

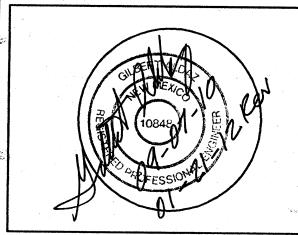
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CIVIL ENGINEERING, LANDES PLANNING AND SURVEYING

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NM EDUCATORS PARKING LOT ALBUQUERQUE, NEW MEXICO

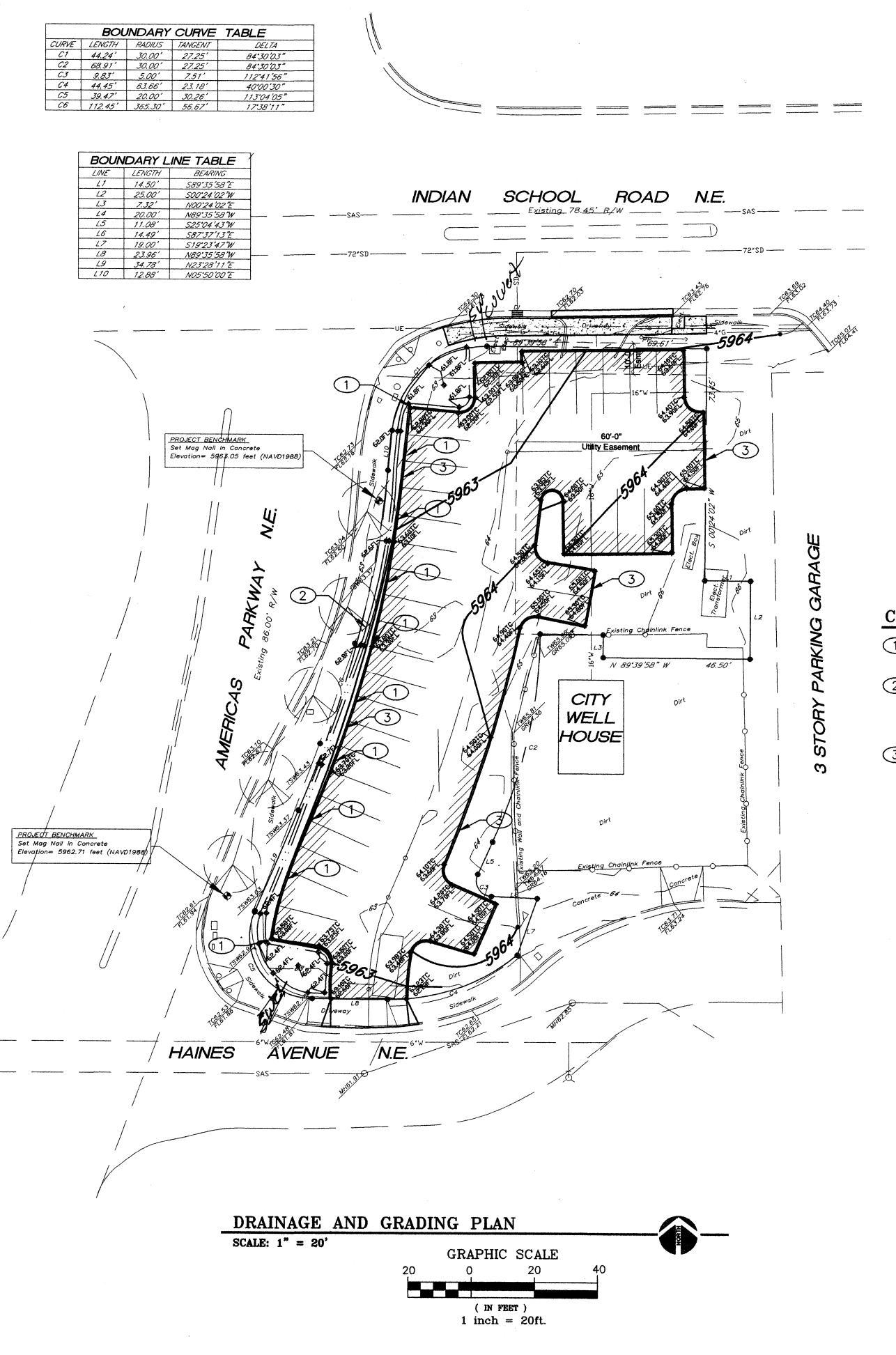
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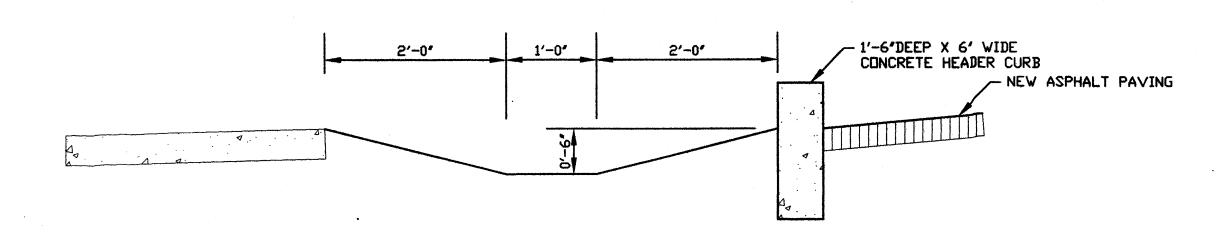
LAND DEVELOPMENT SECT

