

CITY OF ALBUQUERQUE

CITY COUNCIL

6/20/91

INTER-OFFICE MEMORANDUM:

REF. 12133-3

TO: Louis Saavedra, Mayor
FROM: Bea Gutierrez, Director of Council Services
SUBJECT: TRANSMITTAL OF LEGISLATION

Attached is Bill No. R-397, Awarding Construction Contract - Part 1 Master Sanitary Sewer - SAD 223 - [MCC, Inc.] (Armijo) which was passed by the Council on June 17, 1991, by a vote of 8 FOR AND 1 ABSTAIN.

Yes: 8
Abstain: Yntema

In accordance with the provisions of the City Charter your action is respectfully requested.

BG/dir
Attachment
06/17/91

City of Albuquerque
City Council

**Enrolling & Engrossing
Certificate**

Bill No: R-397, Awarding Construction Contract - Part 1
Master Sanitary Sewer - SAD 223 - (MCC, Inc.)

Sponsored by: Alan B. Armijo
Councillor, District 1

Certified by: Doreen Romero
Doreen Romero
Council Secretary



Date: 6/17/91

CITY OF ALBUQUERQUE

CITY COUNCIL

6/20/91

*Do Not
Publish
104-1991*

INTER-OFFICE MEMORANDUM:

REF. 12133-3

TO: Louis Saavedra, Mayor
FROM: Bea Gutierrez, Director of Council Services *BG*
SUBJECT: TRANSMITTAL OF LEGISLATION

Attached is Bill No. R-392, Awarding Construction Contract - Part 1 Master Sanitary Sewer - SAD 223 - [MCC, Inc.] (Armijo) which was passed by the Council on June 17, 1991, by a vote of 8 FOR AND 1 ABSTAIN.

Yes: 8
Abstain: Yntema

In accordance with the provisions of the City Charter your action is respectfully requested.

BG/dlr
Attachment
06/17/91



JUN 24 1991
RECEIVED
ALBUQUERQUE CITY CLERK

CITY of ALBUQUERQUE
NINTH COUNCIL

COUNCIL BILL NO.

R-397

ENACTMENT NO.

104-1991

SPONSORED BY:

Alan B. Armijo

RESOLUTION

AWARDING CONSTRUCTION CONTRACT FOR SPECIAL ASSESSMENT DISTRICT NO.
223, PART I, MASTER SANITARY SEWER TO MCC, INC.

WHEREAS, the City Council on June 13, 1991 by Resolution
authorized the City Clerk to advertise for bids for the construction
of the improvements comprising Special Assessment District No. 233; and

WHEREAS, the City Clerk did advertise for Part I construction bids
in accordance with State Statutes and the City Purchasing Ordinance;
and

WHEREAS, on June 4, 1991 at 1:30 p.m. the City Clerk opened all
bids which had been received from five bidders; and

WHEREAS, the result was that MCC, Inc. had submitted a low bid of
\$515,210.03 for the construction of the improvements comprising
Special Assessment District No. 223, Part I, Master Sanitary Sewer; and

WHEREAS, Easterling & Associates, Inc. the Consulting Engineer and
the Director, Public Works Department have recommended award of the
construction contract to MCC, Inc.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF
ALBUQUERQUE:

Section 1. That the contract for the construction of the
improvements comprising Special Assessment District No. 223, Part I be
and hereby is awarded to MCC, Inc.

Section 2. That said construction work shall be performed in
accordance with the plans, specifications and contract documents
prepared by the Consulting Engineer, accepted by the City Council and
filed with the City Clerk.

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Section 3. That the officers of the City be and hereby are authorized to take whatever action as may be necessary and appropriate to carry out the provisions of this Resolution.

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1 PASSED AND ADOPTED THIS 17th DAY OF June, 1991.
2 BY A VOTE OF 8 FOR AND 1 ABSTAIN.

3 Yes: 8
4 Abstain: Yntema

5
6 Michael Brasher
7 Michael Brasher, President
8 City Council

9 APPROVED THIS 21st DAY OF JUNE, 1991

10
11 Louis E. Saavedra
12 Louis E. Saavedra, Mayor
13 City of Albuquerque

14 ATTEST:

15
16 Karen M. Owen
17 City Clerk

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CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE

June 6, 1991

REF. NO. _____

TO: Michael Brasher, President, City Council
FROM: Louis E. Saavedra, Mayor *LSaavedra*
SUBJECT: SPECIAL ASSESSMENT DISTRICT NO. 223-PART I MASTER SANITARY SEWER -
AWARD OF CONSTRUCTION CONTRACT (CITY COUNCIL DISTRICT #1)

Submitted herewith for your consideration and that of the City Council is a resolution awarding the construction contract for Special Assessment District No. 223, Part I Master Sanitary Sewer to MCG, Inc. at the low bid of \$515,210.03.

Construction of the Master Sanitary Sewer will not require any City funds.

This resolution is forwarded to the Council for immediate action on June 17, 1991.

RECOMMENDED BY:

REVIEWED BY THE LEGAL DEPARTMENT:

Robert E. Gurule
Robert Gurule, Director
Public Works Department

Malcolm W. deVesty
Malcolm W. deVesty
Assistant City Attorney

RECOMMENDED BY:

Arthur A. Blumenfeld
Arthur A. Blumenfeld
Chief Administrative Officer
let
LRL/tal/WP+125495
Attachment

(FISCAL IMPACT ANALYSIS)

TITLE: Award Resolution R- O-
SAD-223 Part I FUND: SAD
Master Sanitary Sewer DEPT: Public Works

- ☒ (X) No measurable fiscal impact is anticipated, i.e., no impact on fund balance over and above existing appropriations.
- ☐ () (If Applicable) The estimated fiscal impact (defined as impact over and above existing appropriations) of this legislation is as follows:

	CURRENT YEAR*	NEXT YEAR*
Base Salary/Wages	\$ <u> </u>	\$ <u> </u>
Fringe Benefits at <u> </u>	<u> </u>	<u> </u>
Subtotal Personnel	<u> </u>	<u> </u>
Operating Expenses	<u> </u>	<u> </u>
Property	<u> </u>	<u> </u>
Total	\$ <u> </u>	\$ <u> </u>

- ☐ () Estimated revenues not affected
- ☐ () Estimated revenue impact

\$ \$

- These estimates do not include any adjustment for inflation.
- Range if not easily quantifiable.

Number of Positions

COMMENTS:

COMMENTS ON NON-MONETARY IMPACTS TO COMMUNITY/CITY GOVERNMENT: City policy requires Council approval of award of construction contracts for Special Assessment Districts. This Master Sanitary Sewer will be owned and maintained by New Mexico Utilities.

PREPARED BY:

Paul McManis
FISCAL ANALYST

APPROVED:

Robert E. C. 6-7-91
DIRECTOR (date)

REVIEWED BY:

John J. [unclear]
EXECUTIVE BUDGET ANALYST

REVIEWED BY:

BUDGET OFFICER (date)

CITY of ALBUQUERQUE
NINTH COUNCIL

COUNCIL BILL NO. F/S R-354 ENACTMENT NO. _____

SPONSORED BY: *Alon B. Amigo, by Request*

RESOLUTION

RELATING TO THE PROPOSED ALBUQUERQUE, NEW MEXICO, SPECIAL
ASSESSMENT DISTRICT NO. 223; ACCEPTING PRELIMINARY PLANS,
ESTIMATES OF COSTS, ASSESSMENT PLAT WITH ADDENDUM AND
ENGINEER'S REPORT AS TO THE METHODS USED IN DETERMINING
BENEFITS WITH RESPECT THERETO; MAKING A PROVISIONAL ORDER
THAT CERTAIN STREET AND ASSOCIATED STORM DRAINAGE
IMPROVEMENTS, WATER IMPROVEMENTS, AND SANITARY SEWER
IMPROVEMENTS, ALL WITHIN THE PROPOSED DISTRICT, SHALL BE
CONSTRUCTED; AND DIRECTING THAT NOTICE OF A HEARING ON THE
PROVISIONAL ORDER BE GIVEN.

WHEREAS, the City Council (the "Council") of the City of Albuquerque
(the "City"), in the County of Bernalillo and State of New Mexico, has directed
Easterling & Associates, Inc. (the "Engineers"), professional engineers duly licensed
under the laws of the State of New Mexico, to prepare, submit, and file with the
City Clerk of the City (the "City Clerk"), (I) preliminary plans showing, typical
sections of, the type of materials to be used and the approximate thickness and
width of the material for the contemplated street improvements (the "Street
Improvements"), the type of material to be used, the approximate diameter or
diameters of any trunk lines, mains or laterals for the contemplated water, sanitary
sewer and storm drainage improvements (the "Water Improvements," "Sanitary
Sewer Improvements," and "Storm Drainage Improvements," respectively) and a
general description of other major components of the foregoing types of
improvements in the proposed district (collectively, the "Improvements"); (II)
estimates of the cost of grading, graveling, paving, draining, curbing, guttering,
sidewalking, street lighting, and otherwise constructing the Street Improvements

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and of constructing, installing, adjusting, and otherwise completing the Water Improvements, Sanitary Sewer Improvements, and Storm Drainage Improvements; (III) an assessment plat showing the area to be included in the proposed district; and an addendum to the assessment plat, showing the amount of maximum benefit estimated to accrue to each tract or parcel of land in the proposed district, including an engineer's report on the method used in determining benefits, all pursuant to Sections 3-33-1 through 3-33-43, NMSA, 1978, as amended and supplemented; and

WHEREAS, the Council is of the opinion that, in the general interest of the City and in the specific interest of the property within the proposed district, the addition of the Improvements is necessary and should be made in the proposed district as so directed and that the Improvements should be as hereinafter set forth; and

WHEREAS, the Engineers have filed at the office of the City Clerk, in connection with the Improvements and with the proposed Albuquerque, New Mexico, Special Assessment District No. 223 (the "District") the following:

I. Preliminary plans (the "Preliminary Plans") showing typical sections of the type or types of material to be used and the approximate thickness and width of the material for the Street Improvements; and the type of material to be used and the approximate diameter or diameters of all trunk lines, distribution lines, service lines, connection lines, mains and laterals for the Water, Sanitary Sewer, and Storm Drainage Improvements; and a general description of any other major component of each of the foregoing Improvements.

II. An estimate (the "Estimate") of the total cost of constructing the Improvements; said estimate being made in a lump sum or by unit prices including, without limiting the generality of the foregoing, advertising, tax reimbursement, capital improvement, expansion, construction period interest, reserve fund, financing, appraising, engineering, printing, and any other such expenses, as in the judgment of the Engineers, are necessary to the completion of the Improvements and the payment of the costs thereof.

III. An assessment plat (the "Assessment Plat") showing the area to be included within the District.

IV. An addendum to the Assessment Plat (the "Addendum") including an

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1 Engineer's Report (the "Engineer's Report") as to the method of determining
2 benefits, showing the tracts or parcels of land to be assessed, and the amount of
3 maximum benefit estimated to accrue to each tract or parcel of land in the District
4 (as hereinafter more fully explained); the method of allocating the benefits being
5 calculated on a front foot, service unit, or an area basis, an equitable adjustment
6 having been made for assessments levied against any irregular lots or lands, so
7 that assessments according to benefit are to be equal and uniform, such basis of
8 assessment heretofore having been designated by the Council and the total
9 estimated maximum benefit being listed upon a determination of the value of the
10 Improvements as a whole to each tract or parcel of land in the District; and

11 WHEREAS, the Council has examined the Preliminary Plans,
12 Estimates, Assessment Plat with the Addendum and the Engineer's Report so filed
13 with the City Clerk and has found and does hereby declare the same to be
14 satisfactory in all respects.

15 BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY
16 OF ALBUQUERQUE:

17 Section 1. The Council hereby accepts the Preliminary Plans, Estimates,
18 Assessment Plat with the Addendum and the Engineer's Report.

19 Section 2. The Council hereby provisionally orders that the Improvements
20 shall be constructed, at an estimated cost of \$15,774,417.52 including engineering,
21 financing, legal, and all necessary incidental expenses, as more particularly
22 hereinafter set forth, as described in the Preliminary Plans hereby accepted,
23 reference to which is hereby made and which are available for public examination
24 at the office of the City Clerk.

25 Section 3. That of the estimated total cost of \$15,774,417.52 it is estimated
26 that \$3,412,746.44 will be defrayed from sources other than special assessments
27 and \$12,361,671.08 will be assessed against the tracts or parcels of land in the
28 District as hereinafter provided. For assessments based on a front foot basis, the
29 amount of frontage of any particular tract or parcel of land specifically benefitted
30 by the improvements will be computed by determining the distance along the
31 boundaries of such tract or parcel which abut any street, right-of-way, easement,
32 or any combination thereof, in which and through which a particular improvement
33 is being placed, and the amount to be assessed will be apportioned to each such

1 tract or parcel in proportion to the amount of footage of each such tract or parcel
2 to the total amount of footage of all benefitted tracts or parcels. For assessments
3 based on a service unit basis, an equal share of the amount to be assessed will be
4 apportioned to each of the parcels specifically benefitted by the improvements.
5 For assessments based on an area basis, the amount of area of any tract or parcel
6 of land specifically benefitted by the improvement will be computed by
7 determining the acreage of such tract or parcel, and the amount to be assessed will
8 be apportioned to each such tract or parcel in proportion to the amount of area of
9 each such tract or parcel to the total amount of area of all benefitted tracts or
10 parcels. For assessments based on a contribution basis, the amount of contribution
11 of any tract or parcel of land specifically benefitted by the improvements will be
12 determined from master plans, management plans, or engineering analysis, and
13 the amount to be assessed will be apportioned to each such tract or parcel in
14 proportion to the amount of contribution of each such tract or parcel to the total
15 amount of contribution of all benefitted tracts or parcels. The estimated cost to be
16 assessed and the basis of assessment for each type of improvement is as follows:

17 A. For Street Improvements, the estimated total assessments are
18 \$5,887,378.76. The assessments for street and intersection improvements will be
19 levied either on a front foot or area basis against those tracts or parcels of land in
20 the District that abut the streets being improved and that are specifically benefitted
21 by the street and intersection improvements.

22 B. For Water Improvements, the estimated total assessments are
23 \$1,874,304.94. The assessments will be levied on a front foot, area, or service unit
24 basis against those tracts or parcels of land abutting the streets, rights-of-way, or
25 easements in which and through which the Water Improvements shall be placed
26 and also assessed against the tracts of land in the District that are specifically
27 benefitted by the availability of service.

28 C. For Sanitary Sewer Improvements, the estimated total assessments are
29 \$841,355.38. The assessments will be levied on a contribution, area, or service unit
30 basis against those tracts or parcels of land abutting the streets, rights-of-way, or
31 easements in which and through which the Sanitary Sewer Improvements shall be
32 placed and also assessed against the tracts of land in the District that are
33 specifically benefitted by the availability of service.

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D. For Storm Drainage Improvements, the estimated total assessments are \$3,758,632.01. Assessments will be levied against those tracts or parcels of land situated wholly or partially within the drainage basins in which and through which the associated Storm Drainage Improvements and Street Improvements are being placed. Assessments will be levied equally against each tract or parcel of land on a contribution, area, front foot, or service unit basis to each of those tracts or parcels or land contributing to the total basin flow and for the flood protection received by and the elimination of potential flooding of the access to each tract or parcel of land due to the construction of the associated Storm Drainage Improvements and Street Improvements and the diversion of drainage flow by the platted street system.

The methods of levying the assessments set forth in Paragraph A through D of this Section have heretofore and hereby are determined by the Council to be equitable and proportionate to the benefits received. An equitable adjustment will be made for the assessments levied against any irregular lots or lands and made for any tract or parcel not specifically benefitted by any of the Improvements, so that assessments according to benefits are equal and uniform.

Section 4. The area comprising the District shall be designated "Albuquerque, New Mexico, Special Assessment District No. 223."

Section 5. On Monday, the third of June, 1991, at 6:00 p.m., at the Council Chambers in the City/County Government Center, One Civic Plaza, NW, in the City of Albuquerque, New Mexico, the owners of the property to be assessed or any other persons interested therein may file a written protest or objection and may appear before the Council and be heard as to the advisability of making the improvements, as to the estimated costs thereof, as to the manner of payment

and as to the estimated maximum benefit to each individual tract or parcel of land within the District. Not more than thirty days nor less than ten days before the day of the hearing, the City Clerk, Deputy City Clerk, or the Engineers are hereby directed to and shall mail notices, stating the time and place of the hearing on this provisional order to the owners of the tracts or parcels of land being assessed for the Improvements. The notice shall be mailed to the last known address of each such property owner. The names and addresses of such property owners are to be obtained from the records of the County Assessor or

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from other sources as the City Clerk or the Engineers deem reliable. Proof of such mailing shall be made by affidavit of the City Clerk or the Engineers, such proof to be filed with the City Clerk, provided that failure to mail such notice or notices shall not invalidate any of the proceedings hereunder. The time and place of the hearing on this provisional order shall also be given by publication in a newspaper, which maintains an office in and is of general circulation within the City, once each week for three consecutive weeks, the last publication to be at least one week prior to the date of the hearing. Such service by publication shall be verified by the affidavit of the publisher and filed with the City Clerk. The published notice shall be in substantially the following form:

(INTENTIONALLY LEFT BLANK)

(FORM OF NOTICE)

NOTICE OF HEARING ON CERTAIN STREET, SANITARY SEWER,
WATER AND STORM DRAINAGE IMPROVEMENTS,
AND PROPOSED ASSESSMENTS WITHIN THE PROPOSED
ALBUQUERQUE, NEW MEXICO,
SPECIAL ASSESSMENT DISTRICT NO. 223

NOTICE IS HEREBY GIVEN to the property owners within the proposed
Albuquerque, New Mexico, Special Assessment District No. 223 (the "District") and
to all interested persons that:

I. The City Council (the "Council") of the City of Albuquerque (the "City"), New
Mexico, has provisionally ordered that the following streets and parts thereof shall
be graded, graveled, paved, drained, curbed, guttered, sidewalked, and otherwise
improved (the "Street Improvements"); and that there be constructed, installed, and
otherwise improved water lines (the "Water Improvements"), sanitary sewers (the
"Sanitary Sewer Improvements"), and, associated with the Street Improvements,
storm drainage improvements (the "Storm Drainage Improvements") (collectively,
the "Improvements") in and along the following streets and areas and parts thereof
as designated:

STREET IMPROVEMENTS

Alameda Boulevard, NW - from Coors Bypass, NW, east to the connection
with existing Alameda Boulevard, NW. (64 feet wide arterial paving, 14-foot wide
continuous left turn lane, 10-foot wide paved shoulders).

Coors Bypass, NW - from Coors Boulevard, NW, north to Rio Rancho
Boulevard, NW. (105.25 feet wide back-to-back of curb, arterial paving, 28-foot
wide raised median, street lights, traffic signals, and 6-foot wide sidewalk east side
only between Corrales Road, NW, and Seven Bar Loop, NW; west side only
between Seven Bar Loop, NW, and Ellison Drive, NW; west side only from
approximately 520 feet north of Ellison Drive, NW, to approximately 1,130 feet
north of Ellison Drive, NW.)

Corrales Road, NW - from Coors Bypass, NW, north to approximately
1,100 LF south of Seven Bar Loop, NW. (76 feet wide arterial paving, 28-foot wide
raised median, 10-foot wide paved shoulder, traffic signal, 6-foot wide sidewalk
west side only.)

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1 Cottonwood Drive, NW - from Seven Bar Loop, NW, north to Ellison
2 Drive, NW. (67.25 feet wide back to back of curb, arterial paving, 16-foot wide
3 continuous left turn lane.)

4 Ellison Drive, NW - From Coors Bypass, NW, east to Alameda Boulevard,
5 NW. (105.25 feet wide back to back of curb, arterial paving, 52-foot wide raised
6 median, traffic signals, and telephone relocation.)

7 Seven Bar Loop, NW - from Coors Bypass, NW, east to Corrales Road,
8 NW. (67.25 feet wide back-to-back of curb, arterial paving, 16-foot wide continuous
9 left turn lane, traffic signals, gas transmission main relocation, and 6-foot wide
10 sidewalk south side only from Coors Bypass, NW, to approximately 300 feet west
11 of Corrales Road, NW, and north side only from approximately 980 feet west of
12 Corrales Road, NW, to approximately 900 feet west of Corrales Road, NW.)

13 SANITARY SEWER IMPROVEMENTS

14 Coors Bypass, NW - from the end of the existing main, located
15 approximately 1,300 feet south of Seven Bar Loop, NW, north to approximately
16 1,200 feet north of Ellison Drive, NW (24-inch and 8-inch diameter sanitary sewer).

17 Cottonwood Mall Site - within public utility easements to serve proposed
18 subdivision tracts under multiple ownerships (12-inch and 8-inch diameter sanitary
19 sewer).

20 Ellison Drive, NW - from Cottonwood Drive east to Alameda Boulevard,
21 NW (24-inch and 8-inch diameter sanitary sewer).

22 Ellison Drive, NW - from approximately 280 feet west of Coors Bypass,
23 NW, east to Coors Bypass, NW, (18-inch diameter sanitary sewer).

24 Seven Bar Loop, NW - from the connection with the existing sanitary sewer
25 main, located approximately 225 feet west of Coors Bypass, NW, east to Coors
26 Bypass, NW (8-inch diameter sanitary sewer).

27 Seven Bar Loop, NW - from approximately 700 feet west of Corrales Road,
28 NW, east to the connection with the existing sanitary sewer main approximately
29 530 feet west of Corrales Road, NW (8-inch diameter sanitary sewer).

30 Seven Bar Ranch Tract G-2 - within a public utility easement along the east
31 boundary from Ellison Drive, NW, to approximately 950 feet south of Ellison
32 Drive, NW (24-inch diameter sanitary sewer).

33 WATER IMPROVEMENTS

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Alameda Boulevard, NW - from Coors Bypass, NW, east to approximately 200 feet east of Coors Bypass, NW (12-inch diameter water main).

Coors Bypass, NW - from the connection with the existing 20-inch diameter water main, located approximately 1,300 feet south of Seven Bar Loop, NW, north to Rio Rancho Boulevard, NW (12-inch diameter water main).

Cottonwood Drive, NW - from Seven Bar Loop, NW, north to Ellison Drive, NW (12-inch diameter water main).

Cottonwood Mall Site - within public utility easements to serve proposed subdivision tracts under multiple ownerships (10-inch, 8-inch, and 6-inch diameter water mains).

Ellison Drive, NW - from Coors Bypass, NW, east to Alameda Boulevard, NW (12-inch diameter water main).

Rio Rancho Boulevard, NW (NM 528) - from Coors Bypass, NW, north to the connection with the existing 12-inch water main on the east side of Seven Bar Channel (12-inch diameter water main and pressure reducing valve).

Seven Bar Loop, NW - from Coors Bypass, NW, east to the connection with the existing water main located approximately 1,000 feet west of Corrales Road, NW (12-inch diameter water main).

STORM DRAINAGE IMPROVEMENTS

Coors Bypass, NW - from approximately 300 feet south of Seven Bar Loop, NW, north to approximately 1,200 feet north of Ellison Drive, NW (30-inch through 18-inch diameter storm drain).

Corrales Main Canal - from Ellison Drive, NW, north to the Cabezon Channel (54-inch diameter storm drain).

Corrales Road, NW - from Seven Bar Loop, NW, south to the drainage outfall to the Seven Bar Ranch Tract 14 detention basin located approximately 350 feet south of Seven Bar Loop, NW (24-inch diameter storm drain).

Cottonwood Drive, NW - from approximately 700 feet south of Ellison Drive, NW, north to Ellison Drive, NW (18-inch through 30-inch diameter storm drain).

Cottonwood Mall Site (Seven Bar Ranch Tract H-1) - within public drainage easements to serve proposed subdivision tracts under multiple ownerships (60-inch through 18-inch diameter storm drains and detention basins).

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1 Ellison Drive, NW - from 160 feet west of Coors Bypass, NW, east to the
2 Corrales Main Canal (24-inch and 18-inch diameter storm drains).

3 Seven Bar Loop, NW - from approximately 200 feet west of Corrales Road,
4 NW, east to Corrales Road, NW (24-inch and 18-inch diameter storm drain).

5 Seven Bar Ranch Tract C-3 - along the east boundary from Alameda
6 Boulevard, NW, north to the Cabezon Channel, within proposed drainage
7 easement (concrete-lined channel).

8 Seven Bar Ranch Tract N-2B - at the southwest corner of Coors Bypass,
9 NW, and Ellison Drive, NW, within existing drainage easement (regional storm
10 drainage detention basin).

11 Seven Bar Ranch Tract 14 - east of Corrales Road, NW, within proposed
12 drainage easement (existing Coors Boulevard) at Seven Bar Loop, NW (regional
13 storm drainage detention basin).

14 II. Except as more particularly shown on the plans in the office of the City Clerk,
15 the Improvements substantially consists of and include the following:

16 A. Street Improvements

17 (1) The pavement width in feet including curb and gutter, measured
18 back of curb to back of curb, is indicated after the above description of each street,
19 or part thereof, as the case may be. The type of pavement section to be used is
20 indicated in the plans. The Street Improvements shall include all necessary
21 grading, shaping, draining, street lighting, and all other work incidental to such
22 paving. The pavement is to be centered in each street right-of-way, except as
23 indicated on the plans.

24 (2) Curbs and gutters will be constructed adjacent to the edge of the
25 pavement and will be made of concrete. The work will include all necessary
26 excavation, filling, grading, inlets, driveway approaches, and other work necessary
27 and incidental to such improvements; the combined curb and gutter being 31-1/2
28 inches in width, and at the back of curb 14 inches in height; the curb being 5-1/2
29 inches thick at the top; and the gutter being 7-1/2 inches thick at the point of
30 contact with the pavement. Median curbs shall be extruded asphalt being 8 inches
31 wide at the bottom and 8 inches high. Mountable Curb shall be 31-1/2 inches
32 wide, 10 inches thick at the back, and 6-3/4 inches thick at the point of contact
33 with the pavement. Mountable Curb Estate Type shall be 31-1/2 inches wide, 10

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1 inches high at the back, and 7-1/2 inches thick at the point of contact with the
2 pavement.

3 (3) Sidewalks shall be made of concrete, and the work will
4 include all necessary excavation, filling, grading, and other work necessary and
5 incidental to such improvements. The width of the sidewalk is indicated on the
6 plans. Sidewalks shall be 4 inches in thickness, 72 inches in width, and be
7 constructed parallel with the curb and gutter, except where otherwise indicated
8 on the plans.

9 B. Water Improvements

10 The Water Improvements shall include excavation, trenching, pipe
11 laying, and backfilling for constructing new water mains and appurtenances;
12 removal and replacement of any pavement and other obstacles; service extensions
13 shall be polyethylene pipe, cast iron pipe, or ductile iron pipe. All appurtenances
14 and incidentals required or necessary to the foregoing improvements will be
15 included in the Water Improvements.

16 C. Sanitary Sewer Improvements

17 The Sanitary Sewer Improvements shall include excavation,
18 trenching, pipe laying, and backfilling; removal and replacement of any paving
19 and other obstacles; collection lines will be 8-inch diameter pipe except as noted
20 otherwise on the plans; manholes will be installed at street intersections or as
21 required. Collection lines shall be aligned as shown on the plans.

22 D. Storm Drainage Improvements

23 The Storm Drainage Improvements shall include excavation,
24 trenching, pipe laying, and backfilling; removal and replacement of paving and
25 other obstacles; collection lines being 18-inch through 60-inch diameter reinforced
26 concrete pipe; manholes and catch basins are to be installed in the street and
27 gutter lines; and special inlet structures and outfall structures and crossings as
28 indicated on the plans. Storm drains shall be installed within the street right-of-
29 way or public easements, as indicated on the plans.

30 III. The estimated total cost of the improvements, including engineering, legal,
31 financing, and all necessary and incidental expenses is \$15,774,417.52 of which it
32 is estimated that \$3,412,746.44 will be defrayed from sources other than special
33 assessments, and \$12,361,671.08 will be assessed against those tracts or parcels of

land in the District as hereinafter provided. For assessments based on a front foot basis, the amount of frontage of any particular tract or parcel of land specifically benefitted by the improvements will be computed by determining the distance along the boundaries of such tract or parcel which abut any street, right-of-way, easement, or any combination thereof, in which and through which a particular improvement is being placed, and the amount to be assessed will be apportioned to each such tract or parcel in proportion to the amount of footage of each such tract or parcel to the total amount of footage of all benefitted tracts or parcels. For assessments based on a service unit basis, an equal share of the amount to be assessed will be apportioned to each of the parcels specifically benefitted by the improvements. For assessments based on an area basis, the amount of area of any tract or parcel of land specifically benefitted by the improvement will be computed by determining the acreage of such tract or parcel, and the amount to be assessed will be apportioned to each such tract or parcel in proportion to the amount of area of each such tract or parcel to the total amount of area of all benefitted tracts or parcels. For assessments based on a contribution basis, the amount of contribution of any tract or parcel of land specifically benefitted by the improvements will be determined from master plans, management plans, or engineering analysis, and the amount to be assessed will be apportioned to each such tract or parcel in proportion to the amount of contribution of each such tract or parcel to the total amount of contribution of all benefitted tracts or parcels. The estimated cost to be assessed and the basis of assessment for each type of improvement is as follows:

A. Street Improvements: The estimated total assessments are \$5,887,378.76. The assessments for street and intersection improvements will be levied either on a front foot or area basis against those tracts or parcels of land in the District that abut of the streets being improved and that are specifically benefitted by the street and intersection improvements.

B. Water Improvements: The estimated total assessments are \$1,874,304.94. The assessments will be levied on a front foot, area, or service unit basis against those tracts or parcels of land abutting the streets, rights-of-way, or easements in which and through which the Water Improvements shall be placed and also assessed against the tracts of land in the District that are specifically

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benefitted by the availability of service.

C. Sanitary Sewer Improvements: The estimated total assessments are \$841,355.38. The assessments will be levied on either a contribution, area, or service unit basis against those tracts or parcels of land abutting the streets, rights-of-way, or easements in which and through which the Sanitary Sewer Improvements shall be placed and also assessed against the tracts of land in the District that are specifically benefitted by the availability of service.

D. Storm Drainage Improvements: The estimated total assessments are \$3,758,632.01. Assessments will be levied against those tracts or parcels of land situated wholly or partially within the drainage basins in which and through which the associated Storm Drainage Improvements and Street Improvements are being placed. Assessments will be levied equally against each tract or parcel of land on a contribution, area, front foot, or service unit basis to each of those tracts or parcels or land contributing to the total basin flow and for the flood protection received by, and the elimination of potential flooding of the access to each tract or parcel of land due to the construction of the associated Storm Drainage Improvements and Street Improvements and the diversion of drainage flow by the platted street system.

The methods of levying assessments set forth in Paragraph A through D of this Section have heretofore and hereby are determined by the Council to be equitable and proportionate to the benefit. An equitable adjustment will be made for assessments levied against any irregular lots or lands and made for any tract or parcel not specifically benefitted by any of the Improvements, so that assessments according to benefits are equal and uniform.

IV. All persons interested are hereby advised that the preliminary plans showing typical sections of the type of materials to be used, the approximate thickness and width of the material for the contemplated Street Improvements, the type of materials to be used and the diameter of any trunk lines, mains, laterals, or service connections for the contemplated Water Improvements, Sanitary Sewer Improvements, and Storm Drainage Improvements; and a general description of other major components of the Improvements; an assessment plat and addendum showing the area and the description of the property to be assessed and the total maximum benefit estimated to accrue to those tracts or parcels of land in the

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1 District, said estimate of benefits being computed on the basis set forth herein; and
2 an estimate of the total cost of constructing each of the Improvements, said
3 estimate being made in a lump sum or by unit prices including without limiting
4 the generality of the foregoing, the advertising, appraising, tax reimbursement,
5 capital improvement, expansion, construction period interest, reserve fund,
6 financing, engineering, printing, and any such expenses as in the judgment of
7 Easterling & Associates, Inc. (the "Engineer"), professional engineers duly licensed
8 under the laws of the State of New Mexico, are necessary for the completion of
9 construction of the Improvements and the payment of the costs thereof, are on file
10 in the office of the City Clerk and may be inspected by any property owner or any
11 other interested person during regular office hours. Any interested person may
12 also ascertain in the office of the City Clerk a description of the property to be
13 assessed and the maximum amount of benefit estimated to be conferred on those
14 tracts or parcels of land. Reference is hereby made to such for further detail.

15 On Monday, the third of June 1991, at 6:00 p.m., at the Council Chamber
16 in the City/County Government Center, One Civic Plaza, NW, in the City of
17 Albuquerque, New Mexico, the owners of the property to be assessed or any other
18 person interested therein may file a written protest or objection and may appear
19 before the Council and may be heard as to the advisability of making the
20 Improvements, as to the estimated cost thereof, as to the manner of payment
21 therefor, and as to the estimated maximum benefit to each individual tract or
22 parcel of land. Any person desiring to appear before the Council and be heard,
23 shall be asked to register with the Clerk of the Council prior to consideration of
24 matters pertaining to such hearing.

25 Although any property owner or interested person may make a written
26 protest or objection during such hearing, the City Clerk requests that any property
27 owner or interested person wishing to make protest or objection, make such
28 protest or objection in writing at the office of the City Clerk before the time set
29 forth for such hearing. Any person filing a written protest or objection, as
30 aforesaid, shall have the right within thirty days after the City Council has
31 concluded the hearing, has determined the advisability of constructing the
32 Improvements, has determined the type and character of the Improvements, and
33 has created the District, to commence an action or suit in any court or competent

1 jurisdiction to correct or set aside such determination, but thereafter all action or
2 suits attacking the validity of the proceedings and the amount of the benefit shall
3 be perpetually barred.

4 After such hearing, the Council shall determine the advisability of
5 constructing the Improvements. If the Council determines that constructing the
6 Improvements is advisable, the Council shall create the District and shall proceed
7 to advertise for bids for the doing of the work therefore and shall enter into a
8 contact with the responsible bidder making the lowest bid for the doing of such
9 work and the furnishing of all necessary materials, all in accordance with Sections
10 3-33-1 through 3-33-43 NMSA 1978, as amended and supplemented.

11 By order of the City Council of the City of Albuquerque, New Mexico,
12 dated this ____ day of _____, 1991.

13
14 _____
15 City Clerk

16 Advertised:

17 Protest:

18 Mail Notice:

19 (END OF FORM OF NOTICE)

20 Section 6. If any section, paragraph, clause, or provision of this resolution
21 shall for any reason be held to be invalid or unenforceable, the invalidity of such
22 section, paragraph, clause, or provision shall not affect any of the remaining
23 provisions of this resolution.
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1 PASSED AND ADOPTED THIS 6th DAY OF May, 1991.
2 BY A VOTE OF 8 FOR AND 0 AGAINST.

3 Yes: 8
4 Excused: Gallegos

5
6 Michael Brasher, President
7 City Council

8 APPROVED THIS DAY OF , 1991
9

10
11 Louis E. Saavedra, Mayor
12 City of Albuquerque

13 ATTEST:

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16 City Clerk
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**CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT**



April 1, 1991

INTER-OFFICE CORRESPONDENCE

ENGINEERING GROUP

TO: Michael Brasher, President, City Council
FROM: Louis E. Saavedra, Mayor *LS*
SUBJECT: SPECIAL ASSESSMENT DISTRICT NO. 223 - RESOLUTION NO. 2 (CITY COUNCIL DISTRICT #1)

Submitted herewith for your consideration and that of the City Council is Resolution No. 2 for Special Assessment District No. 223. By this resolution, the Council would give tentative approval of the preliminary plans, plats, estimated maximum benefits roll and Engineer's report prepared for the District by the Consulting Engineers, Easterling & Associates, Inc., and would set a date and time for the Protest Hearing.

Special Assessment District No. 223, as proposed, will consist of needed infrastructure improvements to four streets and Cottonwood Mall in the Seven Bar Ranch Sector Plan Development area of Albuquerque's West Mesa. The streets being improved are Coors Bypass, Seven Bar Loop Rd., Ellison Dr., and Cottonwood Dr.

Partial funding of the District was approved by the City Council in R-192 in the following amounts:

	Account No.	Amount
Street Bond	7360580	\$866,240
Storm Bond	7361240	\$229,301

This resolution is forwarded to the City Council for Introduction on April 15, 1991.

RECOMMENDED BY:

Robert E. Gurule
Robert E. Gurule, Director
Public Works Department

REVIEWED BY:

Victoria Sedillo Perea
Victoria Sedillo Perea
CIP Official

RECOMMENDED BY:

Arthur A. Blumenfeld
Arthur A. Blumenfeld
Chief Administrative Officer

REVIEWED BY THE LEGAL DEPARTMENT:

Malcolm W. deVest
Malcolm W. deVest
Assistant City Attorney

LEP-123592

FINANCE AND GOVERNMENT OPERATIONS COMMITTEE
OF THE
CITY COUNCIL

April 22, 1991

FINANCE AND GOVERNMENT OPERATIONS COMMITTEE REPORT ON:

Bill No. R-354, Accepting Preliminary Plans - SAD 223 (Armijo)

MEMBERS PRESENT:

Richard J. Chapman, Chairman
Michael Brasher
Vincent E. Griego
Herb Hughes

OTHERS PRESENT:

Lee Lunsford, Public Works Department
Louis Colombo, Budget & Systems Coordinator
Carlos Palacios, Legislative Budget Analyst
Doreen Romero, Council Secretary

MEMBER EXCUSED:

Steve D. Gallegos

Lee Lunsford explained that Bill No. R-354 is resolution #2 in the process for approving SAD 223. He stated that it gives Council approval for preliminary plans for street, sanitary sewer, and storm sewer improvements to four streets in the Seven Bar Plan Development area. He noted that Bill No. R-354 was introduced to the Council with several blanks in the legislation because of a strict schedule and deadlines that must be met. He stated that an amendment to fill in the blank spaces will be submitted to the Council at the next meeting at which it is discussed.

Councillor Chapman moved that the Committee recommend that Bill No. R-354 DO PASS. Seconded. The motion carried by a vote of 4 FOR AND 0 AGAINST.

Yes: 4

Excused: Gallegos

Councillor Brasher moved that Bill No. R-354 be acted on at the meeting at which it is reported. Seconded. The motion carried by a vote of 4 FOR AND 0 AGAINST.

Yes: 4

Excused: Gallegos

JUL 12-354

SAD NO. ~~222~~ 223

ANTICIPATED CITY COUNCIL SCHEDULE
Revised 22 April 1991

DATE	ACTION
23 JAN 91	Resolution 1 - Introduction to Council
04 FEB 91	Resolution 1 - Council Final Action
15 APR 91	Resolution 2 - Introduction
22 APR 91	Resolution 2 - Finance Committee, Immediate Action
06 MAY 91	Resolution 2 - Council Final Action
03 JUN 91	Protest Hearing
17 JUN 91	Resolution 3 - Introduction/Immediate Action Part 1 Improvements Award Resolution - Introduction/Immediate Action
15 JUL 91	Part 2 Improvements Award Resolution - Introduction/Immediate Action
04 SEP 91	Resolution 4 - Introduction/Immediate Action
07 OCT 91	Assessment Hearing
21 OCT 91	Resolution 5 - Introduction/Immediate Action Parts 3 & 4 Improvements Award Resolution - Introduction/Immediate Action Bond Ordinance - Introduction/Immediate Action Assessing Ordinance - Introduction/Immediate Action Street Fund Ordinance - Introduction/Immediate Action

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO 8:25

INTER-OFFICE CORRESPONDENCE

5/21/91

REF. NO.

74-1991

TO:

Louis E. Saavedra, Mayor

FROM:

Bea Gutierrez, Director of Council Services

SUBJECT:

TRANSMITTAL OF LEGISLATION

Attached is Bill No. R-354, Accepting Preliminary Plans - SAD 223 (Armijo), which passed at the Council meeting of May 6, 1991, by a vote of 8 FOR AND 0 AGAINST.

Yes: 8

Excused: Gallegos

In accordance with the provisions of the City Charter, your action is respectfully requested.



BG/ywv
3666-2
attachment
5/8/91

O

CITY of ALBUQUERQUE
NINTH COUNCIL

COUNCIL BILL NO. F/S R-354 ENACTMENT NO. 74-1991

SPONSORED BY: *Alon B. Amigo, by request*

RESOLUTION

1
2 RELATING TO THE PROPOSED ALBUQUERQUE, NEW MEXICO, SPECIAL
3 ASSESSMENT DISTRICT NO. 223; ACCEPTING PRELIMINARY PLANS,
4 ESTIMATES OF COSTS, ASSESSMENT PLAT WITH ADDENDUM AND
5 ENGINEER'S REPORT AS TO THE METHODS USED IN DETERMINING
6 BENEFITS WITH RESPECT THERETO; MAKING A PROVISIONAL ORDER
7 THAT CERTAIN STREET AND ASSOCIATED STORM DRAINAGE
8 IMPROVEMENTS, WATER IMPROVEMENTS, AND SANITARY SEWER
9 IMPROVEMENTS, ALL WITHIN THE PROPOSED DISTRICT, SHALL BE
10 CONSTRUCTED; AND DIRECTING THAT NOTICE OF A HEARING ON THE
11 PROVISIONAL ORDER BE GIVEN.

12 WHEREAS, the City Council (the "Council") of the City of Albuquerque
13 (the "City"), in the County of Bernalillo and State of New Mexico, has directed
14 Easterling & Associates, Inc. (the "Engineers"), professional engineers duly licensed
15 under the laws of the State of New Mexico, to prepare, submit, and file with the
16 City Clerk of the City (the "City Clerk"), (I) preliminary plans showing, typical
17 sections of, the type of materials to be used and the approximate thickness and
18 width of the material for the contemplated street improvements (the "Street
19 Improvements"), the type of material to be used, the approximate diameter or
20 diameters of any trunk lines, mains or laterals for the contemplated water, sanitary
21 sewer and storm drainage improvements (the "Water Improvements," "Sanitary
22 Sewer Improvements," and "Storm Drainage Improvements," respectively) and a
23 general description of other major components of the foregoing types of
24 improvements in the proposed district (collectively, the "Improvements"); (II)
25 estimates of the cost of grading, graveling, paving, draining, curbing, guttering,
26 sidewalking, street lighting, and otherwise constructing the Street Improvements

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1 and of constructing, installing, adjusting, and otherwise completing the Water
 2 Improvements, Sanitary Sewer Improvements, and Storm Drainage Improvements;
 3 (III) an assessment plat showing the area to be included in the proposed district
 4 and an addendum to the assessment plat, showing the amount of maximum
 5 benefit estimated to accrue to each tract or parcel of land in the proposed district,
 6 including an engineer's report on the method used in determining benefits, all
 7 pursuant to Sections 3-33-1 through 3-33-43, NMSA, 1978, as amended and
 8 supplemented; and

9 WHEREAS, the Council is of the opinion that, in the general interest of the
 10 City and in the specific interest of the property within the proposed district, the
 11 addition of the Improvements is necessary and should be made in the proposed
 12 district as so directed and that the Improvements should be as hereinafter set
 13 forth; and

14 WHEREAS, the Engineers have filed at the office of the City Clerk, in
 15 connection with the Improvements and with the proposed Albuquerque, New
 16 Mexico, Special Assessment District No. 223 (the "District") the following:
 17 I. Preliminary plans (the "Preliminary Plans") showing typical sections of the type
 18 or types of material to be used and the approximate thickness and width of the
 19 material for the Street Improvements; and the type of material to be used and the
 20 approximate diameter or diameters of all trunk lines, distribution lines, service
 21 lines, connection lines, mains and laterals for the Water, Sanitary Sewer, and Storm
 22 Drainage Improvements; and a general description of any other major component
 23 of each of the foregoing Improvements.

24 II. An estimate (the "Estimate") of the total cost of constructing the Improvements;
 25 said estimate being made in a lump sum or by unit prices including, without
 26 limiting the generality of the foregoing, advertising, tax reimbursement, capital
 27 improvement, expansion, construction period interest, reserve fund, financing,
 28 appraising, engineering, printing, and any other such expenses, as in the judgment
 29 of the Engineers, are necessary to the completion of the Improvements and the
 30 payment of the costs thereof.

31 III. An assessment plat (the "Assessment Plat") showing the area to be included
 32 within the District.

33 IV. An addendum to the Assessment Plat (the "Addendum") including an

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1 Engineer's Report (the "Engineer's Report") as to the method of determining
2 benefits, showing the tracts or parcels of land to be assessed, and the amount of
3 maximum benefit estimated to accrue to each tract or parcel of land in the District
4 (as hereinafter more fully explained); the method of allocating the benefits being
5 calculated on a front foot, service unit, or an area basis, an equitable adjustment
6 having been made for assessments levied against any irregular lots or lands, so
7 that assessments according to benefit are to be equal and uniform, such basis of
8 assessment heretofore having been designated by the Council and the total
9 estimated maximum benefit being listed upon a determination of the value of the
10 Improvements as a whole to each tract or parcel of land in the District; and

11 WHEREAS, the Council has examined the Preliminary Plans,
12 Estimates, Assessment Plat with the Addendum and the Engineer's Report so filed
13 with the City Clerk and has found and does hereby declare the same to be
14 satisfactory in all respects.

15 BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY
16 OF ALBUQUERQUE:

17 Section 1. The Council hereby accepts the Preliminary Plans, Estimates,
18 Assessment Plat with the Addendum and the Engineer's Report.

19 Section 2. The Council hereby provisionally orders that the Improvements
20 shall be constructed, at an estimated cost of \$15,774,417.52 including engineering,
21 financing, legal, and all necessary incidental expenses, as more particularly
22 hereinafter set forth, as described in the Preliminary Plans hereby accepted,
23 reference to which is hereby made and which are available for public examination
24 at the office of the City Clerk.

25 Section 3. That of the estimated total cost of \$15,774,417.52 it is estimated
26 that \$3,412,746.44 will be defrayed from sources other than special assessments
27 and \$12,361,671.08 will be assessed against the tracts or parcels of land in the
28 District as hereinafter provided. For assessments based on a front foot basis, the
29 amount of frontage of any particular tract or parcel of land specifically benefitted
30 by the improvements will be computed by determining the distance along the
31 boundaries of such tract or parcel which abut any street, right-of-way, easement,
32 or any combination thereof, in which and through which a particular improvement
33 is being placed, and the amount to be assessed will be apportioned to each such

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1 tract or parcel in proportion to the amount of footage of each such tract or parcel
2 to the total amount of footage of all benefitted tracts or parcels. For assessments
3 based on a service unit basis, an equal share of the amount to be assessed will be
4 apportioned to each of the parcels specifically benefitted by the improvements.
5 For assessments based on an area basis, the amount of area of any tract or parcel
6 of land specifically benefitted by the improvement will be computed by
7 determining the acreage of such tract or parcel, and the amount to be assessed will
8 be apportioned to each such tract or parcel in proportion to the amount of area of
9 each such tract or parcel to the total amount of area of all benefitted tracts or
10 parcels. For assessments based on a contribution basis, the amount of contribution
11 of any tract or parcel of land specifically benefitted by the improvements will be
12 determined from master plans, management plans, or engineering analysis, and
13 the amount to be assessed will be apportioned to each such tract or parcel in
14 proportion to the amount of contribution of each such tract or parcel to the total
15 amount of contribution of all benefitted tracts or parcels. The estimated cost to be
16 assessed and the basis of assessment for each type of improvement is as follows:

17 A. For Street Improvements, the estimated total assessments are
18 \$5,887,378.76. The assessments for street and intersection improvements will be
19 levied either on a front foot or area basis against those tracts or parcels of land in
20 the District that abut the streets being improved and that are specifically benefitted
21 by the street and intersection improvements.

22 B. For Water Improvements, the estimated total assessments are
23 \$1,874,304.94. The assessments will be levied on a front foot, area, or service unit
24 basis against those tracts or parcels of land abutting the streets, rights-of-way, or
25 easements in which and through which the Water Improvements shall be placed
26 and also assessed against the tracts of land in the District that are specifically
27 benefitted by the availability of service.

28 C. For Sanitary Sewer Improvements, the estimated total assessments are
29 \$841,355.38. The assessments will be levied on a contribution, area, or service unit
30 basis against those tracts or parcels of land abutting the streets, rights-of-way, or
31 easements in which and through which the Sanitary Sewer Improvements shall be

1 D. For Storm Drainage Improvements, the estimated total assessments are
2 \$3,758,632.01. Assessments will be levied against those tracts or parcels of land
3 situated wholly or partially within the drainage basins in which and through
4 which the associated Storm Drainage Improvements and Street Improvements are
5 being placed. Assessments will be levied equally against each tract or parcel of
6 land on a contribution, area, front foot, or service unit basis to each of those tracts
7 or parcels or land contributing to the total basin flow and for the flood protection
8 received by and the elimination of potential flooding of the access to each tract or
9 parcel of land due to the construction of the associated Storm Drainage
10 Improvements and Street Improvements and the diversion of drainage flow by the
11 platted street system.

12 The methods of levying the assessments set forth in Paragraph A through
13 D of this Section have heretofore and hereby are determined by the Council to be
14 equitable and proportionate to the benefits received. An equitable adjustment will
15 be made for the assessments levied against any irregular lots or lands and made
16 for any tract or parcel not specifically benefitted by any of the Improvements, so
17 that assessments according to benefits are equal and uniform.

18 Section 4. The area comprising the District shall be designated
19 "Albuquerque, New Mexico, Special Assessment District No. 223."

20 Section 5. On Monday, the third of June, 1991, at 6:00 p.m., at the Council
21 Chambers in the City/County Government Center, One Civic Plaza, NW, in the
22 City of Albuquerque, New Mexico, the owners of the property to be assessed or
23 any other persons interested therein may file a written protest or objection and
24 may appear before the Council and be heard as to the advisability of making the
25 Improvements, as to the estimated costs thereof, as to the manner of payment
26 therefor and as to the estimated maximum benefit to each individual tract or
27 parcel of land within the District. Not more than thirty days nor less than ten
28 days before the day of the hearing, the City Clerk, Deputy City Clerk, or the
29 Engineers are hereby directed to and shall mail notices, stating the time and place
30 of the hearing on this provisional order to the owners of the tracts or parcels of
31 land being assessed for the Improvements. The notice shall be mailed to the last

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from other sources as the City Clerk or the Engineers deem reliable. Proof of such mailing shall be made by affidavit of the City Clerk or the Engineers, such proof to be filed with the City Clerk, provided that failure to mail such notice or notices shall not invalidate any of the proceedings hereunder. The time and place of the hearing on this provisional order shall also be given by publication in a newspaper, which maintains an office in and is of general circulation within the City, once each week for three consecutive weeks, the last publication to be at least one week prior to the date of the hearing. Such service by publication shall be verified by the affidavit of the publisher and filed with the City Clerk. The published notice shall be in substantially the following form:

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1 (FORM OF NOTICE)

2 NOTICE OF HEARING ON CERTAIN STREET, SANITARY SEWER,
3 WATER AND STORM DRAINAGE IMPROVEMENTS,
4 AND PROPOSED ASSESSMENTS WITHIN THE PROPOSED
5 ALBUQUERQUE, NEW MEXICO,
6 SPECIAL ASSESSMENT DISTRICT NO. 223

7 NOTICE IS HEREBY GIVEN to the property owners within the proposed
8 Albuquerque, New Mexico, Special Assessment District No. 223 (the "District") and
9 to all interested persons that:

10 I. The City Council (the "Council") of the City of Albuquerque (the "City"), New
11 Mexico, has provisionally ordered that the following streets and parts thereof shall
12 be graded, graveled, paved, drained, curbed, guttered, sidewalked, and otherwise
13 improved (the "Street Improvements"); and that there be constructed, installed, and
14 otherwise improved water lines (the "Water Improvements"), sanitary sewers (the
15 "Sanitary Sewer Improvements"), and, associated with the Street Improvements,
16 storm drainage improvements (the "Storm Drainage Improvements") (collectively,
17 the "Improvements") in and along the following streets and areas and parts thereof
18 as designated:

19 STREET IMPROVEMENTS

20 Alameda Boulevard, NW - from Coors Bypass, NW, east to the connection
21 with existing Alameda Boulevard, NW. (64 feet wide arterial paving, 14-foot wide
22 continuous left turn lane, 10-foot wide paved shoulders).

23 Coors Bypass, NW - from Coors Boulevard, NW, north to Rio Rancho
24 Boulevard, NW. (105.25 feet wide back-to-back of curb, arterial paving, 28-foot
25 wide raised median, street lights, traffic signals, and 6-foot wide sidewalk east side
26 only between Corrales Road, NW, and Seven Bar Loop, NW; west side only
27 between Seven Bar Loop, NW, and Ellison Drive, NW; west side only from
28 approximately 520 feet north of Ellison Drive, NW, to approximately 1,130 feet
29 north of Ellison Drive, NW.)

30 Corrales Road, NW - from Coors Bypass, NW, north to approximately
31 1,100 feet north of Ellison Drive, NW.

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ROAD FLARE

1 Cottonwood Drive, NW - from Seven Bar Loop, NW, north to Ellison
2 Drive, NW. (67.25 feet wide back to back of curb, arterial paving, 16-foot wide
3 continuous left turn lane.)

4 Ellison Drive, NW - From Coors Bypass, NW, east to Alameda Boulevard,
5 NW. (105.25 feet wide back to back of curb, arterial paving, 52-foot wide raised
6 median, traffic signals, and telephone relocation.)

Seven Bar Loop, NW - from Coors Bypass, NW, east to Corrales Road,
8 NW. (67.25 feet wide back-to-back of curb, arterial paving, 16-foot wide continuous
9 left turn lane, traffic signals, gas transmission main relocation, and 6-foot wide
10 sidewalk south side only from Coors Bypass, NW, to approximately 300 feet west
11 of Corrales Road, NW, and north side only from approximately 980 feet west of
12 Corrales Road, NW, to approximately 900 feet west of Corrales Road, NW.)

13 SANITARY SEWER IMPROVEMENTS

14 Coors Bypass, NW - from the end of the existing main, located
15 approximately 1,300 feet south of Seven Bar Loop, NW, north to approximately
16 1,200 feet north of Ellison Drive, NW (24-inch and 8-inch diameter sanitary sewer).

17 Cottonwood Mall Site - within public utility easements to serve proposed
18 subdivision tracts under multiple ownerships (12-inch and 8-inch diameter sanitary
19 sewer).

20 Ellison Drive, NW - from Cottonwood Drive east to Alameda Boulevard,
21 NW (24-inch and 8-inch diameter sanitary sewer).

22 Ellison Drive, NW - from approximately 280 feet west of Coors Bypass,
23 NW, east to Coors Bypass, NW, (18-inch diameter sanitary sewer).

24 Seven Bar Loop, NW - from the connection with the existing sanitary sewer
25 main, located approximately 225 feet west of Coors Bypass, NW, east to Coors
26 Bypass, NW (8-inch diameter sanitary sewer).

27 Seven Bar Loop, NW - from approximately 700 feet west of Corrales Road,
28 NW, east to the connection with the existing sanitary sewer main approximately
29 530 feet west of Corrales Road, NW (8-inch diameter sanitary sewer).

30 Seven Bar Ranch Tract G-2 - within a public utility easement along the east
31 boundary from Ellison Drive, NW, to approximately 950 feet south of Ellison

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1 Alameda Boulevard, NW - from Coors Bypass, NW, east to approximately
2 200 feet east of Coors Bypass, NW (12-inch diameter water main).

3 Coors Bypass, NW - from the connection with the existing 20-inch diameter
4 water main, located approximately 1,300 feet south of Seven Bar Loop, NW, north
5 to Rio Rancho Boulevard, NW (12-inch diameter water main).

6 Cottonwood Drive, NW - from Seven Bar Loop, NW, north to Ellison
7 Drive, NW (12-inch diameter water main).

8 Cottonwood Mall Site - within public utility easements to serve proposed
9 subdivision tracts under multiple ownerships (10-inch, 8-inch, and 6-inch diameter
10 water mains).

11 Ellison Drive, NW - from Coors Bypass, NW, east to Alameda Boulevard,
12 NW (12-inch diameter water main).

13 Rio Rancho Boulevard, NW (NM 528) - from Coors Bypass, NW, north to
14 the connection with the existing 12-inch water main on the east side of Seven Bar
15 Channel (12-inch diameter water main and pressure reducing valve).

16 Seven Bar Loop, NW - from Coors, Bypass, NW, east to the connection
17 with the existing water main located approximately 1,000 feet west of Corrales
18 Road, NW (12-inch diameter water main).

19 STORM DRAINAGE IMPROVEMENTS

20 Coors Bypass, NW - from approximately 300 feet south of Seven Bar Loop,
21 NW, north to approximately 1,200 feet north of Ellison Drive, NW (30-inch
22 through 18-inch diameter storm drain).

23 Corrales Main Canal - from Ellison Drive, NW, north to the Cabezon
24 Channel (54-inch diameter storm drain).

25 Corrales Road, NW - from Seven Bar Loop, NW, south to the drainage
26 outfall to the Seven Bar Ranch Tract 14 detention basin located approximately 350
27 feet south of Seven Bar Loop, NW (24-inch diameter storm drain).

28 Cottonwood Drive, NW - from approximately 700 feet south of Ellison
29 Drive, NW, north to Ellison Drive, NW (18-inch through 30-inch diameter storm
30 drain).

31 Cottonwood Mall Site (Seven Bar Ranch Tract H-11) - within public

1 Ellison Drive, NW - from 160 feet west of Coors Bypass, NW, east to the
2 Corrales Main Canal (24-inch and 18-inch diameter storm drains).

3 Seven Bar Loop, NW - from approximately 200 feet west of Corrales Road,
4 NW, east to Corrales Road, NW (24-inch and 18-inch diameter storm drain).

5 Seven Bar Ranch Tract C-3 - along the east boundary from Alameda
6 Boulevard, NW, north to the Cabezon Channel, within proposed drainage
7 easement (concrete-lined channel).

8 Seven Bar Ranch Tract N-2B - at the southwest corner of Coors Bypass,
9 NW, and Ellison Drive, NW, within existing drainage easement (regional storm
10 drainage detention basin).

11 Seven Bar Ranch Tract 14 - east of Corrales Road, NW, within proposed
12 drainage easement (existing Coors Boulevard) at Seven Bar Loop, NW (regional
13 storm drainage detention basin).

14 II. Except as more particularly shown on the plans in the office of the City Clerk,
15 the Improvements substantially consists of and include the following:

16 A. Street Improvements

17 (1) The pavement width in feet including curb and gutter, measured
18 back of curb to back of curb, is indicated after the above description of each street,
19 or part thereof, as the case may be. The type of pavement section to be used is
20 indicated in the plans. The Street Improvements shall include all necessary
21 grading, shaping, draining, street lighting, and all other work incidental to such
22 paving. The pavement is to be centered in each street right-of-way, except as
23 indicated on the plans.

24 (2) Curbs and gutters will be constructed adjacent to the edge of the
25 pavement and will be made of concrete. The work will include all necessary
26 excavation, filling, grading, inlets, driveway approaches, and other work necessary
27 and incidental to such improvements; the combined curb and gutter being 31-1/2
28 inches in width, and at the back of curb 14 inches in height; the curb being 5-1/2
29 inches thick at the top; and the gutter being 7-1/2 inches thick at the point of
30 contact with the pavement. Median curbs shall be extruded asphalt being 8 inches
31 wide at the bottom and 8 inches high. Mountable Curb shall be 31 1/2 inches

1 inches high at the back, and 7-1/2 inches thick at the point of contact with the
2 pavement.

3 (3) Sidewalks shall be made of concrete, and the work will
4 include all necessary excavation, filling, grading, and other work necessary and
5 incidental to such improvements. The width of the sidewalk is indicated on the
6 plans. Sidewalks shall be 4 inches in thickness, 72 inches in width, and be
7 constructed parallel with the curb and gutter, except where otherwise indicated
8 on the plans.

9 B. Water Improvements

10 The Water Improvements shall include excavation, trenching, pipe
11 laying, and backfilling for constructing new water mains and appurtenances;
12 removal and replacement of any pavement and other obstacles; service extensions
13 shall be polyethylene pipe, cast iron pipe, or ductile iron pipe. All appurtenances
14 and incidentals required or necessary to the foregoing improvements will be
15 included in the Water Improvements.

16 C. Sanitary Sewer Improvements

17 The Sanitary Sewer Improvements shall include excavation,
18 trenching, pipe laying, and backfilling; removal and replacement of any paving
19 and other obstacles; collection lines will be 8-inch diameter pipe except as noted
20 otherwise on the plans; manholes will be installed at street intersections or as
21 required. Collection lines shall be aligned as shown on the plans.

22 D. Storm Drainage Improvements

23 The Storm Drainage Improvements shall include excavation,
24 trenching, pipe laying, and backfilling; removal and replacement of paving and
25 other obstacles; collection lines being 18-inch through 60-inch diameter reinforced
26 concrete pipe; manholes and catch basins are to be installed in the street and
27 gutter lines; and special inlet structures and outfall structures and crossings as
28 indicated on the plans. Storm drains shall be installed within the street right-of-
29 way or public easements, as indicated on the plans.

30 III. The estimated total cost of the improvements, including engineering, legal,
31 financing, and all necessary and incidental expenses is \$15,774,417.57 of which is

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1 land in the District as hereinafter provided. For assessments based on a front foot
2 basis, the amount of frontage of any particular tract or parcel of land specifically
3 benefitted by the improvements will be computed by determining the distance
4 along the boundaries of such tract or parcel which abut any street, right-of-way,
5 easement, or any combination thereof, in which and through which a particular
6 improvement is being placed, and the amount to be assessed will be apportioned
7 to each such tract or parcel in proportion to the amount of footage of each such
8 tract or parcel to the total amount of footage of all benefitted tracts or parcels. For
9 assessments based on a service unit basis, an equal share of the amount to be
10 assessed will be apportioned to each of the parcels specifically benefitted by the
11 improvements. For assessments based on an area basis, the amount of area of any
12 tract or parcel of land specifically benefitted by the improvement will be computed
13 by determining the acreage of such tract or parcel, and the amount to be assessed
14 will be apportioned to each such tract or parcel in proportion to the amount of
15 area of each such tract or parcel to the total amount of area of all benefitted tracts
16 or parcels. For assessments based on a contribution basis, the amount of
17 contribution of any tract or parcel of land specifically benefitted by the
18 improvements will be determined from master plans, management plans, or
19 engineering analysis, and the amount to be assessed will be apportioned to each
20 such tract or parcel in proportion to the amount of contribution of each such tract
21 or parcel to the total amount of contribution of all benefitted tracts or parcels. The
22 estimated cost to be assessed and the basis of assessment for each type of
23 improvement is as follows:

24 A. Street Improvements: The estimated total assessments are
25 \$5,887,378.76. The assessments for street and intersection improvements will be
26 levied either on a front foot or area basis against those tracts or parcels of land in
27 the District that abut of the streets being improved and that are specifically
28 benefitted by the street and intersection improvements.

29 B. Water Improvements: The estimated total assessments are
30 \$1,874,304.94. The assessments will be levied on a front foot, area, or service unit
31

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benefitted by the availability of service.

C. Sanitary Sewer Improvements: The estimated total assessments are \$841,355.38. The assessments will be levied on either a contribution, area, or service unit basis against those tracts or parcels of land abutting the streets, rights-of-way, or easements in which and through which the Sanitary Sewer Improvements shall be placed and also assessed against the tracts of land in the District that are specifically benefitted by the availability of service.

D. Storm Drainage Improvements: The estimated total assessments are \$3,758,632.01. Assessments will be levied against those tracts or parcels of land situated wholly or partially within the drainage basins in which and through which the associated Storm Drainage Improvements and Street Improvements are being placed. Assessments will be levied equally against each tract or parcel of land on a contribution, area, front foot, or service unit basis to each of those tracts or parcels of land contributing to the total basin flow and for the flood protection received by, and the elimination of potential flooding of the access to each tract or parcel of land due to the construction of the associated Storm Drainage Improvements and Street Improvements and the diversion of drainage flow by the platted street system.

The methods of levying assessments set forth in Paragraph A through D of this Section have heretofore and hereby are determined by the Council to be equitable and proportionate to the benefit. An equitable adjustment will be made for assessments levied against any irregular lots or lands and made for any tract or parcel not specifically benefitted by any of the Improvements, so that assessments according to benefits are equal and uniform.

IV. All persons interested are hereby advised that the preliminary plans showing typical sections of the type of materials to be used, the approximate thickness and width of the material for the contemplated Street Improvements, the type of materials to be used and the diameter of any trunk lines, mains, laterals, or service connections for the contemplated Water Improvements, Sanitary Sewer Improvements, and Storm Drainage Improvements; and a general description of other major components of the Improvements, an assessment list and addendum

1 District, said estimate of benefits being computed on the basis set forth herein; and
2 an estimate of the total cost of constructing each of the improvements, said
3 estimate being made in a lump sum or by unit prices including without limiting
4 the generality of the foregoing, the advertising, appraising, tax reimbursement,
5 capital improvement, expansion, construction period interest, reserve fund,
6 financing, engineering, printing, and any such expenses as in the judgment of
7 Easterling & Associates, Inc. (the "Engineer"), professional engineers duly licensed
8 under the laws of the State of New Mexico, are necessary for the completion of
9 construction of the improvements and the payment of the costs thereof, are on file
10 in the office of the City Clerk and may be inspected by any property owner or any
11 other interested person during regular office hours. Any interested person may
12 also ascertain in the office of the City Clerk a description of the property to be
13 assessed and the maximum amount of benefit estimated to be conferred on those
14 tracts or parcels of land. Reference is hereby made to such for further detail.

15 On Monday, the third of June 1991, at 6:00 p.m., at the Council Chamber
16 in the City/County Government Center, One Civic Plaza, NW, in the City of
17 Albuquerque, New Mexico, the owners of the property to be assessed or any other
18 person interested therein may file a written protest or objection and may appear
19 before the Council and may be heard as to the advisability of making the
20 improvements, as to the estimated cost thereof, as to the manner of payment
21 therefor, and as to the estimated maximum benefit to each individual tract or
22 parcel of land. Any person desiring to appear before the Council and be heard,
23 shall be asked to register with the Clerk of the Council prior to consideration of
24 matters pertaining to such hearing.

25 Although any property owner or interested person may make a written
26 protest or objection during such hearing, the City Clerk requests that any property
27 owner or interested person wishing to make protest or objection, make such
28 protest or objection in writing at the office of the City Clerk before the time set
29 forth for such hearing. Any person filing a written protest or objection, as
30 aforesaid, shall have the right within thirty days after the City Council has
31 concluded the hearing, has determined the advisability of constructing the

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1 jurisdiction to correct or set aside such determination, but thereafter all action or
2 suits attacking the validity of the proceedings and the amount of the benefit shall
3 be perpetually barred.

4 After such hearing, the Council shall determine the advisability of
5 constructing the Improvements. If the Council determines that constructing the
6 Improvements is advisable, the Council shall create the District and shall proceed
7 to advertise for bids for the doing of the work therefore and shall enter into a
8 contact with the responsible bidder making the lowest bid for the doing of such
9 work and the furnishing of all necessary materials, all in accordance with Sections
10 3-33-1 through 3-33-4 NMSA 1978, as amended and supplemented.

11 By order of the City Council of the City of Albuquerque, New Mexico,
12 dated this ____ day of _____, 1991.

13
14 _____
15 City Clerk

16 Advertised:

17 Protest:

18 Mail Notice:

19 (END OF FORM OF NOTICE)

20 Section 6. If any section, paragraph, clause, or provision of this resolution
21 shall for any reason be held to be invalid or unenforceable, the invalidity of such
22 section, paragraph, clause, or provision shall not affect any of the remaining
23 provisions of this resolution.
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1 PASSED AND ADOPTED THIS 6th DAY OF May, 1991.
2 BY A VOTE OF 8 FOR AND 0 AGAINST.

3 Yes: 8
4 Excused: Gallegos

5 Michael Brasher
6 Michael Brasher, President
7 City Council

8 APPROVED THIS 20th DAY OF May, 1991

9 Louis E. Saavedra
10 Louis E. Saavedra, Mayor
11 City of Albuquerque

12
13 ATTEST:

14 Karen Acena
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16 City Clerk
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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT



April 1, 1991

INTER-OFFICE CORRESPONDENCE

ENGINEERING GROUP

TO:

Michael Brasher, President, City Council

FROM:

Louis E. Saavedra, Mayor *LS*

SUBJECT:

SPECIAL ASSESSMENT DISTRICT NO. 223 - RESOLUTION NO. 2 (CITY COUNCIL DISTRICT #1)

Submitted herewith for your consideration and that of the City Council is Resolution No. 2 for Special Assessment District No. 223. By this resolution, the Council would give tentative approval of the preliminary plans, plats, estimated maximum benefits roll and Engineer's report prepared for the District by the Consulting Engineers, Easterling & Associates, Inc., and would set a date and time for the Protest Hearing.

Special Assessment District No. 223, as proposed, will consist of needed infrastructure improvements to four streets and Cottonwood Mall in the Seven Bar Ranch Sector Plan Development area of Albuquerque's West Mesa. The streets being improved are Coors Bypass, Seven Bar Loop Rd., Ellison Dr., and Cottonwood Dr.

Partial funding of the District was approved by the City Council in R-192 in the following amounts:

	Account No.	Amount
Street Bond	7360580	\$866,240
Storm Bond	7361240	\$229,301

This resolution is forwarded to the City Council for Introduction on April 15, 1991.

RECOMMENDED BY:

Robert E. Gurule
Robert E. Gurule, Director
Public Works Department

REVIEWED BY:

Victoria Sedillo Perea
Victoria Sedillo Perea
CIP Official

RECOMMENDED BY:

Arthur A. Blumenfeld
Arthur A. Blumenfeld
Chief Administrative Officer

REVIEWED BY THE LEGAL DEPARTMENT:

Malcolm W. deVest
Malcolm W. deVest
Assistant City Attorney

LL/tsl/WP+125392

NO lamr
cc

CITY OF ALBUQUERQUE

CITY COUNCIL

6/20/91

INTER-OFFICE MEMORANDUM:

REF. 3666-2

TO: Louis E. Saavedra, Mayor
FROM: Beatrice Gutierrez, Director of Council Services
SUBJECT: TRANSMITTAL OF LEGISLATION

Attached is Bill No. R-396, SAD 223 - Resolution 3 (Armijo), which passed at the Council meeting of June 17, 1991, by a vote of 8 FOR AND 1 ABSTAIN.

Yes: 8
Abstain: Yntema

In accordance with the provisions of the City Charter, your action is respectfully requested.

BG/ymv
3666-2
attachment
6/19/91

City of Albuquerque
City Council

**Enrolling & Engrossing
Certificate**

Bill No: R-396, SAD 223 - Resolution 3

Sponsored by: Alan B. Armijo, Councillor
District 1

Certified by:

M. Yvonne Vega
M. Yvonne Vega
Council Secretary



Date: 6/19/91

CITY OF ALBUQUERQUE

CITY COUNCIL

6/20/91

Do Not Publish
105-1991

INTER-OFFICE MEMORANDUM:

REF. 3666-2

TO: Louis E. Saavedra, Mayor
FROM: Beatrice Gutierrez, Director of Council Services
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fy

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Yes: 8
Abstain: Yntema

In accordance with the provisions of the City Charter, your action is respectfully requested.

BG/ymv
3666-2
attachment
6/19/91



1991 JUN 24 AM 8 27
RECEIVED
ALBUQUERQUE CITY CLERK

CITY OF ALBUQUERQUE
NINTH COUNCIL

COUNCIL BILL NO. R-396 ENACTMENT NO. 105-1991

SPONSORED BY:

Alan S. Armijo

RESOLUTION

RELATING TO AND CREATING ALBUQUERQUE, NEW MEXICO, SPECIAL
ASSESSMENT DISTRICT NO. 223; DETERMINING THE ADVISABILITY OF
CONSTRUCTING, AND THE TYPE AND CHARACTER OF, CERTAIN STREETS
AND ASSOCIATED STORM DRAINAGE, SANITARY SEWER, AND WATER
IMPROVEMENTS THEREIN AND DIRECTING THE CITY CLERK TO CALL FOR
SEALED BIDS ON SUCH IMPROVEMENTS.

WHEREAS, by Resolution No. 74-1991, adopted and approved on May 6,
1991 (the "Resolution"), the City Council (the "Council") of the City of
Albuquerque (the "City"), in the County of Bernalillo and State of New Mexico,
provisionally ordered the grading, graveling, paving, sidewalking, curbing,
guttering, draining, and otherwise completing of certain streets and parts thereof
(the "Street Improvements") and the construction, installing, and otherwise
improving of certain sanitary sewer lines (the "Sanitary Sewer Improvements")
water lines (the "Water Improvements"), and storm drainage improvements (the
"Storm Drainage Improvements"), in the proposed district (collectively, the
"Improvements"), all pursuant to and in conformity with Sections 3-33-1 through
3-33-43, NMSA 1978, as amended and supplemented; and

WHEREAS, the area provisionally ordered to be improved by the
Resolution and the benefitted property to be assessed to defray the cost of the
Improvements is designated "Albuquerque, New Mexico, Special Assessment
District No. 223" (the "District"); and

WHEREAS, the Resolution set a time and place at which the owners of the
property to be assessed, or any other interested persons, could appear before the
Council and be heard as to the propriety and advisability of making the
Improvements, as to the estimated cost thereof, as to the manner of payment

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therefor, and as to the estimated maximum benefit to each individual tract or parcel of land within the District, to-wit, on Monday the 3rd day of June 1991, at 6:00 o'clock p.m. at the City/County Government Center in the City; and

WHEREAS, in accordance with the laws of the State of New Mexico, not more than thirty days nor less than ten days before the day of the protest hearing, written notice of the time and place of the protest hearing was given to the owners of property within the District; such notice being served by mailing a copy of the notice to each of such property owners at his last known address and further notice being given by publication one each week for three consecutive weeks in a newspaper which maintains an office, and is of general circulation in the City, the last publication having been at least one week prior to the day of the protest hearing; and

WHEREAS, at the protest hearing all owners of property to be assessed within the District and all interested persons so desiring were permitted to file a written protest, objection or to appear before the Council and be heard as to the propriety and advisability of making the improvements, as to the estimated cost thereof, as to the manner of payment therefor, and as to the estimated maximum benefit to each individual tract or parcel of land within the District; and

WHEREAS, the Council has now considered such written protests and objections made at the protest hearing, as to the propriety and advisability of making the improvements, as to the costs thereof, as to the manner of payment therefor, and as to the estimated maximum benefit to each individual tract or parcel of land within the District, and the Council finds that, except as noted in Section 2 below, the written protests and such objections made at the protest hearing are without merit and finds that the same should be overruled and denied.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE, NEW MEXICO:

Section 1. That all action heretofore taken (not inconsistent with the provisions of this Resolution) by the City and the officers of the City directed toward the construction of the improvements within the District and toward provisionally ordering the improvements, be and the same hereby is ratified, approved and confirmed.

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Section 2. That the Council has determined, and does hereby determine, that the protests and objections filed or otherwise made in connection with the District are without merit and that the same be, and hereby are, overruled and finally passed on by the Council, except as follows:

A. Because the properties identified as Items 1, 2, 3, 4, 5, 16, and 17 will require substantial future off-site infrastructure improvements in addition to the improvements to be constructed by the District, and because the schedules for development of each of the properties are expected to be variable and to occur generally over a longer period of time, the Estimated Maximum Benefits shall be modified as follows:

(I) For Item No. 1, the Estimated Maximum Benefit shall be reduced from \$570,000.00 to \$436,100.00.

(II) For Item No. 2, the Estimated Maximum Benefit shall be reduced from \$270,000.00 to \$243,900.00.

(III) For Item No. 3, the Estimated Maximum Benefit shall be increased from \$570,000.00 to \$645,800.00.

(IV) For Item No. 4, the Estimated Maximum Benefit shall be reduced from \$220,000.00 to \$51,000.00.

(V) For Item No. 5, the Estimated Maximum Benefit shall be reduced from \$170,000.00 to \$99,400.00.

(VI) For Item No. 16, the Estimated Maximum Benefit shall be reduced from \$220,000.00 to \$57,000.00.

(VIII) For Item No. 17, the Estimated Maximum Benefit shall be increased from \$630,000.000 to \$989,700.00.

B. Because the geotechnical investigation report prepared for the District recommends stronger and more stable pavement sections for some of the Street Improvements, the preliminary plans for and the descriptions of the Street Improvements shall be modified to reflect necessary pavement section revisions.

Section 3. That the Council, except as modified in Section 2 of this Resolution, has approved and does hereby approve the estimated maximum benefit roll filed with the City Clerk on May 6, 1991, has determined and does hereby determine that it is proper and advisable to construct the Improvements in and along all of the following streets, rights-of-way, and parts thereof, as

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provisionally ordered (except to the extent inconsistent herewith), and does hereby order that all of the Improvements at the following locations be constructed within the District (except where noted to the contrary) and assessments levied therefor.

SPECIAL ASSESSMENT DISTRICT NO. 223

STREET IMPROVEMENTS

Alameda Boulevard, NW - from Coors Bypass, NW, east to the connection with existing Alameda Boulevard, NW (64 feet wide arterial paving, 14-foot wide continuous left turn lane, 10-foot wide paved shoulders).

Coors Bypass, NW - from Coors Boulevard, NW, north to Rio Rancho Boulevard, NW (105.25 feet wide back-to-back of curb, arterial paving, 28-foot wide raised median, street lights, traffic signals, and 6-foot wide sidewalk east side only between Corrales Road, NW, and Seven Bar Loop, NW; west side only between Seven Bar Loop, NW, and Ellison Drive, NW; west side only from approximately 520 feet north of Ellison Drive, NW, to approximately 1,130 feet north of Ellison Drive, NW).

Corrales Road, NW - from Coors Bypass, NW, north to approximately 1,100 LF south of Seven Bar Loop, NW (76 feet wide arterial paving, 28-foot wide raised median, 10-foot wide paved shoulder, traffic signal, 6-foot wide sidewalk west side only).

Cottonwood Drive, NW - from Seven Bar Loop, NW, north to Ellison Drive, NW (67.25 feet wide back to back of curb, arterial paving, 16-foot wide continuous left turn lane).

Ellison Drive, NW - from Coors Bypass, NW, east to Alameda Boulevard, NW (105.25 feet wide back to back of curb, arterial paving, 52-foot wide raised median, traffic signals, and telephone relocation).

Seven Bar Loop, NW - from Coors Bypass, NW, east to Corrales Road, NW (67.25 feet wide back-to-back of curb, arterial paving, 16-foot wide continuous left turn lane, traffic signals, gas transmission main relocation, and 6-foot wide sidewalk south side only from Coors Bypass, NW, to approximately 300 feet west of Corrales Road, NW, and north side only from approximately 980 feet west of Corrales Road, NW, to approximately 900 feet west of Corrales Road, NW).

SANITARY SEWER IMPROVEMENTS

Coors Bypass, NW - from the end of the existing main, located

1 approximately 1,300 feet south of Seven Bar Loop, NW, north to approximately
2 1,200 feet north of Ellison Drive, NW (24-inch and 8-inch diameter sanitary sewer).

3 Cottonwood Mall Site - within public utility easements to serve proposed
4 subdivision tracts under multiple ownerships (12-inch and 8-inch diameter sanitary
5 sewer).

6 Ellison Drive, NW - from Cottonwood Drive east to Alameda Boulevard,
7 NW (24-inch and 8-inch diameter sanitary sewer).

8 Ellison Drive, NW - from approximately 280 feet west of Coors Bypass,
9 NW, east to Coors Bypass, NW (18-inch diameter sanitary sewer).

10 Seven Bar Loop, NW - from the connection with the existing sanitary sewer
11 main, located approximately 225 feet west of Coors Bypass, NW, east to Coors
12 Bypass, NW (8-inch diameter sanitary sewer).

13 Seven Bar Loop, NW - from approximately 700 feet west of Corrales Road,
14 NW, east to the connection with the existing sanitary sewer main approximately
15 530 feet west of Corrales Road, NW (8-inch diameter sanitary sewer).

16 Seven Bar Ranch Tract G-2 - within a public utility easement along the east
17 boundary from Ellison Drive, NW, to approximately 950 feet south of Ellison
18 Drive, NW (24-inch diameter sanitary sewer).

19 WATER IMPROVEMENTS

20 Alameda Boulevard, NW - from Coors Bypass, NW, east to approximately
21 200 feet east of Coors Bypass, NW (12-inch diameter water main).

22 Coors Bypass, NW - from the connection with the existing 20-inch diameter
23 water main, located approximately 1,300 feet south of Seven Bar Loop, NW, north
24 to Rio Rancho Boulevard, NW (12-inch diameter water main).

25 Cottonwood Drive, NW - from Seven Bar Loop, NW, north to Ellison
26 Drive, NW (12-inch diameter water main).

27 Cottonwood Mall Site - within public utility easements to serve proposed
28 subdivision tracts under multiple ownerships (10-inch, 8-inch, and 6-inch diameter
29 water mains).

30 Ellison Drive, NW - from Coors Bypass, NW, east to Alameda Boulevard,
31 NW (12-inch diameter water main).

32 Rio Rancho Boulevard, NW (NM 528) - from Coors Bypass, NW, north to
33 the connection with the existing 12-inch water main on the east side of Seven Bar

1 Char #1 (12-inch diameter water main and pressure reducing valve).

2 Seven Bar Loop, NW - from Coors Bypass, NW, east to the connection with
3 the existing water main located approximately 1,000 feet west of Corrales Road,
4 NW (12-inch diameter water main).

5 STORM DRAINAGE IMPROVEMENTS

6 Coors Bypass, NW - from approximately 300 feet south of Seven Bar Loop,
7 NW, north to approximately 1,200 feet north of Ellison Drive, NW (30-inch
8 through 18-inch diameter storm drain).

9 Corrales Main Canal - from Ellison Drive, NW, north to the Cabezon
10 Channel (34-inch diameter storm drain).

11 Corrales Road, NW - from Seven Bar Loop, NW, south to the drainage
12 outfall to the Seven Bar Ranch Tract 14 detention basin located approximately 350
13 feet south of Seven Bar Loop, NW (24-inch diameter storm drain).

14 Cottonwood Drive, NW - from approximately 700 feet south of Ellison
15 Drive, NW, north to Ellison Drive, NW (18-inch through 30-inch diameter storm
16 drain).

17 Cottonwood Mall Site (Seven Bar Ranch Tract H-1) - within public
18 drainage easements to serve proposed subdivision tracts under multiple
19 ownerships (60-inch through 18-inch diameter storm drains and detention basins).

20 Ellison Drive, NW - from 160 feet west of Coors Bypass, NW, east to the
21 Corrales Main Canal (24-inch and 18-inch diameter storm drains).

22 Seven Bar Loop, NW - from approximately 200 feet west of Corrales Road,
23 NW, east to Corrales Road, NW (24-inch and 18-inch diameter storm drain).

24 Seven Bar Ranch Tract C-3 - along the east boundary from Alameda
25 Boulevard, NW, north to the Cabezon Channel, within proposed drainage
26 easement (concrete-lined channel).

27 Seven Bar Ranch Tract N-2B - at the southwest corner of Coors Bypass,
28 NW, and Ellison Drive, NW, within existing drainage easement (regional storm
29 drainage detention basin).

30 Seven Bar Ranch Tract 14 - east of Corrales Road, NW, within proposed
31 drainage easement (existing Coors Boulevard) at Seven Bar Loop, NW (regional
32 storm drainage detention basin).

33 Section 4. The Council does hereby determine that all Water

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Improvements, Storm Drainage Improvements, Sanitary Sewer Improvements, and Street Improvements which are not specified in Section 3 of this Resolution shall be deleted from the District.

Section 5. The Council does hereby determine that the type and character of the Improvements shall be substantially as follows:

A. Street Improvements

(1) The pavement width in feet including curb and gutter, measured back of curb to back of curb, is indicated after the above description of each street, or part thereof, as the case may be. The Street Improvements shall include all necessary grading, shaping, draining, street lighting, and all other work incidental to such paving. The pavement is to be centered in each street right-of-way, except as indicated on the plans.

(2) Curbs and gutters will be constructed adjacent to the edge of the pavement and will be made of concrete. The work will include all necessary excavation, filling, grading, inlets, driveway approaches, and other work necessary and incidental to such improvements; the combined curb and gutter being 31-1/2 inches in width, and at the back of curb 14 inches in height; the curb being 5-1/2 inches thick at the top; and the gutter being 7-1/2 inches thick at the point of contact with the pavement. Median curbs shall be extruded asphalt being 8 inches wide at the bottom and 8 inches high. Mountable Curb shall be 31-1/2 inches wide, 10 inches thick at the back, and 6-3/4 inches thick at the point of contact with the pavement. Mountable Curb Estate Type shall be 31-1/2 inches wide, 10 inches high at the back, and 7-1/2 inches thick at the point of contact with the pavement.

(3) Sidewalks shall be made of concrete, and the work will include all necessary excavation, filling, grading, and other work necessary and incidental to such improvements. The width of the sidewalk is indicated on the plans. Sidewalks shall be 4 inches in thickness, 72 inches in width, and be constructed parallel with the curb and gutter, except where otherwise indicated on the plans.

B. Water Improvements

The Water Improvements shall include excavation, trenching, pipe laying, and backfilling; or constructing new water mains and appurtenances; removal and replacement of any pavement and other obstacles; service extensions

shall be polyethylene pipe, cast iron pipe, or ductile iron pipe. All appurtenances and incidentals required or necessary to the foregoing improvements will be included in the Water Improvements.

C. Sanitary Sewer Improvements

The Sanitary Sewer Improvements shall include excavation, trenching, pipe laying, and backfilling; removal and replacement of any paving and other obstacles; collection lines will be 8-inch diameter pipe except as noted otherwise on the plans; manholes will be installed at street intersections or as required. Collection lines shall be aligned as shown on the plans.

D. Storm Drainage Improvements

The Storm Drainage Improvements shall include excavation, trenching, pipe laying, and backfilling; removal and replacement of paving and other obstacles; collection lines being 18-inch through 60-inch diameter reinforced concrete pipe; manholes and catch basins are to be installed in the street and gutter lines; and special inlet structures and outfall structures and crossings as indicated on the plans. Storm drains shall be installed within the street right-of-way or public easements, as indicated on the plans.

