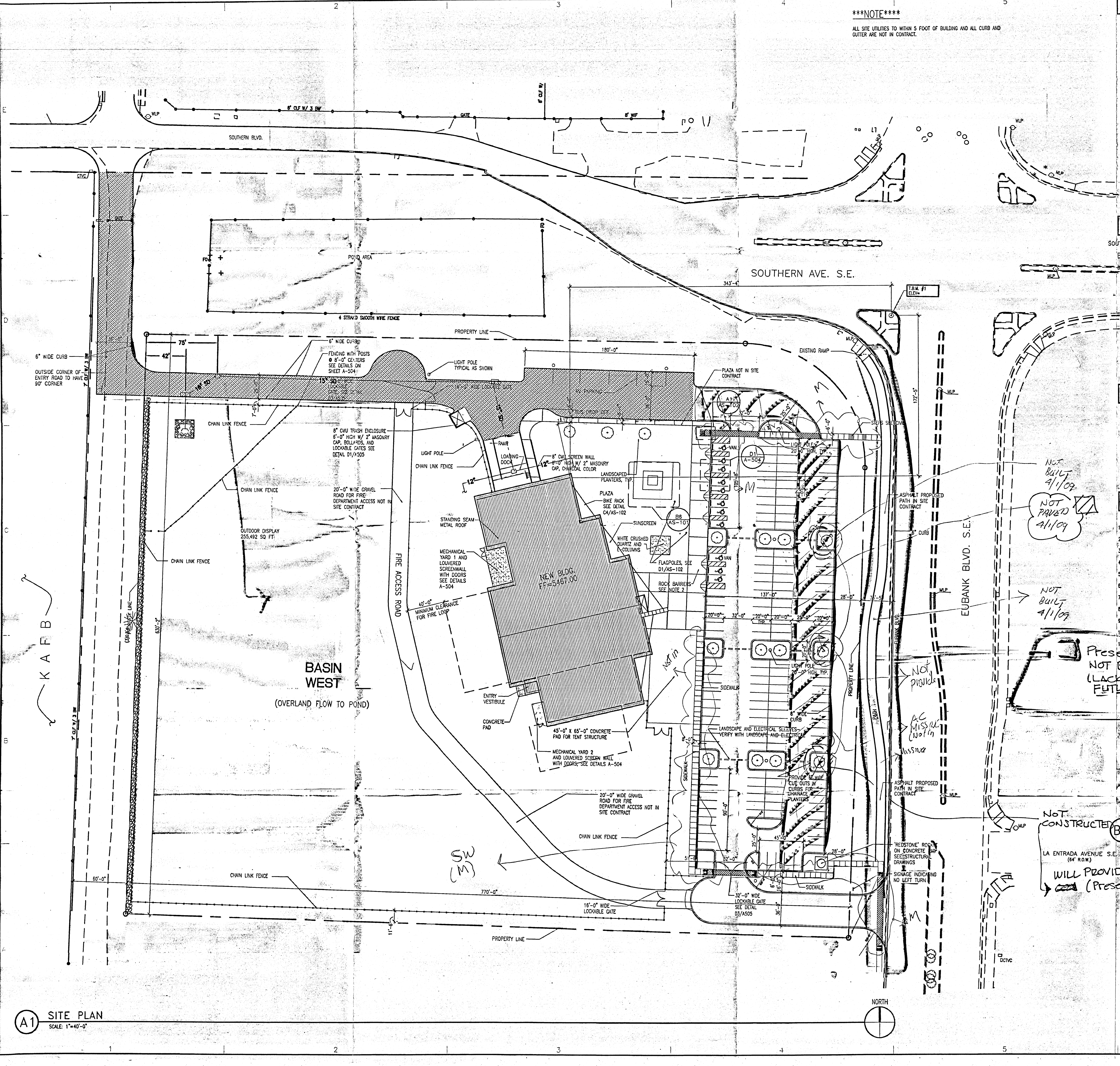




NOTE

ALL SITE UTILITIES TO WITHIN 5 FOOT OF BUILDING AND ALL CURB AND GUTTER ARE NOT IN CONTRACT.

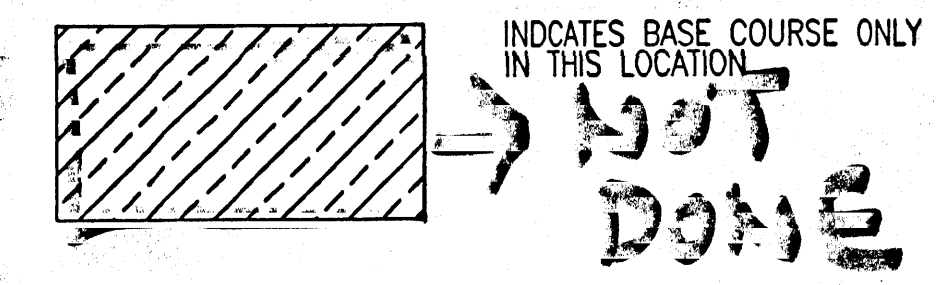
GENERAL NOTES

1. PROVIDE ONE H.C. RESERVED PARKING SIGN AT EACH H.C. PARKING SPACE.
2. ALL MISCELLANEOUS SITE STEEL, COLOR WILL BE SELECTED BY ARCHITECT
3. PLAZA: REINFORCED CONCRETE SLAB AND PLANTER AREAS, WITH OPENINGS AND CONTROL JOINTS @ 20'-0" x 20'-0".
4. SEE FLAGPOLE DETAIL A1/A-505.
5. SEE LANDSCAPE DRAWINGS FOR TREE, SHRUB AND GROUND COVER PLANTING TYPES AND DETAILS.
6. PROVIDE ELECTRICAL POWER TO THE "TERRIER" AND E-COLUMNS AREA.
7. SEE A4/AS-102 FOR SITE LIGHTING DETAIL.
8. 3" SLEEVES UNDER ALL PAVED AREAS FOR FUTURE LANDSCAPE, AND 4" SLEEVES FOR POWER.
9. ALL GARDEN WALLS AND RETAINING WALLS SHALL BE SUBMITTED UNDER SEPARATE PERMIT / MONUMENT SIGN AND SIGNS SHALL BE SUBMITTED UNDER SEPARATE PERMIT.

SITE CALCULATIONS

BUILDING SQUARE FOOTAGE	PARKING SPACES REQUIRED
BUILDING ACTUAL SF = 31,032 SF	155 SPACES @ 1 SPACE/200 SF
	TOTAL REQUIRED = 155 SPACES
	TOTAL PROVIDED = 170 SPACES
	HC PROVIDED = 11 SPACES
	RV PROVIDED = 6 SPACES
	MOTORCYCLE PROVIDED = 6 SPACES
	BICYCLE RACKS PROVIDED = 20 SPACES

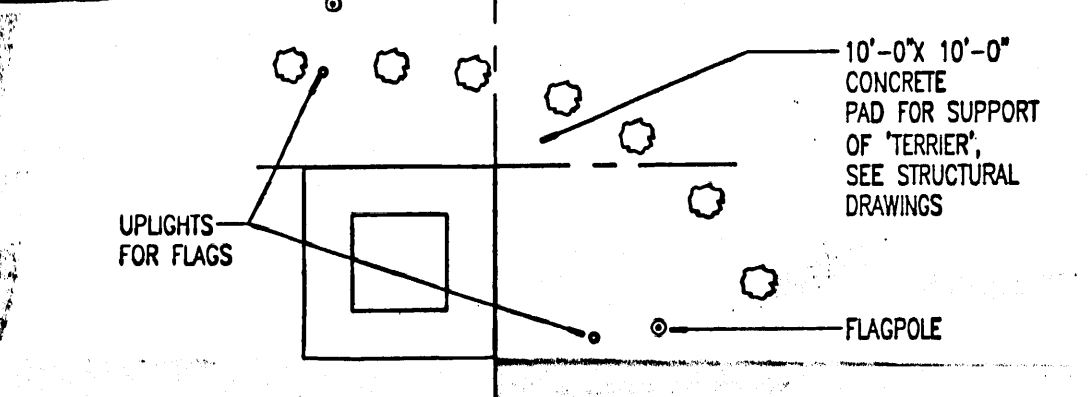
LEGEND



SITE CONTRACT SCOPE

1. ALL PAVING
2. ALL CURB AND GUTTER
3. ENTRY DRIVE OFF OF EUBANK
4. ENTRY DRIVE OFF OF SOUTHERN
5. BASE COURSE AS INDICATED
6. ASPHALT PATH OFF OF EUBANK
7. ALL SITE UTILITIES TO WITHIN 5' OF BUILDING
8. ALL BUILDING OVER EXCAVATION INCLUDING FUTURE EXPANSION AREA
9. SLEEVE FOR ELECTRICAL AND LANDSCAPE
10. SEE CIVIL FOR INFRASTRUCTURE RIGHT OF WAY
11. ALL SITE GRADING PER C-101, INCLUDING UNDERGROUND STORM DRAIN

Present time (USE)
NOT BUILT
(LACK OF FUNDS)
FUTURE - WILL CONSTRUCT



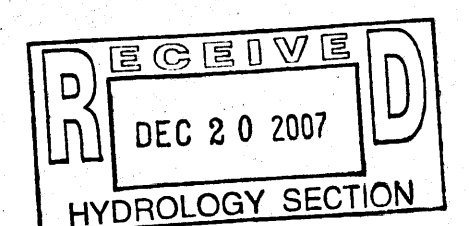
ENLARGED PLAN AT PLAZA

SCALE: 1/16"=1'-0"

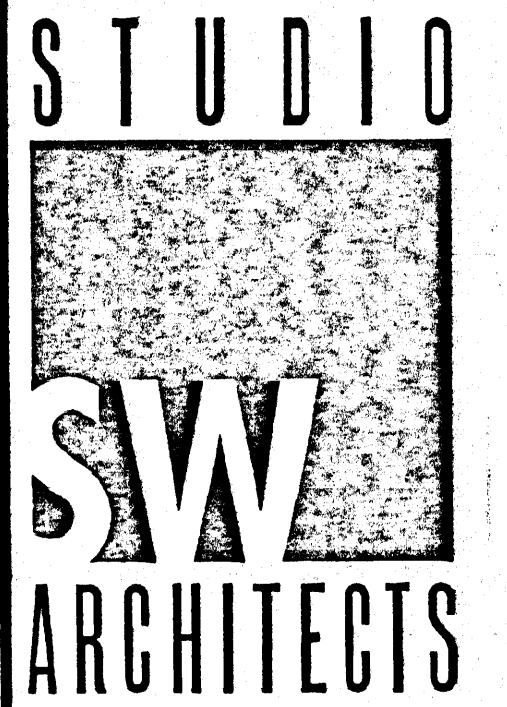
Not Constructed
WILL PROVIDE MILLINGS
(Present - dirt)

TRAFFIC CIRCULATION LAYOUT

45 Signed Date 8/20/07

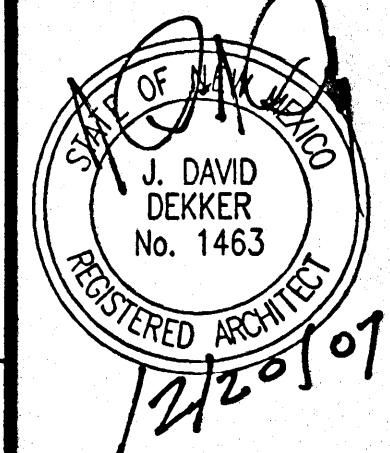


A1 SITE PLAN
SCALE: 1"=40'-0"



STUDIO SOUTHWEST ARCHITECTS, INC.
2101 Mountain Rd. NW, Albuquerque, NM 87104
505.843.9639 fax 505.843.9683
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Architect Engineer