PROJECT NUMBER: DRAWING FILE: CHECK BY: COPYRIGHT: DATE: JULY 24, 2009

PROPOSED GRADING/DRAINAGE **IMPROVEMENTS**

SHKET NUMBER



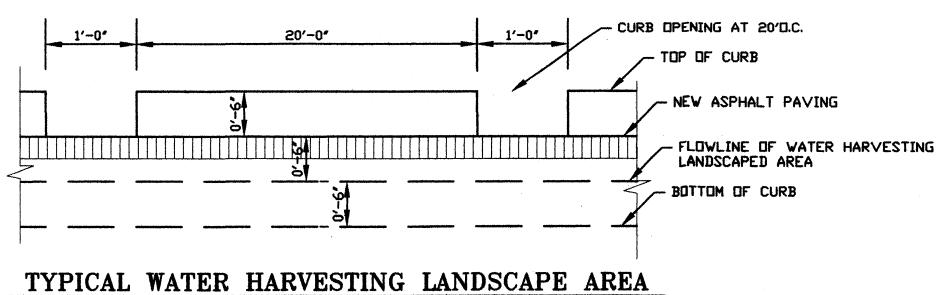


TYPICAL WATER HARVESTING LANDSCAPE AREA

CROSS SECTION VIEW

SCALE: 1'' = 1'-0''

SCALE: 1'' = 1'-0''



LONGITUDINAL VIEW ALONG WEST CURB

CONSTRUCTION NOTES:

- 1 PROVIDE 1' WIDE CURB OPENING AT 20' ON CENTER.
- 2 PROPOSED PONDING AREA FOR WATER HARVESTING DRAINAGE FLOWS FROM PARKING LOT TO SUPPLEMENT LANDSCAPING.
- 3 CONSTRUCT 1'-6" HEADER CURB, 6" ABOVE ASPHALT AND 12" BELOW ASPHALT GRADE PER CITY STD. DWG. 2415B.

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- CONTRACTOR WILL BE RESPONSIBLE FOR PROVIDING AND MAINTAINING ALL CONSTRUCTION BARRICADING UNTIL PROJECT HAS BEEN COMPLETED.
- 5. ADJUST ALL VALVE CANS AND SEWER LINE CLEANOUTS TO FINAL GRADE.

LEGEND

[77777] LIMITS OF ASPHALT PAVING REMOVAL AND REPLACEMENT, SEE PAVING SECTION.

> LIMITS OF CONCRETE PAVING, SEE PAVING SECTION

EXISTING GRADE ELEVATION

PROPOSED FLOWLINE GRADE PROPOSED TOP OF CURB

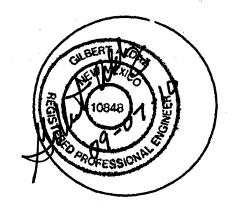
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PROJECT NUMBER: DRAWING FILE: DRAWN BY: COPYRIGHT: JULY 24, 2009 DATE:

PROPOSED GRADING/DRAINAGE **IMPROVEMENTS**

SHEET NUMBER

DRAINAGE PLAN

THE FOLLOWING ITEMS CONCERNING A PROPOSED PAVED PARKING LOT FOR THE NEW MEXICO EDUCATORS FEDERAL CREDIT UNION LOCATED IN EXISTING PLATTED TRACT 2, BLOCK "F", BEVERLY-WOOD ADDITION, ALBUQUERQUE, NEW MEXICO, GRADING AND DRAINAGE PLAN ARE CONTAINED HEREON:

- 1. DRAINAGE CALCULATIONS
- 2. VICINITY MAP (J-18)
- 3. FLOOD INSURANCE RATE MAP 35001 C0352D

EXITING CONDITIONS

AS SHOWN BY THE VICINITY MAP, THE SITE IS BOUNDED ON THE SOUTH BY HAINES AVENUE NE, ON THE WEST BY AMERICAS PARKWAY NE, ON THE NORTH bY INDIAN SCHOOL ROAD NE and ON THE EAST BY CITY OWNED PROPERTY CONTAINING A CITY WELL HOUSE AND BY A 3-STORY PRIVATE PARKING GARAGE (SEE ATTACHED VICINITY MAP J-18). THIS TRACT 2 SITE CONTAINS APPROXIMATELY 0.40 ACRES.

THE CURRENT UNDEVELOPED TRACT 2 IS CURRENTLY BEING USED AS A DIRT PARKING LOT FOR ADJACENT TENANTS. TRACT 2 AT ONE TIME CONTAINED A CITY OWNED FIRE STATION THAT WAS REMOVED IN THE LATE 1980s.

THE CURRENT DRAINAGE PATTERN HAS THE NORTH HALF OF THE SITE DRAINING IN A WESTERLY DIRECTION TOWARDS AMERICAS PARKWAY WHICH THEN DRAINS NORTH AND THEN WEST INTO INDIAN SCHOOL ROAD NE. THE SOUTH HALF ALSO DRAINS IN A WESTERLY DIRECTION TOWARDS AMERICAS PARKWAY AND THEN SOUTH ALONG AMERICAS PARKWAY NE. THE SOUTH HALF IS ADDRESSED IN THE PARK SQUARE - PHASE II GRADING AND DRAINAGE PLAN AND IS IDENTIFIED AS AREA 6 IN THIS PLAN THE FLOWS DRAIN SOUTH ON AMERICAS PARKWAY NE AND INTO A STORM DRAIN THAT CONNECTS INTO THE CHANNEL THAT RUNS WEST ALONG I-40.

THE SITE DOES NOT LIE WITHIN A DESIGNATED 100 YEAR FLOODPLAIN; HOWEVER, INDIAN SCHOOL ROAD LIES IN A DESIGNATED 100-YEAR FLOODPLAIN ZONE AO (DEPTH 1).

PROPOSED CONDITIONS

THE PROPOSAL FOR THIS SITE IS TO IMPROVE THIS SITE WITH ASPHALT PAVING, CURB AND GUTTER AND LANDSCAPING FOR EMPLOYEES OF THE NEW MEXICO EDUCATORS FEDERAL CREDIT UNION.

THE PLAN SHOWS PROPOSED ELEVATIONS FOR THE NEW CURB AND GUTTER AND GRADES TO PROPERLY DRAIN THE SITE TO MINIMIZE PONDING IN THE ASPHALT AREAS. THE PLAN ALSO SHOWS THE LANDSCAPING ALONG THE WEST AND NORTH BOUNDARY OF THE PARKING LOT TO HAVE A DEPRESSION SO THAT RAIN WATER HARVESTING CAN BE ACCOMMODATED FOR THE LANDSCAPING AREA DURING LOW FLOW CONDITIONS FROM THE PARKING LOT.

THE CALCULATIONS WHICH 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

SINCE THIS SITE IS AN INFILL SITE AND WAS PREVIOUSLY DEVELOPED WITH A CITY FIRE STATION THAT HAD FREE DISCHARGE ALONG WITH STORM DRAIN IMPROVEMENTS ON INDIAN SCHOOL ROAD AND AMERICAS PARKWAY NE IT APPEARS THAT FREE DISCHARGE FROM THIS SMALL SITE WILL HAVE NO IMPACT TO DOWNSTREAM CAPACITY.

