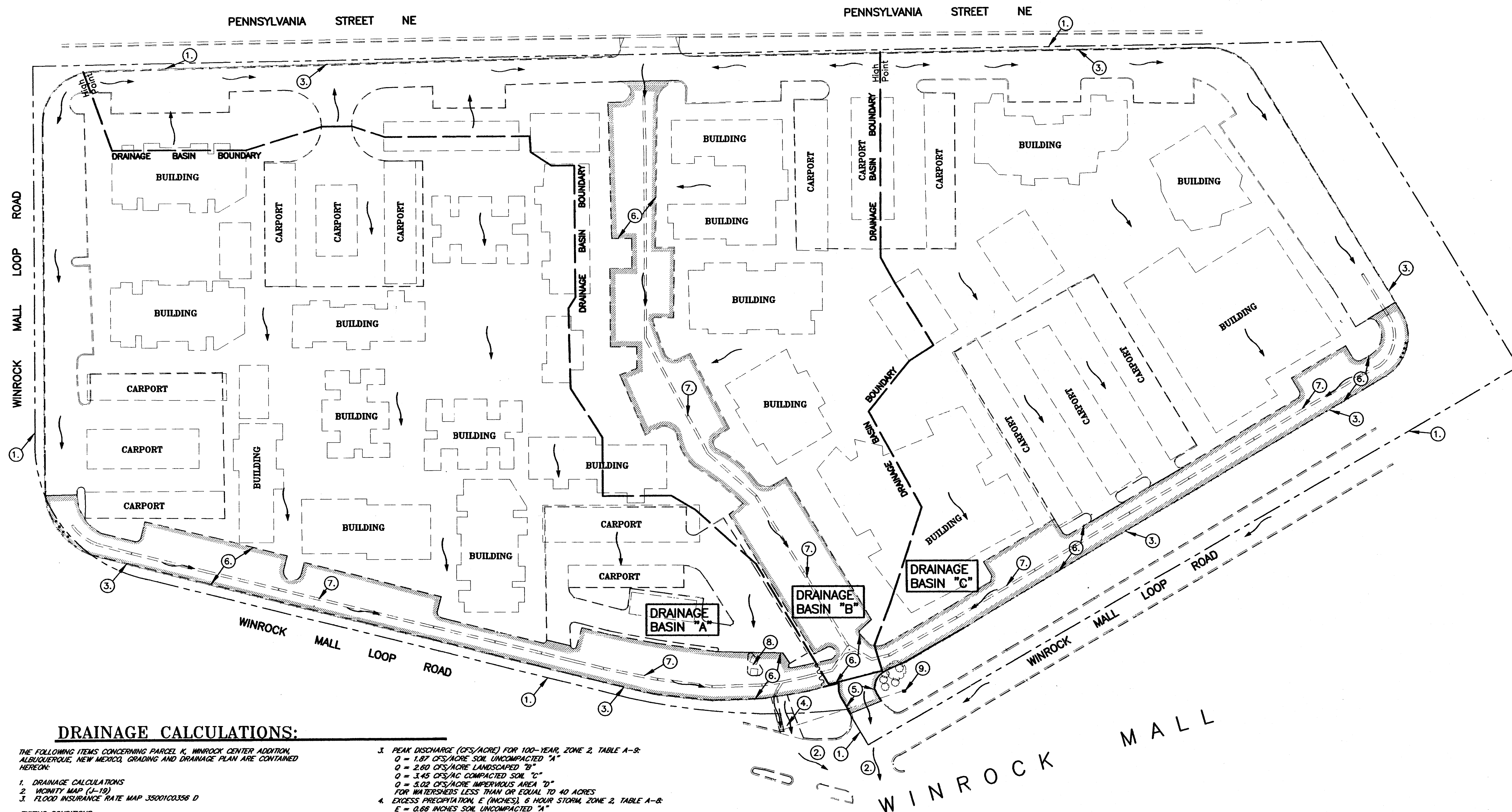
Applied Engineering & Surveying, Inc.
 1605 BLAIR DRIVE NE
 ALBUQUERQUE, NEW MEXICO 87112 PH: (505)237-1456

DATE/REVISIONS:

SHEET NUMBER:

3 of 3





DRAINAGE CALCULATIONS:

THE FOLLOWING ITEMS CONCERNING PARCEL K, WINROCK CENTER ADDITION, ALBUQUERQUE, NEW MEXICO, GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