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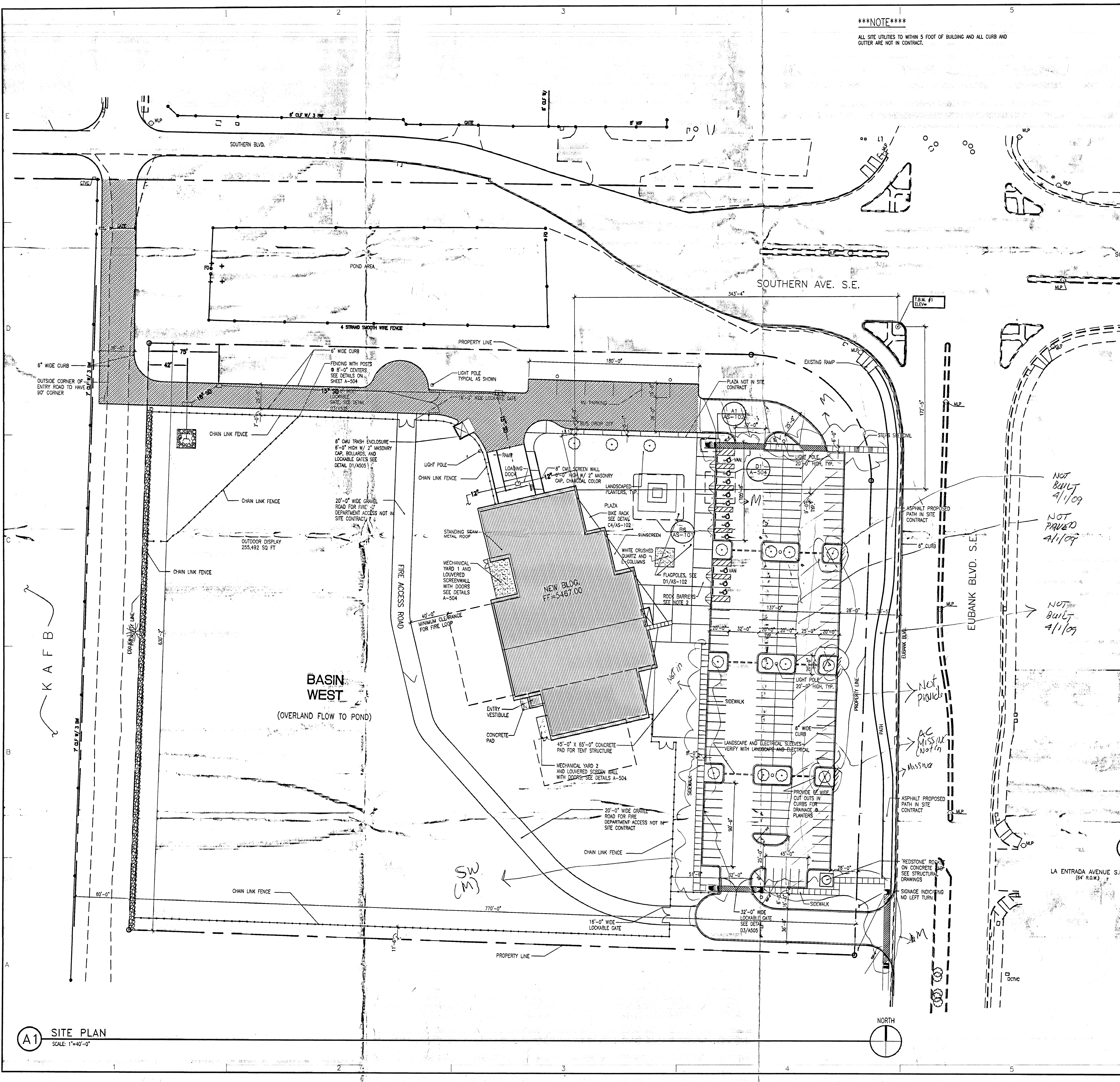
PER
RICHARD H.
DOURTE (GIVES THEM
PERM. CO.)
2:15 PM
4/1/02

8/20/07 100% PERMIT SET.

MARK	DATE	DESCRIPTION
ISSUE:	100% PERMIT SET	
PROJECT NO:	9729	
CAD DWG FILE:	9729-AS-101.DWG	
DRAWN BY:	CAH	
CHECKED BY:	DD GDR	
DATE:	8/20/07	

SHEET TITLE
SITE PLAN
(NOTE: SITE PLAN INCLUDES
ADD / ALTERNATE EXHIBIT SPACE)
BASE BID

AS-101
sheet of sheets



NOTE

ALL SITE UTILITIES TO WITHIN 5 FOOT OF BUILDING AND ALL CURB AND GUTTER ARE NOT IN CONTRACT.

GENERAL NOTES

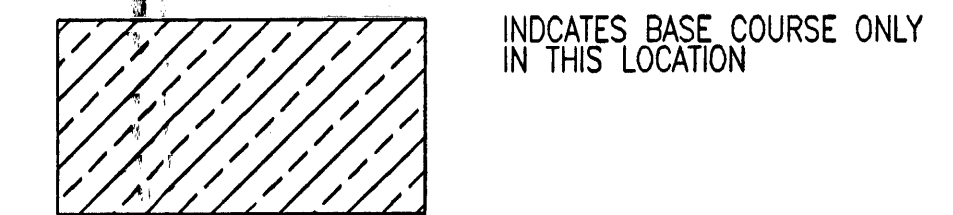
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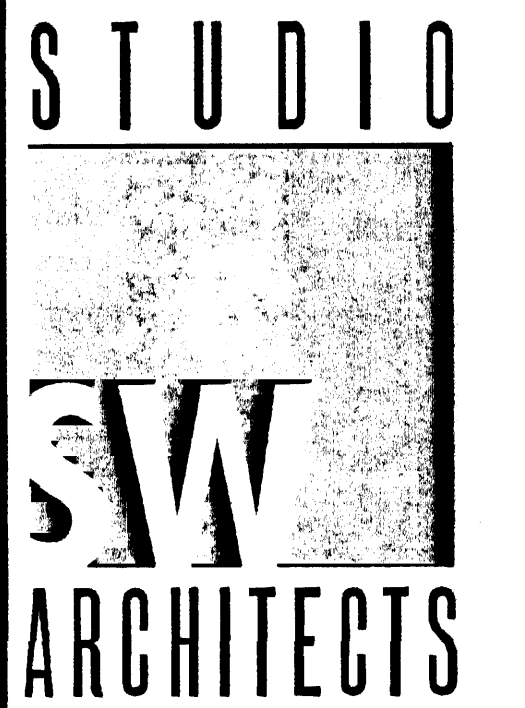
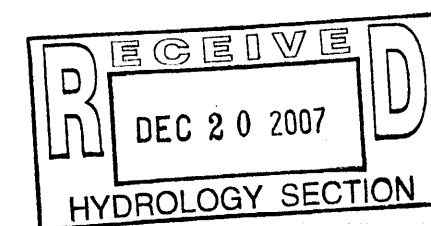
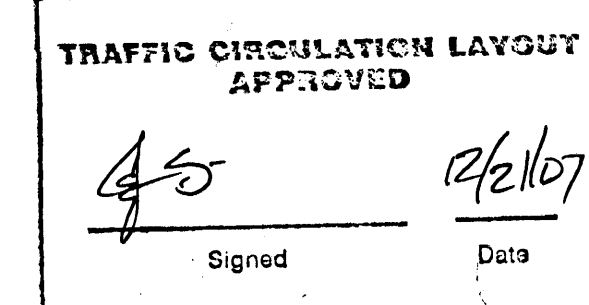
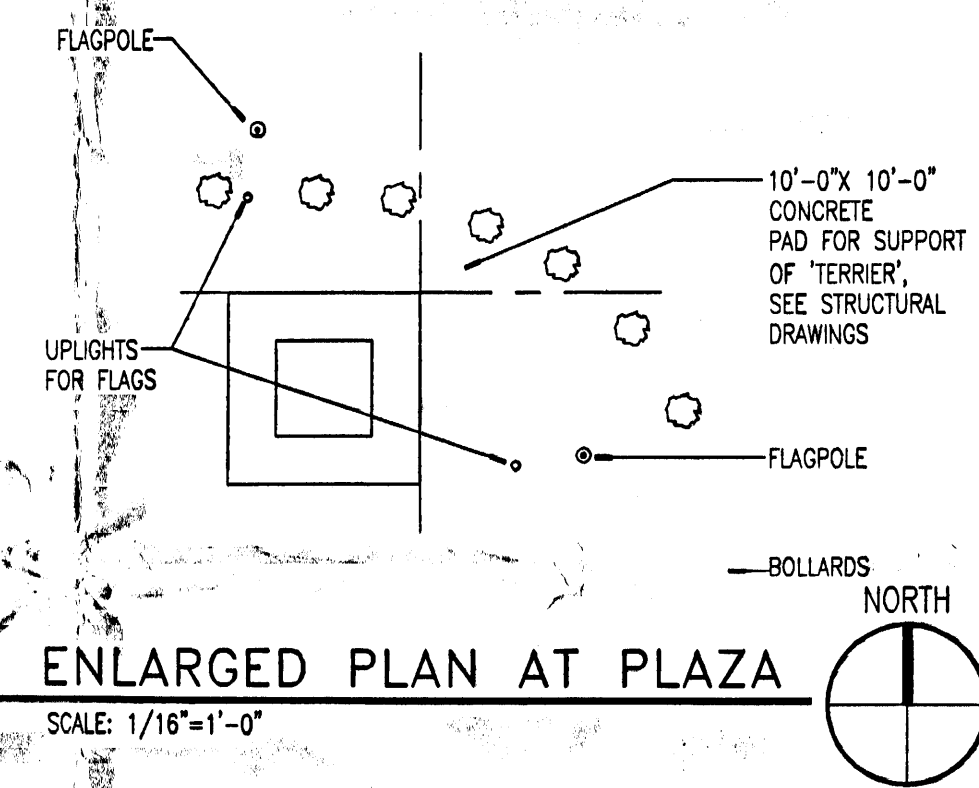
LEGEND



SITE CONTRACT SCOPE

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2. ALL CURB AND GUTTER
3. ENTRY DRIVE OFF OF EUBANK
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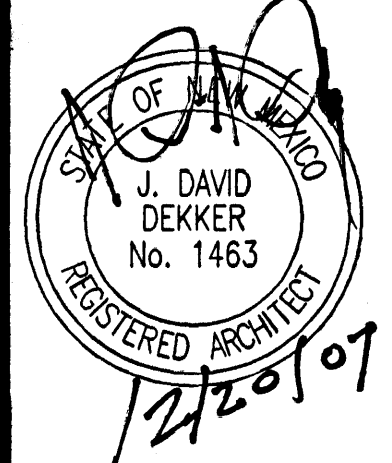
B6 ENLARGED PLAN AT PLAZA
SCALE: 1/16"=1'-0"



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Architect Engineer



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ALBUQUERQUE, NEW MEXICO

8/20/07 100% PERMIT SET

MARK DATE DESCRIPTION
ISSUE: 100% PERMIT SET
PROJECT NO: 9729
CAD DWG FILE: 9729-AS-101.DWG
DRAWN BY: CAH
CHECKED BY: DD GDR
DATE: 8/20/07

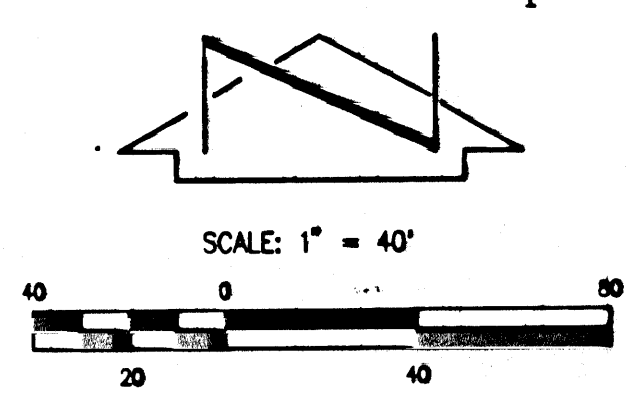
SHEET TITLE

SITE PLAN
(NOTE: SITE PLAN INCLUDES
ADD / ALTERNATE EXHIBIT SPACE)
BASE BID

AS-101

sheet of sheets

A1 SITE PLAN
SCALE: 1"=40'-0"



PROJECT BENCHMARK

ACS 3 1/4" ALUMINUM CAP STAMPED "ACS 6-121, 1986"
SET FLUSH IN THE CURB OF THE EAST MEDIAN AT THE
INTERSECTION OF CENTRAL AVENUE AND ELIZABETH STREET.
ELEVATION = 5503.28 FEET (NAVD 1988)

T.B.M. #1
A MAG NAIL SET IN THE PATTERNED CONCRETE OF THE
SIDEWALK TRAFFIC ISLAND AS SHOWN ON THIS SHEET.
ELEVATION = 5474.04 FEET (NAVD 1988)