OFFSITE FLOWS

IT APPEARS THAT OFFSITE FLOWS FROM THE ADJACENT CITY WELL SITE WILL HAVE MINIMAL IMPACT TO THE DEVELOPMENT OF THIS SITE AND THIS SITE IS DESIGNED TO ACCEPT THESE OFFSITE FLOWS.

EROSION CONTROL

THE CONTRACTOR WILL BE REQUIRED TO PROVIDE SILT FENCES OR TEMPORARY CONSTRUCTION BERMS AROUND THE PROPOSED CONSTRUCTION AREAS DURING CONSTRUCTION OF THE PARKING LOT IN ORDER TO MINIMIZE SEDIMENT INTO THE PUBLIC ROADWAYS.

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-9: Q = 1.87 CFS/ACRE SOIL UNCOMPACTED "A"

Q = 2.60 CFS/ACRE LANDSCAPED "B"

Q = 3.45 CFS/AC COMPACTED SOIL "C" Q = 5.02 CFS/ACRE IMPERVIOUS AREA "D"

Q = 5.02 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-8:

E = 0.66INCHES SOIL UNCOMPACTED "A"

E = 0.92 INCHES LANDSCAPED "B"
E = 1.29 INCHES COMPACTED SOIL "C"

E = 1.29 INCHES COMPACTED SOIL "C E = 2.36INCHES IMPERVIOUS AREA 'D"

5. EXISTING CONDITIONS ONSITE:

EXISTING TRACT 2 AREA = 0.40ACRES

SITE IS CURRENTLY DISTURBED WITH DIRT AND NO LANDSCAPING, USE
TREATMENT "C" = 0.40ACRES

TREATMENT	AREA(ACRES)	
A	0	
В	0	
С	0.40	
D	0	

$Q(EXISTING-6HR) = (3.45 \times 0.40)$

= 1.38CFS (6HR) EXISTING ONSITE FLOW INTO AMERICAS PARKWAY NE

V(EXISTING-6HR) =(1.29 X 0.40)/ 12 = 0.04AC-FT = 1.873CF EXISTING ONSITE VOLUME INTO AMERICAS PARKWAY NE

6. PROPOSED CONDITIONS ONSITE: TYPE (TREATMENT "D") = ASPHALT AND CURB & GUTTER = 0.25AC TYPE (TREATMENT "B") = LANDSCAPED AREAS = 0.15AC

 EATMENT
 AREA(ACRES)

 A
 0

 B
 0.15

 C
 0

Q(PROPOSED-6HR) = $(2.60 \times 0.15) + (5.02 \times 0.25) = 1.65$ CFS (6HR) PROPOSED ONSITE FLOW INTO AMERICAS PARKWAY NE

V(PROPOSED-6HR) = ((0.92 X 0.15) + (2.36 X 0.25))/ 12) = 0.06AC-FT = 2,642<u>CF</u> PROPOSED 100-YEAR VOLUME INTO AMERICAS

7. IMPACT OF THIS DEVELOPMENT ON DOWNSTREAM CAPACITY

Q(EXISTING) = 1.38CFS (6HR) EXISTING ONSITE FLOW Q(PROPOSED) = 1.65CFS PROPOSED ONSITE FLOW FLOW INCREASE = 1.65 - 1.38 CFS = 0.27CFS PROPOSED INCREASE OF FLOW HAS MINIMAL IMPACT TO FLOWS INTO TO DOWNSTREAM CAPACITY.

8. INCORPORATE 0.5" OF RAINFALL IN LANDSCAPE AREA FOR WATERHARVESTING:

USE 0.5" OF RAINFALL ON PARKING LOT

V(PROPOSED-0.5") = 10,765SF X (0.5"/ 12)

= 449CF PROPOSED ONSITE VOLUME RETENTION IN LANDSCAPED

AREAS

PROPOSED RETENTION VOLUME:

FLOWS ABOVE 0.5" WILL FLOW OVER SIDEWALK AND INTO AMERICAS

8. OFFSITE DRAINAGE BASIN O-1:

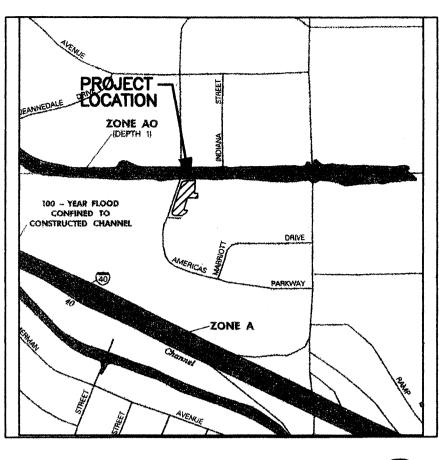
TYPE (TREATMENT "C") = EXISTING COMPACTED EARTH = 0.05AC

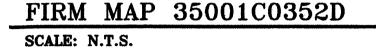
TREATMENT AREA(ACRES)

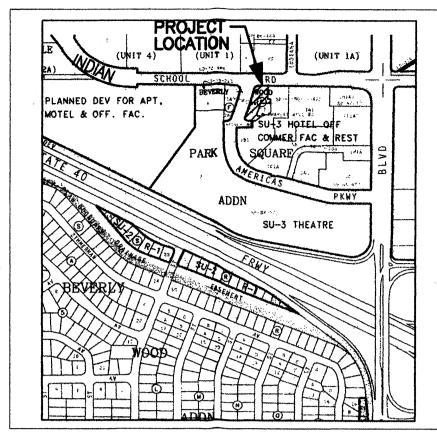
B 0 C 0.05 D 0

Q(EXISTING-6HR) = $(3.45 \times 0.05) = 0.17$ CFS (6HR) EXISTING OFFSITE FLOW INTO BASIN "A-1"

V(PROPOSED-6HR) = (1.29 X 0.05)/ 12) = 0.006AC-FT = 234<u>CF</u> EXISTING 100-YEAR VOLUME INTO BASIN "A-1"