1. DRAINAGE CALCULATIONS
2. VICINITY MAP (J-19)
3. FLOOD INSURANCE RATE MAP 35001C0356 D

EXISTING CONDITIONS:
AS SHOWN BY THE VICINITY MAP, THE SITE CONTAINS APPROXIMATELY 12.3 ACRES AND IS LOCATED WEST OF PENNSYLVANIA STREET, JUST SOUTH OF INDIAN SCHOOL ROAD NE, AND BORDERS WINROCK MALL ALONG THE EAST PROPERTY LINE. (SEE ATTACHED VICINITY MAP (J-19)). THIS DEVELOPMENT IS CURRENTLY FULLY DEVELOPED WITH CONDOMINIUMS, COVERED CARPORTS, ASPHALT PARKING, CONCRETE SIDEWALKS AND LANDSCAPING IMPROVEMENTS.

PROPOSED CONDITIONS:
AS SHOWN BY THE DRAINAGE PLAN, THE IMPROVEMENTS PROPOSED IS TO RECONSTRUCT CERTAIN ACCESS ROADS AND PARKING AREAS. THE PLAN IS TO MAINTAIN THE CURRENT GRADING CONCEPT AS IT CURRENTLY EXISTS IN ORDER TO MAINTAIN EXISTING DRAINAGE PATTERNS.

THE CALCULATIONS THAT APPEAR HEREON, ANALYZE BOTH THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR RAINFALL RUNOFF FOR PEAK FLOWS AND STORM DURATION FOR VOLUME REQUIREMENTS. 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. THIS D.P.M. PROCEDURE IS USED FOR ANALYZING ON-SITE FLOWS.

DOWNSTREAM CAPACITY:
BASED ON A REVIEW OF THE DRAINAGE FILE J19/D30 FOR THE WINROCK MALL, THIS DRAINAGE STUDY ACCOUNTED FOR FULLY DEVELOPED STORM WATER DISCHARGE FROM THIS SITE INTO THE WINROCK MALL. SINCE THIS IS THE CASE, THE DEVELOPMENT OF THIS SITE WILL BE TO FREE DISCHARGE. AN ANALYSIS WAS PERFORMED FOR THE EXISTING SPILLWAYS THAT CURRENTLY DRAIN THIS SITE INTO THE WINROCK MALL ALONG THE WEST PROPERTY LINE. BASED ON THIS ANALYSIS IT HAS BEEN DETERMINED THAT THESE SPILLWAYS ARE UNDERSIZED. THE PLAN WITH THIS DEVELOPMENT IS TO REGRADE THE EXISTING EMERGENCY ACCESS ROAD ADJACENT TO THESE EXISTING SPILLWAYS. THIS EMERGENCY ROAD CONNECT THIS SITE INTO THE WINROCK MALL SITE.

EROSION CONTROL:
TEMPORARY EROSION CONTROL WILL BE REQUIRED DURING THE CONSTRUCTION PHASE TO PROTECT DOWNSTREAM PROPERTY AND IMPROVEMENTS FROM SEDIMENT AND UNCONTROLLED RUNOFF. THE CONTRACTOR SHALL INCLUDE TEMPORARY EARTH BERMING ALONG THE SOUTH, NORTH, EAST AND WEST SIDE OF THE PROJECT BOUNDARIES TO HOLD RUNOFF DURING CONSTRUCTION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROPERLY MAINTAIN THESE FACILITIES DURING THE CONSTRUCTION PHASE OF THE PROJECT.

OFFSITE FLOWS:
BASED ON A FIELD VISIT OF THE SITE IT APPEARS THAT NO OFFSITE FLOWS ENTER THIS PROPERTY.

- DRAINAGE CALCULATIONS:**
1. PRECIPITATION ZONE = 3
 2. DESIGN STORM = DEPTH (INCHES) AT 100-YEAR STORM
6-HOUR = 2.60 INCHES
24-HOUR = 1.10 INCHES
10 DAY = 4.90 INCHES