LEGEND

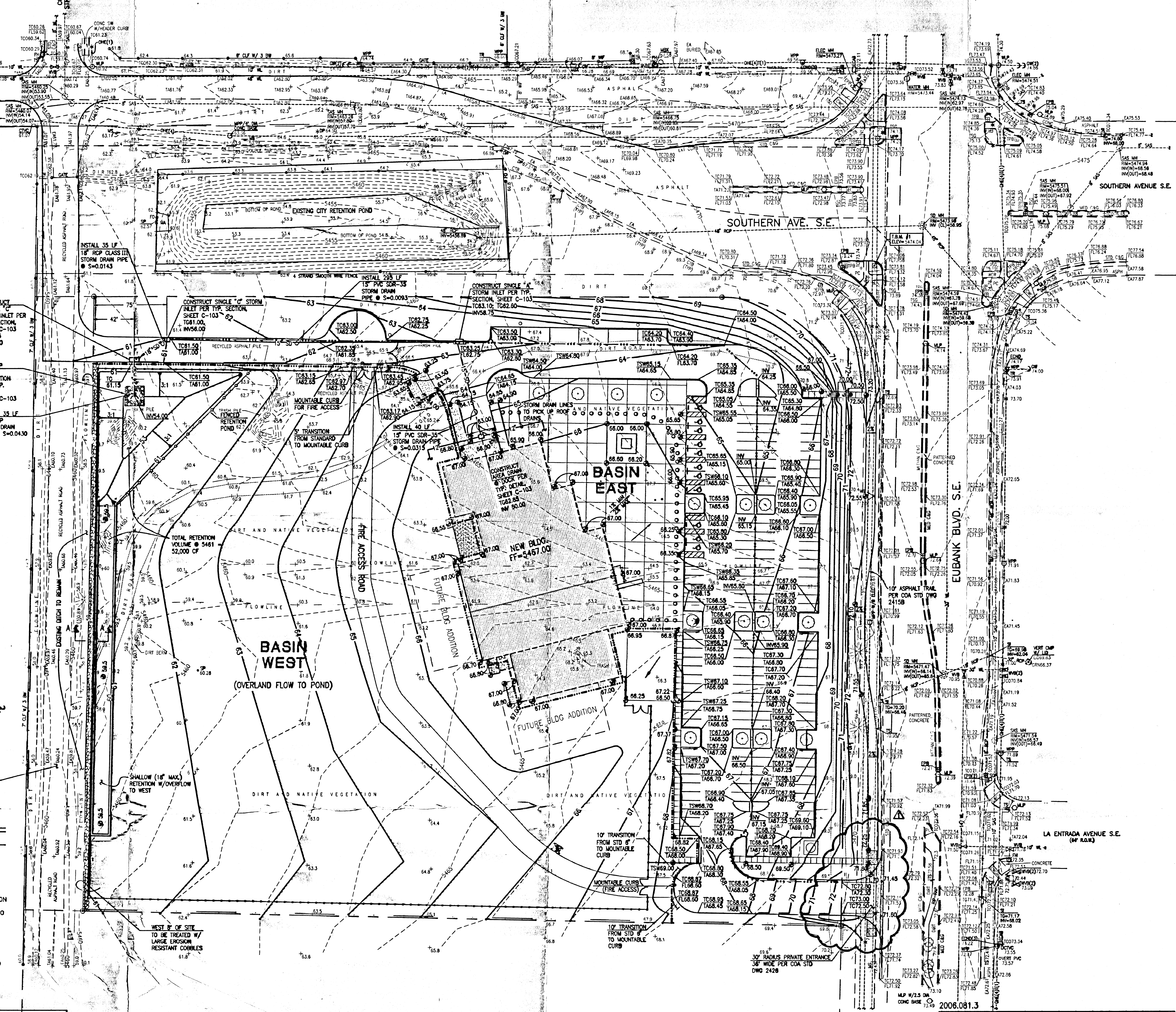
- ASPH ASPHALT
- BW BARRIERS
- C&G CURB AND GUTTER
- CLP CHAINLINK FENCE
- CMC CORRUGATED METAL PIPE
- CONC CONCRETE
- CTB CONCRETE TRAFFIC BARRIER
- CTV CABLE TELEVISION
- CW CONCRETE WHEELCHAIR RAMP
- DIA DIAMETER
- DP DELINEATOR POST
- EA EDGE OF ASPHALT
- ECAB ELECTRIC CABINET
- ECND ELECTRIC CONDUIT
- ELEC ELECTRIC
- EM ELECTRIC METER
- ENCD ELECTRIC CONDUIT
- EXT EXTENDED
- FIH FIRE HYDRANT
- FLW FLOWLINE
- FO FENCE OPENING
- GW GUY WIRE
- INV INVERT ELEVATION
- MA MEMORIAL AREA
- MB MAIL BOX
- MD MEDIUM
- MAN MANHOLE
- MPL METAL LIGHT POLE
- MPP METAL POWER POLE
- MS METAL SIGN
- MS (1) OVERHEAD ELECTRIC (1 OF LINES)
- PC PATTERNED CONCRETE
- PVC POLYVINYL CHLORIDE PIPE
- RCP REINFORCED CONCRETE PIPE
- S&S SANITARY SEWER
- SD STORM DRAIN
- SGP STEEL GUARD POST
- SI STORM INLET
- SP STEEL POLE
- STD STANDARD
- SW SIDEWALK
- TA TELEPHONE
- TC TOP OF ASPHALT
- TCB TOP OF CURB
- TCO TOP OF CONCRETE
- TO TOP OF GRADE
- TPB TELEPHONE PULLBOX
- TRF TRAFFIC SIGNAL
- TSO TRAFFIC SIGNAL
- TYP TYPICAL
- VERT VERTICAL
- VG VALLEY GUTTER
- W/ WITH
- WCR WHEELCHAIR RAMP
- WF WROUGHT IRON FENCE
- WL WATERLINE
- WLP WOOD LIGHT POLE
- WMB WOOD WATER BOX
- WPP WOOD POWER POLE
- WS WOOD SIGN
- WVA WATER VAULT
- WVB WATER WATER BOX
- DEC DECIDUOUS TREE
- CON CONIFEROUS TREE
- SHR SHRUB
- SGT SMALL GROUP OF TREES
- TD TREE DIAMETER
- UM UTILITY MARKER
- PRO PROPOSED FIRE HYDRANT
- PRO PROPOSED SPOT ELEVATION
- EX EXISTING FLOWLINE ELEVATION
- PRO PROPOSED CONTOUR
- EX EXISTING CONTOUR
- PRO PROPOSED FLOWLINE
- BS BASIN BOUNDARY
- PE PUBLIC EASEMENT LINE
- PL PROPERTY LINE
- PC PATTERNED CONCRETE

KEYED NOTES

EASEMENTS

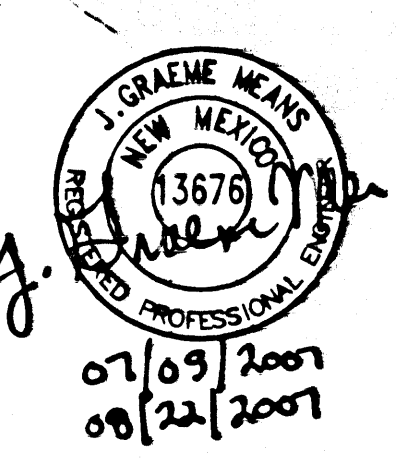
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- 2 PUBLIC SERVICE COMPANY OF NEW MEXICO EASEMENT FOR RIGHT-OF-WAY FOR THE CONSTRUCTION, OPERATION AND MAINTENANCE OF A 115-KV TRANSMISSION LINE FOR A PERIOD OF FIFTY YEARS EXECUTED 08-25-1970 (UNRECORDED)
- 3 CITY OF ALBUQUERQUE EASEMENT FOR RIGHT-OF-WAY FOR THE CONSTRUCTION, INSTALLATION, OPERATION, MAINTENANCE, REPAIR, AND/OR REPLACEMENT OF A ROADWAY EXECUTED 03-18-2002 (UNRECORDED)
- 4 CITY OF ALBUQUERQUE ROADWAY EASEMENT DESCRIBED BY THOMAS G. KLINGENHAGEN N.M.P.S. NO. 5978 DATED 02-15-2000 (NO EXECUTED DOCUMENT FOUND)

NOTE:
THIS IS NOT A BOUNDARY SURVEY; DATA IS SHOWN FOR ORIENTATION ONLY. THE BOUNDARY INFORMATION DEPICTED BY THIS PLAN IS BASED UPON THE BOUNDARY SURVEY PREPARED BY JEFF MORTENSEN & ASSOC., INC., N.M.P.S. NO. 11184, DATED 1-11-2006. SUPPLEMENTAL INFORMATION IS BASED UPON A TOPOGRAPHIC SURVEY PREPARED BY JEFF MORTENSEN & ASSOC., INC. ON 1-11-2006, N.M.P.S. NO. 11184.



Architect

Engineer



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SCIENCE & HISTORY**

ALBUQUERQUE, NEW MEXICO

MARK	DATE	DESCRIPTION
------	------	-------------

ISSUE:	
PROJECT NO:	2006.081.3
CAD DWG FILE:	60813G2R
DRAWN BY:	RRW
CHECKED BY:	GM
DATE:	JULY 05, 2007

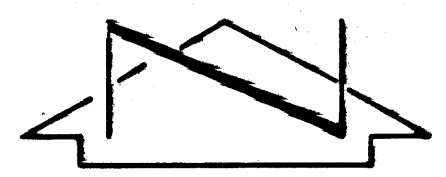
SHEET TITLE
GRADING PLAN

HIGH MESA Consulting Group
FORMERLY JEFF MORTENSEN AND ASSOCIATES, INC.
6010-N MIDDLEWAY PARK BLVD. NE • ALBUQUERQUE, NEW MEXICO 87109
PHONE: 505.345.4250 • FAX: 505.345.4254 • www.highmesacg.com

C-101

sheet of sheets

Plot Path: \\J:\JMW\JMW1184\1 Plot Date: 08-20-2007 Plot Time: 1:32 pm
File Name: 60813G2R1.DWG



SCALE: 1" = 40'

PROJECT BENCHMARK

ACS 3 1/4" ALUMINUM CAP STAMPED "ACS 8-121, 1986"
SET FLUSH IN THE CURB OF THE EAST MEDIAN AT THE
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ELEVATION = 5503.28 FEET (NAVD 1986)

T.B.M. #1

A MAG NAIL SET IN THE PATTERED CONCRETE OF THE
SIDEWALK TRAFFIC ISLAND, AS SHOWN ON THIS SHEET.
ELEVATION = 5474.04 FEET (NAVD 1986)

LEGEND

- ASPH
- BW
- CWG
- CMP
- CONC
- CTB
- CTV
- CW
- CHCR
- DA
- DP
- EA
- ECAB
- ELEC
- EPB
- EXT
- FL
- FO
- GW
- HW
- MA
- MB
- MD
- ME
- MP
- MS
- MS(1)
- PC
- PVC
- RCP
- SAS
- SD
- SGP
- SP
- STD
- SW
- TA
- TC
- TCB
- TCO
- TP
- TR
- TS
- TSG
- TY
- VERT
- VG
- W
- WCR
- WFL
- WLP
- WMB
- WPP
- WVA
- WVB
- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB
- SMALL GROUP OF TREES
- TREE DIAMETER
- UTILITY MARKER
- PROPOSED FIRE HYDRANT
- PROPOSED SPOT ELEVATION
- EXISTING FLOWLINE ELEVATION
- PROPOSED CONTOUR
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- PROPOSED FLOWLINE
- BASIN BOUNDARY
- PUBLIC EASEMENT LINE
- PROPERTY LINE
- PROPOSED CONCRETE

KEYED NOTES

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KIAFB

EXISTING OVERFLOW POINT

WEST 1/2 OF SITE TO BE TREATED W/ LARGE EROSION RESISTANT ROCKS

BASIN WEST
(OVERLAND FLOW TO POND)

BASIN EAST

NEW BLDG. FT. 5487.00

FUTURE BLDG. ADDITION

FUTURE BLDG. ADDITION

RECEIVED
JUL 06 2007
HYDROLOGY SECTION

HIGH MESA Consulting Group
FORMERLY JEFF MORTENSEN AND ASSOCIATES, INC.
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Architect Engineer



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ALBUQUERQUE, NEW MEXICO

MARK	DATE	DESCRIPTION
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SHEET TITLE

GRADING PLAN

C-101

sheet of sheets

DRAINAGE PLAN

I. EXECUTIVE SUMMARY AND INTRODUCTION

THIS SITE, LOCATED IN SOUTHEAST ALBUQUERQUE NEAR THE KIRTLAND AIRFORCE BASE, IS CURRENTLY AN UNDEVELOPED TRACT OF LAND. IT IS PROPOSED TO DEVELOP A NEW MUSEUM BUILDING WITH ASSOCIATED PAVED PARKING AND PRIVATE ENTRANCES ONTO THE ADJACENT PUBLIC STREETS, AS WELL AS GRADING A LARGE OPEN AREA FOR OUTDOOR EXHIBITS.

THE DRAINAGE CONCEPT FOR THIS SITE IS TO MAINTAIN THE EXISTING DRAINAGE PATTERN OF THE SITE, DISCHARGING EXISTING RUNOFF FROM THE PROPERTY TO THE AIR FORCE PROPERTY TO THE WEST. DEVELOPED RUNOFF INCREASE WILL BE RETAINED ON SITE VIA RETENTION PONDING.

THIS DRAINAGE SUBMITTAL IS BEING MADE IN SUPPORT OF BUILDING PERMIT APPROVAL.

II. PROJECT DESCRIPTION

AS SHOWN BY THE VICINITY MAP, THE SITE IS BORDERED BY SOUTHERN BLVD SE TO THE NORTH, AND EUBANK BLVD SE TO THE EAST. THE PROPERTY TO THE SOUTH IS UNDEVELOPED, AND THE KIRTLAND AIR FORCE BASE LIES TO THE WEST. THE CURRENT LEGAL DESCRIPTION IS AN UNPLATTED TRACT OF LAND LOCATED WITHIN BERNALILLO COUNTY, NEW MEXICO, SECTION 28, TOWNSHIP 10 NORTH, RANGE 4 EAST, N.M.P.M., COMPRISING A PORTION OF THE KIRTLAND AIR FORCE BASE MILITARY RESERVATION KNOWN AS TRACT A-3-B, AS INDICATED BY PANEL 358 OF 825 OF THE NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAPS PUBLISHED BY FEMA FOR BERNALILLO COUNTY, NEW MEXICO, NOVEMBER 19, 2003. THIS SITE DOES NOT LIE WITHIN A DESIGNATED FLOOD HAZARD ZONE.

III. BACKGROUND DOCUMENTS

THE FOLLOWING ITEMS WERE REVIEWED IN THE PREPARATION OF THIS SUBMITTAL:

A. TOPOGRAPHIC AND BOUNDARY SURVEY OF THE EXISTING SITE PREPARED BY HIGH MESA CONSULTING GROUP (FORMERLY JEFF MORTENSEN AND ASSOC. INC.) DATED 01/11/2007. THE REFERENCED TOPOGRAPHIC SURVEY SERVED AS THE BASIS FOR THE EXISTING CONDITIONS FOR THE SITE.