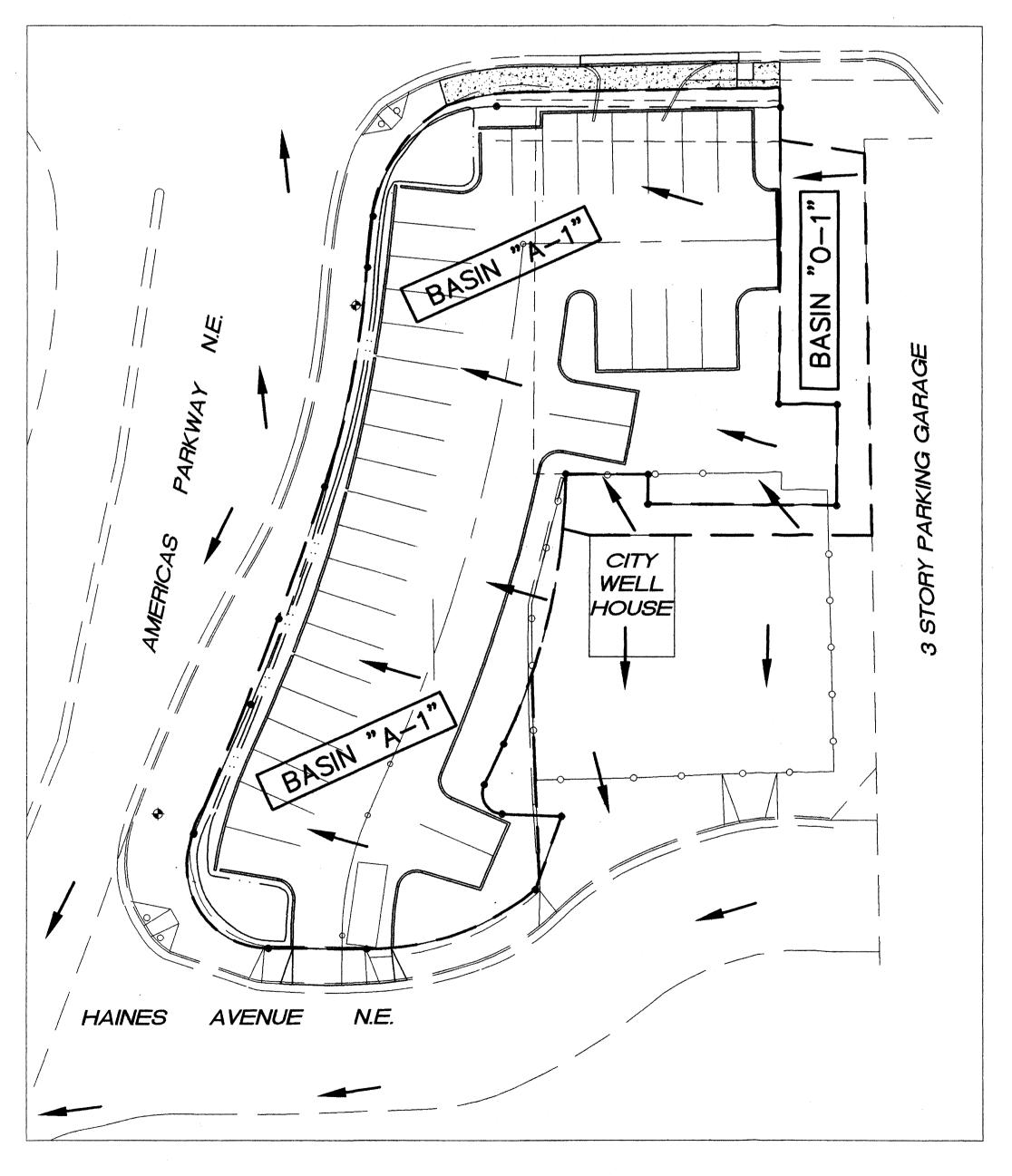






VICINITY MAP J-18
SCALE: N.T.S.





DRAINAGE BASIN BOUNDARY MAP

SCALE: 1" = 60'



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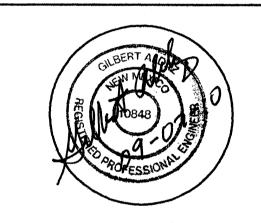
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1605 Blair Drive NE Albuquerque, New Mexico 87112 ffice: (505) 480-8125 Facsimile: (505) 237-8164 email: galdaz47@yahoo.com

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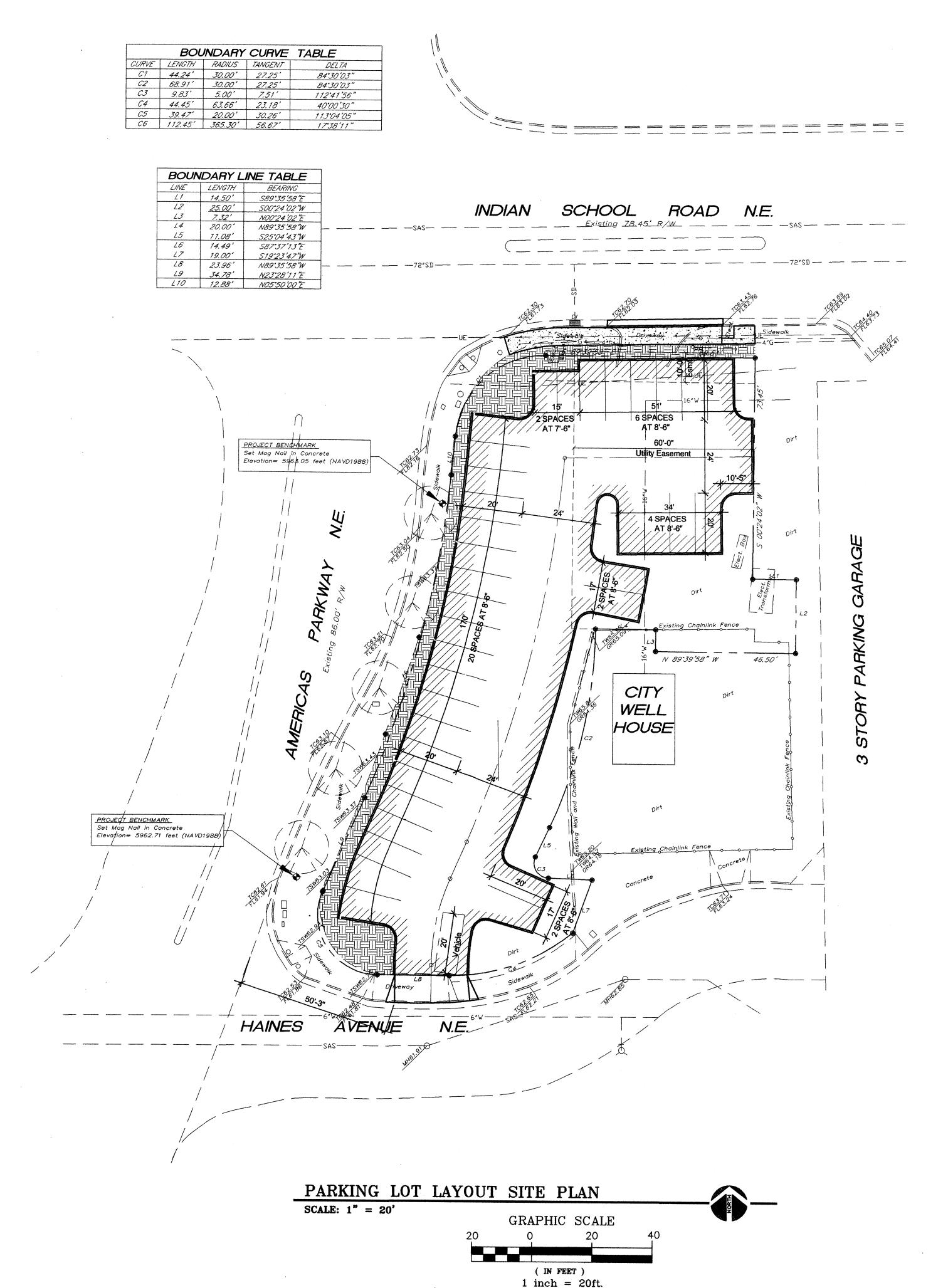
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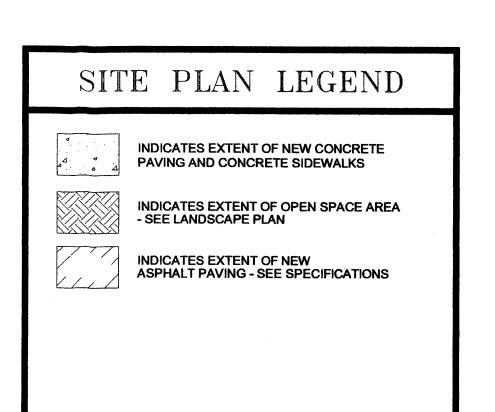
090800
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JULY 24, 2009