Section 6. The estimated total cost of the Improvements, including engineering, legal, financing, and all necessary and incidental expenses is \$15,774,417.52 of which it is estimated that \$3,412,746.44 will be defrayed from sources other than special assessments, and \$12,361,671.08 will be assessed against those tracts or parcels of land in the District as hereinafter provided. For assessments based on a front foot basis, the amount of frontage of any particular tract or parcel of land specifically benefitted by the improvements will be computed by determining the distance along the boundaries of such tract or parcel which abut any street, right-of-way, easement, or any combination thereof, in which and through which a particular improvement is being placed, and the amount to be assessed will be apportioned to each such tract or parcel in proportion to the amount of footage of each such tract or parcel to the total amount of footage of all benefitted tracts or parcels. For assessments based on a service unit basis, an equal share of the amount to be assessed will be apportioned to each of the parcels specifically benefitted by the improvements. For assessments based on an area basis, the amount of area of any tract or parcel of land

1 specifically benefitted by the improvement will be computed by determining the
2 acreage of such tract or parcel, and the amount to be assessed will be apportioned
3 to each such tract or parcel in proportion to the amount of area of each such tract
4 or parcel to the total amount of area of all benefitted tracts or parcels. For
5 assessments based on a contribution basis, the amount of contribution of any tract
6 or parcel of land specifically benefitted by the improvements will be determined
7 from master plans, management plans, or engineering analysis, and the amount
8 to be assessed will be apportioned to each such tract or parcel in proportion to the
9 amount of contribution of each such tract or parcel to the total amount of
10 contribution of all benefitted tracts or parcels. The estimated cost to be assessed
11 and the basis of assessment for each type of improvement is as follows:

12 A. Street Improvements: The estimated total assessments are
13 \$5,887,378.76. The assessments for street and intersection improvements will be
14 levied either on a front foot or area basis against those tracts or parcels of land in
15 the District that abut of the streets being improved and that are specifically
16 benefitted by the street and intersection improvements.

17 B. Water Improvements: The estimated total assessments are
18 \$1,874,304.94. The assessments will be levied on a front foot, area, or service unit
19 basis against those tracts or parcels of land abutting the streets, rights-of-way, or
20 easements in which and through which the Water Improvements shall be placed
21 and also assessed against the tracts of land in the District that are specifically
22 benefitted by the availability of service.

23 C. Sanitary Sewer Improvements: The estimated total assessments are
24 \$841,355.38. The assessments will be levied on either a contribution, area, or
25 service unit basis against those tracts or parcels of land abutting the streets, rights-
26 of-way, or easements in which and through which the Sanitary Sewer
27 Improvements shall be placed and also assessed against the tracts of land in the
28 District that are specifically benefitted by the availability of service.

29 D. Storm Drainage Improvements: The estimated total assessments are
30 \$3,758,632.01. Assessments will be levied against those tracts or parcels of land
31 situated wholly or partially within the drainage basins in which and through
32 which the associated Storm Drainage Improvements and Street Improvements are
33 being placed. Assessments will be levied equally against each tract or parcel of

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land on a contribution, area, front foot, or service unit basis to each of those tracts or parcels or land contributing to the total basin flow and for the flood protection received by, and the elimination of potential flooding of the access to each tract or parcel of land due to the construction of the associated Storm Drainage Improvements and Street Improvements and the diversion of drainage flow by the platted street system.

Section 7. That there be, and there hereby is created and established the City of Albuquerque Special Assessment District No. 223 for the purpose of constructing the Improvements, all as herein set forth, and of assessing the cost thereof to the property benefitted thereby.

Section 8. That any person who filed, and did not withdraw, a written protest or objection protesting the construction of the Improvements pursuant to Section 3-33-13 NMSA 1978 shall have the right, within thirty days from the adoption and approval of this Resolution, to commence an action or suit in any court of competent jurisdiction to correct or set aside the determination of the Council set forth in this resolution, but thereafter all actions or suits attacking the validity of the proceedings and the amounts of benefits to be derived from the Improvements shall be perpetually barred.

Section 9. That Easterling & Associates, Inc. (The "Engineers"), professional engineers duly licensed under the laws of the State of New Mexico, who are employed by the City in connection with the Improvements, be and they hereby are ordered and directed to modify the preliminary plans, specifications, proposed contract documents, assessments plat, addendum to the assessment plan, estimates of cost, and other relevant documents in connection with the District to conform to any modification herein ordered and directed in the provisions of this Resolution.

Section 10. That the City Clerk of the City (the "Clerk") is hereby authorized and directed, upon modification, if any, being made to the instruments designated in Section 9 of this Resolution, and a set of said instruments being filed in the office of the Clerk, to advertise for bids for doing the work of constructing the Improvements by publication of a notice to contractors at least once each week for two consecutive weeks by insertions in the Albuquerque Journal and Albuquerque Tribune, newspapers which maintain an office, and are of general

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1 circulation, in the City and the County of Bernalillo, the first of such publications
2 to be made at least 10 days before the date for opening of bids, all pursuant to
3 Sections 3-33-19 and 13-1-102, NMSA 1978, as amended and supplemented, and
4 Section 5-8-9(G) of the Revised Ordinances of Albuquerque, New Mexico, 1974, as
5 amended and supplemented.

6 Section 11. That the City Clerk is hereby authorized and directed to record
7 in appropriate form the estimated maximum benefit roll in the records of the
8 Bernalillo County Clerk to give constructive notice of the pendency of the District
9 to any owner, purchaser or encumbrancer of all tracts or parcels included in the
10 District as provided by Section 3-33-11 NMSA 1978, as amended and
11 supplemented.

12 Section 12. That the officers of the City be and they hereby are, authorized
13 and directed to take all action necessary or appropriate to effectuate the provisions
14 of this Resolution.

15 Section 13. That all resolutions, or parts thereof, in conflict with the
16 provisions of this Resolution are hereby repealed. This repealer shall not be
17 constructed to revive any resolution, or part thereof, heretofore repealed.

18 Section 14. If any section, paragraph, clause, or provision of this
19 Resolution shall for any reason be held to be invalid or unenforceable, the validity
20 of such section, paragraph, clause, or provision shall not affect any of the
21 remaining provisions of this Resolution.

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1 PASSED AND ADOPTED THIS 17th DAY OF June, 1991.

2 BY A VOTE OF 8 FOR AND 1 ABSTAIN.

3 Yes: 8
4 Abstain: Yntema

5 Michael Brasher
6 Michael Brasher, President
7 City Council

8 APPROVED THIS 21ST DAY OF JUNE, 1991

9 Maaved
10 Louis E. Saavedra, Mayor
11 City of Albuquerque

12
13 ATTEST:

14 Kenn M. Pene
15
16 City Clerk

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CITY of ALBUQUERQUE
NINTH COUNCILCOUNCIL BILL NO. R-354 ENACTMENT NO. _____SPONSORED BY: Alan B. Amigo

RESOLUTION

RELATING TO THE PROPOSED ALBUQUERQUE, NEW MEXICO, SPECIAL
ASSESSMENT DISTRICT NO. 223; ACCEPTING PRELIMINARY PLANS,
ESTIMATES OF COSTS, ASSESSMENT PLAT WITH ADDENDUM AND
ENGINEER'S REPORT AS TO THE METHODS USED IN DETERMINING
BENEFITS WITH RESPECT THERETO; MAKING A PROVISIONAL ORDER
THAT CERTAIN STREET, SANITARY SEWER, STORM DRAINAGE, AND
WATER IMPROVEMENTS, ALL WITHIN THE PROPOSED DISTRICT, SHALL BE
CONSTRUCTED; AND DIRECTING THAT NOTICE OF A HEARING ON THE
PROVISIONAL ORDER BE GIVEN.

WHEREAS, the City Council (the "Council") of the City of Albuquerque
(the "City"), in the County of Bernalillo and State of New Mexico, has directed
Easterling & Associates, Inc. (the "Engineers"), professional engineers duly licensed
under the laws of the State of New Mexico, to prepare, submit, and file with the
City Clerk of the City (the "City Clerk"), (I) preliminary plans showing, typical
sections of, the type of materials to be used and the approximate thickness and
width of the material for the contemplated street improvements (the "Street
Improvements"), the type of material to be used, the approximate diameter or
diameters of any trunk lines, mains or laterals for the contemplated water, sanitary
sewer and storm drainage improvements (the "Water Improvements," "Sanitary
Sewer Improvements," and "Drainage Improvements," respectively) and a general
description of other major components of the foregoing types of improvements,
all within the City (collectively, the "Improvements"); (II) estimates of the cost of
grading, graveling, paving, draining, curbing, guttering, sidewalking, street
lighting, and otherwise constructing the Street Improvements and of constructing,
installing, adjusting, and otherwise completing the Water Improvements, Sanitary

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1 Sewer Improvements, and Storm Drainage Improvements; (III) an assessment plat
2 showing the area to be included in the proposed District; and an addendum to the
3 assessment plat, showing the amount of maximum benefit estimated to accrue to
4 each tract or parcel of land in the proposed district, including an engineer's report
5 on the method used in determining benefits, all pursuant to Sections 3-33-1
6 through 3-33-43, NMSA, 1978, as amended and supplemented; and

7 WHEREAS, the Council is of the opinion that, in the general interest of the
8 City and in the specific interest of the property within the proposed district, the
9 addition of the Improvements is necessary and should be made in the proposed
10 district as so directed and that the Improvements should be as hereinafter set
11 forth; and

12 WHEREAS, the Engineers have filed at the office of the City Clerk, in
13 connection with the Improvements and with the proposed Albuquerque, New
14 Mexico, Special Assessment District No. 223 (the "District") the following:

15 I. Preliminary plans (the "Preliminary Plans") showing typical sections of the type
16 or types of material to be used and the approximate thickness and width of the
17 material for the Street Improvements; and the type of material to be used and the
18 approximate diameter or diameters of all trunk lines, distribution lines, service
19 lines, connection lines, mains and laterals for the Water, Sanitary Sewer, and Storm
20 Drainage Improvements; and a general description of any other major component
21 of each of the foregoing Improvements.

22 II. An estimate (the "Estimate") of the total cost of constructing the Improvements;
23 said estimate being made in a lump sum or by unit prices including, without
24 limiting the generality of the foregoing, advertising, appraising, engineering,
25 printing, and any other such expenses, as in the judgment of the Engineers, are
26 necessary to the completion of the Improvements and the payment of the costs
27 thereof.

28 III. An assessment plat (the "Assessment Plat") showing the area to be included
29 within the District.

30 IV. An addendum to the Assessment Plat (the "Addendum") including an
31 Engineer's Report (the "Engineer's Report") as to the method of determining
32 benefits, showing the tracts or parcels of land to be assessed, and the amount of
33 maximum benefit estimated to accrue to each tract or parcel of land in the District.

(as hereinafter more fully explained); the method of allocating the benefits being calculated on a front foot, service unit, or an area basis, an equitable adjustment having been made for assessments levied against any irregular lots or lands, so that assessments according to benefit are to be equal and uniform, such basis of assessment heretofore having been designated by the Council and the estimated maximum benefit being separately listed for each of the Improvements, i.e., Street Improvements, Water Improvements, Sanitary Sewer Improvements, and Storm Drainage Improvements; and

WHEREAS, the Council has examined the Preliminary Plans, Estimates, Assessment Plat with the Addendum and the Engineer's Report so filed with the City Clerk and has found and does hereby declare the same to be satisfactory in all respects.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE:

Section 1. The Council hereby accepts the Preliminary Plans, Estimates, Assessment Plat with the Addendum and the Engineer's Report.

Section 2. The Council hereby provisionally orders that the Improvements shall be constructed, at an estimated cost of \$_____ including engineering, legal, and all necessary incidental expenses, as more particularly hereinafter set forth, as described in the Preliminary Plans hereby accepted, reference to which is hereby made and which are available for public examination at the office of the City Clerk.

Section 3. That of the estimated total cost of \$_____ it is estimated that \$_____ will be defrayed from sources other than special assessments and \$_____ will be assessed against the tracts or parcels of land in the District as hereinafter provided. For assessments based on a front foot basis, the amount of frontage of any particular tract or parcel of land specifically benefitted by the improvements will be computed by determining the distance along the boundaries of such tract or parcel which abut any street, right-of-way, easement, or any combination thereof, in which and through which a particular improvement is being placed, and the amount to be assessed will be apportioned to each such tract or parcel in proportion to the amount of footage of each such tract or parcel to the total amount of footage of all benefitted tracts or parcels. For assessments based

1 on a service unit basis, an equal share of the amount to be assessed will be
2 apportioned to each of the parcels specifically benefitted by the improvements.
3 For assessments based on an area basis, the amount of area of any tract or parcel
4 of land specifically benefitted by the improvement will be computed by
5 determining the acreage of such tract or parcel, and the amount to be assessed will
6 be apportioned to each such tract or parcel in proportion to the amount of area of
7 each such tract or parcel to the total amount of area of all benefitted tracts or
8 parcels. For assessments based on a contribution basis, the amount of contribution
9 of any tract or parcel of land specifically benefitted by the improvements will be
10 determined from master plans, management plans, or engineering analysis, and
11 the amount to be assessed will be apportioned to each such tract or parcel in
12 proportion to the amount of contribution of each such tract or parcel to the total
13 amount of contribution of all benefitted tracts or parcels. The estimated cost to be
14 assessed and the basis of assessment for each type of improvement is as follows:

15 A. For Street Improvements, the estimated total assessments are \$ ____
16 _____. The assessments will be levied either on a front foot or area basis against
17 those tracts or parcels of land abutting that portion of the streets being improved.
18 The assessments for improving intersections will be levied on a service unit basis
19 against those tracts or parcels of land abutting that portion of any street which is
20 within one-half of the distance to the next intersection from an intersection which
21 is being improved and which is formed in part or whole by said street or, where
22 the intersecting street dead ends without intersecting another street against those
23 tracts or parcels abutting that portion of the street extending from the intersection.

24 B. For Water Improvements, the estimated total assessments are \$ ____
25 _____. The assessments will be levied on a front foot or service unit basis against
26 those tracts or parcels of land abutting the streets, rights-of-way, or easements in
27 which and through which the Water Improvements shall be placed and also
28 assessed against the tracts of land in the District that are specifically benefitted by
29 the availability of service.

30 C. For Sanitary Sewer Improvements, the estimated total assessments are
31 \$ _____. The assessments will be levied on a front foot, contribution, or
32 service unit basis against those tracts or parcels of land abutting the streets, rights-
33 of-way, or easements in which and through which the Sanitary Sewer

1 Improvements shall be placed and also assessed against the tracts of land in the
2 District that are specifically benefitted by the availability of service.

3 D. For Storm Drainage Improvements, the estimated total assessments are
4 \$ _____. Assessments will be levied against those tracts or parcels of land
5 situated wholly or partially within the drainage basin in which and through which
6 the Drainage Improvements and Street Improvements are being placed.
7 Assessments will be levied equally against each tract or parcel of land on a
8 contribution or service unit basis to each of those tracts or parcels or land
9 contributing to the total basin flow and for the flood protection received by and
10 the elimination of potential flooding of the access to each tract or parcel of land
11 due to the construction of the Storm Drainage Improvements and the diversion of
12 drainage flow by the platted street system.

13 The methods of levying the assessments set forth in Paragraph A through
14 D of this Section have heretofore and hereby are determined by the Council to be
15 equitable and proportionate to the benefits received. An equitable adjustment will
16 be made for the assessments levied against any irregular lots or lands and made
17 for any tract or parcel not specifically benefitted by any of the Improvements, so
18 that assessments according to benefits are equal and uniform.

19 Section 4. The area comprising the District shall be designated
20 "Albuquerque, New Mexico, Special Assessment District No. 223."

21 Section 5. On Monday, the _____, at _____ p.m., at the Council
22 Chambers in the City/County Government Center, One Civic Plaza, NW, in the
23 City of Albuquerque, New Mexico, the owners of the property to be assessed or
24 any other persons interested therein may file a written protest or objection and
25 may appear before the Council and be heard as to the advisability of making the
26 Improvements, as to the estimated costs thereof, as to the manner of payment
27 therefore and as to the amount to be assessed against the individual tracts or
28 parcels of land within the District. Not more than thirty days nor less than ten
29 days before the day of the hearing, the City Clerk, Deputy City Clerk, or the
30 Engineers are hereby directed to and shall mail notices, stating the time and place
31 of the hearing on this provisional order to the owners of the tracts or parcels of
32 land being assessed for the Improvements. The notice shall be mailed to the last
33 known address of each such property owner. The names and addresses of such

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1 property owners are to be obtained from the records of the County Assessor or
2 from other sources as the City Clerk or the Engineers deem reliable. Proof of such
3 mailing shall be made by affidavit of the City Clerk or the Engineers, such proof
4 to be filed with the City Clerk, provided that failure to mail such notice or notices
5 shall not invalidate any of the proceedings hereunder. The time and place of the
6 hearing on this provisional order shall also be given by publication in a
7 newspaper, which maintains an office in and is of general circulation within the
8 City, once each week for three consecutive weeks, the last publication to be at least
9 one week prior to the date of the hearing. Such service by publication shall be
10 verified by the affidavit of the publisher and filed with the City Clerk. The
11 published notice shall be in substantially the following form:

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(FORM OF NOTICE)

NOTICE OF HEARING ON CERTAIN STREET, SANITARY SEWER,
WATER AND STORM DRAINAGE IMPROVEMENTS,
AND PROPOSED ASSESSMENTS WITHIN THE PROPOSED
ALBUQUERQUE, NEW MEXICO,
SPECIAL ASSESSMENT DISTRICT NO. 223

NOTICE IS HEREBY GIVEN to the property owners within the proposed
Albuquerque, New Mexico, Special Assessment District No. 223 (the "District") and
to all interested persons that:

I. The City Council (the "Council") of the City of Albuquerque (the "City"), New
Mexico, has provisionally ordered that the following streets and parts thereof shall
be graded, graveled, paved, drained, curbed, guttered, sidewalked, and otherwise
improved (the "Street Improvements"); and that there be constructed, installed, and
otherwise improved water lines (the "Water Improvements"), sanitary sewers (the
"Sanitary Sewer Improvements"), and storm drainage improvements (the "Storm
Drainage Improvements"), to be constructed, installed, improved, and otherwise
acquired (collectively, the "Improvements") in and along the following streets and
areas and parts thereof as designated:

STREET IMPROVEMENTS

Alameda Boulevard, NW - from Coors Bypass, NW, east to the connection
with existing Alameda Boulevard, NW. (64 feet wide arterial paving, 14-foot wide
continuous left turn lane, 10-foot wide paved shoulders).

Coors Bypass, NW - from Coors Boulevard, NW, north to Rio Rancho
Boulevard, NW. (105.25 feet wide back-to-back of curb, arterial paving, 28-foot
wide raised median, street lights, traffic signals, and 6-foot wide sidewalk east side
only between Corrales Road, NW, and Seven Bar Loop, NW; west side only
between Seven Bar Loop, NW, and Ellison Drive, NW; west side only from
approximately 520 feet north of Ellison Drive, NW, to approximately 1,130 feet
north of Ellison Drive, NW.)

Corrales Road, NW - from Coors Bypass, NW, north to approximately
1,100 LF south of Seven Bar Loop, NW. (76 feet wide arterial paving, 28-foot wide
raised median, 10-foot wide paved shoulder, traffic signal, 6-foot wide sidewalk
west side only.)

1 Cottonwood Drive, NW - from Seven Bar Loop, NW, north to Ellison
2 Drive, NW. (67.25 feet wide back to back of curb, arterial paving, 16-foot wide
3 continuous left turn lane.)

4 Ellison Drive, NW - From Coors Bypass, NW, east to Alameda Boulevard,
5 NW. (105.25 feet wide back to back of curb, arterial paving, 52-foot wide raised
6 median, traffic signals, and telephone relocation.)

7 Seven Bar Loop, NW - from Coors Bypass, NW, east to Corrales Road,
8 NW. (67.25 feet wide back-to-back of curb, arterial paving, 16-foot wide continuous
9 left turn lane, traffic signals, gas transmission main relocation, and 6-foot wide
10 sidewalk south side only from Coors Bypass, NW, to approximately 300 feet west
11 of Corrales Road, NW, and north side only from approximately 980 feet west of
12 Corrales Road, NW, to approximately 900 feet west of Corrales Road, NW.)

13 SANITARY SEWER IMPROVEMENTS

14 Coors Bypass, NW - from the end of the existing main, located
15 approximately 1,300 feet south of Seven Bar Loop, NW, north to approximately
16 1,200 feet north of Ellison Drive, NW (24-inch and 8-inch diameter sanitary sewer).

17 Cottonwood Mall Site - within public utility easements to serve proposed
18 subdivision tracts under multiple ownerships (12-inch and 8-inch diameter sanitary
19 sewer).

20 Ellison Drive, NW - from Cottonwood Drive east to Alameda Boulevard,
21 NW (24-inch and 8-inch diameter sanitary sewer).

22 Ellison Drive, NW - from approximately 280 feet west of Coors Bypass,
23 NW, east to Coors Bypass, NW, (18-inch diameter sanitary sewer).

24 Seven Bar Loop, NW - from the connection with the existing sanitary sewer
25 main, located approximately 225 feet west of Coors Bypass, NW, east to Coors
26 Bypass, NW (8-inch diameter sanitary sewer).

27 Seven Bar Loop, NW - from approximately 700 feet west of Corrales Road,
28 NW, east to the connection with the existing sanitary sewer main approximately
29 530 feet west of Corrales Road, NW (8-inch diameter sanitary sewer).

30 Seven Bar Ranch Tract G-2 - within a public utility easement along the east
31 boundary from Ellison Drive, NW, to approximately 950 feet south of Ellison
32 Drive, NW (24-inch diameter sanitary sewer).

33 WATER IMPROVEMENTS

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1 Alameda Boulevard, NW - from Coors Bypass, NW, east to approximately
2 200 feet east of Coors Bypass, NW (12-inch diameter water main).

3 Coors Bypass, NW - from the connection with the existing 20-inch diameter
4 water main, located approximately 1,300 feet south of Seven Bar Loop, NW, north
5 to Rio Rancho Boulevard, NW (12-inch diameter water main).

6 Cottonwood Drive, NW - from Seven Bar Loop, NW, north to Ellison
7 Drive, NW (12-inch diameter water main).

8 Cottonwood Mall Site - within public utility easements to serve proposed
9 subdivision tracts under multiple ownerships (10-inch, 8-inch, and 6-inch diameter
10 water mains).

11 Ellison Drive, NW - from Coors Bypass, NW, east to Alameda Boulevard,
12 NW (12-inch diameter water main).

13 Rio Rancho Boulevard, NW (NM 528) - from Coors Bypass, NW, north to
14 the connection with the existing 12-inch water main on the east side of Seven Bar
15 Channel (12-inch diameter water main and pressure reducing valve).

16 Seven Bar Loop, NW - from Coors, NW, east to the connection
17 with the existing water main located approximately 1,000 feet west of Corrales
18 Road, NW (12-inch diameter water main).

19 **STORM DRAINAGE IMPROVEMENTS**

20 Coors Bypass, NW - from approximately 300 feet south of Seven Bar Loop,
21 NW, north to approximately 1,200 feet north of Ellison Drive, NW (30-inch
22 through 18-inch diameter storm drain).

23 Corrales Main Canal - from Ellison Drive, NW, north to the Cabezon
24 Channel (54-inch diameter storm drain).

25 Corrales Road, NW - from Seven Bar Loop, NW, south to the drainage
26 outfall to the Seven Bar Ranch Tract 14 detention basin located approximately 350
27 feet south of Seven Bar Loop, NW (24-inch diameter storm drain).

28 Cottonwood Drive, NW - from approximately 700 feet south of Ellison
29 Drive, NW, north to Ellison Drive, NW (18 inch through 30-inch diameter storm
30 drain).

31 Cottonwood Mall Site (Seven Bar Ranch Tract H-1) - within public
32 drainage easements to serve proposed subdivision tracts under multiple
33 ownerships (60-inch through 18-inch diameter storm drains and detention basins).

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1 Ellison Drive, NW - from 160 feet west of Coors Bypass, NW, east to the
2 Corrales Main Canal (24-inch and 18-inch diameter storm drains).

3 Seven Bar Loop, NW - from approximately 200 feet west of Corrales Road,
4 NW, east to Corrales Road, NW (24-inch and 18-inch diameter storm drain).

5 Seven Bar Ranch Tract C-3 - along the east boundary from Alameda
6 Boulevard, NW, north to the Cabezon Channel, within proposed drainage
7 easement (concrete-lined channel).

8 Seven Bar Ranch Tract N-2B - at the southwest corner of Coors Bypass,
9 NW, and Ellison Drive, NW, within existing drainage easement (regional storm
10 drainage detention basin).

11 Seven Bar Ranch Tract 14 - east of Corrales Road, NW, within proposed
12 drainage easement (existing Coors Boulevard) at Seven Bar Loop, NW (regional
13 storm drainage detention basin).

14 II. Except as more particularly shown on the plans in the office of the City Clerk,
15 the Improvements substantially consists of and include the following:

16 A. Street Improvements

17 (1) The pavement width in feet including curb and gutter, measured
18 back of curb to back of curb, is indicated after the above description of each street,
19 or part thereof, as the case may be. The type of pavement section to be used is
20 indicated in the plans. The Street Improvements shall include all necessary
21 grading, shaping, draining, street lighting, and all other work incidental to such
22 paving. The pavement is to be centered in each street right-of-way, except as
23 indicated on the plans.

24 (2) Curbs and gutters will be constructed adjacent to the edge of the
25 pavement and will be made of concrete. The work will include all necessary
26 excavation, filling, grading, inlets, driveway approaches, and other work necessary
27 and incidental to such improvements; the combined curb and gutter being 31-1/2
28 inches in width, and at the back of curb 14 inches in height; the curb being 5-1/2
29 inches thick at the top; and the gutter being 7-1/2 inches thick at the point of
30 contact with the pavement. Median curbs shall be extruded asphalt being 8 inches
31 wide at the bottom and 8 inches high. Mountable Curb shall be 31-1/2 inches
32 wide, 10 inches thick at the back, and 6-3/4 inches thick at the point of contact
33 with the pavement. Mountable Curb Estate Type shall be 31-1/2 inches wide, 10

1 inches high at the back, and 7-1/2 inches thick at the point of contact with the
2 pavement.

3 (3) Sidewalks shall be made of concrete, and the work will
4 include all necessary excavation, filling, grading, and other work necessary and
5 incidental to such improvements. The width of the sidewalk is indicated on the
6 plans. Sidewalks shall be 4 inches in thickness, 72 inches in width, and be
7 constructed parallel with the curb and gutter, except where otherwise indicated
8 on the plans.

9 B. Water Improvements

10 The Water Improvements shall include excavation, trenching, pipe
11 laying, and backfilling for constructing new water mains and appurtenances;
12 removal and replacement of any pavement and other obstacles; service extensions
13 shall be polyethylene pipe, cast iron pipe, or ductile iron pipe. All appurtenances
14 and incidentals required or necessary to the foregoing improvements will be
15 included in the Water Improvements.

16 C. Sanitary Sewer Improvements

17 The Sanitary Sewer Improvements shall include excavation,
18 trenching, pipe laying, and backfilling; removal and replacement of any paving
19 and other obstacles; collection lines will be 8-inch diameter pipe except as noted
20 otherwise on the plans; manholes will be installed at street intersections or as
21 required. Collection lines shall be aligned as shown on the plans.

22 D. Storm Drainage Improvements

23 The Drainage Improvements shall include excavation, trenching,
24 pipe laying, and backfilling; removal and replacement of paving and other
25 obstacles; collection lines being 18-inch through 60-inch diameter reinforced
26 concrete pipe; manholes and catch basins are to be installed in the street and
27 gutter lines; and special inlet structures and outfall structures and crossings as
28 indicated on the plans. Storm drains shall be installed within the street right-of-
29 way or public easements, as indicated on the plans.

30 III. The estimated total cost of the Improvements, including engineering, legal,
31 and all necessary and incidental expenses is \$_____ of which it is estimated
32 that \$_____ will be defrayed from sources other than special assessments, and
33 \$_____ will be assessed against those tracts or parcels of land in the District

1 as hereinafter provided. For assessments based on a front foot basis, the amount
2 of frontage of any particular tract or parcel of land specifically benefitted by the
3 improvements will be computed by determining the distance along the boundaries
4 of such tract or parcel which abut any street, right-of-way, easement, or any
5 combination thereof, in which and through which a particular improvement is
6 being placed, and the amount to be assessed will be apportioned to each such tract
7 or parcel in proportion to the amount of footage of each such tract or parcel to the
8 total amount of footage of all benefitted tracts or parcels. For assessments based
9 on a service unit basis, an equal share of the amount to be assessed will be
10 apportioned to each of the parcels specifically benefitted by the improvements.
11 For assessments based on an area basis, the amount of area of any tract or parcel
12 of land specifically benefitted by the improvement will be computed by
13 determining the acreage of such tract or parcel, and the amount to be assessed will
14 be apportioned to each such tract or parcel in proportion to the amount of area of
15 each such tract or parcel to the total amount of area of all benefitted tracts or
16 parcels. For assessments based on a contribution basis, the amount of contribution
17 of any tract or parcel of land specifically benefitted by the improvements will be
18 determined from master plans, management plans, or engineering analysis, and
19 the amount to be assessed will be apportioned to each such tract or parcel in
20 proportion to the amount of contribution of each such tract or parcel to the total
21 amount of contribution of all benefitted tracts or parcels. The estimated cost to be
22 assessed and the basis of assessment for each type of improvement is as follows:

23 A. Street Improvements: The estimated total assessments are \$ ____
24 _____. The assessments will be levied either on a front foot or area basis against
25 those tracts or parcels of land abutting that portion of the streets being improved.
26 The assessment for improving intersections will be levied on a service unit basis
27 against those tracts or parcels of land abutting that portion of any street which is
28 within one-half of the distance to the next intersection from an intersection which
29 is being improved and which is formed in part or whole by said street or, where
30 the intersecting street dead ends without intersecting another street, against those
31 tracts or parcels abutting that portion of the street extending from the intersection.

32 B. Water Improvements: The estimated total assessments are \$ ____
33 _____. The assessments will be levied on a front foot or service unit basis against

1 those tracts or parcels of land abutting the streets, rights-of-way, or easements in
2 which and through which the Water Improvements shall be placed and also
3 assessed against the tracts of land in the District that are specifically benefitted by
4 the availability of service.

5 C. Sanitary Sewer Improvements: The estimated total assessments are
6 _____. The assessments will be levied on either a front foot, contribution,
7 or service unit basis against the tracts or parcels of land abutting the streets,
8 rights-of-way, or easements in which and through which the Sanitary Sewer
9 Improvements shall be placed and also assessed against the tracts of land in the
10 District that are specifically benefitted by the availability of service.

11 D. Storm Drainage Improvements: The estimated total assessments
12 are \$ _____. Assessments will be levied against those tracts or parcels of land
13 situated wholly or partially within the drainage basin in which and through which
14 the Drainage Improvements and Street Improvements are being placed.
15 Assessments will be levied equally against each tract or parcel of land on a
16 contribution or service unit basis to each of those tracts or parcels of land
17 contributing to the total basin flow and for the flood protection received by, and
18 the elimination of potential flooding of the access to each tract or parcel of land
19 due to the construction of the Storm Drainage Improvements and the diversion of
20 drainage flow by the platted street system.

21 The methods of levying assessments set forth in Paragraph A through D
22 of this Section have heretofore and hereby are determined by the Council to be
23 equitable and proportionate to the benefit. An equitable adjustment will be made
24 for assessments levied against any irregular lots or lands and made for any tract
25 or parcel not specifically benefitted by any of the Improvements, so that
26 assessments according to benefits are equal and uniform.

27 IV. All persons interested are hereby advised that the preliminary plans showing
28 typical sections of the type of materials to be used, the approximate thickness and
29 width of the material for the contemplated Street Improvements, the type of
30 materials to be used and the diameter of any trunk lines, mains, laterals, or service
31 connections for the contemplated Water Improvements, Sanitary Sewer
32 Improvements, and Storm Drainage Improvements; and a general description of
33 other major components of the Improvements; an assessment plat and addendum

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1 showing the area and the description of the property to be assessed and the
2 maximum benefit estimated to accrue to those tracts or parcels of land in the
3 District, said estimate of benefits being computed on the basis set forth herein; and
4 an estimate of the total cost of constructing each of the Improvements, said
5 estimate being made in a lump sum or by unit prices including without limiting
6 the generality of the foregoing, the advertising, appraising, engineering, printing,
7 and any such expenses as in the judgment of Easterling & Associate, Inc. (the
8 "Engineer"), professional engineers duly licensed under the laws of the State of
9 New Mexico, are necessary for the completion of construction of the
10 Improvements and the payment of the costs thereof, are on file in the office of the
11 City Clerk and may be inspected by any property owner or any other interested
12 person during regular office hours. Any interested person may also ascertain in
13 the office of the City Clerk a description of the property to be assessed and the
14 maximum amount of benefit estimated to be conferred on those tracts or parcels
15 of land. Reference is hereby made to such for further detail.

16 On Monday, the _____, at the hours of _____ p.m., at the Council
17 Chamber in the City/County Government Center, One Civic Plaza, NW, in the
18 City of Albuquerque, New Mexico, the owners of the property to be assessed or
19 any other person interested therein may file a written protest or objection and may
20 appear before the Council and may be heard as to the advisability of making the
21 Improvements, as to the estimated cost thereof, as to the manner of payment
22 therefore, and as to the amount thereof to be assessed against individual tracts or
23 parcels of land. Any person desiring to appear before the Council and be heard,
24 shall be asked to register with the Clerk of the Council prior to consideration of
25 matters pertaining to such hearing.

26 Although any property owner or interested person may make a written
27 protest or objection during such hearing, the City Clerk requests that any property
28 owner or interested person wishing to make protest or objection, make such
29 protest or objection in writing at the office of the City Clerk before the time set
30 forth for such hearing. Any person filing a written protest or objection, as
31 aforesaid, shall have the right within thirty days after the City Council has
32 concluded the hearing, has determined the advisability of constructing the
33 Improvements, has determined the type and character of the Improvements, and

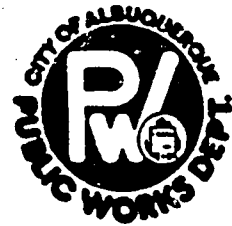
1 has created the District, to commence an action or suit in any court or competent
2 jurisdiction to correct or set aside such determination, but thereafter all action or
3 suits attacking the validity of the proceedings and the amount of the benefit shall
4 be perpetually barred.

5 After such hearing, the Council shall determine the advisability of
6 constructing the Improvements. If the Council determines that constructing the
7 Improvements is advisable, the Council shall create the District and shall proceed
8 to advertise for bids for the doing of the work therefore and shall enter into a
9 contact with the responsible bidder making the lowest bid for the doing of such
10 work and the furnishing of all necessary materials, all in accordance with Sections
11 3-33-1 through 3-33-43 NMSA 1978, as amended and supplemented.

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT



April 1, 1991

INTER-OFFICE CORRESPONDENCE

ENGINEERING GROUP

TO: Michael Brasher, President, City Council
FROM: Louis E. Saavedra, Mayor *LS*
SUBJECT: SPECIAL ASSESSMENT DISTRICT NO. 223 - RESOLUTION NO. 2 (CITY COUNCIL DISTRICT #1)

Submitted herewith for your consideration and that of the City Council is Resolution No. 2 for Special Assessment District No. 223. By this resolution, the Council would give tentative approval of the preliminary plans, plats, estimated maximum benefits roll and Engineer's report prepared for the District by the Consulting Engineers, Easterling & Associates, Inc., and would set a date and time for the Protest Hearing.

Special Assessment District No. 223, as proposed, will consist of needed infrastructure improvements to four streets and Cottonwood Mall in the Seven Bar Ranch Sector Plan Development area of Albuquerque's West Mesa. The streets being improved are Coors Bypass, Seven Bar Loop Rd., Ellison Dr., and Cottonwood Dr.

Partial funding of the District was approved by the City Council in R-192 in the following amounts:

	Account No.	Amount
Street Bond	7360580	\$866,240
Storm Bond	7361240	\$229,301

This resolution is forwarded to the City Council for Introduction on April 15, 1991.

RECOMMENDED BY:

Robert E. Gurule
Robert E. Gurule, Director
Public Works Department

REVIEWED BY:

Victoria Sedillo Perea
Victoria Sedillo Perea
CIP Official

RECOMMENDED BY:

Arthur A. Blumenfeld
Arthur A. Blumenfeld
Chief Administrative Officer

REVIEWED BY THE LEGAL DEPARTMENT:

Malcolm W. deVesty
Malcolm W. deVesty
Assistant City Attorney

LL
LL/tsl/WP+125392

CITY OF ALBUQUERQUE
City Council

ADMINISTRATIVE OFFICE
JUN 10 AM 10:27

INTEROFFICE MEMORANDUM

11/10/95

REF. 14-1995

TO: Martin J. Chavez, Mayor

FROM: Mark S. Sanchez, Director of Council Services

SUBJECT: Transmittal of Legislation

Transmitted herewith is Bill No. R-168, Awarding Construction Contract for Special Assessment District 223, Ports 2, 3 and 4 - SAD 223 (Armijo) which was passed at the Council meeting of January 4, 1995, by a vote of 9 FOR AND 0 AGAINST.

In accordance with the provisions of the City Charter, your action is respectfully requested.

MSS:d
Attachment
01/05/95

1995 JUN 17 PM 4:35
ALBUQUERQUE
CLERK

CITY of ALBUQUERQUE
ELEVENTH COUNCIL

COUNCIL BILL NO. **R-168** ENACTMENT NO. **14-1995**

SPONSORED BY: *Alan B. Arriaga*

RESOLUTION

AWARDING THE CONSTRUCTION CONTRACT FOR SPECIAL ASSESSMENT
DISTRICT 223 PART 2 IMPROVEMENTS TO MCC, INC. AND PARTS 3 AND 4
IMPROVEMENTS TO ALBUQUERQUE UNDERGROUND, INC.

WHEREAS, the City Council on June 17, 1991 by Resolution authorized the
City Clerk to advertise for bids for the construction of the improvements comprising
Special Assessment District No. 223; and

WHEREAS, the City Clerk did advertise for construction bids as directed in
accordance with State Statutes and the City Purchasing Ordinance; and

WHEREAS, on October 4, 1994, at 1:30 p.m., the City Clerk opened all bids
which were received from six bidders for the construction of Part 2 Improvements and
the result was that MCC, Inc. had submitted a low bid of \$1,572,351.64 for the
construction of Special Assessment District No. 223 Part 2 Improvements; and

WHEREAS, on October 11, 1994, at 1:30 p.m. the City Clerk opened all bids
which were received from four bidders for the construction of Parts 3 and 4
Improvements and the result was that Albuquerque Underground, Inc. had submitted a
low bid of \$11,538,620.64 for the construction of Special Assessment District No. 223
Parts 3 and 4 Improvements; and

WHEREAS, Easterling & Associates, Inc. the Consulting Engineer and the
Director, Public Works Department have recommended award of the Part 2
improvements construction contract to MCC, Inc. and award of the Parts 3 and 4
improvements construction contract to Albuquerque Underground, Inc.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY
OF ALBUQUERQUE:

Section 1. That the contract for the construction of Special Assessment District
No. 223 Part 2 improvements be and is hereby awarded to MCC, Inc.

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1 Section 2. That the Contract for the construction of Special Assessment District
2 No. 223 Parts 3 and 4 improvements be and is hereby awarded to Albuquerque
3 Underground, Inc.

4 Section 3. That said construction work for Special Assessment District No. 223
5 Parts 2, 3 and 4 be performed in accordance with the plans, specifications and contract
6 documents prepared by the Consulting Engineer, accepted by the City Council and filed
7 with the City Clerk.

8 Section 4. That the officers of the City be and hereby are authorized to take
9 whatever action as may be necessary and appropriate to carry out the provisions of this
10 Resolution.

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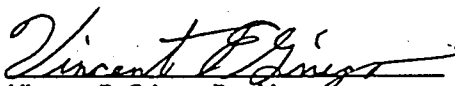
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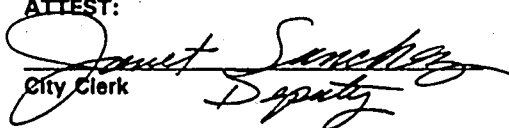
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PASSED AND ADOPTED THIS 4th DAY OF JANUARY, 1995.
BY A VOTE OF 9 FOR AND 0 AGAINST.


Vincent E. Griego, President
City Council

APPROVED THIS 17th DAY OF January, 1995.

Martin J. Chavez, Mayor
City of Albuquerque

ATTEST:

City Clerk Deputy

CITY OF ALBUQUERQUE

CITY COUNCIL

INTER-OFFICE MEMORANDUM:

July 23, 1991

REF. 12133-3

TO: Louis Saavedra, Mayor

FROM: Bea Gutierrez, Director of Council Services

SUBJECT: TRANSMITTAL OF LEGISLATION

Attached is Bill No. R-404, Amending Resolution No. 105-1991 - SAD 223 (Gallegos) which was passed by the Council on July 15, 1991, by a vote of 7 FOR AND 0 AGAINST.

Yes: 7

Excused: Armijo, Yntema

In accordance with the provisions of the City Charter your action is respectfully requested.

BG/dir
Attachment
07/17/91

City of Albuquerque
City Council

**Enrolling & Engrossing
Certificate**

Bill No: R-404, Amending Resolution No. 105-1991 - SAD 223

Sponsored by: Steve D. Gallegos
Councillor, District 3

Certified by:

Doreen Romero

Doreen Romero
Council Secretary



Date: 7/19/91

CITY OF ALBUQUERQUE

CITY COUNCIL

1991 JUL 24 AM 11:26

RECEIVED
ALBUQUERQUE CITY CLERK
REF. 12133-3

INTER-OFFICE MEMORANDUM:

July 23, 1991

TO: Louis Saavedra, Mayor
FROM: Bea Gutierrez, Director of Council Services
SUBJECT: TRANSMITTAL OF LEGISLATION

Attached is Bill No. R-404, Amending Resolution No. 105-1991 - SAD 223 (Gallegos) which was passed by the Council on July 15, 1991, by a vote of 7 FOR AND 0 AGAINST.

Yes: 7
Excused: Armijo, Yntema

In accordance with the provisions of the City Charter your action is respectfully requested.

BG/dir
Attachment
07/17/91



CITY of ALBUQUERQUE
NINTH COUNCIL

COUNCIL BILL NO.

R-404

ENACTMENT NO.

117-1991

SPONSORED BY:

Steve D Sallegos

RESOLUTION

RELATING TO ALBUQUERQUE, NEW MEXICO, SPECIAL ASSESSMENT
DISTRICT NO. 223; AMENDING RESOLUTION NO. 105-1991
ADOPTED BY THE CITY COUNCIL ON JUNE 17, 1991.

WHEREAS, the City Council (the "Council") of the
City of Albuquerque (the "City"), in the County of
Bernalillo and State of New Mexico, has heretofore,
pursuant to the requisite preliminary proceedings
provided for and provisionally ordered the grading,
graveling, paving, sidewalking, curbing, guttering,
draining, and otherwise completing of certain streets and
parts thereof (the "Street Improvements") and the
construction, installing, and otherwise improving of
certain sanitary sewer lines (the "Sanitary Sewer
Improvements"), water lines (the "Water Improvements"),
and storm drainage improvements (the "Storm Drainage
Improvements"), in Albuquerque, New Mexico, Special
Assessment District No. 223 (the "District")
(collectively, the "Improvements"), all pursuant to and
in conformity with Sections 3-33-1 through 3-33-43, NMSA
1978, as amended and supplemented; and

WHEREAS, by Resolution No. 105-1991 adopted by the
Council on June 17, 1991 ("Resolution No. 105-1991"), the
Council finally passed on all protests and objections
questioning the propriety and advisability of
constructing the Improvements, as to the estimated cost

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thereof, as to the manner of payment therefor and as to the estimated maximum benefit to each individual tract or parcel of the land within the District, created the District, determined to proceed with the Improvements and directed the City Clerk of the City to advertise for bids as required by law for doing the work of constructing the Improvements; and

WHEREAS, the Council has been advised that Resolution No. 105-1991 must be amended to correct certain errors pertaining to the estimated maximum benefit to accrue to certain tracts or parcels of land within the District which were discovered upon re-evaluation of the appraisals related to the District.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE, NEW MEXICO:

Section 1. That all action heretofore taken (not inconsistent with the provisions of this Resolution) by the City and the officers of the City directed toward the construction of the Improvements within the District and toward provisionally ordering the Improvements, be and the same hereby is ratified, approved and confirmed.

Section 2. That subparagraph A of Section 2 of Resolution No. 105-1991 be and hereby is amended in its entirety to read as follows:

A. Because the properties identified as Items 1, 2, 3, 4, 5, 16 and 17 will require future in-tract and off-site infrastructure improvements in addition to the improvements to be constructed by the District, and because development assumptions have been adjusted to more accurately reflect anticipated development conditions, and because of the community/public development required for a portion of the property identified as Item 7, and in consideration of the

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1 primarily indirect and uniform benefits expected to
2 accrue to the ABQ Development residential property within
3 the District, the Estimated Maximum Benefits shall be
4 modified as follows:

5 (I) For Item No. 1, the Estimated Maximum
6 Benefit shall be reduced from \$570,000.00 to \$214,014.66.

7 (II) For Item No. 2, the Estimated Maximum
8 Benefit shall be reduced from \$270,000.00 to \$121,657.13.

9 (III) For Item No. 3, the Estimated Maximum
10 Benefit shall be reduced from \$570,000.00 to \$213,664.64.

11 (IV) For Item No. 4, the Estimated Maximum
12 Benefit shall be reduced from \$220,000.00 to \$97,282.53.

13 (V) For Item No. 5, the Estimated Maximum
14 Benefit shall be reduced from \$170,000.00 to \$74,335.63.

15 (VI) For Item No. 7, the Estimated Maximum
16 Benefit shall be reduced from \$950,000.00 to \$185,000.00.

17 (VII) For Item No. 16, the Estimated Maximum
18 Benefit shall be reduced from \$220,000.00 to \$94,113.37.

19 (VIII) For Item No. 17, the Estimated Maximum
20 Benefit shall be reduced from \$630,000.00 to \$334,932.03.

21 Section 3. That, except as specifically amended
22 herein, Resolution No. 105-1991, shall be and remain in
23 full force and effect as adopted on June 17, 1991.

24 Section 4. That the officers of the City be and
25 they hereby are, authorized and directed to take all
26 action necessary or appropriate to effectuate the
27 provisions of this Resolution.

28 Section 5. That all resolutions, or parts thereof,
29 in conflict with the provisions of this Resolution are
30 hereby repealed. This repealer shall not be constructed
31 to revive any resolution, or part thereof, heretofore
32 repealed.

33 Section 6. If any section, paragraph, clause, or

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1 provision of this Resolution shall for any reason be held
2 to be invalid or unenforceable, the invalidity of such
3 section, paragraph, clause, or provision shall not affect
4 any of the remaining provisions of this Resolution.
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1 PASSED AND ADOPTED THIS 15th DAY OF July, 1991.

2 BY A VOTE OF 7 FOR AND 0 AGAINST.

3 Yes: 7
4 Excused: Armijo, Yntema

5 Michael Brasher
6 Michael Brasher, President
7 City Council

8 APPROVED THIS 23 DAY OF July, 1991

9 W. Saavedra
10 Louis E. Saavedra, Mayor
11 City of Albuquerque

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13 ATTEST:

14 Karen [Signature]
15 City Clerk
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(final
Version)

CITY of ALBUQUERQUE
NINTH COUNCIL

COUNCIL BILL NO. **R-404** ENACTMENT NO. _____

SPONSORED BY:

Steve D Sallegos

RESOLUTION

RELATING TO ALBUQUERQUE, NEW MEXICO, SPECIAL ASSESSMENT
DISTRICT NO. 223; AMENDING RESOLUTION NO. 105-1991
ADOPTED BY THE CITY COUNCIL ON JUNE 17, 1991.

WHEREAS, the City Council (the "Council") of the
City of Albuquerque (the "City"), in the County of
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pursuant to the requisite preliminary proceedings
provided for and provisionally ordered the grading,
graveling, paving, sidewalking, curbing, guttering,
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parts thereof (the "Street Improvements") and the
construction, installing, and otherwise improving of
certain sanitary sewer lines (the "Sanitary Sewer
Improvements"), water lines (the "Water Improvements"),
and storm drainage improvements (the "Storm Drainage
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Assessment District No. 223 (the "District")
(collectively, the "Improvements"), all pursuant to and
in conformity with Sections 3-33-1 through 3-33-43, NMSA
1978, as amended and supplemented; and

WHEREAS, by Resolution No. 105-1991 adopted by the
Council on June 17, 1991 ("Resolution No. 105-1991"), the
Council finally passed on all protests and objections
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constructing the Improvements, as to the estimated cost

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thereof, as to the manner of payment therefor and as to the estimated maximum benefit to each individual tract or parcel of the land within the District, created the District, determined to proceed with the Improvements and directed the City Clerk of the City to advertise for bids as required by law for doing the work of constructing the Improvements; and

WHEREAS, the Council has been advised that Resolution No. 105-1991 must be amended to correct certain errors pertaining to the estimated maximum benefit to accrue to certain tracts or parcels of land within the District which were discovered upon re-evaluation of the appraisals related to the District.

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE, NEW MEXICO:

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Section 2. That subparagraph A of Section 2 of Resolution No. 105-1991 be and hereby is amended in its entirety to read as follows:

A. Because the properties identified as Items 1, 2, 3, 4, 5, 16 and 17 will require future in-tract and off-site infrastructure improvements in addition to the improvements to be constructed by the District, and because development assumptions have been adjusted to more accurately reflect anticipated development conditions, and because of the community/public development required for a portion of the property identified as Item 7, and in consideration of the

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21 Section 3. That, except as specifically amended
22 herein, Resolution No. 105-1991, shall be and remain in
23 full force and effect as adopted on June 17, 1991.

24 Section 4. That the officers of the City be and
25 they hereby are, authorized and directed to take all
26 action necessary or appropriate to effectuate the
27 provisions of this Resolution.

28 Section 5. That all resolutions, or parts thereof,
29 in conflict with the provisions of this Resolution are
30 hereby repealed. This repealer shall not be constructed
31 to revive any resolution, or part thereof, heretofore
32 repealed.

33 Section 6. If any section, paragraph, clause, or

1 provision of this Resolution shall for any reason be held
2 to be invalid or unenforceable, the invalidity of such
3 section, paragraph, clause, or provision shall not affect
4 any of the remaining provisions of this Resolution.
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1 PASSED AND ADOPTED THIS 15th DAY OF July, 1991.

2 BY A VOTE OF 7 FOR AND 0 AGAINST.

3 Yes: 7
4 Excused: Armijo, Yntema

5 _____
6 Michael Brasher, President
7 City Council

8 APPROVED THIS _____ DAY OF _____, 1991

9 _____
10 Louis E. Saavedra, Mayor
11 City of Albuquerque

12
13 ATTEST:

14
15
16 _____
17 City Clerk

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(FISCAL IMPACT ANALYSIS)

TITLE: Amendment to Enactment R- O-
No. 105-1991, Resolution No. 3 FUND: SAD
SAD-223 DEPT: Public Works

- ☒ No measurable fiscal impact is anticipated, i.e., no impact on fund balance over and above existing appropriations.
- ☐ (If Applicable) The estimated fiscal impact (defined as impact over and above existing appropriations) of this legislation is as follows:

	CURRENT YEAR*	NEXT YEAR*
Base Salary/Wages	\$ <u> </u>	\$ <u> </u>
Fringe Benefits at <u> </u>	<u> </u>	<u> </u>
Subtotal Personnel	<u> </u>	<u> </u>
Operating Expenses	<u> </u>	<u> </u>
Property	<u> </u>	<u> </u>
Total	\$ <u> </u>	\$ <u> </u>

- ☐ Estimated revenues not affected
- ☐ Estimated revenue impact

- These estimates do not include any adjustment for inflation.
- Range if not easily quantifiable.

Number of Positions

COMMENTS:

There was no fiscal impact with the original resolution and this amendment does not add any fiscal impact.

COMMENTS ON NON-MONETARY IMPACTS TO COMMUNITY/CITY GOVERNMENT:

PREPARED BY:
Andreas K. Hesse 7/12/91
 FISCAL ANALYST

APPROVED:
Robert E. G. 7-12-91
 DIRECTOR (date)

REVIEWED BY:
Patricia 7-12-91
 EXECUTIVE BUDGET ANALYST

REVIEWED BY:
Rebecca Smyth 7-12-91
 BUDGET OFFICER (date)

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE

July 12, 1991

REF. NO. _____

Michael Brasher, President, City Council

TO: Louis E. Saavedra, Mayor *LS*

FROM: AMENDMENT OF ENACTMENT NO. 105-1991, RESOLUTION NO. 3, SPECIAL
ASSESSMENT DISTRICT NO. 223 (CITY COUNCIL DISTRICT #1).

SUBJECT:

Submitted herewith for your consideration and that of the City Council is a resolution amending Section 2 of the subject legislation. This amendment lowers the Estimated Maximum Benefits for various ABQ Development Corp. properties that are under the control of the Resolution Trust Corporation (the RTC). These adjusted Estimated Maximum Benefits were developed by the City's Consulting Appraiser and agreed to by ABQ Development Corp. It is anticipated that RTC approval will be obtained by early August 1991.

The total Estimated Maximum Benefits for their residential properties were reduced from \$2,522,900 to \$1,150,000, which is below their estimated assessments of \$1,238,000. However, the Estimated Maximum Benefits for their commercial properties, which was reduced from \$950,000 to \$185,000 is well above the estimated assessment of \$88,900.

This resolution is forwarded to the Council for introduction and immediate action on July 15, 1991.

RECOMMENDED BY:

REVIEWED BY THE LEGAL DEPARTMENT:

Robert E. Gurule
Robert Gurule, Director
Public Works Department

Malcolm W. deVestey
Malcolm W. deVestey
Assistant City Attorney

RECOMMENDED BY:

Arthur A. Blumenfeld
Arthur A. Blumenfeld
Chief Administrative Officer

LL/cr
Doc.#WPTPD716

original

CITY of ALBUQUERQUE
NINTH COUNCIL

COUNCIL BILL NO. **R-404** ENACTMENT NO. _____

SPONSORED BY: *Steve D. Sallegos*

RESOLUTION

RELATING TO ALBUQUERQUE, NEW MEXICO, SPECIAL ASSESSMENT
DISTRICT NO. 223; AMENDING RESOLUTION NO. 105-1991
ADOPTED BY THE CITY COUNCIL ON JUNE 17, 1991.

WHEREAS, the City Council (the "Council") of the
City of Albuquerque (the "City"), in the County of
Bernalillo and State of New Mexico, has heretofore,
pursuant to the requisite preliminary proceedings
provided for and provisionally ordered the grading,
graveling, paving, sidewalking, curbing, guttering,
draining, and otherwise completing of certain streets and
parts thereof (the "Street Improvements") and the
construction, installing, and otherwise improving of
certain sanitary sewer lines (the "Sanitary Sewer
Improvements"), water lines (the "Water Improvements"),
and storm drainage improvements (the "Storm Drainage
Improvements"), in Albuquerque, New Mexico, Special
Assessment District No. 223 (the "District")
(collectively, the "Improvements"), all pursuant to and
in conformity with Sections 3-33-1 through 3-33-43, NMSA
1978, as amended and supplemented; and

WHEREAS, by Resolution No. 105-1991 adopted by the
Council on June 17, 1991 ("Resolution No. 105-1991"), the
Council finally passed on all protests and objections
questioning the propriety and advisability of
constructing the Improvements, as to the estimated cost

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thereof, as to the manner of payment therefor and as to the estimated maximum benefit to each individual tract or parcel of the land within the District, created the District, determined to proceed with the Improvements and directed the City Clerk of the City to advertise for bids as required by law for doing the work of constructing the Improvements; and

WHEREAS, the Council has been advised that Resolution No. 105-1991 must be amended to correct certain errors pertaining to the estimated maximum benefit to accrue to certain tracts or parcels of land within the District which were discovered upon re-evaluation of the appraisals related to the District.
BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY OF ALBUQUERQUE, NEW MEXICO:

Section 1. That all action heretofore taken (not inconsistent with the provisions of this Resolution) by the City and the officers of the City directed toward the construction of the Improvements within the District and toward provisionally ordering the Improvements, be and the same hereby is ratified, approved and confirmed.

Section 2. That subparagraph A of Section 2 of Resolution No. 105-1991 be and hereby is amended in its entirety to read as follows:

A. Because the properties identified as Items 1, 2, 3, 4, 5, 16 and 17 will require future in-tract and off-site infrastructure improvements in addition to the improvements to be constructed by the District, and because development assumptions have been adjusted to more accurately reflect anticipated development conditions, and because of the community/public development required for a portion of the property identified as Item 7, and in consideration of the

1 primarily indirect and uniform benefits expected to
2 accrue to the ABQ Development residential property within
3 the District, the Estimated Maximum Benefits shall be
4 modified as follows:

5 (I) For Item No. 1, the Estimated Maximum
6 Benefit shall be reduced from \$570,000.00 to \$214,014.66.

7 (II) For Item No. 2, the Estimated Maximum
8 Benefit shall be reduced from \$270,000.00 to \$121,657.13.

9 (III) For Item No. 3, the Estimated Maximum
10 Benefit shall be reduced from \$570,000.00 to \$213,664.64.

11 (IV) For Item No. 4, the Estimated Maximum
12 Benefit shall be reduced from \$220,000.00 to \$97,282.53.

13 (V) For Item No. 5, the Estimated Maximum
14 Benefit shall be reduced from \$170,000.00 to \$74,335.63.

15 (VI) For Item No. 7, the Estimated Maximum
16 Benefit shall be reduced from \$950,000.00 to \$185,000.00.

17 (VII) For Item No. 16, the Estimated Maximum
18 Benefit shall be reduced from \$220,000.00 to \$94,113.37.

19 (VIII) For Item No. 17, the Estimated Maximum
20 Benefit shall be reduced from \$630,000.00 to \$334,932.03.

21 Section 3. That, except as specifically amended
22 herein, Resolution No. 105-1991, shall be and remain in
23 full force and effect as adopted on June 17, 1991.

24 Section 4. That the officers of the City be and
25 they hereby are, authorized and directed to take all
26 action necessary or appropriate to effectuate the
27 provisions of this Resolution.

28 Section 5. That all resolutions, or parts thereof,
29 in conflict with the provisions of this Resolution are
30 hereby repealed. This repealer shall not be constructed
31 to revive any resolution, or part thereof, heretofore
32 repealed.

33 Section 6. If any section, paragraph, clause, or

Underscored Material - New
[Bracketed Material] - Deletion

1 provision of this Resolution shall for any reason be held
2 to be invalid or unenforceable, the invalidity of such
3 section, paragraph, clause, or provision shall not affect
4 any of the remaining provisions of this Resolution.
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FISCAL IMPACT ANALYSIS

TITLE: Amendment to Enactment
No. 105-1991, Resolution No. 3
SAD-223

R- O-
 FUND: SAD
 DEPT: Public Works

- ☒ No measurable fiscal impact is anticipated, i.e., no impact on fund balance over and above existing appropriations.
- ☐ (If Applicable) The estimated fiscal impact (defined as impact over and above existing appropriations) of this legislation is as follows:

	CURRENT YEAR*	NEXT YEAR*
Base Salary/Wages	\$ <u> </u>	\$ <u> </u>
Fringe Benefits at <u> </u>	<u> </u>	<u> </u>
Subtotal Personnel	<u> </u>	<u> </u>
Operating Expenses	<u> </u>	<u> </u>
Property	<u> </u>	<u> </u>
Total	\$ <u> </u>	\$ <u> </u>

- ☐ Estimated revenues not affected
- ☐ Estimated revenue impact

- * These estimates do not include any adjustment for inflation.
- * Range if not easily quantifiable.

Number of Positions

COMMENTS:

There was no fiscal impact with the original resolution and this amendment does not add any fiscal impact.

COMMENTS ON NON-MONETARY IMPACTS TO COMMUNITY/CITY GOVERNMENT:

PREPARED BY:

Paula K. Hesse 7/12/91
 FISCAL ANALYST

APPROVED:

Robert E. G. 7-12-91
 DIRECTOR (date)

REVIEWED BY:

Tito Angel 7-12-91
 EXECUTIVE BUDGET ANALYST

REVIEWED BY:

Rebecca Ingala 7-12-91
 BUDGET OFFICER (date)

CITY OF ALBUQUERQUE

ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE

July 12, 1991

REF. NO. _____

Michael Brasher, President, City Council

TO:

Louis E. Saavedra, Mayor *W. Saavedra*

FROM:

AMENDMENT OF EXACTMENT NO. 105-1991, RESOLUTION NO. 3, SPECIAL
ASSESSMENT DISTRICT NO. 223 (CITY COUNCIL DISTRICT #1).

SUBJECT:

Submitted herewith for your consideration and that of the City Council is a resolution amending Section 2 of the subject legislation. This amendment lowers the Estimated Maximum Benefits for various ABQ Development Corp. properties that are under the control of the Resolution Trust Corporation (the RTC). These adjusted Estimated Maximum Benefits were developed by the City's Consulting Appraiser and agreed to by ABQ Development Corp. It is anticipated that RTC approval will be obtained by early August 1991.

The total Estimated Maximum Benefits for their residential properties were reduced from \$2,522,900 to \$1,150,000, which is below their estimated assessments of \$1,238,000. However, the Estimated Maximum Benefits for their commercial properties, which was reduced from \$950,000 to \$185,000 is well above the estimated assessment of \$88,900.

This resolution is forwarded to the Council for introduction and immediate action on July 15, 1991.

RECOMMENDED BY:

REVIEWED BY THE LEGAL DEPARTMENT:

Robert Gurule
Robert Gurule, Director
Public Works Department

Malcolm W. deVestey
Malcolm W. deVestey
Assistant City Attorney

RECOMMENDED BY:

Arthur A. Blumenfeld
Arthur A. Blumenfeld
Chief Administrative Officer

LL/cr
LL/cr
Doc.#WFTPD716

**CITY OF ALBUQUERQUE
NEW MEXICO**

**SPECIAL ASSESSMENT DISTRICT NO. 223
TABULATION OF PROTESTS
ADDENDUM NO. 1**

JULY 11, 1991

**EASTERLING & ASSOCIATES, INC.
CONSULTING ENGINEERS
10131 COORS ROAD, NW, SUITE H-7
ALBUQUERQUE, NEW MEXICO 87114**

**CITY OF ALBUQUERQUE
NEW MEXICO**

**SPECIAL ASSESSMENT DISTRICT NO. 223
TABULATION OF PROTESTS
ADDENDUM NO. 1
JULY 11, 1991**

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3. REVIEW OF ADDITIONAL PROTESTS	1
3.1 ABQ Development Corporation	1

APPENDICES

- APPENDIX A-1 - Tabulation of Protests, Addendum No. 1, July 11, 1991
APPENDIX A-2 - Brown, Chudleigh, Schuler & Associates
 Letter Dated July 8, 1991, with Enclosures
APPENDIX A-3 - Brown, Chudleigh, Schuler & Associates
 Letter Dated July 11, 1991
APPENDIX A-4 - Benefit Allocation Items 1, 2, 3, 4, 5, 16 and 17
APPENDIX A-5 - Assessment Allocation Items 1, 2, 3, 4, 5, 16 and 17

**CITY OF ALBUQUERQUE
NEW MEXICO**

**SPECIAL ASSESSMENT DISTRICT NO. 223
TABULATION OF PROTESTS
ADDENDUM NO. 1
JULY 11, 1991**

1. GENERAL

This Addendum No. 1 shall be incorporated into the Special Assessment District No. 223 Tabulation of Protests dated June, 1991. Except as described in this Addendum No. 1, the original Tabulation of Protests dated June, 1991, shall remain unchanged. This Addendum No. 1 is hereby made a part of the Tabulation of Protests to the same extent as if included in the original document.

The purpose of this addendum is to correct erroneous assumptions in the original Tabulation of Protests and to respond to subsequent comments and concerns voiced by ABQ Development regarding Estimated Maximum Benefit determinations and the Estimated Assessment determinations for Items 1, 2, 3, 4, 5, 7, 16 and 17.

2. TABULATION OF PROTESTS

The Tabulation of Protests - Addendum No. 1, July 11, 1991, included in Appendix A-1 supersedes the original Tabulation of Protests dated June 14, 1991.

3. REVIEW OF ADDITIONAL PROTESTS

<u>Property Owner</u>	<u>Property Item No.</u>	<u>Property Description</u>
3.1 ABQ Development Corporation	1	Tract B-9G, Seven Bar Ranch
c/o Resolution Trust Corporation	2	Tract B-9H, Seven Bar Ranch
Bank of America Action Center	3	Tract B-9J, Seven Bar Ranch
3900 Vassar Drive N.E.	4	Tract B-9E, Seven Bar Ranch
Albuquerque, NM 87107	5	Tract B-9F, Seven Bar Ranch
	7	Tract B-9D, Seven Bar Ranch
	16	Tract N-2A-2, Seven Bar Ranch
	17	Tract N-2A-1, Seven Bar Ranch

Review of Protests continued - 3.1 ABQ Development Corporation

SUMMARY OF ADDITIONAL PROTESTS:

Estimated Maximum Benefit determinations are based on erroneous information. Discounted cash flow analyses for residential properties do not reflect costs for future intract infrastructure. Development costs are inaccurate. The valuation for Item 7, Tract B-9D, Seven Bar Ranch should be decreased because the Seven Bar Ranch Sector Development Plan requires that a portion of the property be developed for community activities or for public use. The improvements proposed in the District provide relatively uniform indirect benefits to most of the ABQ Development property within the District, and benefits and assessments should be spread more evenly over the properties.

RESPONSE TO ADDITIONAL PROTESTS:

The Estimated Maximum Benefits for Items 1, 2, 3, 4, 5, 7, 16 and 17 have been revised in response to the additional protests. The discounted cash flow analysis for the residential properties (Items 1, 2, 3, 4, 5, 16 and 17) has been revised to include costs for future intract infrastructure. Times for absorption, estimated development costs, market values, type of development and inflation were also revised as discussed and agreed to with ABQ Development. The residential properties have been re-evaluated in mass because of the close proximity and the single ownership. This approach results in conservatively low valuations because sequential rather than simultaneous tract development is assumed and the resulting absorption period is longer. A discussion of the re-evaluation process and the value allocated to the property are presented in the Brown, Chudleigh, Schuler & Associates letter dated July 8, 1991. A copy of the letter is included in Appendix A-2 for reference. This letter supersedes the Brown, Chudleigh, Schuler & Associates letter dated June 12, 1991, included as Appendix 4 in the original Tabulation of Protests. The Estimated Maximum Benefit for Item 7 was adjusted to reflect the lower valuation of the property resulting from the Sector Plan requirement that a portion of the property be developed for community/public use. A summary of the re-evaluation is presented in the Brown, Chudleigh, Schuler & Associates letter dated July 11, 1991 which is included in Appendix A-3 for reference.

In response to comments regarding the indirect and uniform nature of benefits, the Estimated Maximum Benefits and Estimated Assessments have been re-allocated to Items 1, 2, 3, 4, 5, 16 and 17 on a net acreage (area) basis. The revised Benefit and Assessment Allocations are included in Appendix A-4 and A-5 respectively.

Review of Protests continued - 3.1 ABQ Development Corporation

RECOMMENDATIONS:

The following recommendations supersede those included in the Review of Protests for ABQ Development Corporation in the original Tabulation of Protests.

Because the properties identified as Items 1, 2, 3, 4, 5, 16, and 17 will require future intract and off-site infrastructure in addition to the improvements to be constructed by the District, and because development assumptions have been adjusted to more accurately reflect anticipated development conditions, and because of the community/public development required for a portion of the property identified as Item 7, and in consideration of the primarily indirect and uniform benefits expected to accrue to the ABQ Development residential property within the District, the Estimated Maximum Benefits and Estimated Assessments shall be modified as follows:

1. For Item No. 1, the Estimated Maximum Benefit shall be decreased from \$436,100.00 to \$214,014.66 and the Estimated Assessment shall be increased from \$56,000.67 to \$230,438.56. The Actual Assessment shall not exceed the Estimated Maximum Benefit.
2. For Item No. 2, the Estimated Maximum Benefit shall be decreased from \$243,900.00 to \$121,657.13 and the Estimated Assessment shall be increased from \$41,135.97 to \$130,993.34. The Actual Assessment shall not exceed the Estimated Maximum Benefit.
3. For Item No. 3, the Estimated Maximum Benefit shall be decreased from \$645,800.00 to \$213,664.64 and the Estimated Assessment shall be decreased from \$581,962.33 to \$230,061.68. The Actual Assessment shall not exceed the Estimated Maximum Benefit.
4. For Item No. 4, the Estimated Maximum Benefit shall be increased from \$51,000.00 to \$97,282.53 and the Estimated Assessment shall be increased from \$50,472.96 to \$104,748.18. The Actual Assessment shall not exceed the Estimated Maximum Benefit.
5. For Item No. 5, the Estimated Maximum Benefit shall be decreased from \$99,400.00 to \$74,335.63 and the Estimated Assessment shall be increased from \$40,085.74 to \$80,040.29. The Actual Assessment shall not exceed the Estimated Maximum Benefit.

Review of Protests continued - 3.1 ABQ Development Corporation

6. For Item No. 7, the Estimated Maximum Benefit shall be decreased from \$950,000.00 to \$185,000.00 and the Estimated Assessment shall remain \$87,934.86. The Actual Assessment shall not exceed the Estimated Maximum Benefit.
7. For Item No. 16, the Estimated Maximum Benefit shall be increased from \$57,000.00 to \$94,113.37 and the Estimated Assessment shall be increased from \$97,973.99 to \$101,335.82. The Actual Assessment shall not exceed the Estimated Maximum Benefit.
8. For Item No. 17, the Estimated Maximum Benefit shall be decreased from \$989,700.00 to \$334,932.03 and the Estimated Assessment shall be decreased from \$370,621.59 to \$360,635.37. The Actual Assessment shall not exceed the Estimated Maximum Benefit.

APPENDIX A-1

**TABULATION OF PROTESTS
ADDENDUM NO. 1
JULY 11, 1991**

CITY OF ALBUQUERQUE SPECIAL ASSESSMENT DISTRICT NO.223

JULY 11, 1991

TABULATION OF PROTESTS - ADDENDUM NO. 1

PROPERTY OWNERS BY SUPPORT / PROTEST CATEGORY	NUMBER OF PROPERTIES	PERCENT OF TOTAL PROPERTIES	PROPERTY NET AREA	PERCENT OF TOTAL PROPERTY NET AREA	ESTIMATED ASSESSMENTS	PERCENT OF TOTAL ESTIMATED ASSESSMENTS
STRONG SUPPORT FOR DISTRICT (WITH PROTESTS / CONCERNS)						
ALBUQUERQUE MALL COMPANY LIMITED PARTNERSHIP	16	43.24%	80.03	17.50%	\$7,067,494.97	44.83%
SEVEN BAR LAND AND CATTLE COMPANY	5	13.61%	116.00	22.06%	\$3,131,868.43	18.85%
ALBERT J. BLACK AND MARY J. BLACK REVOCABLE TRUST OR THEIR SUCCESSORS	2	5.41%	11.18	2.17%	\$241,805.33	1.53%
SUBTOTALS	23	62.10%	217.81	42.34%	\$10,461,208.73	65.21%
MODERATE SUPPORT FOR DISTRICT (WITH PROTESTS / CONCERNS)						
ABQ DEVELOPMENT CORPORATION	8	21.02%	207.02	40.24%	\$1,237,834.66	7.85%
SUBTOTALS	8	21.02%	207.02	40.34%	\$1,237,834.66	7.85%
OPPOSITION TO DISTRICT						
ALBUQUERQUE BOARD OF EDUCATION	2	5.41%	45.00	8.86%	\$110,000.00	0.70%
CORRALES ASSOCIATES, LTD.	1	2.70%	8.30	1.61%	\$80,000.00	0.38%
SUBTOTALS	3	8.11%	53.30	10.49%	\$190,000.00	1.08%
NON-RESPONSIVE						
CITY OF ALBUQUERQUE	1	2.70%	6.86	1.33%	\$3,828,008.18	24.27%
NORTH COORS GROUP	2	5.41%	28.79	5.60%	\$77,207.78	0.49%
SUBTOTALS	3	8.11%	35.65	6.93%	\$3,905,216.04	24.76%
TOTALS	57	100.00%	514.48	100.00%	\$15,774,417.53	100.00%

NOTES: 1. CITY OF ALBUQUERQUE ESTIMATED ASSESSMENTS INCLUDE ASSESSED AND UNASSESSED COSTS.
2. PROPERTY ESTIMATED ASSESSMENTS SHOWN DO NOT INCLUDE AMOUNTS IN EXCESS OF ESTIMATED MAXIMUM BENEFITS.

25X10

32X

APPENDIX A-2

**BROWN, CHUDLEIGH, SCHULER & ASSOCIATES
LETTER DATED JULY 8, 1991, WITH ENCLOSURES**

BROWN, CHUDLEIGH, SCHULER & ASSOCIATES
REAL ESTATE APPRAISALS-MARKET STUDIES

LAWRENCE E. BROWN, MAI (1943-1990)
WALTER H. CHUDLEIGH III, MAI
GREGORY S. SCHULER
MARK E. DIMARCO
SUSAN R. STANLEY
DEAN A. MEYERS
MARGARET GARRINGTON
ANDREW E. ALTFORT
ROBERT E. GROWER

PARK CITY OFFICE:
1500 E. Kearns Blvd.
Suite C-204
Park City, Utah 84060
Telephone (801) 649-5906

July 8, 1991

Easterling and Associates, Inc.
10131 Coors Road, N.W.
Suite H-7
Albuquerque, NM 87114

Attn: Mr. R.P. Bohannon, P.E.

Re: SAD No. 223- Parcels 1,2,3,4,5,16 & 17
Albuquerque, New Mexico

Gentlemen:

In response to your request we have re-appraised the above referenced parcels. The updated analysis includes the new information provided by Easterling Associates with regard to development costs and CIP fees for the properties and input from the property owners. The market value of a fee interest in the parcels has been estimated under two premises. The first valuation assumes that the infrastructure improvements which are scheduled to be installed as part of the special assessment district are not in place. It can be considered an "as is" valuation of the property. The second premise assumes that the SAD improvements are in place and that no assessments or other charges are due. As a result of our appraisal and analysis, the opinion has been formed that the market values of the properties, subject to the enclosed limiting conditions, as of March 1, 1991, are as follows:

Premise 1 "As is"

NINE HUNDRED THOUSAND DOLLARS

(\$900,000)

Premise 2 "Assuming Completion of the SAD"

TWO MILLION FIFTY THOUSAND DOLLARS

(\$2,050,000)

APPENDIX A-2.1

Easterling & Associates Page 2

A brief discussion of the valuation process is presented on the following pages. Please refer to our full narrative report dated April 29, 1991 for details with regard to the subject parcels, definition of market value, demographic data, comparables, and limiting conditions and assumptions.

Valuation Methodology

The subject parcels range in size from approximately 13 to 58 acres, and total 199.7612 acres. Given the common ownership of the parcels and the fact that they are in close proximity and would compete with each other, we have staged development as though they were one 200 ± acre development. This will result in a more conservative valuation, inasmuch as it will include the negative impact on value resulting from an extended absorption period.

The current zoning regulations permit a mixture of single and multi-family development on the parcels, and we have allocated 75% of the land to single family development and 25% to multi-family development. Based on conversations with the property owners and Easterling Associates, the appropriate densities are four units per "net" acre for single family and 20 units per acre for multi-family. This results in a total of 500 single family lots and 1,000 multi-family units. It is anticipated that the lots would be sold to developers who would differentiate the design and pricing of the homes to appeal to a broad market.

The value of the single family lots is estimated at \$25,000 each, if sold in bulk to home builders, and the multi-family land at \$3,500 per unit, based on comparable sales data. The weighted average value for the 1,500 total units is calculated at \$10,622. The sale of the lots is assumed to commence in the

APPENDIX A-2.2

Easterling & Associates Page 3

third year under Premise 1, assuming a two year planning and construction period for the SAD improvements and the off-site improvements for the subject parcels. We have estimated a seven year sell-out, or absorption period, based on an analysis of historic absorption and projections for the future. This is equal to an average of 214 units per year, including multi-family and single family.

The estimated off-site construction costs of approximately \$4,700,000, as provided by Easterling and Associates have been included in our discounted cash flow analysis, as well as "in-tract" development costs of \$10,000 per single family lot. Deductions are also made for taxes, sales commissions and marketing, legal fees, general administrative and overhead, interest, and developer's profit in arriving at a value for the entire project. In the case of the Premise I, or "as is" valuation, the estimated costs which would have been provided by the SAD are also included. This assumes that a private developer would be required to construct the same infrastructure as is planned for the SAD, and that he could complete the construction within the same budget parameters. It is noted that the purchase of the property "as is" assuming no SAD is considerably more risky than the purchase assuming that the SAD improvements are in place. The purchaser would have to obtain city approvals for the project and would face additional construction cost overrun risk as well as market risk, and the risk that the city might require additional street improvements, traffic lights, etc. The cost of providing the city mandated infrastructure improvements, which will be provided by the SAD, is estimated at \$928,200 under Premise 1. This is considered to be an optimistic, or "best case" estimate, inasmuch as the city could require ABQ Development to pay for more than its pro rata share of the infrastructure costs if it were to proceed with the development of its 200 acres separate from the SAD. It also assumes that New Mexico Utilities will grant a 100% credit against the normal CIP fees for the construction of the major water and sewer lines. The estimated value of the parcels under Premise I, as indicated on the enclosed printouts, totals \$900,577, which is rounded to \$900,000.

APPENDIX A-2.3

Easterling & Associates Page 4

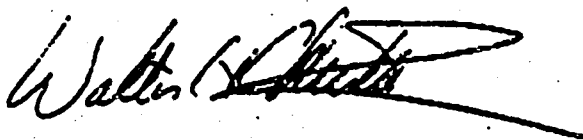
Premise 2 incorporates the same basic assumptions as Premise 1 in terms of pricing, in-tract costs, and infrastructure costs. The sale of the parcels is assumed to start in the second year, inasmuch as it is assumed that the SAD infrastructure work is already completed. The attached discounted cash flow printouts indicate an aggregate value for the subject property of \$2,048,392, which is rounded to \$2,050,000, under Premise 2. The difference between the two figures, or the "benefit" resulting from the SAD is calculated at \$1,150,000 dollars.

The cash flow analyses generally assume underlying inflation rates of 4% per year commencing in the second year. Marketing expenses are projected at 6% of gross sales revenue; developer's overhead at 1.5% of gross revenue, and developer's profit at 10% to 11% of gross sales revenue. The cash flow is discounted at 15% per annum to reflect the time value of money and to account for the projected delay in receiving funds due to the extended absorption period.

Please feel free to contact us if you have any questions, or if we can be of further assistance.