B. NOTICE OF APPROVAL OF THE CONCEPTUAL GRADING PLAN BY THE KIRTLAND AIR FORCE BASE CIVIL ENGINEER, D. BRENT WILSON, DATED 5/21/2007, ALLOWING THE CONTINUED ACCEPTANCE OF EXISTING RUNOFF FROM THE PROJECT SITE AS LONG AS DEVELOPED FLOW IS RETAINED ON THE PROJECT SITE.

IV. EXISTING CONDITIONS

AT PRESENT, THE SITE IS AN UNDEVELOPED TRACT OF LAND WITH NATIVE VEGETATION. IT CURRENTLY ACCEPTS MINIMAL OFFSITE FLOWS FROM THE SOUTHERN BLVD AND EUBANK BLVD RIGHT-OF-WAYS TO THE NORTH AND EAST, AND SHEET FLOWS RUNOFF FROM EAST TO WEST, TEMPORARILY PONDING ALONG THE DITCH OF AN EXISTING ASPHALT AND GRAVEL ROAD ALONG THE WEST EDGE OF THE SITE. OVERFLOW CROSSES THE ROAD AT A LOW POINT AND DRAINS ONTO THE KIRTLAND AIRFORCE BASE TO THE WEST. THE UNDEVELOPED PROPERTY TO THE SOUTH HAS PARALLEL TOPOGRAPHY TO THE SITE, AND DOES NOT CONTRIBUTE OFFSITE FLOWS.

V. DEVELOPED CONDITIONS

THE PROPOSED CONSTRUCTION CONSISTS OF A NEW NATIONAL NUCLEAR HISTORY MUSEUM BUILDING WITH ASSOCIATED PAVED PARKING AND ACCESS ROADS THAT TERMINATE IN A PRIVATE ENTRANCE ONTO EUBANK BLVD SE. THE NEW BUILDING AND PAVEMENT IMPROVEMENTS SHALL BE CONSTRUCTED ON THE EASTERN HALF OF THE SITE. THE WESTERN HALF OF THE SITE SHALL BE GRADED FOR OUTDOOR MUSEUM EXHIBITS. IT SHALL SLOPE EAST TO WEST FROM THE BLAND AND PARKING LOT TO A PROPOSED RETENTION POND AT THE WESTERN EDGE OF THE SITE.

THE PROPOSED RETENTION POND SHALL BE SIZED TO RETAIN 52,000 CF OF RUNOFF, SUFFICIENT CAPACITY TO RETAIN THE DEVELOPED 100-YEAR, 10-DAY RUNOFF VOLUME INCREASE OF 50,080 CF. DRAINAGE FROM THE PARKING LOT AND BUILDING WILL BE ROUTED NORTH AND WEST INTO STORM DRAIN INLETS THAT SHALL DISCHARGE INTO THE POND. RUNOFF FROM THE GRADED OUTDOOR EXHIBIT AREA WILL SHEET FLOW ACROSS THE WESTERN HALF OF THE SITE AND INTO THE RETENTION POND.

UPON THE POND REACHING CAPACITY FROM THE DEVELOPED RUNOFF INCREASE, OVERFLOW FROM THE POND WILL FLOW OVER THE NEW EROSION-RESISTANT CORBELS ALONG THE WEST EDGE OF THE POND AND INTO THE EXISTING DITCH ADJACENT TO THE PROPERTY AS PER THE EXISTING CONDITIONS. OVERFLOW OF THE DITCH WILL CONTINUE TO CROSS THE ROAD AT THE EXISTING LOW POINT AND DRAIN ONTO THE KIRTLAND AIRFORCE BASE AS PERMITTED BY THE AGREEMENT REFERENCED ABOVE.

VI. GRADING PLAN

THE GRADING PLAN SHOWS 1.) EXISTING GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS AS TAKEN FROM THE ABOVE REFERENCED TOPOGRAPHIC SURVEY DATED 1/11/2007 (N.M.P.S. 11184), 2.) PROPOSED GRADES INDICATED BY SPOT ELEVATIONS AND CONTOURS AT 1'-0" INTERVALS, 3.) THE LIMIT AND CHARACTER OF THE EXISTING IMPROVEMENTS TAKEN FROM THE ABOVE REFERENCED TOPOGRAPHIC SURVEY DATED 1/11/2007 (N.M.P.S. 11184), 4.) THE LIMIT AND CHARACTER OF THE PROPOSED IMPROVEMENTS, AND 5.) CONTINUITY BETWEEN EXISTING AND PROPOSED GRADES. AS SHOWN BY THIS PLAN, THE PROPOSED IMPROVEMENTS WILL CONSIST OF A NEW BUILDING WITH ASSOCIATED PAVED PARKING AND ACCESS ROADS, A NEW PRIVATE ENTRANCE, AND SITE GRADING TO A PROPOSED RETENTION POND. THE EXISTING DRAINAGE PATTERNS SHALL BE MAINTAINED.

VII. CALCULATIONS

CALCULATIONS ANALYZING THE EXISTING AND DEVELOPED CONDITIONS FOR THE 100-YEAR, 6-HOUR AND 100-YEAR, 10-DAY RAINFALL EVENTS HAVE BEEN PREPARED FOR THIS PROJECT. THE PROCEDURE FOR 40 ACRE AND SMALLER BASINS, AS SET FORTH IN THE REVISION OF SECTION 22.2, HYDROLOGY OF THE DEVELOPMENT PROCESS MANUAL, VOLUME 2, DESIGN CRITERIA, DATED JANUARY, 1993, HAS BEEN USED TO QUANTIFY THE PEAK RATE OF DISCHARGE AND VOLUME OF RUNOFF GENERATED. AS SHOWN BY THE RESULTS PRESENTED HEREON, THERE WILL BE AN INCREASE OF RUNOFF VOLUME (50,080 CF) AND PEAK DISCHARGE DUE TO THE PROPOSED DEVELOPMENT THAT SHALL BE RETAINED WITHIN THE PROPOSED RETENTION POND (CAP. 52,000 CF).

VIII. CONCLUSIONS

THE CONTINUED DISCHARGE OF RUNOFF FROM THIS SITE TO THE NEIGHBORING KIRTLAND AIRFORCE BASE TO THE WEST IS APPROPRIATE BASED UPON THE FOLLOWING:

1. THE STORM WATER RUNOFF VOLUME AND PEAK DISCHARGE, GENERATED BY THE PROPOSED IMPROVEMENTS SHALL INCREASE, BUT SHALL BE OFFSET BY RETENTION PONDING.
2. THE PROPOSED PARKING AND GRADING IMPROVEMENTS SHALL DIRECT RUNOFF INTO A PROPOSED RETENTION POND WITH SUFFICIENT CAPACITY FOR THE RUNOFF VOLUME INCREASE DUE TO THE DEVELOPMENT.
3. THIS DEVELOPMENT IS IN ACCORDANCE WITH THE MAY 21, 2007 AGREEMENT WITH THE KIRTLAND AIRFORCE BASE CIVIL ENGINEER NOTICE OF APPROVAL.
4. NO ADVERSE IMPACT ON DOWNSTREAM CAPACITY OR DOWNSTREAM PROPERTIES.
5. THE SITE IS NOT WITHIN A DESIGNATED FLOOD HAZARD AREA.

CALCULATIONS

SITE CHARACTERISTICS

1. PRECIPITATION ZONE = 3
2. $P_{max} = P_{30} = 2.60$
 $P_{max} = 4.90$
3. TOTAL PROJECT AREA (A) = 485,020 SF / 11.1345 AC

A. EXISTING LAND TREATMENT

A. ONSITE BASIN 485,020 SF = 11.13 AC

TREATMENT	AREA (SF/AC)	%
B	243,000 / 5.58	50
C	242,020 / 5.55	50

B. OFFSITE BASIN 26,428 SF = 0.60 AC

TREATMENT	AREA (SF/AC)	%
B	13,228 / 0.30	50
C	13,200 / 0.30	50

5. DEVELOPED LAND TREATMENT

A. ONSITE BASIN 485,020 SF = 11.13 AC

TREATMENT	AREA (SF/AC)	%
B	168,845 / 3.58	35
C	144,355 / 3.31	30
D	171,820 / 3.94	35

B. OFFSITE BASIN 20,600 SF = 0.47 AC

TREATMENT	AREA (SF/AC)	%
B	14,420 / 0.33	70
C	6,180 / 0.14	30

C. WEST BASIN 264,810 SF = 6.08 AC

TREATMENT	AREA (SF/AC)	%
B	125,390 / 2.89	48
C	125,990 / 2.88	48
D	113,430 / 0.30	3

D. EAST BASIN 220,210 SF = 5.05 AC

TREATMENT	AREA (SF/AC)	%
B	42,580 / 0.98	20
C	18,370 / 0.42	9
D	159,260 / 3.65	72

EXISTING CONDITIONS

A. ONSITE BASIN

1. VOLUME

$$E_v = (E_{A1} + E_{A2} + E_{A3} + E_{A4})/A_v$$

$$E_v = ((0.98 \times 0.92) + (0.42 \times 1.29) + (3.65 \times 2.36))/11.13 = 1.10 \text{ IN}$$

$$V_{vol} = (E_v/12)A_v = (1.10/12)11.13 = 1.0201 \text{ AC-FT } 44,460 \text{ CF}$$

$$V_{vol} = V_{vol} + A_v \cdot (P_{10} - P_{30})/12 \text{ IN/FT}$$

$$V_{vol} = 1.0201 + 0.00 \cdot (4.90 - 2.60)/12 \text{ IN/FT}$$

$$V_{vol} = 1.0201 \text{ AC-FT} = 44,460 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{A1} + Q_{A2} + Q_{A3} + Q_{A4}$$

$$Q_p = Q_{100} = (3.58 \times 2.6) + (3.31 \times 2.6) + (3.94 \times 2.6) = 33.7 \text{ CFS}$$

B. OFFSITE BASIN

1. VOLUME

$$E_v = (E_{A1} + E_{A2} + E_{A3} + E_{A4})/A_v$$

$$E_v = ((0.30 \times 0.92) + (0.30 \times 1.29))/0.60 = 1.10 \text{ IN}$$

$$V_{vol} = (E_v/12)A_v = (1.10/12)0.60 = 0.055 \text{ AC-FT } 2,375.8 \text{ CF}$$

$$V_{vol} = V_{vol} + A_v \cdot (P_{10} - P_{30})/12 \text{ IN/FT}$$

$$V_{vol} = 0.0558 + 0.00 \cdot (4.90 - 2.60)/12 \text{ IN/FT}$$

$$V_{vol} = 0.0558 \text{ AC-FT} = 2,420 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{A1} + Q_{A2} + Q_{A3} + Q_{A4}$$

$$Q_p = Q_{100} = (0.30 \times 2.6) + (0.30 \times 2.6) = 1.8 \text{ CFS}$$

DEVELOPED CONDITIONS

A. ONSITE BASIN

1. VOLUME

$$E_v = (E_{A1} + E_{A2} + E_{A3} + E_{A4})/A_v$$

$$E_v = ((0.98 \times 0.92) + (3.31 \times 1.29) + (3.94 \times 2.36))/11.13 = 1.54 \text{ IN}$$

$$V_{vol} = (E_v/12)A_v = (1.54/12)11.13 = 1.4288 \text{ AC-FT } 62,240 \text{ CF}$$

$$V_{vol} = V_{vol} + A_v \cdot (P_{10} - P_{30})/12 \text{ IN/FT}$$

$$V_{vol} = 1.4288 + 3.94 \cdot (4.90 - 2.60)/12 \text{ IN/FT}$$

$$V_{vol} = 2.1841 \text{ AC-FT} = 93,170 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{A1} + Q_{A2} + Q_{A3} + Q_{A4}$$

$$Q_p = Q_{100} = (3.58 \times 2.6) + (3.31 \times 2.6) + (3.94 \times 2.6) = 33.7 \text{ CFS}$$

B. OFFSITE BASIN

1. VOLUME

$$E_v = (E_{A1} + E_{A2} + E_{A3} + E_{A4})/A_v$$

$$E_v = ((0.30 \times 0.92) + (0.14 \times 1.29))/0.47 = 1.03 \text{ IN}$$

$$V_{vol} = (E_v/12)A_v = (1.03/12)0.47 = 0.0408 \text{ AC-FT } 1,770 \text{ CF}$$

$$V_{vol} = V_{vol} + A_v \cdot (P_{10} - P_{30})/12 \text{ IN/FT}$$

$$V_{vol} = 0.0408 + 0.00 \cdot (4.90 - 2.60)/12 \text{ IN/FT}$$

$$V_{vol} = 0.0408 \text{ AC-FT} = 1,770 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{A1} + Q_{A2} + Q_{A3} + Q_{A4}$$

$$Q_p = Q_{100} = (0.30 \times 2.6) + (0.14 \times 2.6) = 1.4 \text{ CFS}$$

C. WEST BASIN

1. VOLUME

$$E_v = (E_{A1} + E_{A2} + E_{A3} + E_{A4})/A_v$$

$$E_v = ((2.89 \times 0.92) + (2.89 \times 1.29) + (0.30 \times 2.36))/6.08 = 1.17 \text{ IN}$$

$$V_{vol} = (E_v/12)A_v = (1.17/12)6.08 = 0.5933 \text{ AC-FT } 25,280 \text{ CF}$$

$$V_{vol} = V_{vol} + A_v \cdot (P_{10} - P_{30})/12 \text{ IN/FT}$$

$$V_{vol} = 0.5933 + 0.30 \cdot (4.90 - 2.60)/12 \text{ IN/FT}$$

$$V_{vol} = 0.6508 \text{ AC-FT} = 25,280 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{A1} + Q_{A2} + Q_{A3} + Q_{A4}$$

$$Q_p = Q_{100} = (2.89 \times 2.6) + (2.89 \times 2.6) + (0.30 \times 2.6) = 19.0 \text{ CFS}$$