3. PEAK DISCHARGE (CFS/ACRE) FOR 100-YEAR, ZONE 2, TABLE A-8:
O = 1.87 CFS/ACRE SOIL UNCOMPACTED "A"
O = 2.80 CFS/ACRE LANDSCAPED "B"
O = 1.40 CFS/ACRE COMPACTED SOIL "C"
O = 5.02 CFS/ACRE IMPERVIOUS AREA "D"
FOR WATERSHEDS LESS THAN OR EQUAL TO 40 ACRES
4. EXCESS PRECIPITATION, E (INCHES), 6 HOUR STORM, ZONE 2, TABLE A-8:
E = 0.69 INCHES SOIL UNCOMPACTED "A"
E = 0.92 INCHES LANDSCAPED "B"
E = 1.29 INCHES COMPACTED SOIL "C"
E = 2.38 INCHES IMPERVIOUS AREA "D"
5. EXISTING EQUALS PROPOSED CONDITIONS (SINCE NO INCREASE IN LAND TREATMENT "D" PROPOSED WITH THESE PAVING IMPROVEMENT

DETERMINE LAND TREATMENTS PERCENT, BASED ON TABLE A-5 OF SECTION 22.7 HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, MULTIPLE UNIT RESIDENTIAL ATTACHED, 0-10% IMPERVIOUS B=30% LANDSCAPING

DRAINAGE BASIN A:
TREATMENT AREA (ACRES)
A 0
B 0.30X3.08AC (LANDSCAPING) = 1.53AC
C 0
D 0.70X 5.09 (ROOF AREA + ASPHALT & CONCRETE AREA) = 3.56AC

$O = (2.60 \times 1.53) + (5.02 \times 3.56)$
 $O = 21.90 \text{ CFS (6HR) ON-SITE FLOW INTO WINROCK MALL}$
 $V = ((0.92 \times 1.53) + (2.38 \times 3.56)) / 12$
 $V = 0.82 \text{ AC-FT} = 35,070 \text{ CFS}$

DRAINAGE BASIN B:
TREATMENT AREA (ACRES)
A 0
B 0.30X3.48AC (LANDSCAPING) = 1.04AC
C 0
D 0.70X3.46 (ROOF AREA + ASPHALT & CONCRETE AREA) = 2.42AC

$O = (2.60 \times 1.04) + (5.02 \times 2.42)$
 $O = 14.90 \text{ CFS (6HR) ON-SITE FLOW INTO WINROCK MALL}$
 $V = ((0.92 \times 1.04) + (2.38 \times 2.42)) / 12$
 $V = 0.58 \text{ AC-FT} = 24,205 \text{ CFS}$

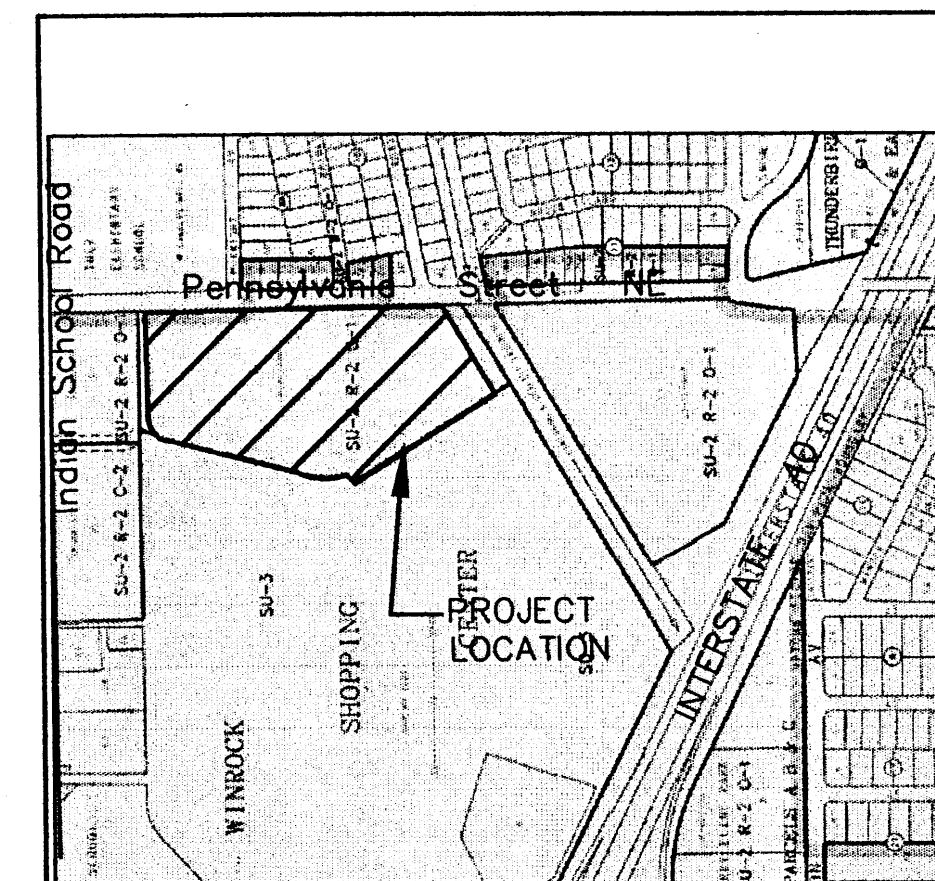
DRAINAGE BASIN C:
TREATMENT AREA (ACRES)
A 0
B 0.30X3.80 (LANDSCAPING) = 1.14AC
C 0
D 0.70X3.80 (ROOF AREA + ASPHALT & CONCRETE AREA) = 2.66AC