Respectfully Submitted

BROWN, CHUDLEIGH, SCHULER & ASSOCIATES



Walter H. Chudleigh III, MAI
WHC:mrc

Easterling & Associates Page 5

Addenda

Discounted Cash Flow Analysis- Premise 1 "As Is"

APPENDIX A-2.5

APPENDIX A-2.6

DISCOUNTED CASH FLOW- Land Residual-"As Is" - Parcels 1, 2, 3, 4, 5, 16 & 17 Page 1

Year	1	2	3	4	5	6	7
---	---	---	---	---	---	---	---
% Onsites Completed	0%	0%	0%	0%	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%	0%	0%	0%	0%
Units Completed (Land)	0	0	214	214	214	214	214
Cumulative Completed	0	0	214	428	642	856	1,070
Total Closed	0	0	214	214	214	214	214
Cumulative Closed	0	0	214	428	642	856	1,070
Current Inventory	0	0	0	0	0	0	0
Ave Price/Unit-Land	\$10,642	\$11,088	\$11,532	\$11,993	\$12,475	\$12,972	\$13,491
Sales Income-Residential	0	0	2,467,826	2,566,539	2,669,201	2,775,949	2,807,007
Other Income	0	0	0	0	0	0	0
Loan Draw	1,106,799	1,737,249	3,268,474	1,795,133	1,760,781	3,516,200	1,843,387
-----	-----	-----	-----	-----	-----	-----	-----
Total Revenue	1,106,799	1,737,249	5,736,300	4,361,672	4,429,982	6,292,149	4,730,395
Development Costs							
Offsite Costs-							
Grading	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Blasting	0	0	0	0	0	0	0
Sewers	0	0	0	0	0	0	0
S&D Costs	928,200	0	0	0	0	0	0
Utilities	0	0	0	0	0	0	0
Base Infrastructure	0	1,481,000	1,601,850	0	0	1,801,843	0
In-tract Infrastructure	0	0	1,081,600	1,124,864	1,169,859	1,216,653	1,265,319
Base unit	0	0	0	0	0	0	0
Appliances/options	0	0	0	0	0	0	0
Clubhouse & amenities	0	0	0	0	0	0	0
Soft Costs:							
Architect/Engineering	0	0	0	0	0	0	0
Legal & Closing	0	0	11,573	12,036	12,517	13,018	13,539
Taxes - Finished lots	0	0	0	0	0	0	0
Taxes- Acreage	75,000	75,000	64,300	53,600	42,900	32,200	21,500
Promotion	0	0	0	0	0	0	0
Marketing/Commissions	0	0	123,391	128,327	133,640	138,798	144,350
Interest/Finance Charges	71,064	168,714	333,225	443,771	369,510	281,133	366,164
Scour Assessment	0	0	0	0	0	0	0
Developer's Overhead	32,535	32,535	32,535	32,535	32,535	32,535	32,535
-----	-----	-----	-----	-----	-----	-----	-----
Total Costs	1,106,799	1,737,249	3,268,474	1,795,133	1,760,781	3,516,200	1,843,387
Loan Draw	1,106,799	1,737,249	3,268,474	1,795,133	1,760,781	3,516,200	1,843,387
Loan Repayment	0	0	2,406,130	2,502,376	2,602,471	2,708,560	2,816,832
Loan Balance	1,606,799	3,364,047	4,226,390	3,319,148	2,677,458	3,487,089	2,515,644
Cash Flow	0	0	61,696	64,163	66,730	69,399	72,175
Less Developer's Profit	0	0	0	0	0	0	0
Cash Flow to Property	0	0	61,696	64,163	66,730	69,399	72,175
Cumulative CF	0	0	61,696	125,859	192,589	261,988	334,164
Disc Cash Flow	0	0	40,546	36,606	33,177	30,003	27,133
Cumulative DCF	0	0	40,546	77,252	110,428	140,431	167,565

DISCOUNTED CASH FLOW- Land Residual-"As Is"- Parcels 1, 2, 3, 4, 5, 16 & 17 Page 2

Year	8	9
	---	---
% Onsites Completed	0%	0%
Cumulative % Onsites Comp	0%	0%
Units Completed (Land)	214	216
Cumulative Completed	1,284	1,500
Total Closed	214	216
Cumulative Closed	1,284	1,500
Current Inventory	0	0
Ave Price/Unit-Land	\$14,030	\$14,392
Sales Income-Residential	3,002,488	3,151,770
Other Income	0	0
Loan Draw	471,682	211,193
		
Total Revenue	3,474,170	3,362,964
Development Costs		
Offsite Costs-		
Grading	\$0	\$0
Blasting	0	0
Sewers	0	0
S&D Costs	0	0
Utilities	0	0
Base Infrastructure	0	0
In-tract Infrastructure	0	0
Base Unit	0	0
Appliances/options	0	0
Clubhouse & amenities	0	0
Soft Costs:		
Architect/Engineering	0	0
Legal & Closing	16,080	16,781
Taxes -Finished lots	0	0
Taxes- Acreage	10,800	0
Promotion	0	0
Marketing/Commissions	150,124	157,389
Interest/Finance Charges	264,143	6,290
Sewer Assessment	0	0
Developer's Overhead	32,535	32,535
		
Total Costs	471,682	211,193
Loan Draw	471,682	211,193
Loan Repayment	2,927,425	271,094
Loan Balance	39,901	0
Cash Flow	75,062	2,880,676
Less Developer's Profit	0	2,147,288
Cash Flow to Property	75,062	733,388
Cumulative CF	409,226	1,142,614
Disc Cash Flow	24,538	208,475
Cumulative DCF	192,103	400,577

SUMMARY OF VALUES AND DEVELOPMENT COSTS Parcels 1, 2, 3, 4, 5, 16 & 17 ("As Is-Without SAB")

VALUE SUMMARY

Present Worth of Cash Flow to Equity	9400,577
Original Loan Balance	500,000
Less Outstanding Loan Balance	0
Less Required Dev Profit Accrued	0

Total Estimated Residual Land Value	900,577
Residual Land Value/Unit	600
Residual Value/Gross Acre	4,500
Residual Value/SF Land	30.10

COST SUMMARY:

	Total	Per Lot	Percent of Sellout
	-----	-----	-----
Gross Sellout	919,520,800	813,014	100.00%
Total Interest Infrast.	3,058,294	3,904	30.01%
Total SAB Improvement Costs	928,200	619	4.75%
Total Offsite Infrastructure	4,884,713	3,256	25.02%
Total Architect/Engineer	0	0	0.00%
Total Legal & Closing	91,545	61	0.47%
Total Tax & Insurance	373,300	258	1.92%
Total Interest/Financing	2,323,994	1,549	11.91%
Total Marketing & Promo	976,040	681	5.00%
Total Developer's Overhead	292,812	195	1.50%
-----		-----	-----
TOTAL COSTS	15,730,890	10,487	80.59%
Total Developer's Profit	2,147,288	1,432	11.00%
Residual Land Value	900,577	600	4.61%
Totals	18,778,763	12,519	96.20%

ABQ Land Parameters "As Is"

Assumptions and Parameters:	1
MF Units	1,000
SFR Lots	500
SFR Lot Retail Value	\$25,000
MF Land value/unit	\$3,500
Weighted ave price/unit	\$10,662
Total No. of Units	1,500
Ave SF/Unit Living Area	0
Ave Gross SF/Unit	0
Gross Acres	199.761
LF Roads required	0
LF Road/lot	0
Ave Base Price/Unit	10,662
Current adj price	10,662
Price escal betwn phases	0.000%
Ann disc rate	15.000%
Periodic disc rate	15.000%
Total Periods til sellout	9
Marketing	5.00%
Intraest Infrastructure	\$,000,000
Legal & Close/Unit	50
Base tax/qrt raw lots	50
Tax/line finished lots/yr	50
Int Rate	10.50%
Loan Fee (Points)8	0
Loan Paydown %	97.50%
Arch/eng/lot	0
Base Infrastructure	4,443,000
Periodic int rate	10.500%
Beginning Balance	500,000
Offfices/lot- total	0
Developers CM	1.50%
Developers Profit	11.00%

07/09/1991 09:22

FROM BROWN, CHUDLEIGH, SCHULER

TO 15050908501

P.11

Easterling & Associates Page 6

Discounted Cash Flow Analysis- Premise 2 "Assuming Completion of SAD"

APPENDIX A-2.10

25X

DISCOUNTED CASH FLOW- Land Residual-With S&P - Parcels 1, 2, 3, 4, 5, 16 & 17 Page 1

Year	1	2	3	4	5	6
	---	---	---	---	---	---
% Onsites Completed	0%	0%	0%	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%	0%	0%	0%
Units Completed (Land)	0	300	300	300	300	300
Cumulative Completed	0	300	600	900	1,200	1,500
Total Closed	0	300	300	300	300	300
Cumulative Closed	0	300	600	900	1,200	1,500
Current Inventory	0	0	0	0	0	0
Ave Price/Unit-Land	\$10,662	\$11,008	\$11,532	\$11,993	\$12,473	\$12,972
Sales Income- Residential	0	3,336,309	3,459,349	3,597,932	3,761,870	3,891,545
Other Income	0	0	0	0	0	0
Loan Draw	172,344	3,171,831	3,330,801	1,772,543	3,496,987	296,786
	-----	-----	-----	-----	-----	-----
Total Revenue	172,344	6,468,340	6,790,371	5,370,477	7,258,857	4,188,331
Development Costs						
Offsite Costs-						
Grading	\$0	\$0	\$0	\$0	\$0	\$0
Blasting	0	0	0	0	0	0
Sewers	0	0	0	0	0	0
S&P Costs	0	0	0	0	0	0
Utilities	0	0	0	0	0	0
Base Infrastructure	0	1,481,000	1,601,830	0	1,732,561	0
In-tract Infrastructure	0	1,300,000	1,353,000	1,406,080	1,463,323	0
Base Unit	0	0	0	0	0	0
Appliances/options	0	0	0	0	0	0
Clubhouse & amenities	0	0	0	0	0	0
Soft Costs:						
Architect/Engineering	0	0	0	0	0	0
Legal & Closing	0	15,600	16,224	16,873	17,348	18,250
Taxes - Finished lots	0	0	0	0	0	0
Taxes- Acreage	75,000	60,000	45,000	30,000	15,000	0
Promotion	0	0	0	0	0	0
Marketing/Commissions	0	199,591	207,574	215,877	224,512	233,493
Interest/Finance Charges	32,300	70,617	63,110	58,671	0	0
Sever Assessment	0	0	0	0	0	0
Developer's Overhead	43,046	43,044	43,044	43,044	43,044	43,044
	-----	-----	-----	-----	-----	-----
Total Costs	172,344	3,171,831	3,330,801	1,772,543	3,496,987	296,786
Loan Draw	172,344	3,171,831	3,330,801	1,772,543	3,496,987	296,786
Loan Repayment	0	3,243,346	3,373,080	2,331,315	3,496,987	296,786
Loan Balance	672,344	601,049	558,770	0	0	0
Cash Flow	0	83,163	86,489	1,266,637	244,883	3,596,759
Less Developer's Profit	0	0	0	1,266,637	244,883	290,223
Cash Flow to Property	0	83,163	86,489	0	0	3,306,536
Cumulative CF	0	83,163	169,652	169,652	169,652	3,476,186
Disc Cash Flow	0	62,883	56,868	0	0	1,628,641
Cumulative DCF	0	62,883	119,751	119,751	119,751	1,548,392

SUMMARY OF VALUES AND DEVELOPMENT COSTS Parcels 1, 2, 3, 4, 5, 16 & 17 ("with S&D")

VALUE SUMMARY

Present Worth of Cash Flow to Equity	81,548,392
Original Loan Balance	500,000
Less Outstanding Loan Balance	0
Less Required Dev Profit Assumed	0
	
Total Estimated Residual Land Value	2,048,392
Residual Land Value/Unit	1,546
Residual Value/Gross Acre	10,234
Residual Value/SF Land	80.24

COST SUMMARY:

	Total	Per Lot	Percent of Sellout
			
Gross Sellout	818,017,445	812,012	100.00%
Total Intract Infract.	5,320,403	3,680	30.64%
Total S&D Improvement Costs	0	0	0.00%
Total Offsite Infrastructure	3,815,410	3,210	26.73%
Total Architect/Engineer	0	0	0.00%
Total Legal & Closing	84,495	56	0.47%
Total Tax & Insurance	225,000	150	1.25%
Total Interest/Financing	244,898	163	1.36%
Total Marketing & Promo	1,081,047	721	6.00%
Total Developer's Overhead	270,262	180	1.50%
			
TOTAL COSTS	12,841,514	8,161	67.94%
Total Developer's Profit	1,801,744	1,201	10.00%
Residual Land Value	2,048,392	1,346	11.37%
Totals	16,091,651	10,728	89.31%

APD Land Parameters - "With S&D Completed"

Assumptions and Parameters:	1
MF Units	1,000
SF Lots	500
SFP Lot Retail Value	\$25,000
MF Land value/unit	\$3,500
Weighted ave price/unit	\$10,662
Total No. of Units	1,500
Ave SF/Unit Living Area	0
Ave Gross SF/Unit	0
Gross Acres	199.761
LF Roads required	0
LF Road/lot	0
Ave Base Price/Unit	10,662
Current adj price	10,662
Price escal betwn phases	0.000%
Ann disc rate	15.000%
Periodic disc rate	15.000%
Total Periods til sellout	6
Marketing	6.000%
Intract Infrastructure	9,000,000
Legal & Close/Unit	30
Base tax/qtr raw lots	50
Tax/line finished lots/yr	30
Int Rate	10.500%
Loan fee (Points)	0
Loan Paydown %	97.500%
Arch/eng/lot	0
Sewer assmt/lot	0
Periodic int rate	10.500%
Beginning Balance	500,000
Offsites/lot- total	0
Developers OM	1.500%
Developers Profit	10.000%

APPENDIX A-3

**BROWN, CHUDLEIGH, SCHULER & ASSOCIATES
LETTER DATED JULY 11, 1991**

BROWN, CHUDLEIGH, SCHULER, AND ASSOCIATES
REAL ESTATE APPRAISALS — MARKET STUDIES

LAWRENCE E. BROWN (1942-1990)
FORMER MEMBER
APPRAISAL INSTITUTE
AMERICAN SOCIETY OF REAL ESTATE APPRAISERS

WALTER M. CHUDLEIGH, III
MEMBER
APPRAISAL INSTITUTE

GREGORY S. SCHULER
MARGARET GARRINGTON
DEAN A. MYERS
MARK B. DIMARCO
GARY M. EDWARDS
ALISON HUBER
WAYNE TURNER
ANDREW E. ALTPFORT
COLETTE J. JONES
SUSAN SHANLEY
ROBERT E. GROWER

714 CARDLEY AVENUE, SUITE 100
MEDFORD, OREGON 97504-0124
TELEPHONE (503) 772-8386
FACSIMILE (503) 772-8314

July 11, 1991

Mr. R.P. Bohannon, P.E.
EASTERLING & ASSOCIATES, INC.
10131 Coors Road, N.W.
Suite H-7
Albuquerque, New Mexico 87114

Reference: SAD No. 223 Parcel B-90

Dear Mr. Bohannon:

In response to your request, we have reappraised the above referenced parcel in order to report our opinion of the market value of a fee interest in the property under two valuation premises. The revised valuation takes into consideration additional information with regard to engineering costs provided by Easterling & Associates.

The first premise ("as-is") assumes the infrastructure improvements scheduled to be installed as part of the special assessment district are not in place. The second premise assumes the SAD improvements are in place and no assessment fees are due. Based on sale comparables, it is our opinion the market data supports a value under Premise 1 of \$3.00 per square foot. This results in a total value of \$950,000 for the 7.2712-acre parcel.

The value for the portion of the parcel (approximately 3.64 acres) reserved for municipal type uses by zoning is also valued at \$3.00 per square foot under Premise 2. The commercially zoned portion of the site has an estimated "retail" value under Premise 2 of \$6.00 per square foot, or \$950,000. The cost of additional infrastructure work mandated by the City, including work required to finish Ellison Road, must be deducted from the "retail" value. This results in a total value for the parcel under Premise 2 of \$1,135,000.

SALT LAKE CITY AREA OFFICE: 1800 E. HEARNS • PARK CITY, UTAH 84060 • (801) 849-8808
SAN FRANCISCO AREA OFFICE: 100 SOUTH ELLSWORTH, NINTH FLOOR • SAN MATEO, CALIFORNIA 94401-3990 • (415) 878-0778
LOS ANGELES AREA OFFICE: 3838 CARSON STREET, SUITE 310 • TORRANCE, CALIFORNIA 90503-6704 • (213) 840-4788
NORTHEAST OFFICE: 535 LONG WHARF DRIVE, SUITE 2H • NEW HAVEN, CONNECTICUT 06511-4991 • (203) 624-8466

APPENDIX A-3.1

Mr. R.P. Bohannon, P.E.
July 11, 1991
Page 2

As a result of our appraisal and analysis, the opinion has been formed that the data supports market values for the subject property, as of March 1, 1991, as follows:

Premise 1 - "As-Is"

NINE HUNDRED FIFTY THOUSAND DOLLARS

(8950.000)

Premise 2

ONE MILLION ONE HUNDRED THIRTY-FIVE THOUSAND DOLLARS

(11,135,000)

It should be noted that the above Premise 1 valuation assumes that ABQ would only have to incur costs for its pro rata share of the base infrastructure work. In the event the City rules that ABQ would have to fund all the improvements, the above valuation would not be relevant. Please refer to our full narrative report dated April 29, 1991, for details regarding the subject property, definition of market value, demographic data, comparables, and limiting conditions, certification, and assumptions.

Respectfully submitted,

BROWN, CHUDLEIGH, SCHULER,
AND ASSOCIATES


WALTER H. CHUDLEIGH, III, MAI

WHC:ts

APPENDIX A-3.2

APPENDIX A-4

**BENEFIT ALLOCATION
ITEMS 1, 2, 3, 4, 5, 16 AND 17**

CITY OF ALBUQUERQUE SAD 223

BENEFIT ALLOCATION

07/09/91

BENEFIT ALLOCATION
FILE:ABQBEN01EASTERLING & ASSOCIATES, INC.
10131 COORS RD. NW, SUITE H-7/8
ALBUQUERQUE, NM 87114
(505) 898-8021DESCRIPTION: ALLOCATE ESTIMATED MAXIMUM BENEFITS FOR
ITEMS 1,2,3,4,5,16, AND 17 ON A SQUARE
FOOT BASIS

BENEFIT TO BE ALLOCATED: \$1,150,000.00

ITEM NO.	TRACT ID	CONTRIBUTION TO TOTAL (NET AC.)	FRACTIONAL PORTION OF TOTAL	PROPORTIONATE SHARE OF BENEFIT FILE:ABQBEN01
1.	B-9G	37.1755	0.1861	\$214,014.66
2.	B-9H	21.1325	0.1058	\$121,657.13
3.	B-9J	37.1147	0.1858	\$213,664.64
4.	B-9E	16.8985	0.0846	\$97,282.53
5.	3-9F	12.9125	0.0646	\$74,335.63
6.	B-10	0.0000	0.0000	\$0.00
7.	B-9D	0.0000	0.0000	\$0.00
8.	O-1A-1	0.0000	0.0000	\$0.00
9.	O-2A-1	0.0000	0.0000	\$0.00
10.	G-2A	0.0000	0.0000	\$0.00
11.	G-1A	0.0000	0.0000	\$0.00
12.	M-1	0.0000	0.0000	\$0.00
13.	N-2B-1	0.0000	0.0000	\$0.00
14.	CIBOLA TR 1	0.0000	0.0000	\$0.00
15.	CIBOLA TR 2	0.0000	0.0000	\$0.00
16.	N-2A-2	16.3430	0.0818	\$94,113.37
17.	N-2A-1	58.1795	0.2912	\$334,932.03
18.	MM-1	0.0000	0.0000	\$0.00
19.	COOPER TRACT	0.0000	0.0000	\$0.00
20.	ALAMEDA WEST TR E	0.0000	0.0000	\$0.00
21.	QUESTA DEL RIO LOT 11A	0.0000	0.0000	\$0.00
22.	COTTONWOOD MALL	0.0000	0.0000	\$0.00
COA	CITY OF ALBUQUERQUE	0.0000	0.0000	\$0.00
NNUI	NEW MEXICO UTILITIES, INC.	0.0000	0.0000	\$0.00
	OTHER	0.0000	0.0000	\$0.00
TOTALS		199.7612	1.0000	\$1,150,000.00

APPENDIX A-5

**ASSESSMENT ALLOCATION
ITEMS 1, 2, 3, 4, 5, 16 AND 17**

CITY OF ALBUQUERQUE SAD 223

ASSESSMENT ALLOCATION

07/09/91

ASSESSMENT ALLOCATION
FILE:ABQASS01EASTERLING & ASSOCIATES, INC.
10131 COORS RD. NW, SUITE H-7/8
ALBUQUERQUE, NM 87114
(505) 898-0021DESCRIPTION: ALLOCATE ESTIMATED ASSESSMENTS FOR
ITEMS 1,2,3,4,5,16, AND 17 ON A SQUARE
FOOT BASIS

ASSESSMENT TO BE ALLOCATED: \$1,238,263.25

ITEM NO.	TRACT ID	CONTRIBUTION TO TOTAL (NET AC.)	FRACTIONAL PORTION OF TOTAL	PROPORTIONATE SHARE OF ASSMNT FILE:ABQASS01
1.	B-9G	37.1755	0.1861	\$230,438.56
2.	B-9H	21.1325	0.1058	\$130,993.34
3.	B-9J	37.1147	0.1858	\$230,061.68
4.	B-9F	16.8985	0.0846	\$104,748.18
5.	B-9:	12.9125	0.0646	\$80,040.29
6.	B-10	0.0000	0.0000	\$0.00
7.	B-9D	0.0000	0.0000	\$0.00
8.	O-1A-1	0.0000	0.0000	\$0.00
9.	O-2A-1	0.0000	0.0000	\$0.00
10.	U-2A	0.0000	0.0000	\$0.00
11.	G-1A	0.0000	0.0000	\$0.00
12.	M-1	0.0000	0.0000	\$0.00
13.	N-2B-1	0.0000	0.0000	\$0.00
14.	CIBOLA TR 1	0.0000	0.0000	\$0.00
15.	CIBOLA TR 2	0.0000	0.0000	\$0.00
16.	N-2A-2	16.3480	0.0818	\$101,336.82
17.	N-2A-1	58.1725	0.2912	\$360,635.37
18.	MM-1	0.0000	0.0000	\$0.00
19.	COOPER TRACT	0.0000	0.0000	\$0.00
20.	ALAMEDA WEST TR E	0.0000	0.0000	\$0.00
21.	QUESTA DEL RIO LOT 11A	0.0000	0.0000	\$0.00
22.	COTTONWOOD MALL	0.0000	0.0000	\$0.00
COA	CITY OF ALBUQUERQUE	0.0000	0.0000	\$0.00
NMUI	NEW MEXICO UTILITIES, INC.	0.0000	0.0000	\$0.00
	OTHER	0.0000	0.0000	\$0.00
TOTALS		199.7612	1.0000	\$1,238,263.25

CITY of ALBUQUERQUE
NINTH COUNCIL

COUNCIL BILL NO. R-287 ENACTMENT NO. 23-1991

SPONSORED BY: Alan B. Armijo

RESOLUTION

RELATING TO THE PROPOSED ALBUQUERQUE, NEW MEXICO SPECIAL
ASSESSMENT DISTRICT NO. 223, DIRECTING EASTERLING & ASSOCIATES,
INC., TO PREPARE, SUBMIT AND FILE WITH THE CITY CLERK CERTAIN
PRELIMINARY PLANS, ESTIMATES OF COSTS, AND ASSESSMENT PLATS
WITH ADDENDUM, ALL IN CONNECTION THEREWITH.

WHEREAS, the City Council (the "Council") of the City of Albuquerque
(the "City") is of the opinion that, in the general interest of the City and specifically
property within the proposed district, it is necessary that certain streets, and parts
thereof including, but not limited to, paving, curbs and gutter (the "Street
Improvements"), certain storm drainage facilities (the "Drainage Improvements"),
certain sanitary sewers (the "Sanitary Sewer Improvements"), certain waterlines
(the "Water Improvements"), and certain dry utility improvements (the "Dry Utility
Improvements"), be constructed, installed, improved and otherwise acquired,
(collectively, the "Improvements"); and

WHEREAS, for the purpose of designation and identification, it is desirable
that the Improvements be known and identified as "Albuquerque, New Mexico
Special Assessment District No. 223" (the "District").

BE IT RESOLVED BY THE COUNCIL, THE GOVERNING BODY OF THE CITY
OF ALBUQUERQUE:

Section 1. That Easterling & Associates, Inc. (the "Engineers"), professional
engineers duly licensed under the laws of the State of New Mexico, are hereby
directed to prepare, submit and file with the City Clerk the following:

A. Preliminary plans for the contemplated Improvements showing:

(1) For each type of curb, gutter, sidewalk, median and street, a
typical section of the proposed improvement, the type of material to be used and

Underscored Material-New
[Bracketed Material]-Deletion

- file -

**CITY OF ALBUQUERQUE
NEW MEXICO**

**SPECIAL ASSESSMENT DISTRICT NO. 223
TABULATION OF PROTESTS**

JUNE 1991

**EASTERLING & ASSOCIATES, INC.
CONSULTING ENGINEERS
10131 COORS ROAD, NW, SUITE H-7
ALBUQUERQUE, NEW MEXICO 87114**

**CITY OF ALBUQUERQUE
NEW MEXICO**

**SPECIAL ASSESSMENT DISTRICT NO. 223
TABULATION OF PROTESTS**

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Letter Dated June 12, 1991, with Enclosures

**CITY OF ALBUQUERQUE
NEW MEXICO**

**SPECIAL ASSESSMENT DISTRICT NO. 223
TABULATION OF PROTESTS**

GENERAL

The construction of Seven Bar Ranch infrastructure improvements through a Special Assessment District was initially suggested in the Seven Bar Ranch Sector Development Plan, April 1985 Revision. The SAD process allows the City and property owners to coordinate and finance the design and construction of major infrastructure improvements to the benefit of all parties. ABQ Development Corporation assembled an informal proposal for the SAD in November 1989. The formation of SAD No. 223 was formally requested by Melvin Simon & Associates, Inc., in June 1990, to construct the infrastructure improvements needed in connection with the development of the proposed Cottonwood Mall. Letters received from all of the property owners within SAD No. 223 expressed general support for the District based on preliminary cost estimates. Copies of these initial support letters are included in Appendix 1.

At or before the June 3, 1991, Protest Hearing, protest letters were received from six of the eight property owners. Of the six property owners who submitted protest letters, four expressed general support for the District with specific protests or concerns, one protested responsibility for additional infrastructure costs, and one opposed the creation of the District. Copies of the current protest letters are included in Appendix 2. No oral protests were made at the public Protest Hearing held June 3, 1991.

The Tabulation of Protests is shown on page 2. The Review of Protests begins on page 3. Because there are relatively few property owners in the District, and because most of the protests are not tract specific, the Review of Protests is organized by property owner rather than by item number. Complete legal descriptions for the properties are included in the Estimated Maximum Benefit Roll.

CITY OF ALBUQUERQUE SPECIAL ASSESSMENT DISTRICT NO.223

TABULATION OF PROTESTS

JUNE 14, 1991

PROPERTY OWNERS BY SUPPORT / PROTEST CATEGORY	NUMBER OF PROPERTIES	PERCENT OF TOTAL PROPERTIES	PROPERTY NET AREA	PERCENT OF TOTAL PROPERTY NET AREA	ESTIMATED ASSESSMENTS	PERCENT OF TOTAL ESTIMATED ASSESSMENTS
STRONG SUPPORT FOR DISTRICT (WITH PROTESTS / CONCERNS)						
ALBUQUERQUE MALL COMPANY LIMITED PARTNERSHIP	16	43.24%	90.03	17.50%	\$7,087,494.97	44.93%
SEVEN BAR LAND AND CATTLE COMPANY	5	13.51%	116.00	22.68%	\$3,131,866.43	19.85%
ALBERT J. BLACK AND MARY J. BLACK REVOCABLE TRUST OR THEIR SUCCESSORS	2	5.41%	11.18	2.17%	\$241,905.33	1.53%
SUBTOTALS	23	62.16%	217.81	42.34%	\$10,461,266.73	66.32%
MODERATE SUPPORT FOR DISTRICT (WITH PROTESTS / CONCERNS)						
ABQ DEVELOPMENT CORPORATION	8	21.62%	207.02	40.24%	\$1,285,214.12	8.15%
SUBTOTALS	8	21.62%	207.02	40.24%	\$1,285,214.12	8.15%
OPPOSITION TO DISTRICT						
ALBUQUERQUE BOARD OF EDUCATION	2	5.41%	45.68	8.88%	\$110,000.00	0.70%
CORRALES ASSOCIATES, LTD.	1	2.70%	3.30	1.61%	\$80,000.00	0.35%
SUBTOTALS	3	8.11%	53.98	10.49%	\$170,000.00	1.06%
NON-RESPONSIVE						
CITY OF ALBUQUERQUE	1	2.70%	6.86	1.33%	\$3,750,728.92	23.97%
NORTH COORS GROUP	2	5.41%	28.79	5.60%	\$77,207.78	0.49%
SUBTOTALS	3	8.11%	35.65	6.93%	\$3,857,936.68	24.46%
TOTALS	37	100.00%	514.46	100.00%	\$15,774,417.53	100.00%

NOTES: 1. CITY OF ALBUQUERQUE ESTIMATED ASSESSMENTS INCLUDE ASSESSED AND UNASSESSED COSTS.
2. PROPERTY ESTIMATED ASSESSMENTS SHOWN DO NOT INCLUDE AMOUNTS IN EXCESS OF ESTIMATED MAXIMUM BENEFITS.

25x10

32x10

3. REVIEW OF PROTESTS

<u>Property Owner</u>	<u>Property Item No.</u>	<u>Property Description</u>
3.1 ABQ Development Corporation c/o Resolution Trust Company ABQ Accounting Center P.O. Box 25000 Albuquerque, NM 87125	1	Tract B-9G, Seven Bar Ranch
	2	Tract B-9H, Seven Bar Ranch
	3	Tract B-9J, Seven Bar Ranch
	4	Tract B-9E, Seven Bar Ranch
	5	Tract B-9F, Seven Bar Ranch
	7	Tract B-9D, Seven Bar Ranch
	16	Tract N-2A-2, Seven Bar Ranch
	17	Tract N-2A-1, Seven Bar Ranch

SUMMARY OF PROTEST:

Property owner expresses support for the concept of the Special Assessment District but protests specific items as follows: Estimated Maximum Benefits calculated using erroneous and inflated assumptions. Estimated Assessments exceed preliminary estimates by 54%. Storm drainage assessments completely disregard protection and access benefits and benefit from land reclamation from flood areas. The SAD does not consider funds which owner previously spent on engineering related to SAD improvements. Owner advises that the Resolution Trust Corporation (RTC) as receiver for ABQ Federal Savings Bank holds the first mortgage on the property and has only consented to allowing an assessment of \$861,761.00 to have priority over its first mortgage (The current total of Estimated Assessments for the ABQ Development property is \$1,326,188.11).

RESPONSE:

The Estimated Maximum Benefits have been revised in response to the protest. Assumptions regarding costs for future off-site infrastructure improvements have been corrected, and the estimated time for absorption of the properties has been revised in consideration of the protest. The properties were initially valued in mass because of the close proximity and the single ownership. The properties have now been appraised individually assuming staged development. A discussion of the valuation process and the values allocated to the individual parcels are presented in the Brown, Chudleigh, Schuler & Associates letter dated June 12, 1991. A copy of the letter is included in Appendix 4 for reference.

Estimated Assessments have increased substantially for the City and nearly all properties within the District. The increased Estimated Assessments are the result of higher cost estimates for the proposed improvements and the addition of finance costs not included in previous conceptual estimates. A full accounting of

Review of Protests continued - 3.1 ABQ Development Corporation

the increase in estimated infrastructure costs was presented at the public information morning meeting held April 24, 1991, and included in the information package distributed at the meeting or mailed to all property owners. The additional costs associated with the financing of the SAD were presented at the afternoon meeting on April 24, 1991.

The Storm Drainage Assessment methods consider protection and access benefits as well as contribution benefits. The way in which the contribution based assessment allocation is applied takes both contribution and protection benefits into account. In a strict contribution based allocation, assessments would be made only for improvements downstream of the point of discharge based on the incremental contribution. The drainage assessment allocation used for SAD No. 223 is based on contribution without regard to the point of discharge. As a result, properties in the downstream portion of the watershed which receive protection benefits from upstream drainage improvements are assessed a portion of the cost of the upstream improvements. The protection benefit consideration is inherent in the contribution based allocation method. The estimated assessments for storm drainage costs also recognize access benefits. The estimated cost for the portion of the storm drainage system required to keep proposed streets accessible during storms is assessed to the City and properties on a front foot basis similar to the assessments for street improvements. As a result, properties are assessed for street storm drainage costs in proportion to their frontage and corresponding access benefit.

The Federal Emergency Management Agency (FEMA) flood hazard maps for the SAD area show flood areas on some of the properties within the SAD. The construction of the existing AMAFCA Skyview Channel along the northwest boundary at the SAD effectively eliminated previous downstream flood areas within the SAD. All that remains to officially eliminate the flood area designation from the FEMA flood hazard maps is to prepare a Letter of Map Revision and to process the revision through FEMA. The reclamation of land from flood areas is the result of existing improvements, not the improvements proposed within the District.

The City of Albuquerque has affirmed that engineering fees paid by property owners for engineering services on District related improvements prior to the formation of the District are not reimbursable through the District. Easterling & Associates, Inc., as SAD No. 223 consulting engineer, and Bohannon-Huston, Inc., as subconsultant, have committed to refund to ABQ Development any fees collected from the City for work previously performed for ABQ Development less

Review of Protests continued - 3.1 ABQ Development Corporation

costs for items such as taxes, professional liability insurance, and efforts required to modify the plans for use in the District.

RECOMMENDATIONS:

Because the properties identified as Items 1, 2, 3, 4, 5, 16, and 17 will require substantial future off-site infrastructure improvements in addition to the improvements to be constructed by the District, and because the schedules for development of each of the properties are expected to be variable and to occur generally over a longer period of time, the Estimated Maximum Benefits shall be modified as follows:

1. For Item No. 1, the Estimated Maximum Benefit shall be reduced from \$570,000.00 to \$436,100.00.
2. For Item No. 2, the Estimated Maximum Benefit shall be reduced from \$270,000.00 to \$243,900.00.
3. For Item No. 3, the Estimated Maximum Benefit shall be increased from \$570,000.00 to \$645,800.00.
4. For Item No. 4, the Estimated Maximum Benefit shall be reduced from \$220,000.00 to \$51,000.00.
5. For Item No. 5, the Estimated Maximum Benefit shall be reduced from \$170,000.00 to \$99,400.00.
6. For Item No. 16, the Estimated Maximum Benefit shall be reduced from \$220,000.00 to \$57,000.00.
7. For Item No. 17, the Estimated Maximum Benefit shall be increased from \$630,000.00 to \$989,700.00.

The Estimated Maximum Benefit for Item No. 7 should not be revised.

The Estimated Assessments should not be revised.

Review of Protests continued

<u>Property Owner</u>	<u>Property Item No.</u>	<u>Property Description</u>
3.2 Albuquerque Board of Education	14	Tract 1, Cibola High School
Property Management Office	15	Tract 2, Cibola High School
P.O. Box 25704		
Albuquerque, NM 87125		

SUMMARY OF PROTEST:

Property owner believes that Estimated Maximum Benefit and Estimated Assessment determinations disregard storm drainage improvements recently constructed to serve Cibola High School. Protests creation of SAD No. 223 and inclusion of Cibola High School in SAD No. 223.

RESPONSE:

Cibola High School is located on the property identified as Item No. 14. Interim drainage retention pond improvements were recently constructed by the School District on abutting City of Albuquerque property identified as Item No. 13. The interim drainage improvements were required to bring the Cibola High School site into interim compliance with the City Drainage Ordinance until permanent drainage detention pond improvements and a storm drain outfall are constructed. The Seven Bar Ranch Drainage Management Plan requires that all properties within the Plan area provide on-site detention ponding to control runoff discharge rates, and the City Drainage Ordinance requires that developed properties control runoff discharges so as not to exceed the capacity of downstream drainage facilities. Due to the limited capacity of downstream facilities, all properties within the watershed will be required to provide on-site detention ponding to control runoff discharges and to contribute to the construction of needed storm drain outfall improvements. The drainage covenant between the City of Albuquerque and the School District provides that "nothing in the agreement shall be constructed to relieve the Owner, its heirs, assigns, and successors from an assessment against Owners Property for improvements to the property under a duly authorized and approved Special Assessment District."

The Estimated Maximum Benefit and Estimated Assessment are for storm drainage improvements only. The drainage improvements within the District benefit the Cibola High School site by providing permanent drainage detention ponding and outfall storm drain facilities as required by the City Drainage Ordinance. The Estimate Maximum Benefit is based primarily on the benefit

Review of Protests continued - 3.2 Albuquerque Board of Education

derived by the School District because required "on-site" detention ponding for Cibola High School will be accomplished "off-site" by the proposed improvements. Therefore, the school site will not be encumbered by an on-site drainage detention pond. The Estimated Assessment recognizes the value of the interim drainage improvements constructed by the School District. The drainage assessment for the school site is based on the assumption that the school site has provided required detention ponding to reduce runoff discharges. The assumed lower discharge or contribution results in a substantially lower assessment than the actual higher free discharge contribution condition.

RECOMMENDATION:

The Estimated Maximum Benefit and Estimated Assessment should not be revised, and the school site should not be removed from the District.

Review of Protests continued

<u>Property Owner</u>	<u>Property Item No.</u>	<u>Property Description</u>
3.3 Albuquerque Mall Company Limited Partnership P.O. Box 7033 Indianapolis, IN 46207	22 thru 37	Tract H-1-A Seven Bar Ranch (Cottonwood Mall)

SUMMARY OF PROTEST:

Property owner expresses strong support for the district and does not protest the estimated maximum benefits, but has specific concerns outlined as follows:

1. Fee calculations based on construction costs including gross receipts tax result in fee on tax and double taxation.
2. City Incidental Fees should not be a function of the construction cost if fee is to be annual and based on remaining principal balance.
3. Costs associated with bank letter of credit should be included as part of the City Process Fee, not a separate cost. Fee should reduce as risk declines.
4. Assessment allocation for high pressure gas line relocation should be revised so that more assessment is allocated to the City for areas where additional relocation results from City requirements for alignment.
5. Costs for telephone line relocations should be considered overall street improvement costs and assessed proportionally to all properties in the District.
6. Believes there is excessive use of high cost items such as textured and colored concrete. Attempt should be made to reduce costs.
7. Alignment of the Cabezon Channel Watershed storm drain should be analyzed to determine if more cost efficient alignment is possible.

RESPONSE:

1. The estimated fees for construction observation, construction staking, and construction testing were based on estimated construction costs which included gross receipts tax. This results in fees on tax. In addition, gross

Review of Protests continued - 3.3 Albuquerque Mall Company

receipts tax on these fees results in tax on tax. Actual fees will be negotiated between the City and Easterling & Associates, Inc. Fees will be based on construction costs excluding gross receipts tax. Therefore, the fee on tax and tax on tax discrepancy will be corrected and not reflected in Actual Assessments.

- 2.,3. The proposed financing structure of SAD No. 223 is the subject of continuing discussions between the City of Albuquerque, the bond underwriter, the bond attorney, and SAD No. 223 property owners. The financing structure of SAD No. 223 will affect actual assessment amounts but is not considered to have a significant impact on the scope of the proposed improvements, the estimated Maximum Benefit Determinations, or the establishment of the SAD. There is ample time to resolve assessment related protests prior to the assessment hearing which will follow Resolution No. 4 in the SAD process.
4. The assessment allocations for the relocation of the gas lines are fair and equitable. Relocation of the gas lines is required to allow for development of the Cottonwood Mall Site and the construction of Seven Bar Loop Road. The cost for the portion of the relocation required for property development is assessed to the respective property. The cost for the portion of the relocation required for street construction is assessed to properties abutting the street on a front foot basis. The cost for the additional length of relocation resulting from City alignment requirements is allocated to the City.
5. The assessment allocations for the relocation of existing telephone lines are fair and equitable. The telephone line relocations are required to re-align the facilities with the platted street alignments thereby minimizing encumbrance on abutting properties and undesirable alignments within street right-of-way areas. The telephone line relocations will result in a direct benefit to specific properties and a general benefit to properties abutting the street corridor. The assessment allocation recognizes these benefits and should not be revised.
6. The textured and colored concrete referenced in the protest is proposed for portions of raised medians and islands in proposed streets. The hard surfacing is normally placed in narrow median areas and at the ends of medians to reduce maintenance. The proposed textured and colored concrete is less expensive than brick surfacing and more aesthetically pleasing than bituminous (asphalt) median paving. The use of "high cost"

Review of Protests continued - 3.3 Albuquerque Mall Company

items will be reviewed during final design to reduce costs where possible and prudent to do so.

7. The originally proposed alignment for the storm drain outfall within the Cabezón Channel watershed was determined to be unacceptable for two main reasons. It did not provide a drainage outfall for properties identified as Item No. 10 and Item No. 11 and the eastern most segment of proposed Ellison Drive as subsequently required by AMAFCA. In addition, it severed the properties identified as Item No. 8 and Item No. 9 and would have resulted in severe grading and drainage constraints upon development of the properties. The currently proposed revised alignment will allow the storm drain outfall to serve all properties within the watershed as required by AMAFCA and will avoid severance of any and all properties. We believe the proposed alignment is the best and most cost efficient solution which meets all of the design criteria.

RECOMMENDATIONS:

The Estimated Maximum Benefit and Estimated Assessment should not be revised. The financing structure for SAD No. 223 should be finalized prior to determination of Actual Assessments.

Review of Protests continued

<u>Property Owner</u>	<u>Property Item No.</u>	<u>Property Description</u>
3.4 Seven Bar Land & Cattle Company 10200 Corrales Rd., NW, Unit E-3 Albuquerque, NM 87048	8	Tract O-1A, Seven Bar Ranch
	9	Tract O-2A, Seven Bar Ranch
	11	Tract G-1A, Seven Bar Ranch
	12	Tract M-1, Seven Bar Ranch
	18	Tract MM-1, Seven Bar Ranch

SUMMARY OF PROTEST:

Property owner is in general concurrence with Estimated Maximum Benefits and Estimated Assessments but has specific objections to the proposed financing of SAD No. 223. Objects to City Incidental Fees estimated at 1.5% of estimated construction costs and believes City Incidental Fees should be much lower for a large SAD with relatively few participants. Objects to City Credit Enhancement Fee in the amount of 150 basis points annually on the outstanding principal balance. Believes that in consideration of the proposed Letter of Credit Fee, Debt Service Reserve Fund, and Annual Surplus Fund, the proposed City Credit Enhancement Fee should not exceed 50 basis points if it can be justified at all.

RESPONSE:

The proposed financing structure of SAD No. 223 is the subject of continuing discussions between the City of Albuquerque, the bond underwriter, the bond attorney, and SAD No. 223 property owners. The financing structure of SAD No. 223 will affect actual assessment amounts but is not considered to have a significant impact on the scope of the proposed improvements, the estimated Maximum Benefit Determinations, or the establishment of the SAD. There is ample time to resolve assessment related protests prior to the assessment hearing which will follow Resolution No. 4 in the SAD process.

RECOMMENDATIONS:

The Estimated Maximum Benefits and Estimated Assessments should not be revised. The financing structure for SAD No. 223 should be finalized prior to determination of Actual Assessments.

Review of Protests continued

<u>Property Owner</u>	<u>Property Item No.</u>	<u>Property Description</u>
3.5 Albert J. and Mary J. Black	9	Tract O-2A, Seven Bar Ranch
Revocable Trust or their Successors	10	Tract G-2A, Seven Bar Ranch
10200 Corrales Rd., NW, Unit E-3	11	Tract G-1A, Seven Bar Ranch
Albuquerque, NM 87048	21	Tract 11-A, Questa del Rio

SUMMARY OF PROTEST:

Property owner is in general concurrence with Estimated Maximum Benefits and Estimated Assessments but has specific objections to the proposed financing of SAD No. 223. Objects to City Incidental Fees estimated at 1.5% of estimated construction costs and believes City Incidental Fees should be much lower for a large SAD with relatively few participants. Objects to City Credit Enhancement Fee in the amount of 150 basis points annually on the outstanding principal balance. Believes that in consideration of the proposed Letter of Credit Fee, Debt Service Reserve Fund, and Annual Surplus Fund, the proposed City Credit Enhancement Fee should not exceed 50 basis points if it can be justified at all.

RESPONSE:

The proposed financing structure of SAD No. 223 is the subject of continuing discussions between the City of Albuquerque, the bond underwriter, the bond attorney, and SAD No. 223 property owners. The financing structure of SAD No. 223 will affect actual assessment amounts but is not considered to have a significant impact on the scope of the proposed improvements, the estimated Maximum Benefit Determinations, or the establishment of the SAD. There is ample time to resolve assessment related protests prior to the assessment hearing which will follow Resolution No. 4 in the SAD process.

RECOMMENDATIONS:

The Estimated Maximum Benefits and Estimated Assessments should not be revised. The financing structure for SAD No. 223 should be finalized prior to determination of Actual Assessments.

Review of Protests continued

<u>Property Owner</u>	<u>Property Item No.</u>	<u>Property Description</u>
3.6 Corrales Associates, Ltd. 299 South Park Avenue Tucson, AZ 85718	6	Tract B-10, Seven Bar Ranch (Corrales Pointe Apartments)

SUMMARY OF PROTEST:

Property owner protests responsibility for additional costs associated with the infrastructure improvements proposed in SAD No. 223. Believes that the bond previously posted for Coors Bypass street improvements covered costs for all future infrastructure improvements.

RESPONSE:

Property Item No. 6 is the site of the Corrales Pointe Apartments. At the time of development, a bond was posted for future Coors Bypass street improvement requirements. The City of Albuquerque exercised its option to collect on the bond prior to expiration of the bond in 1990. Accordingly, the City is responsible for Coors Bypass street improvements abutting the property. It is the opinion of the City of Albuquerque Legal Department that the bond covered only Coors Bypass street improvements and did not cover future storm drainage, sanitary sewer, or water improvements.

At the present time, water service to the property is provided by a single eight-inch diameter waterline stub. The existing water service is not looped. The water improvements proposed within the SAD will benefit the property by providing a looped water system with improved dependability and fire fighting capacity.

At the present time, the sewer service to the property is provided by a privately owned and maintained pump station and force main which discharges to the existing gravity sewer in Cibola Loop Road. The sanitary sewer improvements proposed within the SAD will benefit the property by allowing the pump station and force main to be retired, eliminate the associated operation and maintenance expenses, and provide a dependable gravity sewer system outfall for the property.

At the present time, the property drains directly to Coors Bypass and to a small interim drainage retention pond located on abutting property near the southeast corner of the Corrales Pointe Apartments site. The storm drainage improvements proposed within the SAD will provide a permanent storm drain outfall for the

Review of Protests continued - 3.6 Corrales Associates, Ltd.

property in accordance with the City Drainage Ordinance and the Seven Bar Ranch Drainage Management Plan requirements.

RECOMMENDATIONS:

The Estimated Maximum Benefit and Estimated Assessments should not be revised.

APPENDIX 1

COPIES OF INITIAL SUPPORT LETTERS

APPENDIX 1 SIMON

MELVIN SIMON & ASSOCIATES, INC.



JUN 25 1990

June 20, 1990

The Honorable Louis Saavedra
Mayor, City of Albuquerque
Post Office Box 1293
Albuquerque, New Mexico 87103

Dear Mayor Saavedra:

**Special Assessment District
Seven Bar Ranch/Cottonwood Mall**

This letter serves as our formal request to the City of Albuquerque to assist in creating a special assessment district (SAD) for the purpose of constructing public improvements within the Seven Bar Ranch on Albuquerque's west side. The infrastructure is necessary to complete development of our planned regional mall and subsequent residential and commercial developments, as well as to promote the overall continued growth of the area.

We and other participating landowners have worked closely with City staff over the past several months to develop parameters for this SAD. The specific improvements requested are identified in a booklet, The Seven Bar Ranch Special Assessment District/Preliminary Estimate of Assessment Costs, prepared by Easterling & Associates, Inc. and submitted to officials within the city's Public Works and Finance Departments. The primary improvements include the construction of the Coors Bypass and nearby network roads along with related street improvements, e.g. signalization, street lighting, landscaping, etc. and the construction of water, sanitary sewer, storm drainage and other dry utilities. It is our understanding that the SAD will be financed through the issuance of general obligation municipal bonds with a term of 20 years.

The time frame for establishing this SAD is critical. In order to meet our scheduled mall opening of October 1992, the construction of the infrastructure must be under way no later than May 1991, necessitating the completion of the SAD process and the sale of bonds by this coming spring. With continued cooperation from the City, this time schedule can be met. However, the process needs to start immediately with consent from the City Council to move forward. Therefore, we are requesting placement on the City Council agenda at the City's earliest convenience to discuss and approve the formation of this SAD.

Cottonwood Mall is a development project of major economic proportion which will provide many benefits to the community. We anticipate the full support and cooperation of all area property owners and SAD participants with respect to this request. We look forward to working with the City to make our plans a reality.

Appendix 1.1

12121 WILSHIRE BOULEVARD SUITE #321 LOS ANGELES, CALIFORNIA 90025 TEL: (213) 207-8111

Mayor Saavodra

-2-

June 20, 1990

Please do not hesitate to contact me directly or our local consultant, L. S. Danish, should you ever have any questions or require additional information.

Sincerely,



Terri Van Vliet
Assistant Vice President
Development

TVV:p

cc: Members of City Council

Alan Armijo
Michael Brasher
Richard Chapman
Steve Gallogos
Vincent Griego
Pauline Gubbels
Herb Hughes
Tim Kline
Hess Yntema

City of Albuquerque
Art Blumenfeld
Bob Gurule
Tom Hoover
Lee Lunsford
Walt Nickerson

SAD Participants
ABQ Development
A.J. & Mary Jane Black
Alameda West Center
Albuquerque Public Schools
Corrales Pointe Apartments
7-Bar Land & Cattle Co.



Resolution Trust Corporation

Office of Legislative Affairs
Washington, DC 20434 - 0001

October 13, 1990

Honorable Pete V. Domenici
United States Senate
Washington, D.C. 20510

Dear Senator Domenici:

Thank you for your letter on behalf of Mr. John F. Black of Seven Bar Ranch. Mr. Black has proposed the participation by ABQ Federal Savings Bank in a Special Assessment District for business-related improvements in the Seven Bar area. Please accept our apologies for the delay in responding to you.

After receiving supporting reports, budgets, and a recent property appraisal, ABQ Development Corporation presented to its Board of Directors a proposal recommending participation in the Special Assessment District. The Board of Directors approved the proposal on August 17, 1990, and the RTC Credit Review Committee gave its approval to the proposal on August 30, 1990.

We hope that this information is of assistance to you. If you have any questions, please let me know.

Sincerely,

A handwritten signature in black ink, appearing to read "L. T. Hooper", is written over a horizontal line. The signature is fluid and cursive.

Loren T. Hooper
Deputy Director

PETE V. DOMENICI
NEW MEXICO

COMMITTEE
BUDGET,
APPROPRIATIONS
ENERGY AND NATURAL RESOURCES
AGING

United States Senate

WASHINGTON, D.C. 20510

October 25, 1990

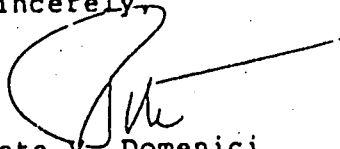
Mr. John F. Black
3615 Rio Rancho Boulevard, NW
Apartment 203-B
Albuquerque, New Mexico 87048

Dear John:

Enclosed please find a copy of the response that I have received from the RTC regarding the ABQ Bank decision. I hope the information provided will be helpful and useful to you. Please don't hesitate to contact me again if I can be of further help.

My warmest personal regards.

Sincerely,



Pete V. Domenici
United States Senator

PVD/acc
Enclosure

11-5-90

Teri,
could you
have Mel
or Herb Simon
write Senator
Domenici a
"Thank you"
note please.
John Black

Appendix 1

LAS COLINAS
Realty and Development Co.

June 25, 1990

RECEIVED

JUN 27 1990

PWD/ENGINEERING GROUP

Mr. Lee Lunsford, S.A.D. Engineer
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

Re: Seven Bar Ranch - Proposed Special Assessment District

Dear Lee:

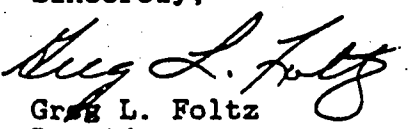
Please find enclosed copies of participation letters from Seven Bar Land & Cattle Company and Alameda West, Ltd. (owners of Alameda West Shopping Center), for your information.

We expect to have a letter from the Trust of Albert J. and Mary Jane Black as well as a letter from Corrales Associates, Ltd. (owners of Corrales Pointe Apartments) in the near future.

We are still working with ABQ Development to obtain their cooperation and expect to have it very soon also.

Please contact me at your convenience with any questions you may have.

Sincerely,


Greg L. Foltz
President

Appendix 1.5

Seven Bar Ranch

June 12, 1990

Mr. Art Blumenfeld
Chief Administrative Officer
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Proposed Seven Bar Ranch Special Assessment District

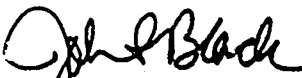
Dear Mr. Blumenfeld:

We have reviewed revised preliminary estimate of Assessment Costs dated May 31, 1990 prepared by Easterling & Associates for the proposed Seven Bar Ranch Special Assessment District. Seven Bar Land & Cattle Company is supportive of the proposed SAD and intends to participate in it for Tracts M, MM, O-1A, & O-2A.

We, Seven Bar Land & Cattle Company, intend to join in petitioning the City to develop the Seven Bar Ranch SAD. The allocations presently set out in the preliminary estimate seem reasonable. If the allocations change, Seven Bar Land & Cattle Company reserves the right to protest should its assessments increase significantly.

We feel that development of the Cottonwood Mall and construction of the Coors Bypass Road will be a significant stimulus to the City of Albuquerque in terms of construction related and permanent employment, as well as tax dollars. Seven Bar Land & Cattle Company appreciates the City's assistance in support of this substantial economic development project for the West Side and City of Albuquerque.

Sincerely,



John F. Black
Managing Partner
Seven Bar Land & Cattle Company

cc: Lee Lunsford, S.A.D. Engineer

Appendix 1.6

3615 Rio Rancho Blvd. N.W. Suite 203B / Albuquerque, N.M. 87048 / (505) 897-7227

June 12, 1990

Mr. Art Blumenfeld
Chief Administrative Officer
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Proposed Seven Bar Ranch Special Assessment District

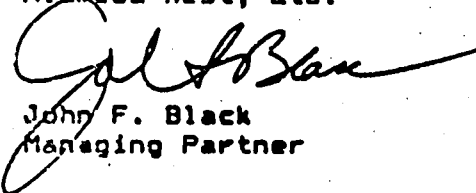
Dear Mr. Blumenfeld:

We have reviewed revised preliminary estimate of Assessment Costs dated May 31, 1990 prepared by Easterling & Associates for the proposed Seven Bar Ranch Special Assessment District. Alameda West, Ltd. is supportive of the proposed SAD and intends to participate in it for Alameda West Shopping Center.

We, Alameda West, Ltd., intend to join in petitioning the City to develop the Seven Bar Ranch SAD. The allocations presently set out in the preliminary estimate seem reasonable. If the allocations change, Alameda West, Ltd. reserves the right to protest should its assessments increase significantly.

We feel that development of the Cottonwood Mall and construction of the Coors Bypass Road will be a significant stimulus to the City of Albuquerque in terms of construction related and permanent employment, as well as tax dollars. Alameda West, Ltd. appreciates the City's assistance in support of this substantial economic development project for the West Side and City of Albuquerque.

Sincerely,
Alameda West, Ltd.



John F. Black
Managing Partner

cc: L. Lunsford, S.A.D., Engineer

June 12, 1990

RECEIVED

JUN 28 1990

PWD/ENGINEERING GROUP

Mr. Art Blumenfeld
Chief Administrative Officer
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

Re: Proposed Seven Bar Ranch Special Assessment District

Dear Mr. Blumenfeld:

We have reviewed revised preliminary estimate of Assessment Costs dated May 31, 1990 prepared by Easterling & Associates for the proposed Seven Bar Ranch Special Assessment District. A. J. Black and Mary Jane Black Revocable Trust is supportive of the proposed SAD and intends to participate in it for Tracts G-1 and G-2.

We, A. J. Black and Mary Jane Black Revocable Trust, intend to join in petitioning the City to develop the Seven Bar Ranch SAD. The allocations presently set out in the preliminary estimate seem reasonable. If the allocations change, A. J. Black and Mary Jane Black Revocable Trust reserves the right to protest should its assessments increase significantly.

We feel that development of the Cottonwood Mall and construction of the Coors Bypass Road will be a significant stimulus to the City of Albuquerque in terms of construction related and permanent employment, as well as tax dollars. A. J. Black and Mary Jane Black Revocable Trust appreciates the City's assistance in support of this substantial economic development project for the West Side and City of Albuquerque.

Sincerely,
A. J. Black and Mary Jane Black
Revocable Trust

Mary Jane Black

Mary Jane Black, Co-Trustee

A. Rolfe Black

A. Rolfe Black, Successor Co-Trustee

cc: Lee Lunsford, S.A.D. Engineer

Appendix 1.8

ALBUQUERQUE PUBLIC SCHOOLS
DEPARTMENT OF FACILITIES PLANNING AND CONSTRUCTION

915 OAK STREET, S.E.
P. O. BOX 25704
ALBUQUERQUE, NEW MEXICO 87125-0704
(505) 242-5865

DR. JACK BOBROFF
SUPERINTENDENT

RECEIVED

JUL 02 1990

RICHARD TOLEDO
ASSISTANT SUPERINTENDENT
FACILITIES PLANNING AND OPERATIONS
GERARD R. BROWN
INTERIM DIRECTOR

June 27, 1990

PWD/ENGINEERING GROUP

Mr. Lee Lunsford, P.E.
Special Assessment District Engineer
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: CIBOLA HIGH SCHOOL/SEVEN BAR RANCH SAD

Dear Mr. Lunsford:

On the afternoon of June 13, 1990, a meeting was held in the office of Mr. Fred Aguirre, City Hydrologist, Public Works Department. In attendance at that meeting were Mr. Charles M. Easterling, Easterling & Associates; Mr. Fred J. Aguirre, City Hydrologist; Mr. Jeffrey G. Mortensen, Jeff Mortensen & Associates; and myself. The purpose of the meeting was to discuss the proposed Seven Bar Ranch Special Assessment District and its impacts and benefits as they might relate to the existing Cibola High School facility. In principal, the Albuquerque Public Schools does not oppose a fair assessment for downstream storm drainage improvements, but at this time reserves its right to review and comment on the estimated maximum benefits once they are prepared.

At present, the Albuquerque Public Schools is constructing classroom additions at the Cibola High School site. In conjunction with that construction, the Albuquerque Public Schools has implemented a Drainage Master Plan for the site and has attempted to integrate that Master Plan with the Seven Bar Drainage Management Plan prepared by Easterling & Associates. This plan has been submitted to the Hydrology Section for review and approval with the plan being approved "in concept". Upon obtaining approval of the Master Plan concept, our consultant, Jeff Mortensen & Associates, has undertaken to prepare construction plans to address the construction of private storm drainage improvements on the Cibola High School site as well as the adjacent parcel to the east, Tract N-2B. A portion of this parcel has already been

Page 1 of 2
Appendix 1.9

An Equal Opportunity Employer

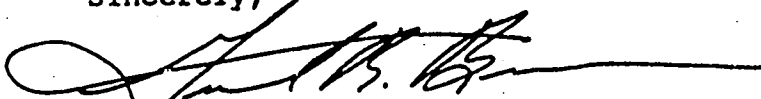
25X10

CIBOLA HIGH SCHOOL/SEVEN BAR RANCH SAD
Page 2

dedicated as a public drainage easement by the underlying property owner, ABQ Development. The Albuquerque Public Schools proposes to construct interim drainage improvements within said drainage easement and has endeavored to make those improvements compatible with the Seven Bar Drainage Management Plan. In view of this, the Albuquerque Public Schools would like to reserve the option to build their equitable share of the permanent improvements to serve on an interim basis and to be given full credit for "in-kind" participation in the future Special Assessment District.

Please accept this notification of intent relative to the proposed Special Assessment District. If you should have any questions or comments concerning this proposal relative to participation, or any other aspect of the ongoing APS project, please do not hesitate to call.

Sincerely,



Gerard R. Brown, AIA
Interim Director

GRB/est

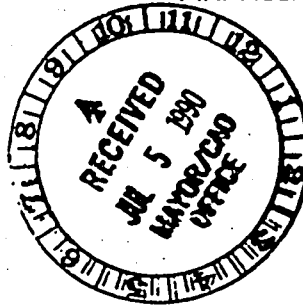
cc Richard Toledo
Charles Atwood
Jeffrey G. Mortensen
Fred J. Aguirre
Charles M. Easterling

Plan
ELAN CORPORATION
299 SOUTH PARK AVENUE
TUCSON, ARIZONA 85710

Plan
MANAGEMENT CORPORATION

July 2, 1990

Mr. Art Blumenfeld
Chief Administrative Officer
City Of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103



Re: PROPOSED BAR RANCH SPECIAL ASSESSMENT DISTRICT

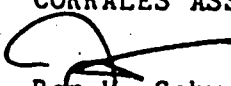
Dear Mr. Blumenfeld:

We have reviewed the revised preliminary estimate of Assessment Costs dated May 31, 1990 prepared by Easterling & Associates for the proposed Seven Bar Ranch Special Assessment District. Corrales Associates Ltd. is supportive of the proposed SAD., as demonstrated by our letter of credit pledge prior to commencement of construction of Corrales Apartments several years ago.

It is our understanding that the City has called the letter of Credit from the previous landowners, Ramcor Ltd., thereby eliminating any responsibility that Corrales Associates, Ltd. may have for construction related to the Coors ByPass. If that is in fact the case, we, Corrales Associates, Ltd., intend to join in petitioning the City to develop the Seven Bar Ranch SAD. If allocations change Corrales Associates, Ltd. reserves the right to protest should its assessments increase.

We feel that development of the Cottonwood Mall and construction of the Coors ByPass Road will be a significant stimulus to the City of Albuquerque in terms of construction related and permanent employment, as well as tax dollars. Corrales Associates, Ltd. appreciates the City's assistance in support of the substantial economic development project for the West Side and City of Albuquerque.

Sincerely,
CORRALES ASSOCIATES, LTD.


Ron W. Schwabe
General Partner




ENTRADA POINTE

Appendix 1.11

CORRALES

APPENDIX 2

COPIES OF CURRENT PROTEST LETTERS

APPENDIX 2

ABQ Development

May 30, 1991

ABQ Development Corporation
625 Silver SW
Suite 200
PO Box 75625
Albuquerque NM 87125
te 505 242 3330

HAND DELIVERED

City Clerk
City of Albuquerque
P. O. Box 1293
Albuquerque, New Mexico 87103

Re: SAD # 223
Items Numbered: 1, 2, 3, 4, 5, 7, 16, & 17

Dear Sir or Madam:

ABQ Development Corporation hereby registers its protest regarding the manner in which the "Estimated Benefits" and "Estimated Assessments" were calculated. Specifically, our concerns are as follows:

1. Estimated Benefits: This amount is the estimated difference between the current value of the property and the future value of the property when the SAD improvements are completed. The future value of the property is calculated using erroneous and inflated assumptions. The appraiser estimated the costs to bring the parcels to a "marketable" state at \$500,000. In addition, he has estimated the absorption of the multifamily units at 400 per year starting immediately. The additional costs are actually estimated to be \$4,705,600 and the current absorption within the Seven Bar Sector Plan area of multifamily units has averaged less than 100 units per year. Since the value of the property with the SAD improvements completed is based on a discounted cash flow, if the actual costs and actual absorption figures are used, the Estimated Benefits would be greatly reduced.

2. Estimated Assessments: When ABQ Development was approached regarding the Special Assessment District for the Seven Bar area, the estimated assessments totalled \$861,761. We were told these estimates were conservative and could expect the actual assessment to be much lower; however, our actual assessments total \$1,326,188 which is an increase of 54%.

A specific concern is with the Storm Drainage Assessment. The assessment is based on tract contribution to the drainage basin less additional future costs. The assessment completely disregards protection benefits, access benefits which were to be considered according to Section III (D) of the Protest

Appendix 2.1

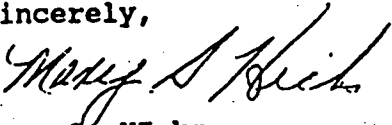
Hearing Notice as well as the benefit of land reclamation from flood areas.

The Special Assessment District also does not take into consideration the funds in excess of \$100,000 which ABQ Development has previously spent on engineering the Coors Bypass and its associated utilities and drainage facilities.

Though ABQ Development Corporation has protested the Estimated Benefits and the Estimated Assessments, it does support the concept of the Special Assessment District. The City also needs to be aware that The Resolution Trust Corporation as Receiver for ABQ Federal Savings Bank holds the first mortgage on the property and has only consented to allowing an assessment lien of \$861,761.00 to have priority over its first mortgage.

ABQ Development Corporation is willing to discuss and resolve these concerns so the District may proceed.

Sincerely,



Mary S. Hicks
Project Manager II

msh

cc: Stan Strickman, Vice President
Charles C. Mann, Financial Institution Specialist (RTC)

ALBUQUERQUE PUBLIC SCHOOLS

PROPERTY MANAGEMENT

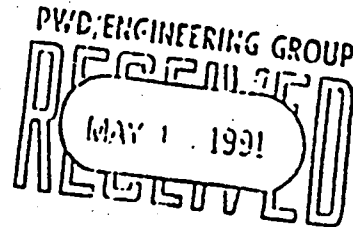
912 - 919 LOCUST STREET, S.E.
P. O. BOX 25704
ALBUQUERQUE, NEW MEXICO 87125

DR. JACK BOBROFF
SUPERINTENDENT

CHARLES O. ATWOOD
PROPERTY MANAGER

May 8, 1991

Mr. Lee Lunsford, P.E.
Special Assessment District Engineer
Public Works Department
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103



Dear Mr. Lunsford:

Re: City of Albuquerque, S.A.D. No. 223

As you were previously advised by me, the school district has asked its consulting engineer, Mr. Jeff Mortensen, to review the proposed S.A.D. 223 informational package. This review is now complete, a copy of which is attached for your information.

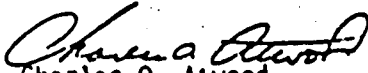
Please be advised the school district has already invested an estimated \$118,944.50 for storm drainage improvement to serve Cibola High School.

Further, as the city has determined to disregard these drainage improvements in its determination of benefit to the school district, the school district now must oppose creation of S.A.D. 223 and inclusion of the Cibola High School site in the S.A.D.

Please be advised the school district hereby formally protests creation of S.A.D. 223 and inclusion of the Cibola High School site into S.A.D. 223. In addition, the school district claims all rights and protections available to it under regulation and law nor waives any of these rights and protections.

Please don't hesitate to call me at 765-5950 extension 265 if you have any questions.

Sincerely,


Charles O. Atwood
Property Manager

COA:s1

cc: Richard Toledo
Gerard Brown
Jeff Mortensen

Appendix 2.3

An Equal Opportunity Employer

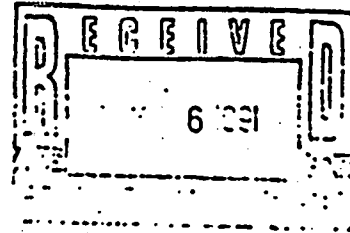


JEFF MORTENSEN & ASSOCIATES, INC. □ ENGINEERS
6010-B MIDWAY PARK BLVD. N.E. □ ALBUQUERQUE □ NEW MEXICO 87109 □ (505) 345-4250

901833

May 1, 1991

Mr. Charles O. Atwood
Property Manager
Albuquerque Public Schools
P. O. Box 25704
Albuquerque, NM 87125



Re: Cibola High School/SAD 223

Dear Chuck:

We are in receipt of the SAD No. 223 Preliminary Estimated Assessments Information Package dated April 24, 1991. Per your request, we have reviewed this information. Based upon our review, it is clearly evident that no credit is being given for the construction which has already taken place within the City's public drainage easement. It is our opinion that a vast majority of the excavation and fencing have already been completed at the full expense of the School District in advance of the SAD project. It was our complete and thorough understanding at the onset of the Cibola High School 1990 Storm Drain and Roof Drain Modifications, (City Project No. 4040.90) that credit would be given for the APS constructed improvements. Please reference the attached correspondence:

1. Letter from Gerard R. Brown to Mr. Lee Lunsford dated June 27, 1990.
2. Fax transmittal from Easterling & Associates to the Albuquerque Public School dated June 25, 1990.

It is clear from the review of this correspondence that it was understood that participation "in kind" was an acceptable method by which the School District could participate in the upcoming Special Assessment District (SAD).

We now find it a strange turn of events that the City is now trying to assess the School District for storm drainage improvements. To my knowledge, Mr. Lee Lunsford never responded to the June 27, 1990 letter from Mr. Gerard R. Brown. Said letter clearly sets forth the criteria under which the School District proceeded with its project which has improved the public drainage easement. If participation in kind was not acceptable, then the

Appendix 2.4

City should have promptly responded accordingly. Instead, there was no response. Furthermore, we find it strange that the guidance offered by Easterling & Associates relative to participation in kind would also be unacceptable. As you are aware, Easterling & Associates prepared the preliminary estimated assessments information package referenced above. Either the City and/or its consultant have forgotten or overlooked these very important details and previous agreements, or the School District was misinformed and mislead.

As of this writing, the School District has incurred the following costs:

1. Construction of retention pond and appurtenances
\$104,692.50
2. Design phase services
\$7,834.17
3. Construction phase services - inspection
\$3,797.83
4. Construction phase services - staking
\$2,620.40

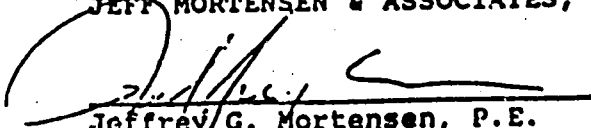
Total: \$118,944.90

As you can see, the costs incurred by the School District to provide itself with satisfactory drainage improvements well exceeds the assessment as set forth in the above referenced document. We feel very strongly that credit should be given for the work already performed by the School District and its assessment eliminated in its entirety. The costs listed above were obtained from the Bid Proposal from the low bidder, Albuquerque Underground, Inc. The drainage improvements represented 37.9562% of the overall storm drainage project cost. The design and construction phase services were calculated based upon our invoices to the School District for the entire project and adjusted by 37.9562%.

We hope that you will find this information helpful in your evaluation of the information provided to you by the City. We are returning the copies of the documents which you had provided us to review. If you should have any questions or comments concerning this information, or if we can be of further assistance to you, please do not hesitate to call.

Sincerely,

JEFF MORTENSEN & ASSOCIATES, INC.


Jeffrey G. Mortensen, P.E.
President
Appendix 2/5

JGM:dj/Attachments

SIMON

MILITARY SIMON & ASSOCIATES, INC.

June 3, 1991

Mr. Lee Lunsford
SAD Project Engineer
City of Albuquerque

RECEIVED

CONCORD

ENGINEERING-DESIGN

Re: SAD #223

Dear Lee:

As the major proponent behind SAD #223, Simon continues to be very supportive of the district and wishes to see it progress in a timely fashion. We do not protest the estimated maximum benefit which will be heard by City Council this evening; however, we do have concerns about the size and scope of some of the preliminary estimates we have received. We hope that through our continued cooperation we will be able to resolve these issues prior to the next protest hearing.

As a matter of record, following is a very general list of some of the items we are disputing:

- 1.) Several fee items are calculated as a percentage of total construction cost which includes Gross Receipts Tax. These fees are then taxed again as a separate line item resulting in a double taxation.
- 2.) The city's Incidental Fees should not be a function of the construction cost. If this is to be an on-going process cost, it should be removed from the first tabulation of total costs.
- 3.) Any costs associated with the bank letter of credit should be included as part of the city process fee and not a separate cost. This fee should reduce as risk declines.
- 4.) The allocation for the relocation of the high pressure natural gas pipeline needs to be reapportioned for those areas where the line is being rerouted in accordance with the city's request.
- 5.) Telephone lines need to be added to overall street improvements and allocated proportionally.

Appendix 2.6

Page 2.
Mr. Lee Lunsford
June 3, 1991

6.) There appears to be excessive use of high cost items such as textured and colored concrete which should be revisited in an attempt to reduce costs.

7.) The revised location of the storm drain increased costs dramatically and should be studied to determine if a more cost efficient method can be used.

This is not an all-inclusive list as we are continuing to investigate the numbers associated with SAD #223. We are concerned by the substantial increase in costs since the original estimate provided to us on August 2, 1990. We hope that these costs will decrease in accordance with the comments listed above and as actual bid numbers are received, thereby eliminating some of the difficulties encountered by all the participants.

Thank you for your consideration of these matters.

Sincerely,



Terri Sturm
Assistant Vice President
Development

cc: Art Blumenfeld
Tom Hoover
Lou Hoffman
Members of City Council

Seven Bar Ranch

June 3, 1991

City of Albuquerque
City Clerk
P. O. Box 1293
Albuquerque, NM 87103

HAND DELIVERED

RE: Special Assessment District No. 223

Dear City Clerk:

Our company is the owner of Tracts M, Tract MM-1, Tract O-1A, Tract O-2A, and portions of Ellison Drive that are included in the above referenced Special Assessment District No. 223 (SAD #223).

We are in favor of SAD #223 moving forward through the normal process. Although we are in general concurrence with the proposed assessments and the estimated maximum benefits for our properties we have some specific concerns related to the proposed financing of SAD #223.

First, we object to a charge of 1.5% of the cost of construction by the City of Albuquerque defined as City Incidental Fees (Item #13) which is currently projected at \$141,338.16. It is our understanding that a charge of 1.5% is typical in standard special assessment districts where there are numerous participants (50 - 100) and administration costs related to notices and accounting are substantial. Because there are relatively few participants in SAD #223 we feel that the City Incidental Fees should be lowered to more accurately reflect the actual costs that may be incurred.

Second, we object to the City Credit Enhancement Fee, as proposed by the City Treasurer, in the amount of 150 basis points annually on the outstanding principle balance. If approved at this rate the property owners in the District will be required to pay an additional \$1,800,000.00 (approx.) to the City of Albuquerque over and above the normal processing costs associated with a typical special assessment district. In addition to the City Credit Enhancement Fee the participants are being required to fund a Letter of Credit Fee of 50 basis points (approx. \$600,000.00), Debt Service Reserve Fund (approx. \$1,150,000.00), and an Annual Surplus Fund (approx. \$500,000.00) over the life of the District. We believe that if in fact there should be a City Credit Enhancement Fee at all that it should be not more than 50 basis points, which is the amount being requested by Sumitomo Bank for its annual Letter of Credit Fee. We believe that this is a reasonable request considering the fact that Sumitomo Bank's Letter of Credit would be called before the City would be at risk.

Appendix 2.8

10200 Corrales Rd. N.W. Suite E-3 / Albuquerque, N.M. 87048 / (505) 897-7227 / FAX (505) 897-1848

City Clerk
June 3, 1991
Page Two

A representative of Seven Bar Land & Cattle Company will attend the Protest Hearing scheduled for June 3, 1991 at 6:00 at the Council Chamber to answer any questions that may be raised by this letter.

Sincerely,



John F. Black
General Partner
Seven Bar Land & Cattle Company

June 3, 1991

City of Albuquerque
City Clerk
P. O. Box 1293
Albuquerque, NM 87103

HAND DELIVERED

RE: Special Assessment District No. 223

Dear City Clerk:

The A. J. Black and Mary Jane Black Revocable Trust is the owner of Tract G-1, Tract G-2, and a portion of Lot 10, Questa del Rio that are included in the above referenced Special Assessment District No. 223 (SAD #223).

We are in favor of SAD #223 moving forward through the normal process. Although we are in general concurrence with the proposed assessments and the estimated maximum benefits for our properties we have some specific concerns related to the proposed financing of SAD #223.

First, we object to a charge of 1.5% of the cost of construction by the City of Albuquerque defined as City Incidental Fees (Item #13) which is currently projected at \$141,338.16. It is our understanding that a charge of 1.5% is typical in standard special assessment districts where there are numerous participants (50 - 100) and administration costs related to notices and accounting are substantial. Because there are relatively few participants in SAD #223 we feel that the City Incidental Fees should be lowered to more accurately reflect the actual costs that may be incurred.

Second, we object to the City Credit Enhancement Fee, as proposed by the City Treasurer, in the amount of 150 basis points annually on the outstanding principle balance. If approved at this rate the property owners in the District will be required to pay an additional \$1,800,000.00 (approx.) to the City of Albuquerque over and above the normal processing costs associated with a typical special assessment district. In addition to the City Credit Enhancement Fee the participants are being required to fund a Letter of Credit Fee of 50 basis points (approx. \$600,000.00), Debt Service Reserve Fund (approx. \$1,150,000.00), and an Annual Surplus Fund (approx. \$500,000.00) over the life of the District. We believe that if in fact there should be a City Credit Enhancement Fee at all that it should be not more than 50 basis points, which is the amount being requested by Sumitomo Bank for its annual Letter of Credit Fee. We believe that this is a reasonable request considering the fact that Sumitomo Bank's Letter of Credit would be called before the City would be at risk.

Appendix 2.10

City Clerk
June 3, 1991
Page Two

A representative of Seven Bar Land & Cattle Company will attend the Protest Hearing scheduled for June 3, 1991 at 6:00 at the Council Chamber to answer any questions that may be raised by this letter.

Sincerely,



A. Rolfe Black
Co-Trustee

A. J. Black & Mary Jane Black Revocable Trust

RECEIVED

JUN 05 1991

R.D/ENG-DESIGN

elan

ELAN CORPORATION

May 28, 1991

Lee R. Lunsford
City of Albuquerque
Public Works Department
P.O. Box 1293
Albuquerque, NM 87103

RE: Special Assessment District # 223

Dear Mr. Lunsford:

Per our telephone conversation last week, this letter shall serve as our formal protest of our responsibility for additional costs relating to the above referenced improvements.

As I explained to you on the phone and to Art Blumenfeld in writing (see July 1990 letter.) It was our understanding that the funds which we pledged many years ago would cover any costs that might be encountered relating to infrastructure improvements for 7-Bar Ranch (see pledge agreement.)

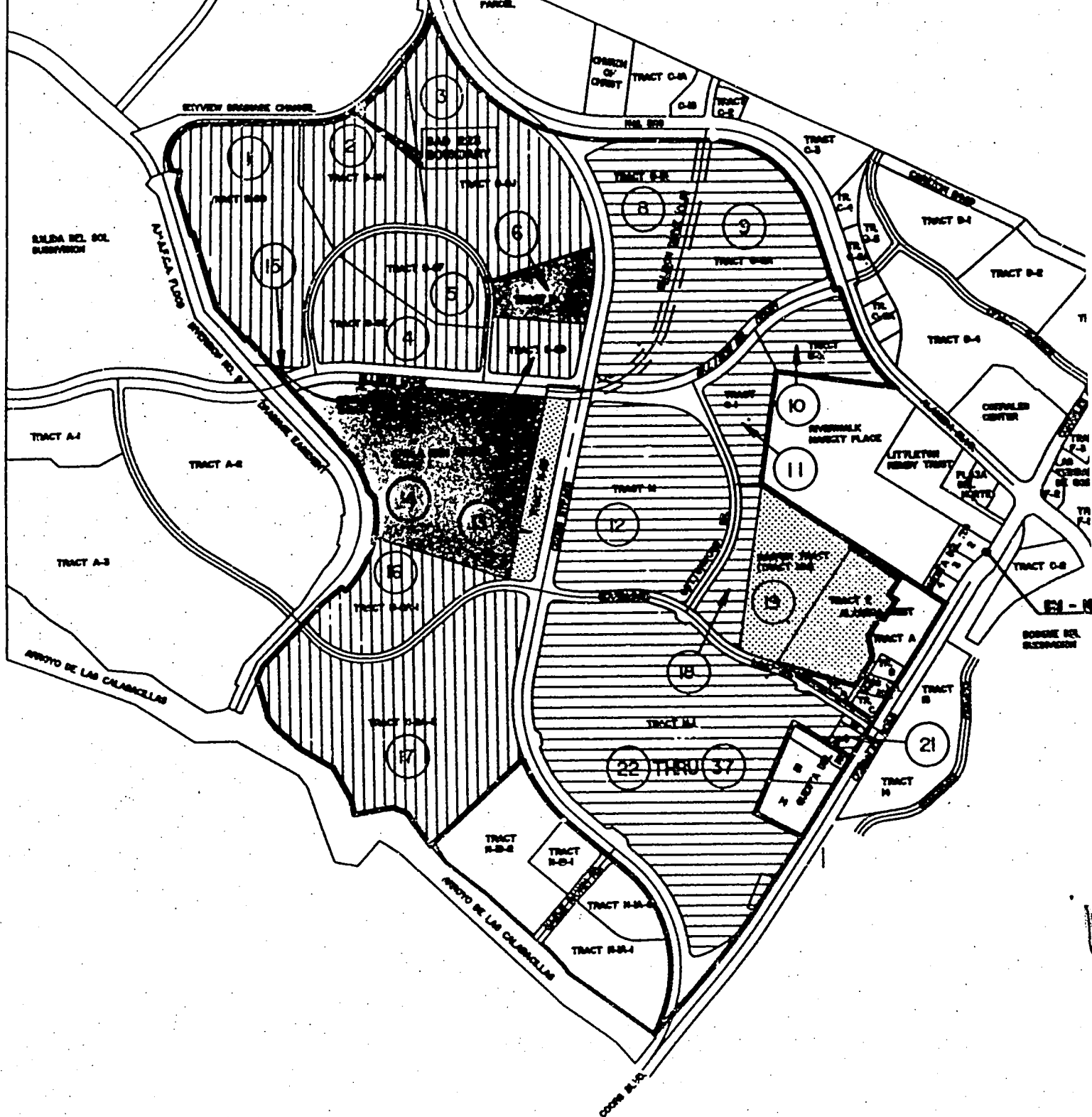
Please let me know what we can do to further protest our incurring any additional expenses relating to SAD 223.

Sincerely,
ELAN CORPORATION

Ron W. Schwabe
President

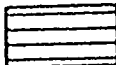
RWS/en

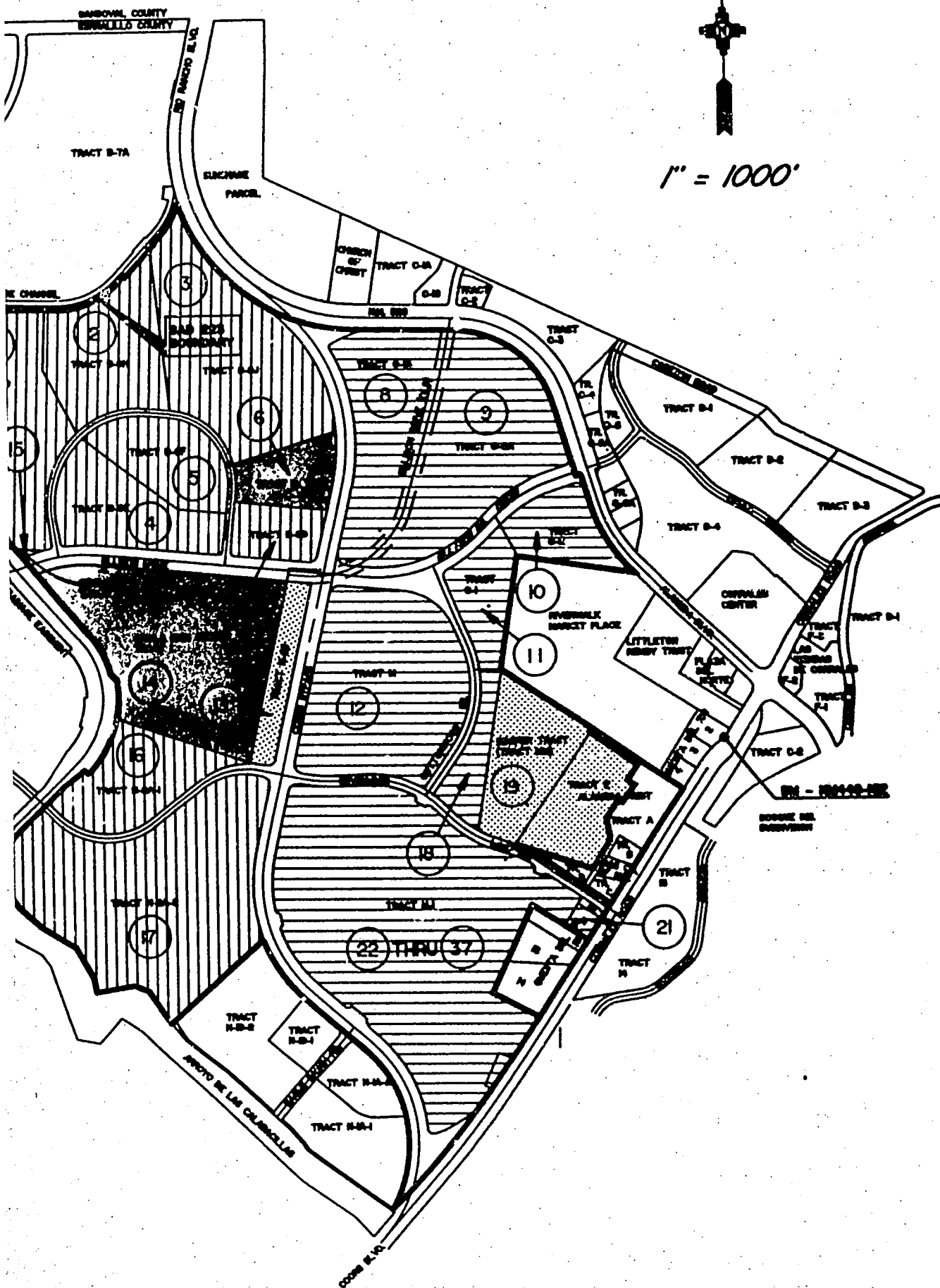
APPENDIX 3
PROTEST PROPERTY PLAN



SAD 223
PROTEST PROPERTY PLAN
JUNE, 1991

PROTEST PROPERTY KEY

-  STRONG SUPPORT FOR DISTRICT WITH SPECIFIC PROTESTS / COI
-  MODERATE SUPPORT FOR DISTRICT WITH SPECIFIC PROTESTS / COI
-  OPPOSITION TO DISTRICT
-  NON-RESPONSIVE
-  PROPERTY ITEM NUMBER



APPENDIX 4

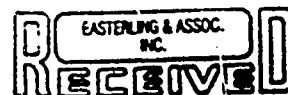
**BROWN, CHUDLEIGH, SCHULER & ASSOCIATES
LETTER DATED JUNE 12, 1991, WITH ENCLOSURES**

APPENDIX 4

BROWN, CHUDLEIGH, SCHULER & ASSOCIATES REAL ESTATE APPRAISALS-MARKET STUDIES

LAWRENCE E. BROWN, MAI
WALTER H. CHUDLEIGH III, MAI
GREGORY S. SCHULER
MARK B. DIMARCO
SUSAN R. SHANLEY
JON D. KLINE
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DEAN A. MEYERS

PARK CITY OFFICE:
1500 E. Kearns Blvd.
Suite C-204
Park City, Utah 84060
Telephone (801) 649-5906



June 12, 1991

Easterling and Associates, Inc.
10131 Coors Road, N.W.
Suite H-7
Albuquerque, NM 87114
Attn: Mr. R.P. Bohannon, P.E.

JUN 13 1991

Re: SAD No. 223- Parcels 1,2,3,4,5,16 & 17
Albuquerque, New Mexico

Gentlemen:

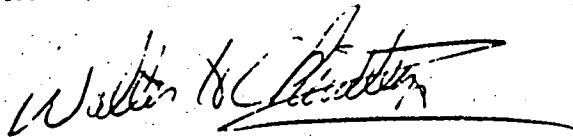
In response to your FAX correspondence date May 31, 1991 we have re-appraised the above referenced parcels. The updated analysis includes the new information provided by Easterling Associates with regard to development costs and CIP fees for the properties. The market value of a fee interest in the parcels has been estimated under two premises. The first valuation assumes that the infrastructure improvements which are scheduled to be installed as part of the special assessment district are not in place. The second premise assumes that the SAD improvements are in place. As a result of our appraisal and analysis, the opinion has been formed that the market values of the properties, subject to the referenced limiting conditions, as of March 1, 1991, are as follows:

No.	Tract	Area	Value "Before"	Value After	Benefit
1	B-9G	37.1755	323,900	760,000	436,100
2	B-9H	21.1325	184,100	428,000	243,900
3	B-9J	37.1147	404,200	1,050,000	645,800
4	B-9E	16.8985	184,000	235,000	51,000
5	B-9F	12.9125	140,600	240,000	99,400
16	N-2A-2	16.3480	178,000	235,000	57,000
17	N-2A-1	58.1795	760,300	1,750,000	989,700
TOTALS		199.7612	2,175,100	4,698,000	2,522,900

East Coast Office: 555 Long Wharf Drive Suite 9H New Haven, CT 06511 (203) 624-8466
West Coast Office: 744 Cardley Avenue Suite 100 Medford, OR 97504 (503) 772-8566
Appendix 4.1

A brief discussion of the valuation process and the values allocated to the individual parcels are presented on the following pages. Please refer to our full narrative report dated April 29, 1991 for details with regard to the subject parcels, definition of market value, demographic data, comparables, and limiting conditions and assumptions.

Respectfully submitted,
BROWN, CHUDLEIGH, SCHULER AND ASSOCIATES

A handwritten signature in dark ink, appearing to read "Walter H. Chudleigh III", with a horizontal line drawn underneath the signature.

Walter H. Chudleigh III, MAI
WHC:mp

Valuation Methodology

The subject parcels range in size from approximately 13 to 58 acres, and total 199.7612 acres. Given the common ownership of the parcels and the fact that they are in close proximity and would compete with each other, we have staged development as though they were one 200 $\pm$ acre development. This will result in a more conservative valuation, inasmuch as it will include the negative impact on value resulting from an extended absorption period.

The current zoning regulation permit a mixture of single and multi-family development on the parcels, and we have allocated 75% of the land to single family development and 25% to multi-family development. The appropriate densities are four units per acre for single family and 15 units per acre for multi-family. This results in a total of 600 single family lots and 750 multi-family units. It is anticipated that the lots would be sold to developers who would differentiate the design and pricing of the homes to appeal to a broad market.

The value of the single family lots is estimated at \$22,000 each, and the multi-family land at \$3,500 per unit, based on comparable sales data. The weighted average value for the 1,350 total units is calculated at \$11,722. The sales of the lots is assumed to commence in the third year, assuming a two year planning and construction period for the SAD improvements and the off-site improvements for the subject parcels. We have estimated an eight year sell-out, or absorption period, based on an analysis of historic absorption and projections for the future. This is equal to 170 units per year, including multi-family and single family.

The estimated off-site construction costs of approximately \$4,700,000, as provided by Easterling and Associates have been included in our discounted cash flow analysis. Deductions are also made for taxes, sales commissions and marketing, legal fees, general administrative and overhead, interest, and developer's profit in arriving at a value for the entire project. In the case of the Premise I, or "as is"

valuation, the estimated costs which would have been provided by the SAD are also included. This assumes that a private developer would be required to construct the same infrastructure as is planned for the SAD, and that he could complete the construction within the same budget parameters. It is noted that the purchase of the property "as is" assuming no SAD is considerably more risky than the purchase assuming that the SAD improvements are in place. The purchaser would have to obtain city approvals for the project and would face additional construction cost overrun risk as well as market risk, and the risk that the city might require additional street improvements, traffic lights, etc.

The estimated values of the parcels under Premise I range from \$0.20 to \$0.30 per square foot, depending on the location, size and configuration of the parcels. The attached discounted cash flow printouts indicate aggregate values for the subject property of \$2,175,000 under Premise I and \$4,700,000 under Premise II. The difference between the two figures, or the "benefit" is calculated at \$2,525,000 dollars. The values of the parcels have been estimated individually, assuming that the parcels closest to the proposed mall are developed first and the more remote parcels are developed last.

The cash flow analyses generally assume underlying inflation rates of 4% per year commencing in the second year. Marketing expenses are projected at 6% of gross sales revenue; developer's overhead at 1% of gross revenue, and developer's profit at 15% of gross sales revenue. The cash flow is discounted at 12% per annum to reflect the time value of money and to account for the projected delay in receiving funds due to the extended absorption period. Please feel free to contact us if you have any questions, or if we can be of further assistance.