D. EAST BASIN

1. VOLUME

$$E_v = (E_{A1} + E_{A2} + E_{A3} + E_{A4})/A_v$$

$$E_v = ((0.98 \times 0.92) + (0.42 \times 1.29) + (3.65 \times 2.36))/5.05 = 1.99 \text{ IN}$$

$$V_{vol} = (E_v/12)A_v = (1.99/12)5.05 = 0.8383 \text{ AC-FT } 36,220 \text{ CF}$$

$$V_{vol} = V_{vol} + A_v \cdot (P_{10} - P_{30})/12 \text{ IN/FT}$$

$$V_{vol} = 0.8383 + 3.65 \cdot (4.90 - 2.60)/12 \text{ IN/FT}$$

$$V_{vol} = 1.5379 \text{ AC-FT} = 68,990 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{A1} + Q_{A2} + Q_{A3} + Q_{A4}$$

$$Q_p = Q_{100} = (0.98 \times 2.6) + (0.42 \times 2.6) + (3.65 \times 2.6) = 22.3 \text{ CFS}$$

D. EAST BASIN

1. VOLUME

$$E_v = (E_{A1} + E_{A2} + E_{A3} + E_{A4})/A_v$$

$$E_v = ((0.98 \times 0.92) + (0.42 \times 1.29) + (3.65 \times 2.36))/5.05 = 1.99 \text{ IN}$$

$$V_{vol} = (E_v/12)A_v = (1.99/12)5.05 = 0.8383 \text{ AC-FT } 36,220 \text{ CF}$$

$$V_{vol} = V_{vol} + A_v \cdot (P_{10} - P_{30})/12 \text{ IN/FT}$$

$$V_{vol} = 0.8383 + 3.65 \cdot (4.90 - 2.60)/12 \text{ IN/FT}$$

$$V_{vol} = 1.5379 \text{ AC-FT} = 68,990 \text{ CF}$$

2. PEAK DISCHARGE

$$Q_p = Q_{A1} + Q_{A2} + Q_{A3} + Q_{A4}$$

$$Q_p = Q_{100} = (0.98 \times 2.6) + (0.42 \times 2.6) + (3.65 \times 2.6) = 22.3 \text{ CFS}$$

COMPARISON

A. DEV ONSITE BASIN TO EX ONSITE BASIN

1. VOLUME

$$\Delta V_{vol} = 62,240 - 44,460 = 17,780 \text{ CF (INCREASE)}$$

$$\Delta V_{vol} = 93,170 - 44,460 = 50,710 \text{ CF (INCREASE)}$$

2. PEAK DISCHARGE

$$\Delta Q_{100} = 33.7 - 33.7 = 0 \text{ CFS (INCREASE)}$$

B. DEV OFFSITE BASIN TO EX OFFSITE BASIN

1. VOLUME

$$\Delta V_{vol} = 1,770 - 2,420 = -650 \text{ CF (DECREASE)}$$

$$\Delta V_{vol} = 1,770 - 2,420 = -650 \text{ CF (DECREASE)}$$

2. PEAK DISCHARGE

$$\Delta Q_{100} = 1.4 - 1.8 = -0.5 \text{ CFS (DECREASE)}$$

C. OVERALL EXISTING TO OVERALL DEVELOPED

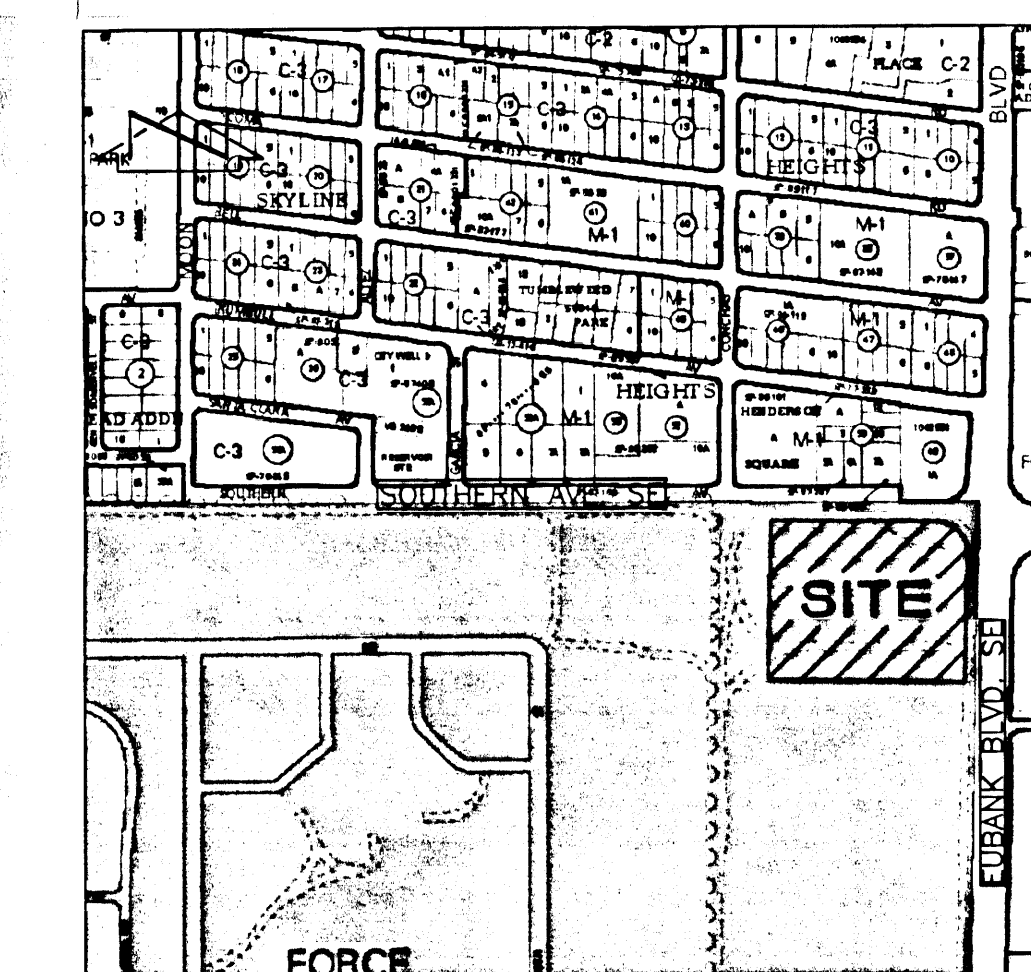
1. VOLUME

$$\Delta V_{vol} = 64,010 - 46,880 = 17,130 \text{ CF (INCREASE)}$$

$$\Delta V_{vol} = 98,940 - 46,880 = 50,060 \text{ CF (INCREASE)}$$

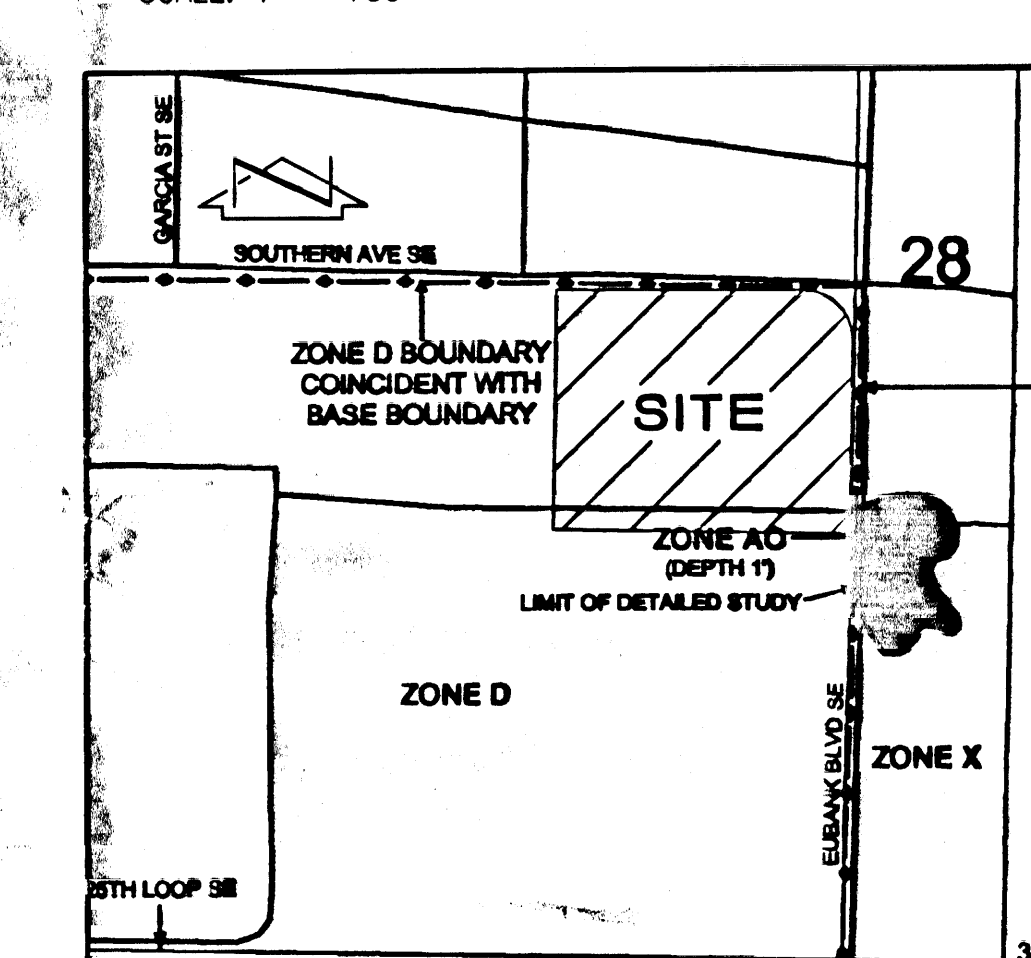
2. PEAK DISCHARGE

$$\Delta Q_{100} = 42.7 - 33.5 = 9.2 \text{ CFS (INCREASE)}$$



VICINITY MAP L-20

SCALE: 1" = 750'



F.I.R.M. PANEL 358 OF 825

SCALE: 1" = 500'

PROJECT BENCHMARK

ACS 3 1/4" ALUMINUM CAP STAMPED "ACS 6-121, 1986", SET FLUSH IN THE CURB OF THE EAST MEDIAN AT THE INTERSECTION OF CENTRAL AVENUE AND ELIZABETH STREET, ELEVATION = 5503.28 FEET (NAVD 1988)

T.B.M.

A MAG NAIL SET IN THE PATTERNED CONCRETE OF THE SIDEWALK TRAFFIC ISLAND, AS SHOWN ON SHEET C-101, ELEVATION = 5474.04 FEET (NAVD 1988)

LEGAL DESCRIPTION

AN UNPLATTED TRACT OF LAND LOCATED WITHIN BERNALILLO COUNTY, NEW MEXICO, SECTION 29, TOWNSHIP 10 NORTH, RANGE 4 EAST, N.M.P.M., COMPRISING A PORTION OF THE KIRTLAND AIR FORCE BASE MILITARY RESERVATION KNOWN AS TRACT A-3-B, EUBANK SITE DEVELOPMENT, AS DESCRIBED BY BOUNDARY SURVEY OF EUBANK SITE DEVELOPMENT, PREPARED BY VADIM JIRIK, N.M.P.S. NO. 10464, CERTIFIED OCTOBER 19, 2005.

CONSTRUCTION NOTES:

1. TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM 260-1990 (ALBUQUERQUE AREA), 1-800-321-ALERT(2537) (STATEWIDE), FOR LOCATION OF EXISTING UTILITIES.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATION OF ALL POTENTIAL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL INTERPRETATIONS IT MAKES WITHOUT FIRST CONTACTING THE ENGINEER AS REQUIRED ABOVE.
3. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
4. ALL CONSTRUCTION WITHIN PUBLIC RIGHT-OF-WAY SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE CITY OF ALBUQUERQUE STANDARDS AND PROCEDURES.
5. IF ANY UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES ARE SHOWN ON THESE DRAWINGS, THEY ARE SHOWN IN AN APPROXIMATE MANNER ONLY, AND SUCH LINES MAY EXIST WHERE NONE ARE SHOWN. IF ANY SUCH EXISTING LINES ARE SHOWN, THE LOCATION IS BASED UPON INFORMATION PROVIDED BY THE OWNER OF SAID UTILITY, AND THE INFORMATION MAY BE INCOMPLETE, OR MAY BE OBSOLETE BY THE TIME CONSTRUCTION COMMENCES. THE ENGINEER HAS CONDUCTED ONLY PRELIMINARY INVESTIGATION OF THE LOCATION, DEPTH, SIZE, OR TYPE OF EXISTING UTILITY LINES, PIPELINES, OR UNDERGROUND UTILITY LINES. THIS INVESTIGATION IS NOT CONCLUSIVE, AND MAY NOT BE COMPLETE, THEREFORE, MAKES NO REPRESENTATION PERTAINING THERETO, AND ASSUMES NO RESPONSIBILITY OR LIABILITY THEREOF. 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.
6. THE DESIGN OF PLANTERS AND LANDSCAPED AREAS IS NOT PART OF THIS PLAN. ALL PLANTERS AND LANDSCAPED AREAS ADJACENT TO THE BUILDING(S) SHALL BE PROVIDED WITH POSITIVE DRAINAGE TO AVOID ANY PONDING ADJACENT TO THE STRUCTURE. FOR CONSTRUCTION DETAILS, REFER TO LANDSCAPING PLAN.

EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE SITE INTO PUBLIC RIGHT-OF-WAY OR ONTO PRIVATE PROPERTY.
2. THE CONTRACTOR SHALL PROMPTLY CLEAN UP ANY MATERIAL EXCAVATED WITHIN THE PUBLIC RIGHT-OF-WAY SO THAT THE EXCAVATED MATERIAL IS NOT SUSCEPTIBLE TO BEING WASHED DOWN THE STREET.
3. WHEN APPLICABLE, CONTRACTOR SHALL SECURE "TOPSOIL DISTURBANCE PERMIT" FROM THE CITY AND/OR FILE A NOTICE OF INTENT (N.O.I.) WITH THE EPA PRIOR TO BEGINNING CONSTRUCTION.
4. UNLESS FINAL STABILIZATION IS OTHERWISE PROVIDED FOR, ANY AREAS OF EXCESS DISTURBANCE (TRAFFIC ACCESS, STORAGE YARD, EXCAVATED MATERIAL, ETC.) SHALL BE RE-SEED ACCORDING TO C.O.A. SPECIFICATION 1012 "NATIVE GRASS SEEDING". THIS WILL BE CONSIDERED INCIDENTAL TO CONSTRUCTION, THEREFORE, NO SEPARATE PAYMENT WILL BE MADE.

2006.081.3

HIGH MESA Consulting Group

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Architect

Engineer

NATIONAL MUSEUM OF NUCLEAR SCIENCE & HISTORY

ALBUQUERQUE, NEW MEXICO

MARK

DATE

DESCRIPTION

ISSUE:

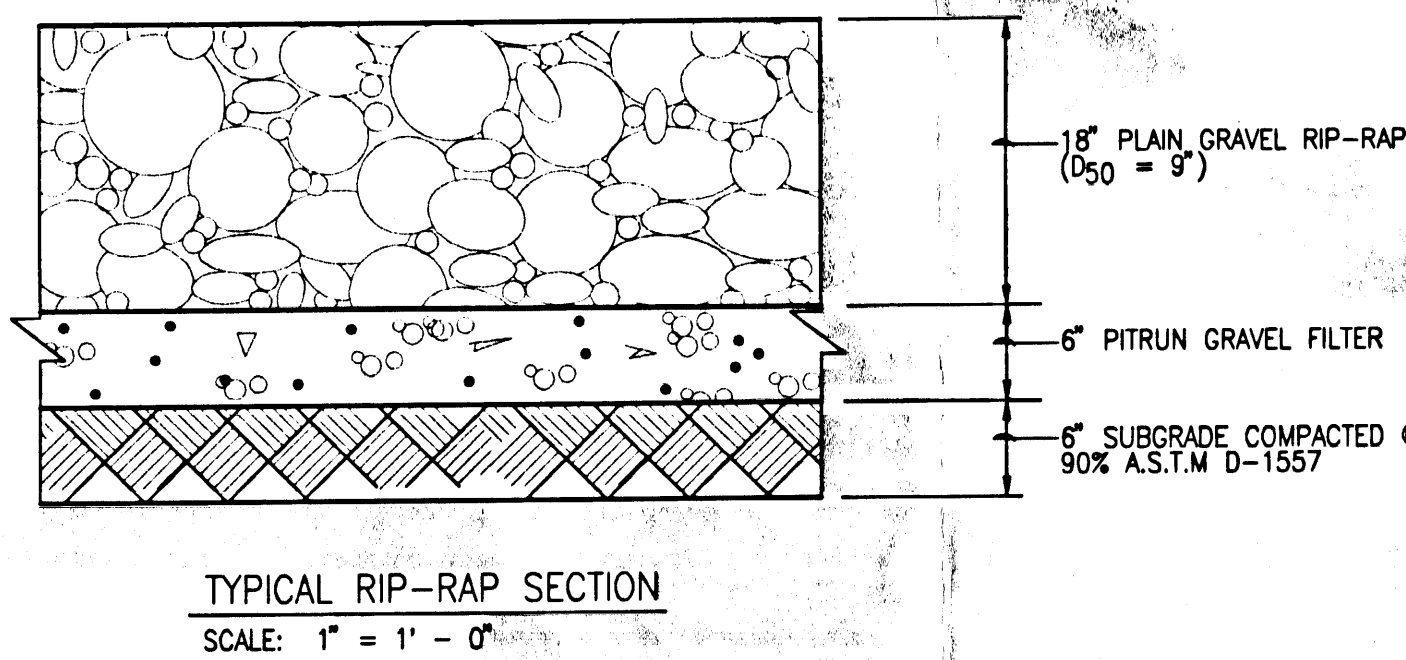
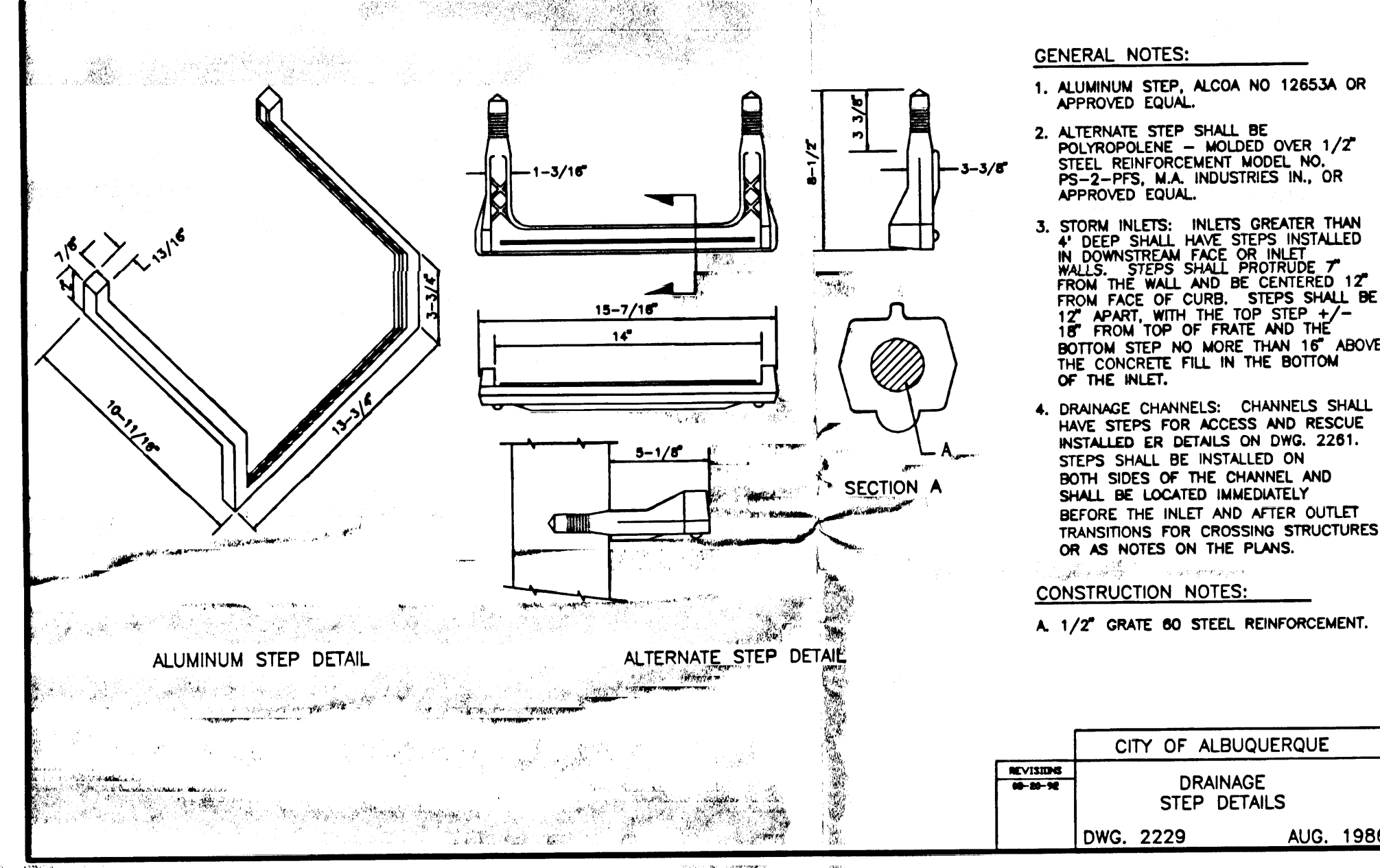
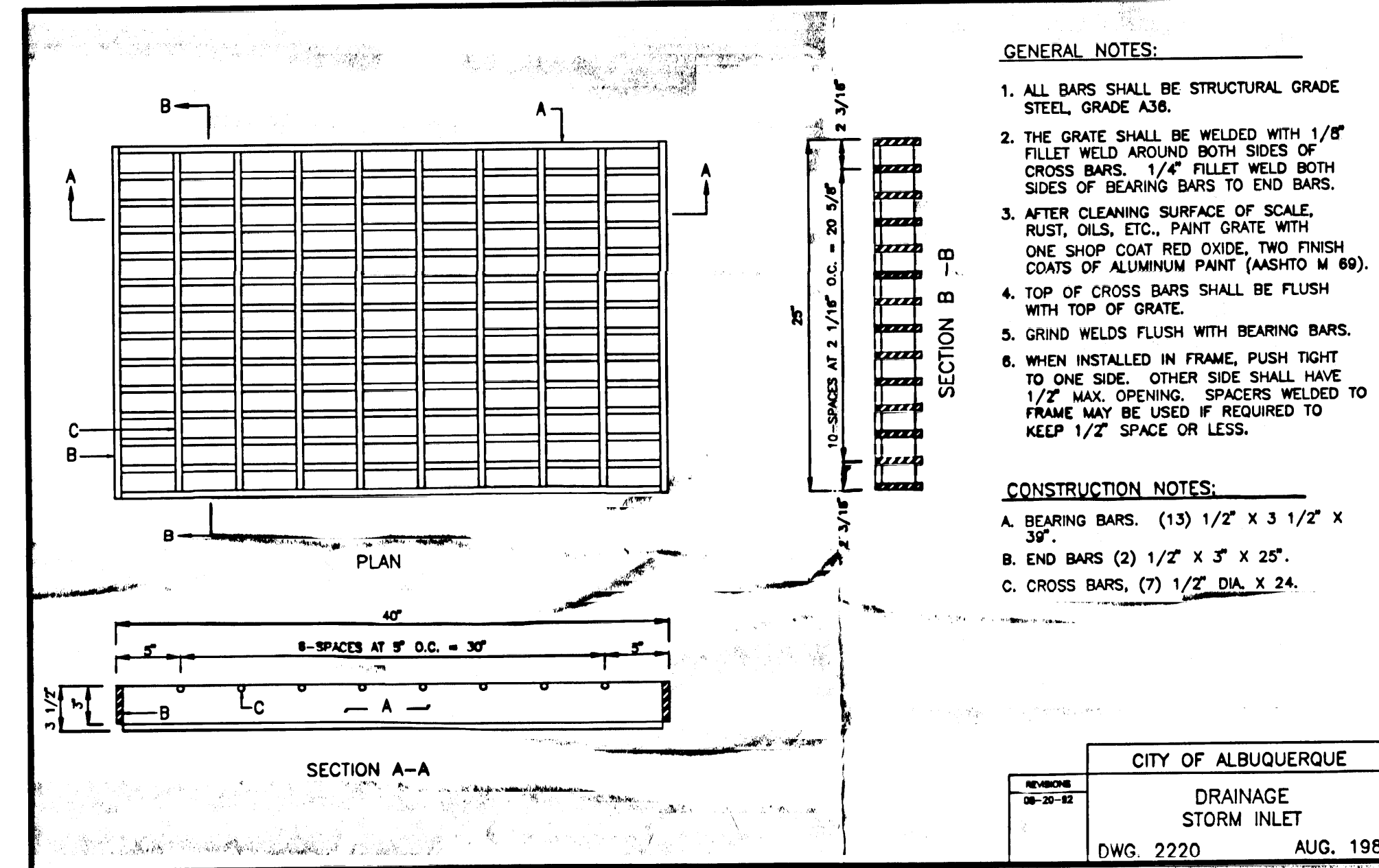
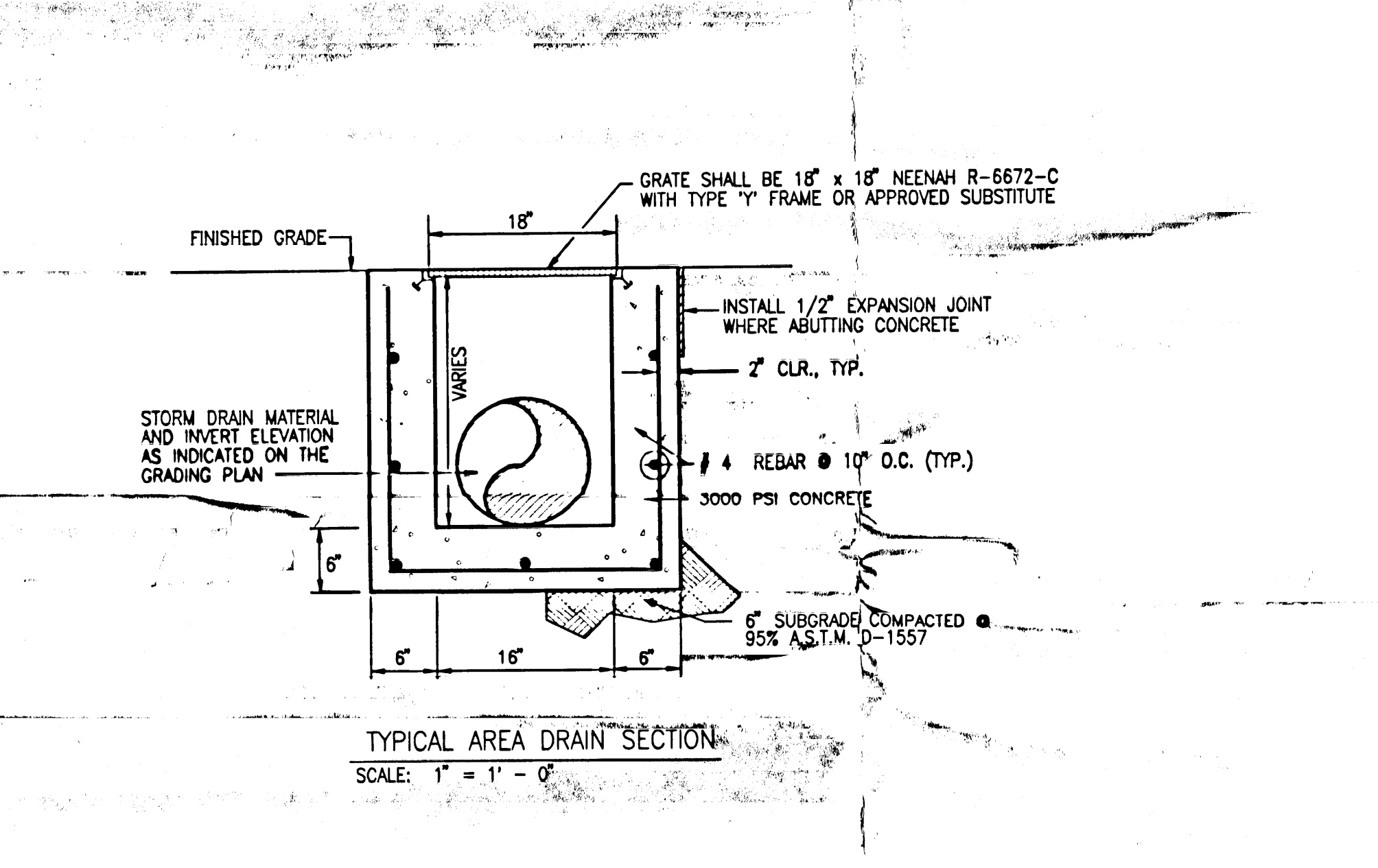
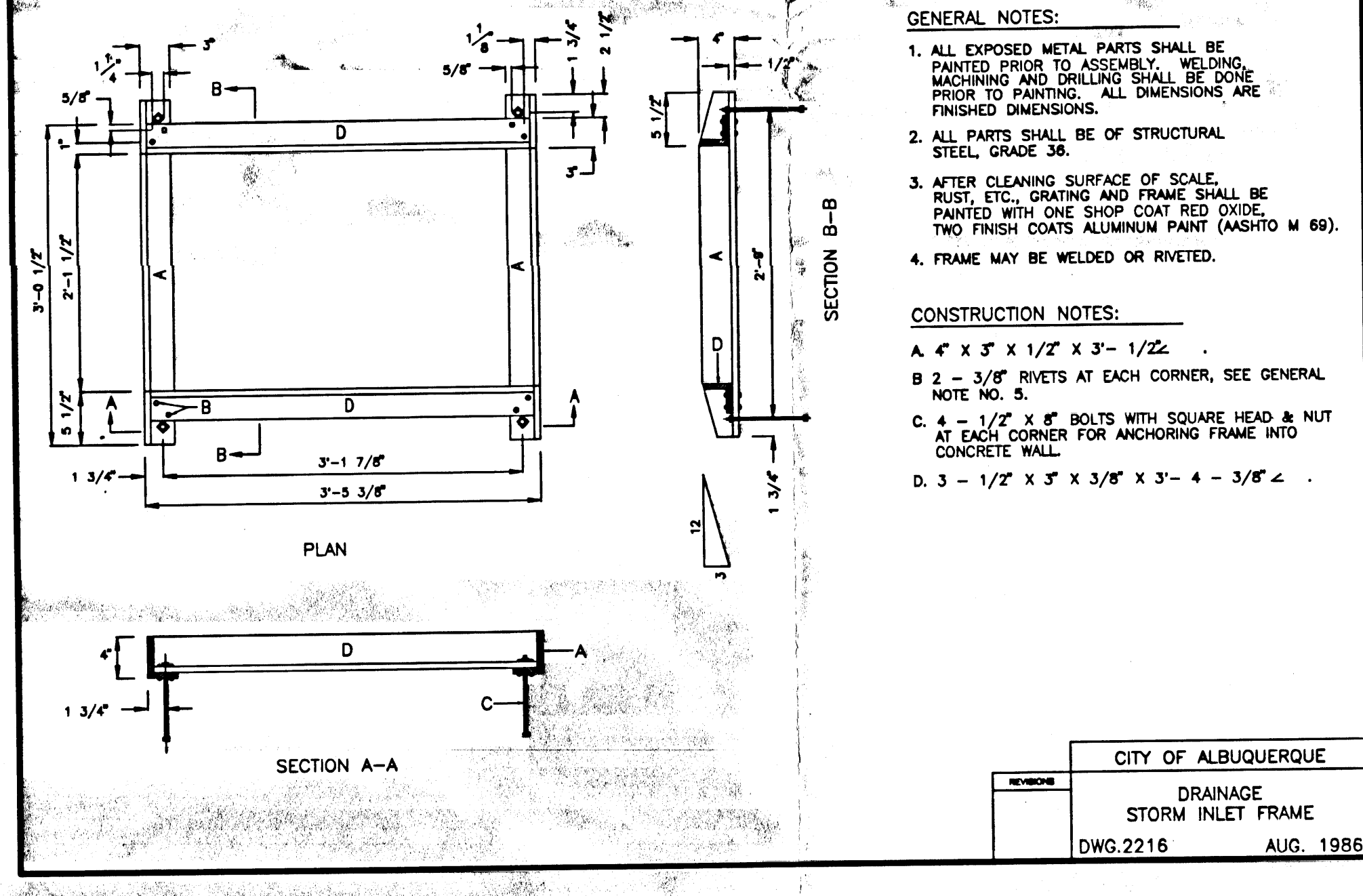
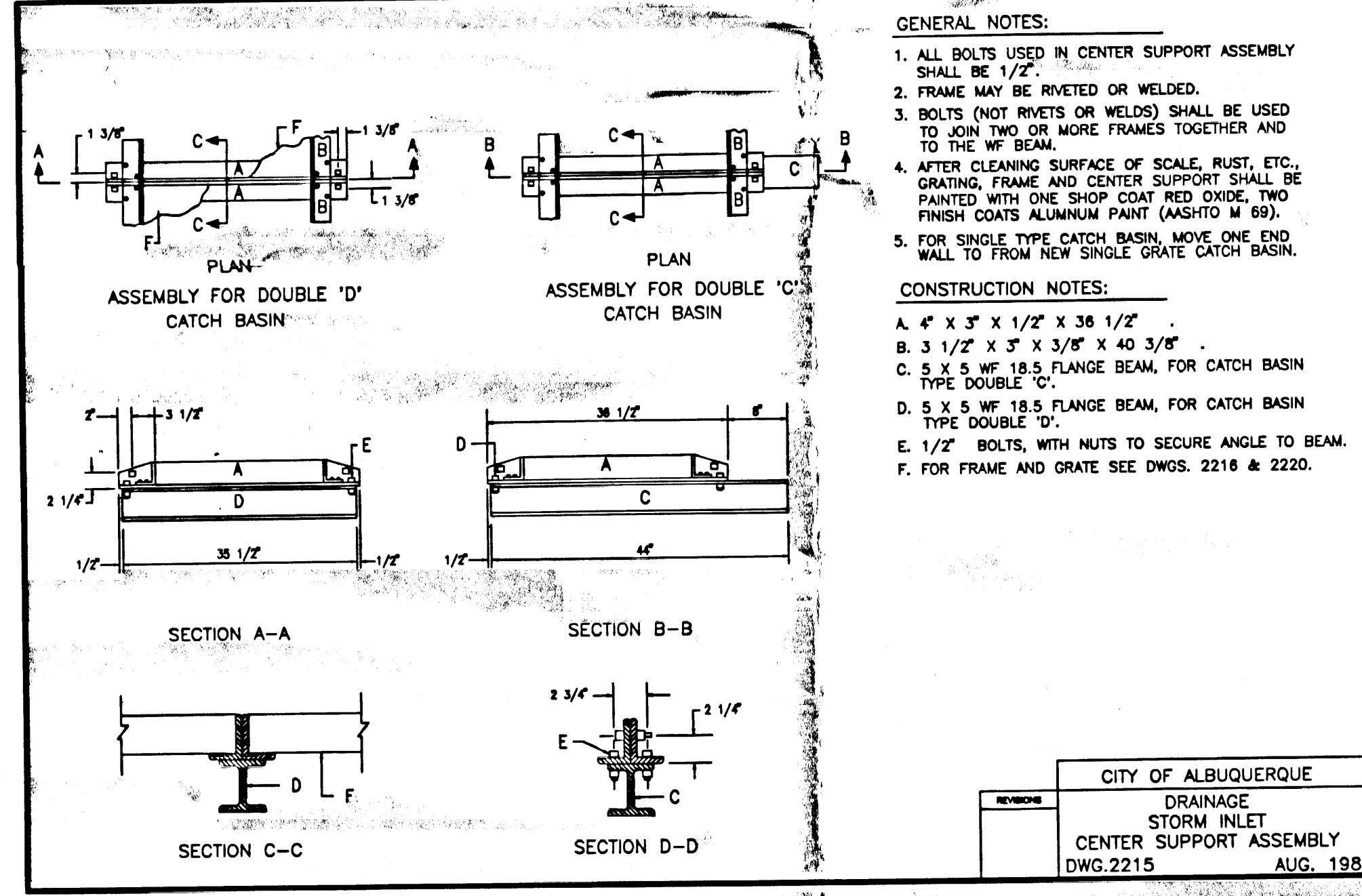
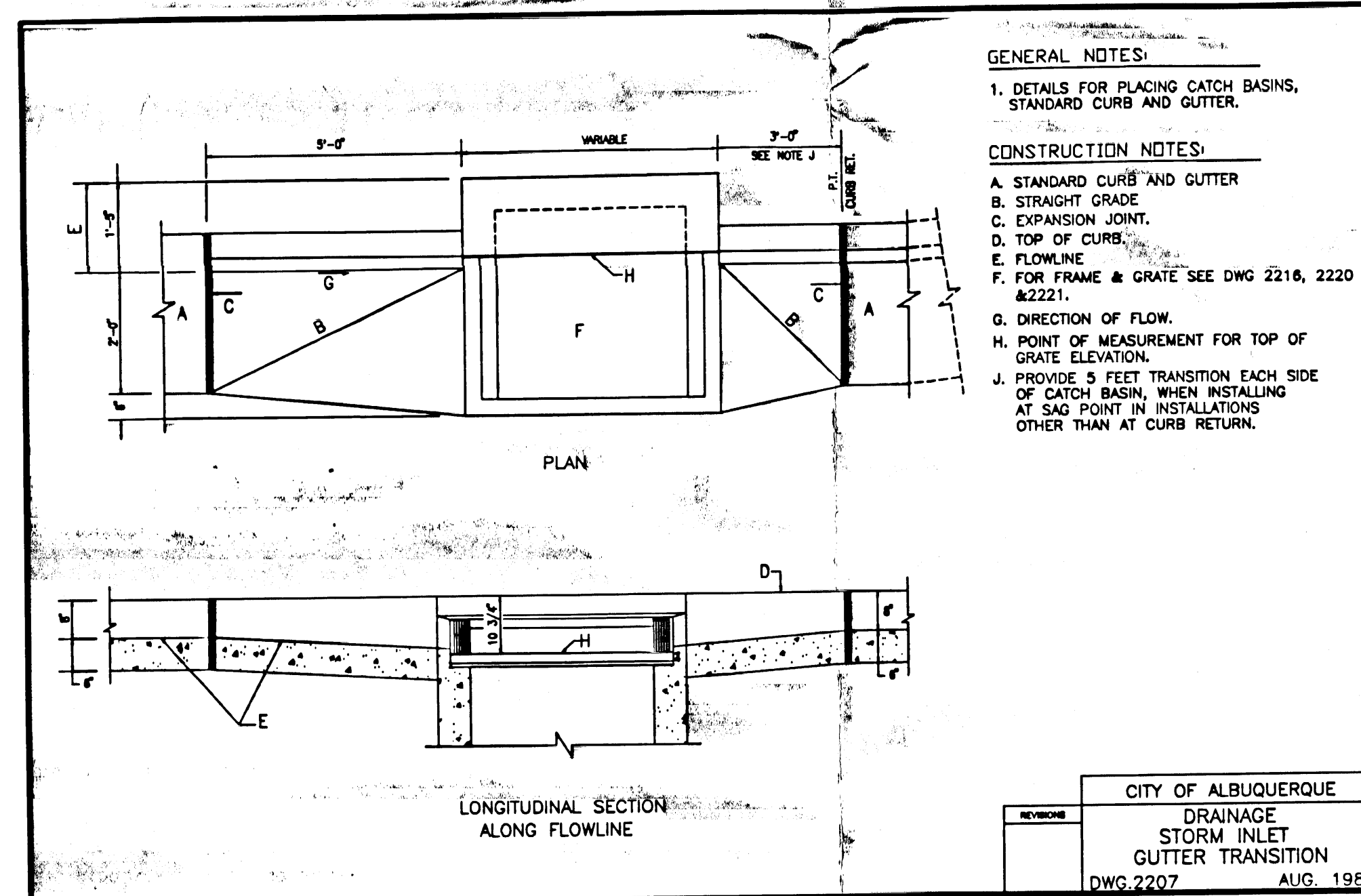
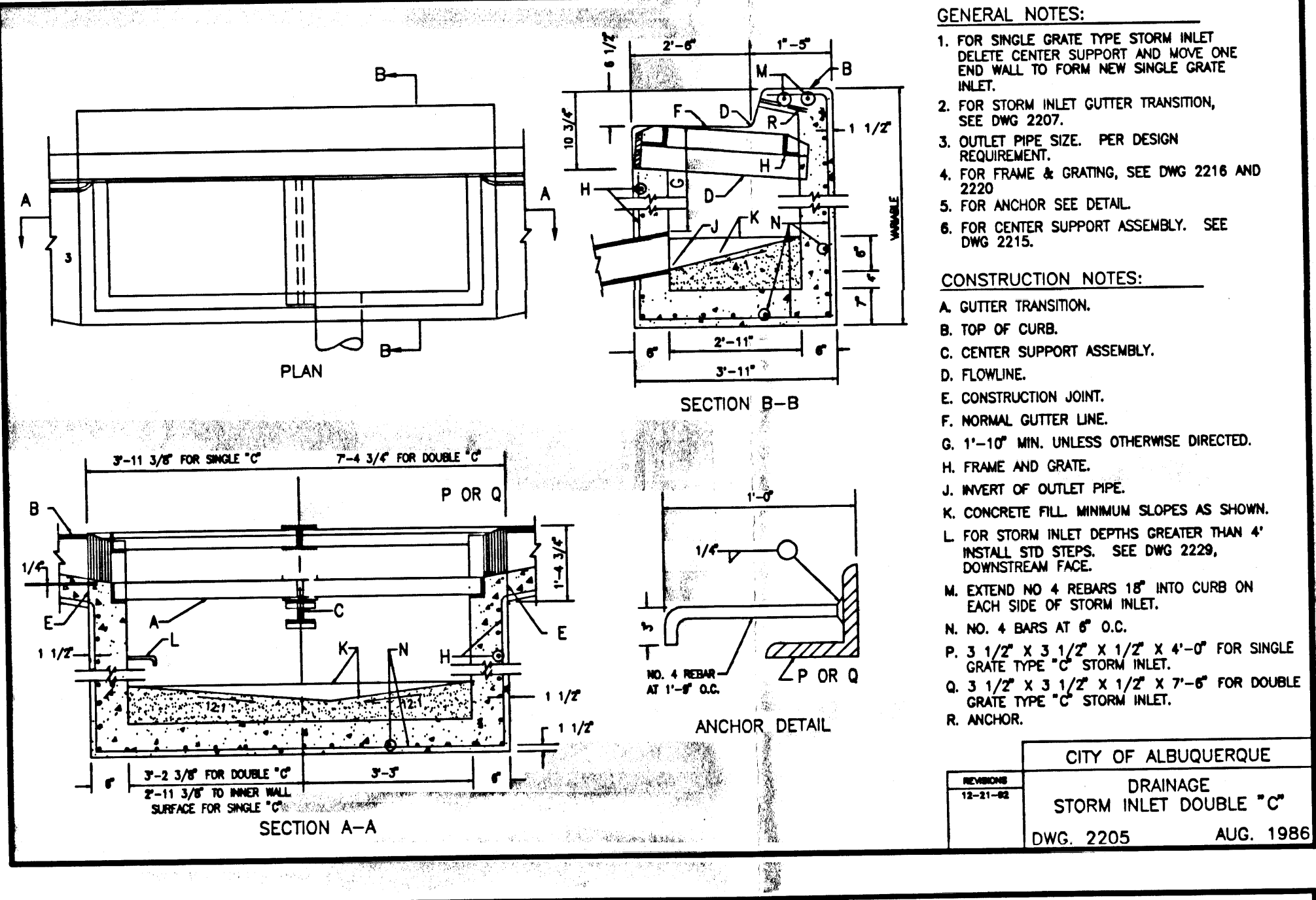
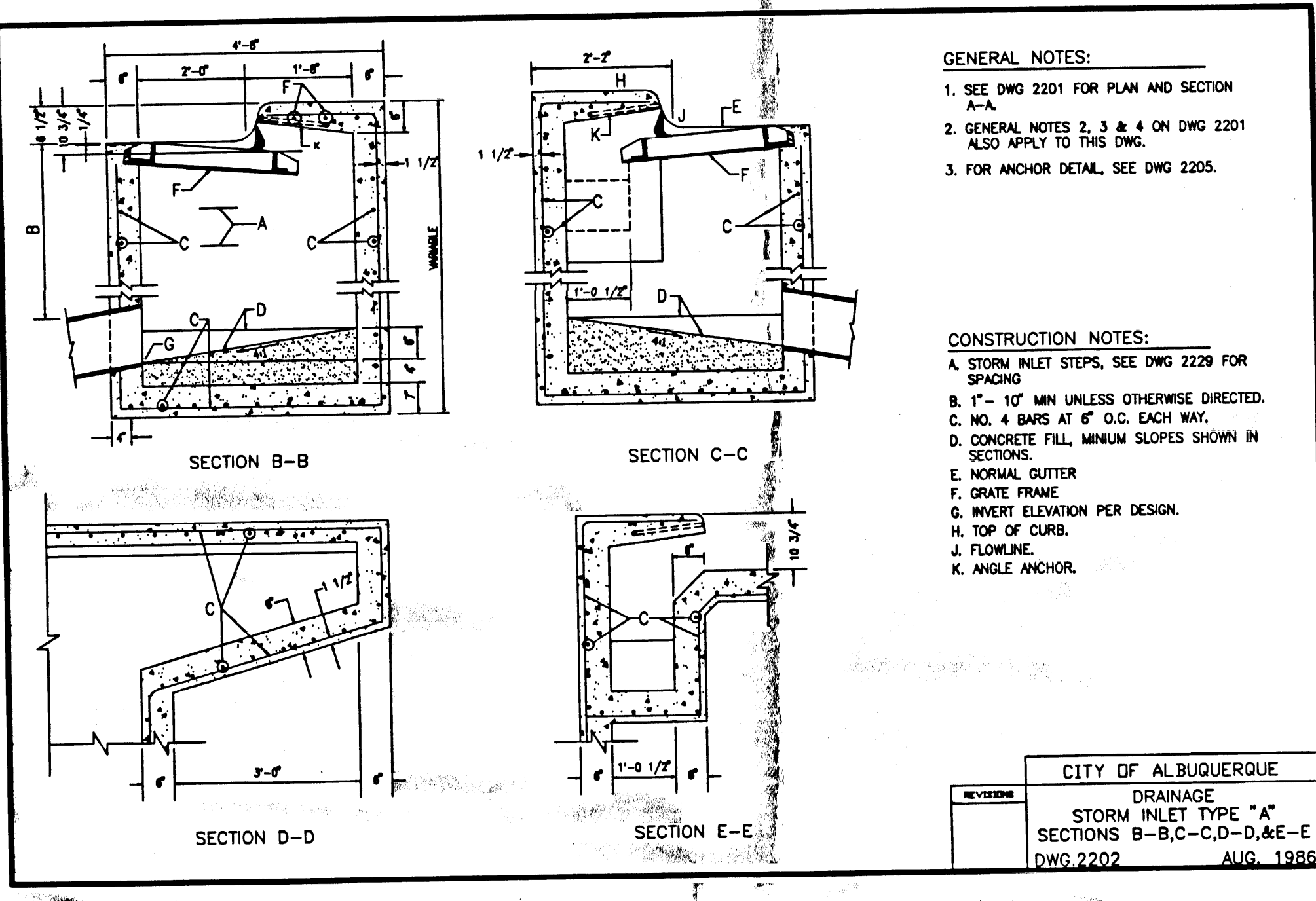
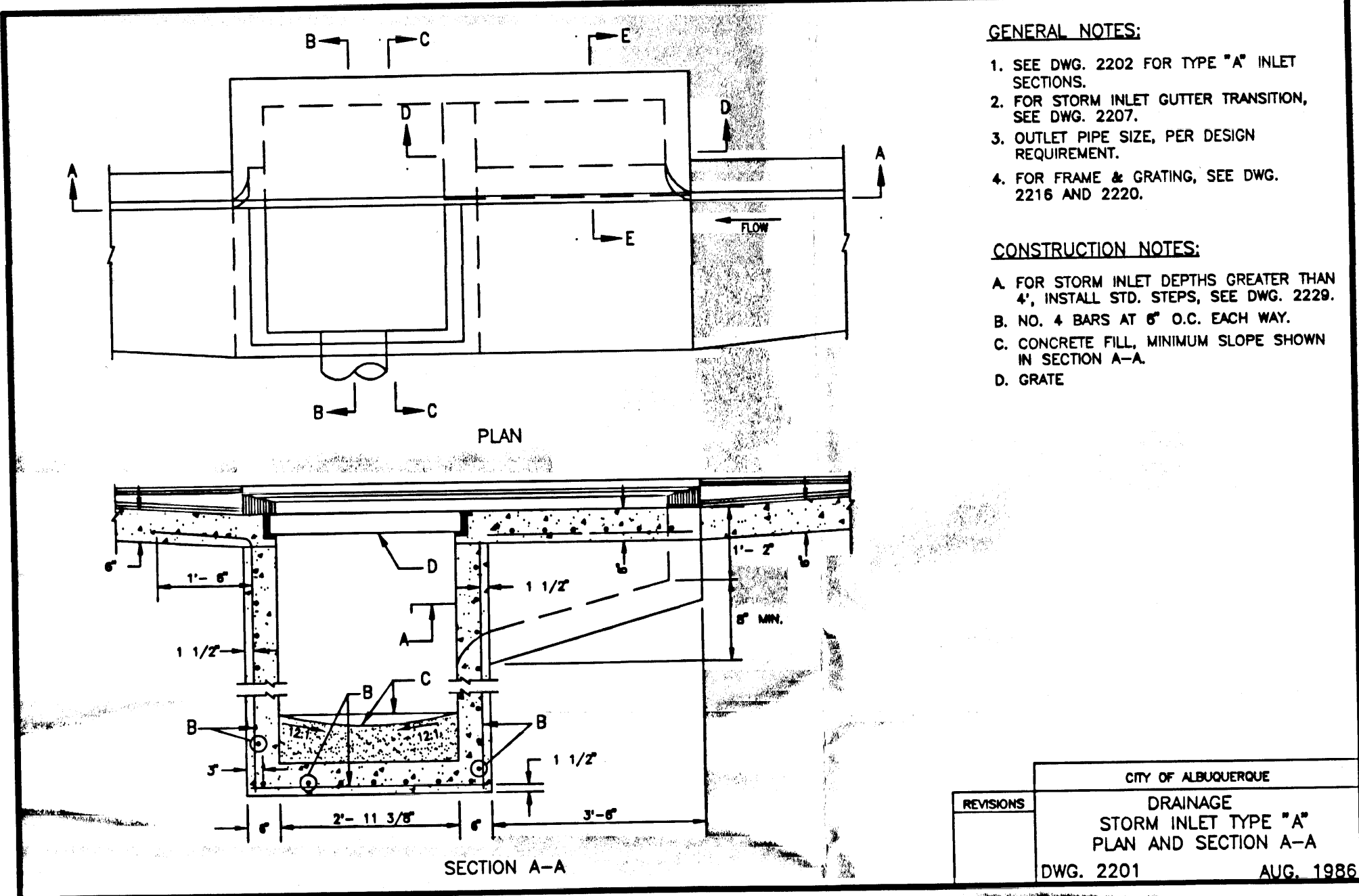
PROJECT NO: 9729

CAD DWG FILE: 60813SD2R

DRAWN BY: RRW

CHECKED BY: G.M.

DATE: JULY 05



MARK	DATE	DESCRIPTION
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ISSUE:
PROJECT NO: 9729
CAD DWG FILE:
DRAWN BY:
CHECKED BY:
DATE:

JULY 05, 2007

SHEET TITLE
**STORM DRAIN
SECTIONS AND DETAILS**

C-103

sheet of sheets

2006.081.3

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