$O = (2.60 \times 1.14) + (5.02 \times 2.66)$
 $O = 16.30 \text{ CFS (6HR) ON-SITE FLOW INTO WINROCK MALL}$
 $V = ((0.92 \times 1.14) + (2.38 \times 2.66)) / 12$
 $V = 0.52 \text{ AC-FT} = 22,780 \text{ CFS}$

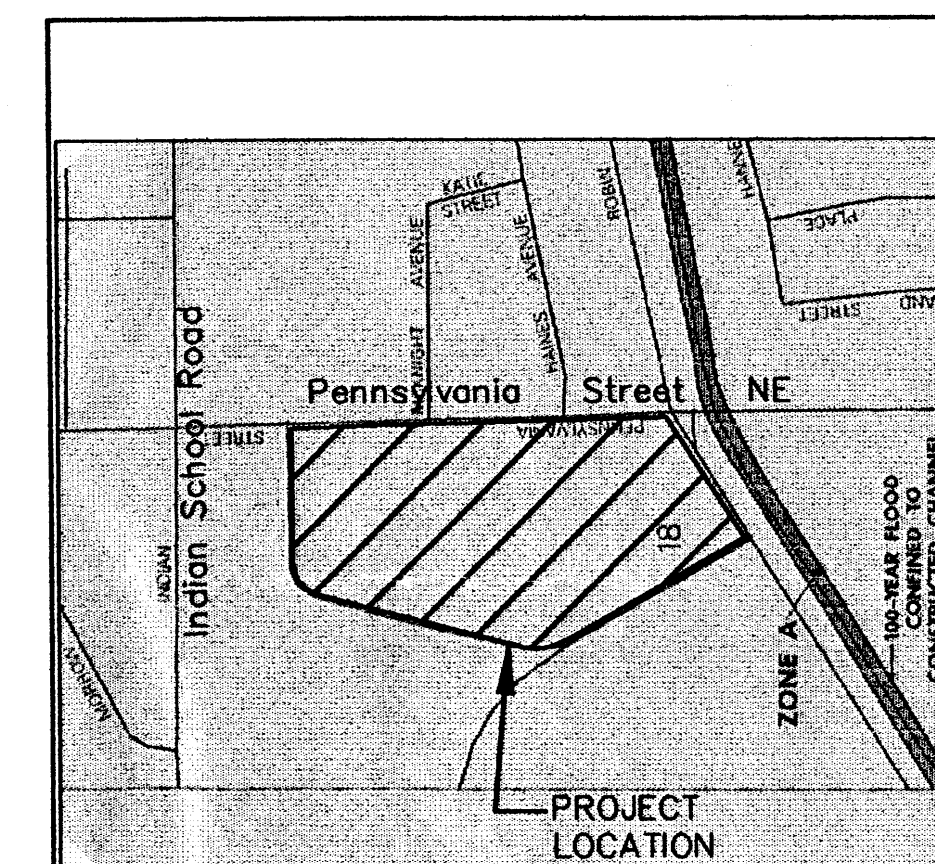
6. SPILLWAY CAPACITY ANALYSIS
OFS(TOTAL) = 21.9 + 14.9 + 16.3 CFS = 53.1 CFS INTO WINROCK MALL
CHECK EXISTING RUNDOWN CAPACITY
 $O = C \times L \times H^{1.49}$
C = 1.0
H = 0.5 FEET CURB HEIGHT
L = 13 FEET EXISTING SPILLWAY WIDTH
O (CAPACITY) = 3.0 X 13 X (0.5)^{1.49} = 13.8 CFS
ADDITIONAL WEIR CAPACITY REQUIRED
O (NEW SPILLWAY) = 53.1 - 13.8 CFS = 39.3 CFS
L (NEW SPILLWAY WIDTH) = $O / (C \times H^{1.49})$
L (NEW SPILLWAY WIDTH) = 39.3 / (1.0 X 0.5)^{1.49} = 37 FEET
EXISTING EMERGENCY ACCESS ROAD = 40 FEET > 37 FEET REQUIRED
SOLUTION IS TO REGRADE EXISTING EMERGENCY ACCESS ROAD TO ALSO SERVE AS EMERGENCY SPILLWAY