Respectfully Submitted
BROWN, CHUDLEIGH, SCHULER & ASSOCIATES



Walter H. Chudleigh III, MAI

Addenda

Discounted Cash Flow Analysis

Parcels 1, 2, 3, 4, 5, 16 & 17

DISCOUNTED CASH FLOW- Land Residual - Parcel 1 Page 1

Year	1	2	3	4	5	6	7
% Onsites Completed	0%	0%	0%	0%	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%	0%	0%	0%	0%
Units Completed (Land)	0	0	0	0	0	0	0
Cumulative Completed	0	0	0	0	0	0	0
Total Closed	0	0	0	0	0	0	0
Cumulative Closed	0	0	0	0	0	0	0
Current Inventory	0	0	0	0	0	0	0
Ave Price/Unit-Land	\$11,722	\$12,191	\$12,679	\$13,186	\$13,713	\$14,262	\$14,832
Sales Income	0	0	0	0	0	0	0
Loan Draw	17,934	19,957	22,205	24,702	27,475	30,556	33,979
Total Revenue	17,934	19,957	22,205	24,702	27,475	30,556	33,979
Development Costs							
Offsite Costs-	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Grading	0	0	0	0	0	0	0
Blasting	0	0	0	0	0	0	0
Sewers	0	0	0	0	0	0	0
Paving	0	0	0	0	0	0	0
Utilities	0	0	0	0	0	0	0
Total Offsites	0	0	0	0	0	0	0
Onsite Costs-							
Base unit	0	0	0	0	0	0	0
Appliances/options	0	0	0	0	0	0	0
Garage	0	0	0	0	0	0	0
Clubhouse & amenities	0	0	0	0	0	0	0
Soft Costs:							
Architect/Engineering	1,255	1,305	1,357	1,412	1,468	1,527	1,588
Legal & Closing	0	0	0	0	0	0	0
Taxes -Finished lots	0	0	0	0	0	0	0
Taxes- Acreage	12,550	12,550	12,550	12,550	12,550	12,550	12,550
Promotion	0	0	0	0	0	0	0
Marketing/Commissions	0	0	0	0	0	0	0
Interest/Finance Charges	0	1,973	4,168	6,611	9,328	12,350	15,711
Sewer Assessment	0	0	0	0	0	0	0
Developer's Overhead	4,129	4,129	4,129	4,129	4,129	4,129	4,129
Total Costs	17,934	19,957	22,205	24,702	27,475	30,556	33,979
Loan Draw	17,934	19,957	22,205	24,702	27,475	30,556	33,979
Loan Repayment	0	0	0	0	0	0	0
Loan Balance	17,934	37,892	60,097	84,798	112,274	142,830	176,809
Cash Flow	0	0	0	0	0	0	0
Less Developer's Profit	0	0	0	0	0	0	0
Cash Flow to Property	0	0	0	0	0	0	0
Cumulative CF	0	0	0	0	0	0	0
Disc Cash Flow	0	0	0	0	0	0	0
Cumulative DCF	0	0	0	0	0	0	0

DISCOUNTED CASH FLOW- Land Residual - Parcel 1 Page 2

Year	8	9	10
	---	---	---
% Onsites Completed	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%
Units Completed (Land)	0	91	160
Cumulative Completed	0	91	251
Total Closed	0	91	160
Cumulative Closed	0	91	251
Current Inventory	0	0	0
Ave Price/Unit-Land	\$15,426	\$16,043	\$16,684
Sales Income	0	1,459,883	2,669,500
Loan Draw	37,780	751,272	177,472
	-----	-----	-----
Total Revenue	37,780	2,211,155	2,846,973
Development Costs			
Offsite Costs-			
Grading	\$0	\$0	\$0
Blasting	0	0	0
Sewers	0	0	0
Paving	0	0	0
Utilities	0	0	0
Total Offsites	0	620,000	0
Onsite Costs-			
Base unit	0	0	0
Appliances/options	0	0	0
Garage	0	0	0
Clubhouse & amenities	0	0	0
Soft Costs:			
Architect/Engineering	1,651	1,718	1,785
Legal & Closing	0	6,227	11,386
Taxes -Finished lots	0	6	6
Taxes- Acreage	12,550	7,994	(6)
Promotion	0	0	0
Marketing/Commissions	0	87,593	160,170
Interest/Finance Charges	19,449	23,605	0
Sewer Assessment	0	0	0
Developer's Overhead	4,129	4,129	4,129
	-----	-----	-----
Total Costs	37,780	751,272	177,472
Loan Draw	37,780	751,272	177,472
Loan Repayment	0	965,860	177,472
Loan Balance	214,589	0	0
Cash Flow	0	494,023	2,492,028
Less Developer's Profit	0	494,023	125,325
Cash Flow to Property	0	0	2,366,643
Cumulative CF	0	0	2,366,643
Disc Cash Flow	0	0	761,996
Cumulative DCF	0	0	761,996

Appendix 4.7

SUMMARY OF VALUES AND DEVELOPMENT COSTS Parcel 1 (Land Residual)

VALUE SUMMARY

Present Worth of Cash Flow to Equity	\$761,996
Original Loan Balance	0
Less Outstanding Loan Balance	0
Less Required Dev Profit Accrued	0
Total Estimated Residual Land Value	761,996
Residual Land Value/Unit	3,036
Residual Value/Gross Acre	20,497
Residual Value/SF Land	\$0.47

COST SUMMARY:

	Total	Per Lot	Percent of Sellout
Gross Sellout	\$4,129,383	\$16,452	100.00%
Total Onsites	0	0	0.00%
Total Grading	0	0	0.00%
Total Blasting	0	0	0.00%
Total Paving	0	0	0.00%
Total Sewer Construction	0	0	0.00%
Total Sewer Assessment Fee	0	0	0.00%
Total Utility construction	0	0	0.00%
Total Offsite Construction	620,000	2,470	15.01%
Total Architect/Engineer	15,068	60	0.36%
Total Legal & Closing	17,613	70	0.43%
Total Tax & Insurance	108,400	432	2.63%
Total Interest/Financing	52,194	371	2.26%
Total Marketing & Promo	247,763	987	6.00%
Total Developer's Overhead	41,294	165	1.00%
TOTAL COSTS	1,143,332	4,555	27.69%
Total Developer's Profit	619,408	2,468	15.00%
Residual Land Value	761,996	3,036	18.45%
Totals	2,524,736	10,059	61.14%

DISCOUNTED CASH FLOW- Land Residual - Parcel 2 Page 1

Year	1	2	3	4	5	6	7
% Onsites Completed	0%	0%	0%	0%	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%	0%	0%	0%	0%
Units Completed (Land)	0	0	0	0	0	0	0
Cumulative Completed	0	0	0	0	0	0	0
Total Closed	0	0	0	0	0	0	0
Cumulative Closed	0	0	0	0	0	0	0
Current Inventory	0	0	0	0	0	0	0
Ave Price/Unit-Land	\$11,722	\$12,191	\$12,679	\$13,186	\$13,713	\$14,262	\$14,832
Sales Income	0	0	0	0	0	0	0
Loan Draw	10,450	11,631	12,943	14,401	16,021	17,821	19,820
Total Revenue	10,450	11,631	12,943	14,401	16,021	17,821	19,820
Development Costs							
Offsite Costs-							
Grading	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Blasting	0	0	0	0	0	0	0
Sewers	0	0	0	0	0	0	0
Paving	0	0	0	0	0	0	0
Utilities	0	0	0	0	0	0	0
Total Offsites	0	0	0	0	0	0	0
Onsite Costs-							
Base unit	0	0	0	0	0	0	0
Appliances/options	0	0	0	0	0	0	0
Garage	0	0	0	0	0	0	0
Clubhouse & amenities	0	0	0	0	0	0	0
Soft Costs:							
Architect/Engineering	794	826	859	894	929	967	1,005
Legal & Closing	0	0	0	0	0	0	0
Taxes -Finished lots	0	0	0	0	0	0	0
Taxes- Acreage	7,150	7,150	7,150	7,150	7,150	7,150	7,150
Promotion	0	0	0	0	0	0	0
Marketing/Commissions	0	0	0	0	0	0	0
Interest/Finance Charges	0	1,149	2,429	3,853	5,437	7,199	9,159
Sewer Assessment	0	0	0	0	0	0	0
Developer's Overhead	2,505	2,505	2,505	2,505	2,505	2,505	2,505
Total Costs	10,450	11,631	12,943	14,401	16,021	17,821	19,820
Loan Draw	10,450	11,631	12,943	14,401	16,021	17,821	19,820
Loan Repayment	0	0	0	0	0	0	0
Loan Balance	10,450	22,080	35,024	49,425	65,446	83,267	103,087
Cash Flow	0	0	0	0	0	0	0
Less Developer's Profit	0	0	0	0	0	0	0
Cash Flow to Property	0	0	0	0	0	0	0
Cumulative CF	0	0	0	0	0	0	0
Disc Cash Flow	0	0	0	0	0	0	0
Cumulative DCF	0	0	0	0	0	0	0

Appendix 4.9

DISCOUNTED CASH FLOW- Land Residual - Parcel 2 Page 2

Year	8	9	10
	---	---	---
% Onsites Completed	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%
Units Completed (Land)	64	79	0
Cumulative Completed	64	143	143
Total Closed	64	79	0
Cumulative Closed	64	143	143
Current Inventory	0	(0)	(0)
Ave Price/Unit-Land	\$15,426	\$16,043	\$16,684
Sales Income	987,241	1,267,371	0
Loan Draw	541,286	85,040	0
	-----	-----	-----
Total Revenue	1,528,527	1,352,411	0
Development Costs			
Offsite Costs-			
Grading	\$0	\$0	\$0
Blasting	0	0	0
Sewers	0	0	0
Paving	0	0	0
Utilities	0	0	0
Total Offsites	459,000	0	0
Onsite Costs-			
Base unit	0	0	0
Appliances/options	0	0	0
Garage	0	0	0
Clubhouse & amenities	0	0	0
Soft Costs:			
Architect/Engineering	1,045	1,087	0
Legal & Closing	4,211	5,406	0
Taxes -Finished lots	6	(10)	(10)
Taxes- Acreage	3,944	10	10
Promotion	0	0	0
Marketing/Commissions	59,234	76,042	0
Interest/Finance Charges	11,340	0	0
Sewer Assessment	0	0	0
Developer's Overhead	2,505	2,505	0
	-----	-----	-----
Total Costs	541,286	85,040	0
Loan Draw	541,286	85,040	0
Loan Repayment	644,372	85,040	0
Loan Balance	0	0	0
Cash Flow	342,869	1,182,330	0
Less Developer's Profit	338,192	0	0
Cash Flow to Property	4,677	1,182,330	0
Cumulative CF	4,677	1,187,008	1,187,008
Disc Cash Flow	1,889	428,249	0
Cumulative DCF	1,889	428,249	428,249

SUMMARY OF VALUES AND DEVELOPMENT COSTS Parcel 2 (Land Residual)

VALUE SUMMARY

Present Worth of Cash Flow to Equity	\$428,249
Original Loan Balance	0
Less Outstanding Loan Balance	0
Less Required Dev Profit Accrued	(0)
Total Estimated Residual Land Value	428,249
Residual Land Value/Unit	2,995
Residual Value/Gross Acre	20,265
Residual Value/SF Land	\$0.47

COST SUMMARY:

	Total	Per Lot	Percent of Sellout
Gross Sellout	\$2,254,612	\$15,767	100.00%
Total Onsites	0	0	0.00%
Total Grading	0	0	0.00%
Total Blasting	0	0	0.00%
Total Paving	0	0	0.00%
Total Sewer Construction	0	0	0.00%
Total Sewer Assessment Fee	0	0	0.00%
Total Utility construction	0	0	0.00%
Total Offsite Construction	459,000	3,210	20.36%
Total Architect/Engineer	8,407	59	0.37%
Total Legal & Closing	9,617	67	0.43%
Total Tax & Insurance	54,000	378	2.40%
Total Interest/Financing	40,566	284	1.80%
Total Marketing & Promo	135,277	946	6.00%
Total Developer's Overhead	22,546	158	1.00%
TOTAL COSTS	729,413	5,101	32.35%
Total Developer's Profit	338,192	2,365	15.00%
Residual Land Value	428,249	2,995	18.99%
Totals	1,495,854	10,461	66.35%

DISCOUNTED CASH FLOW- Land Residual - Parcel 3 Page 1

Year	1	2	3	4	5	6	7
	---	---	---	---	---	---	---
% Onsites Completed	0%	0%	0%	0%	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%	0%	0%	0%	0%
Units Completed (Land)	0	0	0	0	6	170	75
Cumulative Completed	0	0	0	0	6	170	75
Total Closed	0	0	0	0	6	176	251
Cumulative Closed	0	0	0	0	0	0	0
Current Inventory	0	0	0	0	0	0	0
Ave Price/Unit-Land	\$11,722	\$12,191	\$12,679	\$13,186	\$13,713	\$14,262	\$14,832
Sales Income	0	0	0	0	82,280	2,424,519	1,112,426
Loan Draw	19,513	21,731	24,196	26,936	500,967	223,358	78,929
	-----	-----	-----	-----	-----	-----	-----
Total Revenue	19,513	21,731	24,196	26,936	583,247	2,647,876	1,191,356
Development Costs							
Offsite Costs-							
Grading	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Blasting	0	0	0	0	0	0	0
Sewers	0	0	0	0	0	0	0
Paving	0	0	0	0	0	0	0
Utilities	0	0	0	0	466,000	0	0
Total Offsites	0	0	0	0			
Onsite Costs-							
Base unit	0	0	0	0	0	0	0
Appliances/options	0	0	0	0	0	0	0
Garage	0	0	0	0	0	0	0
Clubhouse & amenities	0	0	0	0	0	0	0
Soft Costs:							
Architect/Engineering	1,793	1,865	1,939	2,017	2,097	2,181	2,269
Legal & Closing	0	0	0	0	351	10,342	4,745
Taxes -Finished lots	0	0	0	0	17	17	0
Taxes- Acreage	12,550	12,550	12,550	12,550	12,233	3,733	0
Promotion	0	0	0	0	0	0	0
Marketing/Commissions	0	0	0	0	4,937	145,471	66,746
Interest/Finance Charges	0	2,146	4,537	7,198	10,161	56,443	0
Sewer Assessment	0	0	0	0	0	0	0
Developer's Overhead	5,170	5,170	5,170	5,170	5,170	5,170	5,170
	-----	-----	-----	-----	-----	-----	-----
Total Costs	19,513	21,731	24,196	26,936	500,967	223,358	78,929
Loan Draw	19,513	21,731	24,196	26,936	500,967	223,358	78,929
Loan Repayment	0	0	0	0	80,223	736,478	78,929
Loan Balance	19,513	41,245	65,441	92,376	513,120	0	0
Cash Flow	0	0	0	0	2,057	1,688,041	1,033,497
Less Developer's Profit	0	0	0	0	0	542,884	0
Cash Flow to Property	0	0	0	0	2,057	1,145,157	1,033,497
Cumulative CF	0	0	0	0	2,057	1,147,214	2,180,711
Disc Cash Flow	0	0	0	0	1,167	580,172	467,502
Cumulative DCF	0	0	0	0	1,167	581,340	1,048,841

Appendix 4.12

SUMMARY OF VALUES AND DEVELOPMENT COSTS Parcel 3 (Land Residual)

VALUE SUMMARY

Present Worth of Cash Flow to Equity	\$1,048,841
Original Loan Balance	0
Less Outstanding Loan Balance	0
Less Required Dev Profit Accrued	0
Total Estimated Residual Land Value	1,048,841
Residual Land Value/Unit	4,179
Residual Value/Gross Acre	49,632
Residual Value/SF Land	\$1.14

COST SUMMARY:

	Total	Per Lot	Percent of Sellout
Gross Sellout	\$3,619,225	\$14,419	100.00%
Total Onsites	0	0	0.00%
Total Grading	0	0	0.00%
Total Blasting	0	0	0.00%
Total Paving	0	0	0.00%
Total Sewer Construction	0	0	0.00%
Total Sewer Assessment Fee	0	0	0.00%
Total Utility construction	0	0	0.00%
Total Offsite Construction	466,000	1,857	12.88%
Total Architect/Engineer	14,161	56	0.39%
Total Legal & Closing	15,437	62	0.43%
Total Tax & Insurance	66,200	264	1.83%
Total Interest/Financing	80,486	321	2.22%
Total Marketing & Promo	217,154	865	6.00%
Total Developer's Overhead	36,192	144	1.00%
TOTAL COSTS	895,630	3,568	24.75%
Total Developer's Profit	542,884	2,163	15.00%
Residual Land Value	1,048,841	4,179	28.98%
Totals	2,487,355	9,910	68.72%

DISCOUNTED CASH FLOW- Land Residual - Parcel 4 Page 1

Year	1	2	3	4	5	6	7
% Onsites Completed	0%	0%	0%	0%	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%	0%	0%	0%	0%
Units Completed (Land)	0	0	0	0	0	0	8
Cumulative Completed	0	0	0	0	0	0	8
Total Closed	0	0	0	0	0	0	8
Cumulative Closed	0	0	0	0	0	0	0
Current Inventory	0	0	0	0	0	0	0
Ave Price/Unit-Land	\$11,722	\$12,191	\$12,679	\$13,186	\$13,713	\$14,262	\$14,832
Sales Income	0	0	0	0	0	0	118,659
Loan Draw	8,605	9,580	10,663	11,867	13,204	14,690	73,566
Total Revenue	8,605	9,580	10,663	11,867	13,204	14,690	192,225
Development Costs							
Offsite Costs-							
Grading	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Blasting	0	0	0	0	0	0	0
Sewers	0	0	0	0	0	0	0
Paving	0	0	0	0	0	0	0
Utilities	0	0	0	0	0	0	50,000
Total Offsites	0	0	0	0	0	0	0
Onsite Costs-							
Base unit	0	0	0	0	0	0	0
Appliances/options	0	0	0	0	0	0	0
Garage	0	0	0	0	0	0	0
Clubhouse & amenities	0	0	0	0	0	0	0
Soft Costs:							
Architect/Engineering	713	741	771	801	834	867	902
Legal & Closing	0	0	0	0	0	0	506
Taxes - Finished lots	0	0	0	0	0	0	5
Taxes- Acreage	5,700	5,700	5,700	5,700	5,700	5,700	5,295
Promotion	0	0	0	0	0	0	0
Marketing/Commissions	0	0	0	0	0	0	7,120
Interest/Finance Charges	0	947	2,000	3,173	4,479	5,931	7,547
Sewer Assessment	0	0	0	0	0	0	0
Developer's Overhead	2,192	2,192	2,192	2,192	2,192	2,192	2,192
Total Costs	8,605	9,580	10,663	11,867	13,204	14,690	73,566
Loan Draw	8,605	9,580	10,663	11,867	13,204	14,690	73,566
Loan Repayment	0	0	0	0	0	0	115,692
Loan Balance	8,605	18,184	28,848	40,715	53,919	68,609	26,483
Cash Flow	0	0	0	0	0	0	2,966
Less Developer's Profit	0	0	0	0	0	0	0
Cash Flow to Property	0	0	0	0	0	0	2,966
Cumulative CF	0	0	0	0	0	0	1,342
Disc Cash Flow	0	0	0	0	0	0	1,342
Cumulative DCF	0	0	0	0	0	0	0

Appendix 4.14

DISCOUNTED CASH FLOW- Land Residual - Parcel 4 Page 2

Year	8	9
% Onsites Completed	0%	0%
Cumulative % Onsites Comp	0%	0%
Units Completed (Land)	106	0
Cumulative Completed	114	114
Total Closed	106	0
Cumulative Closed	114	114
Current Inventory	0	0
Ave Price/Unit-Land	\$15,426	\$16,043
Sales Income	1,635,118	0
Loan Draw	767,125	0
Total Revenue	2,402,243	0
Development Costs		
Offsite Costs-		
Grading	\$0	\$0
Blasting	0	0
Sewers	0	0
Paving	0	0
Utilities	0	0
Total Offsites	656,000	0
Onsite Costs-		
Base unit	0	0
Appliances/options	0	0
Garage	0	0
Clubhouse & amenities	0	0
Soft Costs:		
Architect/Engineering	938	0
Legal & Closing	6,974	0
Taxes - Finished lots	0	0
Taxes- Acreage	0	0
Promotion	0	0
Marketing/Commissions	98,107	0
Interest/Finance Charges	2,913	0
Sewer Assessment	0	0
Developer's Overhead	2,192	0
Total Costs	767,125	0
Loan Draw	767,125	0
Loan Repayment	793,608	0
Loan Balance	0	0
Cash Flow	841,511	0
Less Developer's Profit	263,067	0
Cash Flow to Property	578,444	0
Cumulative CF	581,411	581,411
Disc Cash Flow	233,624	0
Cumulative DCF	234,966	234,966

SUMMARY OF VALUES AND DEVELOPMENT COSTS Parcel 4 (Land Residual)

VALUE SUMMARY

Present Worth of Cash Flow to Equity	\$234,966
Original Loan Balance	0
Less Outstanding Loan Balance	0
Less Required Dev Profit Accrued	(0)
Total Estimated Residual Land Value	234,966
Residual Land Value/Unit	2,061
Residual Value/Gross Acre	11,119
Residual Value/SF Land	\$0.26

COST SUMMARY:

	Total	Per Lot	Percent of Sellout
	-----	-----	-----
Gross Sellout	\$1,753,777	\$15,384	100.00%
Total Onsites	0	0	0.00%
Total Grading	0	0	0.00%
Total Blasting	0	0	0.00%
Total Paving	0	0	0.00%
Total Sewer Construction	0	0	0.00%
Total Sewer Assessment Fee	0	0	0.00%
Total Utility construction	0	0	0.00%
Total Offsite Construction	706,000	6,193	40.26%
Total Architect/Engineer	6,565	58	0.37%
Total Legal & Closing	7,481	66	0.43%
Total Tax & Insurance	39,500	346	2.25%
Total Interest/Financing	26,990	237	1.54%
Total Marketing & Promo	105,227	923	6.00%
Total Developer's Overhead	17,538	154	1.00%
	-----	-----	-----
TOTAL COSTS	909,300	7,976	51.85%
Total Developer's Profit	263,067	2,308	15.00%
Residual Land Value	234,966	2,061	13.40%
Totals	1,407,332	12,345	80.25%

DISCOUNTED CASH FLOW- Land Residual - Parcel 5 Page 1

Year	1	2	3	4	5	6	7
% Onsites Completed	0%	0%	0%	0%	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%	0%	0%	0%	87
Units Completed (Land)	0	0	0	0	0	0	87
Cumulative Completed	0	0	0	0	0	0	87
Total Closed	0	0	0	0	0	0	87
Cumulative Closed	0	0	0	0	0	0	0
Current Inventory	0	0	0	0	0	0	0
Ave Price/Unit-Land	\$11,722	\$12,191	\$12,679	\$13,186	\$13,713	\$14,262	\$14,832
Sales Income	0	0	0	0	0	0	1,290,415
Loan Draw	6,815	7,589	8,450	9,406	10,469	11,650	504,541
Total Revenue	6,815	7,589	8,450	9,406	10,469	11,650	1,794,955
Development Costs							
Offsite Costs-							
Grading	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Blasting	0	0	0	0	0	0	0
Sewers	0	0	0	0	0	0	0
Paving	0	0	0	0	0	0	0
Utilities	0	0	0	0	0	0	413,000
Total Offsites	0	0	0	0	0	0	
Onsite Costs-							
Base unit	0	0	0	0	0	0	0
Appliances/options	0	0	0	0	0	0	0
Garage	0	0	0	0	0	0	0
Clubhouse & amenities	0	0	0	0	0	0	0
Soft Costs:							
Architect/Engineering	621	646	672	699	727	756	786
Legal & Closing	0	0	0	0	0	0	5,504
Taxes - Finished lots	0	0	0	0	0	0	0
Taxes- Acreage	4,350	4,350	4,350	4,350	4,350	4,350	0
Promotion	0	0	0	0	0	0	77,425
Marketing/Commissions	0	0	0	0	0	0	5,982
Interest/Finance Charges	0	750	1,584	2,514	3,549	4,700	0
Sewer Assessment	0	0	0	0	0	0	1,843
Developer's Overhead	1,843	1,843	1,843	1,843	1,843	1,843	1,843
Total Costs	6,815	7,589	8,450	9,406	10,469	11,650	504,541
Loan Draw	6,815	7,589	8,450	9,406	10,469	11,650	504,541
Loan Repayment	0	0	0	0	0	0	558,920
Loan Balance	6,815	14,404	22,854	32,261	42,730	54,380	0
Cash Flow	0	0	0	0	0	0	731,496
Less Developer's Profit	0	0	0	0	0	0	193,562
Cash Flow to Property	0	0	0	0	0	0	537,932
Cumulative CF	0	0	0	0	0	0	537,932
Disc Cash Flow	0	0	0	0	0	0	243,333
Cumulative DCF	0	0	0	0	0	0	243,333

Appendix 4.17

SUMMARY OF VALUES AND DEVELOPMENT COSTS Parcel 5 (Land Residual)

VALUE SUMMARY

Present Worth of Cash Flow to Equity	\$243,333
Original Loan Balance	0
Less Outstanding Loan Balance	0
Less Required Dev Profit Accrued	(0)
Total Estimated Residual Land Value	243,333
Residual Land Value/Unit	2,797
Residual Value/Gross Acre	11,515
Residual Value/SF Land	\$0.26

COST SUMMARY:

	Total	Per Lot	Percent of Sellout
	-----	-----	-----
Gross Sellout	\$1,290,415	\$16,832	100.00%
Total Onsites	0	0	0.00%
Total Grading	0	0	0.00%
Total Blasting	0	0	0.00%
Total Paving	0	0	0.00%
Total Sewer Construction	0	0	0.00%
Total Sewer Assessment Fee	0	0	0.00%
Total Utility construction	0	0	0.00%
Total Offsite Construction	413,000	4,747	32.01%
Total Architect/Engineer	4,905	56	0.36%
Total Legal & Closing	5,504	63	0.43%
Total Tax & Insurance	26,100	300	2.02%
Total Interest/Financing	19,079	219	1.46%
Total Marketing & Promo	77,425	890	6.00%
Total Developer's Overhead	12,904	148	1.00%
	-----	-----	-----
TOTAL COSTS	558,920	6,424	43.31%
Total Developer's Profit	193,562	2,225	15.00%
Residual Land Value	243,333	2,797	18.86%
Totals	995,816	11,446	77.17%

DISCOUNTED CASH FLOW- Land Residual - Parcel 16 Page 1

Year	1	2	3	4	5	6	7
% Onsites Completed	0%	0%	0%	0%	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%	0%	0%	0%	0%
Units Completed (Land)	0	0	0	0	110	0	0
Cumulative Completed	0	0	0	0	110	110	110
Total Closed	0	0	0	0	110	110	110
Cumulative Closed	0	0	0	0	0	0	0
Current Inventory	0	0	0	0	0	0	0
Ave Price/Unit-Land	\$11,722	\$12,191	\$12,679	\$13,186	\$13,713	\$14,262	\$14,832
Sales Income	0	0	0	0	1,508,468	0	0
Loan Draw	9,617	10,719	11,944	13,305	822,260	0	0
Total Revenue	9,617	10,719	11,944	13,305	2,330,728	0	0
Development Costs							
Offsite Costs-							
Grading	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Blasting	0	0	0	0	0	0	0
Sewers	0	0	0	0	0	0	0
Paving	0	0	0	0	0	0	0
Utilities	0	0	0	0	716,000	0	0
Total Offsites	0	0	0	0	716,000	0	0
Onsite Costs-							
Base unit	0	0	0	0	0	0	0
Appliances/options	0	0	0	0	0	0	0
Garage	0	0	0	0	0	0	0
Clubhouse & amenities	0	0	0	0	0	0	0
Soft Costs:							
Architect/Engineering	1,100	1,144	1,190	1,237	1,287	0	0
Legal & Closing	0	0	0	0	6,434	0	0
Taxes -Finished lots	0	0	0	0	0	0	0
Taxes- Acreage	5,500	5,500	5,500	5,500	0	0	0
Promotion	0	0	0	0	90,508	0	0
Marketing/Commissions	0	0	0	0	5,014	0	0
Interest/Finance Charges	0	1,058	2,237	3,551	0	0	0
Sewer Assessment	0	0	0	0	0	0	0
Developer's Overhead	3,017	3,017	3,017	3,017	3,017	0	0
Total Costs	9,617	10,719	11,944	13,305	822,260	0	0
Loan Draw	9,617	10,719	11,944	13,305	822,260	0	0
Loan Repayment	0	0	0	0	867,845	0	0
Loan Balance	9,617	20,336	32,279	45,584	0	0	0
Cash Flow	0	0	0	0	640,623	0	0
Less Developer's Profit	0	0	0	0	226,270	0	0
Cash Flow to Property	0	0	0	0	414,353	0	0
Cumulative CF	0	0	0	0	414,353	414,353	414,353
Disc Cash Flow	0	0	0	0	235,115	0	0
Cumulative DCF	0	0	0	0	235,115	235,115	235,115

SUMMARY OF VALUES AND DEVELOPMENT COSTS Parcel 16 (Land Residual)

VALUE SUMMARY

Present Worth of Cash Flow to Equity	\$235,115
Original Loan Balance	0
Less Outstanding Loan Balance	0
Less Required Dev Profit Accrued	(0)
Total Estimated Residual Land Value	235,115
Residual Land Value/Unit	2,137
Residual Value/Gross Acre	11,126
Residual Value/SF Land	\$0.26

COST SUMMARY:

	Total	Per Lot	Percent of Sellout
Gross Sellout	\$1,508,468	\$13,713	100.00%
Total Onsites	0	0	0.00%
Total Grading	0	0	0.00%
Total Blasting	0	0	0.00%
Total Paving	0	0	0.00%
Total Sewer Construction	0	0	0.00%
Total Sewer Assessment Fee	0	0	0.00%
Total Utility construction	0	0	0.00%
Total Offsite Construction	716,000	6,509	47.47%
Total Architect/Engineer	5,958	54	0.39%
Total Legal & Closing	6,434	58	0.43%
Total Tax & Insurance	22,000	200	1.46%
Total Interest/Financing	11,860	108	0.79%
Total Marketing & Promo	90,508	823	6.00%
Total Developer's Overhead	15,085	137	1.00%
TOTAL COSTS	867,845	7,889	57.53%
Total Developer's Profit	226,270	2,057	15.00%
Residual Land Value	235,115	2,137	15.59%
Totals	1,329,230	12,084	88.12%

DISCOUNTED CASH FLOW- Land Residual - Parcel 17 Page 1

Year	1	2	3	4	5
% Onsites Completed	0%	0%	0%	0%	0%
Cumulative % Onsites Comp	0%	0%	0%	0%	0%
Units Completed (Land)	0	0	170	170	53
Cumulative Completed	0	0	170	170	53
Total Closed	0	0	170	340	393
Cumulative Closed	0	0	0	0	0
Current Inventory	0	0	0	0	0
Ave Price/Unit-Land	\$11,722	\$12,191	\$12,679	\$13,186	\$13,713
Sales Income	0	0	2,155,388	2,241,604	726,807
Loan Draw	33,828	37,706	1,235,034	161,376	61,554
Total Revenue	33,828	37,706	3,390,422	2,402,980	788,361
Development Costs					
Offsite Costs-					
Grading	\$0	\$0	\$0	\$0	\$0
Blasting	0	0	0	0	0
Sewers	0	0	0	0	0
Paving	0	0	0	0	0
Utilities	0	0	0	0	0
Total Offsites	0	0	1,063,000	0	0
Onsite Costs-					
Base unit	0	0	0	0	0
Appliances/options	0	0	0	0	0
Garage	0	0	0	0	0
Clubhouse & amenities	0	0	0	0	0
Soft Costs:					
Architect/Engineering	3,930	4,087	4,251	4,421	4,598
Legal & Closing	0	0	9,194	9,561	3,100
Taxes -Finished lots	0	0	0	0	0
Taxes- Acreage	19,650	19,650	11,150	2,650	0
Promotion	0	0	0	0	0
Marketing/Commissions	0	0	129,323	134,496	43,608
Interest/Finance Charges	0	3,721	7,869	0	0
Sewer Assessment	0	0	0	0	0
Developer's Overhead	10,248	10,248	10,248	10,248	10,248
Total Costs	33,828	37,706	1,235,034	161,376	61,554
Loan Draw	33,828	37,706	1,235,034	161,376	61,554
Loan Repayment	0	0	1,306,567	161,376	61,554
Loan Balance	33,828	71,533	0	0	0
Cash Flow	0	0	848,821	2,080,228	665,253
Less Developer's Profit	0	0	768,570	0	0
Cash Flow to Property	0	0	80,251	2,080,228	665,253
Cumulative CF	0	0	80,251	2,160,479	2,825,733
Disc Cash Flow	0	0	57,121	1,322,023	377,483
Cumulative DCF	0	0	57,121	1,379,144	1,756,626

Appendix 4.21

SUMMARY OF VALUES AND DEVELOPMENT COSTS Parcel 17 (Land Residual)

VALUE SUMMARY

Present Worth of Cash Flow to Equity	\$1,756,626
Original Loan Balance	0
Less Outstanding Loan Balance	0
Less Required Dev Profit Accrued	(0)
Total Estimated Residual Land Value	1,756,626
Residual Land Value/Unit	4,470
Residual Value/Gross Acre	83,124
Residual Value/SF Land	\$1.91

COST SUMMARY:

	Total	Per Lot	Percent of Sellout
Gross Sellout	\$5,123,800	\$13,038	100.00%
Total Onsites	0	0	0.00%
Total Grading	0	0	0.00%
Total Blasting	0	0	0.00%
Total Paving	0	0	0.00%
Total Sewer Construction	0	0	0.00%
Total Sewer Assessment Fee	0	0	0.00%
Total Utility construction	0	0	0.00%
Total Offsite Construction	1,063,000	2,705	20.75%
Total Architect/Engineer	21,286	54	0.42%
Total Legal & Closing	21,855	56	0.43%
Total Tax & Insurance	53,100	135	1.04%
Total Interest/Financing	11,590	29	0.23%
Total Marketing & Promo	307,428	782	6.00%
Total Developer's Overhead	51,238	130	1.00%
TOTAL COSTS	1,529,497	3,892	29.85%
Total Developer's Profit	768,570	1,956	15.00%
Residual Land Value	1,756,626	4,470	34.28%
Totals	4,054,693	10,317	79.13%

CITY OF ALBUQUERQUE
ALBUQUERQUE, NEW MEXICO

INTER-OFFICE CORRESPONDENCE

January 9, 1991

REF. NO. _____

TO: Michael Brasher, President, City Council
FROM: Louis E. Saavedra, Mayor *LSaavedra*
SUBJECT: SPECIAL ASSESSMENT DISTRICT NO. 223 - RESOLUTION NO. 1 (CITY COUNCIL DISTRICT #1)

Submitted herewith for your consideration and that of the City Council is Resolution No. 1 for Special Assessment District No. 223. Resolution No. 1 directs the engineering consultant, Easterling & Associates, Inc. to prepare preliminary plans, an engineer's estimate of costs, maximum benefit roll, report on method used in determining benefits, and an assessment plat.

Special Assessment District No. 223, as proposed, will consist of needed infrastructure improvements to four streets and Cottonwood Mall in the Seven Bar Ranch Sector Plan Development area of Albuquerque's West Mesa. The streets being improved are Coors Bypass, Seven Bar Loop Rd., Ellison Dr., and Cottonwood Dr.

Partial funding of the District was approved by the City Council in R-192 in the following amounts:

	ACCOUNT No.	AMOUNT
Street Bond	7360580	\$866,240
Storm Bond	7361240	\$229,301

This resolution is forwarded to the City Council for Introduction on January 23, 1991.

RECOMMENDED BY:

REVIEWED BY:

Robert E. Gurule
Robert E. Gurule, Director
Public Works Department

Victoria Sedillo Perea
Victoria Sedillo Perea
CIP Official

RECOMMENDED BY:

REVIEWED BY THE LEGAL DEPARTMENT:

Arthur A. Blumenfeld
Arthur A. Blumenfeld
Chief Administrative Officer

Malcolm W. deVest
Malcolm W. deVest
Assistant City Attorney

LL
LL/tel/WP+125392

CONSTRUCTION PLANS FOR CITY OF ALBUQUERQUE



SAD NO. 223 - PART 4

NEW INFRASTRUCTURE IMPROVEMENTS FOR ELLISON DRIVE,
SEVEN BAR LOOP ROAD AND COTTONWOOD DRIVE

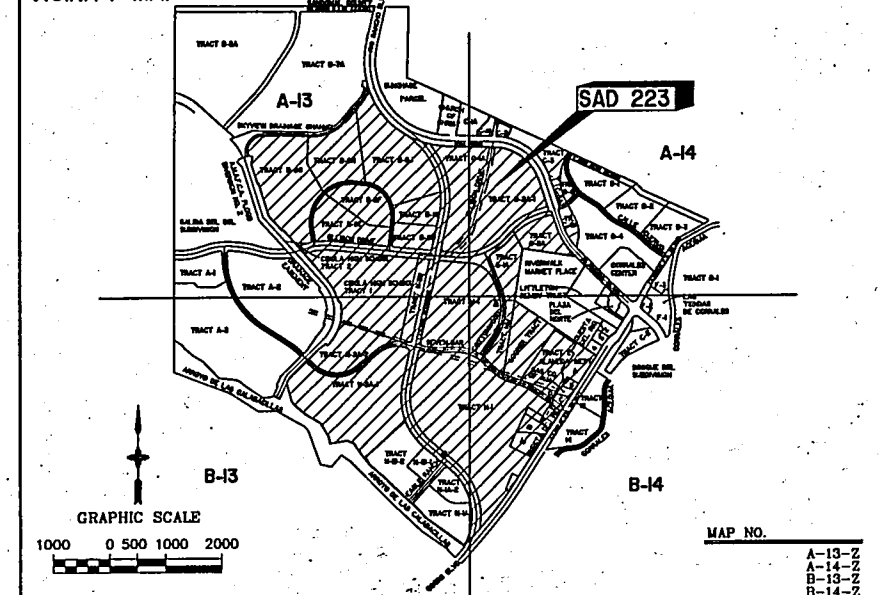
GENERAL NOTES

- ALL WORK DETAILED ON THESE PLANS, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1986 EDITION - AS AMENDED THROUGH UPDATE NO. 4.
- TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT ONE CALL SYSTEM, INC. 260-1990, FOR LOCATION OF EXISTING UTILITIES. CONTRACT NEW MEXICO UTILITY INC. FOR WATER AND SEWER LOCATION. CONTRACTOR SHALL COORDINATE ALL UTILITY WORK INCLUDING CUT OFF OF EXISTING UTILITIES FOR NEW CONNECTIONS (FIRE PROTECTION, DOMESTIC WATER, SEWER, STORM DRAIN, GAS PIPING, ETC.) WITH ENGINEER, OWNER, AND LOCAL UTILITY REPRESENTATIVES.
- THESE DRAWINGS REFLECT INFORMATION ON UTILITIES GATHERED BY SITE INSPECTION, DISCUSSIONS WITH MUNICIPAL OFFICIALS, AND PREVIOUS CONSTRUCTION DRAWINGS. IT IS POSSIBLE THAT THE EXACT LOCATION OF LINES AND UTILITY CONNECTION POINTS IN THE VICINITY OF THE REQUIRED WORK MAY BE DIFFERENT FROM THE LOCATION SHOWN ON THESE DRAWINGS. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- ALL GAS, ELECTRIC, TELEPHONE LINES, CABLES, AND APPURTENANCES ENCOUNTERED DURING CONSTRUCTION THAT REQUIRE RELOCATION SHALL BE RELOCATED BY THE RESPECTIVE UTILITY. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL NECESSARY UTILITY ADJUSTMENTS.
- IT WILL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT AND MAINTAIN IN SERVICE ALL EXISTING UTILITIES.
- 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. THESE DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY WHICH SHALL REMAIN THE CONTRACTOR'S RESPONSIBILITY.
- ALL EXCAVATION/CONSTRUCTION PERMITS WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY. AN APPROVED COPY OF THESE PLANS MUST BE SUBMITTED AT THE TIME OF APPLICATION FOR PERMITS.
- THE CONTRACTOR SHALL EXERCISE REASONABLE CARE DURING CONSTRUCTION TO PREVENT THE MOVEMENT OF SEDIMENT FROM THE SITE INTO EXISTING STREETS. LOOSE SOIL STOCKPILES DURING CONSTRUCTION ACTIVITIES SHALL BE PROMPTLY CLEANED UP OR PROTECTED FROM BEING CARRIED DOWNSTREAM BY FLOWING WATER.
- DISPOSAL OF ALL WASTE MATERIAL SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AS SPECIFIED IN SECTION 6.14 OF THE GENERAL CONDITIONS IN THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION - 1986 EDITION, AS AMENDED THROUGH UPDATE NO. 4.
- A DISPOSAL SITE FOR ALL EXCESS EXCAVATION MATERIAL, ASPHALTIC PAVING, CONCRETE CURBS AND SIDEWALKS, ETC., SHALL BE OBTAINED BY THE CONTRACTOR IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL REGULATIONS AND APPROVED BY THE FIELD ENGINEER. ALL COSTS INCURRED IN OBTAINING A DISPOSAL SITE AND Haul THERE TO SHALL BE CONSIDERED INCIDENTAL TO THE PROJECT AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.
- THE CONTRACTOR WILL BE REQUIRED TO CONFINE HIS WORK WITHIN THE CONSTRUCTION LIMITS AND/OR PUBLIC RIGHT-OF-WAY TO PRESERVE EXISTING VEGETATION AND PRIVATE PROPERTY. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL WITHIN THE RIGHT-OF-WAY UNLESS THE EQUIPMENT OR MATERIAL IS PROPERLY SHIELDED UTILIZING CURRENT SAFETY DESIGN AND INSTALLATION METHODS. THE SAFETY DESIGN FOR THIS SHIELDING SHALL BE PROVIDED BY THE CONTRACTOR AND MUST BE APPROVED BY THE ENGINEER BEFORE IMPLEMENTING. THERE WILL BE NO DIRECT MEASUREMENT OR PAYMENT FOR THE DESIGN, MATERIALS, INSTALLATION, AND REMOVAL OF THE SAFETY BARRIER.
- CONTRACTOR SHALL MAINTAIN ACCESS TO ADJACENT PROPERTIES DURING CONSTRUCTION. REFER TO SECTION 19 OF THE SPECIFICATIONS.
- CONTRACTOR SHALL COORDINATE WITH NEW MEXICO UTILITIES, INC., A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO IMPLEMENTING THE PROPOSED WATER VALVE SHUT-OFF AND PRIOR TO INITIATING ANY WORK AFFECTING ANY EXISTING PUBLIC OR PRIVATE UTILITY.
- WHEN ADJUTING NEW PAVEMENT TO EXISTING, SAWCUT EXISTING PAVEMENT TO A STRAIGHT EDGE AND AT A RIGHT ANGLE, OR AS APPROVED BY THE PROJECT ENGINEER, TO REMOVE ANY BROKEN OR CRACKED PAVEMENT. ALL SAWCUT PAVEMENT SHALL BE SPRAYED WITH TACK COAT PRIOR TO INSTALLATION OF ADJOINING ASPHALT PAVEMENT.
- A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT A DETAILED CONSTRUCTION SCHEDULE AND A CONSTRUCTION SIGNING AND BARRICADE PLAN TO CONSTRUCTION COORDINATION. TWO (2) WORKING DAYS PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN A BARRICADE PERMIT FROM THE TRAFFIC ENGINEERING DIVISION. CONTRACTOR SHALL NOTIFY BARRICADE ENGINEER (768-2551) PRIOR TO OCCUPYING AN INTERSECTION. REFER TO SECTION 19 OF THE SPECIFICATIONS.
- THE CONTRACTOR SHALL PLACE THE PERMANENT PAVEMENT MARKINGS AS SHOWN ON THE DRAWING.
- THIS DOCUMENT, AND THE IDEAS AND DESIGNS INCORPORATED HEREIN, ARE INTENDED FOR USE ON THIS PROJECT AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT THE WRITTEN AUTHORIZATION OF EASTERLING & ASSOCIATES, INC. IN THE EVENT OF UNAUTHORIZED USE, THE USER ASSUMES ALL RESPONSIBILITY AND LIABILITY WHICH RESULTS.
- CONTRACTOR SHALL NOTIFY THE ENGINEER NOT LESS THAN SEVEN (7) DAYS PRIOR TO STARTING WORK IN ORDER THAT THE ENGINEER MAY TAKE NECESSARY MEASURES TO INSURE THE PRESERVATION OF SURVEY MONUMENTS. CONTRACTOR SHALL NOT DISTURB PERMANENT SURVEY MONUMENTS WITHOUT THE CONSENT OF THE ENGINEER AND SHALL NOTIFY THE ENGINEER AND BEAR THE EXPENSE OF REPLACING ANY THAT MAY BE DISTURBED WITHOUT PERMISSION. REPLACEMENT SHALL BE DONE ONLY BY THE ENGINEER. WHEN A CHANGE IS MADE IN THE FINISHED ELEVATION OF THE PAVEMENT OR ANY ROADWAY IN WHICH A PERMANENT SURVEY MONUMENT IS LOCATED, CONTRACTOR SHALL, AT HIS OWN EXPENSE, ADJUST THE MONUMENT COVER TO THE NEW GRADE UNLESS OTHERWISE SPECIFIED. REFER TO SECTION 44 OF THE SPECIFICATIONS.
- ANY EXCAVATION WORK IN THE AREA OF ALL HIGH PRESSURE GAS LINES SHALL REQUIRE THE PRESENCE OF A GAS COMPANY OF NEW MEXICO REPRESENTATIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE GAS COMPANY OF NEW MEXICO REPRESENTATIVE, ERNANO GURILE, AT 345-1677, EMERGENCY NUMBER 345-6058.
- MANHOLE STEPS WILL BE INSTALLED IN ALL STORM DRAIN MANHOLES AND JUNCTION BOXES AND CATCH BASINS. THIS WORK SHALL BE CONSIDERED INCIDENTAL TO OTHER CONTRACT ITEMS AND NO SEPARATE MEASUREMENT OR PAYMENT SHALL BE MADE.
- ALL CONFLICTING EXISTING STRIPING SHALL BE REMOVED BY EITHER GRINDING OR WITH APPROVED CHEMICAL PROCEDURES.
- ALL AREAS DISTURBED BY CONTRACTORS WORK SHALL BE REVEGETATED IN ACCORDANCE WITH SUPPLEMENTAL TECHNICAL SPECIFICATION 1012.
- ALL UTILITIES AND UTILITY SERVICE LINES SHALL BE INSTALLED PRIOR TO PAVING.
- BACKFILL, COMPACTION AND PAVING SHALL BE ACCORDING TO C.O.A. STD. DWG. 2465.
- TACK COAT REQUIREMENTS SHALL BE DETERMINED BY THE FIELD ENGINEER.
- SIDEWALKS AND WHEELCHAIR RAMPS WITHIN THE CURB RETURNS SHALL BE CONSTRUCTED WHEREVER A NEW CURB RETURN IS CONSTRUCTED.
- IF CURB IS DEEPENED FOR A HANDICAP RAMP, THE RAMP SHALL BE CONSTRUCTED PRIOR TO ACCEPTANCE OF THE CURB AND GUTTER.
- ALL STORM DRAINAGE FACILITIES SHALL BE COMPLETED PRIOR TO FINAL ACCEPTANCE.

ABBREVIATIONS

AC - ASBESTOS CEMENT	DD - DEFLECT DOWN	FO - FIBER OPTIC CABLE	PRC - POINT OF REVERSE CURVATURE	SAS - SANITARY SEWER
ARV - AIR/VACUUM RELEASE VALVE	DIP - DUCTILE IRON PIPE	G - GAS	PRV - PRESSURE RELIEF VALVE	SD - STORM DRAIN
B - BASELINE	DU - DEFLECT UP	HP - HIGH PRESSURE	PT - POINT OF TANGENCY	TC - TOP OF CURB
BCT - BEGIN CROWN TRANSITION	E - EXISTING	I - INSTALL	PUE - PUBLIC UTILITY EASEMENT	T - TELEPHONE
C - CONSTRUCTION	ECT - END CROWN TRANSITION	LP - LIGHT POLE	R/REL - REMOVE & RELOCATE	TL - TRAFFIC LIGHT
CAV - COMBINATION AIR VALVE	ELEV - ELEVATION	MH - MANHOLE	R/RPLC - REMOVE & REPLACE	TP - TOP OF PIPE
CCP - CONCRETE CYLINDER PIPE	F-F - FACE TO FACE	NMU - NEW MEXICO UTILITIES, INC.	PVC - POLY VINYL CHLORIDE	UE - UNDERGROUND ELECTRIC
CI - CAST IRON	F/F - FEET/FOOT	PC - POINT OF CURVATURE	R - REMOVE	VCP - VITRIFIED CLAY PIPE
CL - CENTERLINE	FH - FIRE HYDRANT	PCC - POINT OF COMPOUND CURVATURE	REL - RELOCATE	VER - VERIFY LOCATION
COA - CITY OF ALBUQUERQUE	FL - FLOW LINE	POC - POINT ON CURVE	ROW - RIGHT-OF-WAY	W OR WL - WATERLINE
		PP - POWER POLE		X - CROSSING

VICINITY MAP



SHEET INDEX

SEE SHEET 2 FOR INDEX

UTILITY COMPANY CONTACTS

PNM Tony Machac 4201 Edith Blvd. NE Albuquerque, New Mexico 87107 (505) 848-3426	GAS CO. Tim Cynova 4625 Edith Blvd. NE Albuquerque, New Mexico 87107 (505) 761-7775	US WEST COMMUNICATIONS Mary Ann Jojola 201 Third Street P.O. Box 1355, Ste. 952 Albuquerque, New Mexico 87103 (505) 245-6296
AT&T Ismael Pantoja 11 Third St. NW Albuquerque, New Mexico 87103 (505) 842-2806	JONES INTERCABLE Karen Shore 4611 Montbel Pl. NE P.O. Box 27138 Albuquerque, NM 87125-7138 (505) 761-6220	NEW MEXICO UTILITIES, INC. Bob Gay 4700 Irving NW Albuquerque, New Mexico 87114 (505) 898-2661 (505) 898-6379 Fax

1	17, 23, 28, 39, 50	Billy G. Easterling	3-21-95	See Individual Sheets		
2	2, 20, 24, 24A	Billy G. Easterling	5-16-95	See Individual Sheets	5-23-95	
	30, 45, 92, 113, 114, 116	Billy G. Easterling	5-23-95			
	117					
	16, 17, 18, 21, 22, 23	Billy G. Easterling	9-25-95	See Individual Sheets	9-25-95	
RECORD DRAWING - SAD 223 PARTS 3 & 4 I, R. P. Bohannon, hereby certify that this drawing has been revised in accordance with the information furnished by Albuquerque Underground, Inc. to reflect the construction as actually accomplished. R. P. Bohannon 3/25/97 N.M.P.E. No. 9614						
REV.	SHEETS	CITY ENGINEER	DATE	USER DEPARTMENT	DATE	USER DEPARTMENT

ENGINEERS STAMP & SIGNATURE R. P. BOHANNON REGISTERED PROFESSIONAL ENGINEER N.M.P.E. No. 9614 3/25/97	APPROVALS CITY ENGINEER: Billy G. Easterling 9-9-94 TRANSPORTATION: [Signature] 9-8-94 WATER/WASTEWATER: R. W. Kame 9-9-94 HYDROLOGY: [Signature] 9-8-94 PARKS: [Signature] CONSTR. MGMT.: [Signature]	ENGINEER DATE: 9-9-94	DATE 9-9-94	***** APPROVED FOR CONSTRUCTION [Signature] CITY ENGINEER
CITY PROJECT NO. 4193.94			SHEET 1 OF 120	

[illegible][illegible]

PART 4 - PROJECT NO. 4
(THIS PROJECT)

A-13 A-14

NEW OUTFALL CHANNEL IMPROVEMENTS

NEW STORM DRAIN OUTFALL

NEW INFRASTRUCTURE IMPROVEMENTS FOR ELLISON DRIVE, COTTONWOOD DRIVE, SEVEN BAR LOOP RD. & DETENTION POND

A-13 B-13

A-14 B-14

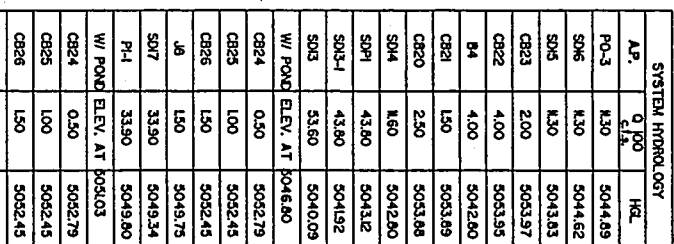
GRAPHIC SCALE

0 500 1000 2000

(IN FEET)
1 inch = 1000 ft.

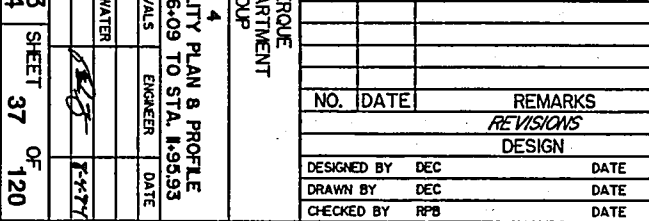
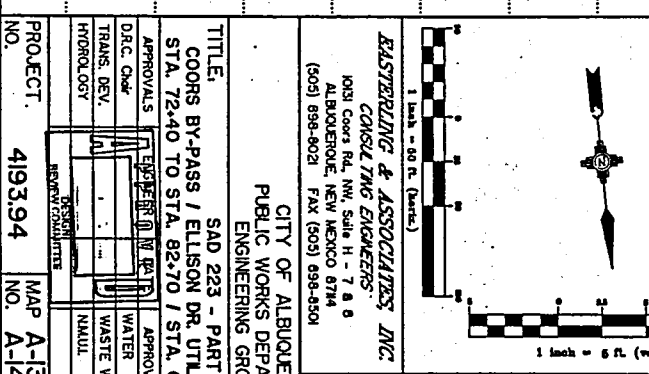
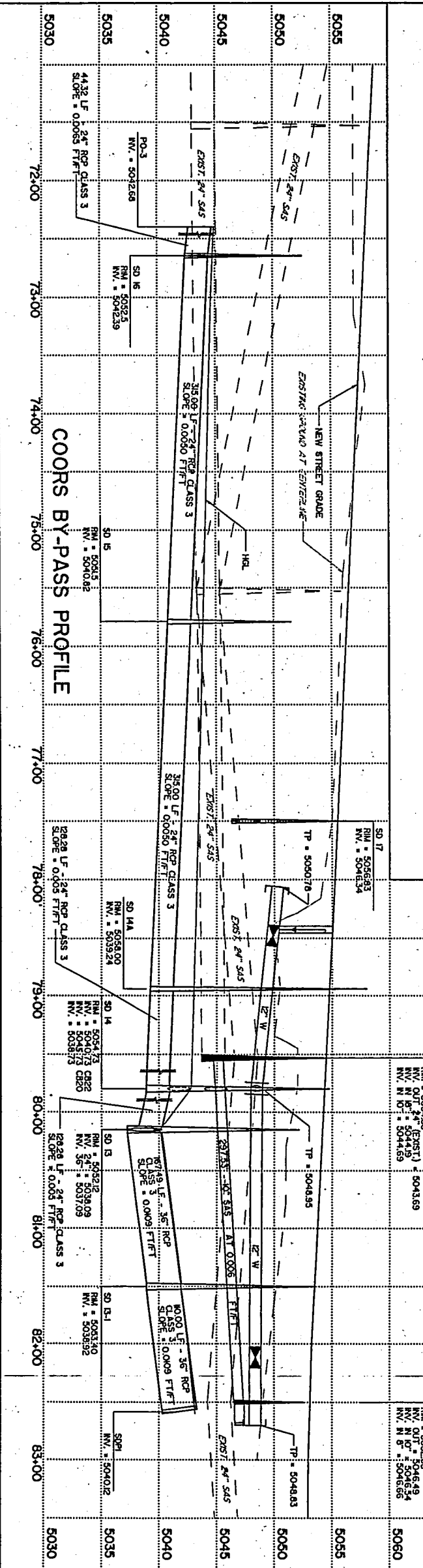
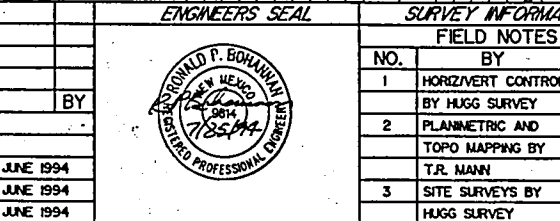
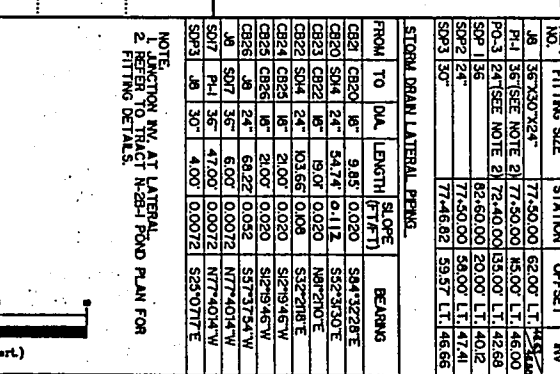
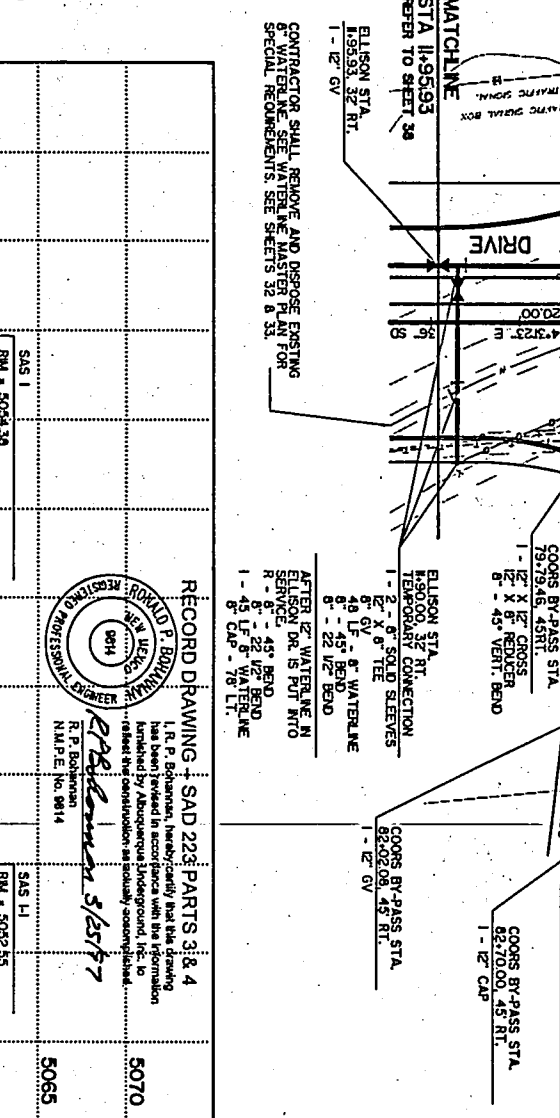
RECORD DRAWING - SAD 2
RONALD P. BOHANNAN
R. P. Bohannan, Inc.
REGISTERED PROFESSIONAL ENGINEER
NEW MEXICO
6014
N.M.P.E. No. 9814

EASTERLING & ASSOCIATES, INC. CONSULTING ENGINEERS 10131 Coors Rd., NW, Suite H - 7 & 8 ALBUQUERQUE, NEW MEXICO 87114 (505) 898-8021 FAX (505) 898-8501				CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP			
TITLE: SAD 223 - PART 4				PROJECT NO. 4193.94			
MASTER PLAN INFORMATION				MAP A13/A14 NO. B13/B14			
APPROVALS D.R.C. Chair TRANS. DEV. HYDROLOGY				ENGINEER'S SEAL		SURVEY INFORMATION FIELD NOTES NO. BY DATE	
APPROVALS D.R.C. Chair TRANS. DEV. HYDROLOGY		APPROVALS WATER WASTE WATER		ENGINEER DATE		BENCH MARKS STATION NAME: NM 448 - N2 BRASS TABLET SET IN A CONCRETE TABLET PROJECTING 0.3 FT. ABOVE GROUND LOCATED 9.30 MILES NORTH OF THE INTERSECTION OF COORS RD. AND CENTRAL AVE. ON THE WEST SIDE OF COORS RD. AT MT. BELL SUB STA. NORTHING: 1528.910.94 EASTING: 380.008.54 ELEVATION: 5023.411	
PROJECT NO. 4193.94		MAP A13/A14 NO. B13/B14		SHEET 3 OF 120		AS BUILT INFORMATION CONTRACTOR STARTED BY DATE FIELD LAYOUT BY DATE VERIFICATION BY DATE CORRECTED BY DATE MICRO-FILM INFORMATION RECORDED BY DATE NO.	

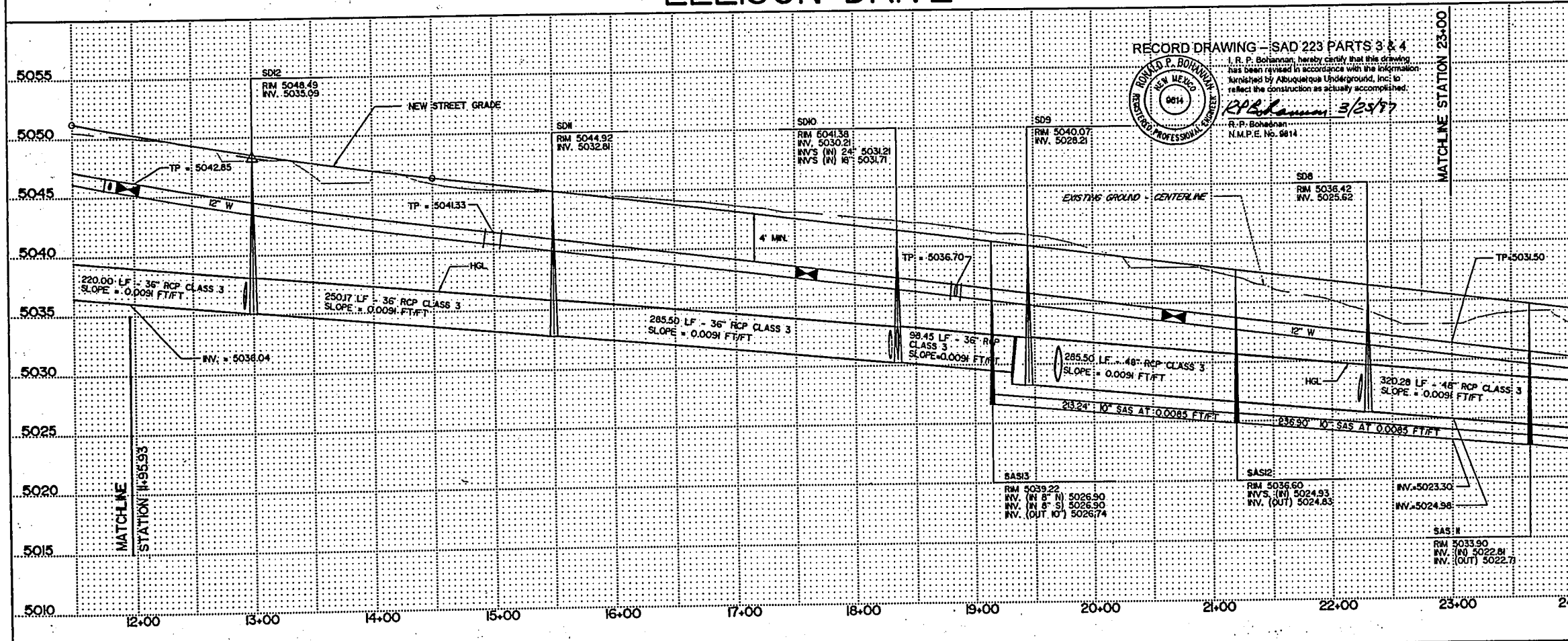
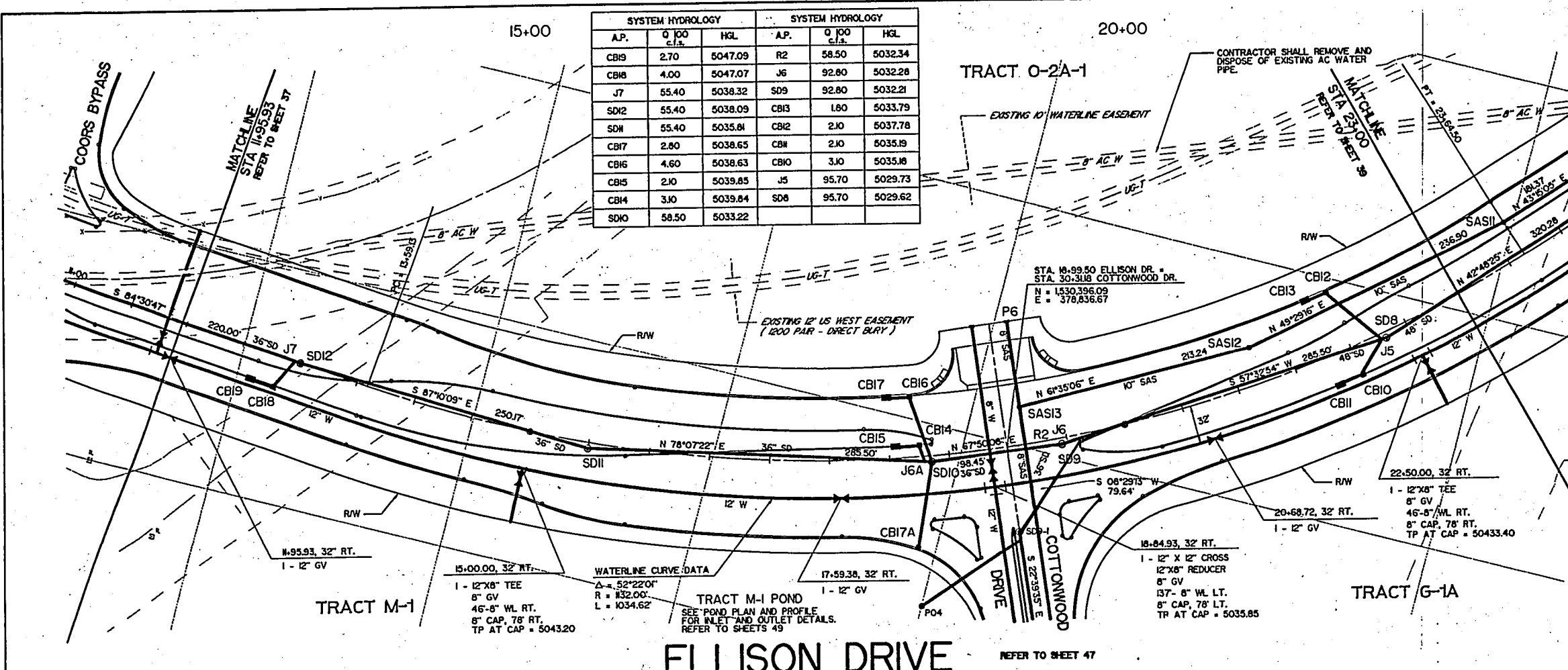


STANDARD TEST PARAMETERS									
REF. NO.	DMA TYPE	STATION	OFFSET	REMARKS					
SAS1 4	E	79.5314	20.00' L.T.	-					
SASH1 4	E	82.50.00		0-					
SAS2 4	E	7.9463	44.00' L.T. ELLISON						
SANTARY SEWER FITTINGS.									
REF. NO.	SIZE / TYPE	STATION	OFFSET	NV					
P 1	10" PLUG	82.40.00		0	46.60				
P 2	6" PLUG	82.30.00	78.00' L.T.	47.13					
P 3	8" PLUG	6.09.53	44.00' L.T.	52.62					
SANTARY SEWER LATERAL PERIN.									
FROM	TO	DMA	LENGTH	SLOPE	BEARING				
SAGE 1	10"	10.00	0.006	1/2% S4E					
SASH1 12	8"	78.00	0.006	N77-40°W					
STORM DRAIN CATCH EEL.									
REF. NO.	DMA TYPE	STATION	OFFSET	REMARKS					
SOK 3	E	80.24	73.45' RT.						
SOK1 4	E	81.50.00	30.00' L.T.						
SOK 6	E	79.80.26	44.00' L.T.						
SOK4 4	E	78.54.40	98.00' L.T.						
SOK5 4	E	75.73.40	98.00' L.T.						
SOK6 4	E	72.64.40	98.00' L.T.						
SOK7 4	E	77.30.00	98.00' L.T.						
STORM DRAIN CATCH BASIN.									
REF. NO.	TYPE	STATION	OFFSET	TC / NV					
GE20 WOOD 2	9.04.85	10.00' L.T.	55.88 / 51.68						
GE20 WOOD 2	8.50.50	10.00' L.T.	58.6 / 52.08						
GE22 C C	8.88.37	64.26' L.T.	58.1 / 51.93						
GE23 A	8.64.74	38.19' L.T.	56.33 / 52.33						
GE24 WOOD 2	78.50.00	14.00' L.T.	55.29 / 50.29						
GE25 WOOD 2	78.25.00	14.00' L.T.	55.29 / 50.27						
GE26 WOOD 2	78.00.00	14.00' L.T.	55.53 / 50.45						
STORM DRAIN JUNCTIONS BEING A REWORKS.									
REF.	STATION	STATION	OFFSET	NV					

SURVEY INFORMATION	
FIELD NOTES	
NO.	BY
1	HORIZ/VERT CONTROL BY HUGG SURVEY
2	PLANIMETRIC AND TOPO MAPPING BY T.R. MANN
3	SITE SURVEYS BY HUGG SURVEY



SYSTEM HYDROLOGY				SYSTEM HYDROLOGY			
A.P.	Q 100 c.f.s.	HGL	A.P.	Q 100 c.f.s.	HGL	A.P.	Q 100 c.f.s.
CB19	2.70	5047.09	R2	58.50	5032.34		
CB18	4.00	5047.07	J6	92.80	5032.28		
J7	55.40	5038.32	SD9	92.80	5032.21		
SD12	55.40	5038.09	CB13	1.80	5033.79		
SD11	55.40	5035.81	CB12	2.10	5037.78		
CB17	2.80	5038.65	CB11	2.10	5035.19		
CB16	4.60	5038.63	CB10	3.10	5035.18		
CB15	2.10	5039.85	J5	95.70	5029.73		
CB14	3.10	5039.84	SD8	95.70	5029.62		
SD10	58.50	5033.22					



SANITARY SEWER MANHOLES

REF. NO.	DIA.	TYPE	STATION	OFFSET	REMARKS
SAS12	4'	E	21+20.00	32.00' LT.	-
SAS13	4'	E	19+14.96	32.00' LT.	-

SANITARY SEWER FITTINGS

REF. NO.	SIZE / TYPE	STATION	OFFSET	IN
P6	8" PLUG	19+14.96	105.22' LT.	27.34

SANITARY SEWER LATERAL PIPING

FROM	TO	DIA.	LENGTH	SLOPE (FT/FT)	BEARING
SAS13	P6	8"	73.22'	0.006	N 22°39'35" W

STORM DRAIN MANHOLES

REF. NO.	DIA.	TYPE	STATION	OFFSET	REMARKS
SD8	6"	E	22+30.00	5.00' RT.	-
SD9	6"	E	19+45.00	5.00' RT.	-
SD10	6"	E	18+35.00	5.00' RT.	-
SD11	6"	E	15+50.00	5.00' RT.	-
SD12	6"	E	13+00.00	0	-

STORM DRAIN CATCH BASINS

REF. NO.	TYPE	STATION	OFFSET	TC / IN
CB10	MOD D	22+00.00	26.00' RT.	37.21 / 33.18
CB11	MOD D	21+80.00	26.00' RT.	37.47 / 33.47
CB12	C	22+00.00	52.00' LT.	35.79 / 31.78
CB13	A	21+80.00	52.00' LT.	36.05 / 32.05
CB14	MOD D	X	X	X
CB15	MOD D	X	X	X
CB16	C	18+20.18	52.00' LT.	40.64 / 36.63
CB17	A	18+00.00	52.00' LT.	40.90 / 36.90
CB17A	A	18+17.88	76.89' RT.	42.99 / 38.99
CB18	MOD D	12+85.00	26.00' RT.	49.07 / 45.07
CB19	MOD D	12+65.00	26.00' RT.	49.35 / 45.35

STORM DRAIN JUNCTIONS, BENDS, & REDUCERS

REF. NO.	FITTING SIZE	STATION	OFFSET	IN
J5	48"x24"x24"	22+26.00	4.48' RT.	26.68
J6	48"x36"	19+70.53	4.78' RT.	28.77
J6A	36"x24"	18+28.86	4.21' RT.	30.77
J7	36"x24"	12+95.50	0	35.65
R2	48"x36"	19+34.06	4.5' RT.	26.34

STORM DRAIN LATERAL PIPING

FROM	TO	DIA.	LENGTH	SLOPE (FT/FT)	BEARING
CB10	CB10	18"	14.75'	0.020	N 52°07'50" E
CB10	J5	24"	32.42'	0.200	N 15°23'30" W
CB13	CB12	18"	13.34'	0.020	N 52°26'54" E
CB12	J5	24"	59.69'	0.086	S 64°14'47" E
CB15	CB14	18"	14.12'	0.020	N 71°02' E
CB14	SD10	24"	19.50'	0.340	N 19°04'13" W
CB17	CB16	18"	13.30'	0.020	N 71°57'09" E
CB17A	SD10	18"	71.59'	0.102	N 05°25'30" E
CB16	SD10	24"	56.41'	0.096	S 34°04'46" E
CB19	CB18	18"	13.93'	0.020	S 84°35'28" E
CB18	J7	24"	26.46'	0.356	N 27°41'26" E

WATERLINE CURVE DATA

Δ	R	L
52°22'01"	132.00'	1034.62'

TRACT M-1 POND

SEE POND PLAN AND PROFILE FOR INLET AND OUTLET DETAILS. REFER TO SHEETS 49

RECORD DRAWING - SAD 223 PARTS 3 & 4

I, R. P. Bohannon, hereby certify that this drawing has been revised in accordance with the information furnished by Albuquerque Underground, Inc. to reflect the construction as actually accomplished.

R. P. Bohannon 3/25/97
N.M.P.E. No. 6814

ENGINEER'S SEAL

BOHANNAN R. P. BOHANNAN
NEW MEXICO
REGISTERED PROFESSIONAL ENGINEER
6814

SCALE

1 inch = 60 ft. (vert.)
1 inch = 60 ft. (horiz.)

EASTERLING & ASSOCIATES, INC.

CONSULTING ENGINEERS
1031 Coors Rd., NW, Suite H - 7 & 8
ALBUQUERQUE, NEW MEXICO 8714
(505) 898-8021 FAX (505) 898-8501

CITY OF ALBUQUERQUE

PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE

SAD 223 PART 4
ELLISON DR UTILITY PLAN & PROFILE
STA. 1+95.93 TO STA. 23+00

APPROVALS

DESIGNED BY	CHECKED BY	DATE	APPROVED BY	DATE
DEC	DEC	DEC	DEC	DEC

PROJECT NO.

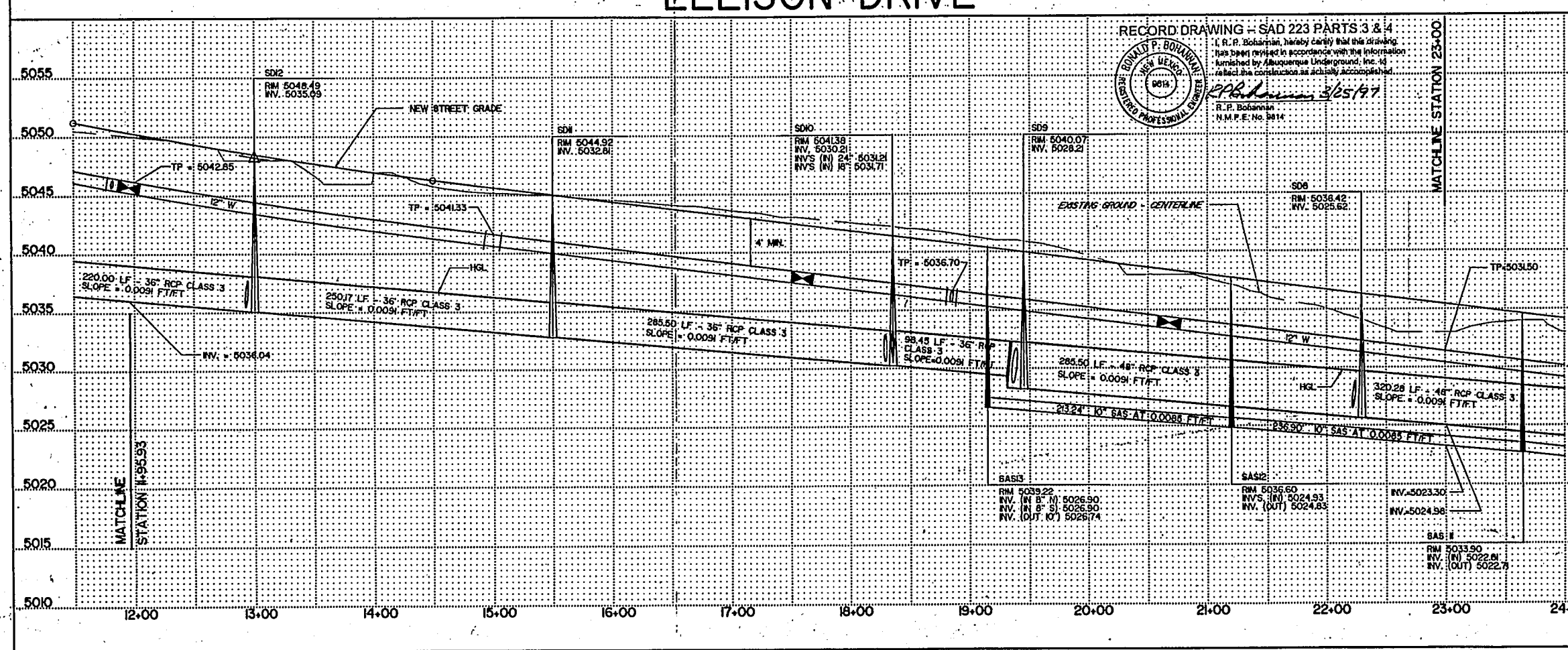
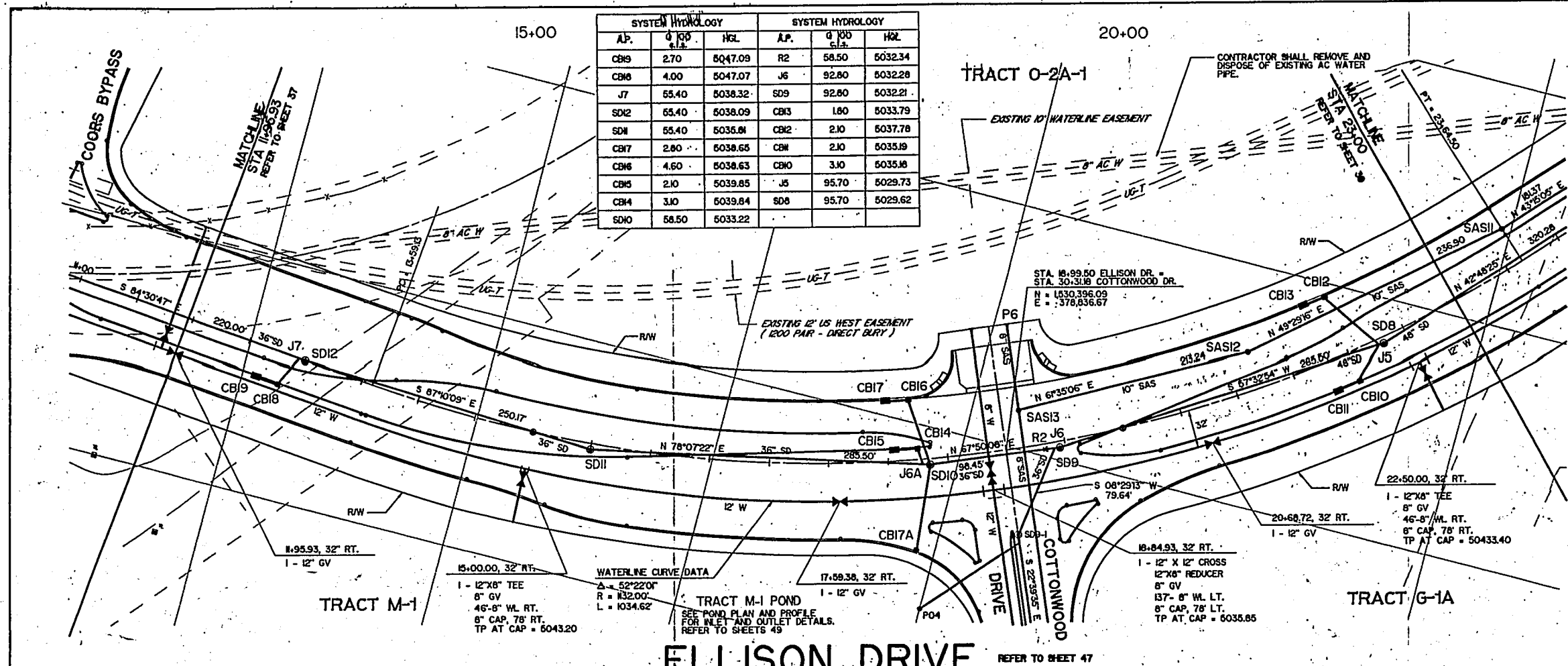
4193.94

MAP NO.

A-13

SHEET

38 OF 120



SANITARY SEWER MANHOLES

REF. NO.	DIA.	TYPE	STATION	OFFSET	REMARKS
SAS12	4"	E	21+20.00	32.00' LT.	
SAS13	4"	E	19+14.96	32.00' LT.	