DRAINAGE

CALCULATIONS

C - O2





PARKING LOT DATA

34 - 8'-6" WIDE SPACES 2 - 7"-6" WIDE SPACES

OPEN SPACE REQUIREMENTS

TRACT 2 LOT AREA = 17,637SF

OPEN SPACE AREA PROPOSED ALONG
FRONTAGE OF AMERICAS PARKWAY

AND INDIAN SCHOOL ROAD = 2,110SF

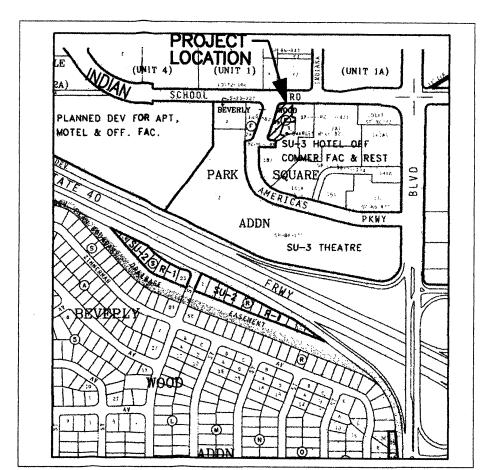
OPEN SPACE = 2110/17368 = 12%,

10% MINIMUM PER UPTOWN SECTOR

DEVELOPMENT PLAN

LANDSCAPE 40% OF OPEN SPACE

= 0.40 X 2,110SF = 844SF



VICINITY MAP J-18

SCALE: N.T.S.

- HE WOON

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UTILITY PRECAUTIONS

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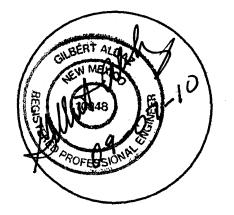
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ALBUQUERQUE, NEW MEXICO

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090800
4.4
JULY 24, 2009

PARKING LAYOUT
SITE PLAN

SHEET NUMBER
C - D3