GENERAL NOTES:

1. EXISTING PROPERTY LINE.
2. THIS SITE HAS HISTORICALLY DRAINED INTO THE WINROCK MALL AREA.
3. EXISTING WROUGHT IRON FENCE.
4. EXISTING CONCRETE SPILLWAYS - UNDERSIZED FOR 100-YEAR EVENT.
5. EXISTING EMERGENCY GATED ACCESS - TO BE RECONSTRUCTED IN ORDER TO PROVIDE SUFFICIENT SPILLWAY CAPACITY FOR THIS SITE.
6. EXISTING ASPHALT PAVING TO BE REMOVED AND REPLACED WITH NEW ASPHALT PAVING PER LIMITS SHOWN.
7. EXISTING CONCRETE VALLEY GUTTER TO BE REMOVED.
8. EXISTING ISLAND WITH DUMPSTERS TO BE RECONSTRUCTED TO PROVIDE NEW CONCRETE DUMPSTER PAD.
9. EXISTING INLET.



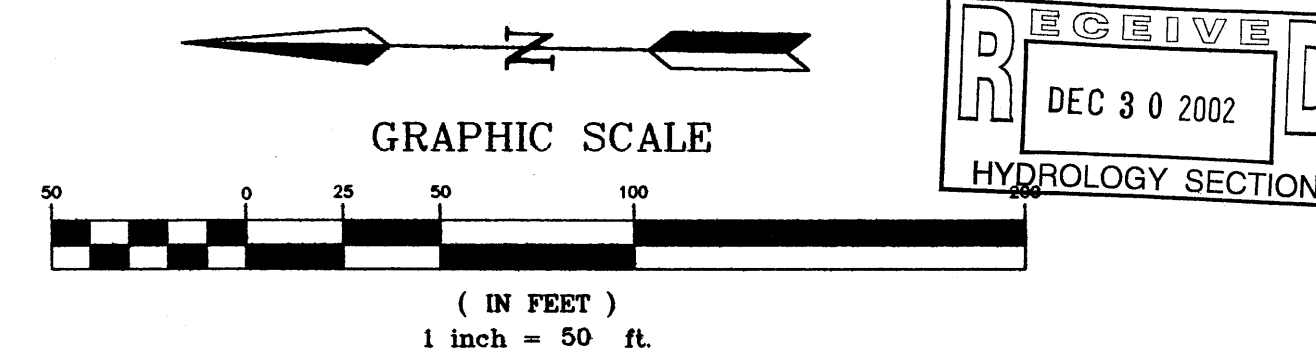
VICINITY MAP J-19



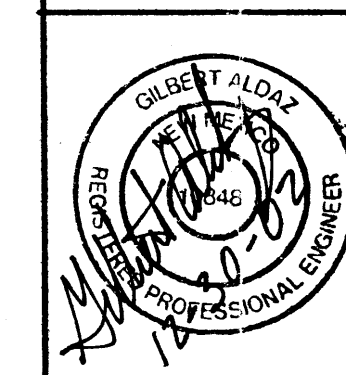
FIRM MAP 35001C0356 D

UTILITY PRECAUTIONS

THE CONTRACTOR SHALL INFORM ITSELF OF THE LOCATION OF ANY UTILITY LINE, PIPELINE, OR UNDERGROUND UTILITY LINE IN OR NEAR THE AREA OF THE WORK IN ADVANCE OF AND DURING EXCAVATION WORK. THE CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. IN PLANNING AND CONDUCTING EXCAVATION, THE CONTRACTOR SHALL COMPLY WITH STATE STATUTES, MUNICIPAL AND LOCAL ORDINANCES, RULES AND REGULATIONS, IF ANY, PERTAINING TO THE LOCATION OF THESE LINES AND FACILITIES.



FILE:
020801 - Winrock Villa
Condos Plan.DWG



DRAINAGE BASIN MAP FOR WINROCK VILLAS

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

DATE/REVISIONS:

SHEET NUMBER:

1 of 3