SANITARY SEWER FITTINGS

REF. NO.	SIZE / TYPE	STATION	OFFSET	INV.
P6	8" PLUG	19+14.96	105.22' LT.	27.34

SANITARY SEWER LATERAL PIPING

FROM	TO	DIA.	LENGTH (FT)	SLOPE (FT/FT)	BEARING
SAS13	P6	6"	73.22	0.006	N 22°33'35" W

STORM DRAIN MANHOLES

REF. NO.	DIA.	TYPE	STATION	OFFSET	REMARKS
SD8	6"	E	22+30.00	5.00' RT.	
SD9	6"	E	19+45.00	5.00' RT.	
SD10	6"	E	18+35.00	5.00' RT.	
SD11	6"	E	15+50.00	5.00' RT.	
SD12	6"	E	13+00.00	0	

STORM DRAIN CATCH BASINS

REF. NO.	TYPE	STATION	OFFSET	TC / INV.
CBH9	MOD D	22+00.00	26.00' RT.	37.21 / 33.18
CBH8	MOD D	21+80.00	26.00' RT.	37.47 / 33.47
CB12	C	22+00.00	52.00' LT.	35.79 / 31.78
CB13	A	21+80.00	52.00' LT.	36.05 / 32.05
CB14	MOD D	19+25.20	10.00' LT.	41.28 / 37.25
CB15	MOD D	19+05.34	10.00' LT.	41.53 / 37.53
CB16	C	19+20.16	52.00' LT.	40.64 / 36.63
CB17	A	19+00.00	52.00' LT.	40.90 / 36.90
CB17A	A	19+17.88	76.89' RT.	42.99 / 38.99
CB18	MOD D	12+85.00	26.00' RT.	49.07 / 45.07
CB19	MOD D	12+65.00	26.00' RT.	49.36 / 45.35

STORM DRAIN JUNCTIONS, BENDS, & REDUCERS

REF. NO.	FITTING SIZE	STATION	OFFSET	INV.
J5	48"X24"X24"	22+26.00	4.48' RT.	26.68
J6	48"X36"	19+40.53	4.78' RT.	28.77
J6A	36"X24"	18+28.86	4.21' RT.	30.77
J7	36"X24"	12+95.50	0	35.65
R2	48"X36"	19+34.06	4.5' RT.	35.33

STORM DRAIN LATERAL PIPING

FROM	TO	DIA.	LENGTH (FT)	SLOPE (FT/FT)	BEARING
CBH9	CB10	18"	14.75	0.020	N 52°07'50" E
CB10	J5	24"	32.42	0.020	N 15°12'30" W
CB13	CB12	18"	13.34	0.020	N 52°26'54" E
CB12	J5	24"	59.69	0.086	S 64°14'47" E
CB15	CB14	18"	14.12	0.020	N 71°02'2" E
CB14	J6A	24"	14.70	0.440	N 34°31'37" W
CB17	CB16	18"	13.30	0.020	N 75°07'09" E
CB17A	SD10	18"	71.69	0.102	N 05°25'30" E
CB16	SD10	24"	56.41	0.096	S 34°04'46" E
CB18	CB16	18"	13.93	0.020	S 64°35'28" E
CB18	J7	24"	26.46	0.356	N 27°42'26" E

ENGINEER'S SEAL

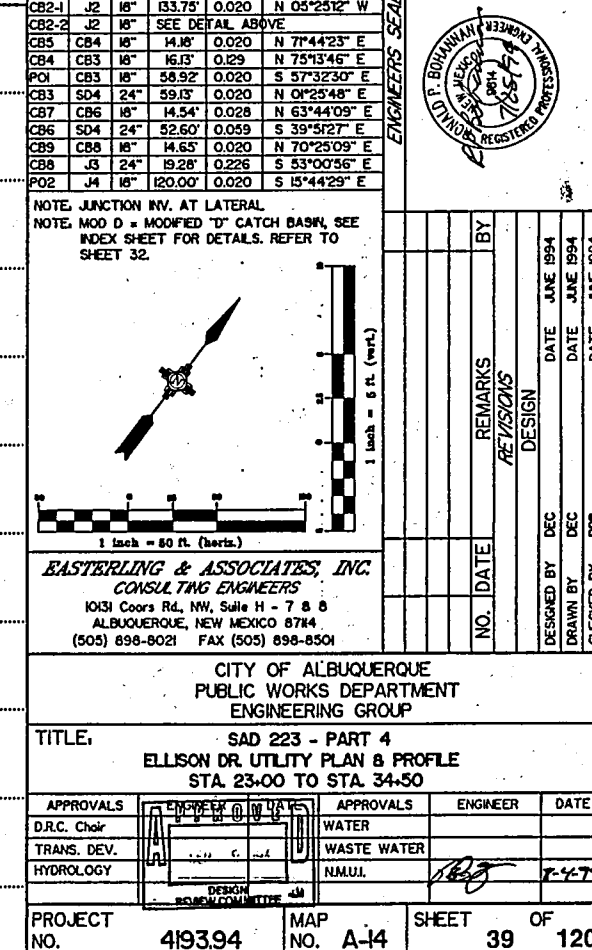
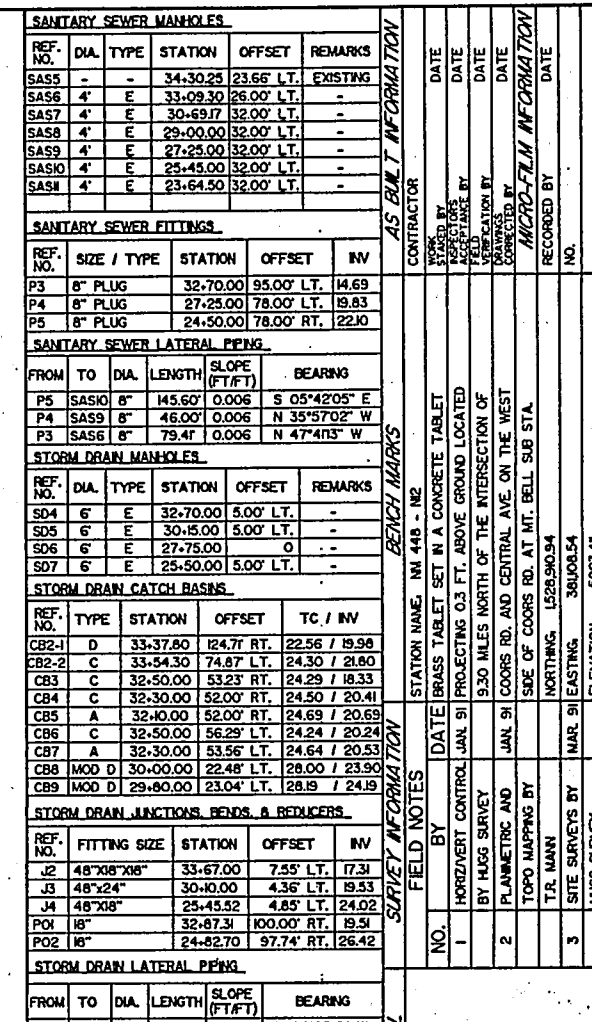
EASTERLING & ASSOCIATES, INC.
CONSULTING ENGINEERS
1031 Coors Rd., NW, Suite H - 7 & 8
ALBUQUERQUE, NEW MEXICO 87114
(505) 698-8021 FAX (505) 698-8501

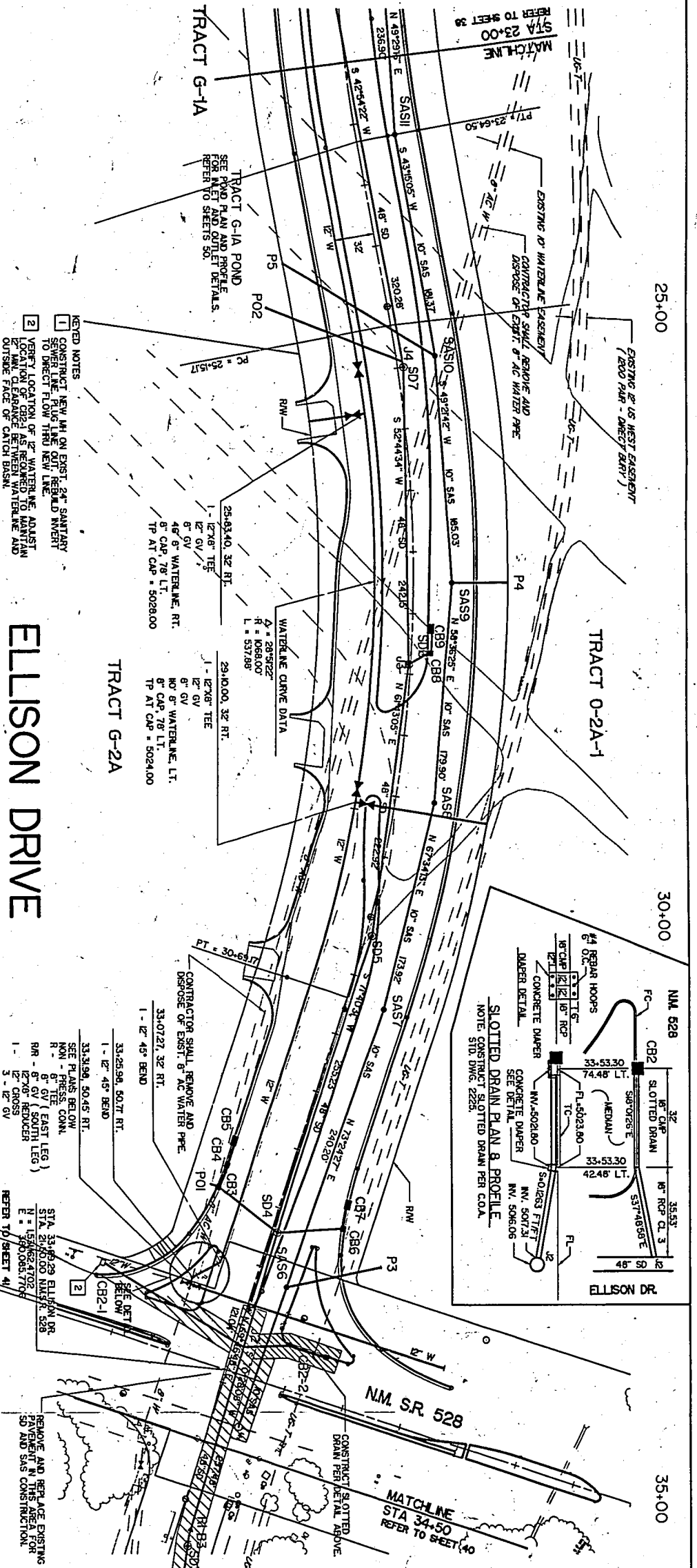
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: SAD 223 PART 4
ELLISON DRIVE UTILITY PLAN & PROFILE
STA. 1+95.93 TO STA. 23+00

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			NMUL		

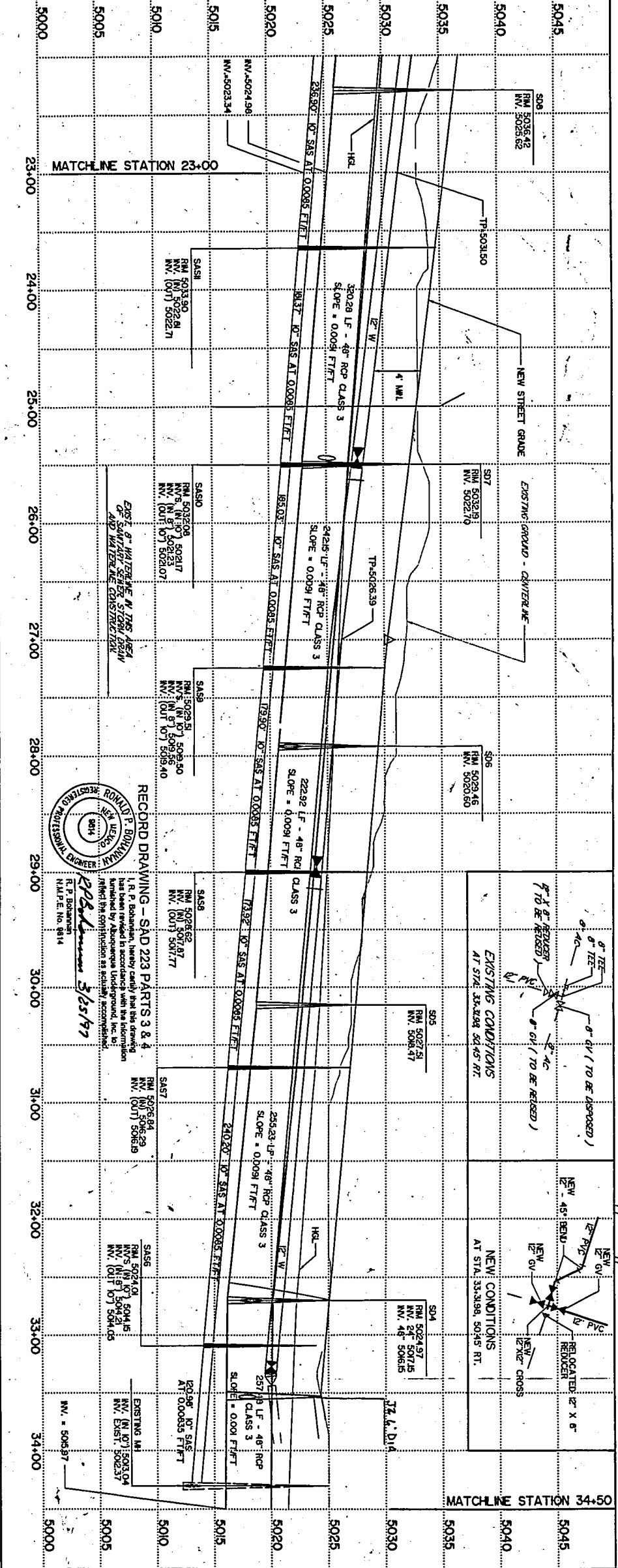
PROJECT NO. 4193.94 **MAP NO.** A-13 **SHEET** 38 **OF** 120





- KEYED NOTES
1. NEW 48" DIA. 12' DEEP SANITARY CONCRETE MANHOLE WITH 12" DIA. 12' DEEP WATERLINE ADJUST TO DIRECT FLOW THRU NEW LINE.
 2. VERIFY LOCATION OF 12" WATERLINE ADJUST LOCATION OF CB#1 AS REQUIRED TO MAINTAIN 12" MIN. CLEARANCE BETWEEN WATERLINE AND OUTSIDE FACE OF CATCH BASIN.

ELLISON DRIVE



SANITARY SEWER MANHOLE				AS BUILT INFORMATION			
REF. NO.	DATE	TYPE	STATION	OFFSET	REMARKS	CONTRACTOR	DATE
5045	4	E	33.09.30	26.00' LT.	-	FOR RECORD	DATE
5047	4	E	30.69.17	32.00' LT.	-	FOR RECORD	DATE
5048	4	E	29.00.00	32.00' LT.	-	FOR RECORD	DATE
5049	4	E	27.25.00	32.00' LT.	-	FOR RECORD	DATE
5050	4	E	25.45.00	32.00' LT.	-	FOR RECORD	DATE
5051	4	E	23.64.50	32.00' LT.	-	FOR RECORD	DATE
SANITARY SEWER FITTINGS				MICRO-FILM INFORMATION			
REF. NO.	DATE	TYPE	STATION	OFFSET	REMARKS	RECORDED BY	DATE
5045	4	E	33.09.30	26.00' LT.	-	NO.	DATE
5047	4	E	30.69.17	32.00' LT.	-		
5048	4	E	29.00.00	32.00' LT.	-		
5049	4	E	27.25.00	32.00' LT.	-		
5050	4	E	25.45.00	32.00' LT.	-		
5051	4	E	23.64.50	32.00' LT.	-		

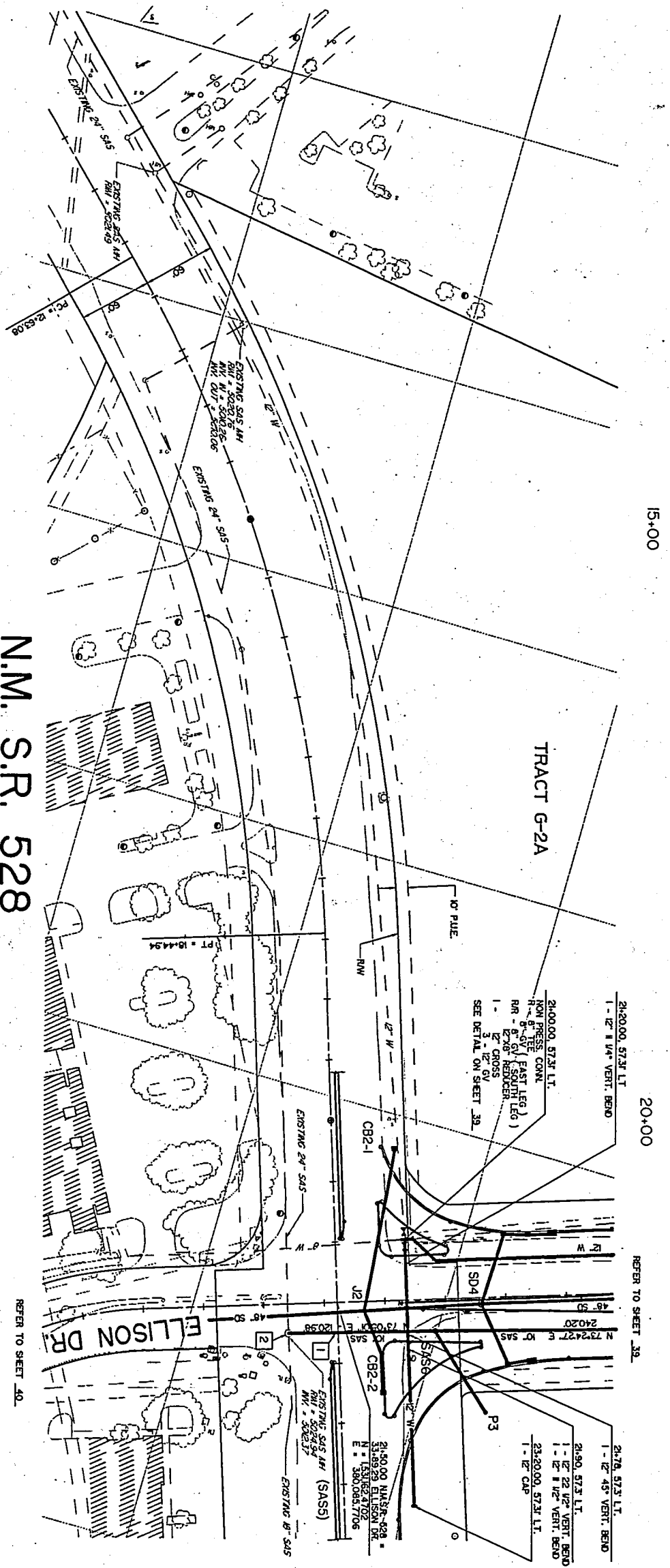
SURVEY INFORMATION				BENCH MARKS			
REF. NO.	DATE	TYPE	STATION	OFFSET	REMARKS	STATION NAME	MARK
5045	4	E	33.09.30	26.00' LT.	-	BRASS TABLET SET IN A CONCRETE TABLET	
5047	4	E	30.69.17	32.00' LT.	-	PROJECTING 0.3 FT. ABOVE GROUND LOCATED	
5048	4	E	29.00.00	32.00' LT.	-	9.30 MILES NORTH OF THE INTERSECTION OF	
5049	4	E	27.25.00	32.00' LT.	-	COORS RD. AND CENTRAL AVE. ON THE WEST	
5050	4	E	25.45.00	32.00' LT.	-	TOPO MAPPING BY	
5051	4	E	23.64.50	32.00' LT.	-	T.J.L. MANN	

STORM DRAIN LATERAL PIPING				FIELD NOTES			
FROM TO	DATE	LENGTH	BEARING	NO.	BY	DATE	
5045	4	E	33.09.30	26.00' LT.	1	HORIZ/VERT CONTROL	JAN. 91
5047	4	E	30.69.17	32.00' LT.	2	PLANIMETRIC AND	JAN. 91
5048	4	E	29.00.00	32.00' LT.	3	SITE SURVEYS BY	MAR. 91
5049	4	E	27.25.00	32.00' LT.		HUGG SURVEY	
5050	4	E	25.45.00	32.00' LT.			
5051	4	E	23.64.50	32.00' LT.			

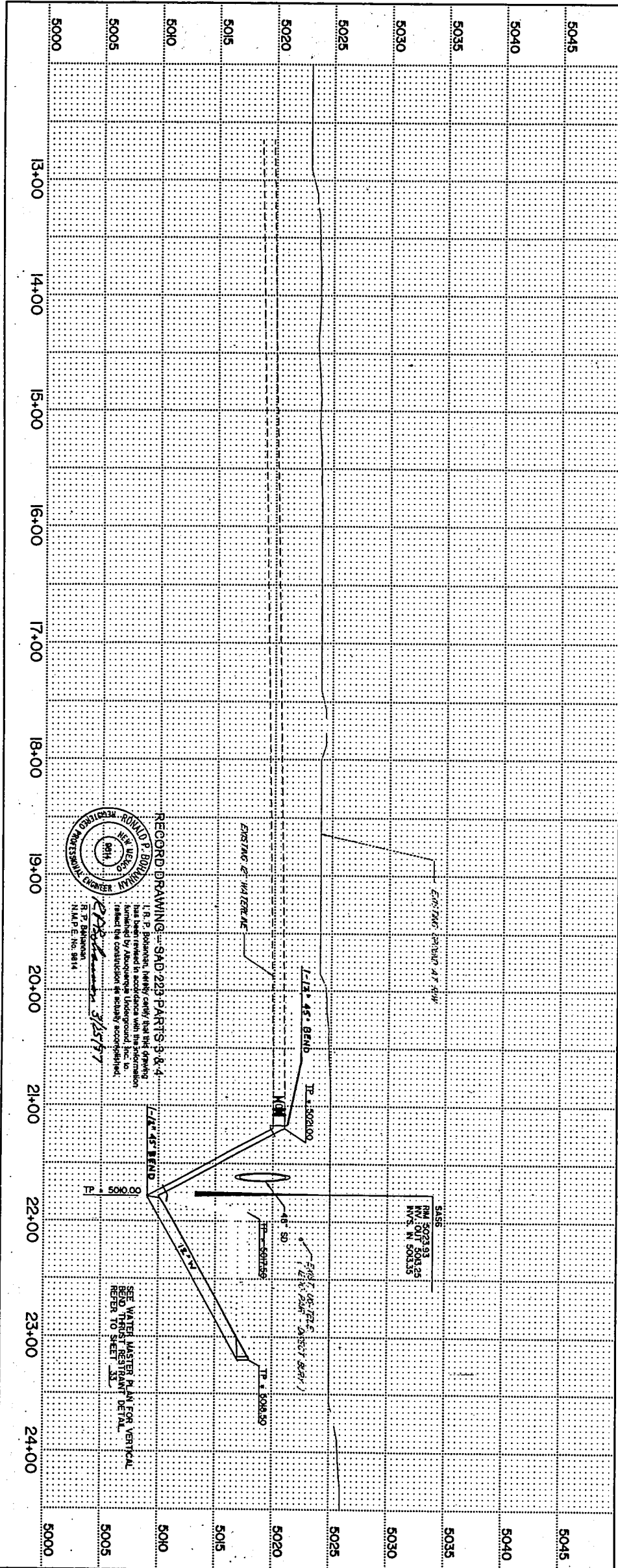
ENGINEERS SEAL				REVISIONS			
DESIGNED BY	DATE	CHECKED BY	DATE	NO.	DATE	REMARKS	BY
DEC	JUNE 1994	RPB	JUNE 1994	1	12/94	REPLACEMENT SHEET	DSH
DEC	JUNE 1994	RPB	JUNE 1994	2	3/95	REV. POI LATERAL PIPING DIM	DSH

CITY OF ALBUQUERQUE				PUBLIC WORKS DEPARTMENT			
TITLE	DATE	ENGINEER	DATE	APPROVALS	DATE	ENGINEER	DATE
ELLISON DR. UTILITY PLAN B PROFILE	3/15/97	WATER	3/15/97	APPROVALS	3/15/97	ENGINEER	3/15/97
STA. 23+00 TO STA. 34+50	3/15/97	WASTE WATER	3/15/97	APPROVALS	3/15/97	ENGINEER	3/15/97
	3/15/97	HYDROLOGY	3/15/97	APPROVALS	3/15/97	ENGINEER	3/15/97

PROJECT				MAP			
PROJECT NO.	DATE	MAP NO.	DATE	PROJECT NO.	DATE	MAP NO.	DATE
419394	3/15/97	A-14	3/15/97	419394	3/15/97	A-14	3/15/97



N.M. S.R. 528



RECORD DRAWING - SAD 223 PARTS 3 & 4
I. P. Bohannon, hereby certify that this drawing has been reviewed in accordance with the information furnished by Albuquerque Underground, Inc. to assist the construction of sanitary sewerage system.
R. P. Bohannon
NAME NO. 8814

SANITARY SEWER MANHOLE	
REF. NO.	DATE
1 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
2 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
3 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
4 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
5 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
6 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
7 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
8 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
9 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
10 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
11 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
12 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
13 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
14 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
15 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
16 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
17 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
18 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
19 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
20 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
21 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
22 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
23 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
24 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
25 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
26 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
27 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
28 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
29 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
30 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
31 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
32 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
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35 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
36 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
37 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
38 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
39 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
40 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
41 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
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43 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
44 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
45 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
46 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
47 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
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49 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
50 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
51 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
52 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
53 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
54 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
55 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
56 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
57 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
58 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
59 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
60 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
61 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
62 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
63 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
64 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
65 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
66 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
67 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
68 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
69 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
70 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
71 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
72 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
73 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
74 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
75 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
76 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
77 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
78 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
79 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
80 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
81 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
82 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
83 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
84 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
85 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
86 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
87 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
88 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
89 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
90 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
91 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
92 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
93 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
94 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
95 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
96 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
97 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
98 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
99 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01
100 - 12" 1/4" VERT. BEND	2/20/00, 5/21/01

KEYED NOTES	
1	USE ANVIA C-900 PRESSURE PIPE FOR 12" SANITARY SEWER FROM MANHOLE TO MANHOLE. SEE SHEET 39 FOR PROFILE INFORMATION.
2	CONNECT NEW 12" SANITARY SEWER TO EXIST. 24" SANITARY SEWER AT MANHOLE. SEE SHEET 39 FOR PROFILE INFORMATION.

AS BUILT INFORMATION	
CONTRACTOR	DATE
WORKMAN	DATE
INSPECTOR	DATE
ACCEPTANCE BY	DATE
VERIFICATION BY	DATE
DRAWINGS	DATE
CORRECTED BY	DATE
MICRO-FILM INFORMATION	
RECORDED BY	DATE
NO.	

ENGINEERS SEAL	
DESIGNED BY	HCA
DRAWN BY	HCA
CHECKED BY	RPB
DATE	JUNE 1994

REVISIONS	
NO.	DATE
1	JUNE 1994
2	JUNE 1994
3	JUNE 1994

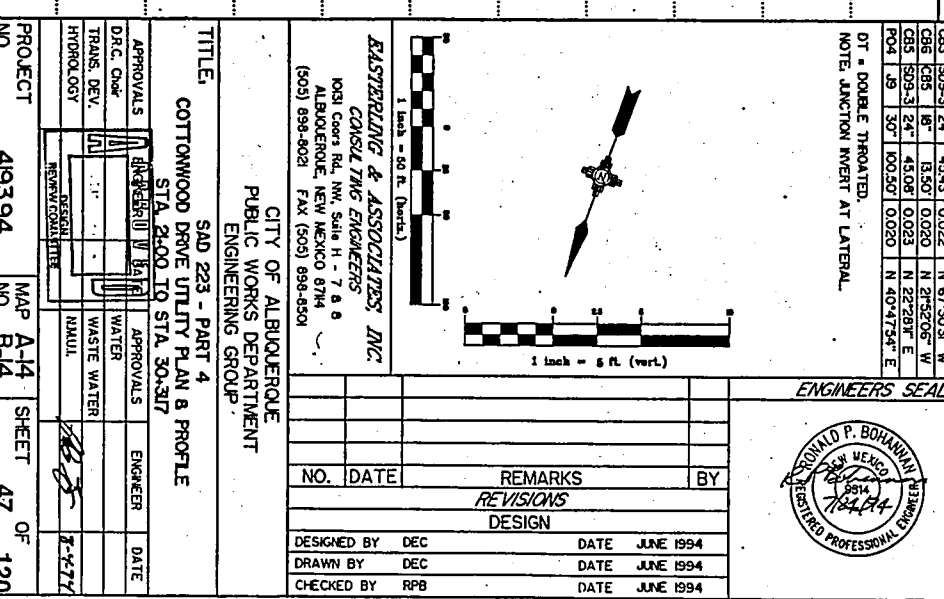
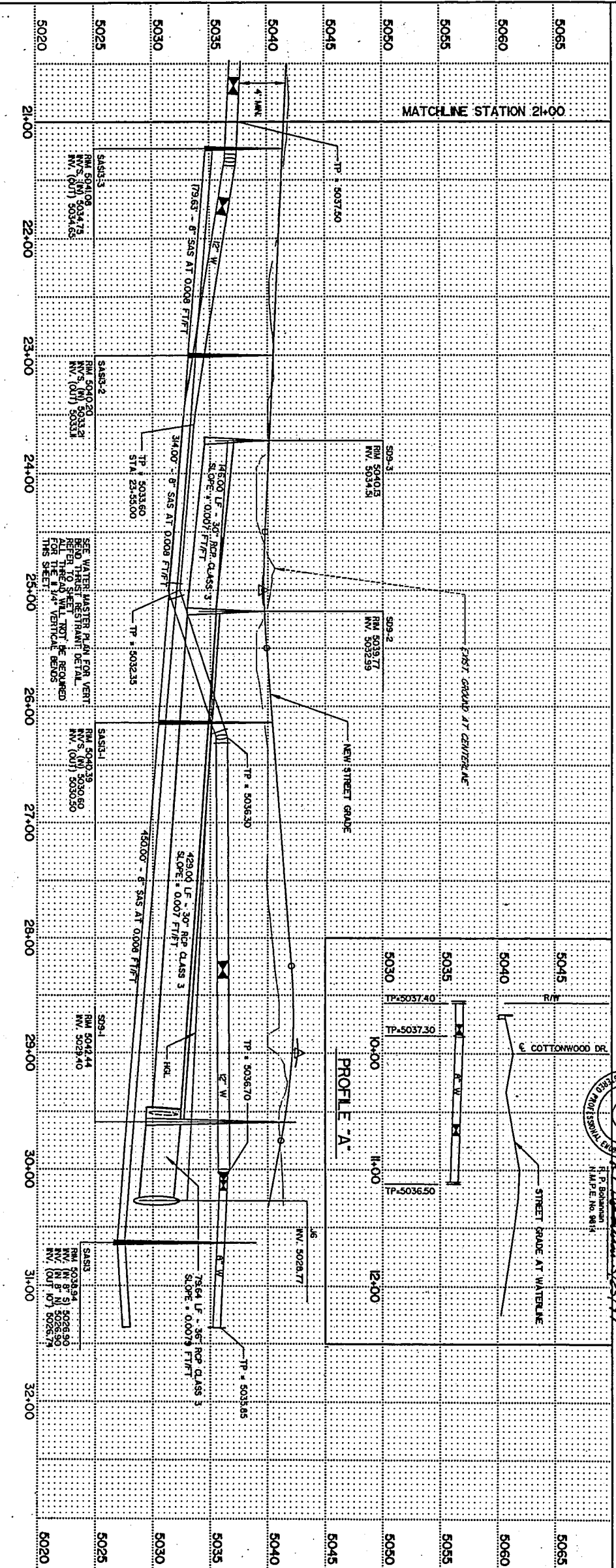
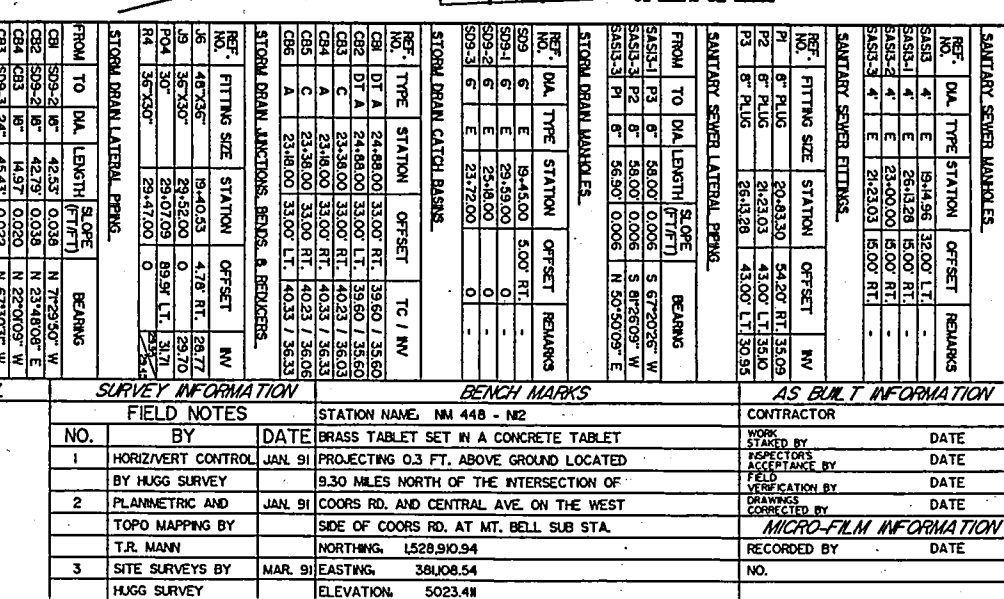
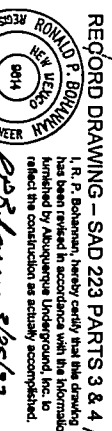
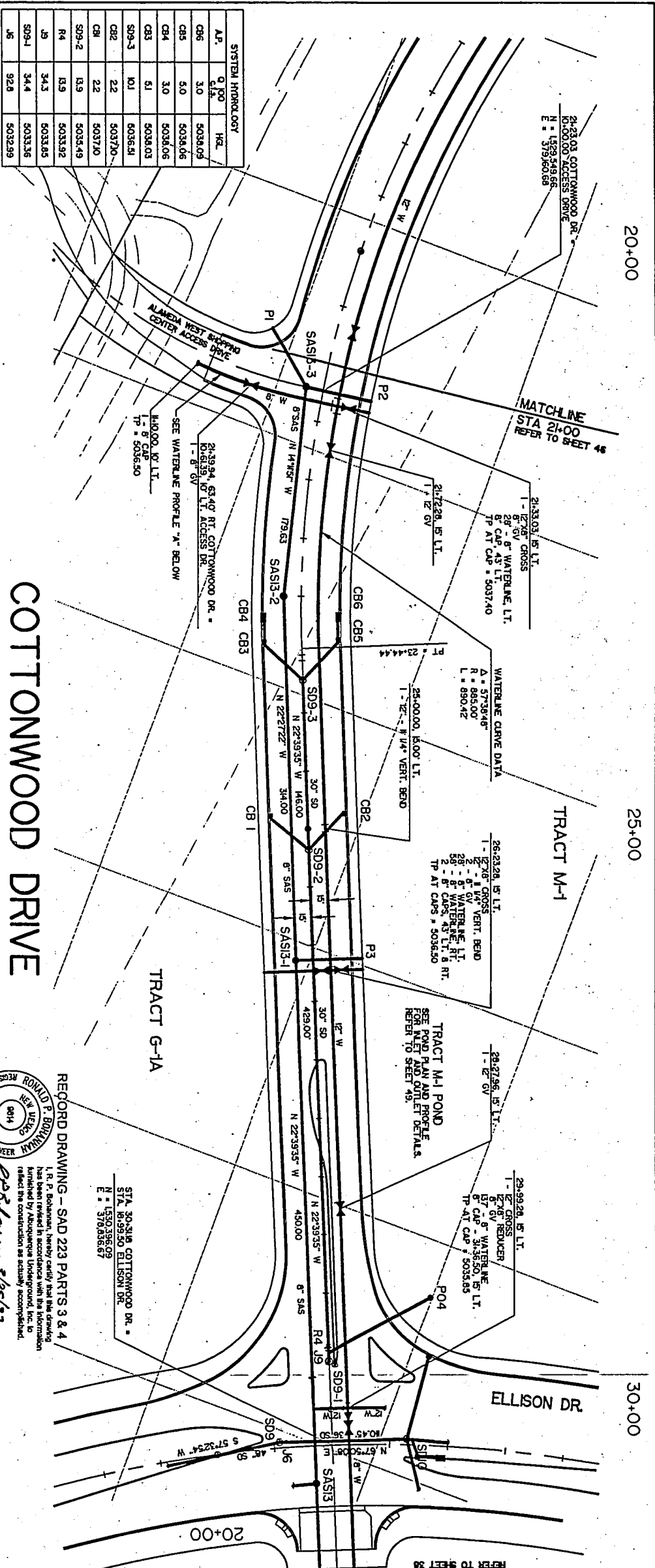
ASTORLING & ASSOCIATES, INC.	
CONSULTING ENGINEERS	
1031 Coors Rd., NW, Suite H - 7 & 8	
ALBUQUERQUE, NEW MEXICO 87104	
(505) 899-8021 FAX (505) 899-8501	

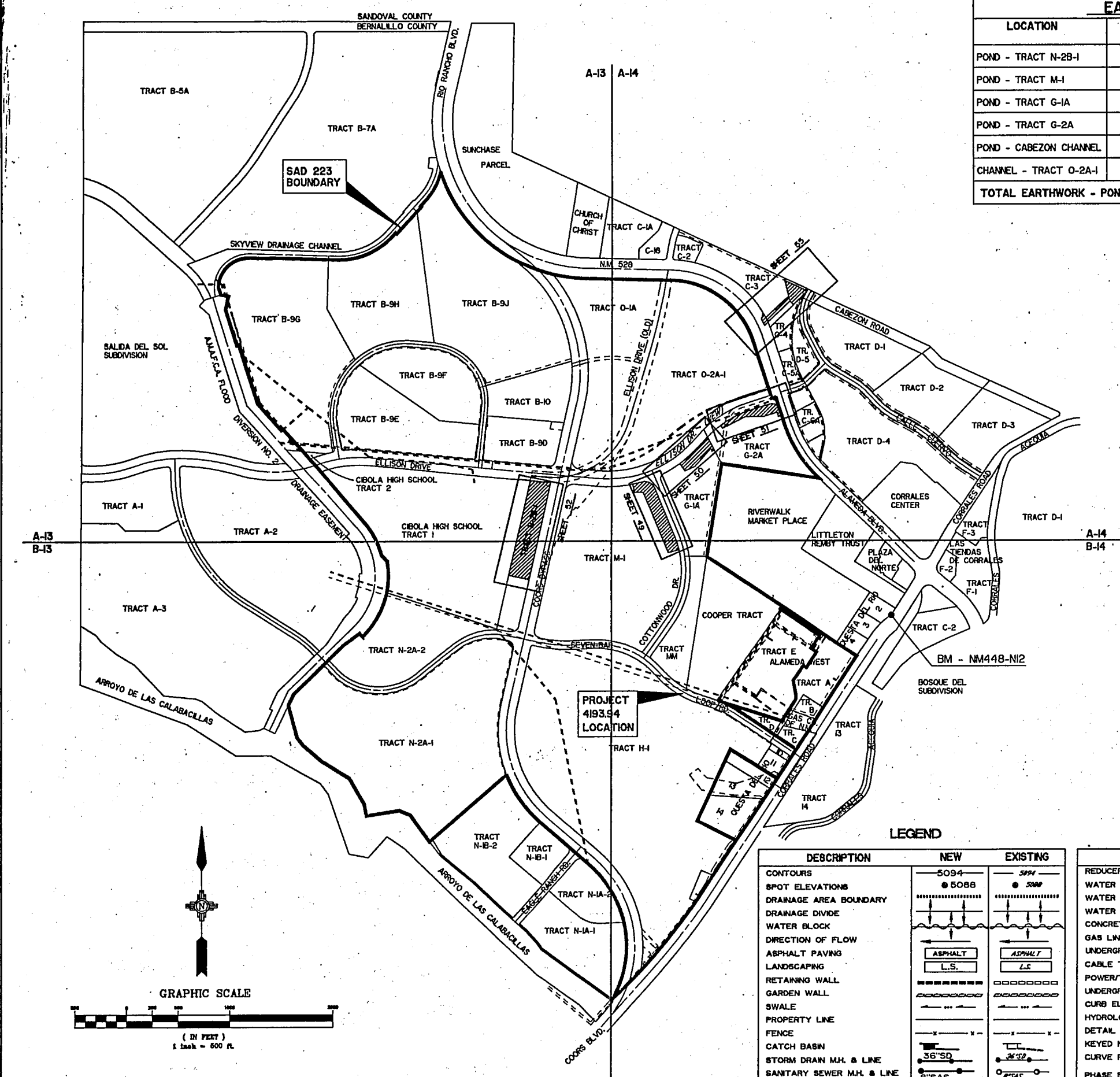
CITY OF ALBUQUERQUE	
PUBLIC WORKS DEPARTMENT	
ENGINEERING GROUP	

TITLE	
SAD 223 - PART 4	
NM. 528 SANITARY SEWER PLAN & PROFILE	
STA. 13+25 TO STA. 23+20	

APPROVALS	
D.R.C. CHK.	APPROVALS
TRANS. DEV.	APPROVALS
HYDROLOGY	APPROVALS
ENGINEER	DATE

PROJECT	
NO.	419394
MAP	A-14
SHEET	41
OF	120





EARTHWORK SUMMARY - PONDS & CHANNEL			
LOCATION	LIMITS (STA. TO STA.)	CUT (UNADJUSTED) (CUBIC YARDS)	FILL (UNADJUSTED) (CUBIC YARDS)
POND - TRACT N-2B-1	COMPLETE	20,819	989
POND - TRACT M-1	COMPLETE	6,330	1,025
POND - TRACT G-1A	COMPLETE	1,725	410
POND - TRACT G-2A	COMPLETE	2,210	75
POND - CABEZON CHANNEL	COMPLETE	6,157	333
CHANNEL - TRACT O-2A-1	0+00 TO 4+13.23	1,721	196
TOTAL EARTHWORK - PONDS & CHANNEL		37,962	3,028

FILTER MATERIAL GRADATION	
SIEVE SIZE	% PASSING BY WEIGHT
3"	-
2"	90 - 100
1-1/2"	-
3/4"	20 - 90
3/8"	-
#4	0 - 20
#16	-
#40	-
#50	-
#100	-
#200	0 - 3

DESCRIPTION	NEW	EXISTING
CONTOURS	5094	5094
SPOT ELEVATIONS	5088	5088
DRAINAGE AREA BOUNDARY	.....	.....
DRAINAGE DIVIDE	.....	.....
WATER BLOCK	.....	.....
DIRECTION OF FLOW	.....	.....
ASPHALT PAVING	ASPHALT	ASPHALT
LANDSCAPING	L.S.	L.S.
RETAINING WALL	.....	.....
GARDEN WALL	.....	.....
SWALE	.....	.....
PROPERTY LINE	.....	.....
FENCE	.....	.....
CATCH BASIN	36" SD	36" SD
STORM DRAIN M.H. & LINE	8" SAS	8" SAS
SANITARY SEWER M.H. & LINE	6" W	6" W
FIRE HYDRANT & WATER LINE	.....	.....

DESCRIPTION	NEW	EXISTING
REDUCERS	1/2"	1/2"
WATER VALVES	DATE BUTTERFLY	DATE BUTTERFLY
WATER CONNECTIONS	.....	.....
WATER JOINTS	.....	.....
CONCRETE	.....	.....
GAS LINE	G	G
UNDERGROUND TELEPHONE	T	T
CABLE TELEVISION	CT	CT
POWER/TELEPHONE POLE	O.P.	O.P.
UNDERGROUND ELECTRICAL	E	E
CURB ELEVATION	.....	.....
HYDROLOGICAL ANALYSIS PT.	.....	.....
DETAIL REFERENCE	.....	.....
KEYED NOTES	.....	.....
CURVE REFERENCE	.....	.....
PHASE BOUNDARY	.....	.....

RECORD DRAWING - SAD 223 PARTS 3 & 4
I, R. P. Bohannon, hereby certify that this drawing has been revised in accordance with the information furnished by Albuquerque Underground, Inc. to reflect the construction as actually accomplished.
R. P. Bohannon 3/25/77
R. P. Bohannon
N.M.P.E. No. 9814

EASTERLING & ASSOCIATES, INC.
CONSULTING ENGINEERS
1031 COORS RD., NW, SUITE H - 7 & 8
ALBUQUERQUE, NEW MEXICO 87114
OFFICE (505) 898-8021 FAX (505) 898-8501

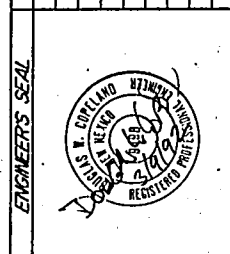
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

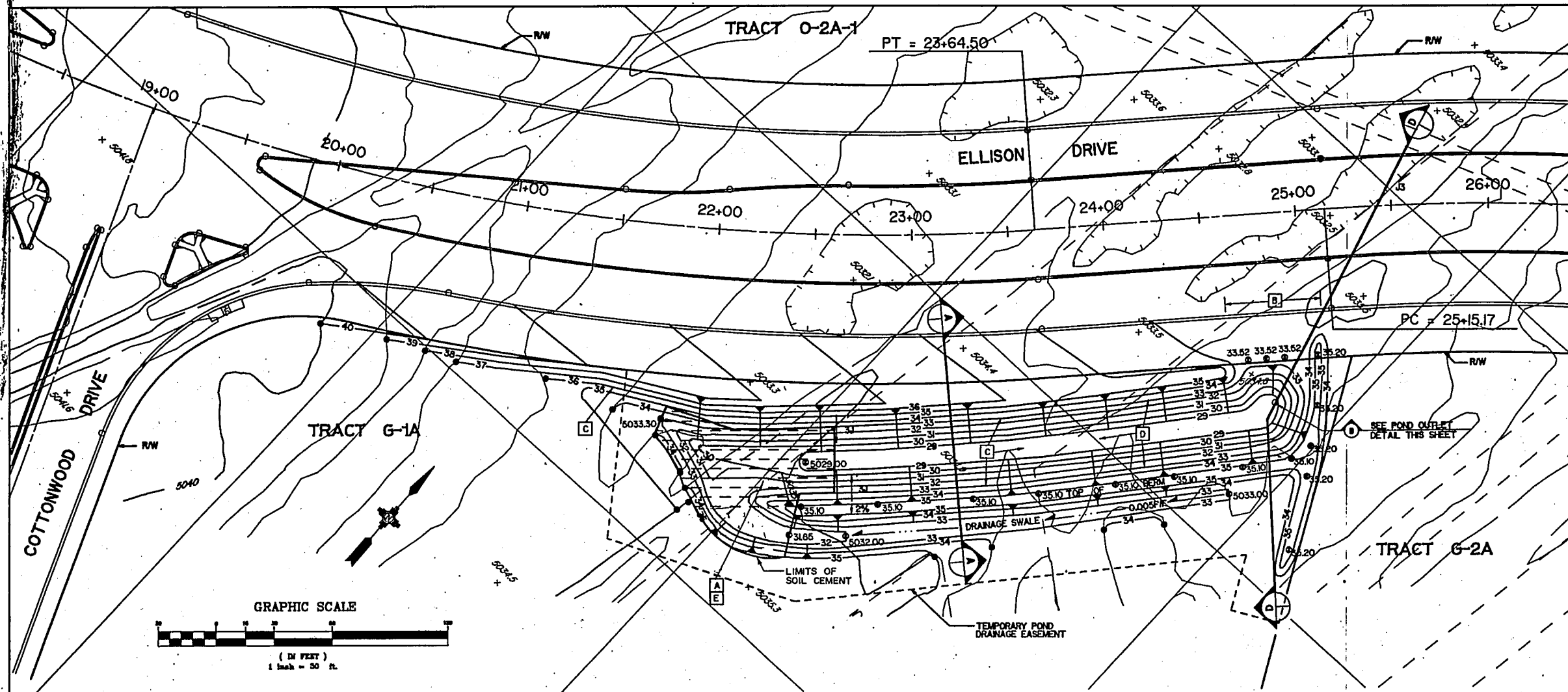
TITLE: SAD 223 - PART 4
INFRASTRUCTURE IMPROVEMENTS FOR ELLISON DRIVE, SEVEN BAR LOOP ROAD AND COTTONWOOD DRIVE

APPROVALS	ENGINEER	DATE
D.R.C. Chair	WATER	3-17-77
TRANS. DEV.	WASTE WATER	
HYDROLOGY		

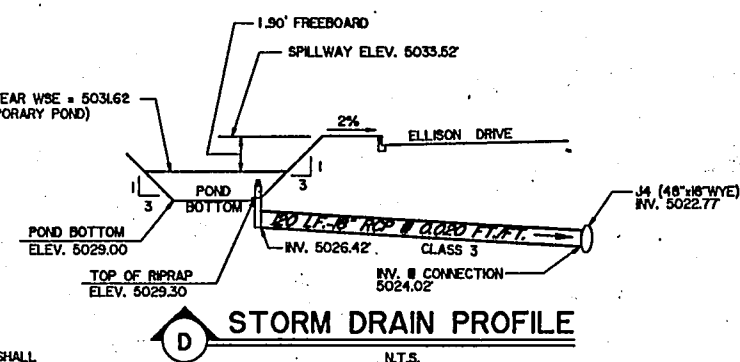
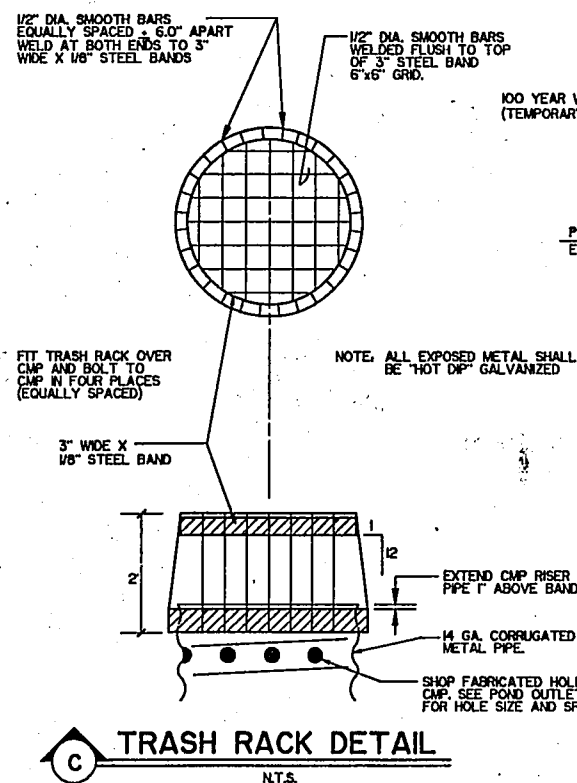
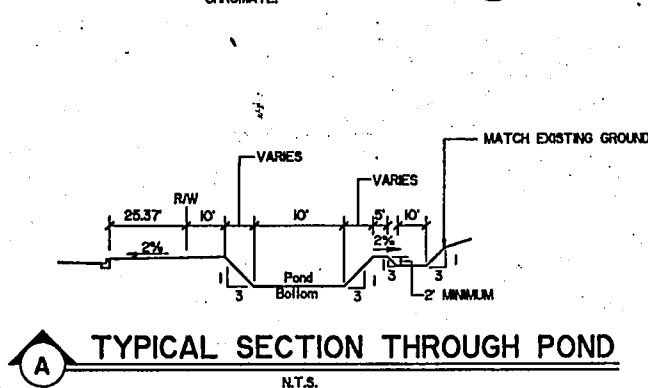
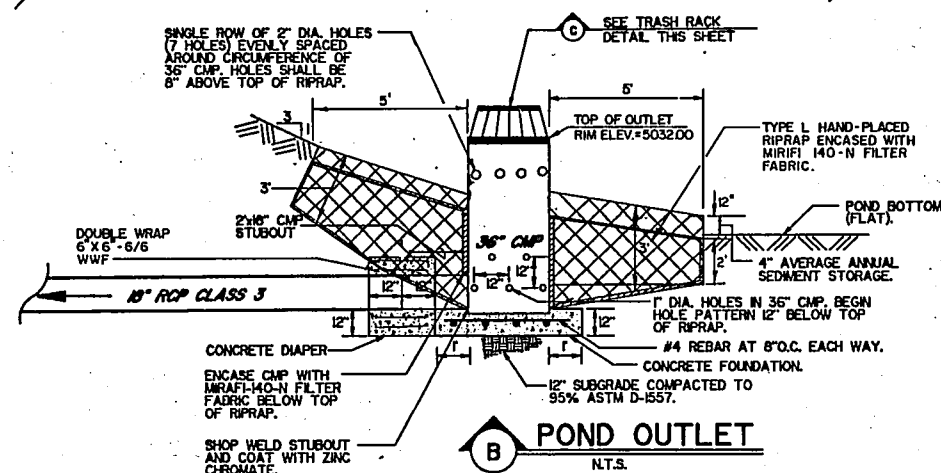
PROJECT NO. 4193.94 MAPA13/A14 SHEET 48 OF 120
NO. B13/B14

SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
FIELD NOTES	NO.	DATE	BY	CONTRACTOR	NO.
1	NO. 1	JAN 91	BY HUGG SURVEY	BRASS TABLET SET IN A CONCRETE TABLET PROJECTING 0.3 FT. ABOVE GROUND LOCATED 9.50 MILES NORTH OF THE INTERSECTION OF COORS RD. AND CENTRAL AVE. ON THE WEST SIDE OF COORS RD. AT MT. BELL SUB STA.	NO. 1
2	NO. 2	JAN 91	BY HUGG SURVEY	BRASS TABLET SET IN A CONCRETE TABLET PROJECTING 0.3 FT. ABOVE GROUND LOCATED 9.50 MILES NORTH OF THE INTERSECTION OF COORS RD. AND CENTRAL AVE. ON THE WEST SIDE OF COORS RD. AT MT. BELL SUB STA.	NO. 2
3	NO. 3	MAR 91	BY HUGG SURVEY	BRASS TABLET SET IN A CONCRETE TABLET PROJECTING 0.3 FT. ABOVE GROUND LOCATED 9.50 MILES NORTH OF THE INTERSECTION OF COORS RD. AND CENTRAL AVE. ON THE WEST SIDE OF COORS RD. AT MT. BELL SUB STA.	NO. 3





PLAN - TRACT G-1A TEMPORARY POND



HYDROLOGY DATA - TRACT G-1A
 TEMPORARY POND (EXISTING CONDITIONS)
 PEAK OUTFLOW (Q100) = 0.9 CFS
 MAX. STORAGE (V100) = 0.31 AF
 TRACT G-1A DEVELOPED CONDITIONS
 PEAK DISCHARGE (Q100 ALLOWABLE) = 6.7 CFS

RECORD DRAWING - SAD 223 PARTS 3 & 4
 I, R. P. Bohannon, hereby certify that this drawing has been revised in accordance with the information furnished by Albuquerque Underground, Inc. to reflect the construction as actually accomplished.
 R. P. Bohannon
 N.M.P.E. No. 9814
 3/25/97

KEYED NOTES

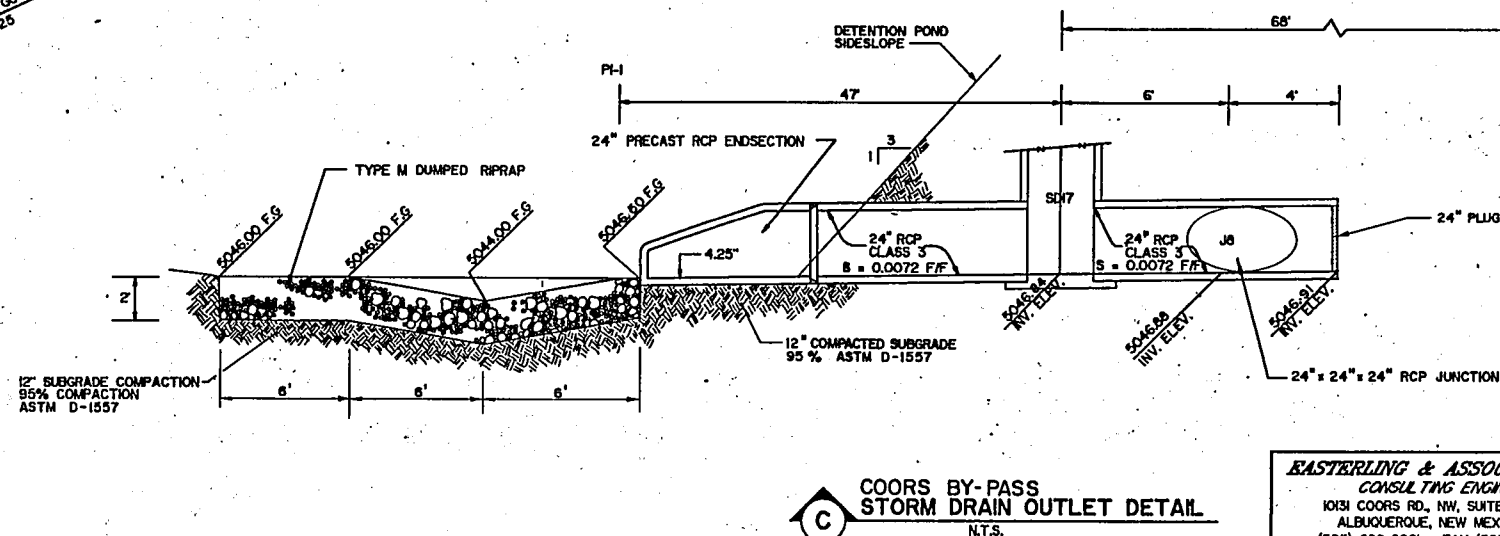
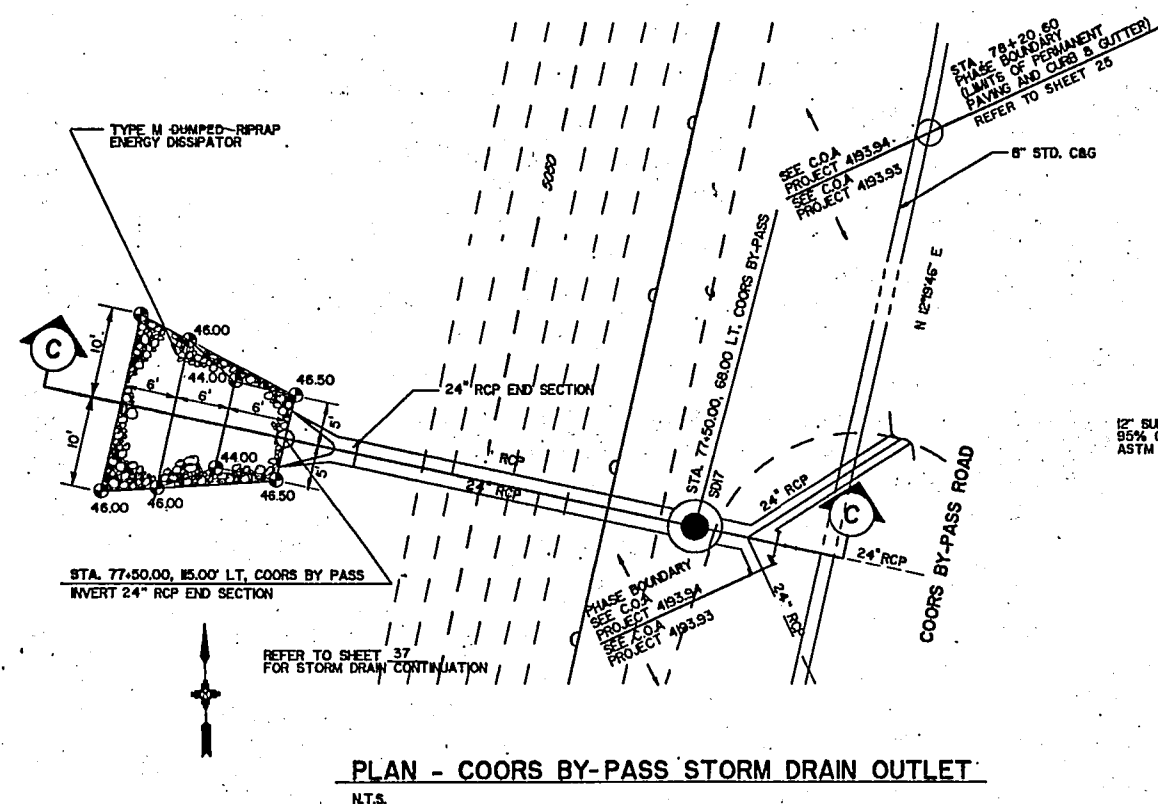
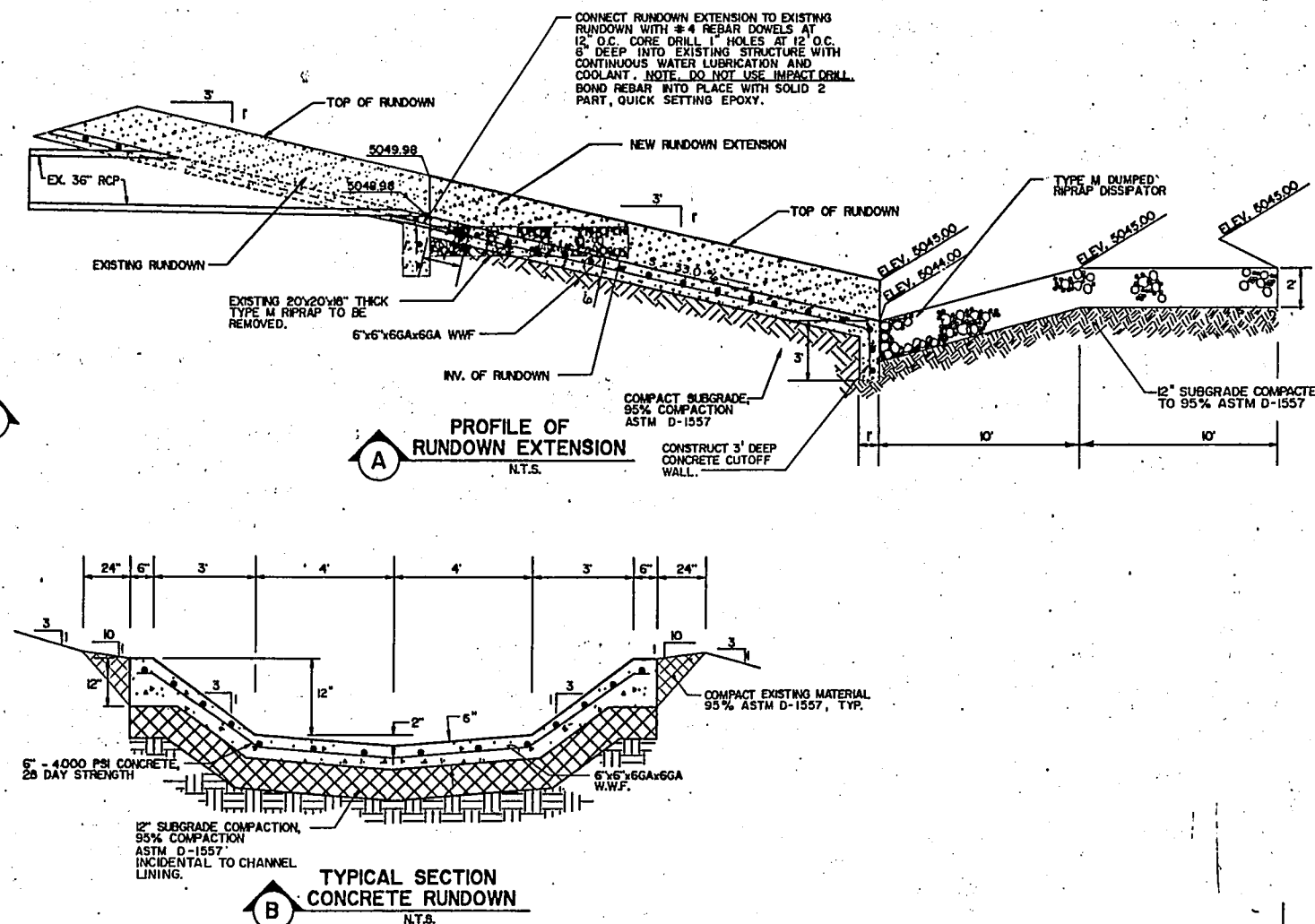
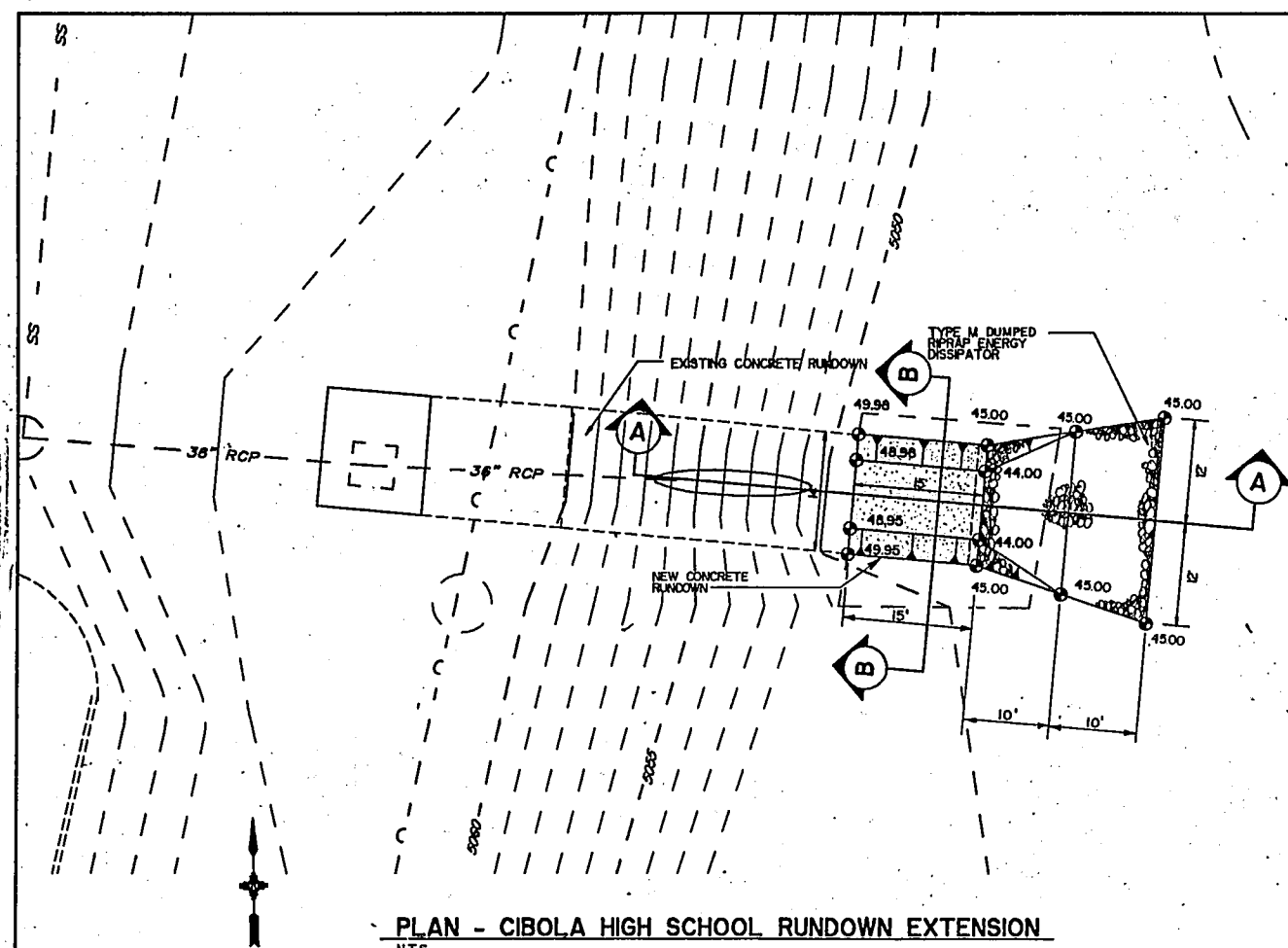
- ARMOR POND INLET WITH 6" THICK SOIL CEMENT. USE 10% CEMENT BY WEIGHT. SHAPE POND INLET TO COLLECT AND CHANNEL WATER ACROSS SC MATERIAL AND INTO POND.
- PERMANENT CURB AND GUTTER ON SOUTH SIDE OF ELLISON DRIVE FROM STATION 24+60 TO 25+10 WILL SERVE AS EMERGENCY SPILLWAY FOR TEMPORARY DESILTATION POND.
- CONSTRUCT POND BOTTOM, POND SLOPE, AND DRAINAGE SWALE TO 90% MAXIMUM DRY DENSITY PRIOR TO REVEGETATION.
- REVEGETATE ALL DISTURBED AREAS INCLUDING POND BOTTOM, SLOPES AND DRAINAGE SWALE.
- FOR SOIL CEMENT DETAIL, SEE SECTION E, SHEET 49

EASTERLING & ASSOCIATES, INC.
 CONSULTING ENGINEERS
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 (505) 898-8021 FAX (505) 898-8501

CITY OF ALBUQUERQUE
 PUBLIC WORKS DEPARTMENT
 ENGINEERING GROUP

TITLE:
 SAD 223 - PART 4
 TRACT G-1A TEMPORARY POND
 PLAN-PROFILE-DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair	WATER	1-19-92			
TRANS. DEV.	WASTE WATER				
HYDROLOGY					
PROJECT NO.	4193.94	MAP NO.	A-14	SHEET	50 OF 120



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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE, SAD 223 - PART 4
TRACT N-2B-1 REGIONAL DETENTION POND
CIBOLA HIGH SCHOOL / COORS-BYPASS INLETS AND DETAILS

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER	<i>AKD</i>	3.19.92
TRANS. DEV.			WASTE WATER	<i>AKD</i>	"
HYDROLOGY					

PROJECT NO.	4193.94	MAP NO.	A-13 B-13	SHEET	53	OF	120

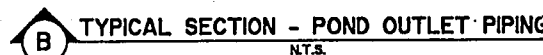
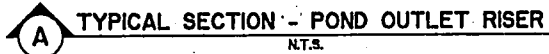
RECORD DRAWING - SAD 223 PARTS 3 & 4



I, R. P. Bohannon, hereby certify that this drawing has been revised in accordance with the information furnished by Albuquerque Underground, Inc. to reflect the construction as actually accomplished.

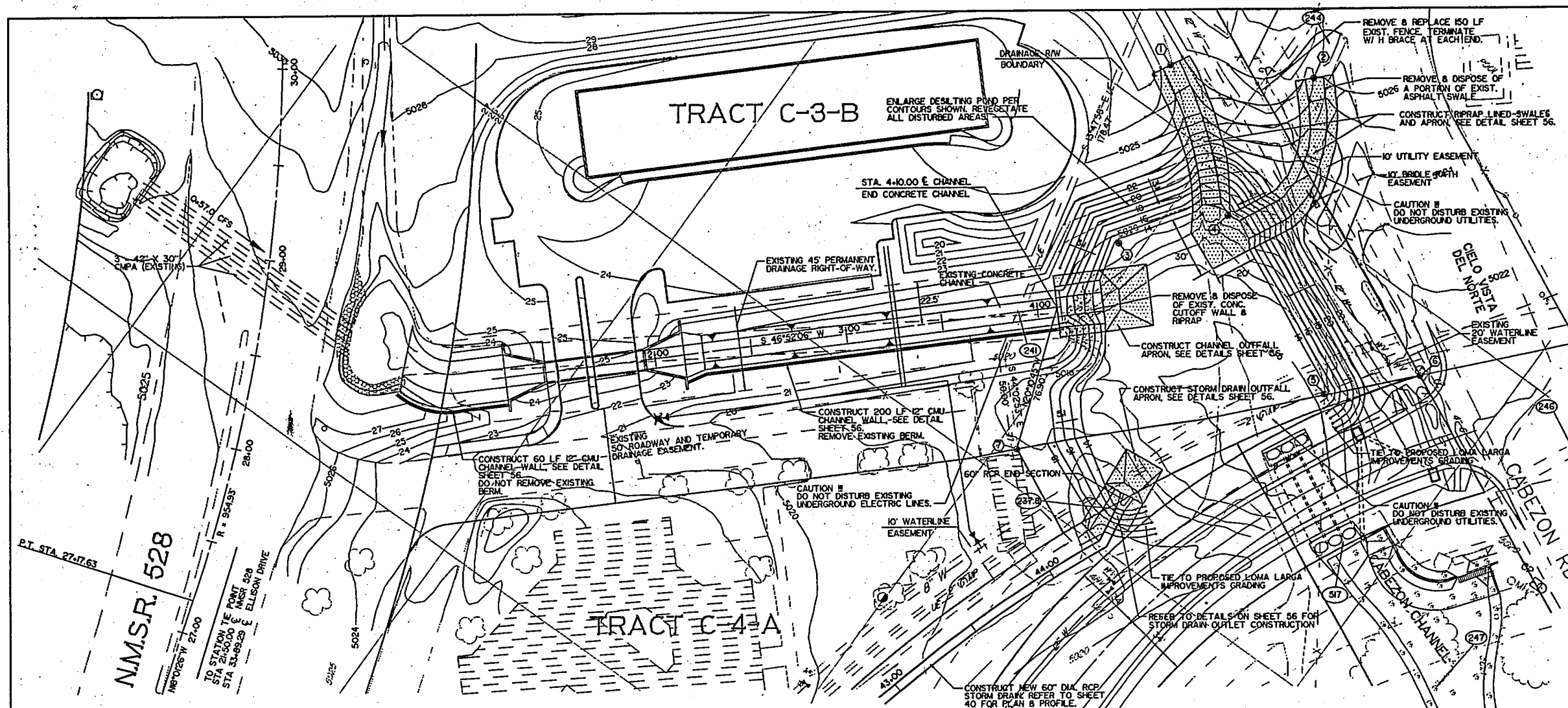
R.P. Bohannon 3/25/87

R. P. Bohannon
N.M.P.E. No. 9814

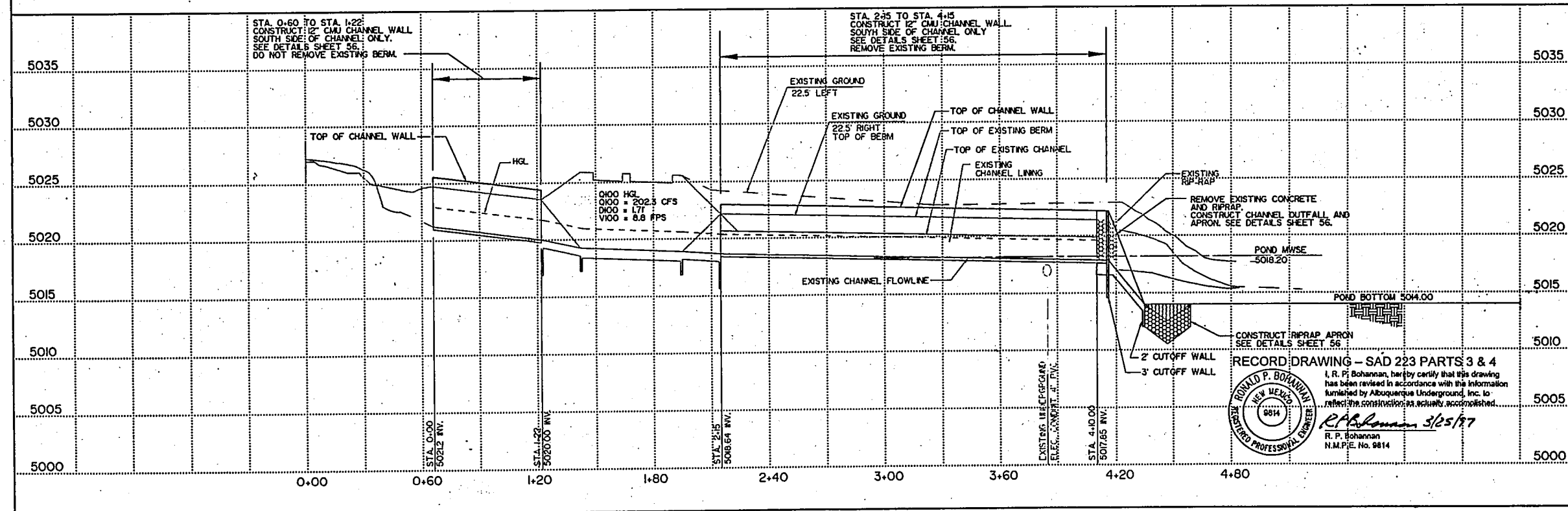


PROJECT NO.	4193.94	MAP NO.	A-13 B-13	SHEET OF	54 120

QUERQUE DEPARTMENT GROUP		
PART 4 DETENTION POND INLET/OUTLET DETAILS		
APPROVALS BY DATE WATER	ENGINEER <i>ALD</i> <i>ALD</i>	DATE 3.19.82 ..
-13 -13	SHEET 54	OF 120



CABEZON CHANNEL DESILTING POND



HYDROLOGIC DATA

ANALYSIS POINT	Q100 (CFS)	HYDROLOGIC CONDITIONS
244	161.4	FULLY DEVELOPED SKYVIEW ACRES
241	202.3	TRACT C-1A & C-2A FULLY DEVELOPED REMAINDER OF DRAINAGE BASIN-EXISTING CONDITIONS
237.8	125.3	FULLY DEVELOPED CONDITIONS WEST OF 528
246	50	CORRALES MAIN CANAL EXISTING CONDITION PER M.R.G.C.D.
517	463	PEAK FLOW RATE FROM THE CABEZON CHANNEL POND WITH THE NOTED UPSTREAM CONDITIONS
247	513	PEAK FLOW RATE IN THE CABEZON CHANNEL WITH THE NOTED UPSTREAM CONDITIONS CAPACITY = 517.00 CFS WITH 2' OF FREEBOARD

NOTE: 1. PEAK FLOW RATES IN THE VARIOUS INFLOWS DO OCCUR SIMULTANEOUSLY

POINT COORDINATES

POINT	NORTHING	EASTING
1	32225.058	80565.501
2	32262.790	80220.063
3	32133.995	80468.798
4	32178.693	80226.339
5	32132.706	80321.036
6	32169.754	80355.750
7	32046.493	80209.475

AS BUILT INFORMATION

CONTRACTOR	DATE
WORK BY	DATE
INSPECTED BY	DATE
APPROVED BY	DATE
DRAWN BY	DATE
CHECKED BY	DATE

ENGINEERS SEAL

REVISIONS

NO.	DATE	REMARKS
1	JUNE 1994	DESIGN
2	JUNE 1994	DESIGN
3	JUNE 1994	DESIGN

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CITY OF ALBUQUERQUE

PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE

SAD 223 - PART 4
CABEZON CHANNEL DESILTING POND
DRAINAGE IMPROVEMENTS

APPROVALS

ENGINEER	DATE
D.R.C. Chair	
TRANS. DEV.	
HYDROLOGY	

PROJECT NO.

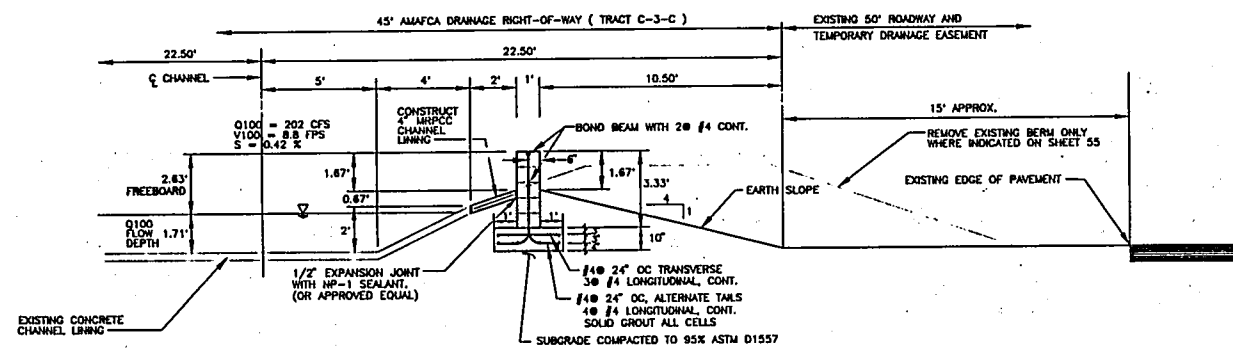
4193.94

MAP NO.

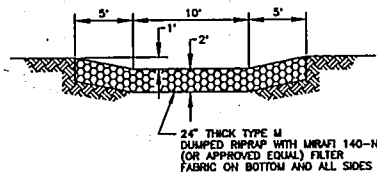
A-14

SHEET

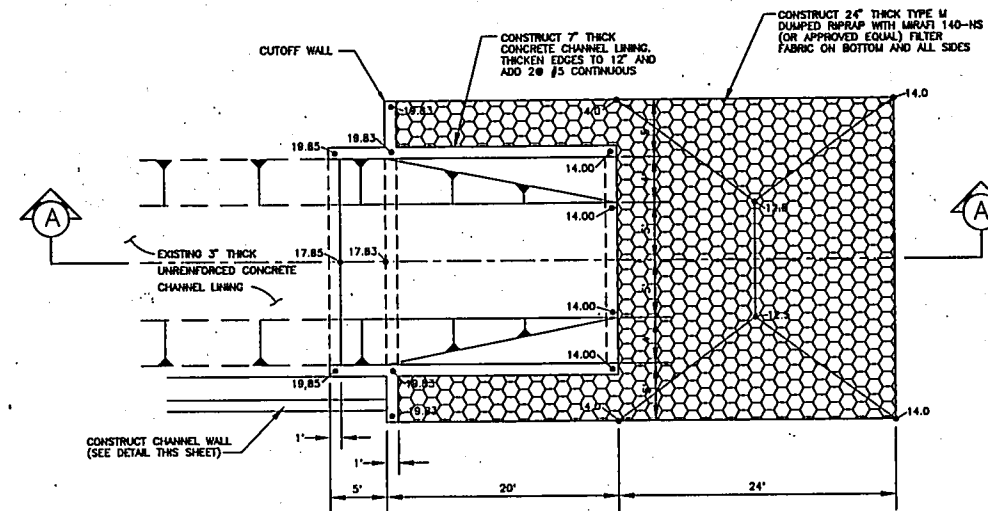
55 OF 120



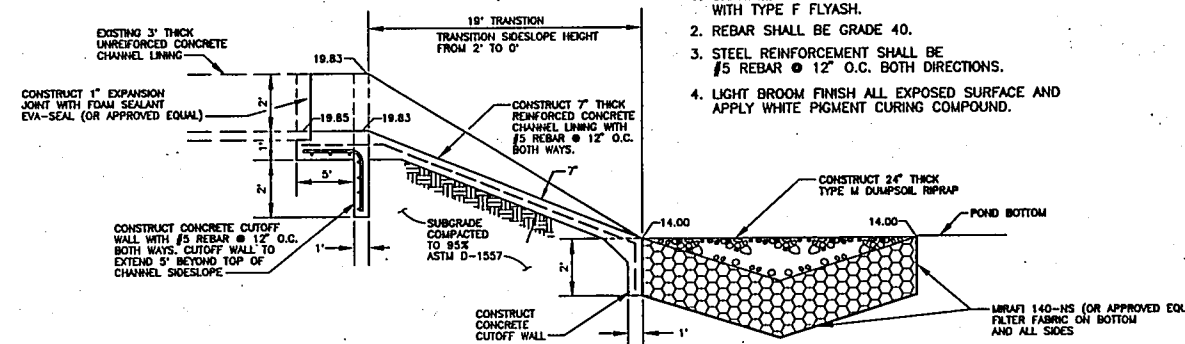
CHANNEL WALL
TYPICAL SECTION
NO SCALE



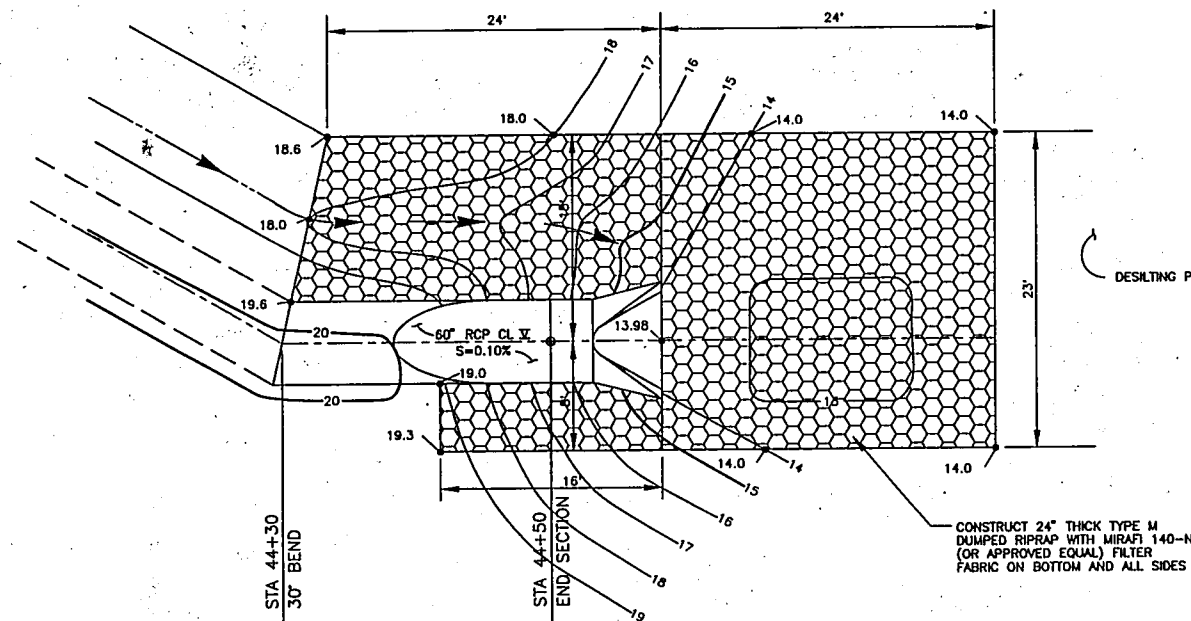
RIPRAP SWALE
TYPICAL SECTION
NO SCALE



CHANNEL OUTFALL APRON PLAN
NO SCALE



CHANNEL OUTFALL APRON SECTION A-A
NO SCALE



60" STORM DRAIN OUTFALL APRON PLAN
NO SCALE

NOTES:

1. CHANNEL CONCRETE SHALL BE 4000 PSI WITH TYPE F FLYASH.
2. REBAR SHALL BE GRADE 40.
3. STEEL REINFORCEMENT SHALL BE #5 REBAR @ 12" O.C. BOTH DIRECTIONS.
4. LIGHT BROOM FINISH ALL EXPOSED SURFACE AND APPLY WHITE PIGMENT CURING COMPOUND.

RECORD DRAWING - SAD 223 PARTS 3 & 4

I, R. P. Bohannon, hereby certify that this drawing has been revised in accordance with the information furnished by Albuquerque Underground, Inc. to reflect the construction as actually accomplished.

RONALD P. BOHANNON
REGISTERED PROFESSIONAL ENGINEER
NEW MEXICO
0814
3/25/97
R. P. Bohannon
N.M.P.E. No. 9814

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CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: SAD 223-PART 4
CABEZON CHANNEL DESILTING POND
DRAINAGE DETAILS

APPROVALS	ENGINEER	DATE
D.R.C. Choir	WATER	
TRANS. DEV.	WASTE WATER	
HYDROLOGY	AMAFCA	
DESIGN		
PROJECT NO.	4193.94	MAP NO. A-14
SHEET	56	OF 120

ENGINEERS SEAL				SURVEY INFORMATION				BENCH MARKS				AS BUILT INFORMATION			
					</										

BOHANNAN - HUSTON

INC.





DRAINAGE REPORT FOR COTTONWOOD MALL AND SAD 223 - PART 2

Prepared for:

**SIMON PROPERTY GROUP, L.P.
MERCHANTS PLAZA
P.O. BOX 7033
INDIANAPOLIS, IN 46207**

Prepared by:

Job No. 90316.83
and 94133.01



BOHANNAN-HUSTON INC.

ENGINEERS ARCHITECTS PHOTOGRAMMETRISTS SURVEYORS

COURTYARD I, 7500 JEFFERSON NE ALBUQUERQUE, NM 87109 TEL (505) 823-1000 FAX (505) 821-0892

DRAINAGE REPORT FOR
COTTONWOOD MALL AND
SAD 223 - PART 2

AUGUST 1994

Prepared for:

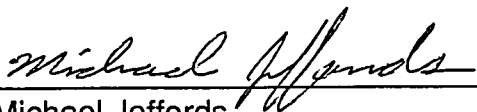
SIMON PROPERTY GROUP, L.P.
MERCHANTS PLAZA
P.O. BOX 7033
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Prepared by:

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Prepared by:

Under the Supervision of:


Michael Jeffords


Kerry L. Davis, P.E.



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AHYMO SUMMARY TABLE (100-YEAR, 24-HOUR STORM)	A1-3

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COTTONWOOD MALL

NOTE: *The following report is a re-submittal of a previously approved drainage report. This report has been prepared using the updated procedures found in recent revisions to the DPM.*

MASTER DRAINAGE PLAN

I. PURPOSE

The purpose of this report is to outline the drainage and management plan for a major shopping mall site comprising approximately 90 acres, referred to as Cottonwood Mall, owned and to be developed by Simon Property Group, L.P. The Drainage Ordinance, Development Process Manual (DPM), North Coors Drainage Management Plan, and the Seven Bar Ranch Sector Development Plan have been utilized to prepare this report.

II. SITE LOCATION AND DESCRIPTION

Cottonwood Mall is bordered on the north by Seven Bar Loop Road and the Alameda West Shopping Center, on the south by Coors Bypass Road, and the east by Corrales Road (old North Coors Road). Plate 1 better identifies the project locations.

The project site is generally located on the western bank of the Rio Grande Valley within the watershed area that is drained by the Calabacillas Arroyo. Existing soils at the site are identified in the Soil Conservation Service (SCS) report entitled "Soil Survey of Bernalillo County" as those within the Bluepoint Series. The specific Bluepoint soil type shown in the report is Bluepoint Loamy Fine Sand (BCC) which is characterized as a sandy alluvium and wind-borne deposits of moderate slopes. The water and wind erosion potential of these soils is severe. The hydrologic classification of the Bluepoint soils is class "A."

III. EXISTING CONDITIONS

The mall site is to be constructed at the southern portion of the old Alameda Airport. Existing buildings, underground storage tanks, and asphalt runways that are still in place will be removed and disposed of prior to the earthwork operations. The adjacent developments surrounding the proposed shopping center include the Alameda West Shopping Center to the north, the V.T. Autopark to the south, and the A.J. Black residential property to the east.

The V.T. Autopark is located on the south side of Coors Bypass Road, just west of Corrales Road. Infrastructure improvements (W.O. 3040) constructed as a requirement for this development included the southern 24' of the Coors Bypass Road up to the mall's west property line, sanitary sewer and water for the development, and the storm drain system that collects and discharges runoff to the Calabacillas Arroyo. The storm drain system constructed in Coors Bypass Road collects flows developed in the V.T. Autopark and a portion of the adjacent western property, Coors Bypass Road, and Eagle Ranch Road. Also, the majority of Cottonwood Mall runoff will be discharged to the downstream portion of this existing storm drain system.

The property of A.J. Black is located on the west side of Corrales Road south of Seven Bar Loop Road. The western and the southern boundaries of this property are shared with the mall site. An existing arroyo which begins on the mall site and continues easterly across the Black's property conveys collected flows into 2-24" C.M.P. storm drains, conveys flow under the road into a detention pond for ultimate discharge into the existing Middle Rio Grande Conservancy District Corrales Main Canal. Existing conditions show that a portion of the runoff developed on the mall site drains into the existing arroyo for ponding and discharges through the 24" storm drains to the Corrales Main Drain.

The perimeter street improvements that will be constructed as part of this development include the construction of the southern half of Seven Bar Loop Road, the

northern 24' of Coors Bypass Road, and drainage improvements to Corrales Road. The construction of the improvements fall under the constraints of both the Coors Corridor Plan and the Seven Bar Ranch Sector Development Plan. The public facilities associated with Cottonwood Mall will be constructed as part of the Special Assessment District (SAD) 223. SAD 223 will include other street, utility, and drainage improvements within Seven Bar Ranch, as required to serve parcels east of Coors Bypass Road. The construction of the street improvements is anticipated to be completed concurrently with the construction of the mall site.

One offsite drainage basin will discharge onto the Cottonwood Mall site; this comprises flows from the southern portion of Seven Bar Loop Road from the intersection with Cottonwood Drive to the intersection with Coors Bypass Road. Flows that develop in properties on the west and south sides of Coors Bypass Road that are not directly discharged into the Calabacillas Arroyo are conveyed either north or south in Coors Bypass Road. The southern flows will be collected and discharged through the existing storm system for release to the Calabacillas Arroyo, while the northern flows will be directed to a detention pond located on the east side of the Cibola High School site for ultimate discharge to the Cabezone Arroyo. The remaining flows that drain into Seven Bar Loop Road north of the site will be conveyed east in the roadway, then north in the proposed Cottonwood Drive to a detention pond that discharges to the Cabezone Arroyo. The Cooper Tract located north of the mall site and west of the Alameda West Shopping Center will drain toward the north for release into Ellison Drive. The information above was obtained from both the Seven Bar Drainage Management Plan (Easterling and Associates, Inc., January, 1990), and the North Coors Drainage Management Plan (Volume IV-D, AMAFCA, August, 1989).

IV. HYDROLOGIC AND HYDRAULIC ANALYSIS

The hydrologic calculations which appear herein analyze the developed discharge for the 100-year, 24-hour storm, as identified within the recent revision to Chapter 22.2 of the Development Process Manual, 1/93 version (DPM Update). The

computerized watershed model "AHYMO" (9/93 version) was used to calculate and route flows through ponds and the storm drain system. Peak flows have been checked by the rational method as presented within the DPM Update.

The hydraulic calculations which appear herein were computed as follows. Street capacities were computed using Manning's equation with Manning's N values as identified within the DPM Update. Interior Loop Road capacities were computed with the maximum water elevation at top of curb. Inlet capacities on grade were determined in accordance with DPM charts and procedures. Inlet capacities in sump conditions were made using the orifice equation and the weir equation. Storm drain capacities and hydraulic grade line calculations are included in the report. Stage/storage/discharge relationships were developed for each pond and outlet using the orifice and weir equations, as applicable. Parking lot detention ponds have typically been designed to reach a depth of .75' at their peak discharge. All calculations have been made in accordance with DPM procedures.

The basin boundaries, and conceptual proposed contours are shown on Plate 1 of the attached plans. The proposed storm sewer diameters, lengths, slopes, HGL information, manhole sizes and service connection information are shown on the attached plan and profile sheets (see Appendix III).

V. DRAINAGE MANAGEMENT PLAN

The mall site was divided into three major basins (A, B, and C) which will drain to the existing storm system in Coors Bypass Road, and a fourth basin (Basin D) which will drain to Seven Bar Loop Road, as shown on the drainage plan (Plate 1). The approved drainage report for the J.T. Autopark development established the maximum flowrate of developed runoff that can be discharged into the existing storm sewer system from the mall site to be 169 cfs. The water collected in the existing storm sewer system will discharge into the Calabacillas Arroyo for ultimate release into the Rio Grande. The remaining developed runoff from Basin D will be discharged into the

south side of Seven Bar Loop Road for collection and discharge across Corrales Road into the Corrales Main Canal. This flow is governed by the North Coors Drainage Management Plan.

The three major basins (A, B, and C) are comprised of a series of contributing basins. Each contributing basin is provided a means of collecting the flow (junction boxes, inlets, or ponds) and a storm sewer lateral to convey the flow. The table given below shows the relationship between the major basins and the contributing basins as identified on Plate 1 and in the hydrologic analysis in Appendix I.

MAJOR BASINS

Basin A
Basin B
Basin C

CONTRIBUTING BASINS

Basins 1-17
Basins 1a-27
Basins 1a-3e

Basin A and Basin B were designed to collect and distribute approximately two-thirds of the developed flow generated from the shopping mall to the existing storm sewer. Basin C-2 was designed to collect the flows generated in the Reserve Parcel at the intersection of Corrales Road and Coors Bypass Road and route it to the existing storm system.

Flows from Basins C-1-A and C-3-A, through C-3-E are collected at the mall entrance at the southeast corner of the A.J. Black property and conveyed to the system which collects Basin B flows.

Basin A routes flows from the southwest corner of the site easterly along the southern half of the site to a manhole which combines the flows with those collected in Basin B. The peak flowrate developed in the Basin A as identified in the HYMO output is 44.5 cfs. Basin B routes flows from the northwest corner of the site easterly along the northern half of the site, then south along the interior loop road to the manhole

described above. The peak flow generated in Basin B at the intersecting manhole is 120.7 cfs. The water is then conveyed south to a manhole that intercepts the flows from Basins A and B. The peak flowrate to be discharged into the existing storm sewer system in Coors Bypass Road as identified in the HYMO output is 160 cfs.

Basin D is located at the northeast corner of the site. Basin D-1 flows will be collected in a small detention pond prior to discharge into Seven Bar Loop Road. Basin D-2 flows will be discharged directly into Seven Bar Loop Road. The flows will then be conveyed from Corrales Road into an existing arroyo. The North Coors Drainage Management Plan identified 106 cfs to be discharged from the mall site in the developed condition to the existing arroyo. The peak flowrate that was calculated for the 100-year, 6-hour storm which will be discharged from Basin D (developed) was 11.1 cfs. Of the 11.1 cfs, 7.7 cfs will be collected in a small detention pond at the northeast corner of the site and a peak of 7.5 cfs will be released into the southern portion of Seven Bar Loop Road. The flow will then continue south along Corrales Road into the existing arroyo (see Plate 1).

The runoff collected on the roof areas will be released by a series of gutters and pipes into the storm sewer system. The openings that will be provided to allow the runoff collected on the roof into the gutter system will be sized so that no ponding will occur on the roof areas.

It was determined through several iterations that detention ponding will be necessary in order to meet the discharge requirements at the outlet to the existing storm sewer and Seven Bar Loop Road. Size, shape, and depth of each pond will vary depending on the location and outlet conditions. The interior slopes of the ponds will be landscaped with sod and will be designed to a maximum of a 3:1 (horizontal:vertical) slope. The bottom surface of the pond will be sodded or lined with gravel in order to collect sediment and provide for erosion control. Inlets and manhole inlets will be utilized to control the discharge from the detention ponds.

Extensive landscaping will be provided on the mall site at locations not utilized for parking or buildings. Landscaped areas will include any combination of grass, trees, or shrubs. The landscaping used will provide for erosion protection of side slopes and ponds, beautification of the site, and provide an aesthetic buffer between the site and surrounding developments. The treatment provided for the individual landscaped areas will be determined by the Landscape Architect at the appropriate time.

VI. PHASING AND EROSION CONTROL

The construction of the mall site will be completed in one phase with the surrounding Reserve Parcels to be developed as need dictates. The infrastructure improvements required for the building will be completed with the construction of the mall. A stub-out will be provided from the storm sewer system to the building areas for the roof drains.

Soil erosion and dust control are recognized as significant problems for this development. As identified in the Seven Bar Ranch Sector Development Plan, this area will be subject to the Albuquerque/Bernalillo County Air Quality Control Board regulations and ordinances regarding soil erosion and dust control during development and construction. This includes obtaining a "Top Soil Disturbance Permit" which shall outline specific dust control plans and measures for this project. It is the responsibility of the Contractor to obtain the necessary permit before mass grading operations start.

The site will be graded in two phases to allow for greater ease in mall construction and pipe installation. All lower level parking areas will be mass graded in Phase I grading. Only upper level parking areas on the far north and west sides of the site will be mass graded in Phase I grading. Mall pad areas will be excavated and tie slopes to the surrounding parking areas will also occur in Phase I. Any excess earth will be stockpiled on the perimeter (future) pad sites. Phase II grading will fill in all upper level parking areas on the east side of the site after substantial mall completion and pipe installation. Extensive erosion control and wind protection will be necessary

during the mass grading operations. These measures should include interim contour berms, snow fences, and site watering. The control berms should follow the boundary of the site to keep flows collected during grading operations on the site and to stop sediment from damaging adjacent properties. Snow fences should be placed generally in the north/south directions along the eastern boundary of the site prior to grading operations in order to contain wind-borne materials onsite. Water should be applied during all phases of the earthwork and especially at the end of the working day in order to form a crust surface. Those portions of the Reserve Parcels that are not to be developed within one year shall be treated with hay mulch crimped into north/south furrows to provide for long term dust control.

VI. CONCLUSIONS

The Cottonwood Mall is to be constructed between Coors Bypass Road and Seven Bar Loop Road on the west side of Corrales Road. The offsite infrastructure improvements include the construction of the north portion of Coors Bypass Road, the southern half of Seven Bar Loop Road, and channelization improvements to the Corrales Road.

The site has been designed to convey developed flows to the existing storm sewer system in Coors Bypass Road. Minor flows from Wards T.B.A. will be conveyed to the Corrales Main Canal via the following route: Seven Bar Loop Road to Corrales Road to an existing arroyo to the Canal. The constraints on discharging developed runoff offsite to the existing storm system or the existing arroyo were identified in the drainage report prepared for the V.T. Autopark site and the North Coors Drainage Management Plan, respectively.

Based on the hydrologic analysis contained herein, and previous research and analysis, detention ponding will be necessary to control the discharge to the previously approved flowrates. The detention ponds will be landscaped and standpipe structures will be utilized for discharge. Roof flows will be collected by a series of gutters and

pipes for discharge into the storm sewer. The maximum peak flowrate generated onsite by this development when fully developed has been computed to be 160 cfs, which is less than the 169 cfs allowed by the V.T. Autopark Drainage Management Plan.

The project is to be graded in two phases. Extensive dust and erosion control measures will be necessary as required by the Air Quality Control Board regulations and ordinances. These measures shall include interim control berms, water protection, snow fences, and crimped hay much. It will be the Contractor's responsibility to obtain the necessary permits and provide the control measures during construction.

The construction of the mall is to be completed in one phase and the required infrastructure will be installed concurrently. The Reserve Parcels will be developed in future phases.



APPENDICES

APPENDIX I: HYDROLOGIC COMPUTATIONS

SUMMARY OF HYDROLOGIC DATA (100-YEAR, 24-HOUR STORM)	A1-1
TIME TO PEAK CALCULATIONS	A1-2
AHYMO SUMMARY TABLE (100-YEAR, 24-HOUR STORM)	A1-3

APPENDIX II: HYDRAULIC COMPUTATIONS

CAPACITIES OF INLETS ON GRADE	A2-1
POND ANALYSIS	A2-7
HGL COMPUTATIONS	A2-41

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- PLATE 1 - CONCEPTUAL GRADING AND DRAINAGE PLAN
- PLATE 2 - NFIP FLOOD BOUNDARY AND FLOODWAY MAP

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AHYMO SUMMARY TABLE (100-YEAR, 24-HOUR STORM)	A1-3

SUMMARY OF HYDROLOGIC DATA

BASIN ID	AREA AC	AREA SQ.MI.	% LAND TREATMENT			TIME TO PEAK	DISCHARGE CFS/AC	Q (R) CFS	Q (HYMO) CFS
			A	B	C				
A-1	2.990	0.0047	0.0	14.0	0.0	86.0	0.1333	4.04	12.0
A-2	6.070	0.0095	0.0	6.0	0.0	94.0	0.1333	4.23	25.7
A-3	7.970	0.0125	0.0	14.0	0.0	86.0	0.1333	4.04	32.2
A-4	1.970	0.0031	0.0	4.0	0.0	96.0	0.1333	4.28	8.4
A-6	1.710	0.0027	0.0	3.0	12.0	85.0	0.1333	4.12	7.0
A-7	0.640	0.0010	0.0	4.0	0.0	96.0	0.1333	4.28	2.7
A-8	3.430	0.0054	0.0	6.0	5.0	89.0	0.1333	4.15	14.3
A-9	1.530	0.0024	0.0	3.0	13.0	84.0	0.1333	4.10	6.3
A-10	0.230	0.0004	0.0	0.0	0.0	100.0	0.1333	4.37	1.0
A-11	0.730	0.0011	0.0	7.0	22.0	71.0	0.1333	3.88	2.8
A-12	2.520	0.0039	0.0	3.0	6.0	91.0	0.1333	4.21	10.6
A-13-A-1	0.490	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.1
A-13-A-2	0.440	0.0007	0.0	0.0	0.0	100.0	0.1333	4.37	1.9
A-13-B-1	0.200	0.0003	0.0	0.0	0.0	100.0	0.1333	4.37	0.9
A-13-B-2	0.740	0.0012	0.0	0.0	0.0	100.0	0.1333	4.37	3.2
A-13-C	0.720	0.0011	0.0	0.0	0.0	100.0	0.1333	4.37	3.1
A-14-A	0.740	0.0012	0.0	0.0	0.0	100.0	0.1333	4.37	3.2
A-14-B-1	1.230	0.0019	0.0	0.0	0.0	100.0	0.1333	4.37	5.4
A-14-B-2	0.510	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.2
A-15-A	0.490	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.1
A-15-B	0.490	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.1
A-16	0.080	0.0001	0.0	0.0	0.0	100.0	0.1333	4.37	0.3
A-17	<u>2.820</u>	<u>0.0044</u>	0.0	4.0	3.0	93.0	0.1333	4.23	11.9
	38.740	0.061							
B-1-A	2.470	0.0039	0.0	4.0	3.0	93.0	0.1333	4.23	10.5
B-1-B	1.100	0.0017	0.0	4.0	3.0	93.0	0.1333	4.23	4.7
B-1-C	0.950	0.0015	0.0	4.0	3.0	93.0	0.1333	4.23	4.0
B-1-D	2.780	0.0043	0.0	4.0	3.0	93.0	0.1333	4.23	11.8
B-2-A	0.890	0.0015	0.0	31.0	0.0	69.0	0.1333	3.64	3.6
B-2-B	0.310	0.0005	0.0	0.0	100.0	0.0	0.1333	2.87	0.9
B-3	2.430	0.0038	0.0	9.0	11.0	80.0	0.1333	3.99	9.7
B-4	2.080	0.0033	0.0	0.0	0.0	100.0	0.1333	4.37	9.1
B-5	3.860	0.0060	0.0	5.0	0.0	95.0	0.1333	4.25	16.4
B-6	0.370	0.0006	0.0	0.0	0.0	100.0	0.1333	4.37	1.6
B-7	0.500	0.0008	0.0	0.0	100.0	0.0	0.1333	2.87	1.4
B-8-A	1.620	0.0025	0.0	5.0	0.0	95.0	0.1333	4.25	6.9
B-8-B	1.200	0.0019	0.0	3.0	0.0	97.0	0.1333	4.30	5.2
B-8-C	2.970	0.0046	0.0	5.0	0.0	95.0	0.1333	4.25	12.6
B-9	2.370	0.0037	0.0	1.0	11.0	88.0	0.1333	4.18	9.9
B-10	2.100	0.0033	0.0	13.0	0.0	87.0	0.1333	4.07	8.5
B-13	1.900	0.0030	0.0	4.0	5.0	91.0	0.1333	4.20	8.0
B-14	2.130	0.0033	0.0	3.0	12.0	85.0	0.1333	4.12	8.8
B-15-A	0.935	0.0015	0.0	4.0	10.0	86.0	0.1333	4.13	3.9
B-15-B	0.935	0.0015	0.0	4.0	10.0	86.0	0.1333	4.13	3.9
B-16	2.140	0.0033	0.0	3.0	0.0	97.0	0.1333	4.30	9.2
B-18-A-1	0.490	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.1
B-18-A-2	0.460	0.0007	0.0	0.0	0.0	100.0	0.1333	4.37	2.0
B-18-B	0.270	0.0004	0.0	0.0	0.0	100.0	0.1333	4.37	1.2
B-18-C	0.480	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.1
B-19-A	0.480	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.1
B-19-B	0.790	0.0012	0.0	0.0	0.0	100.0	0.1333	4.37	3.5
B-19-C	0.760	0.0012	0.0	0.0	0.0	100.0	0.1333	4.37	3.3
B-19-D	0.560	0.0009	0.0	0.0	0.0	100.0	0.1333	4.37	2.4
B-20-A	0.590	0.0009	0.0	0.0	0.0	100.0	0.1333	4.37	2.6
B-20-B	1.080	0.0017	0.0	0.0	0.0	100.0	0.1333	4.37	4.7
B-20-C	0.580	0.0009	0.0	0.0	0.0	100.0	0.1333	4.37	2.5
B-21-A	0.560	0.0009	0.0	0.0	0.0	100.0	0.1333	4.37	2.4
B-21-B	0.490	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.1
B-21-C	0.505	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.2
B-21-D	0.505	0.0008	0.0	0.0	0.0	100.0	0.1333	4.37	2.2
B-22	0.060	0.0001	0.0	0.0	0.0	100.0	0.1333	4.37	0.3
B-23	0.040	0.0001	0.0	0.0	0.0	100.0	0.1333	4.37	0.2
B-24	0.060	0.0001	0.0	0.0	0.0	100.0	0.1333	4.37	0.3
B-25	0.080	0.0001	0.0	0.0	0.0	100.0	0.1333	4.37	0.3
B-26	0.600	0.0009	0.0	0.0	100.0	0.0	0.1333	2.87	1.7
B-27	<u>0.050</u>	<u>0.0001</u>	0.0	0.0	0.0	100.0	0.1333	4.37	0.2
	45.630	0.0713							
C-1-A	4.380	0.0068	0.0	30.0	0.0	70.0	0.1333	3.67	16.1
C-1-B	0.710	0.0011	0.0	0.0	0.0	100.0	0.1333	4.37	3.1
C-2	1.780	0.0028	0.0	0.0	0.0	100.0	0.1333	4.37	7.8
C-3-A	0.880	0.0014	0.0	0.0	0.0	100.0	0.1333	4.37	3.8
C-3-C	0.360	0.0006	0.0	7.0	0.0	93.0	0.1333	4.21	1.5
C-3-D	0.250	0.0004	0.0	100.0	0.0	0.0	0.1333	2.03	0.5
C-3-E	<u>0.180</u>	<u>0.0003</u>	0.0	0.0	0.0	100.0	0.1333	4.37	0.8
	8.540	0.0133							
D-1	1.820	0.0028	0.0	12.0	0.0	88.0	0.1333	4.09	7.4
D-2	0.670	0.0010	0.0	20.0	0.0	80.0	0.1333	3.90	2.6
D-3	<u>0.240</u>	<u>0.0004</u>	0.0	0.0	0.0	100.0	0.1333	4.37	1.0
	2.730	0.0043							
TOTAL	95.64								

TIME TO PEAK CALCULATIONS

Description	Variable	Unit	Basin	Basin	Basin	Basin
			B-4	A-2	A-3	C-1-A
Total Reach	L	Feet	1400.0	650.0	1000.0	1000.0
Overland Reach	L1	Feet	30.0	400.0	400.0	200.0
Overland K	K1		1	1	1	1
Overland Slope	S1	Percent	1.00	1.00	1.00	1.00
Adj. Overland Slope	S1'	Percent	1.000	1.000	1.000	1.000
Gully Reach	L2	Feet	470	250	600	800
Gully K	K2		2	2	2	2
Gully Slope	S2	Percent	1.000	1.000	1.000	0.700
Adj. Gully Slope	S2'	Percent	1.000	1.000	1.000	0.700
Arroyo Reach	L3	Feet	900.0	0.0	0.0	0.0
Arroyo K	K3		3	1	1	1
Arroyo Slope	L3	Percent	2.000	1.000	1.000	4.000
Adj. Arroyo Slope	S3'	Percent	2.000	1.000	1.000	4.000
Lca	Lca	Feet	0.0	0.0	0.0	0.0
Base Discharge	Qb	cfs	11.0	25.3	11.0	10.0
Ground Slope S	S	Percent	1.643	1.000	1.000	0.760
Adjusted Slope S'	S'	Percent	1.643	1.000	1.000	0.760
K	K		2.289	1.238	1.429	1.692
K'	K'		2.289	1.238	1.429	1.692
K''	K''		3.628	5.402	4.650	5.243
K'''	K'''		2.487	3.703	3.187	3.594
Kn	Kn		0.042	0.042	0.042	0.042
Orig. TC	TC	Hrs.	0.133	0.146	0.194	0.188
K Value Used	K		2.289	1.238	1.429	1.692
Adjusted TC	TC'	Hrs.	0.122	0.049	0.087	0.089
Time Lag	Lg	Hrs.	-	-	-	-
Time to Peak	TP	Hrs.	0.133	0.133	0.133	0.133

NOTE: SINCE THESE FOUR BASINS ARE THE LARGEST, LONGEST, FLATTEST AND HAVE MINIMUM TP VALUES IT CAN BE ASSUMED THAT ALL OTHER BASINS ARE AT THE MINIMUM TP.

COTTONWOOD MALL
100-YEAR, 24-HOUR STORM
HYMO SUMMARY TABLE

Pg. 1

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
HYDROGRAPH AT	A1	1	-	0.0047	12.0	NA	1.50	3.99
RESERVOIR HYD	A1	1	1	0.0047	6.7		1.65	
ROUTED 18"		1	2					
	A1	1		0.0047	6.7		1.65	
	A1:MH14	2		0.0047	6.7		1.63	
HYDROGRAPH AT	A13A2	3	-	0.0007	1.9	NA	1.50	4.31
ROUTED 12"		3	4					
	A13A2	3		0.0007	1.9		1.50	
	A13A2:14	4		0.0007	1.9		1.50	
COMBINED FLOW AT	MH14	2& 4	5	0.0054	8.1		1.57	
ROUTED 18"		5	6					
	MH14	5		0.0054	8.1		1.57	
	MH14:M15	6		0.0054	8.0		1.60	
HYDROGRAPH AT	A13A1	7	-	0.0008	2.2	NA	1.50	4.31
ROUTED 12"		7	8					
	A13A1	7		0.0008	2.2		1.50	
	A13A1:MH	8		0.0008	2.1		1.50	
HYDROGRAPH AT	A13B1	9	-	0.0003	0.8	NA	1.50	4.33
ROUTED 12"		9	10					
	A13B1	9		0.0003	1.0		1.50	
	A13B1:MH	10		0.0003	1.0		1.50	
COMBINED FLOW AT	MH15A1	8&10	11	0.0011	2.9		1.50	
HYDROGRAPH AT	A13B2	12	-	0.0012	3.3	NA	1.50	4.30
ROUTED 12"		12	13					
	A13B2	12		0.0012	3.3		1.50	
	A13B2:MH	13		0.0012	3.3		1.50	
COMBINED FLOW AT	MH15A2	11&13	14	0.0023	6.2		1.50	
HYDROGRAPH AT	A13C	15	-	0.0011	3.0	NA	1.50	4.31
ROUTED 12"		15	16					
	A13C	15		0.0011	3.0		1.50	
	A13C2:MH	16		0.0011	3.0		1.50	
COMBINED FLOW AT	MH15ATOT	14&16	17	0.0034	9.2		1.50	
ROUTED 15"		17	18					
	MH15ATOT	17		0.0034	9.2		1.50	
	MH15B:A2	18		0.0034	9.0		1.50	
HYDROGRAPH AT	A2	19	-	0.0095	25.3	NA	1.50	4.16
RESERVOIR HYD	A2:POND	19	19	0.0095	12.2		1.70	
COMBINED FLOW AT	A2:MH15B	18&19	20	0.0129	19.9		1.53	
ROUTED 21"		20	21					
	A2:MH15B	20		0.0129	19.9		1.53	
	A2:MH15	21		0.0129	19.9		1.53	
COMBINED FLOW AT	MH15TOT	21& 6	4	0.0183	27.8		1.53	
ROUTED 27"		4	2					
	MH15TOT	4		0.0183	27.8		1.53	
	MH15:MH1	2		0.0183	27.7		1.57	
HYDROGRAPH AT	A3	3	-	0.0125	31.8	NA	1.50	3.97
HYDROGRAPH AT	A4	4	-	0.0031	8.3	NA	1.50	4.20

[C9413301.HYDRO]CWHYMI00.MSJ/.OUT

HYMO SUMMARY TABLE

Pg. 2

DESCRIPTION		HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
COMBINED FLOW AT ROUTED 33"	A3:A4	3& 4	5	8	0.0156	40.1		1.50	
	A3:A4	5			0.0156	40.1		1.50	
	A3:A4:RT	8			0.0156	40.2		1.50	
COMBINED FLOW AT ROUTED 42"	MH16	2& 8	9	10	0.0339	66.2		1.50	
	MH16	9			0.0339	66.2		1.50	
	MH16:MH1	10			0.0339	65.5		1.50	
HYDROGRAPH AT ROUTED 18"	A10	11	-	12	0.0004	1.1	NA	1.50	4.32
	A10	11			0.0004	1.1		1.50	
	A10:MH17	12			0.0004	1.1		1.50	
COMBINED FLOW AT ROUTED 42"	MH17TOT	10&12	13	14	0.0343	66.6		1.50	
	MH17TOT	13			0.0343	66.6		1.50	
	MH17:A8	14			0.0343	66.9		1.53	
HYDROGRAPH AT RESERVOIR HYD ROUTED 12"	A8	15	-		0.0054	14.1	NA	1.50	4.09
	A8:POND	15	15	16	0.0054	9.9		1.60	
	A8:POND	15			0.0054	9.9		1.60	
	A8:IN	16			0.0054	9.9		1.60	
COMBINED FLOW AT ROUTED 42"	A8:IN	14&16	17	18	0.0397	76.3		1.53	
	A8:IN	17			0.0397	76.3		1.53	
	A8:MH18	18			0.0397	76.5		1.53	
HYDROGRAPH AT ROUTED 12"	A14A	1	-	2	0.0012	3.3	NA	1.50	4.30
	A14A	1			0.0012	3.3		1.50	
	A14A:18A	2			0.0012	3.3		1.50	
HYDROGRAPH AT ROUTED 12"	A16	6	-	7	0.0001	0.3	NA	1.50	4.41
	A16	6			0.0001	1.0		1.50	
	A16:MH18	7			0.0001	1.0		1.50	
COMBINED FLOW AT HYDROGRAPH AT ROUTED 12"	A14A:A16	2& 7	8	-	0.0013	3.6	NA	1.50	4.30
	A14B1	9	10		0.0019	5.2		1.50	
	A14B1	9			0.0019	5.2		1.50	
	A14B1:MH	10			0.0019	5.2		1.50	
COMBINED FLOW AT ROUTED 24"	MH18C	8&10	11	12	0.0032	8.8		1.50	
	MH18C	11			0.0032	8.8		1.50	
	M18A:18B	12			0.0032	8.7		1.50	
HYDROGRAPH AT RESERVOIR HYD ROUTED 12"	A6	13	-		0.0027	7.0	NA	1.50	4.06
	A6:POND	13	13	14	0.0027	1.5		2.05	
	A6:POND	13			0.0027	1.5		2.05	
	A6:MH18B	14			0.0027	1.5		2.07	
COMBINED FLOW AT ROUTED 24"	MH18B:TO	12&14	15	1	0.0059	10.0		1.50	

A1-4

HYMO SUMMARY TABLE

Pg. 3

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
	MH18B:TO	15		0.0059	10.0		1.50	
	M18B:18C	1		0.0059	9.9		1.50	
HYDROGRAPH AT	A14B2	2	-	0.0008	2.2	NA	1.50	4.31
ROUTED 12"		2	3					
	A14B2	2		0.0008	2.2		1.50	
	A14B2:18	3		0.0008	2.2		1.50	
COMBINED FLOW AT	A14B2:MH	1& 3	4	0.0067	12.1		1.50	
HYDROGRAPH AT	A7	5	-	0.0010	2.7	NA	1.50	4.23
RESERVOIR HYD	A7:POND	5	5	0.0010	0.2		2.20	
ROUTED 12"		5	6					
	A7:POND	5		0.0010	1.0		1.50	
	A7:MH18C	6		0.0010	1.0		1.50	
COMBINED FLOW AT	MH18C:TO	4& 6	7	0.0077	12.1		1.50	
ROUTED 30"		7	8					
	MH18C:TO	7		0.0077	12.1		1.50	
	MH18C:MH	8		0.0077	12.1		1.53	
COMBINED FLOW AT	MH18	8&18	9	0.0474	88.6		1.53	
HYDROGRAPH AT	A15A	10	-	0.0008	2.1	NA	1.50	4.31
ROUTED 12"		10	11					
	A15A	10		0.0008	2.1		1.50	
	A15A:MH1	11		0.0008	2.1		1.50	
COMBINED FLOW AT	MH18:TOT	9&11	12	0.0482	90.5		1.53	
ROUTED 48"		12	13					
	MH18:TOT	12		0.0482	90.5		1.53	
	MH18:MH1	13		0.0482	91.1		1.53	
HYDROGRAPH AT	A9	14	-	0.0024	6.2	NA	1.50	4.05
RESERVOIR HYD	A9:POND	14	14	0.0024	1.4		2.00	
ROUTED 12"		14	15					
	A9:POND	14		0.0024	1.4		2.00	
	A9:MH19	15		0.0024	1.4		2.00	
COMBINED FLOW AT	A9:MH19	13&15	16	0.0506	92.4		1.53	
HYDROGRAPH AT	A15B	17	-	0.0008	2.1	NA	1.50	4.31
ROUTED 12"		17	18					
	A15B	17		0.0008	2.1		1.50	
	A15B:M19	18		0.0008	2.1		1.50	
COMBINED FLOW AT	MH19:TOT	16&18	19	0.0513	94.4		1.53	
ROUTED 48"		19	1					
	MH19:TOT	19		0.0513	94.4		1.53	
	MH19:MH2	1		0.0513	95.0		1.53	
HYDROGRAPH AT	A11	2	-	0.0011	2.7	NA	1.50	3.83
RESERVOIR HYD	A11:POND	2	2	0.0011	0.2		2.20	
ROUTED 12"		2	3					
	A11:POND	2		0.0011	1.0		1.53	
	A11:MH20	3		0.0011	1.0		1.53	
COMBINED FLOW AT	MH20:TOT	1& 3	4	0.0524	95.2		1.53	
ROUTED 48"		4	21					
	MH20:TOT	4		0.0524	95.2		1.53	
	MH20:M21	21		0.0524	95.1		1.53	
HYDROGRAPH AT	A17	2	-	0.0044	11.8	NA	1.50	4.18

A1-5

HYMO SUMMARY TABLE

Pg. 4

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
RESERVOIR HYD	A17:POND	2	2	0.0044	2.5		2.05	
ROUTED 18"		2	3					
	A17:POND	2		0.0044	2.5		2.05	
	A17:M21D	3		0.0044	2.5		2.07	
HYDROGRAPH AT	A12	6	-	0.0039	10.3	NA	1.50	4.15
RESERVOIR HYD	A12:POND	6	7	0.0039	2.6		2.00	
COMBINED FLOW AT	A12:TOT	3& 7	8	0.0083	5.1		2.03	
ROUTED 18"		8	9					
	A12:TOT	8		0.0083	5.1		2.03	
	A12:MH21	9		0.0083	5.1		2.03	
COMBINED FLOW AT	MH21	9&21	10	0.0607	99.6		1.53	
ROUTED 54"		10	17					
	MH21	10		0.0607	99.6		1.53	
	MH21:MH1	17		0.0607	99.6		1.53	
HYDROGRAPH AT	B26	18	-	0.0009	1.6	NA	1.50	2.86
COMBINED FLOW AT	POND	17&18	19	0.0616	101.2		1.53	
RESERVOIR HYD	B26:POND	19	20	0.0616	44.3		2.03	
ROUTED 33"		20	21					
	B26:POND	20		0.0616	44.3		2.03	
	POND:MH1	21		0.0616	44.3		2.03	
HYDROGRAPH AT	B1A	1	-	0.0039	10.4	NA	1.50	4.17
DIVIDED FLOW AT		1	1& 2					
	B1A:MH4A	1	-	0.0000	6.0		1.50	
	B1A:DOCK	2	-	0.0000	4.4		1.50	
HYDROGRAPH AT	B1B	3	-	0.0017	4.6	NA	1.50	4.18
COMBINED FLOW AT	B1B:DOCK	3& 2	3	0.0017	9.0		1.50	
HYDROGRAPH AT	B22	4	-	0.0001	0.3	NA	1.50	4.41
COMBINED FLOW AT	B22:DOCK	3& 4	3	0.0018	9.2		1.50	
RESERVOIR HYD	367:B1C	3	4	0.0018	6.2		1.60	
COMBINED FLOW AT	DOCK:MH4	4& 1	5	0.0018	11.6		1.50	
HYDROGRAPH AT	B1C	1	-	0.0015	4.0	NA	1.50	4.19
RESERVOIR HYD	B1C:POND	1	2	0.0015	3.0		1.60	
COMBINED FLOW AT	B1C:MH4A	2& 5	5	0.0033	14.3		1.50	
HYDROGRAPH AT	B18A2	1	-	0.0007	1.9	NA	1.50	4.31
COMBINED FLOW AT	MH4A:TOT	5& 1	5	0.0040	16.2		1.50	
ROUTED 12"		5	3					
	MH4A:TOT	5		0.0040	16.2		1.50	
	MH4A:M4C	3		0.0040	15.9		1.53	
HYDROGRAPH AT	B18A1	4	-	0.0008	2.2	NA	1.50	4.31
ROUTED 12"		4	5					
	B18A1	4		0.0008	2.2		1.50	
	B18A1:4B	5		0.0008	2.2		1.50	
HYDROGRAPH AT	B1D	7	-	0.0043	11.5	NA	1.50	4.16
RESERVOIR HYD	B1D:POND	7	7	0.0043	3.7		1.85	
ROUTED 18"		7	8					
	B1D:POND	7		0.0043	3.7		1.85	
	B2:MH4B	8		0.0043	3.7		1.87	
COMBINED FLOW AT	B2:MH4B	5& 8	9	0.0051	5.6		1.50	
HYDROGRAPH AT	B18B	10	-	0.0004	1.1	NA	1.50	4.32

HYMO SUMMARY TABLE

Pg. 5

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
ROUTED 12"		10	11					
	B18B	10		0.0004	1.1		1.50	
	B18B:M4B	11		0.0004	1.1		1.50	
COMBINED FLOW AT	B18B:M4B	9&11	12	0.0055	6.7		1.50	
HYDROGRAPH AT	B18C	13	-	0.0008	2.2	NA	1.50	4.31
ROUTED 12"		13	14					
	B18C	13		0.0008	2.2		1.50	
	B18C:M4B	14		0.0008	2.2		1.50	
COMBINED FLOW AT	B18C:M4B	12&14	15	0.0063	8.9		1.50	
ROUTED 30"		15	19					
	B18C:M4B	15		0.0063	8.9		1.50	
	MH4B:M4C	19		0.0063	8.9		1.50	
COMBINED FLOW AT	MH4C:TOT	3&19	1	0.0103	24.7		1.53	
ROUTED 36"		1	2					
	MH4C:TOT	1		0.0103	24.7		1.53	
	MH4C:M4	2		0.0103	24.2		1.57	
HYDROGRAPH AT	B3	6	-	0.0038	9.6	NA	1.50	3.93
RESERVOIR HYD	B3:POND	6	6	0.0038	2.2		2.00	
ROUTED 12"		6	7					
	B3:POND	6		0.0038	2.2		2.00	
	B3:M4D	7		0.0038	2.2		2.00	
HYDROGRAPH AT	232:B27	9	-	0.0001	0.3	NA	1.50	4.41
ROUTED 12"		9	10					
	232:B27	9		0.0001	1.0		2.00	
	B27:M46	10		0.0001	1.0		2.00	
COMBINED FLOW AT	MH4D	7&10	11	0.0039	2.4		1.53	
HYDROGRAPH AT	B19A1	12	-	0.0004	1.1	NA	1.50	4.32
ROUTED 12"		12	13					
	B19A1	12		0.0004	1.1		1.50	
	B19A1:M4	13		0.0004	1.1		1.50	
COMBINED FLOW AT	MH4D2	11&13	14	0.0043	3.4		1.50	
ROUTED 12"		14	15					
	MH4D2	14		0.0043	3.4		1.50	
	MH4D:M4	15		0.0043	3.4		1.53	
COMBINED FLOW AT	MH4-1	2&15	20	0.0146	27.3		1.57	
HYDROGRAPH AT	B2A	6	-	0.0015	3.3	NA	1.50	3.46
HYDROGRAPH AT	B2B	1	-	0.0005	0.9	NA	1.50	2.87
COMBINED FLOW AT	B2:POND	1& 6	2	0.0020	4.2		1.50	
HYDROGRAPH AT	B4	3	-	0.0033	9.1	NA	1.50	4.30
ROUTED 24"		3	4					
	B4	3		0.0033	9.1		1.50	
	B4:M43B	4		0.0033	9.2		1.50	
HYDROGRAPH AT	B5	7	-	0.0060	16.1	NA	1.50	4.18
HYDROGRAPH AT	B6	8	-	0.0006	1.7	NA	1.50	4.31
COMBINED FLOW AT	B6:B5	8& 7	8	0.0066	17.7		1.50	
COMBINED FLOW AT	B2:B5:B6	8& 2	8	0.0086	22.0		1.50	
ROUTED 27"		8	9					
	B2:B5:B6	8		0.0086	22.0		1.50	
	B2:B5:PO	9		0.0086	22.1		1.50	

HYMO SUMMARY TABLE

Pg. 6

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
COMBINED FLOW AT POND		2& 9	10	0.0106	26.4		1.50	
HYDROGRAPH AT B7		11	-	0.0008	1.5	NA	1.50	2.86
COMBINED FLOW AT B7:PND:T		10&11	12	0.0114	27.8		1.50	
RESERVOIR HYD B7:PND:R		12	13	0.0114	5.6		2.07	
ROUTED 12"		13	14					
	B7:PND:R	13		0.0114	5.6		2.07	
	POND:MH3	14		0.0114	5.6		2.03	
COMBINED FLOW AT MH3B:TOT		4&14	15	0.0147	13.7		1.50	
ROUTED 27"		15	16					
	MH3B:TOT	15		0.0147	13.7		1.50	
	MH3B:MH4	16		0.0147	13.2		1.50	
COMBINED FLOW AT MH4:TOT		16&20	17	0.0293	40.6		1.53	
ROUTED 36"		17	18					
	MH4:TOT	17		0.0293	40.6		1.53	
	MH4:MH5	18		0.0293	40.4		1.53	
HYDROGRAPH AT B19A2		1	-	0.0004	1.0	NA	1.50	4.32
ROUTED 12"		1	2					
	B19A2	1		0.0004	1.0		1.50	
	B19A2:5B	2		0.0004	1.0		1.50	
HYDROGRAPH AT B19B		3	-	0.0012	3.3	NA	1.50	4.30
ROUTED 12"		3	4					
	B19B	3		0.0012	3.3		1.50	
	B19B:MH5	4		0.0012	3.3		1.50	
COMBINED FLOW AT MH5B		2& 4	5	0.0016	4.3		1.50	
HYDROGRAPH AT B19D1		6	-	0.0004	1.1	NA	1.50	4.32
ROUTED 12"		6	7					
	B19D1	6		0.0004	1.1		1.50	
	B19D:MH5	7		0.0004	1.1		1.50	
HYDROGRAPH AT B19C		8	-	0.0011	3.1	NA	1.50	4.31
ROUTED 12"		8	9					
	B19C	8		0.0011	3.1		1.50	
	B19C:MH5	9		0.0011	3.1		1.50	
COMBINED FLOW AT MH5A:TOT		7& 9	10	0.0015	4.2		1.50	
ROUTED 12"		10	11					
	MH5A:TOT	10		0.0015	4.2		1.50	
	MH5A:M5B	11		0.0015	4.2		1.50	
COMBINED FLOW AT MH5B:TOT		5&11	12	0.0031	8.5		1.50	
ROUTED 18"		12	13					
	MH5B:TOT	12		0.0031	8.5		1.50	
	MH5A:MH5	13		0.0031	8.4		1.50	
COMBINED FLOW AT MH5:TOT		13&18	14	0.0324	48.6		1.53	
ROUTED 42"		14	15					
	MH5:TOT	14		0.0324	48.6		1.53	
	MH5:MH5D	15		0.0324	48.5		1.53	
HYDROGRAPH AT B19D2		16	-	0.0005	1.4	NA	1.50	4.32
HYDROGRAPH AT B20A2		17	-	0.0005	1.4	NA	1.50	4.32
COMBINED FLOW AT B19D:B20		16&17	16	0.0010	2.8		1.50	
ROUTED 12"		16	17					
	B19D:B20	16		0.0010	2.8		1.50	

HYMO SUMMARY TABLE

Pg. 7

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
COMBINED FLOW AT ROUTED 42"	B19D1:5D MH5D:TOT	17 15&17	18	0.0010 0.0334	2.8 51.0		1.50 1.53	
	MH5D:TOT	18	19	0.0334	51.0		1.53	
HYDROGRAPH AT ROUTED 18"	MH5D:MH6 B10	19 1	-	0.0334 0.0033	50.8 8.5	NA	1.53 1.50	4.02
	B10	1	2	0.0033	8.5		1.50	
HYDROGRAPH AT RESERVOIR HYD ROUTED 18"	B10:MH6A B9	2 7	-	0.0033 0.0037	8.3 9.7	NA	1.50 1.50	4.11
	B9	7	11	0.0037	1.9		2.05	
		11	12					
	B9	11		0.0037	1.9		2.05	
	B9:MH6A	12		0.0037	1.9		2.10	
COMBINED FLOW AT ROUTED 21"	MH6A:TOT	2&12	13	0.0070	9.3		1.50	
		13	15					
	MH6A:TOT	13		0.0070	9.3		1.50	
HYDROGRAPH AT RESERVOIR HYD	MH6A:NLT	15		0.0070	9.2		1.53	
	B13	1	-	0.0030	8.0	NA	1.50	4.15
	B13	1	1	0.0030	2.4		1.85	
COMBINED FLOW AT ROUTED 15"	B13TOT	1&15	13	0.0100	11.3		1.53	
		13	2					
	B13TOT	13		0.0100	11.3		1.53	
	B13:MH6	2		0.0100	11.1		1.53	
HYDROGRAPH AT RESERVOIR HYD ROUTED 12"	B14	4	-	0.0033	8.6	NA	1.50	4.06
	B14:POND	4	4	0.0033	1.1		2.15	
		4	5					
	B14:POND	4		0.0033	1.1		2.15	
	B14:MH6	5		0.0033	1.1		2.13	
COMBINED FLOW AT	B13:B14	2& 5	20	0.0133	12.1		1.53	
COMBINED FLOW AT ROUTED 48"	MH6:TOT	20&19	20	0.0467	62.9		1.53	
		20	17					
	MH6:TOT	20		0.0467	62.9		1.53	
	MH6:MH7	17		0.0467	63.2		1.53	
HYDROGRAPH AT ROUTED 12"	B20A1	1	-	0.0005	1.4	NA	1.50	4.32
		1	2					
	B20A1	1		0.0005	1.4		1.50	
	B20A1:7A	2		0.0005	1.4		1.50	
HYDROGRAPH AT ROUTED 12"	B23	3	-	0.0001	0.3	NA	1.50	4.41
		3	4					
	B23	3		0.0001	1.0		1.50	
	B23:MH7A	4		0.0001	1.0		1.50	
COMBINED FLOW AT	MH7A	2& 4	5	0.0006	1.7		1.50	
HYDROGRAPH AT ROUTED 12"	B20B	6	-	0.0017	4.7	NA	1.50	4.30
		6	7					
	B20B	6		0.0017	4.7		1.50	
	B20B:MH7	7		0.0017	4.7		1.50	
COMBINED FLOW AT	MH7A3	5& 7	8	0.0023	6.3		1.50	
HYDROGRAPH AT	B24	9	-	0.0001	0.3	NA	1.50	4.41

HYMO SUMMARY TABLE

Pg. 8

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
ROUTED 12"	B24	9	10	0.0001	1.0		1.50	
	B24:MH7A	10		0.0001	1.0		1.50	
COMBINED FLOW AT	MH7A4	8&10	11	0.0024	6.6		1.50	
HYDROGRAPH AT	B20C	12	-	0.0009	2.5	NA	1.50	4.31
ROUTED 12"	B20C	12	13	0.0009	2.5		1.50	
	B20C:M7A	13		0.0009	2.5		1.50	
COMBINED FLOW AT	MH7A:TOT	11&13	14	0.0033	9.1		1.50	
ROUTED 21"		14	15					
	MH7A:TOT	14		0.0033	9.1		1.50	
	MH7A:MH7	15		0.0033	9.0		1.50	
COMBINED FLOW AT	MH7:TOT	17&15	3	0.0500	71.9		1.53	
ROUTED 54"		3	4					
	MH7:TOT	3		0.0500	71.9		1.53	
	MH7:B15I	4		0.0500	71.9		1.53	
HYDROGRAPH AT	B15	5	-	0.0029	7.5	NA	1.50	4.07
RESERVOIR HYD	B15:POND	5	5	0.0029	2.6		1.80	
ROUTED 12"		5	6					
	B15:POND	5		0.0029	2.6		1.80	
	B15IN	6		0.0029	2.6		1.80	
COMBINED FLOW AT	B15OUT	4& 6	7	0.0529	74.5		1.53	
ROUTED 54"		7	8					
	B15OUT	7		0.0529	74.5		1.53	
	B15OUT:M	8		0.0529	74.8		1.53	
HYDROGRAPH AT	B16	9	-	0.0033	9.0	NA	1.50	4.24
ROUTED 15"		9	10					
	B16	9		0.0033	9.0		1.50	
	B16:MH8	10		0.0033	8.9		1.50	
COMBINED FLOW AT	MH8	8&10	11	0.0562	83.2		1.53	
ROUTED 54"		11	20					
	MH8	11		0.0562	83.2		1.53	
	MH8:MH9	20		0.0562	81.9		1.57	
HYDROGRAPH AT	B21A	1	-	0.0009	2.5	NA	1.50	4.31
ROUTED 12"		1	2					
	B21A	1		0.0009	2.5		1.50	
	B21A:MH2	2		0.0009	2.5		1.50	
HYDROGRAPH AT	B21B	3	-	0.0008	2.2	NA	1.50	4.31
ROUTED 12"		3	4					
	B21B	3		0.0008	2.2		1.50	
	B21B:M21	4		0.0008	2.2		1.50	
COMBINED FLOW AT	MH21A2	2& 4	5	0.0017	4.7		1.50	
HYDROGRAPH AT	B25	6	-	0.0001	0.3	NA	1.50	4.41
ROUTED 12"		6	7					
	B25	6		0.0001	1.0		1.50	
	B25:M21A	7		0.0001	1.0		1.50	
COMBINED FLOW AT	MH21A1	5& 7	8	0.0018	4.9		1.50	
HYDROGRAPH AT	B21C	9	-	0.0008	2.2	NA	1.50	4.31
ROUTED 12"		9	10					

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HYMO SUMMARY TABLE

Pg. 9

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
	B21C	9		0.0008	2.2		1.50	
	B21C1:21	10		0.0008	2.2		1.50	
COMBINED FLOW AT	MH21A	8&10	11	0.0026	7.1		1.50	
ROUTED 15"		11	15					
	MH21A	11		0.0026	7.1		1.50	
	M21A:21B	15		0.0026	7.1		1.50	
HYDROGRAPH AT	B21D	16	-	0.0008	2.2	NA	1.50	4.31
ROUTED 12"		16	17					
	B21D	16		0.0008	2.2		1.50	
	B21D:21B	17		0.0008	2.2		1.50	
COMBINED FLOW AT	MH21B:TO	15&17	18	0.0034	9.3		1.50	
ROUTED 15"		18	19					
	MH21B:TO	18		0.0034	9.3		1.50	
	MH21B:M9	19		0.0034	9.2		1.50	
COMBINED FLOW AT	MH9	19&20	20	0.0596	89.6		1.57	
HYDROGRAPH AT	C1A	2	-	0.0068	15.7	NA	1.50	3.61
HYDROGRAPH AT	C1B	4	-	0.0011	3.0	NA	1.50	4.31
COMBINED FLOW AT	C1A:C1B	2& 4	1	0.0079	18.7		1.50	
RESERVOIR HYD	BDPOND	1	1	0.0079	13.3		1.60	
ROUTED 24"		1	2					
	BDPOND	1		0.0079	13.3		1.60	
	MH9A1	2		0.0079	13.3		1.60	
HYDROGRAPH AT	C3A	3	-	0.0014	3.9	NA	1.50	4.30
COMBINED FLOW AT	MH9A3	2& 3	4	0.0093	16.9		1.50	
ROUTED 24"		4	5					
	MH9A3	4		0.0093	16.9		1.50	
	MH9A1	5		0.0093	16.9		1.50	
HYDROGRAPH AT	C3E	6	-	0.0003	0.8	NA	1.50	4.33
ROUTED 18"		6	7					
	C3E	6		0.0003	1.0		1.50	
	C3E:M9A	7		0.0003	1.0		1.50	
COMBINED FLOW AT	MH9A1	5& 7	8	0.0096	17.8		1.50	
HYDROGRAPH AT	C3C	9	-	0.0006	1.6	NA	1.50	4.17
HYDROGRAPH AT	C3D	10	-	0.0004	0.5	NA	1.50	2.04
COMBINED FLOW AT	C3C:C3D	9&10	11	0.0010	2.1		1.50	
ROUTED 18"		11	12					
	C3C:C3D	11		0.0010	2.1		1.50	
	C3C:M9A	12		0.0010	2.1		1.50	
COMBINED FLOW AT	MH9A:TOT	8&12	13	0.0106	19.9		1.50	
ROUTED 36"		13	14					
	MH9A:TOT	13		0.0106	19.9		1.50	
	MH9A:M9B	14		0.0106	19.8		1.50	
ROUTED 36"		14	15					
	MH9A:M9B	14		0.0106	19.8		1.50	
	MH9B:M9	15		0.0106	20.0		1.50	
COMBINED FLOW AT	MH9:TOT	15&20	1	0.0702	108.5		1.53	
ROUTED 60"		1	2					
	MH9:TOT	1		0.0702	108.5		1.53	
	MH9:M910	2		0.0702	107.4		1.53	

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HYMO SUMMARY TABLE

Pg. 10

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
HYDROGRAPH AT	B8A	3	-	0.0025	6.7	NA	1.50	4.20
HYDROGRAPH AT	B8B	4	-	0.0019	5.2	NA	1.50	4.25
COMBINED FLOW AT	B8A:B8B	3& 4	4	0.0044	11.9		1.50	
RESERVOIR HYD	B8:POND	4	6	0.0044	6.8		1.65	
COMBINED FLOW AT	MH10	2& 6	7	0.0746	114.1		1.53	
ROUTED 60"		7	8					
	MH10	7		0.0746	114.1		1.53	
	MH10:M11	8		0.0746	114.1		1.57	
HYDROGRAPH AT	B8C	9	-	0.0046	12.3	NA	1.50	4.17
RESERVOIR HYD	B8C	9	10	0.0046	6.0		1.70	
ROUTED 12"		10	11					
	B8C	10		0.0046	6.0		1.70	
	B8C:M11	11		0.0046	6.0		1.70	
COMBINED FLOW AT	MH11:TOT	8&11	12	0.0792	120.0		1.57	
ROUTED 60"		12	13					
	MH11:TOT	12		0.0792	120.0		1.57	
	MH11:M12	13		0.0792	121.1		1.57	
COMBINED FLOW AT	MH12:TOT	13&21	14	0.1408	159.2		1.57	
ROUTED 84"		14	15					
	MH12:TOT	14		0.1408	159.2		1.57	
	357:E1	15		0.1408	159.8		1.57	
HYDROGRAPH AT	385:E1	16	-	0.0004	1.0	NA	1.50	4.33
ROUTED 18"		16	17					
	385:E1	16		0.0004	1.0		1.57	
	386:E1OU	17		0.0004	1.0		1.57	
COMBINED FLOW AT	387:E1OU	15&17	18	0.1412	160.6		1.57	
ROUTED 84"		18	19					
	387:E1OU	18		0.1412	160.6		1.57	
	388:E1:E	19		0.1412	161.4		1.57	
HYDROGRAPH AT	389:E2	20	-	0.0008	2.2	NA	1.50	4.31
ROUTED 18"		20	21					
	389:E2	20		0.0008	2.2		1.50	
	390:E1OU	21		0.0008	2.2		1.50	
COMBINED FLOW AT	391:E1IN	19&21	1	0.1420	163.2		1.57	
ROUTED 84"		1	2					
	391:E1IN	1		0.1420	163.2		1.57	
	392:E2:E	2		0.1420	163.8		1.57	
HYDROGRAPH AT	393:E3	3	-	0.0003	0.8	NA	1.50	4.34
ROUTED 18"		3	4					
	393:E3	3		0.0003	1.0		1.57	
	394:E3OU	4		0.0003	1.0		1.57	
COMBINED FLOW AT	395:E3IN	2& 4	5	0.1423	164.5		1.57	
ROUTED 84"		5	20					
	395:E3IN	5		0.1423	164.5		1.57	
	396:E3:E	20		0.1423	163.1		1.60	
HYDROGRAPH AT	397:C2	1	-	0.0028	7.7	NA	1.50	4.30
ROUTED 18"		1	2					
	397:C2	1		0.0028	7.7		1.50	
	398	2		0.0028	7.7		1.50	

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HYMO SUMMARY TABLE

Pg. 11

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
HYDROGRAPH AT	399:C1C	3	-	0.0010	2.5	NA	1.50	3.78
COMBINED FLOW AT	400	2& 3	4	0.0038	10.2		1.50	
ROUTED	24"	4	5					
	400	4		0.0038	10.2		1.50	
	401R:P6I	5		0.0038	9.9		1.50	
COMBINED FLOW AT	404:E4IN	5&20	8	0.1461	171.5		1.57	
ROUTED	84"	8	9					
	404:E4IN	8		0.1461	171.5		1.57	
	405:E4:E	9		0.1461	172.4		1.57	
HYDROGRAPH AT	406:E5	10	-	0.0003	0.7	NA	1.50	4.34
ROUTED	18"	10	11					
	406:E5	10		0.0003	1.0		1.57	
	407:E5OU	11		0.0003	1.0		1.57	
COMBINED FLOW AT	408:E5IN	9&11	12	0.1463	173.0		1.57	
ROUTED	84"	12	18					
	408:E5IN	12		0.1463	173.0		1.57	
	409:E5:M	18		0.1463	173.8		1.60	
HYDROGRAPH AT	410:N2A1	2	-	0.0223	48.4	NA	1.50	3.38
RESERVOIR HYD	411:N2A1	2	3	0.0223	6.6		2.10	
ROUTED	30"	3	4					
	411:N2A1	3		0.0223	6.6		2.10	
	412	4		0.0223	6.6		2.13	
HYDROGRAPH AT	413:BP1W	2	-	0.0010	2.7	NA	1.50	4.31
DIVIDED FLOW AT		2	2& 8					
	BP1WP	2	-	0.0000	2.2		1.45	
	BP1WS	8	-	0.0000	0.4		1.00	
ROUTED	18"	2	3					
	BP1WP	2		0.0000	2.2		1.55	
	414	3		0.0000	2.2		1.50	
HYDROGRAPH AT	405:BP1E	5	-	0.0008	2.3	NA	1.50	4.31
ROUTED	18"	5	6					
	405:BP1E	5		0.0008	2.3		1.50	
	405	6		0.0008	2.3		1.50	
COMBINED FLOW AT	417:MH15	3& 6	7	0.0008	4.5		1.50	
ROUTED	24"	7	2					
	417:MH15	7		0.0008	4.5		1.50	
	418:MH24	2		0.0008	4.5		1.50	
COMBINED FLOW AT	419:MH24	4& 2	3	0.0232	8.6		1.63	
ROUTED	30"	3	2					
	419:MH24	3		0.0232	8.6		1.63	
	420	2		0.0232	8.6		1.63	
ROUTED		8	8					
	BP1WS	8		0.0000	1.0		1.00	
	BP1WS	8		0.0000	1.0		1.63	
HYDROGRAPH AT	426:BP2W	3	-	0.0006	1.5	NA	1.50	4.32
COMBINED FLOW AT	419:BP2W	3& 8	5	0.0006	1.5		1.50	
ROUTED	24"	3	4					
	426:BP2W	3		0.0006	1.5		1.00	
	427	4		0.0006	1.5		2.23	

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HYMO SUMMARY TABLE

Pg. 12

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
COMBINED FLOW AT ROUTED 36"	419:MH24	4& 2	5	0.0237	8.6		1.63	
	419:MH24	5	2	0.0237	8.6		1.63	
	420	2		0.0237	8.6		1.63	
HYDROGRAPH AT RESERVOIR HYD	421:N1B2	3	-	0.0116	28.6	NA	1.50	3.84
ROUTED 18"	422:N1B2	3	4	0.0116	13.9		2.20	
	422:N1B2	4	3	0.0116	13.9		2.20	
	423	3		0.0116	13.5		1.60	
COMBINED FLOW AT ROUTED 36"	424:MH25	2& 3	4	0.0354	22.0		1.60	
	424:MH25	4	2	0.0354	22.0		1.60	
	425	2		0.0354	21.9		2.23	
HYDROGRAPH AT ROUTED 24"	428:BP2E	3	-	0.0010	2.9	NA	1.50	4.31
	428:BP2E	3	4	0.0010	2.9		1.50	
	429	4		0.0010	2.9		1.50	
COMBINED FLOW AT HYDROGRAPH AT	431:MH26	2& 4	5	0.0364	23.8		1.60	
COMBINED FLOW AT ROUTED 36"	428:BP-M	6	-	0.0011	0.6	NA	1.80	0.81
	431:MH26	5& 6	7	0.0375	24.2		1.60	
	431:MH26	7	2	0.0375	24.2		1.60	
	432	2		0.0375	24.0		1.60	
HYDROGRAPH AT ROUTED 24"	433:BP3E	3	-	0.0005	1.5	NA	1.50	4.32
	433:BP3E	3	4	0.0005	1.5		1.50	
	434:MH27	4		0.0005	1.5		1.50	
COMBINED FLOW AT ROUTED 36"	435	2& 4	5	0.0381	25.1		1.60	
	435	5	6	0.0381	25.1		1.60	
	434:MH27	6		0.0381	25.0		1.60	
HYDROGRAPH AT	436:ER	2	-	0.0029	6.6	NA	1.50	3.57
HYDROGRAPH AT	437:BP3W	3	-	0.0015	4.2	NA	1.50	4.30
COMBINED FLOW AT	438	2& 3	4	0.0044	10.8		1.50	
HYDROGRAPH AT	441:PB	5	-	0.0064	16.6	NA	1.50	4.05
RESERVOIR HYD ROUTED 12"	442:PB:P	5	1	0.0064	7.6		1.60	
	442:PB:P	1	2	0.0064	7.6		1.60	
	443	2		0.0064	7.5		1.60	
COMBINED FLOW AT ROUTED 24"	438	2& 4	3	0.0108	14.9		1.60	
	438	3	2	0.0108	14.9		1.60	
	439:MH27	2		0.0108	15.0		1.53	
COMBINED FLOW AT	440	6& 2	3	0.0489	40.0		1.60	
HYDROGRAPH AT ROUTED 24"	446:BP3E	4	-	0.0003	0.7	NA	1.50	4.34
	446:BP3E	4	5	0.0003	1.0		1.60	
	447	5		0.0003	1.0		1.53	
COMBINED FLOW AT	448:MH27	3& 5	6	0.0491	40.5		1.60	

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HYMO SUMMARY TABLE

Pg. 13

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
ROUTED 42"		6	3					
	448:MH27	6		0.0491	40.5		1.60	
	445	3		0.0491	40.2		1.60	
HYDROGRAPH AT	446:BP4E	4	-	0.0005	1.3	NA	1.50	4.32
ROUTED 24"		4	5					
	446:BP4E	4		0.0005	1.3		1.50	
	447	5		0.0005	1.3		1.50	
COMBINED FLOW AT	448:MH28	3& 5	6	0.0496	41.1		1.60	
ROUTED 42"		6	2					
	448:MH28	6		0.0496	41.1		1.60	
	449	2		0.0496	40.9		1.60	
HYDROGRAPH AT	450:N1A2	3	-	0.0071	17.5	NA	1.50	3.84
RESERVOIR HYD	451:N1A2	3	4	0.0071	7.9		2.25	
ROUTED 18"		4	5					
	451:N1A2	4		0.0071	7.9		2.25	
	452:MH29	5		0.0071	7.4		2.27	
COMBINED FLOW AT	453:MH29	2& 5	3	0.0567	47.9		1.60	
ROUTED 42"		3	4					
	453:MH29	3		0.0567	47.9		1.60	
	454	4		0.0567	47.7		1.60	
HYDROGRAPH AT	455:BP4W	2	-	0.0012	3.3	NA	1.50	4.30
HYDROGRAPH AT	456:RM	3	-	0.0030	7.9	NA	1.50	4.17
RESERVOIR HYD	457:RM:P	3	5	0.0030	3.4		2.35	
ROUTED 18"		5	6					
	457:RM:P	5		0.0030	3.4		2.35	
	458	6		0.0030	3.4		2.37	
COMBINED FLOW AT	459	2& 6	5	0.0041	6.5		1.50	
ROUTED 18"		5	3					
	459	5		0.0041	6.5		1.50	
	460	3		0.0041	6.5		1.50	
COMBINED FLOW AT	461:MH30	4& 3	2	0.0609	52.2		1.60	
HYDROGRAPH AT	437:BP5E	3	-	0.0009	2.5	NA	1.50	4.31
COMBINED FLOW AT	438	2& 3	4	0.0618	53.8		1.60	
ROUTED 42"		4	1					
	438	4		0.0618	53.8		1.60	
	462	1		0.0618	53.4		1.60	
HYDROGRAPH AT	469:RC2	2	-	0.0064	16.7	NA	1.50	4.07
DIVIDED FLOW AT		2	2& 6					
	RC_CB	2	-	0.0000	10.3		1.40	
	RC2_RCS	6	-	0.0000	6.4		1.00	
ROUTED 18"		2	3					
	RC_CB	2		0.0000	10.3		1.60	
	470	3		0.0000	10.5		1.43	
HYDROGRAPH AT	466:BP5W	4	-	0.0015	4.1	NA	1.50	4.30
DIVIDED FLOW AT		4	5&49					
	BP5WR	5	-	0.0015	2.7		0.97	
	BP5WS	49	-	0.0000	1.5		0.00	
COMBINED FLOW AT	471	3& 5	2	0.0015	13.2		1.43	
ROUTED 18"		2	3					

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HYMO SUMMARY TABLE

Pg. 14

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
	471	2		0.0015	13.2		1.43	
	472	3		0.0015	13.3		1.43	
COMBINED FLOW AT	473:MH32	1& 3	2	0.0633	66.4		1.60	
ROUTED 42"		2	3					
	473:MH32	2		0.0633	66.4		1.60	
	474:MH23	3		0.0633	66.4		1.60	
COMBINED FLOW AT	475:MH23	18& 3	4	0.2096	240.2		1.60	
ROUTED 84"		4	2					
	475:MH23	4		0.2096	240.2		1.60	
	476	2		0.2096	240.4		1.60	
HYDROGRAPH AT	477:RC3	3	-	0.0058	15.6	NA	1.50	4.21
COMBINED FLOW AT	478	6& 3	4	0.0058	22.0		1.50	
COMBINED FLOW AT	478	2& 4	5	0.2154	252.5		1.57	
ROUTED 84"		5	2					
	478	5		0.2154	252.5		1.57	
	479:MH33	2		0.2154	253.8		1.57	
ROUTED 84"		2	3					
	479:MH33	2		0.2154	253.8		1.57	
	480:MH34	3		0.2154	255.2		1.57	
ROUTED 84"		3	2					
	480:MH34	3		0.2154	255.2		1.57	
	481:CALO	2		0.2154	255.6		1.60	
HYDROGRAPH AT	700:BP-M	1	-	0.0005	0.7	NA	1.50	2.03
ROUTED 18"		1	2					
	700:BP-M	1		0.0005	1.0		1.57	
	701	2		0.0005	1.0		1.60	
ROUTED		49	3					
	BP5WS	49		0.0000	1.5		1.50	
	BP6WS	3		0.0000	1.0		1.53	
HYDROGRAPH AT	702:BP6W	4	-	0.0006	1.7	NA	1.50	4.31
COMBINED FLOW AT	703	3& 4	5	0.0006	2.6		1.53	
COMBINED FLOW AT	704	2& 5	6	0.0012	3.3		1.53	

HYMO SUMMARY TABLE

Pg. 1

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
HYDROGRAPH AT	A1	1	-	0.0047	12.0	NA	1.50	3.99
HYDROGRAPH AT	A13A2	3	-	0.0007	1.9	NA	1.50	4.31
HYDROGRAPH AT	A13A1	7	-	0.0008	2.2	NA	1.50	4.31
HYDROGRAPH AT	A13B1	9	-	0.0003	0.8	NA	1.50	4.33
HYDROGRAPH AT	A13B2	12	-	0.0012	3.3	NA	1.50	4.30
HYDROGRAPH AT	A13C	15	-	0.0011	3.0	NA	1.50	4.31
HYDROGRAPH AT	A2	19	-	0.0095	25.3	NA	1.50	4.16
HYDROGRAPH AT	A3	3	-	0.0125	31.8	NA	1.50	3.97
HYDROGRAPH AT	A4	4	-	0.0031	8.3	NA	1.50	4.20
HYDROGRAPH AT	A10	11	-	0.0004	1.1	NA	1.50	4.32
HYDROGRAPH AT	A8	15	-	0.0054	14.1	NA	1.50	4.09
HYDROGRAPH AT	A14A	1	-	0.0012	3.3	NA	1.50	4.30
HYDROGRAPH AT	A16	6	-	0.0001	0.3	NA	1.50	4.41
HYDROGRAPH AT	A14B1	9	-	0.0019	5.2	NA	1.50	4.30
HYDROGRAPH AT	A6	13	-	0.0027	7.0	NA	1.50	4.06
HYDROGRAPH AT	A14B2	2	-	0.0008	2.2	NA	1.50	4.31
HYDROGRAPH AT	A7	5	-	0.0010	2.7	NA	1.50	4.23
HYDROGRAPH AT	A15A	10	-	0.0008	2.1	NA	1.50	4.31
HYDROGRAPH AT	A9	14	-	0.0024	6.2	NA	1.50	4.05
HYDROGRAPH AT	A15B	17	-	0.0008	2.1	NA	1.50	4.31
HYDROGRAPH AT	A11	2	-	0.0011	2.7	NA	1.50	3.83
HYDROGRAPH AT	A17	2	-	0.0044	11.8	NA	1.50	4.18
HYDROGRAPH AT	A12	6	-	0.0039	10.3	NA	1.50	4.15
HYDROGRAPH AT	B26	18	-	0.0009	1.6	NA	1.50	2.86
HYDROGRAPH AT	B1A	1	-	0.0039	10.4	NA	1.50	4.17
HYDROGRAPH AT	B1B	3	-	0.0017	4.6	NA	1.50	4.18
HYDROGRAPH AT	B22	4	-	0.0001	0.3	NA	1.50	4.41
HYDROGRAPH AT	B1C	1	-	0.0015	4.0	NA	1.50	4.19
HYDROGRAPH AT	B18A2	1	-	0.0007	1.9	NA	1.50	4.31
HYDROGRAPH AT	B18A1	4	-	0.0008	2.2	NA	1.50	4.31
HYDROGRAPH AT	B1D	7	-	0.0043	11.5	NA	1.50	4.16
HYDROGRAPH AT	B18B	10	-	0.0004	1.1	NA	1.50	4.32
HYDROGRAPH AT	B18C	13	-	0.0008	2.2	NA	1.50	4.31
HYDROGRAPH AT	B3	6	-	0.0038	9.6	NA	1.50	3.93
HYDROGRAPH AT	232:B27	9	-	0.0001	0.3	NA	1.50	4.41
HYDROGRAPH AT	B19A1	12	-	0.0004	1.1	NA	1.50	4.32
HYDROGRAPH AT	B2A	6	-	0.0015	3.3	NA	1.50	3.46
HYDROGRAPH AT	B2B	1	-	0.0005	0.9	NA	1.50	2.87
HYDROGRAPH AT	B4	3	-	0.0033	9.1	NA	1.50	4.30
HYDROGRAPH AT	B5	7	-	0.0060	16.1	NA	1.50	4.18
HYDROGRAPH AT	B6	8	-	0.0006	1.7	NA	1.50	4.31
HYDROGRAPH AT	B7	11	-	0.0008	1.5	NA	1.50	2.86
HYDROGRAPH AT	B19A2	1	-	0.0004	1.0	NA	1.50	4.32
HYDROGRAPH AT	B19B	3	-	0.0012	3.3	NA	1.50	4.30
HYDROGRAPH AT	B19D1	6	-	0.0004	1.1	NA	1.50	4.32
HYDROGRAPH AT	B19C	8	-	0.0011	3.1	NA	1.50	4.31
HYDROGRAPH AT	B19D2	16	-	0.0005	1.4	NA	1.50	4.32

HYMO SUMMARY TABLE

Pg. 2

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
HYDROGRAPH AT	B20A2	17	-	0.0005	1.4	NA	1.50	4.32
HYDROGRAPH AT	B10	1	-	0.0033	8.5	NA	1.50	4.02
HYDROGRAPH AT	B9	7	-	0.0037	9.7	NA	1.50	4.11
HYDROGRAPH AT	B13	1	-	0.0030	8.0	NA	1.50	4.15
HYDROGRAPH AT	B14	4	-	0.0033	8.6	NA	1.50	4.06
HYDROGRAPH AT	B20A1	1	-	0.0005	1.4	NA	1.50	4.32
HYDROGRAPH AT	B23	3	-	0.0001	0.3	NA	1.50	4.41
HYDROGRAPH AT	B20B	6	-	0.0017	4.7	NA	1.50	4.30
HYDROGRAPH AT	B24	9	-	0.0001	0.3	NA	1.50	4.41
HYDROGRAPH AT	B20C	12	-	0.0009	2.5	NA	1.50	4.31
HYDROGRAPH AT	B15	5	-	0.0029	7.5	NA	1.50	4.07
HYDROGRAPH AT	B16	9	-	0.0033	9.0	NA	1.50	4.24
HYDROGRAPH AT	B21A	1	-	0.0009	2.5	NA	1.50	4.31
HYDROGRAPH AT	B21B	3	-	0.0008	2.2	NA	1.50	4.31
HYDROGRAPH AT	B25	6	-	0.0001	0.3	NA	1.50	4.41
HYDROGRAPH AT	B21C	9	-	0.0008	2.2	NA	1.50	4.31
HYDROGRAPH AT	B21D	16	-	0.0008	2.2	NA	1.50	4.31
HYDROGRAPH AT	C1A	2	-	0.0068	15.7	NA	1.50	3.61
HYDROGRAPH AT	C1B	4	-	0.0011	3.0	NA	1.50	4.31
HYDROGRAPH AT	C3A	3	-	0.0014	3.9	NA	1.50	4.30
HYDROGRAPH AT	C3E	6	-	0.0003	0.8	NA	1.50	4.33
HYDROGRAPH AT	C3C	9	-	0.0006	1.6	NA	1.50	4.17
HYDROGRAPH AT	C3D	10	-	0.0004	0.5	NA	1.50	2.04
HYDROGRAPH AT	B8A	3	-	0.0025	6.7	NA	1.50	4.20
HYDROGRAPH AT	B8B	4	-	0.0019	5.2	NA	1.50	4.25
HYDROGRAPH AT	B8C	9	-	0.0046	12.3	NA	1.50	4.17
HYDROGRAPH AT	385:E1	16	-	0.0004	1.0	NA	1.50	4.33
HYDROGRAPH AT	389:E2	20	-	0.0008	2.2	NA	1.50	4.31
HYDROGRAPH AT	393:E3	3	-	0.0003	0.8	NA	1.50	4.34
HYDROGRAPH AT	406:E5	10	-	0.0003	0.7	NA	1.50	4.34
HYDROGRAPH AT	410:N2A1	2	-	0.0223	48.4	NA	1.50	3.38
HYDROGRAPH AT	413:BP1W	2	-	0.0010	2.7	NA	1.50	4.31
HYDROGRAPH AT	405:BP1E	5	-	0.0008	2.3	NA	1.50	4.31
HYDROGRAPH AT	426:BP2W	3	-	0.0006	1.5	NA	1.50	4.32
HYDROGRAPH AT	421:N1B2	3	-	0.0116	28.6	NA	1.50	3.84
HYDROGRAPH AT	428:BP2E	3	-	0.0010	2.9	NA	1.50	4.31
HYDROGRAPH AT	428:BP-M	6	-	0.0011	0.6	NA	1.80	0.81
HYDROGRAPH AT	433:BP3E	3	-	0.0005	1.5	NA	1.50	4.32
HYDROGRAPH AT	437:BP3W	3	-	0.0015	4.2	NA	1.50	4.30
HYDROGRAPH AT	441:PB	5	-	0.0064	16.6	NA	1.50	4.05
HYDROGRAPH AT	446:BP3E	4	-	0.0003	0.7	NA	1.50	4.34
HYDROGRAPH AT	446:BP4E	4	-	0.0005	1.3	NA	1.50	4.32
HYDROGRAPH AT	450:N1A2	3	-	0.0071	17.5	NA	1.50	3.84
HYDROGRAPH AT	455:BP4W	2	-	0.0012	3.3	NA	1.50	4.30
HYDROGRAPH AT	456:RM	3	-	0.0030	7.9	NA	1.50	4.17
HYDROGRAPH AT	437:BP5E	3	-	0.0009	2.5	NA	1.50	4.31
HYDROGRAPH AT	469:RC2	2	-	0.0064	16.7	NA	1.50	4.07
HYDROGRAPH AT	466:BP5W	4	-	0.0015	4.1	NA	1.50	4.30
HYDROGRAPH AT	477:RC3	3	-	0.0058	15.6	NA	1.50	4.21

A1-18

HYMO SUMMARY TABLE

Pg. 3

DESCRIPTION	HYDROGRAPH LABEL	FROM ID NO	TO ID NO	AREA SQ MI	DISCHARGE CFS	CURVE NO	TIME TO PEAK HR	CFS PER ACRE
HYDROGRAPH AT	700:BP-M	1	-	0.0005	0.7	NA	1.50	2.03
HYDROGRAPH AT	702:BP6W	4	-	0.0006	1.7	NA	1.50	4.31

APPENDIX II: HYDRAULIC COMPUTATIONS

CAPACITIES OF INLETS ON GRADE	A2-1
POND ANALYSIS	A2-7
HGL COMPUTATIONS	A2-41

**SUMMARY OF INLET GRATE CAPACITIES
ON GRADE**

INLET/ TYPE	LOCATION	AVERAGE SLOPE	WIDTH F-F/ROW	Q 100 (CFS)	NORMAL DEPTH	Q GRATE (CFS)
DBL "A"	BASIN A-3	0.90%	36'/N.A.	8.8	0.45	5.5
DBL "A"	BASIN A-3	2.00%	36'/N.A.	35.3	0.62	13.0
DBL "C"	BASIN A-3	2.00%	36'/N.A.	22.3	0.53	10.5
"A"	BASIN A-3	2.00%	36'/N.A.	15.7	0.47	7.2
"C"	BASIN A-3	2.00%	36'/N.A.	8.5	0.39	5.0
"A"	BASIN B-1-A/B	5.00%	28'/N.A.	10.5	0.36	6.4
"A"	BASIN B-16	4.00%	36'/N.A.	9.2	0.36	5.6
"C"	BASIN B-16	1.00%	36'/N.A.	3.6	0.34	2.5

NOTE: THE ONLY INLETS SHOWN ARE ON GRADE.
SEE THE SECTION ON PONDS FOR INLETS IN SUMP.

BASIN A-3A: STD CURB -- 2% CROSS SLOPE

MANNING'S N = .0170

SLOPE = .0090

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	-10.00	0.87	3	0.00	0.00	5	40.00	0.89
2	0.00	0.67	4	2.00	0.13			

WSEL (FT)	DEPTH INC	FLOW AREA (SQ FT)	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOP WID
0.05	0.05	0.0	0.0	0.8	0.7	0.77
0.10	0.10	0.1	0.1	1.6	1.1	1.54
0.15	0.15	0.2	0.2	3.2	1.2	3.00
0.20	0.20	0.4	0.5	5.7	1.4	5.50
0.25	0.25	0.7	1.2	8.3	1.6	8.00
0.30	0.30	1.2	2.3	10.8	1.9	10.50
0.35	0.35	1.8	3.9	13.4	2.2	13.00
0.40	0.40	2.5	6.0	15.9	2.4	15.50
0.45	0.45	3.3	8.8	18.5	2.6	18.00
0.50	0.50	4.3	12.3	21.0	2.9	20.50
0.55	0.55	5.4	16.7	23.6	3.1	23.00
0.60	0.60	6.6	21.8	26.1	3.3	25.50
0.65	0.65	7.9	27.9	28.7	3.5	28.00
0.70	0.70	9.4	34.0	32.7	3.6	32.00
0.75	0.75	11.1	40.9	37.8	3.7	37.00
0.80	0.80	13.1	49.4	42.8	3.8	42.00
0.85	0.85	15.3	59.6	47.9	3.9	47.00
0.87	0.87	16.3	64.1	49.9	3.9	49.00

$Q = 8.8$
cfs

$D_N = 0.45'$

$Q_{\text{Grate}} = 5.5 \text{ cfs (Type DBL "A")}$

$Q_{\text{Removed}} = 5.5 \text{ cfs}$

$Q_{\text{Remaining}} = 3.3 \text{ cfs}$

$Q_{\text{Remaining}} = \overset{32.4}{Q_{A-3}} + \overset{8.4}{Q_{A-4}} - 5.5 \text{ cfs}$
@ Eagle Ranch
Road Entrance
 $= 35.3 \text{ cfs}$

BASIN A-3: STD CURB -- 2% CROSS SLOPE

MANNING'S N = .0170

SLOPE = .0200

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	-10.00	0.87	3	0.00	0.00	5	40.00	0.89
2	0.00	0.67	4	2.00	0.13			

WSEL (FT)	DEPTH INC	FLOW AREA (SQ FT)	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOP WID
0.05	0.05	0.0	0.0	0.8	1.0	0.77
0.10	0.10	0.1	0.1	1.6	1.6	1.54
0.15	0.15	0.2	0.3	3.2	1.8	3.00
0.20	0.20	0.4	0.8	5.7	2.1	5.50
0.25	0.25	0.7	1.8	8.3	2.5	8.00
0.30	0.30	1.2	3.4	10.8	2.8	10.50
0.35	0.35	1.8	5.7	13.4	3.2	13.00
0.40	0.40	2.5	9.0	15.9	3.6	15.50
0.45	0.45	3.3	13.1	18.5	3.9	18.00
0.50	0.50	4.3	18.4	21.0	4.3	20.50
0.55	0.55	5.4	24.8	23.6	4.6	23.00
0.60	0.60	6.6	32.6	26.1	4.9	25.50
0.65	0.65	7.9	41.6	28.7	5.2	28.00
0.70	0.70	9.4	50.7	32.7	5.4	32.00
0.75	0.75	11.1	61.0	37.8	5.5	37.00
0.80	0.80	13.1	73.7	42.8	5.6	42.00
0.85	0.85	15.3	88.8	47.9	5.8	47.00
0.87	0.87	16.3	95.6	49.9	5.9	49.00

Q = 35.3 cfs

$$D_N = .62'$$

$$Q = 13.0 \text{ cfs (Type DBL "A")}$$

$$D_N = .53'$$

$$Q = 10.5 \text{ cfs (Type DBL "C")}$$

$$D_N = .47'$$

$$Q = 7.2 \text{ cfs (Type "A")}$$

$$D_N = .39'$$

$$Q = 5.0 \text{ cfs (Type "C")}$$

$$E = 1.01'$$

$$Q_{\text{Remaining}} = 22.3 \text{ cfs}$$

$$Q_{\text{Remaining}} = 11.8 \text{ cfs}$$

$$Q_{\text{at MH17}} = 11.8 \text{ cfs} + \overset{1.0}{\uparrow} Q_{\text{A-10}} + \overset{1/4}{\uparrow} Q_{\text{A-8}} = 15.7 \text{ cfs}$$

$$Q_{\text{Remaining}} = 8.5 \text{ cfs}$$

$$Q_{\text{Remaining}} = 3.5 \text{ cfs}$$

BASIN B-1-A/B: STD CURB -- 2% CROSS SLOPE

MANNING'S N = .0170

SLOPE = .0500

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	-10.00	0.87	3	0.00	0.00	5	40.00	0.89
2	0.00	0.67	4	2.00	0.13			

WSEL (FT)	DEPTH INC	FLOW AREA (SQ FT)	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOP WID
0.05	0.05	0.0	0.0	0.8	1.6	0.77
0.10	0.10	0.1	0.2	1.6	2.5	1.54
0.15	0.15	0.2	0.5	3.2	2.9	3.00
0.20	0.20	0.4	1.3	5.7	3.3	5.50
0.25	0.25	0.7	2.8	8.3	3.9	8.00
0.30	0.30	1.2	5.4	10.8	4.5	10.50
0.35	0.35	1.8	9.1	13.4	5.1	13.00
0.40	0.40	2.5	14.2	15.9	5.7	15.50
0.45	0.45	3.3	20.8	18.5	6.2	18.00
0.50	0.50	4.3	29.1	21.0	6.8	20.50
0.55	0.55	5.4	39.3	23.6	7.3	23.00
0.60	0.60	6.6	51.5	26.1	7.8	25.50
0.65	0.65	7.9	65.8	28.7	8.3	28.00
0.70	0.70	9.4	80.2	32.7	8.5	32.00
0.75	0.75	11.1	96.5	37.8	8.7	37.00
0.80	0.80	13.1	116.5	42.8	8.9	42.00
0.85	0.85	15.3	140.4	47.9	9.2	47.00
0.87	0.87	16.3	151.1	49.9	9.3	49.00

Q = 10.5 cfs

$D_N = 0.36'$

$Q_{\text{Grate}} = 6.4 \text{ cfs (Type "A")}$

$Q_{\text{Remaining}} = 4.1 \text{ cfs}$

BASIN B-16: STD CURB -- 2% CROSS SLOPE

MANNING'S N = .0170

SLOPE = .0400

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	-10.00	0.87	3	0.00	0.00	5	40.00	0.89
2	0.00	0.67	4	2.00	0.13			

WSEL (FT)	DEPTH INC	FLOW AREA (SQ FT)	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOP WID
0.05	0.05	0.0	0.0	0.8	1.4	0.77
0.10	0.10	0.1	0.2	1.6	2.3	1.54
0.15	0.15	0.2	0.5	3.2	2.6	3.00
0.20	0.20	0.4	1.2	5.7	2.9	5.50
0.25	0.25	0.7	2.5	8.3	3.5	8.00
0.30	0.30	1.2	4.8	10.8	4.0	10.50
0.35	0.35	1.8	8.1	13.4	4.6	13.00
0.40	0.40	2.5	12.7	15.9	5.1	15.50
0.45	0.45	3.3	18.6	18.5	5.6	18.00
0.50	0.50	4.3	26.0	21.0	6.1	20.50
0.55	0.55	5.4	35.1	23.6	6.5	23.00
0.60	0.60	6.6	46.0	26.1	7.0	25.50
0.65	0.65	7.9	58.9	28.7	7.4	28.00
0.70	0.70	9.4	71.8	32.7	7.6	32.00
0.75	0.75	11.1	86.3	37.8	7.7	37.00
0.80	0.80	13.1	104.2	42.8	7.9	42.00
0.85	0.85	15.3	125.6	47.9	8.2	47.00
0.87	0.87	16.3	135.2	49.9	8.3	49.00

Q = 9.2 cfs

$$D_N = .36'$$

$$Q_{\text{grate}} = 5.6 \text{ cfs (Type "A")}$$

$$Q_{\text{remaining}} = 3.6 \text{ cfs}$$

BASIN B-16: STD CURB -- 2% CROSS SLOPE

MANNING'S N = .0170

SLOPE = .0100

POINT	DIST	ELEV	POINT	DIST	ELEV	POINT	DIST	ELEV
1	-10.00	0.87	3	0.00	0.00	5	40.00	0.89
2	0.00	0.67	4	2.00	0.13			

WSEL (FT)	DEPTH INC	FLOW AREA (SQ FT)	FLOW RATE (CFS)	WETTED PER (FT)	FLOW VEL (FPS)	TOP WID
0.05	0.05	0.0	0.0	0.8	0.7	0.77
0.10	0.10	0.1	0.1	1.6	1.1	1.54
0.15	0.15	0.2	0.2	3.2	1.3	3.00
0.20	0.20	0.4	0.6	5.7	1.5	5.50
0.25	0.25	0.7	1.3	8.3	1.7	8.00
0.30	0.30	1.2	2.4	10.8	2.0	10.50
0.35	0.35	1.8	4.1	13.4	2.3	13.00
0.40	0.40	2.5	6.3	15.9	2.5	15.50
0.45	0.45	3.3	9.3	18.5	2.8	18.00
0.50	0.50	4.3	13.0	21.0	3.0	20.50
0.55	0.55	5.4	17.6	23.6	3.3	23.00
0.60	0.60	6.6	23.0	26.1	3.5	25.50
0.65	0.65	7.9	29.4	28.7	3.7	28.00
0.70	0.70	9.4	35.9	32.7	3.8	32.00
0.75	0.75	11.1	43.2	37.8	3.9	37.00
0.80	0.80	13.1	52.1	42.8	4.0	42.00
0.85	0.85	15.3	62.8	47.9	4.1	47.00
0.87	0.87	16.3	67.6	49.9	4.1	49.00

Q = 3.6 cfs

$$D_N = .34'$$

$$Q_{\text{Grate}} = 2.5 \text{ cfs (Type "C")}$$

$$Q_{\text{Remaining}} = 1.1 \text{ cfs}$$

(flows to Basin 0-1)

POND ANALYSIS

VOLUMES	A2-8
METHOD OF ANALYSIS	A2-9
POND A-1	A2-12
POND A-2	A2-13
POND A-6	A2-14
POND A-7	A2-15
POND A-8	A2-16
POND A-9	A2-17
POND A-11	A2-18
POND A-12	A2-19
POND A-17	A2-20
POND B-1-C	A2-21
POND B-1-D	A2-22
POND B-3	A2-23
POND B-7	A2-24
POND B-8-A/B-8-B	A2-25
POND B-8-C	A2-26
POND B-9	A2-27
POND B-13	A2-28
POND B-14	A2-29
POND B-15	A2-30
POND B-22	A2-31
POND B-26	A2-32
POND D-1	A2-38

POND ANALYSIS - VOLUMES

POND CHARACTERISTICS

POND #	DESCRIPTION	TOP AREA	BOTTOM AREA	DEPTH	VOL Ft ³	VOL AC-ft
B-26	OUT LOT C-4	15,350	3,372	8'	74,880	1.719
B-6	COTTONWOOD DR. W.	4,550	775	5'	13,312	0.306
B-7	COTTONWOOD DR. E.	10,425	800	5'	28,062	0.644
B-9	7-Bar Loop Rd.	4,975	375	5'	13,375	0.307
BD-1	CORZALES RD BAR DITCH	6,000	0	2'	6,000	0.138
PL	PARKING LOT (TYP OF 12)	22,500	0	0.75'	~~9,442~~	~~0.194~~ 0.129 [△]
D-1*	Basin D-WARD TBA	2,556	0	2'	2,556	0.059

* POND D-1 IS FOR AN OFF-SITE BASIN (D)

△ For Ponds with section  $V = \frac{1}{2}(A_{Top} + A_{Bottom}) \times D$

△ For Ponds with section  $V = \frac{1}{3}(A_{Top} + A_{Bottom}) \times D$
(Parking Lot Ponds)

△ Each pond's characteristics are calculated and summarized on the following pages.

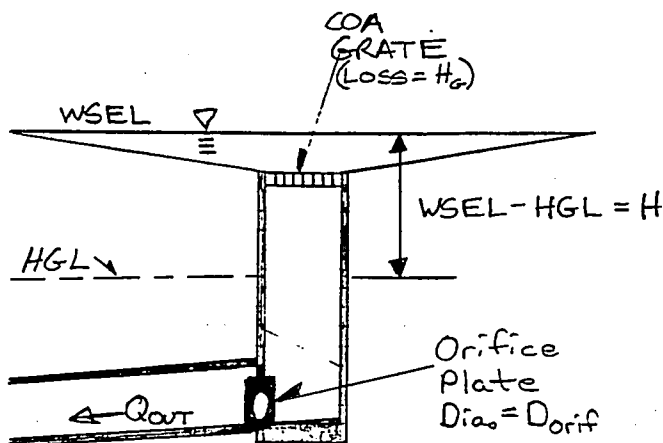


BOHANNAN-HUSTON INC.

AZ-8

PROJECT NAME COTTONWOOD Mall SHEET _____ OF _____
PROJECT NO. 9013505 BY D.F. DATE 3/20/92
SUBJECT DRAINAGE Ponds [△] Revised MSJ DATE 7/94

Method Used to Determine
Stage - Discharge Relationships
of a pond with a modified
Type "D" Inlet



For Full Pipe Flow:

$$Head = WSEL - HGL - H_g$$

For Normal Depth Flow:

$$Head = WSEL - (Inv + \frac{1}{2} D_{orif}) - H_g$$

$H_g = Loss =$ Head Required to
Push Flow(Q) thru
Std Grate w/ 35% Clogging

$$Q_{ORIF} = 0.6(A_{ORIF})\sqrt{64.4(Head)}$$

Note: This is an iterative
solution.

$$Q_{OUT} = \begin{cases} Q_{grate} & \text{when } Q_{grate} < Q_{ORIF} \\ Q_{ORIF} & \text{when } Q_{ORIF} < Q_{grate} \end{cases}$$

HEAD LOSS	AT	FLOW
0.00		0.00
0.01		1.28
0.02		1.81
0.03		2.22
0.04		2.57
0.05		2.87
0.06		3.14
0.07		3.39
0.08		3.63
0.09		3.85
0.10		4.06
0.11		4.25
0.12		4.44
0.13		4.62
0.14		4.80
0.15		4.97
0.16		5.13
0.17		5.29
0.18		5.44
0.19		5.59
0.20		5.74
0.21		5.88
0.22		6.02
0.23		6.15
0.24		6.28
0.25		6.41
0.26		6.54
0.27		6.66
0.28		6.79
0.29		6.91
0.30		7.03
0.31		7.14
0.32		7.26
0.33		7.37
0.34		7.48
0.35		7.59
0.36		7.70
0.37		7.80
0.38		7.91
0.39		8.01
0.40		8.11
0.41		8.21
0.42		8.31
0.43		8.41
0.44		8.51
0.45		8.60
0.46		8.70
0.47		8.79
0.48		8.89
0.49		8.98
0.50		9.07



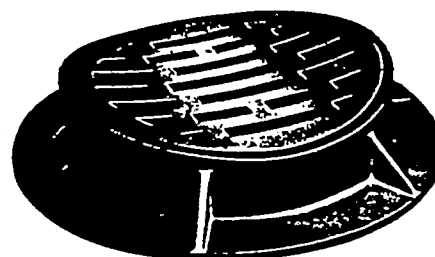
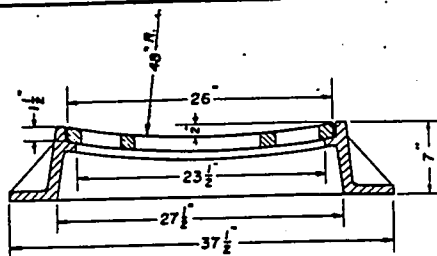
BOHANNAN-HUSTON INC.

PROJECT NAME Cotton Wood Mall SHEET OF A2-9
PROJECT NO. 90316.83 BY MST DATE 7/94
SUBJECT CH'D DATE

R-2600 Catch Basin Frame and Concave Grate

Heavy Duty

Total Weight 365 Pounds

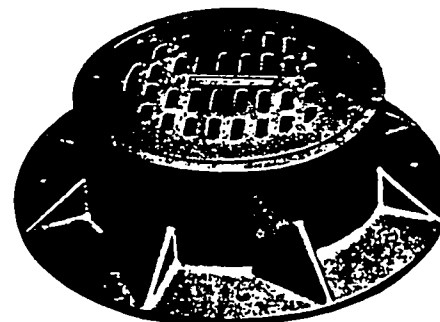
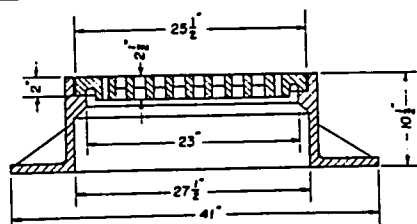


R-2650 Catch Basin Frame and Grate

Heavy Duty

Total Weight 600 Pounds

Furnished with machined horizontal bearing surfaces.



R-2668 Catch Basin Frame and Type C Grate

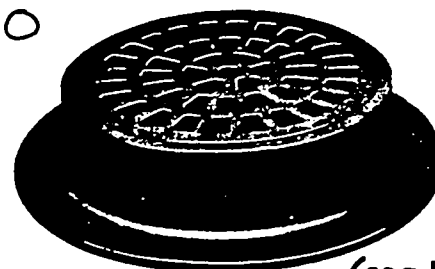
Heavy Duty

Total Weight 290 Pounds

Furnished with machined horizontal bearing surfaces.



Closest match to COA
STD DWG 2110



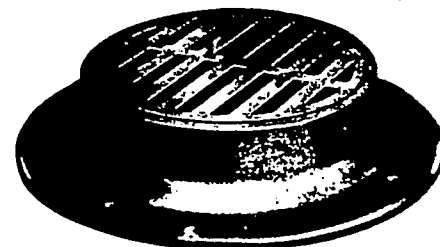
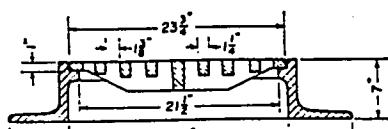
Open Area = 0.9 SF (see below)

R-2680 Catch Basin Frame and Grate

Heavy Duty

Total Weight 450 Pounds

Furnished with machined horizontal



Not recommended for bicycle traffic. For safety.

R-2050	F	0.7
R-2060	A	1.1
R-2060	B	1.2
R-2060	C	1.3

R-2390	B	1.2
R-2390	C	1.5
R-2392	C	1.4
R-2392	G	1.4

R-2475	A	1.0
R-2481	A	0.9
R-2484	D	1.0
R-2494	G	0.8
R-2496	E	0.6

R-2595	D	1.2
R-2600	K	1.1
R-2650	G	1.1
R-2668	C	0.9
R-2680	G	1.1

Type K indicates "Special" grate style and is not among standard types as illustrated.

POND	A-1	MAX WSEL=	61.25	HGL in=	57.62	LENGTH =	150
		GRT ELEV=	60.25	DELT WSEL=	0.25	WIDTH =	150
						@ DEPTH =	0.75

ORIFICE DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
12.75	0.532	0.00	0.00	0.00	0.00	0.00	0.000	0.00
12.75	0.532	2.88	0.00	2.88	7.24	1.83	0.005	0.25
12.75	0.532	3.13	0.00	3.13	7.55	5.20	0.038	0.50
12.75	0.532	3.38	0.34	3.04	7.44	7.44	0.129	0.75
12.75	0.532	3.63	0.36	3.27	7.72	7.72	0.306	1.00

HYDROGRAPH NUMBER A1

RUNOFF VOLUME = 0.547 ACRE-FT
 PEAK DISCHARGE RATE = 12.0 CFS
 PEAK OCCURRED AT 1.50 HRS.

** ROUTE FLOW THROUGH PARKING LOT POND TYPE "D" INLET
 ** 12.75" ORIFICE CONTROLS AT ELEV 100.75 Q=7.44 NOT Q=9.50 (GRATE)
 ROUTE RESERVOIR ID=1 HYD=A1 INFLOW ID=1 CODE=00
 OUTFLOW(cfs) STORAGE(ac-ft) ELEV(ft)
 0.00 0.000 100.00
 1.83 0.005 100.25
 5.20 0.038 100.50
 7.44 0.129 100.75
 7.72 0.306 101.00

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)
0.0	0.0	100.0	0.0	

PEAK DISCHARGE = 6.73 CFS.
 MAXIMUM WATER ELEVATION = 100.7 FT.
 MAXIMUM RESERVOIR STORAGE = 0.10 ACRE-FT.
 PRINT HYD ID=1 CODE=0

HYDROGRAPH NUMBER A1

RUNOFF VOLUME = 0.412 ACRE-FT
 PEAK DISCHARGE RATE = 6.7 CFS
 PEAK OCCURRED AT 1.65 HRS.

AZ-12

POND	A-2	MAX WSEL=	59.25	HGL in=	54.80	LENGTH =	150
		GRT ELEV=	58.25	DELT WSEL=	0.25	WIDTH =	150
						@ DEPTH =	0.75

ORIFICE					Q orif			
DIAMETER	0.6*A orif	H	- H grate	=HEAD	(MAX)	OUTFLOW	STORAGE	ELEVATION
18	1.060	0.00	0.00	0.00	0.00	0.00	0.000	0.00
18	1.060	3.70	0.00	3.70	16.37	1.83	0.005	0.25
18	1.060	3.95	0.00	3.95	16.91	5.20	0.038	0.50
18	1.060	4.20	0.00	4.20	17.44	9.50	0.129	0.75
18	1.060	4.45	0.00	4.45	17.95	12.83	0.306	1.00

HYDROGRAPH NUMBER A2

RUNOFF VOLUME = 1.174 ACRE-FT
 PEAK DISCHARGE RATE = 25.3 CFS
 PEAK OCCURRED AT 1.50 HRS.

** ROUTE FLOW THROUGH PARKING LOT POND TYPE "D" INLET

** NO ORIFICE

ROUTE RESERVOIR	ID=19	HYD=A2:POND	INFLOW ID=19	CODE=00
	OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)	
	0.00	0.000	100.00	
	1.83	0.005	100.25	
	5.20	0.038	100.50	
	9.50	0.129	100.75	
	12.84	0.306	101.00	

TIME	INFLOW	WATER	WATER	TOTAL
(HRS)	DISCHARGE	ELEV	VOLUME	OUTFLOW
	(CFS)	(FT)	(A-F)	(CFS)

0.0	0.0	100.0	0.0

PEAK DISCHARGE = 12.17 CFS.
 MAXIMUM WATER ELEVATION = 100.9 FT.
 MAXIMUM RESERVOIR STORAGE = 0.27 ACRE-FT.
 PRINT HYD ID=19 CODE=0

HYDROGRAPH NUMBER A2:POND

RUNOFF VOLUME = 0.897 ACRE-FT
 PEAK DISCHARGE RATE = 12.2 CFS
 PEAK OCCURRED AT 1.70 HRS.

AZ-13

A2-14

AZ-15

POND

A-8

MAX WSEL= 44.25

HGL in= 42.58

LENGTH = 130

GRT ELEV= 43.25

DELT WSEL= 0.25

WIDTH = 100

@ DEPTH = 0.75

ORIFICE DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
18	1.060	0.00	0.00	0.00	0.00	0.00	0.000	0.00
18	1.060	0.92	0.00	0.92	8.16	1.83	0.003	0.25
18	1.060	1.17	0.00	1.17	9.20	5.20	0.022	0.50
18	1.060	1.42	0.00	1.42	10.14	9.50	0.075	0.75
18	1.060	1.67	0.00	1.67	11.00	11.00	0.177	1.00

HYDROGRAPH NUMBER

A8

RUNOFF VOLUME = 0.646 ACRE-FT
 PEAK DISCHARGE RATE = 14.1 CFS
 PEAK OCCURRED AT 1.50 HRS.

** ROUTE FLOW THROUGH PARKING LOT POND TYPE "D" INLET

** NO ORIFICE

ROUTE RESERVOIR	ID=15	HYD=A8:POND	INFLOW ID=15	CODE=00
	OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)	
	0.00	0.000	100.00	
	1.83	0.003	100.25	
	5.20	0.022	100.50	
	9.50	0.075	100.75	
	12.84	0.177	101.00	

* * * * *

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)

0.0	0.0	100.0	0.0

PEAK DISCHARGE = 9.87 CFS.

MAXIMUM WATER ELEVATION = 100.8 FT.

MAXIMUM RESERVOIR STORAGE = 0.09 ACRE-FT.

PRINT HYD ID=15 CODE=0

HYDROGRAPH NUMBER

A8:POND

RUNOFF VOLUME = 0.485 ACRE-FT
 PEAK DISCHARGE RATE = 9.9 CFS
 PEAK OCCURRED AT 1.60 HRS.

POND	A-9	MAX WSEL=	44.25	HGL in=	41.46	LENGTH =	150
		GRT ELEV=	43.25	DELT WSEL=	0.25	WIDTH =	100
						@ DEPTH =	0.75

ORIFICE					Q orif			
DIAMETER	0.6*A orif	H	- H grate	=HEAD	(MAX)	OUTFLOW	STORAGE	ELEVATION
5.75	0.108	0.00	0.00	0.00	0.00	0.00	0.000	0.00
5.75	0.108	2.04	0.01	2.03	1.24	1.24	0.003	0.25
5.75	0.108	2.29	0.01	2.28	1.31	1.31	0.026	0.50
5.75	0.108	2.54	0.01	2.53	1.38	1.38	0.086	0.75
5.75	0.108	2.79	0.01	2.78	1.45	1.45	0.204	1.00

HYDROGRAPH NUMBER A9

RUNOFF VOLUME = 0.279 ACRE-FT
 PEAK DISCHARGE RATE = 6.2 CFS
 PEAK OCCURRED AT 1.50 HRS.

** ROUTE FLOW THROUGH PARKING LOT POND 3' DEEP INLET
 ** 5.75" ORIFICE

ROUTE RESERVOIR	ID=14	HYD=A9:POND	INFLOW ID=14	CODE=00
	OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)	
	0.00	0.000	100.00	
	1.24	0.003	100.25	
	1.31	0.026	100.50	
	1.38	0.086	100.75	
	1.45	0.204	101.00	

TIME	INFLOW	WATER	WATER	TOTAL
(HRS)	DISCHARGE	ELEV	VOLUME	OUTFLOW
	(CFS)	(FT)	(A-F)	(CFS)
0.0	0.0	100.0	0.0	

PEAK DISCHARGE = 1.39 CFS.
 MAXIMUM WATER ELEVATION = 100.8 FT.
 MAXIMUM RESERVOIR STORAGE = 0.11 ACRE-FT.
 PRINT HYD ID=14 CODE=0

HYDROGRAPH NUMBER A9:POND

RUNOFF VOLUME = 0.221 ACRE-FT
 PEAK DISCHARGE RATE = 1.4 CFS
 PEAK OCCURRED AT 2.00 HRS.

AZ-17

POND A-11

MAX WSEL= 44.25 HGL in= 40.79
GRT ELEV= 43.25 DELT WSEL= 0.25

LENGTH = 130
WIDTH = 100
@ DEPTH = 0.75

ORIFICE DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
2.125	0.015	0.00	0.00	0.00	0.00	0.00	0.000	0.00
2.125	0.015	2.71	0.00	2.71	0.20	0.20	0.003	0.25
2.125	0.015	2.96	0.00	2.96	0.20	0.20	0.022	0.50
2.125	0.015	3.21	0.00	3.21	0.21	0.21	0.075	0.75
2.125	0.015	3.46	0.00	3.46	0.22	0.22	0.177	1.00

HYDROGRAPH NUMBER A11

RUNOFF VOLUME = 0.117 ACRE-FT
PEAK DISCHARGE RATE = 2.7 CFS
PEAK OCCURRED AT 1.50 HRS.

**

** ROUTE FLOW THROUGH PARKING LOT POND 3' DEEP INLET

** 2.125" ORIFICE

ROUTE RESERVOIR	ID=2	HYD=A11:POND	INFLOW ID=2	CODE=00
	OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)	
	0.00	0.000	100.00	
	0.20	0.003	100.25	
	0.20	0.022	100.50	
	0.21	0.075	100.75	
	0.22	0.177	101.00	

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)

0.0 0.0 100.0 0.0
PEAK DISCHARGE = 0.21 CFS.
MAXIMUM WATER ELEVATION = 100.7 FT.
MAXIMUM RESERVOIR STORAGE = 0.07 ACRE-FT.
PRINT HYD ID=2 CODE=0

HYDROGRAPH NUMBER A11:POND

RUNOFF VOLUME = 0.017 ACRE-FT
PEAK DISCHARGE RATE = 1.0 CFS
PEAK OCCURRED AT 1.50 HRS.

POND A-12 MAX WSEL= 43.25 HGL in= 41.97 LENGTH = 150
 GRT ELEV= 42.25 DELT WSEL= 0.25 WIDTH = 150
 @ DEPTH = 0.75

ORIFICE DIAMETER	0.6"A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
18	1.060	0.00	0.00	0.00	0.00	0.00	0.000	0.00
18	1.060	0.53	0.00	0.53	6.19	0.63	0.005	0.25
18	1.060	0.78	0.00	0.78	7.51	1.79	0.038	0.50
18	1.060	1.03	0.00	1.03	8.64	2.45	0.129	0.75
18	1.060	1.28	0.00	1.28	9.63	2.82	0.306	1.00

OUTFLOW CONTROLLED BY VENTED LID

HYDROGRAPH NUMBER A12

RUNOFF VOLUME = 0.475 ACRE-FT
 PEAK DISCHARGE RATE = 10.3 CFS
 PEAK OCCURRED AT 1.50 HRS.

**
 ** ROUTE FLOW THROUGH PARKING LOT POND VENTED LID INLET (H=1.0'MAX)
 ** 8.75" ORIFICE 0.0 3.62 3.76 3.89 SUPERCEDED
 ROUTE RESERVOIR ID=7 HYD=A12:POND INFLOW ID=6 CODE=00

OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)
0.00	0.000	100.00
0.63	0.005	100.25
1.79	0.038	100.50
2.45	0.129	100.75
2.82	0.306	101.00

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)
0.0	0.0	100.0	0.0	

PEAK DISCHARGE = 2.58 CFS.
 MAXIMUM WATER ELEVATION = 100.8 FT.
 MAXIMUM RESERVOIR STORAGE = 0.19 ACRE-FT.
 PRINT HYD ID=7 CODE=0

HYDROGRAPH NUMBER A12:POND

RUNOFF VOLUME = 0.361 ACRE-FT
 PEAK DISCHARGE RATE = 2.6 CFS
 PEAK OCCURRED AT 2.00 HRS.

A2-19

POND	A-17	MAX WSEL=	43.25	HGL in=	42.35	LENGTH =	150
		GRT ELEV=	42.25	DELT WSEL=	0.25	WIDTH =	150
						@ DEPTH =	0.75

ORIFICE DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
18	1.060	0.00	0.00	0.00	0.00	0.00	0.000	0.00
18	1.060	0.15	0.00	0.15	3.30	0.63	0.005	0.25
18	1.060	0.40	0.00	0.40	5.38	1.79	0.038	0.50
18	1.060	0.65	0.00	0.65	6.86	2.28	0.129	0.75
18	1.060	0.90	0.00	0.90	8.07	2.68	0.306	1.00

OUTFLOW CONTROLLED BY VENTED LID

HYDROGRAPH NUMBER A17

RUNOFF VOLUME = 0.544 ACRE-FT
 PEAK DISCHARGE RATE = 11.8 CFS
 PEAK OCCURRED AT 1.50 HRS.

**
 ** ROUTE FLOW THROUGH PARKING LOT POND VENTED LID INLET (H=0.9' MAX)
 ** 9.75" ORIFICE 0.0 4.50 4.67 4.83 5.00 SUPERCEDED
 ROUTE RESERVOIR ID=2 HYD=A17:POND INFLOW ID=2 CODE=00

OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)
0.00	0.000	100.00
0.63	0.005	100.25
1.79	0.038	100.50
2.27	0.129	100.75
2.67	0.308	101.00

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)

0.0	0.0	100.0	0.0	

PEAK DISCHARGE = 2.51 CFS.
 MAXIMUM WATER ELEVATION = 100.9 FT.
 MAXIMUM RESERVOIR STORAGE = 0.24 ACRE-FT.
 PRINT HYD ID=2 CODE=0

HYDROGRAPH NUMBER A17:POND

RUNOFF VOLUME = 0.418 ACRE-FT
 PEAK DISCHARGE RATE = 2.5 CFS
 PEAK OCCURRED AT 2.05 HRS.

AZ-20

POND	B-1-C	MAX WSEL=	45.25	HGL in=	42.71	LENGTH =	180
		GRT ELEV=	44.25	DELT WSEL=	0.25	WIDTH =	50
						@ DEPTH =	0.75

ORIFICE								
DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
9	0.265	0.00	0.00	0.00	0.00	0.00	0.000	0.00
9	0.265	1.79	0.00	1.79	2.85	1.83	0.002	0.25
9	0.265	2.04	0.05	1.99	3.00	3.00	0.015	0.50
9	0.265	2.29	0.06	2.23	3.18	3.18	0.052	0.75
9	0.265	2.54	0.07	2.47	3.34	3.34	0.122	1.00

HYDROGRAPH NUMBER B1C

RUNOFF VOLUME = 0.186 ACRE-FT
 PEAK DISCHARGE RATE = 4.0 CFS
 PEAK OCCURRED AT 1.50 HRS.

**

** ROUTE FLOW THROUGH PARKING LOT POND

** 9" ORIFICE

ROUTE RESERVOIR	ID=2	HYD=B1C:POND	INFLOW ID=1	CODE=00
	OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)	
	0.00	0.000	100.00	
	1.83	0.002	100.25	
	2.99	0.015	100.50	
	3.18	0.052	100.75	
	3.35	0.122	101.00	

TIME	INFLOW	WATER	WATER	TOTAL
(HRS)	DISCHARGE	ELEV	VOLUME	OUTFLOW
	(CFS)	(FT)	(A-F)	(CFS)

0.0	0.0	100.0	0.0

PEAK DISCHARGE = 3.00 CFS.
 MAXIMUM WATER ELEVATION = 100.5 FT.
 MAXIMUM RESERVOIR STORAGE = 0.02 ACRE-FT.
 PRINT HYD ID=2 CODE=0

HYDROGRAPH NUMBER B1C:POND

RUNOFF VOLUME = 0.126 ACRE-FT
 PEAK DISCHARGE RATE = 3.0 CFS
 PEAK OCCURRED AT 1.60 HRS.

POND B-3

MAX WSEL=	45.25	HGL in=	42.63	LENGTH =	200
GRT ELEV=	44.25	DELT WSEL=	0.25	WIDTH =	100
				@ DEPTH =	0.75

ORIFICE					Q orif			
DIAMETER	0.6*A orif	H	- H grate	=HEAD	(MAX)	OUTFLOW	STORAGE	ELEVATION
7.25	0.172	0.00	0.00	0.00	0.00	0.00	0.000	0.00
7.25	0.172	1.87	0.02	1.85	1.88	1.83	0.004	0.25
7.25	0.172	2.12	0.02	2.10	2.00	2.00	0.034	0.50
7.25	0.172	2.37	0.03	2.34	2.11	2.11	0.115	0.75
7.25	0.172	2.62	0.03	2.59	2.22	2.22	0.272	1.00

HYDROGRAPH NUMBER B3

RUNOFF VOLUME = 0.427 ACRE-FT
 PEAK DISCHARGE RATE = 9.6 CFS
 PEAK OCCURRED AT 1.50 HRS.

**
 ** ROUTE FLOW THROUGH PARKING LOT POND 3' DEEP INLET
 ** 7.25" ORIFICE
 ROUTE RESERVOIR ID=6 HYD=B3:POND INFLOW ID=6 CODE=00

OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)
0.00	0.000	100.00
1.83	0.004	100.25
2.00	0.034	100.50
2.12	0.115	100.75
2.23	0.272	101.00

TIME	INFLOW	WATER	WATER	TOTAL
(HRS)	DISCHARGE	ELEV	VOLUME	OUTFLOW
	(CFS)	(FT)	(A-F)	(CFS)
0.0	0.0	100.0	0.0	

PEAK DISCHARGE = 2.16 CFS.
 MAXIMUM WATER ELEVATION = 100.8 FT.
 MAXIMUM RESERVOIR STORAGE = 0.17 ACRE-FT.
 PRINT HYD ID=6 CODE=0

HYDROGRAPH NUMBER B3:POND

RUNOFF VOLUME = 0.339 ACRE-FT
 PEAK DISCHARGE RATE = 2.2 CFS
 PEAK OCCURRED AT 2.00 HRS.

A2-23

POND	B-7	MAX WSEL=	47.00	HGL in=	42.53	LENGTH =	---
		GRT ELEV=	42.00	DELT WSEL=	1.00	WIDTH =	---
						@ DEPTH =	5

ORIFICE DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
10.25	0.344	0.00	0.00	0.00	0.00	0.00	0.000	0.00
10.25	0.344	0.47	0.02	0.45	1.85	1.85	0.028	1.00
10.25	0.344	1.47	0.07	1.40	3.26	3.26	0.090	2.00
10.25	0.344	2.47	0.11	2.36	4.24	4.24	0.200	3.00
10.25	0.344	3.47	0.15	3.32	5.03	5.03	0.374	4.00
10.25	0.344	4.47	0.20	4.27	5.70	5.70	0.628	5.00

* HAND ENTERED: DETERMINED IN PREVIOUS REPORT

HYDROGRAPH NUMBER B7:PND:T

RUNOFF VOLUME = 0.992 ACRE-FT
 PEAK DISCHARGE RATE = 27.8 CFS
 PEAK OCCURRED AT 1.50 HRS.

**

** ROUTE FLOW THROUGH POND B7

** 10.25" ORIFICE

ROUTE RESERVOIR	ID=13	HYD=B7:PND:R	INFLOW	ID=12	CODE=00
	OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)		
	0.00	0.0	100.0		
	1.85	0.028	101.02		
	3.26	0.090	102.02		
	4.24	0.200	103.02		
	5.03	0.374	104.02		
	5.70	0.628	105.0		

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)
0.0	0.0	100.0	0.0	
PEAK DISCHARGE = 5.56 CFS.				
MAXIMUM WATER ELEVATION = 104.8 FT.				
MAXIMUM RESERVOIR STORAGE = 0.58 ACRE-FT.				
PRINT HYD ID=13 CODE=0				

HYDROGRAPH NUMBER B7:PND:R

RUNOFF VOLUME = 0.955 ACRE-FT
 PEAK DISCHARGE RATE = 5.6 CFS
 PEAK OCCURRED AT 2.07 HRS.

AZ-24

POND B-8A/B-8-B

MAX WSEL= 46.25 HGL in= 41.00
GRT ELEV= 45.25 DELT WSEL= 0.25

LENGTH = 150
WIDTH = 150
@ DEPTH = 0.75

ORIFICE DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
11	0.396	0.00	0.00	0.00	0.00	0.00	0.000	0.00
11	0.396	4.50	0.27	4.23	6.54	1.83	0.005	0.25
11	0.396	4.75	0.28	4.47	6.72	5.20	0.038	0.50
11	0.396	5.00	0.29	4.71	6.90	6.90	0.129	0.75
11	0.396	5.25	0.30	4.95	7.07	7.07	0.306	1.00

HYDROGRAPH NUMBER B8A:B8B

RUNOFF VOLUME = 0.554 ACRE-FT
PEAK DISCHARGE RATE = 11.9 CFS
PEAK OCCURRED AT 1.50 HRS.

**
** ROUTE FLOW THROUGH PARKING LOT POND 3' DEEP INLET
** 11" ORIFICE
ROUTE RESERVOIR ID=6 HYD=B8:POND INFLOW ID=4 CODE=00

OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)
0.00	0.000	100.00
1.83	0.005	100.25
6.72	0.038	100.50
6.90	0.129	100.75
7.07	0.306	101.00

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)
0.0	0.0	100.0	0.0	
PEAK DISCHARGE = 6.81 CFS.				
MAXIMUM WATER ELEVATION = 100.6 FT.				
MAXIMUM RESERVOIR STORAGE = 0.08 ACRE-FT.				
PRINT HYD ID=6 CODE=0				

HYDROGRAPH NUMBER B8:POND

RUNOFF VOLUME = 0.411 ACRE-FT
PEAK DISCHARGE RATE = 6.8 CFS
PEAK OCCURRED AT 1.65 HRS.

AZ-25

POND B-8-C MAX WSEL= 43.25 HGL in= 40.01 LENGTH = 150
 GRT ELEV= 42.25 DELT WSEL= 0.25 WIDTH = 150
 @ DEPTH = 0.75

ORIFICE						Q orif			
DIAMETER	0.6*A orif	H	- H grate	=HEAD	(MAX)	OUTFLOW	STORAGE	ELEVATION	
11.75	0.452	0.00	0.00	0.00	0.00	0.00	0.000	0.00	
11.75	0.452	2.49	0.18	2.31	5.51	1.83	0.005	0.25	
11.75	0.452	2.74	0.20	2.54	5.78	5.20	0.038	0.50	
11.75	0.452	2.99	0.22	2.77	6.03	6.03	0.129	0.75	
11.75	0.452	3.24	0.24	3.00	6.28	6.28	0.306	1.00	

HYDROGRAPH NUMBER B8C

RUNOFF VOLUME = 0.566 ACRE-FT
 PEAK DISCHARGE RATE = 12.3 CFS
 PEAK OCCURRED AT 1.50 HRS.

**

** ROUTE FLOW THROUGH PARKING LOT POND 3' DEEP INLET
 ** 11.75" ORIFICE

ROUTE RESERVOIR	ID=10	HYD=B8C	INFLOW ID=9	CODE=00
	OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)	
	0.00	0.000	100.00	
	1.83	0.005	100.25	
	5.78	0.038	100.50	
	6.03	0.129	100.75	
	6.28	0.306	101.00	

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)
0.0	0.0	100.0	0.0	
PEAK DISCHARGE = 5.98 CFS.				
MAXIMUM WATER ELEVATION = 100.7 FT.				
MAXIMUM RESERVOIR STORAGE = 0.11 ACRE-FT.				
PRINT HYD	ID=10	CODE=0		

HYDROGRAPH NUMBER B8C

RUNOFF VOLUME = 0.425 ACRE-FT
 PEAK DISCHARGE RATE = 6.0 CFS
 PEAK OCCURRED AT 1.70 HRS.

* HAND ENTERED: DETERMINED IN PREVIOUS REPORT

AZ-27

POND

B-13

MAX WSEL=
GRT ELEV=40.25
39.25HGL in=
DELT WSEL=38.99
0.25LENGTH = 150
WIDTH = 150
@ DEPTH = 0.75

ORIFICE DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
27	2.386	0.00	0.00	0.00	0.00	0.00	0.000	0.00
27	2.386	0.51	0.00	0.51	13.67	0.63	0.005	0.25
27	2.386	0.76	0.00	0.76	16.69	1.79	0.038	0.50
27	2.386	1.01	0.00	1.01	19.24	2.45	0.129	0.75
27	2.386	1.26	0.00	1.26	21.49	2.82	0.306	1.00

OUTFLOW CONTROLLED BY VENTED LID

HYDROGRAPH NUMBER

B13

RUNOFF VOLUME = 0.366 ACRE-FT
 PEAK DISCHARGE RATE = 8.0 CFS
 PEAK OCCURRED AT 1.50 HRS.

**

** ROUTE FLOW THROUGH PARKING LOT POND VENTED LID INLET

**

ROUTE RESERVOIR	ID=1	HYD=B13	INFLOW ID=1	CODE=00
	OUTFLOW(cfs)		STORAGE(ac-ft)	ELEV(ft)
	0.00		0.000	100.00
	0.63		0.005	100.25
	1.79		0.038	100.50
	2.45		0.129	100.75
	2.82		0.306	101.00

* * * * *

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)

0.0 0.0 100.0 0.0
 PEAK DISCHARGE = 2.45 CFS.
 MAXIMUM WATER ELEVATION = 100.7 FT.
 MAXIMUM RESERVOIR STORAGE = 0.13 ACRE-FT.
 PRINT HYD ID=1 CODE=0

HYDROGRAPH NUMBER

B13

RUNOFF VOLUME = 0.274 ACRE-FT
 PEAK DISCHARGE RATE = 2.4 CFS
 PEAK OCCURRED AT 1.85 HRS.

AZ-28

POND

B-14

MAX WSEL=
GRT ELEV=41.25
40.25HGL in=
DELT WSEL=38.76
0.25LENGTH = 150
WIDTH = 150
@ DEPTH = 0.75

ORIFICE DIAMETER	0.6"A orif	H	-H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
5.25	0.090	0.00	0.00	0.00	0.00	0.00	0.000	0.00
5.25	0.090	1.74	0.01	1.73	0.95	0.95	0.005	0.25
5.25	0.090	1.99	0.01	1.98	1.02	1.02	0.038	0.50
5.25	0.090	2.24	0.01	2.23	1.08	1.08	0.129	0.75
5.25	0.090	2.49	0.01	2.48	1.14	1.14	0.306	1.00

HYDROGRAPH NUMBER

B14

RUNOFF VOLUME = 0.386 ACRE-FT
 PEAK DISCHARGE RATE = 8.6 CFS
 PEAK OCCURRED AT 1.50 HRS.

**

** ROUTE FLOW THROUGH PARKING LOT POND 3' DEEP INLET

** 5.25" ORIFICE

ROUTE RESERVOIR	ID=4	HYD=B14:POND	INFLOW ID=4	CODE=00
	OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)	
	0.00	0.000	100.00	
	0.95	0.005	100.25	
	1.02	0.038	100.50	
	1.08	0.129	100.75	
	1.14	0.306	101.00	

* * * * *

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)

0.0	0.0	100.0	0.0

PEAK DISCHARGE = 1.11 CFS.

MAXIMUM WATER ELEVATION = 100.9 FT.

MAXIMUM RESERVOIR STORAGE = 0.21 ACRE-FT.

PRINT HYD ID=4 CODE=0

HYDROGRAPH NUMBER B14:POND

RUNOFF VOLUME = 0.288 ACRE-FT
 PEAK DISCHARGE RATE = 1.1 CFS
 PEAK OCCURRED AT 2.15 HRS.

AZ-29

POND	B-15	MAX WSEL=	43.25	HGL in=	39.58	LENGTH =	150
		GRT ELEV=	42.25	DELT WSEL=	0.25	WIDTH =	150
						@ DEPTH =	0.75

ORIFICE								
DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
7.5	0.184	0.00	0.00	0.00	0.00	0.00	0.000	0.00
7.5	0.184	2.92	0.04	2.88	2.51	1.83	0.005	0.25
7.5	0.184	3.17	0.04	3.13	2.61	2.61	0.038	0.50
7.5	0.184	3.42	0.04	3.38	2.72	2.72	0.129	0.75
7.5	0.184	3.67	0.05	3.62	2.81	2.81	0.306	1.00

HYDROGRAPH NUMBER B15

RUNOFF VOLUME = 0.342 ACRE-FT
 PEAK DISCHARGE RATE = 7.5 CFS
 PEAK OCCURRED AT 1.50 HRS.

**
 ** ROUTE FLOW THROUGH PARKING LOT POND 3' DEEP INLET
 ** 7.5" ORIFICE
 ROUTE RESERVOIR ID=5 HYD=B15:POND INFLOW ID=5 CODE=00
 OUTFLOW(cfs) STORAGE(ac-ft) ELEV(ft)
 0.00 0.000 100.00
 1.83 0.007 100.25
 2.61 0.057 100.50
 2.72 0.194 100.75
 2.81 0.306 101.00

TIME	INFLOW	WATER	WATER	TOTAL
(HRS)	DISCHARGE	ELEV	VOLUME	OUTFLOW
	(CFS)	(FT)	(A-F)	(CFS)
0.0	0.0	100.0	0.0	

PEAK DISCHARGE = 2.64 CFS.
 MAXIMUM WATER ELEVATION = 100.6 FT.
 MAXIMUM RESERVOIR STORAGE = 0.10 ACRE-FT.
 PRINT HYD ID=5 CODE=0

HYDROGRAPH NUMBER B15:POND

RUNOFF VOLUME = 0.264 ACRE-FT
 PEAK DISCHARGE RATE = 2.6 CFS
 PEAK OCCURRED AT 1.80 HRS.

POND	B-22	MAX WSEL=	45.00	HGL in=	43.04	LENGTH =	60
	DOCK	GRT ELEV=	42.00	DELT WSEL=	1.00	WIDTH =	40
						@ DEPTH =	3

ORIFICE DIAMETER	0.6*A orif	H	- H grate	=HEAD	Q orif (MAX)	OUTFLOW	STORAGE	ELEVATION
15	0.736	0.00	0.00	0.00	0.00	0.00	0.000	0.00
15	0.736	0.50	0.09	0.41	3.78	3.78	0.003	1.00
15	0.736	0.96	0.17	0.79	5.25	5.25	0.024	2.00
15	0.736	1.96	0.35	1.61	7.50	7.50	0.083	3.00

HYDROGRAPH NUMBER B22:DOCK

RUNOFF VOLUME = 0.427 ACRE-FT
 PEAK DISCHARGE RATE = 9.2 CFS
 PEAK OCCURRED AT 1.50 HRS.

**
 ** ROUTE FLOW THROUGH DOCK POND
 ** 15" ORIFICE
 ROUTE RESERVOIR ID=4 HYD=B22:DOCK INFLOW ID=3 CODE=00

OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)
0.00	0.000	42.0
3.78	0.003	43.0
5.25	0.024	44.0
7.50	0.083	45.0

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)
0.0	0.0	42.0	0.0	

PEAK DISCHARGE = 6.17 CFS.
 MAXIMUM WATER ELEVATION = 44.4 FT.
 MAXIMUM RESERVOIR STORAGE = 0.05 ACRE-FT.
 PRINT HYD ID=4 CODE=0

HYDROGRAPH NUMBER B22:DOCK

RUNOFF VOLUME = 0.314 ACRE-FT
 PEAK DISCHARGE RATE = 6.2 CFS
 PEAK OCCURRED AT 1.60 HRS.

Pond B-26:

HYDROGRAPH NUMBER

POND

RUNOFF VOLUME = 5.553 ACRE-FT
PEAK DISCHARGE RATE = 101.9 CFS
PEAK OCCURRED AT 1.53 HRS.

**

** ROUTE FLOW THROUGH POND B26

** 25.50" ORIFICE

ROUTE RESERVOIR	ID=20	HYD=B26:POND	INFLOW ID=19	CODE=5
	OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)	
	0.0	0.0	29.2	
	4.9	0.0011	30.2	
	15.1	0.0021	32.0	
	26.3	0.0066	34.95	
	28.7	0.096	36.10	
	31.1	0.212	37.10	
	33.5	0.359	38.10	
	35.9	0.542	39.10	
	38.2	0.765	40.10	
	40.6	1.034	41.10	
	43.0	1.353	42.10	
	45.4	1.726	43.10	

(see the following pages for more information
on the design of this pond.)

POND B-26 CONTINUED

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)
0.0	0.0	29.2	0.0	
0.2	0.0	29.2	0.0	0.0
0.3	0.0	29.2	0.0	0.0
0.5	0.0	29.2	0.0	0.0
0.7	0.0	29.2	0.0	0.0
0.8	0.0	29.2	0.0	0.0
1.0	0.0	29.2	0.0	0.0
1.2	0.1	29.2	0.0	0.1
1.3	25.2	34.1	0.0	23.1
1.5	94.9	38.5	0.4	34.4
1.7	76.1	41.5	1.2	41.5
1.8	56.9	42.4	1.5	43.7
2.0	46.5	42.7	1.6	44.4
2.2	32.2	42.5	1.5	44.1
2.3	19.5	41.8	1.3	42.3
2.5	13.0	40.7	0.9	39.6
2.7	9.2	39.1	0.6	36.0
2.8	8.1	37.1	0.2	31.0
3.0	7.1	30.4	0.0	6.0
3.2	5.9	30.5	0.0	6.5
3.3	4.1	30.0	0.0	3.9
3.5	2.8	29.8	0.0	2.9
3.7	1.6	29.5	0.0	1.6

PEAK DISCHARGE = 44.45 CFS.

MAXIMUM WATER ELEVATION = 42.7 FT.

MAXIMUM RESERVOIR STORAGE = 1.58 ACRE-FT.

PRINT HYD

ID=20 CODE=0

HYDROGRAPH NUMBER B26:POND

RUNOFF VOLUME = 5.529 ACRE-FT

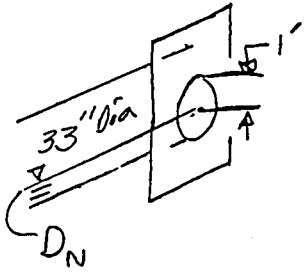
PEAK DISCHARGE RATE = 44.4 CFS

PEAK OCCURRED AT 2.03 HRS.

Backflow Pond: Basin B-26

Determine flow when Plate 1st becomes sealed

Assume 24" ϕ Orifice Plate



$$Q = .6 \pi (1)^2 \sqrt{64.4 (1')} = 15.1 \text{ cfs}$$

Preliminary Hydrology shows that

$$Q_{84''}^{\text{peak}} = 164 \approx 4(44) = 4Q_{33''}^{\text{peak}}$$

$$\therefore D_{N84''} = 2.67'$$

$$Q = 60 \text{ cfs}$$

$$D_{\text{Flow } 33''} = 2.67' - (29.18 - 28.32)$$
$$Q = 15 \text{ cfs} = 1.8'$$

MH12A
Inv 33"

MH12
Inv 84"

Water Surface required to achieve

$$1' \text{ Head} = 1.8' + 1.0' + 29.18$$

$$= 32.0$$

Head

Inv 33"

Determine flow when 33" pipe becomes sealed

$$D_{N84''} = 33'' + (29.18 - 28.32) = 43''$$

$$Q_{84''} = 105 \text{ cfs} \quad Q_{33''} = \frac{1}{4} 105 \text{ cfs} = 26.3 \text{ cfs}$$

Head required to push 26.3 cfs

$$Q = .6 \pi (1)^2 \sqrt{64.4 (H)} = 26.3 \text{ cfs}$$
$$H = 3.02'$$

$$\therefore \text{WSEL} = 34.95' = 3.02' + \frac{33''}{12} + 29.18$$



BOHANNAN-HUSTON INC.

PROJECT NAME Cottonwood Mall

SHEET

OF

A2-34

PROJECT NO. 90316.83

BY

MSJ

DATE

6/94

SUBJECT

CH'D

DATE

Back Flow Pond: Basin B-26

Determine Peak flow ^{from pond} assuming WSEL = 43.1 and HGL_{du} is calculated at peak flow in pipe
 $HGL_{du} = 36.0$ (see HGL spreadsheet)

$$Q = 0.6(\pi)(\frac{25.5}{24})^2 \sqrt{64.4(43.1 - 36.0)} = 45.4 \text{ cfs}$$

After some preliminary design calcs it was determined that the orifice plate needed to be 25.5" ϕ and remaining calcs use this #.

All other Flows have been calculated linearly between 26.3 cfs and 45.4 cfs

Volumes between ELEV = 29.2 and ELEV = 34.95 are based on 8' Dia MH (1' deep) $\times \pi (\frac{8}{2})^2 = 0.00115 \text{ Ac-ft}$
 $\frac{(43560 \text{ sq ft})}{\text{Ac}} \text{ ft}$

$\therefore \text{Pond} = \text{calcd values} + \text{Previously}$
 $\text{Volumes} = 0.0066 \text{ Ac-ft}$

8' Dia MH
 $5.75' D = 0.0066 \text{ Ac-ft}$



BOHANNAN-HUSTON INC.

PROJECT NAME Cottonwood Mall

PROJECT NO. 90316.83

BY MSJ

DATE 6/94

SHEET

OF

A2-35

CH'D

DATE

SUBJECT

84"RCP -- SLOPE=0.1%

CULVERT RATING TABLE

84. INCH DIAMETER PIPE

N = 0.01300 INCREMENT = 2.00 SLOPE = 0.00100

FLOW DEPTH (IN)	FLOW AREA (SQ FT)	DISCHARGE (CFS)	VELOCITY (FPS)
2.00000	0.23829	0.19759	0.82919
4.00000	0.66910	0.87407	1.30633
6.00000	1.22013	2.07252	1.69861
8.00000	1.86437	3.80635	2.04163
10.00000	2.58559	6.07672	2.35023
12.00000	3.37238	8.87763	2.63245
14.00000	4.21600	12.19804	2.89327
16.00000	5.10941	16.02323	3.13603
18.00000	6.04667	20.33548	3.36309
20.00000	7.02266	25.11465	3.57623
22.00000	8.03285	30.33854	3.77681
24.00000	9.07316	35.98304	3.96588
26.00000	10.13984	42.02246	4.14429
28.00000	11.22943	48.42957	4.31274
30.00000	12.33868	55.17576	4.47177
32.00000	13.46450	62.23108	4.62186
34.00000	14.60395	69.56429	4.76339
36.00000	15.75418	77.14294	4.89666
38.00000	16.91244	84.93329	5.02194
40.00000	18.07602	92.90043	5.13943
42.00000	19.24224	101.00813	5.24929
44.00000	20.40847	109.21883	5.35164
46.00000	21.57204	117.49366	5.44657
48.00000	22.73030	125.79224	5.53412
50.00000	23.88053	134.07257	5.61430
52.00000	25.01998	142.29097	5.68709
54.00000	26.14580	150.40170	5.75242
56.00000	27.25504	158.35677	5.81018
58.00000	28.34463	166.10571	5.86022
60.00000	29.41131	173.59471	5.90231
62.00000	30.45162	180.76646	5.93619
64.00000	31.46181	187.55875	5.96147
66.00000	32.43781	193.90344	5.97770
68.00000	33.37506	199.72458	5.98425
70.00000	34.26847	204.93535	5.98029
72.00000	35.11209	209.43343	5.96471
74.00000	35.89888	213.09303	5.93592
76.00000	36.62010	215.74968	5.89156
78.00000	37.26435	217.16789	5.82777
80.00000	37.81537	216.95769	5.73729
82.00000	38.24619	214.26642	5.60229
84.00000	38.48450	202.01634	5.24929

→
@ $D_N = 2.67'$
 $Q = 60 \text{ cfs}$

HYDROGRAPH NUMBER

B26

RUNOFF VOLUME = 0.116 ACRE-FT
 PEAK DISCHARGE RATE = 2.5 CFS
 PEAK OCCURRED AT 1.50 HRS.

**

** ADD FLOW FROM PREVIOUS BASINS

ADD HYD ID=19 HYD=POND ID I=17 ID II=18
 PRINT HYD ID=19 CODE=5

HYDROGRAPH NUMBER

POND

RUNOFF VOLUME = 5.527 ACRE-FT
 PEAK DISCHARGE RATE = 105.0 CFS
 PEAK OCCURRED AT 1.53 HRS.

①

Since the Hydrograph peaks at approx. 1.5 hrs, determine the maximum flow out of Pond B-26 at this time (see ②)

**

** ROUTE FLOW THROUGH POND B26

** 25.50" ORIFICE

ROUTE RESERVOIR ID=20 HYD=B26:POND INFLOW ID=19 CODE=00

OUTFLOW(cfs)	STORAGE(ac-ft)	ELEV(ft)
0.0	0.0	29.2
4.9	0.0011	30.2
15.1	0.0021	32.0
26.3	0.0066	34.95
28.7	0.096	36.10
31.1	0.212	37.10
33.5	0.359	38.10
35.9	0.542	39.10
38.2	0.765	40.10
40.6	1.034	41.10
43.0	1.353	42.10
45.4	1.726	43.10

③

② →
@Q=35

WSEL = 38.73

This WSEL becomes the new HGLup and it has been assumed that HGL = EGL (standing water in pond). A new HGL begins at this point.

TIME (HRS)	INFLOW DISCHARGE (CFS)	WATER ELEV (FT)	WATER VOLUME (A-F)	TOTAL OUTFLOW (CFS)
0.0	0.0	29.2	0.0	
PEAK DISCHARGE = 45.18 CFS.				
MAXIMUM WATER ELEVATION = 43.0 FT.				
MAXIMUM RESERVOIR STORAGE = 1.69 ACRE-FT.				
*		45.3		2.183
*		46.9		2.877
PRINT HYD ID=20 CODE=5				

HYDROGRAPH NUMBER

B26:POND

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
0.000	0.	1.333	24.	2.667	37.
0.167	0.	1.500	35.	2.833	31.
0.333	0.	1.667	42.	3.000	2.
0.500	0.	1.833	44.	3.167	5.
0.667	0.	2.000	45.	3.333	2.
0.833	0.	2.167	45.	3.500	2.
1.000	0.	2.333	43.		

② From this flow is determined Pond WSEL at the cross section in time for which HGL has been calculated (see ③)

A2-37

POND P-1 - WARD TBA

VOLUME COMPARISON

ORIGINAL CONDITION

BASINS B-10 & P-1 FLOWING INTO 7-BAR Loop Rd, TOTAL = 2.33 AC

B-10 = 0.76 AC, PAVED = 0.47 AC

LANDSCAPED = 0.29 AC

P-1 = 1.57 AC, PAVED = 1.47 AC

LANDSCAPED = 0.10 AC

$$CN = \frac{(98)(.47 + 1.47) + (61)(.29 + .10)}{2.33} = 91.8$$

$$S = 0.89, \quad S = \frac{((2.2 - .2(.89))^2)}{2.2 + .8(.89)} = 1.40''$$

$$V = SA = (1.40)(2.33) = 3.27 \text{ in-AC} = 11,861 \text{ ft}^3$$

$$Q_{\text{TOTAL}} = 9.7 \text{ cfs}$$

PROPOSED CONDITION

BASIN P-1 INTO POND, P-2 & P-3 INTO 7-BAR Loop Road, TOTAL = 2.84 AC

P-1 = 1.85 AC, PAVED = 1.63

Q = 7.7 cfs, Q_{ponded} = 4.1 cfs, L/SCP = 0.22

P-2 = 0.68 AC, PAVED = 0.45

Q = 2.5 cfs, L/SCP = 0.23

TOTAL PAVED = 2.26 AC

TOTAL L/SCP = 0.58 AC

P-3 = 0.31 AC, PAVED = 0.17

Q = 0.9 cfs, L/SCP = 0.14

$$CN = \frac{(98)(2.26) + (61)(0.58)}{2.84} = 90.44$$

$$S = 1.06, \quad S = \frac{((2.2 - 0.2(1.06))^2)}{2.2 + 0.8(1.06)} = 1.30$$

$$V = SA = (1.30)(2.84) = 3.69 \text{ in-AC} = 13,388 \text{ ft}^3 \text{ - WITHOUT POND}$$

$$V_{\text{ponded}} = 2,126 \text{ ft}^3, \quad 13,388 - 2,126 = 11,262 \text{ ft}^3 \text{ - WITH POND}$$

$$Q_{\text{TOTAL PAVED}} = 7.5 \text{ cfs}$$



BOHANNAN-HUSTON INC.

AZ-38

PROJECT NAME COTTONWOOD Mall

SHEET 8 OF 10

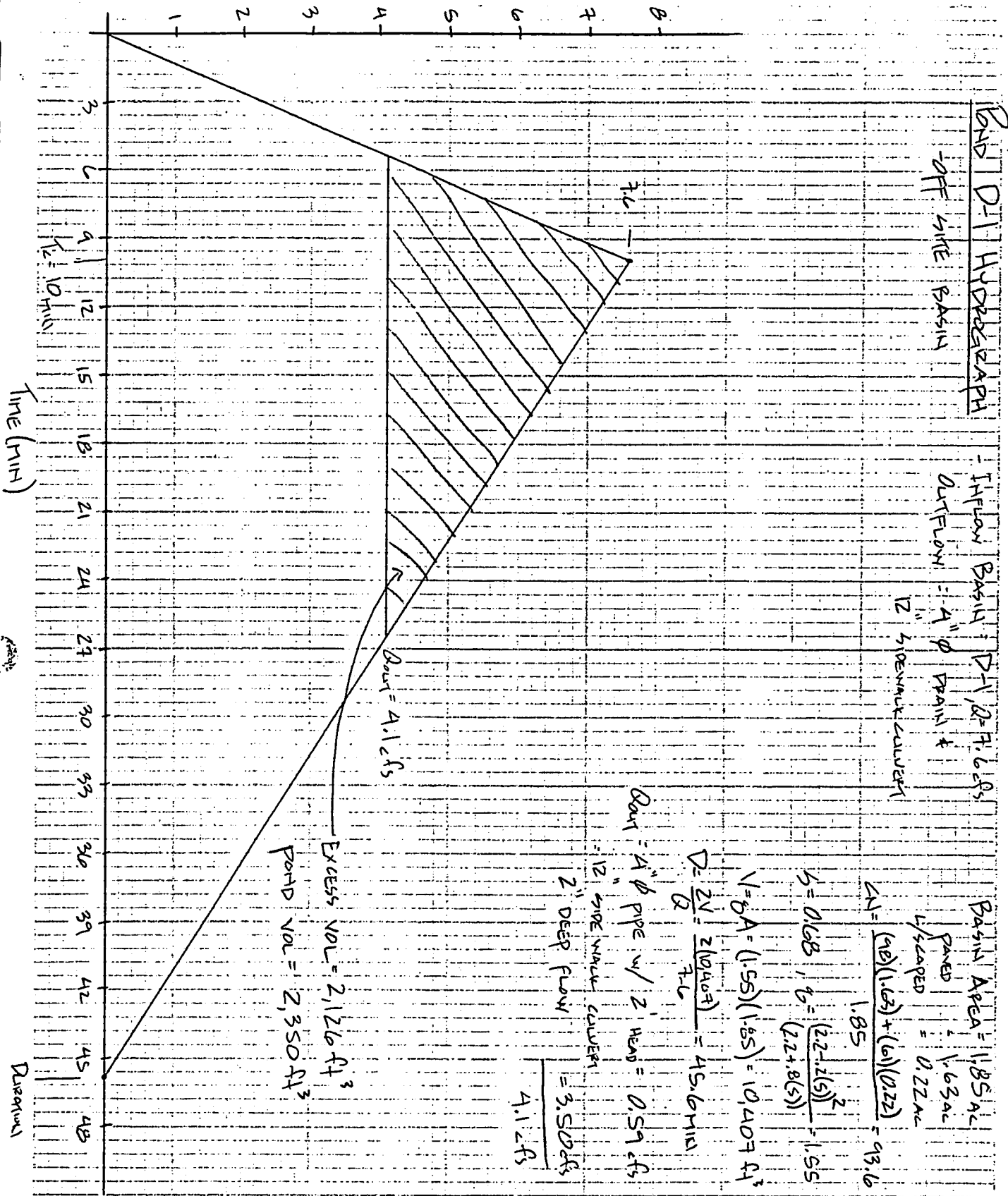
PROJECT NO. 9013505

BY D.F. DATE 4/13/12

SUBJECT DRAINAGE - BHDS

CH'D _____ DATE _____

Q (cfs)



BOHANNAN-HUSTON INC.

A2-39

PROJECT NAME LOTTEWOOD MALL

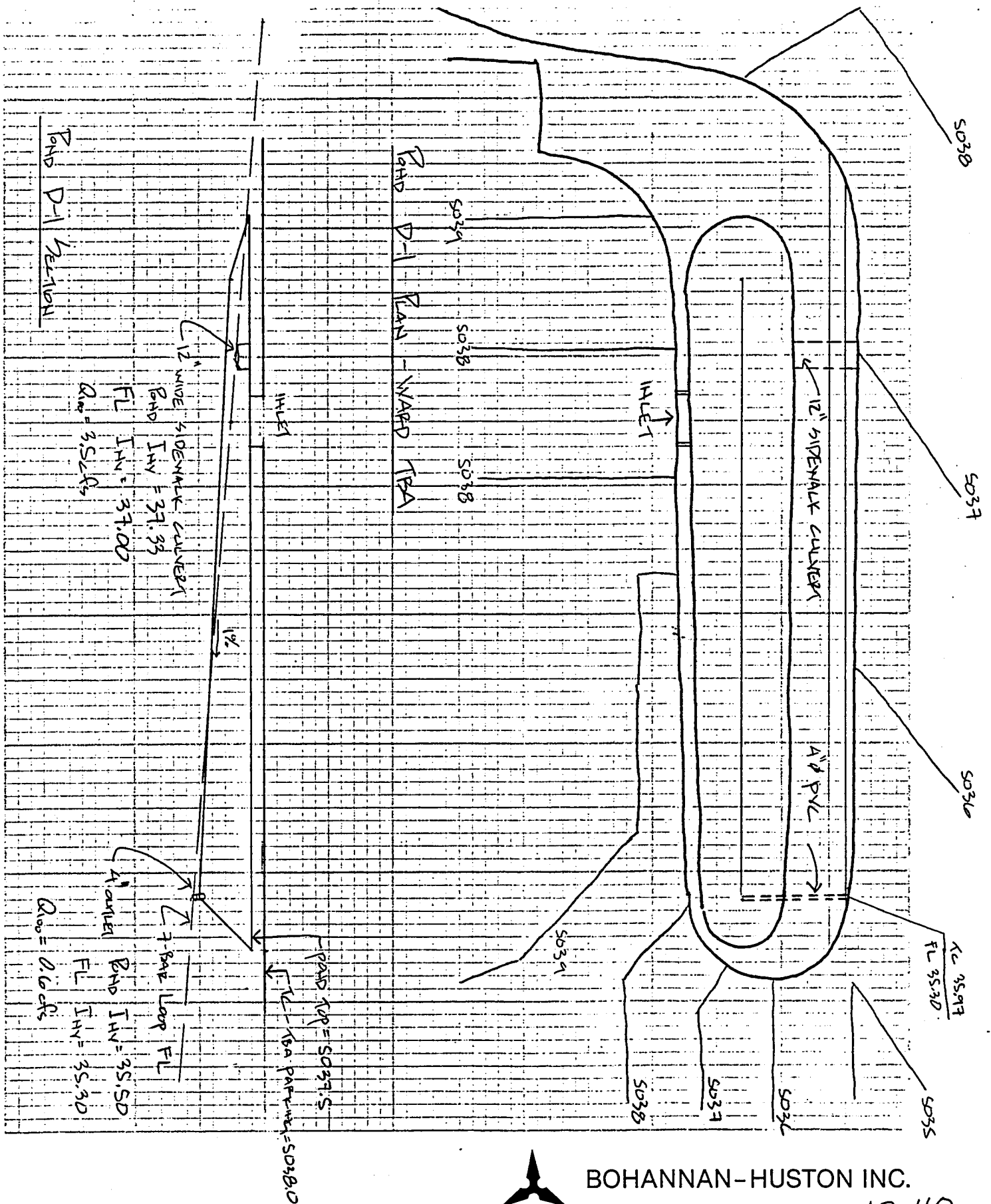
SHEET 9 OF 10

PROJECT NO. 1013505

BY RF DATE 4/10/12

SUBJECT DRAINAGE - Ponds

CH'D DATE



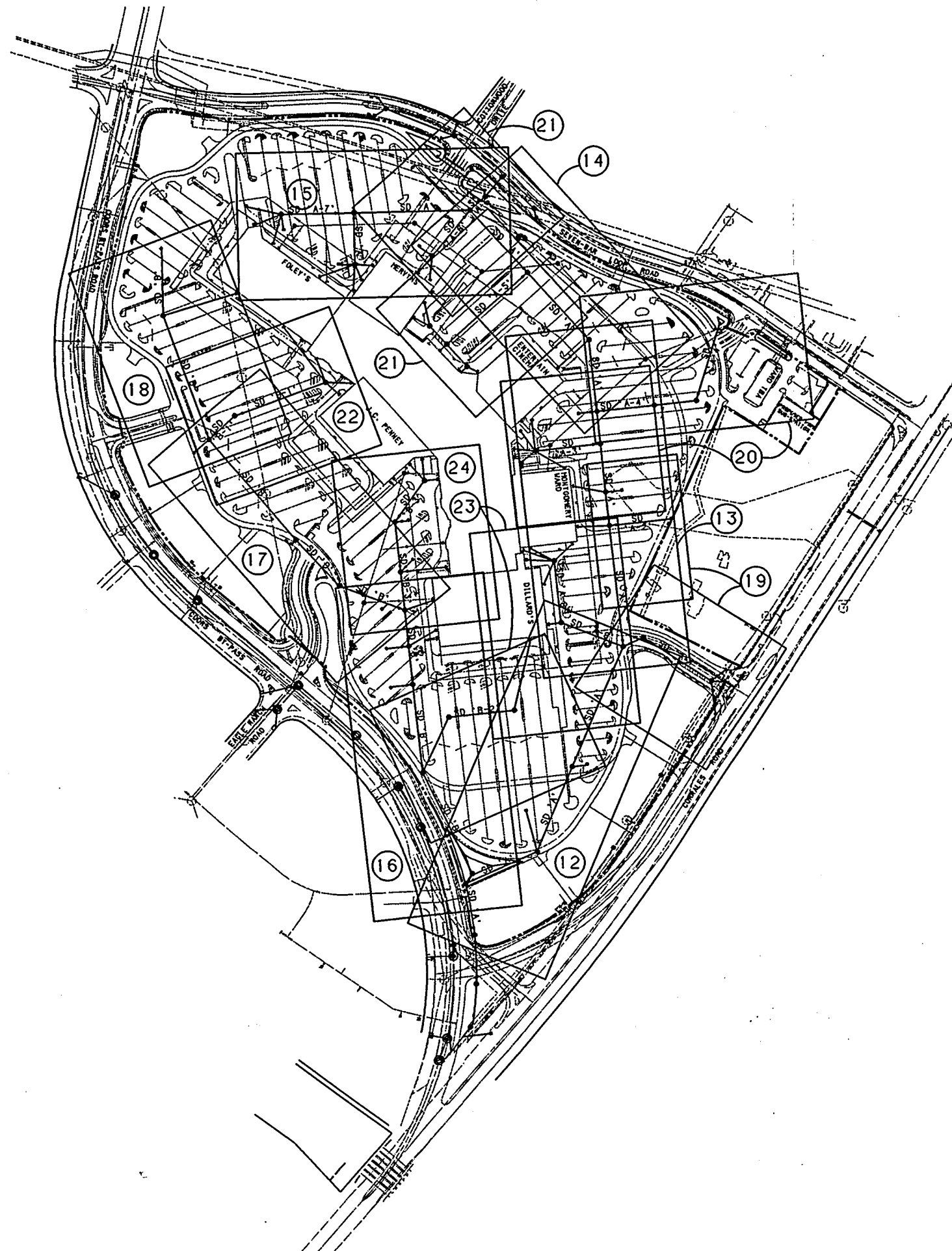
BOHANNAN-HUSTON INC.

A2-40

PROJECT NAME	COTTONWOOD MALL	SHEET	10	OF	10
PROJECT NO.	9013505	BY	D.F.	DATE	4/13/12
SUBJECT	DRAINAGE - POND	CH'D		DATE	

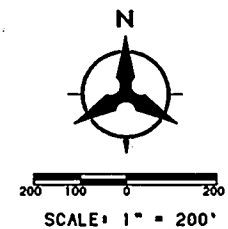
HGL COMPUTATIONS

STORM DRAIN LAYOUT	A2-42
STORM DRAIN PLANS & PROFILES W/HGL INFORMATION	A2-43
HGL SPREADSHEET	A2-57
NORMAL DEPTH CALCULATIONS	A2-60



LEGEND

	PROJECT BOUNDARY
	EXISTING SANITARY SEWER LINE
	EXISTING SANITARY SEWER MANHOLE
	EXISTING WATER LINE
	EXISTING GATE VALVE
	EXISTING FIRE HYDRANT
	EXISTING WATER METER
	EXISTING STORM DRAIN LINE
	EXISTING STORM DRAIN MANHOLE
	EXISTING STORM DRAIN INLET
	PROPOSED SANITARY SEWER LINE
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED WATER LINE
	PROPOSED GATE VALVE
	PROPOSED FIRE HYDRANT
	PROPOSED FIRELINE
	PROPOSED WATER METER
	PROPOSED STORM DRAIN LINE
	PROPOSED STORM DRAIN MANHOLE
	PROPOSED STORM DRAIN INLET
	FUTURE STORM DRAIN LINE
	FUTURE STORM DRAIN INLET
	SHEET NUMBER



SURVEY INFORMATION		BENCH MARKS	AS BUILT INFORMATION	
NO.	FIELD NOTES		CONTRACTOR	DATE
	BY	THE BENCHMARK IS THE ACS STATION 1-B-13. ELEVATION 5045.088. THE BRASS TABLET IS SET IN THE TOP OF A CONCRETE POST LOCATED 170 FT. SOUTHWEST OF THE JUNCTION OF COURTS RD. N.W. AND TRYING BLVD. N.W.	WORK STARTED BY ACCEPTANCE BY FIELD STATION BY DRAWINGS CONTRACTED BY	
			RECORDED BY	
			NO.	

ENGINEERS SEAL

[illegible]

7500 JEFFERSON NE, COURTYARD 1
ALBUQUERQUE, NM 87109
(505) 823-1000



FASTERLING & ASSOCIATES, INC
CONSULTING ENGINEERS

5643 PARADISE BLVD. N.W. ALBU., N.M., 87114
OFFICE (505) 898-8021 FAX (505) 898-8501

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: MALL SITE IMPROVEMENTS
SAD 223 - PART 2
STORM DRAIN LAYOUT SHEET

STAFF DATA			EMPLOY SHEET		
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chief			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			NR/JI		
PARKS			CODE / MECH		

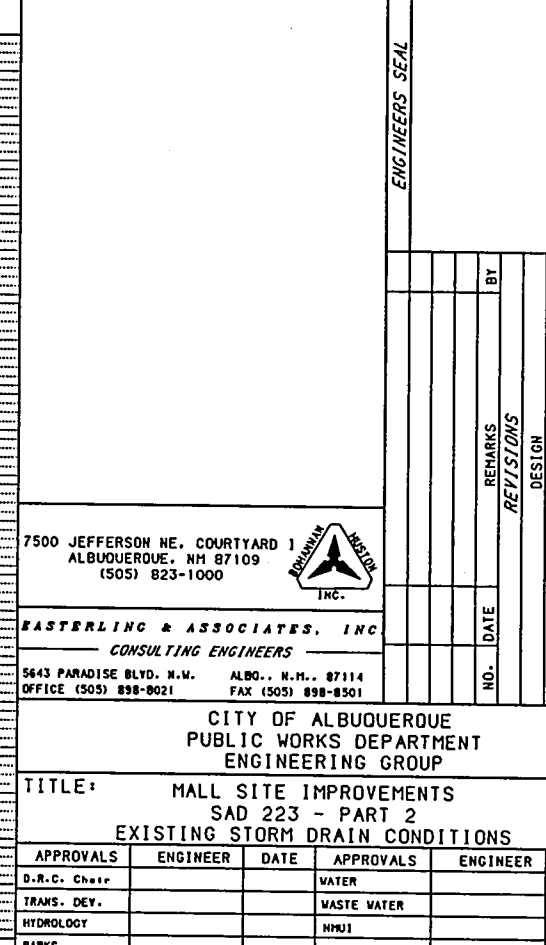
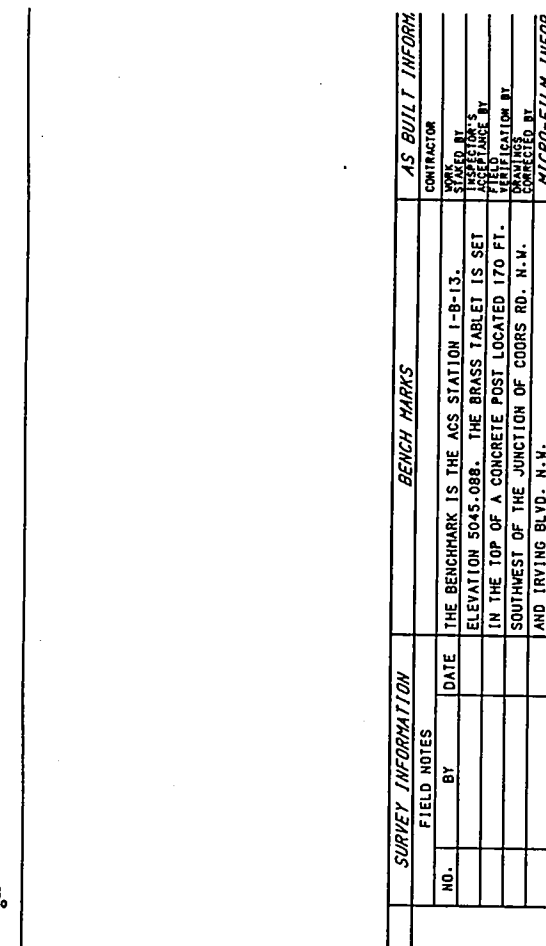
PROJECT NO.	4193.92	MAP NO.	A13&14 B13&14	SHEET	4	OF	30

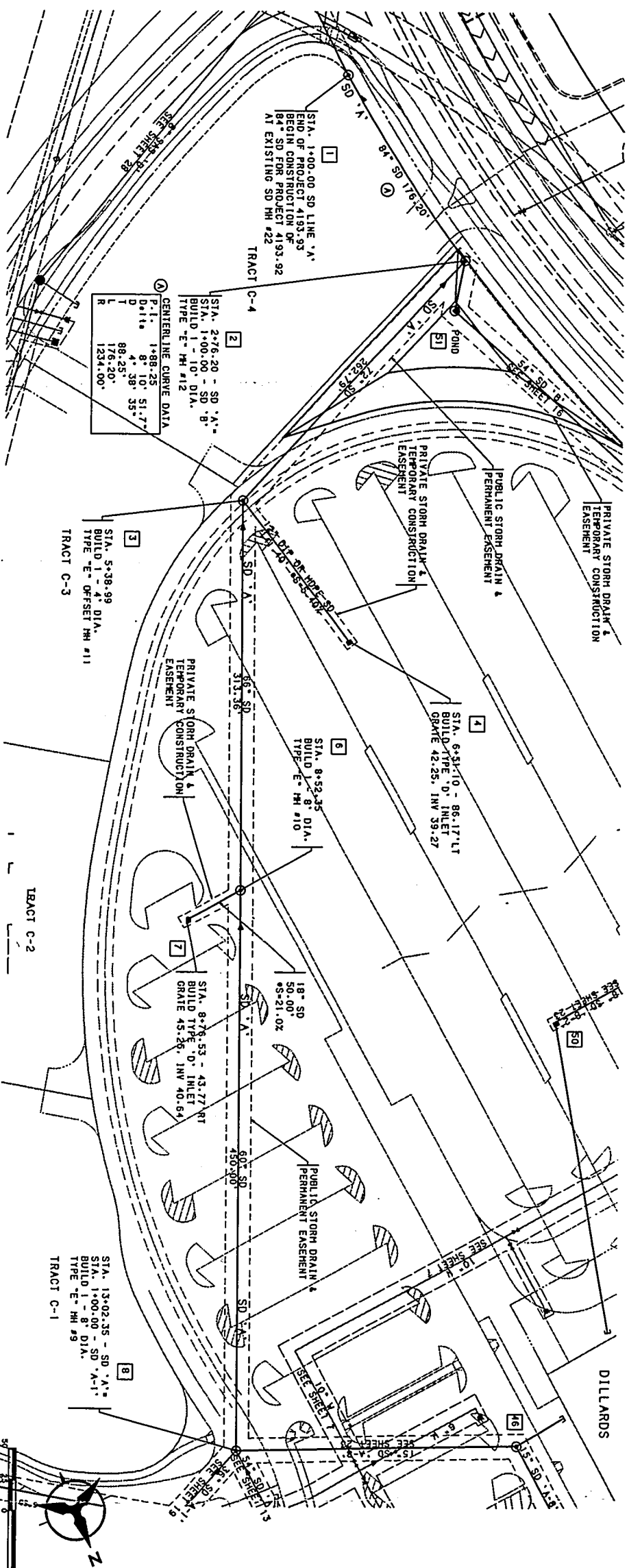
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BHI JOB NO. 90316.83

AZ-42

7/27





POINT	EASTING	NORTHING	DEFORMATION
1	787.58.30	25839.3	RANDOM
2	787.28.86	25893.20	RANDOM
3	787.28.36	25911.20	RANDOM
4	786.68.12	26121.90	RANDOM
5	786.32.39	26258.71	RANDOM
6	785.90.91	26410.54	RANDOM
7	781.39.84	26515.76	D. INLET
8	782.65.30	26823.04	RANDOM
9	782.65.30	26823.04	RANDOM
10	780.55.17	26508.55	RANDOM
11	780.95.80	26506.78	RANDOM
12	781.52.17	26047.18	D. INLET

SURVEY INFORMATION			BENCH MARKS	AS BUILT INFORMATION
FIELD NOTES				CONTRACTOR
NO.	BY	DATE	THE BENCHMARK IS THE ACS STATION 1-B-13.	WORK STAKED BY
			ELEVATION 5045.088. THE BRASS TABLET IS SET	INSPECTOR'S ACCEPTANCE BY
			IN THE TOP OF A CONCRETE POST LOCATED 170 FT.	FIELD VERIFICATION BY
			SOUTHWEST OF THE JUNCTION OF COORS RD. N.W.	DRAWINGS CORRECTED BY
			AND IRVING BLVD. N.W.	MICRO-FILM INFORMATION
				RECORDED BY
				NO.

• SUREPAE GRADE AT TIME
OF PIPE INSTALLATION

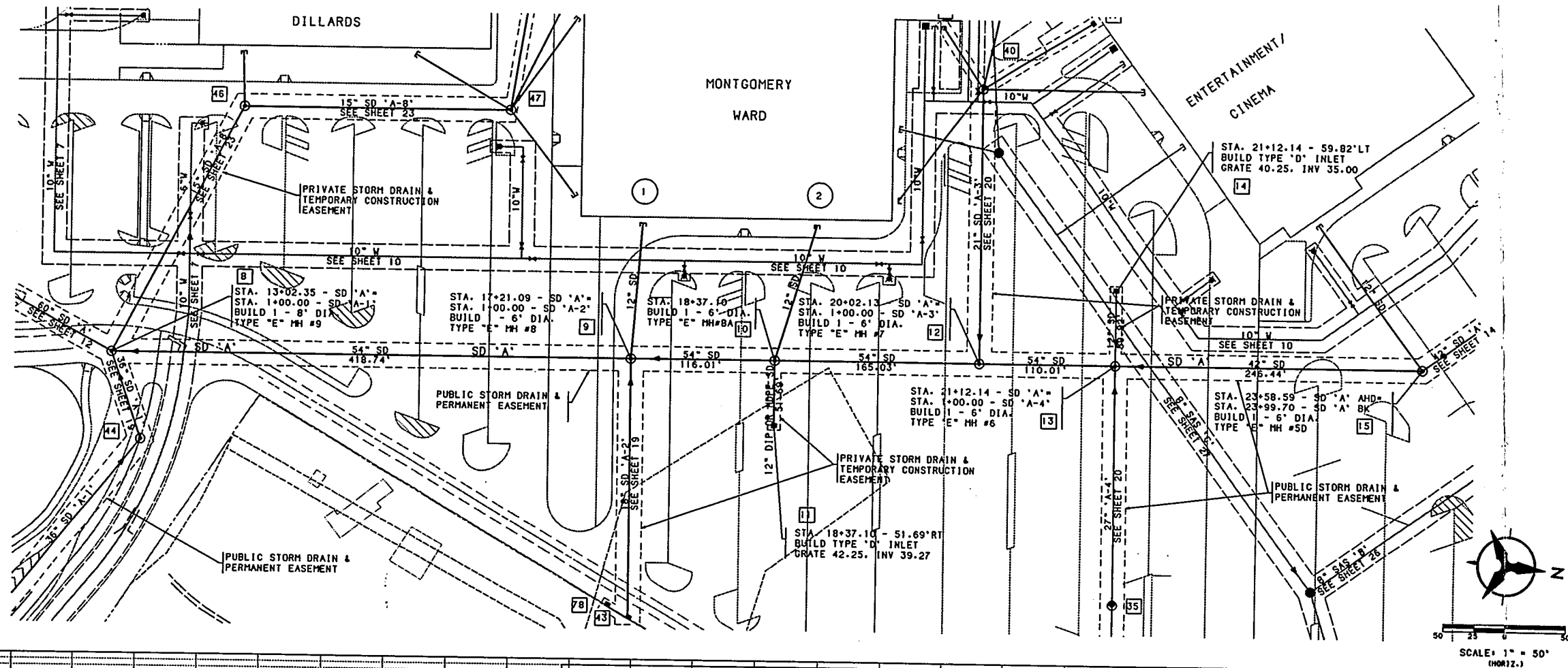
17500 JEFFERSON NE, COURTYARD I
ALBUQUERQUE, NM 87109
(505) 823-1000

EASTERN LING & ASSOCIATES, INC.

CONSULTING ENGINEERS

5643 PAMADISE BLVD., N.W. ALBUQ., N.M., 87114
OFFICE (505) 898-8021 FAX (505) 898-8501

CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP				
TITLE:		MALL SITE IMPROVEMENTS		
STORM DRAIN 'A' 1+00.00 TO 13+02.35		SAD 223 - PART 2		
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER
D. R. C. Galt			WATER	
THOMAS, DEY.			WASTE WATER	
HUTCHCOCK			SEWER	
PARKS			CODE / RECH	
PROJECT NO.	4193.92	MAP NO. B13&14	SHEET 12 OF 30	



COORDINATE DATA			
POINT	EASTING	NORTHING	DESCRIPTION
8	79265.30	26825.48	MANHOLE
9	79221.53	26845.48	MANHOLE
10	79209.41	27356.85	MANHOLE
11	79260.81	27362.25	"D" INLET
12	79192.16	27520.99	MANHOLE
13	79180.66	27630.39	MANHOLE
14	79121.16	27624.14	"D" INLET
15	79154.90	27875.48	MANHOLE
35	79374.69	27650.78	MANHOLE
36	79370.44	27497.68	MANHOLE
41	78924.68	27580.33	"D" INLET
42	78924.70	27580.36	"D" INLET
43	78922.70	27263.36	"C" INLET
43	79431.57	27263.36	"C" INLET
44	79333.02	26856.59	MANHOLE
46	79055.17	26908.55	MANHOLE
47	79032.84	27121.02	MANHOLE
78	79423.20	27245.39	"A" INLET

- SURFACE GRADE AT TIME OF PIPE INSTALLATION

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ALBUQUERQUE, NM 87109
(505) 823-1000


INC.

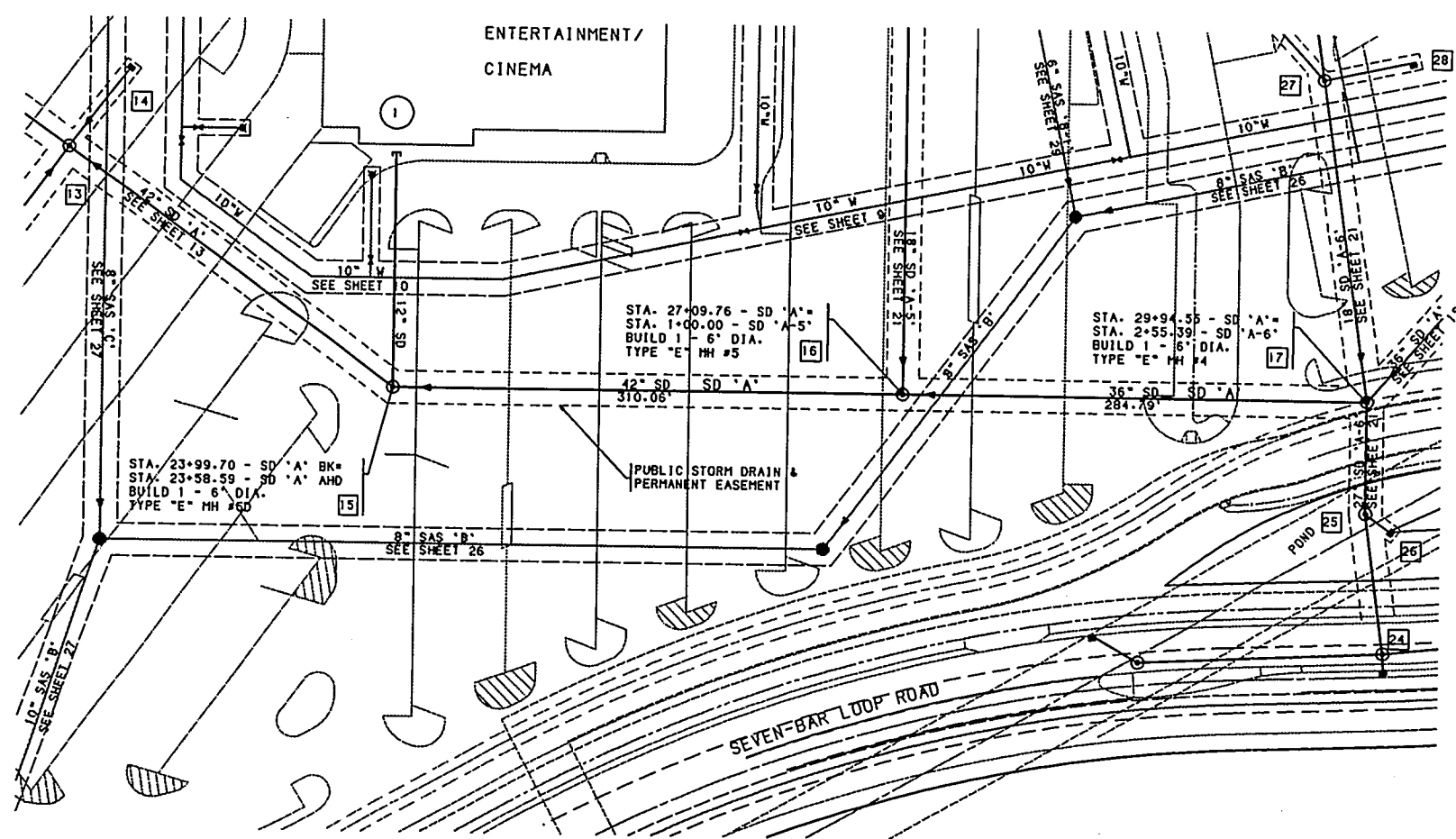
FASTERLING & ASSOCIATES, INC
CONSULTING ENGINEERS

3643 PARADISE BLVD. N.W. ALBU., N.M., 87114
OFFICE (505) 898-8021 FAX (505) 898-8501

CITY OF ALBUQUERQUE					
PUBLIC WORKS DEPARTMENT					
ENGINEERING GROUP					
TITLE: MALL SITE IMPROVEMENTS					
SAD 223 - PART 2					
STORM DRAIN 'A' 13+02.35 TO 23+58.59					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			HMU		
PARKS			CODE / MECH.		
PROJECT NO. 4193.92		MAP NO. A13&14 B13&14		SHEET 13 OF 30	

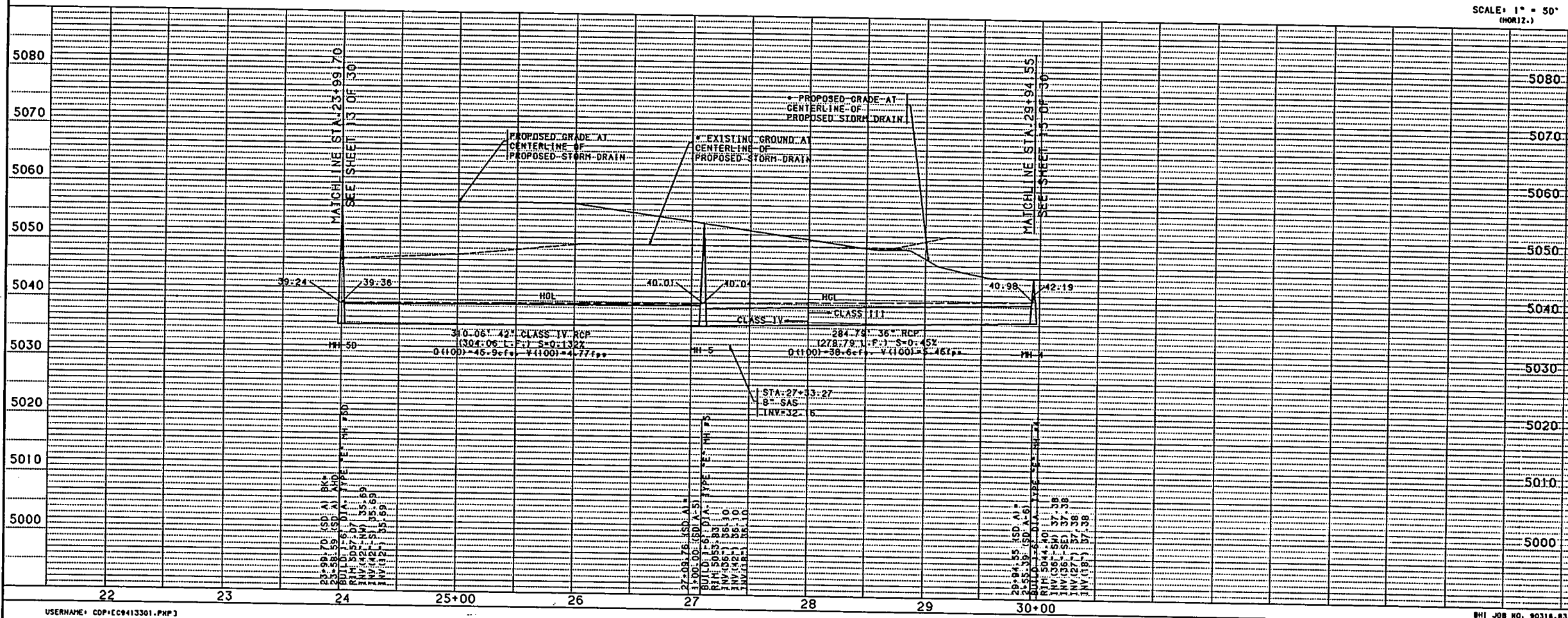
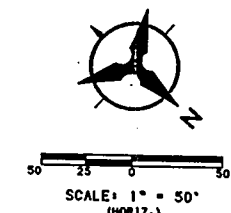
SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
FIELD NOTES					
NO.	BY	DATE			
			THE BENCHMARK IS THE ACS STATION 1-B-13.		
			ELEVATION 5045.088. THE BRASS TABLET IS SET		
			IN THE TOP OF A CONCRETE POST LOCATED 170 FT.		
			SOUTHWEST OF THE JUNCTION OF COORS RD. N.W.		
			AND IRVING BLVD. N.W.		
			MICRO-FILM INFO		
			RECORDED BY		
			DATE		

[illegible][illegible]



STORM DRAIN LATERALS			
STATION & OFFSET	SD LENGTH	INV. OF PIPE AT PLUG	SD DESCRIPTION
23+99.70, CL "A"	143.92'	60.25	ENTER. CINEMA (1)

NOTE: ROOF DRAIN LATERALS ARE SHOWN FOR INFORMATION ONLY - NOT BUILT UNDER THIS PROJECT.



POINT	EASTING	NORTHING	DESCRIPTION
13	79180.66	27630.39	MANHOLE
14	79121.16	27624.14	"D" INLET
15	79154.90	27875.48	MANHOLE
16	78947.43	28105.90	MANHOLE
17	78756.87	28317.54	MANHOLE
24	78864.06	28429.56	MANHOLE
25	78808.06	28363.63	MANHOLE
26	78806.18	28381.31	"D" INLET
27	78829.37	28163.49	MANHOLE
28	78584.68	28195.31	"D" INLET

REMARKS		BY
DESIGN		DATE
DRAWN		DATE

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OFFICE (505) 898-8021 FAX (505) 898-8501

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: MALL SITE IMPROVEMENTS
SAD 223 - PART 2
STORM DRAIN "A" 23+99.70 TO 29+94.55

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
TRANS. DEV.			WATER		
HYDROLOGY			WASTE WATER		
PARKS			STORM		

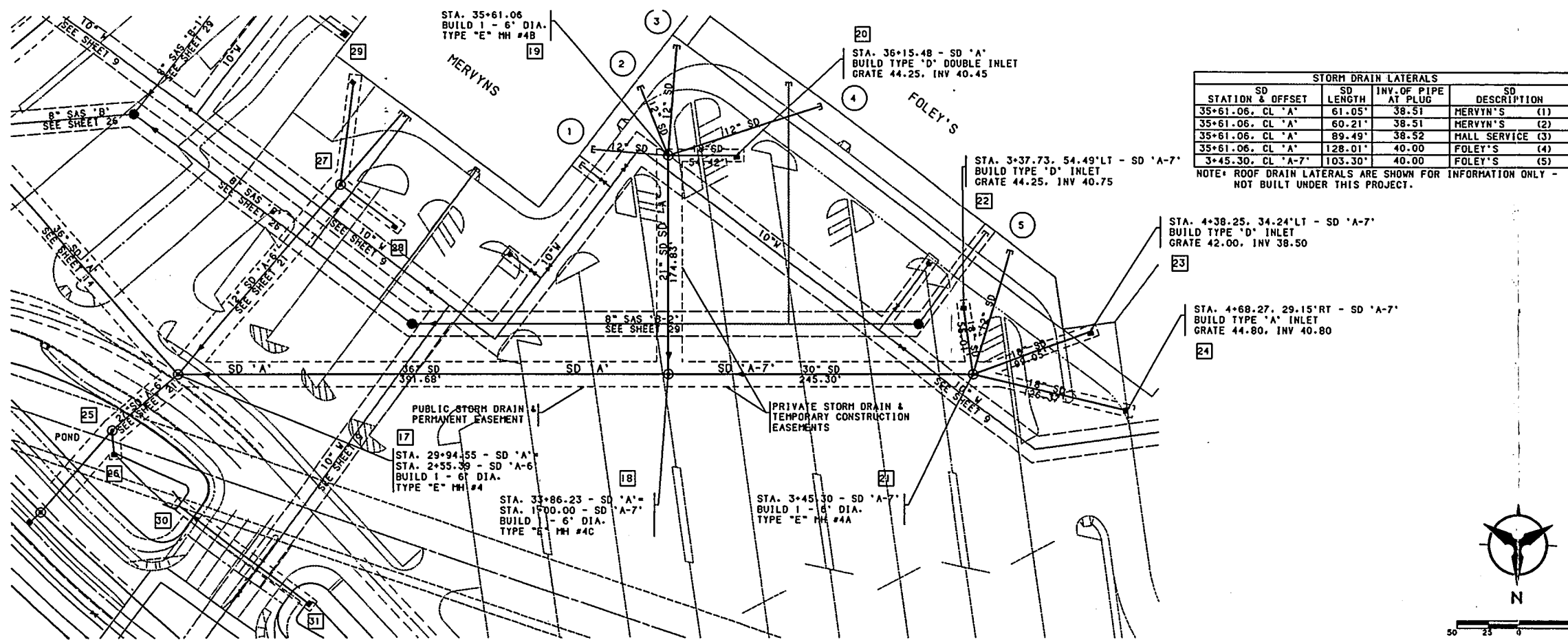
PROJECT NO. 4193.92 MAP A13&14 NO. B13&14 SHEET 14 OF 30

AZ-46

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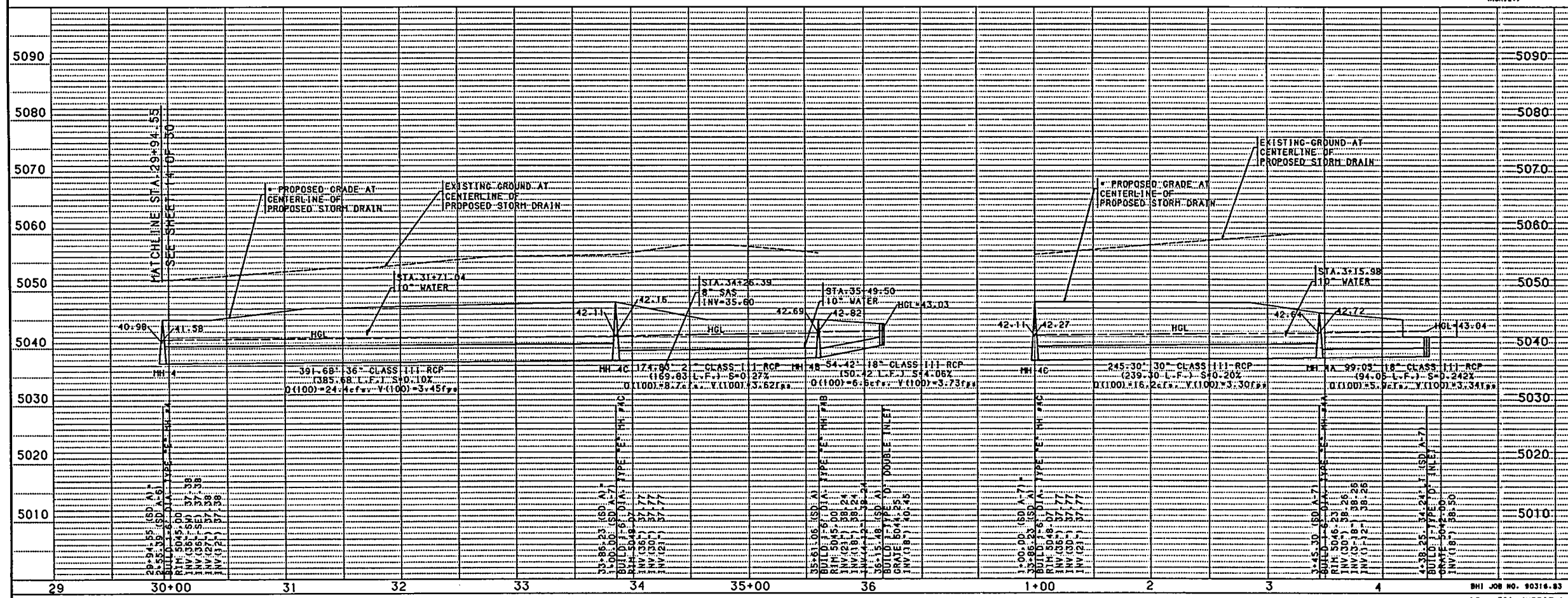
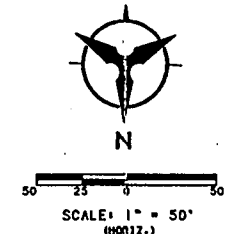
SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

BHI JOB NO. 80318.83



STORM DRAIN LATERALS			
STATION & OFFSET	SD LENGTH	INV. OF PIPE AT PLUG	SD DESCRIPTION
35+61.06, CL 'A'	61.05'	38.51	MERVYN'S (1)
35+61.06, CL 'A'	60.21'	38.51	MERVYN'S (2)
35+61.06, CL 'A'	89.49'	38.52	HALL SERVICE (3)
35+61.06, CL 'A'	128.01'	40.00	FOLEY'S (4)
3+45.30, CL 'A-7'	103.30'	40.00	FOLEY'S (5)

NOTE: ROOF DRAIN LATERALS ARE SHOWN FOR INFORMATION ONLY - NOT BUILT UNDER THIS PROJECT.



COORDINATE DATA			
POINT	EASTING	NORTHING	DESCRIPTION
17	78756.87	28317.54	MANHOLE
18	78365.25	28310.11	MANHOLE
19	78368.57	28135.31	MANHOLE
20	78314.16	28134.28	'D' INLET
21	78119.99	28305.46	MANHOLE
22	78128.60	28251.12	'D' INLET
23	78027.71	28269.46	'D' INLET
24	77996.50	28332.27	'A' INLET
25	78808.06	28363.63	MANHOLE
26	78806.18	28381.31	'D' INLET
27	78629.37	28163.49	MANHOLE
28	78584.68	28195.31	'D' INLET
29	78620.32	28079.46	'D' INLET
30	78754.52	28422.19	OUTLET
31	78649.83	28498.38	'D' INLET

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OFFICE (505) 898-8021 FAX (505) 898-8501

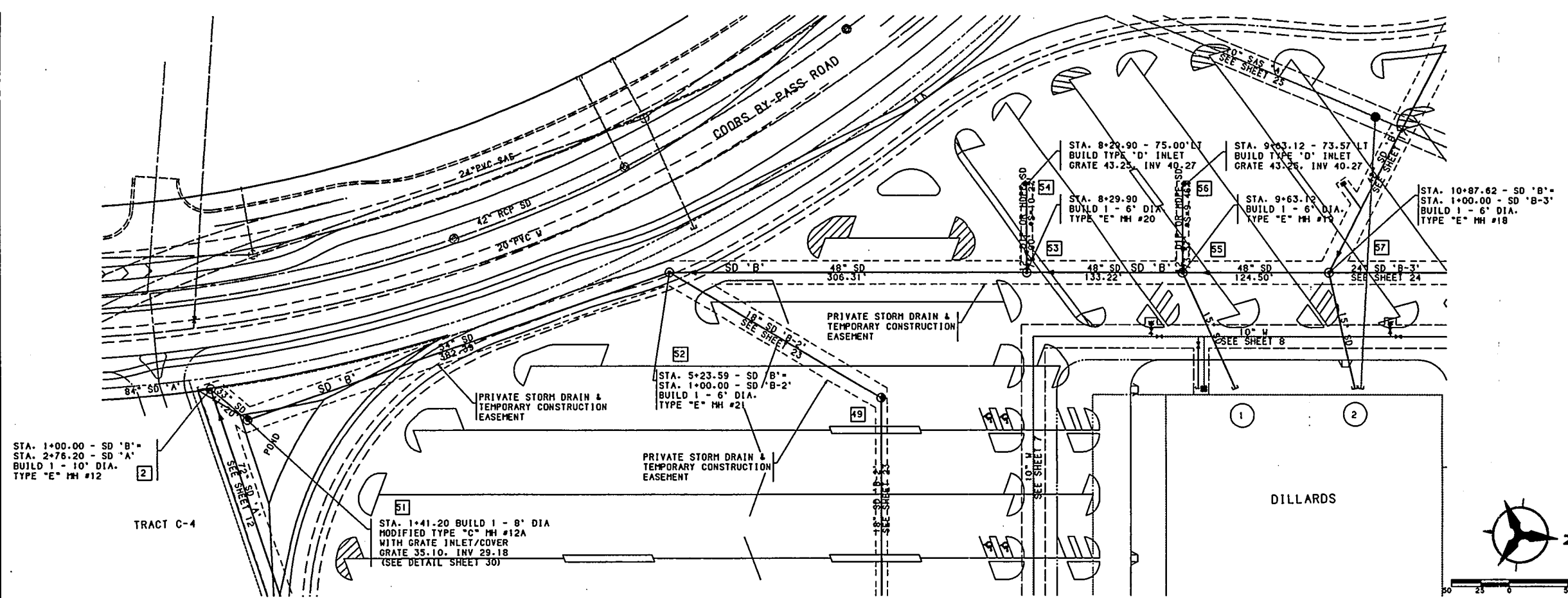
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: MALL SITE IMPROVEMENTS
SAD 223 - PART 2
STORM DRAIN 'A' 29+94.55 TO 35+61.06 & 'A-7'

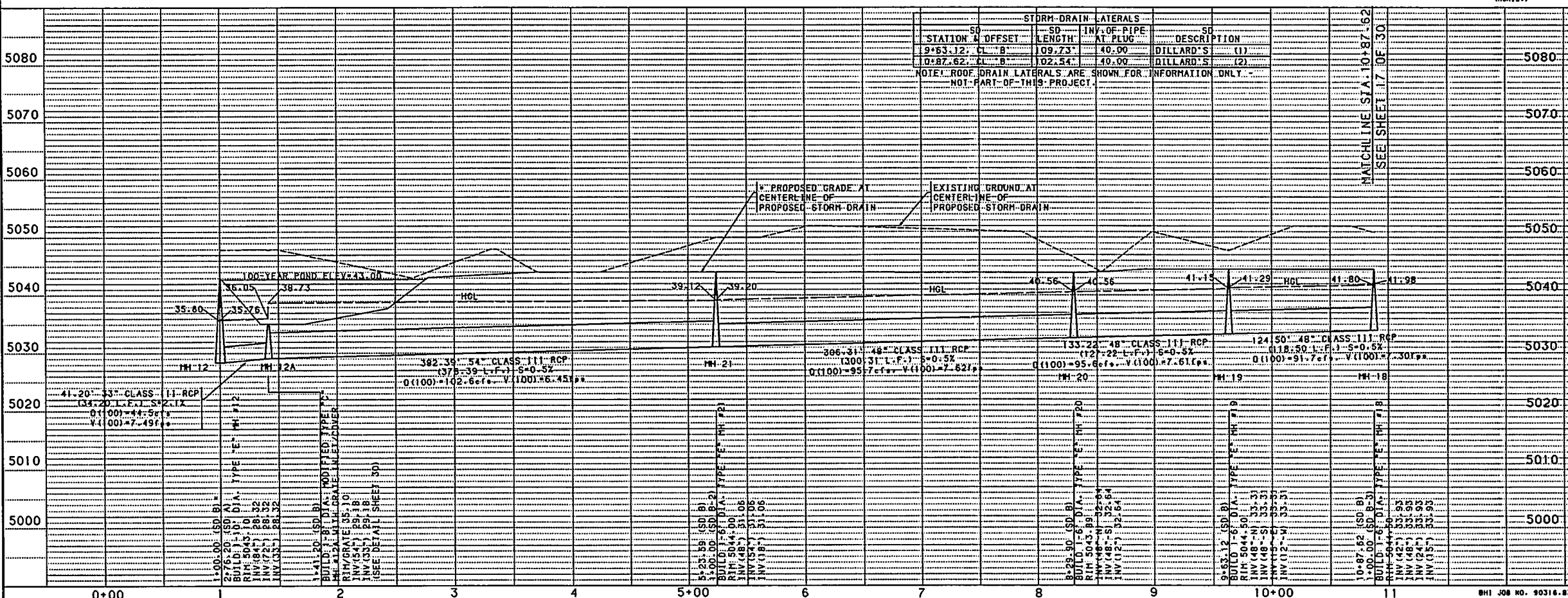
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			NHUI		
PARKS			CODE / MECH.		

PROJECT NO. 4193.92 MAP A13&14 SHEET 15 OF 30

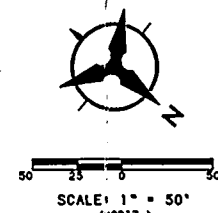
A2-47



COORDINATE DATA		
POINT	EASTING	NORTHING
2	78728.85	26013.20
49	78677.01	26583.79
51	78752.17	26047.18
52	78588.53	26392.78
53	78556.51	26697.41
54	78482.00	26688.85
55	78542.59	26829.90
56	78467.79	26824.08
57	78529.57	26953.72



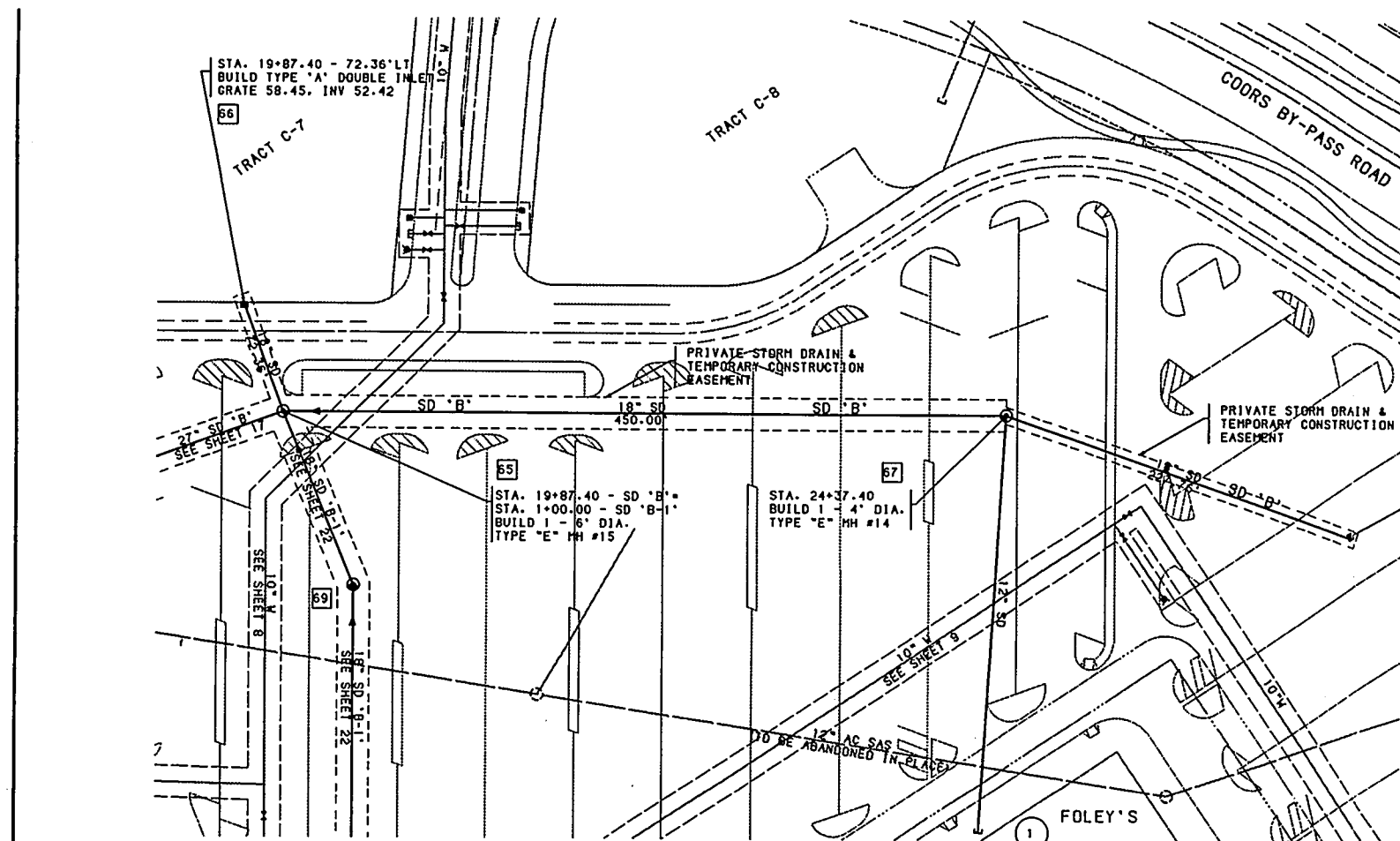
AZ-48



COORDINATE DATA			
POINT	EASTING	NORTHING	DESCRIPTION
57	78529.57	26953.72	MANHOLE
58	78472.01	26975.90	WYE
59	78453.57	26959.30	'D' INLET
60	78311.37	27037.79	MANHOLE
61	78311.45	27064.70	'C' INLET
62	78165.02	27196.59	MANHOLE
63	78148.10	27181.00	'C' INLET
64	78130.63	27190.72	'A' INLET
65	77874.42	27540.18	MANHOLE
66	77819.17	27493.45	'A' INLET
67	77960.76	27619.47	MANHOLE
71	78515.81	27084.68	MANHOLE
72	78536.45	27125.94	'D' INLET
77	78302.88	27082.76	'A' INLET

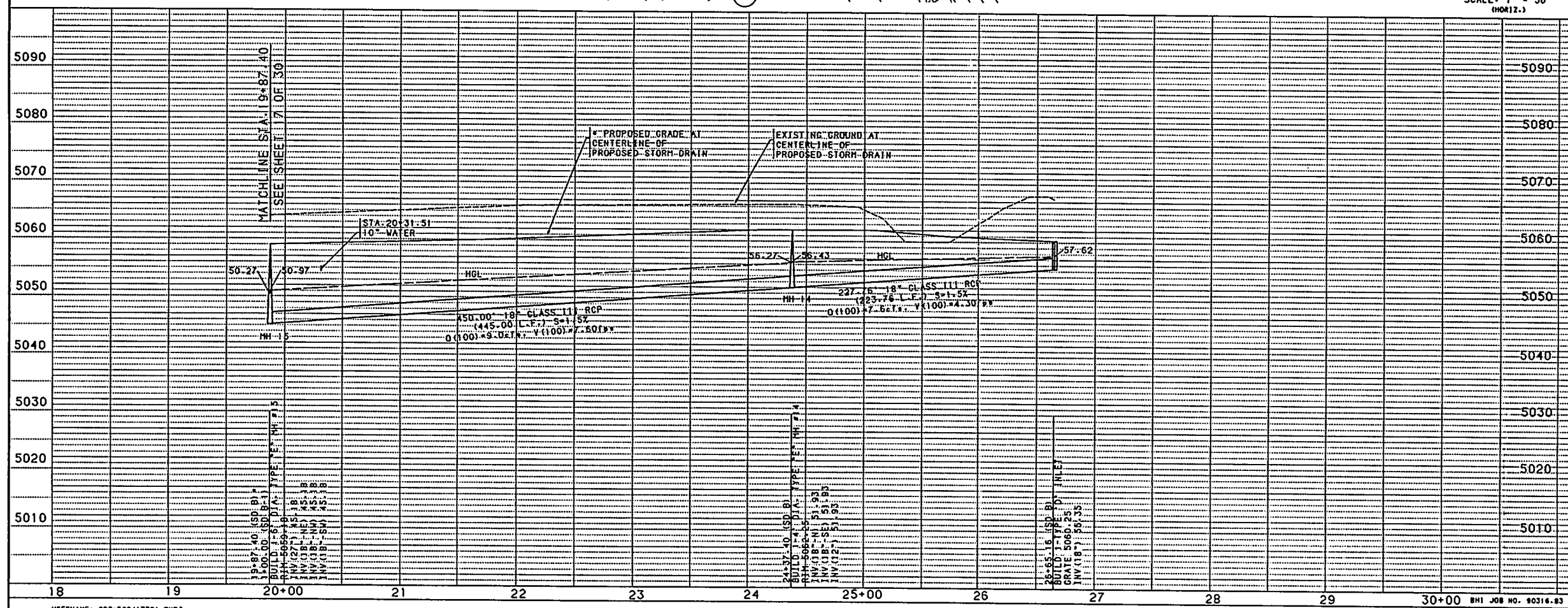
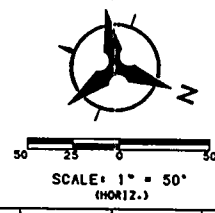
CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP					
TITLE: MALL SITE IMPROVEMENTS SAD 223 - PART 2 STORM DRAIN 'B' 10+87.62 TO 19+87.40					
APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			MUJI		
PARKS			CODE / MECH		
PROJECT NO. 4193.92		MAP A13&14 NO. B13&14		SHEET 17 OF 30	

[illegible]



STATION & OFFSET	SD LENGTH	INV. OF PIPE AT PLUG	SD DESCRIPTION
24+37.40, CL "B"	262.29'	57.50	FOLEY'S (1)

NOTE: ROOF DRAIN LATERALS ARE SHOWN FOR INFORMATION ONLY - NOT BUILT UNDER THIS PROJECT.



POINT	EASTING	NORTHING	DESCRIPTION
65	77874.42	27540.18	MANHOLE
66	77819.17	27493.45	"A" INLET
67	77718.87	27962.44	MANHOLE
68	77715.09	28190.17	"D" INLET
69	77960.76	27619.47	MANHOLE

* SURFACE GRADE AT TIME OF PIPE INSTALLATION

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OFFICE (505) 898-8021 FAX (505) 898-8501

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: MALL SITE IMPROVEMENTS
SAD 223 - PART 2
STORM DRAIN "B" 19+87.40 TO 26+65.16

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			MIWJ		
PARKS			CODE / MECH		

PROJECT NO. 4193.92 MAP A13&14 SHEET 18 OF 30
NO. B13&14

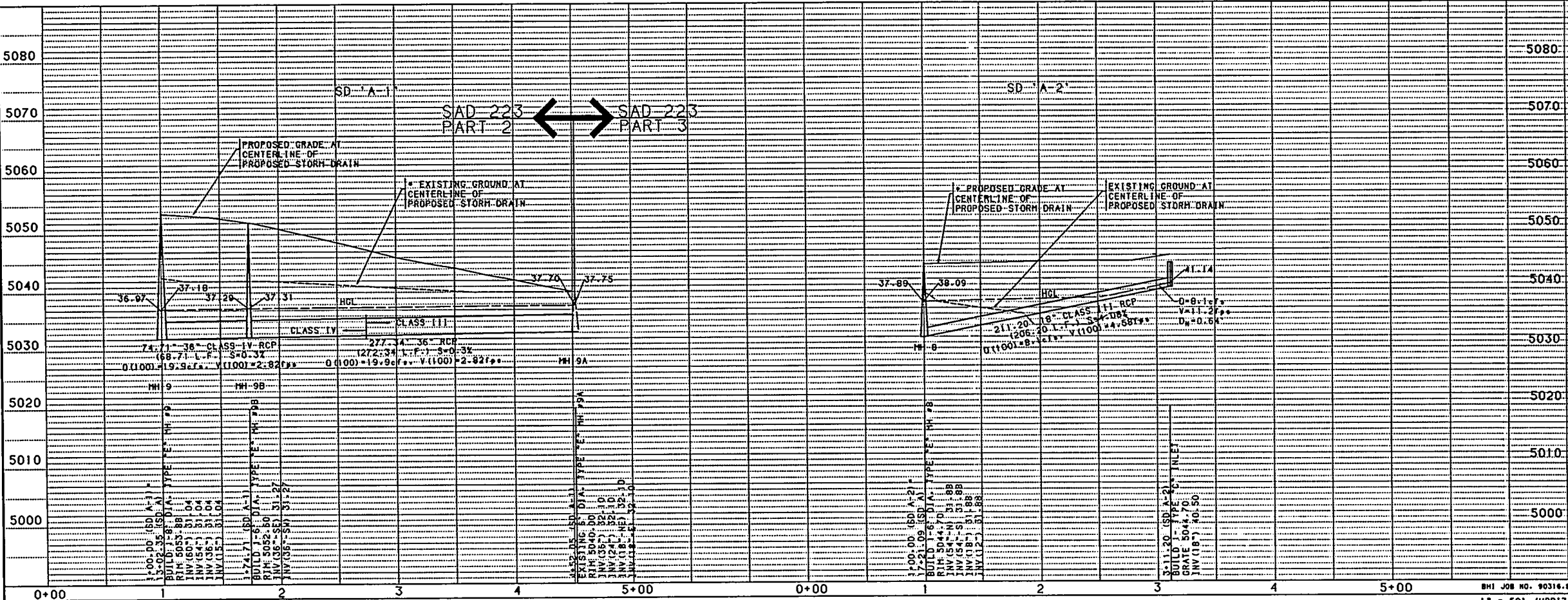
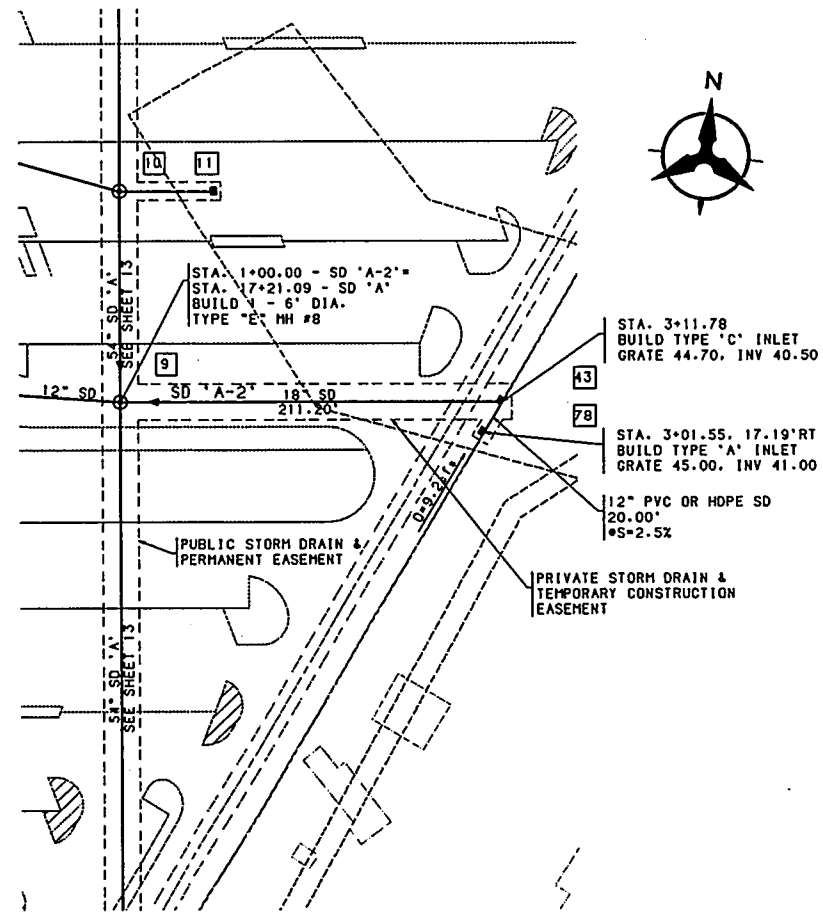
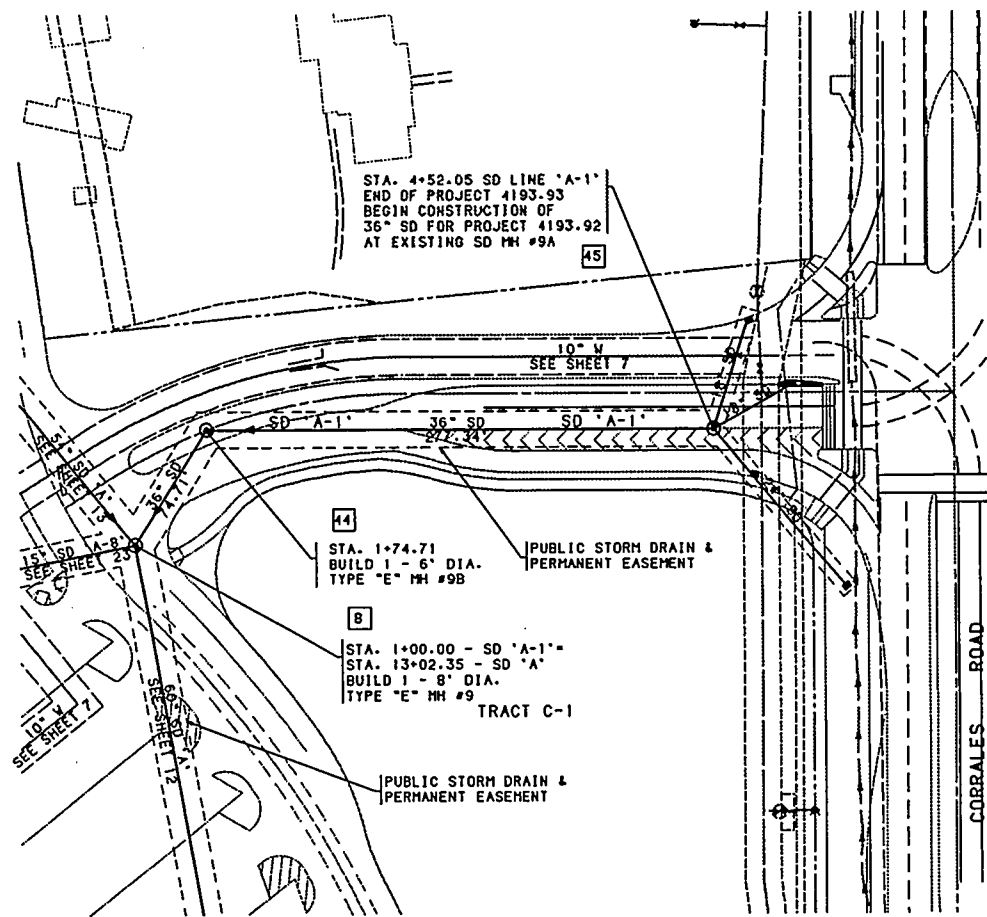
AZ-50

AS BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION	
CONTRACTOR	NO.	DATE	BY	FIELD NOTES	NO.
THE BENCHMARK IS THE ACS STATION 1-B-13. ELEVATION 5045.088. THE BRASS TABLET IS SET IN THE TOP OF A CONCRETE POST LOCATED 170 FT. SOUTHWEST OF THE JUNCTION OF COORS RD. N.W. AND IRVING BLVD. N.W.					
INSPECTED BY					
APPROVED BY					
RECORDED BY					

REVISIONS	DATE	BY
DESIGN	6/94	
DRAWN BY	6/94	
DESIGNED BY		
TSG.SAR		

USERNAME: CDP\EC9413301.PNP
FILENAME: SDB-PNP9.GRF

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)



SCALE: 1" = 50'
(HORIZ.)

POINT	EASTING	NORTHING	DESCRIPTION
8	79265.30	26825.04	MANHOLE
9	79221.53	27241.48	MANHOLE
10	79209.41	27356.85	MANHOLE
11	79260.81	27362.25	"D" INLET
43	79431.57	27263.56	"C" INLET
44	79333.02	26956.52	MANHOLE
45	79365.61	26705.54	MANHOLE
78	79423.20	27245.39	"A" INLET

COORDINATE DATA

7500 JEFFERSON NE. COURTYARD I
ALBUQUERQUE, NM 87109
(505) 823-1000

EASTERLING & ASSOCIATES, INC.
CONSULTING ENGINEERS

5643 PARADISE BLVD. N.W. ALBUQUERQUE, NM 87114
OFFICE (505) 898-8021 FAX (505) 898-8501

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: MALL SITE IMPROVEMENTS
SAD 223 - PART 2
STORM DRAINS 'A-1' & 'A-2'

APPROVALS ENGINEER DATE APPROVALS ENGINEER DATE

D.R.C. Chair WATER

TRANS. DEV. WASTE WATER

HYDROLOGY HWJ

PARKS CODE / MECH

PROJECT NO. 4193.92 MAP A13&14 SHEET 19 OF 30

NO. 813&14

AS BUILT INFORMATION

BENCH MARKS

CONTRACTOR

DATE

BY

REMARKS

DESIGNED BY KLD:MSJ DATE 6/94

DRAWN BY TSG:SAJ DATE 6/94

REVISIONS

NO.

DATE

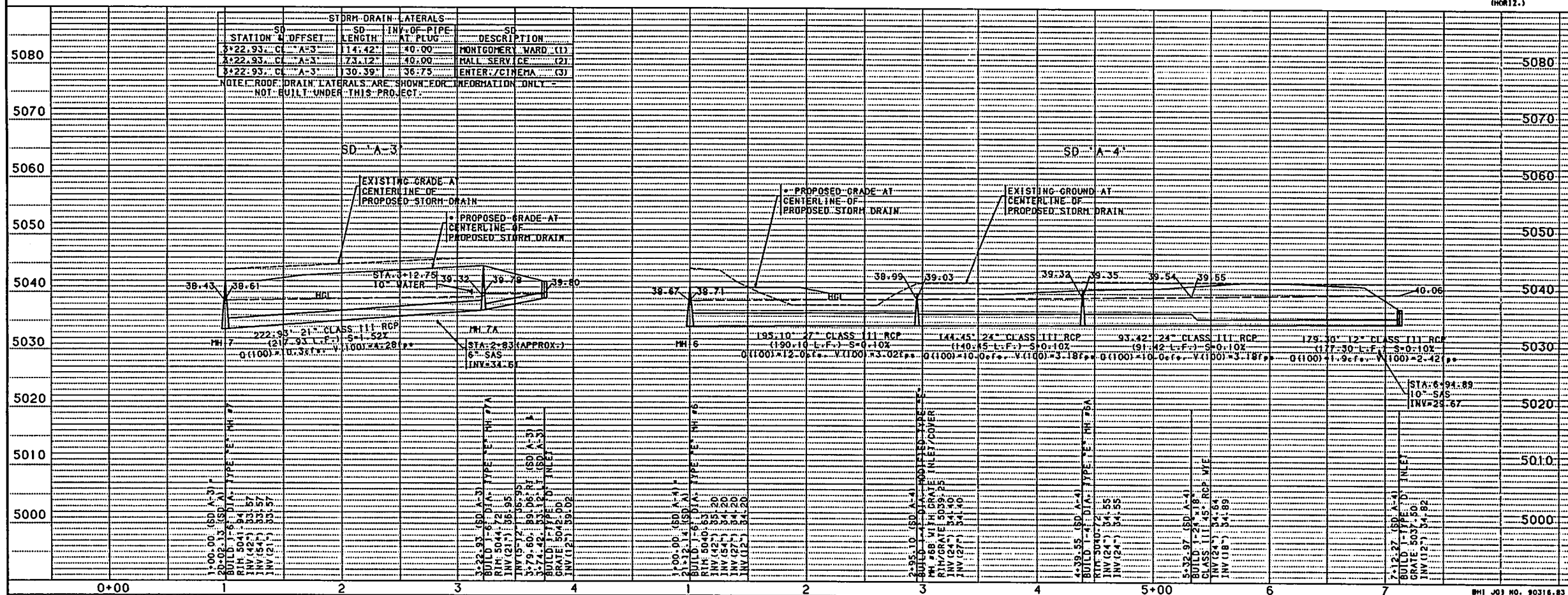
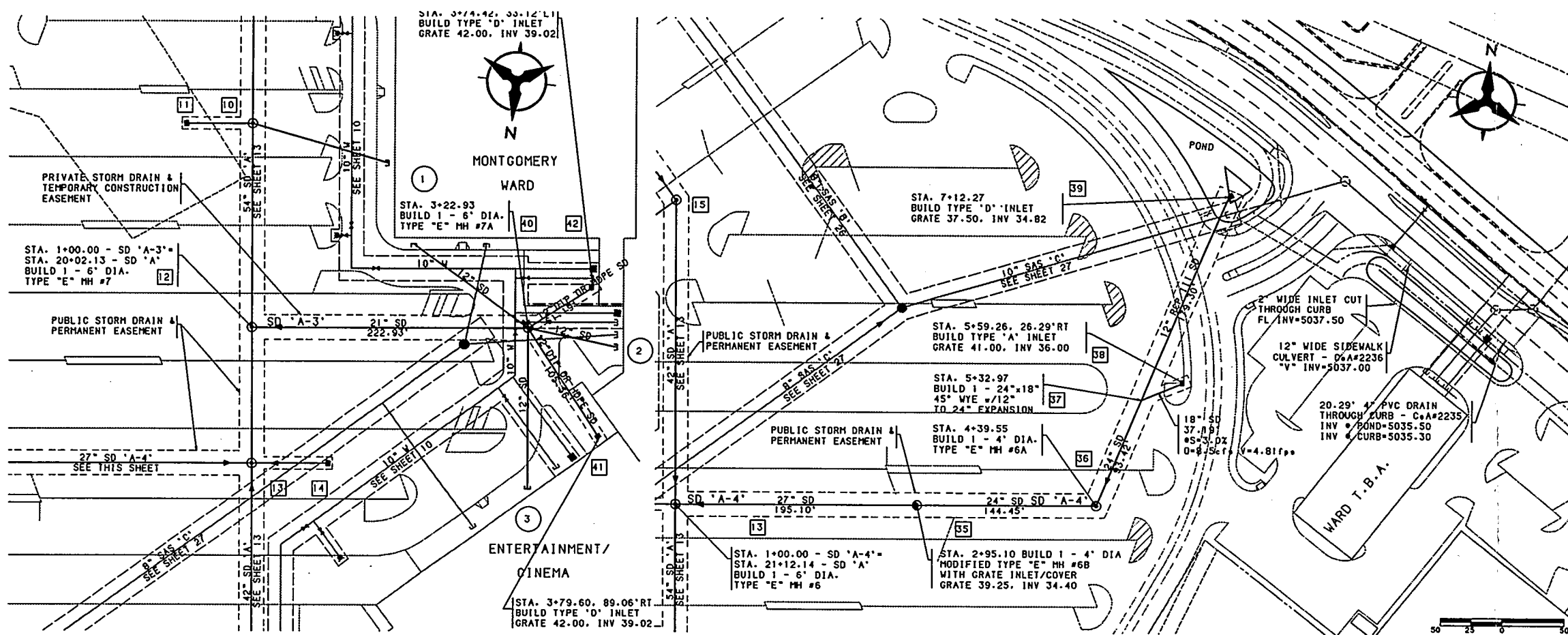
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BHI JOB NO. 90314.83

SCALE: 1" = 50' (HORIZ.)
1" = 10' (VERT.)

A2-51



COORDINATE DATA			
POINT	EASTING	NORTHING	DESCRIPTION
10	79209.41	27356.85	MANHOLE
11	79260.81	27362.25	'D' INLET
12	79192.16	27520.98	MANHOLE
13	79180.66	27630.39	MANHOLE
14	79121.16	27824.14	'D' INLET
15	79154.90	27875.48	MANHOLE
35	79374.69	27650.78	MANHOLE
36	79518.35	27665.87	MANHOLE
37	79545.70	27755.20	WYE
38	79578.54	27772.64	'A' INLET
39	79598.18	27926.65	'D' INLET
40	78970.44	27497.68	MANHOLE
41	78904.78	27580.33	'D' INLET
42	78922.70	27459.36	'D' INLET

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(505) 823-1000

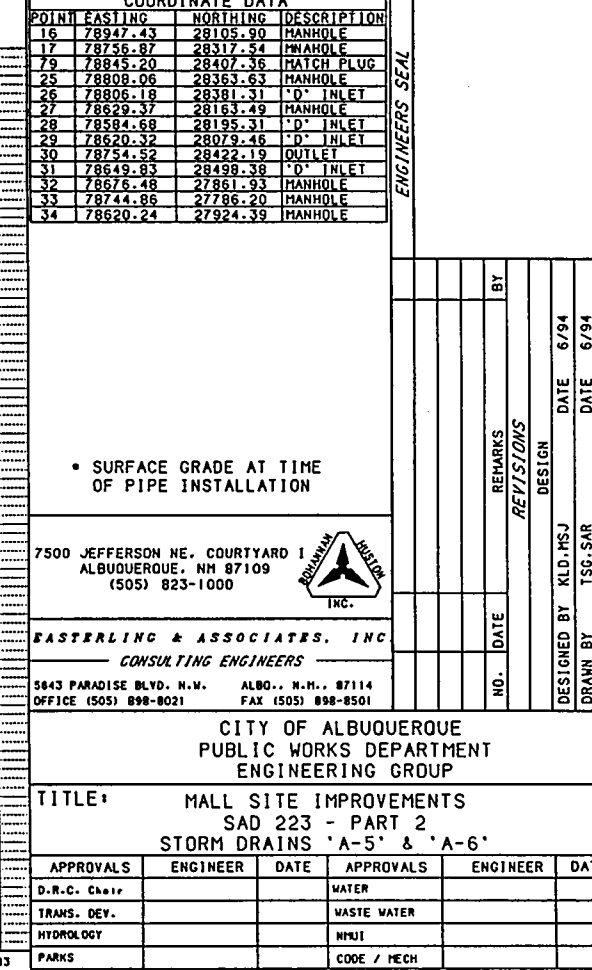
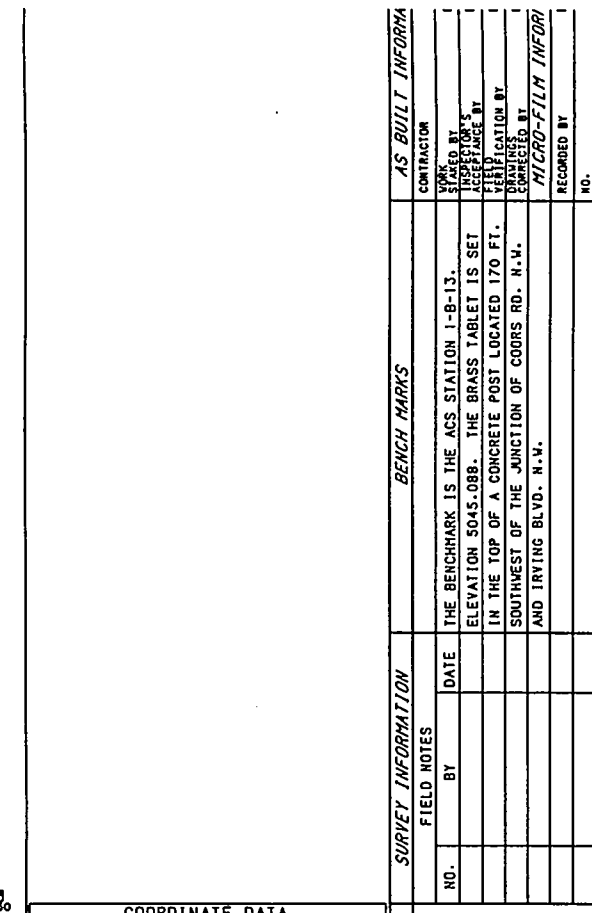
EASTERLING & ASSOCIATES, INC.
CONSULTING ENGINEERS
5843 PARADISE BLVD. N.W. ALBU., N.M. 87114
OFFICE (505) 898-8021 FAX (505) 898-8501

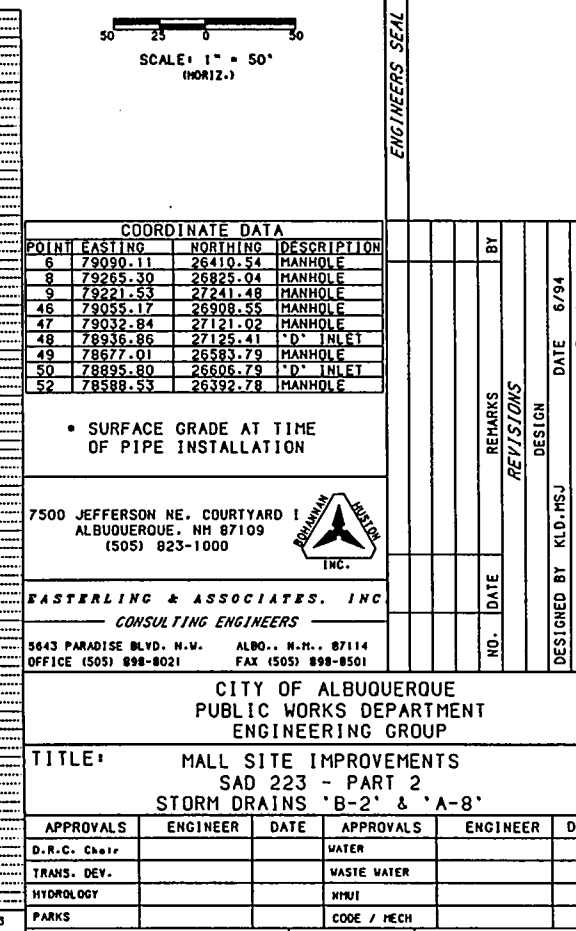
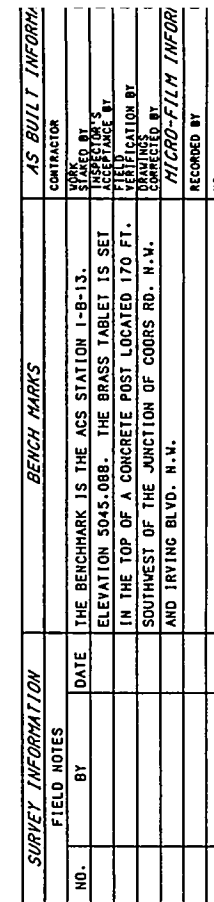
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

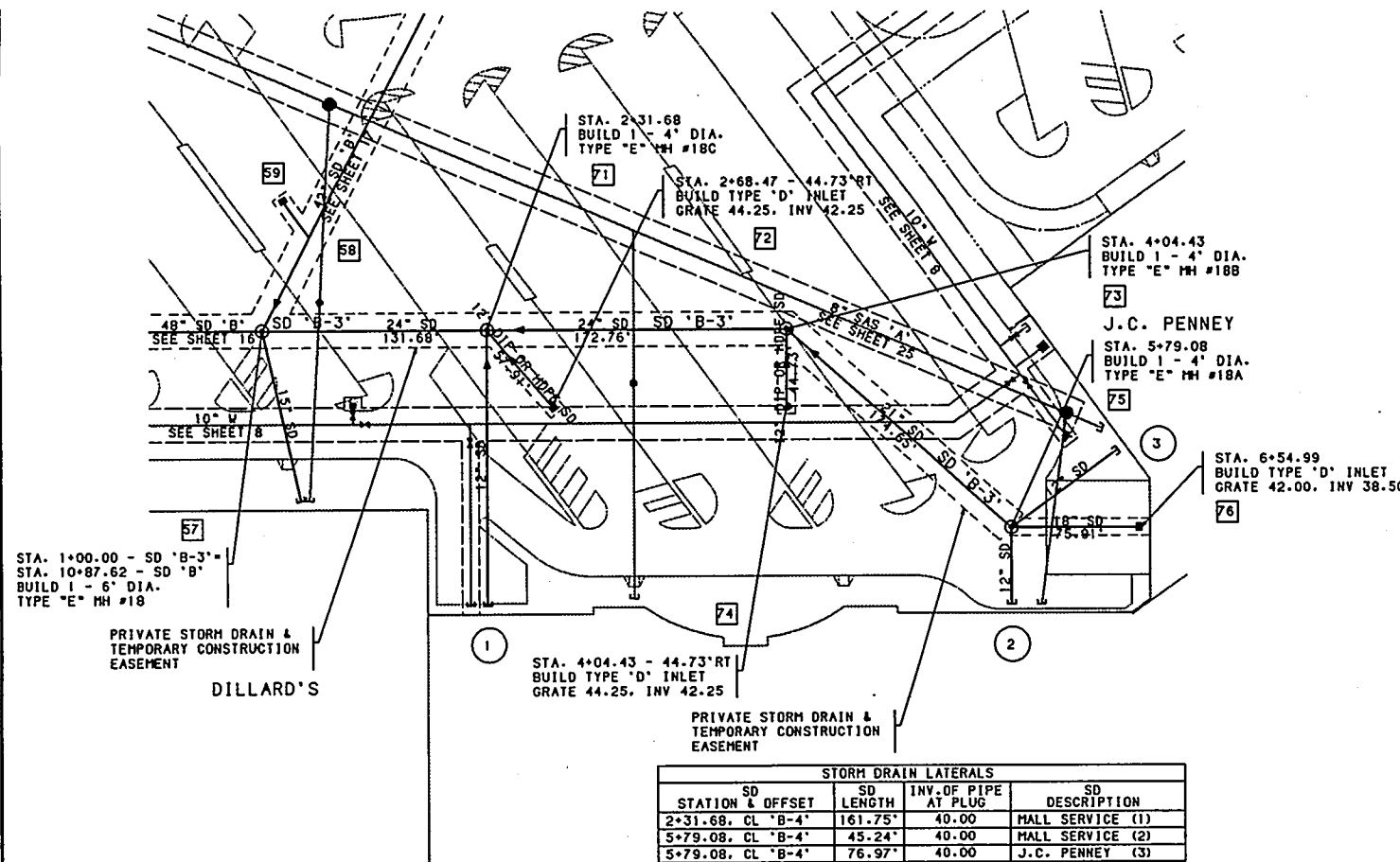
TITLE: MALL SITE IMPROVEMENTS
SAD 223 - PART 2
STORM DRAINS 'A-3' & 'A-4'

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			MHW		
PARKS			CODE / MECH		

PROJECT NO. 4193.92 MAP A13&14 SHEET 20 OF 30
NO. B13&14

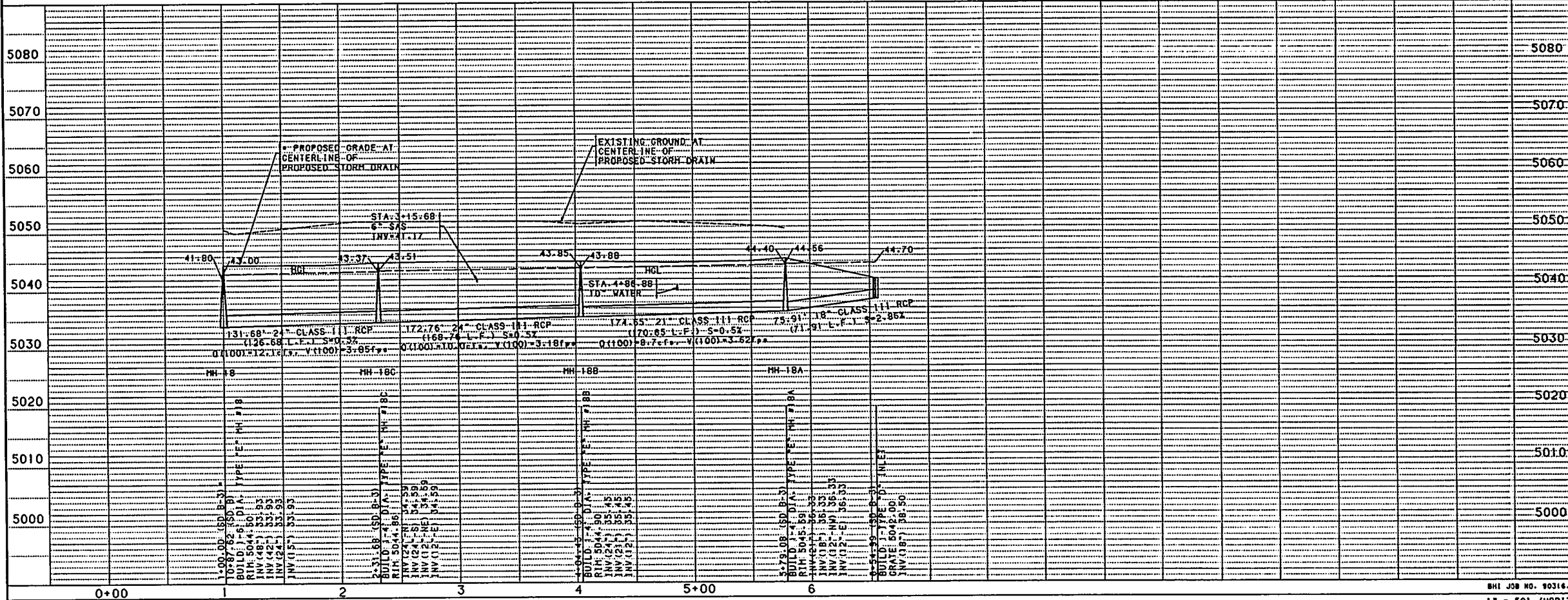
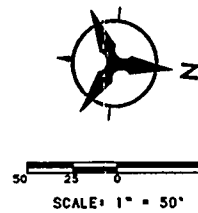






STORM DRAIN LATERALS				
STATION & OFFSET	SD LENGTH	INV. OF PIPE AT PLUG	SD DESCRIPTION	
2+31.68, CL 'B-4'	161.75'	40.00	MALL SERVICE (1)	
5+79.08, CL 'B-4'	45.24'	40.00	MALL SERVICE (2)	
5+79.08, CL 'B-4'	76.97'	40.00	J.C. PENNEY (3)	

NOTE: ROOF DRAIN LATERALS ARE SHOWN FOR INFORMATION ONLY - NOT BUILT UNDER THIS PROJECT.



COORDINATE DATA		
POINT	EASTING	NORTHING
57	78529.57	26953.72
58	78472.01	26975.90
59	78453.57	26959.30
71	78515.81	27084.68
72	78556.45	27125.94
73	78497.75	27256.49
74	78542.24	27251.16
75	78600.02	27398.06
76	78592.08	27473.56

REMARKS		BY	DATE
DESIGN			6/94
RETISIONS			6/94
NO. DATE			
DESIGNED BY		KLD:MSJ	
DRAWN BY		TSG:SR	

7500 JEFFERSON NE. COURTYARD 1
ALBUQUERQUE, NM 87109
(505) 823-1000

FASTERLING & ASSOCIATES, INC.
CONSULTING ENGINEERS
5643 PARADISE BLVD. N.W. ALBUQUERQUE, N.M. 87114
OFFICE (505) 898-8021 FAX (505) 898-8501

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: MALL SITE IMPROVEMENTS
SAD 223 - PART 2
STORM DRAIN 'B-3' PLAN & PROFILE

APPROVALS	ENGINEER	DATE	APPROVALS	ENGINEER	DATE
D.R.C. Chair			WATER		
TRANS. DEV.			WASTE WATER		
HYDROLOGY			MHI		
PARKS			CODE / MECH		

PROJECT NO. 4193.92 MAP A13&14 SHEET 24 OF 30

SURVEY INFORMATION		BENCH MARKS		AS BUILT INFORMATION	
NO.	BY	DATE	CONTRACTOR	NO.	RECORDED BY

THE BENCHMARK IS THE ACS STATION 1-B-13. ELEVATION 5045.088. THE BRASS TABLET IS SET IN THE TOP OF A CONCRETE POST LOCATED 170 FT. SOUTHWEST OF THE JUNCTION OF COORS RD. N.W. AND TRYING BLVD. N.W.

SUMMARY OF HYDRAULIC CALCULATIONS
COTTONWOOD MALL TO CALABACILLAS ARROYO
FILENAME: CDP2:[C9413301.HYDRO] C_HGLMJ.WK4

Station	Structure	Diam.	Q	Area	Vel.	HV	K	Sf	Length	MH Dia.	Angle	Hf	Hb	Hj	Hmh	Ht	Total Losses	HGL(dn)	HGL(up)	Grate Elevation	Low Point	EGL(dn)	EGL(up)
21+86.02	ARROYO												0.00	0.00	0.00	0.00	0.00		33.82		1000	34.51	34.51
22+30.02	BEND	84	257.3	38.48	6.69	0.69	6388	0.0016	44.00		30	0.07	0.08	0.00	0.00	0.00	0.08	33.89	33.98		1000	34.59	34.67
22+70.02	BEND	84	255.9	38.48	6.65	0.69	6388	0.0016	40.00		30	0.06	0.08	0.00	0.00	0.00	0.08	34.04	34.13		1000	34.73	34.81
22+94.38	INLET 23-1	84	254.5	38.48	6.61	0.68	6388	0.0016	24.36			0.04	0.00	0.08	0.00	0.00	0.08	34.17	34.33		1000	34.85	34.93
25+69.38	JNC.IN 23	84	238.7	38.48	6.20	0.60	6388	0.0014	275.00			0.38	0.00	0.05	0.00	0.00	0.05	34.72	35.05		1000	35.31	35.37
25+83.67	BEND	84	174.1	38.48	4.52	0.32	6388	0.0007	25.76		30	0.02	0.04	0.00	0.00	0.00	0.04	35.07	35.11		1000	35.39	35.42
26+07.83	INLET E5	84	174.1	38.48	4.52	0.32	6388	0.0007	26.61			0.02	0.00	0.01	0.00	0.00	0.01	35.12	35.14		1000	35.44	35.45
26+64.47	INLET E4	84	171.8	38.48	4.46	0.31	6388	0.0007	56.64			0.04	0.00	0.01	0.00	0.00	0.01	35.18	35.22		1000	35.49	35.50
27+10.11	BEND	84	163.1	38.48	4.24	0.28	6388	0.0007	52.94		30	0.03	0.03	0.00	0.00	0.00	0.03	35.25	35.28		1000	35.53	35.56
28+42.83	INLET E3	84	163.1	38.48	4.24	0.28	6388	0.0007	132.72			0.09	0.00	0.00	0.00	0.00	0.00	35.37	35.37		1000	35.65	35.65
28+80.48	INLET E2	84	162.9	38.48	4.23	0.28	6388	0.0007	37.65			0.02	0.00	0.00	0.00	0.00	0.00	35.37	35.37		1000	35.65	35.65
28+80.48	INLET E2	84	161.2	38.48	4.19	0.27	6388	0.0006	67.61			0.04	0.00	0.00	0.00	0.00	0.00	35.40	35.41		1000	35.67	35.68
29+48.09	INLET E1	84	161.2	38.48	4.19	0.27	6388	0.0006	67.61			0.04	0.00	0.00	0.00	0.00	0.00	35.40	35.41		1000	35.67	35.68
29+48.09	INLET E1	84	159.6	38.48	4.15	0.27	6388	0.0006	220.34			0.14	0.00	0.00	0.00	0.00	0.00	35.45	35.46		1000	35.72	35.73
BRANCH B: FLOWS COLLECTED ALONG SOUTHWEST SIDE OF MALL																							
1+00.00	MH 12	33	44.5	5.94	7.49	0.87	529	0.0071	41.20	8	40	0.29	0.07	0.66	0.00	0.03	0.77	35.60	35.76		43.10	35.86	36.63
1+41.20	MH 12A	54	102.6	15.90	6.45	0.65	1966	0.0027	382.39	6	60	1.04	0.12	0.00	0.00	0.00	0.12	36.05	38.73		43.10	36.92	38.73
BRANCH B-2: FLOWS FROM DILLARD'S PARKING LOT																							
	MH 21	18	5.2	1.77	2.94	0.13	105	0.0025	210.51	6	30	0.52	0.04	1.76	0.00	0.04	1.84	39.12	41.47		44.66	39.77	41.61
	INLET A12	18	2.7	1.77	1.53	0.04	105	0.0007	220.00	4	60	0.15	0.01	0.10	0.00	0.00	0.11	41.99	42.20	42.25	42.25	42.12	42.23
5+23.59	MH 21	48	95.7	12.57	7.62	0.90	1436	0.0044	306.31	6	19	1.36	0.07	0.25	0.00	0.00	0.33	39.12	39.20		44.66	39.77	40.10
8+29.90	MH 20	48	95.6	12.57	7.61	0.90	1436	0.0044	133.22	6		0.59	0.00	0.00	0.00	0.00	0.00	40.56	40.56	43.25	43.89	41.46	41.46
9+63.12	MH 19	48	91.7	12.57	7.30	0.83	1436	0.0041	124.50	6		0.51	0.00	0.07	0.00	0.00	0.07	41.15	41.29	43.25	44.50	42.05	42.12
BRANCH B-3: FLOWS FROM MALL AND ASSOCIATED PARKING LOT																							
	MH 18	24	12.1	3.14	3.85	0.23	226	0.0029	131.68	6		0.38	0.00	0.56	0.00	0.04	0.60	41.80	43.00		44.50	42.63	43.23
	MH 18C	24	10.0	3.14	3.18	0.16	226	0.0020	172.76	6		0.34	0.00	0.07	0.00	0.00	0.07	43.37	43.51	44.25	44.86	43.60	43.67
	MH 18B	21	8.7	2.41	3.62	0.20	158	0.0030	174.65	6	42	0.53	0.02	0.05	0.00	0.00	0.07	43.85	43.88	44.25	45.00	44.01	44.08
	MH 18A	18	5.2	1.77	2.94	0.13	105	0.0025	70.00	6	45	0.17	0.02	0.07	0.00	0.00	0.09	44.40	44.56		45.59	44.61	44.70
10+87.62	MH 18	42	77.0	9.62	8.00	0.99	1006	0.0059	62.00	6	63	0.36	0.15	0.19	0.00	0.00	0.35	41.80	41.98		44.50	42.63	42.98
	WYE	18	9.9	1.77	5.60	0.49	105	0.0069	24.81			0.22	0.00	-0.51	0.00	0.02	-0.49	42.34	42.36	44.25	45.00	43.34	42.85
	INLET A8																	42.58	43.25		44.25		
11+49.62	WYE	42	67.4	9.62	7.01	0.76	1006	0.0045	171.83			0.77	0.00	0.16	0.00	0.00	0.16	42.34	42.73	43.25	43.25	43.34	43.49
13+21.45	MH 17	42	55.9	9.62	5.81	0.52	1006	0.0031	215.95	6	28	0.67	0.07	0.24	0.00	0.00	0.31	43.50	44.05	48.90	48.95	44.27	44.57

(see page A2-37)

A2-57

SUMMARY OF HYDRAULIC CALCULATIONS
COTTONWOOD MALL TO CALABACILLAS ARROYO
FILENAME: CDP2:[C9413301.HYDRO] C_HGLMJ.WK4

Station	Structure	Diam.	Q	Area	Vel.	HV	K	SI	Length	MH Dia.	Angle	HI	Hb	Hj	Hmh	Ht	Total Losses	HGL(dn)	HGL(up)	Grate Elevation	Low Point	EGL(dn)	EGL(up)
15+37.40	MH 16	27	33.7	3.98	8.48	1.12	310	0.0118	450.00	6	3	5.33	0.03	0.77	0.00	0.02	0.82	44.71	44.94	53.45	53.94	45.24	46.06
BRANCH B-1: FLOWS FROM FOLEYS, JC PENNY AND PARKING LOT																							
	MH 15	18	19.9	1.77	11.26	1.97	105	0.0359	117.22	6	85	4.21	0.29	0.85	0.00	0.02	1.17	50.27	50.59		59.00	51.39	52.56
	INLET A2	18	9.0	1.77	5.09	0.40	105	0.0073	327.40	6	10	2.40	0.07	0.00	0.00	0.00	0.07	54.80	56.43	58.25	58.25	56.77	56.84
	MH 15A	12	2.1	0.79	2.67	0.11	36	0.0035	200.00	6	110	0.69	0.05	0.50	0.00	0.02	0.57	58.84	59.70		62.50	59.24	59.81
19+87.40	MH 15	18	9.0	1.77	5.09	0.40	105	0.0073	450.00	6	20	3.30	0.07	1.88	0.00	0.04	1.98	50.27	52.97	58.60	59.50	51.39	53.37
24+37.40	MH 14	18	7.6	1.77	4.30	0.29	105	0.0052	227.76	6	28	1.19	0.04	0.00	0.00	0.00	0.04	56.27	56.43	60.25	62.25	56.67	56.71
BRANCH A: FLOWS COLLECTED ALONG NORTHEAST SIDE OF MALL																							
2+76.20	MH 12	72	120.7	28.27	4.27	0.28	4235	0.0008	262.79	8	90	0.21	0.05	0.02	0.00	0.00	0.07	35.60	35.65		43.10	35.86	35.94
5+38.99	MH 11	66	110.4	23.76	4.65	0.34	3358	0.0011	313.36	8	42	0.34	0.04	0.05	0.00	0.00	0.09	35.87	35.91	42.25	47.72	36.15	36.24
8+52.35	MH 10	60	104.2	19.63	5.31	0.44	2604	0.0016	450.00	6		0.72	0.00	0.10	0.00	0.00	0.10	36.25	36.25	45.80	46.17	36.58	36.69
BRANCH A-1: FLOWS FROM DILLARDS AND MONTGOMERY WARD																							
	MH 9	15	9.3	1.23	7.58	0.89	65	0.0207	226.12	6	90	4.69	0.13	0.45	0.00	0.02	0.60	36.97	37.11		53.88	37.41	38.01
	MH 21B	15	7.1	1.23	5.79	0.52	65	0.0121	213.64	6	60	2.58	0.11	0.23	0.00	0.00	0.34	41.80	42.51		62.20	42.69	43.03
	MH 21A	12	2.5	0.79	3.18	0.16	36	0.0049	100.00	6	150	0.49	0.08	0.66	0.00	0.02	0.76	45.09	46.22	59.50	59.50	45.61	46.37
BRANCH A-2: FLOWS FROM C BASINS																							
	MH 9	33	19.8	5.94	3.33	0.17	529	0.0014	74.71	6	45	0.10	0.04	-0.10	0.00	0.01	-0.05	36.97	37.18		53.88	37.41	37.36
	MH 9B	33	19.8	5.94	3.33	0.17	529	0.0014	277.34	6	45	0.39	0.02	0.00	0.00	0.00	0.02	37.29	37.31		52.60	37.46	37.48
	MH 9A	24	13.3	3.14	4.23	0.28	226	0.0035	50.26	6	45	0.17	0.03	0.13	0.00	0.00	0.16	37.70	37.75	38.27 38.00	40.00	37.87	38.03
13+02.35	MH 9	54	79.1	15.90	4.97	0.38	1966	0.0016	418.74	6	20	0.68	0.04	0.15	0.00	0.00	0.19	36.97	37.21		53.88	37.41	37.59
	MH 8	18	6.9	1.77	3.90	0.24	105	0.0043	211.00	6	90	0.91	0.06	-0.01	0.00	0.00	0.05	37.89	38.09		52.60	38.27	38.32
17+21.09	MH 8	54	71.9	15.90	4.52	0.32	1966	0.0013	116.01	6		0.16	0.00	0.07	0.00	0.00	0.07	37.89	38.02		48.90	38.27	38.34
18+37.10	MH 8A	54	69.1	15.90	4.34	0.29	1966	0.0012	165.03	6		0.20	0.00	0.02	0.00	0.00	0.02	38.18	38.22	42.25	42.25	38.49	38.52
BRANCH A-3: FLOWS FROM MONTGOMERY WARD AND ENTERTAINMENT CENTER																							
	MH 7	21	9.0	2.41	3.74	0.22	158	0.0032	220.00	6	90	0.71	0.05	0.06	0.00	0.00	0.11	38.43	38.61		44.50	38.72	38.83
	MH 7A	12	0.3	0.79	0.38	0.00	36	0.0001	61.19	6	30	0.00	0.01	0.20	0.00	0.04	0.25	39.32	39.78	42.00 42.00	42.00	39.54	39.79
20+02.13	MH 7	54	60.5	15.90	3.80	0.22	1966	0.0009	110.00	6		0.10	0.00	0.07	0.00	0.00	0.07	38.43	38.56		44.00	38.72	38.79
BRANCH A-4: FLOWS FROM BASIN B-9, B-10, AND B-13																							
	MH 6	27	12.0	3.98	3.02	0.14	310	0.0015	190.00	6	90	0.29	0.04	-0.08	0.00	0.00	-0.05	38.67	38.71		40.60	38.89	38.85
	MH INLET	24	10.0	3.14	3.18	0.16	226	0.0020	150.00	4		0.29	0.00	0.05	0.00	0.00	0.05	38.99	39.03	39.25	39.25	39.13	39.19

AZ-58

SUMMARY OF HYDRAULIC CALCULATIONS
COTTONWOOD MALL TO CALABACILLAS ARROYO
FILENAME: CDP2:[C9413301.HYDRO] C_HGLMJ.WK4

Station	Structure	Diam.	Q	Area	Vel.	HV	K	Sf	Length	MH Dia.	Angle	Hi	Hb	Hj	Hmh	Ht	Total Losses	HGL(dn)	HGL(up)	Grate Elevation	Low Point	EGL(dn)	EGL(up)
	MH 6A									6	70		0.03	0.00	0.00	0.00	0.03	39.32	39.35		41.50	39.48	39.51
	WYE	24	10.0	3.14	3.18	0.16	228	0.0020	95.00			0.19											
		12	1.9	0.79	2.42	0.09	36	0.0028	180.00			0.51	0.00	-0.05	0.00	0.00	-0.05	39.54	39.55	41.00 37.50	41.00	39.69	39.64
21+12.14	MH 6	42	48.2	9.62	5.01	0.39	1006	0.0023	245.00	6		0.56	0.00	0.17	0.00	0.00	0.17	38.67	38.67	40.25	49.81	38.89	39.06
23+58.59	MH 5D	42	45.9	9.62	4.77	0.35	1006	0.0021	310.06	6	45	0.65	0.05	0.04	0.00	0.00	0.09	39.24	39.36		57.20	39.62	39.71
27+09.76	MH 5	36	38.6	7.07	5.46	0.46	667	0.0033	281.97	6		0.94	0.00	0.14	0.00	0.00	0.14	40.01	40.04		54.91	40.36	40.50
	BRANCH A-6a: FLOWS FROM SEVEN BAR LOOP RD AND PONDS																						
	MH 4	27	12.0	3.98	3.02	0.14	310	0.0015	68.88	6	90	0.10	0.06	0.52	0.00	0.02	0.59	40.98	41.90		46.56	41.44	42.04
	MH 3B	24	6.9	3.14	2.20	0.07	226	0.0009	57.37	6	5	0.05	0.00	-0.07	0.00	0.00	-0.06	42.00	42.01	42.00	46.10	42.14	42.08
	MH 3	24	6.9	3.14	2.20	0.07	226	0.0009	210.00	6	90	0.20	0.01	0.00	0.00	0.00	0.01	42.06	42.08		46.00	42.14	42.15
	BRANCH A-6b: FLOWS FROM MERVYN'S AND PARKING LOT																						
	MH 4	18	3.4	1.77	1.92	0.06	105	0.0010	200.00	6	90	0.21	0.04	0.72	0.00	0.04	0.80	40.98	42.19		46.56	41.44	42.25
	MH 4D	12	2.1	0.79	2.67	0.11	36	0.0035	55.00	6	90	0.19	0.02	0.08	0.00	0.00	0.09	42.40	42.44	42.80 44.25	45.00	42.46	42.55
29+94.55	MH 4	36	24.4	7.07	3.45	0.19	667	0.0013	391.68	6	50	0.52	0.05	0.28	0.00	0.00	0.32	40.98	41.58		45.02	41.44	41.77
	BRANCH A-7: FLOWS FROM FOLEY'S AND PARKING LOT																						
	MH 4C	30	16.2	4.91	3.30	0.17	410	0.0016	240.00	6		0.37	0.00	0.14	0.00	0.00	0.14	42.11	42.27		48.07	42.29	42.44
	MH 4A	18	5.9	1.77	3.34	0.17	105	0.0032	99.00	6	90	0.31	0.03	0.05	0.00	0.00	0.08	42.64	42.72	42.00	44.00	42.81	42.89
33+86.23	MH 4C	21	8.7	2.41	3.62	0.20	158	0.0030	174.83	6	90	0.53	0.04	0.03	0.00	0.00	0.07	42.11	42.16		48.07	42.29	42.37
35+61.06	MH 4B	18	6.6	1.77	3.73	0.22	105	0.0039	54.42	6	90	0.21	0.04	0.10	0.00	0.00	0.15	42.69	42.82	44.25	44.50	42.89	43.04

A2-59

Normal Depth Calc: 12" Connector - Basin B-16 Line "A-2"

12" RCP -- SLOPE=2.5%

CULVERT RATING TABLE

12. INCH DIAMETER PIPE

N = 0.01300 INCREMENT = 1.00 SLOPE = 0.02500

FLOW DEPTH (IN)	FLOW AREA (SQ FT)	DISCHARGE (CFS)	VELOCITY (FPS)
1.00000	0.03126	0.08009	2.56212
2.00000	0.08604	0.34015	3.95331
3.00000	0.15355	0.77166	5.02557
4.00000	0.22917	1.35047	5.89283
5.00000	0.30975	2.04469	6.60103
6.00000	0.39270	2.81664	7.17252
7.00000	0.47564	3.62334	7.61775
8.00000	0.55623	4.41582	7.93891
9.00000	0.63185	5.13687	8.12986
10.00000	0.69936	5.71468	8.17134
11.00000	0.75414	6.04087	8.01030
12.00000	0.78540	5.63329	7.17252

@Q=5.6 cfs

$D_N = .82'$

$V = 8.1 \text{ fps}$

A2-60

Normal Depth Calc: 18" SD-Basin B-16 Line "A-2"

18" RCP -- SLOPE=4.1%

CULVERT RATING TABLE

18. INCH DIAMETER PIPE

N = 0.01300 INCREMENT = 1.00 SLOPE = 0.04100

FLOW DEPTH (IN)	FLOW AREA (SQ FT)	DISCHARGE (CFS)	VELOCITY (FPS)
1.00000	0.03862	0.12788	3.31101
2.00000	0.10733	0.55387	5.16044
3.00000	0.19359	1.28429	6.63402
4.00000	0.29241	2.30344	7.87755
5.00000	0.40056	3.58568	8.95170
6.00000	0.51564	5.09899	9.88872
7.00000	0.63565	6.80639	10.70784
8.00000	0.75883	8.66669	11.42113
9.00000	0.88357	10.63482	12.03616
10.00000	1.00831	12.66170	12.55730
11.00000	1.13150	14.69394	12.98626
12.00000	1.25151	16.67287	13.32224
13.00000	1.36659	18.53295	13.56150
14.00000	1.47474	20.19851	13.69632
15.00000	1.57355	21.57698	13.71227
16.00000	1.65981	22.54187	13.58096
17.00000	1.72852	22.87300	13.23268
18.00000	1.76715	21.26965	12.03616

@Q=8.1 cfs

$D_N = 0.64'$

V = 11.2
fps

AZ-61

Normal Depth Calc: 18" 50 - Basin B-5

18" RCP -- SLOPE=4.0%

Line "A-5"

CULVERT RATING TABLE

18. INCH DIAMETER PIPE

N = 0.01300 INCREMENT = 1.00 SLOPE = 0.04000

FLOW DEPTH (IN)	FLOW AREA (SQ FT)	DISCHARGE (CFS)	VELOCITY (FPS)
1.00000	0.03862	0.12631	3.27038
2.00000	0.10733	0.54707	5.09712
3.00000	0.19359	1.26853	6.55262
4.00000	0.29241	2.27517	7.78089
5.00000	0.40056	3.54169	8.84186
6.00000	0.51564	5.03643	9.76739
7.00000	0.63565	6.72287	10.57645
8.00000	0.75883	8.56035	11.28098
9.00000	0.88357	10.50432	11.88847
10.00000	1.00831	12.50634	12.40322
11.00000	1.13150	14.51364	12.82692
12.00000	1.25151	16.46829	13.15877
13.00000	1.36659	18.30554	13.39510
14.00000	1.47474	19.95067	13.52826
15.00000	1.57355	21.31223	13.54402
16.00000	1.65981	22.26527	13.41431
17.00000	1.72852	22.59234	13.07032
18.00000	1.76715	21.00866	11.88848

→ @Q = 9.6 cfs

D_N = 7.1'

V = 11.6 fps

Normal Depth Calc: 12" 50 - Basin B-5
Line "A-5"

12" RCP -- SLOPE=4.0%

CULVERT RATING TABLE

12. INCH DIAMETER PIPE

N = 0.01300 INCREMENT = 1.00 SLOPE = 0.04000

FLOW DEPTH (IN)	FLOW AREA (SQ FT)	DISCHARGE (CFS)	VELOCITY (FPS)
1.00000	0.03126	0.10131	3.24085
2.00000	0.08604	0.43025	5.00058
3.00000	0.15355	0.97608	6.35690
4.00000	0.22917	1.70823	7.45391
5.00000	0.30975	2.58635	8.34972
6.00000	0.39270	3.56280	9.07260
7.00000	0.47564	4.58320	9.63577
8.00000	0.55623	5.58563	10.04202
9.00000	0.63185	6.49768	10.28355
10.00000	0.69936	7.22857	10.33602
11.00000	0.75414	7.64116	10.13232
12.00000	0.78540	7.12561	9.07261

@Q=1.0 cfs
D_N=.25'
V=6.4 fps

@Q=4.9 cfs
D_N=.61'

V=9.7 fps

Normal Depth Calc: 15" SD - Basin B-8-A

15" RCP -- SLOPE=14.5%

Line "A-8"

CULVERT RATING TABLE

15. INCH DIAMETER PIPE

N = 0.01300 INCREMENT = 1.00 SLOPE = 0.14500

FLOW DEPTH (IN)	FLOW AREA (SQ FT)	DISCHARGE (CFS)	VELOCITY (FPS)
1.00000	0.03513	0.21798	6.20421
2.00000	0.09727	0.93687	9.63163
3.00000	0.17472	2.15408	12.32848
4.00000	0.26271	3.82758	14.56950
5.00000	0.35808	5.89694	16.46815
6.00000	0.45839	8.28927	18.08344
7.00000	0.56155	10.92150	19.44895
8.00000	0.66564	13.70119	20.58359
9.00000	0.76879	16.52602	21.49603
10.00000	0.86910	19.28202	22.18614
11.00000	0.96447	21.83949	22.64398
12.00000	1.05246	24.04387	22.84542
13.00000	1.12991	25.69277	22.73871
14.00000	1.19205	26.45587	22.19360
15.00000	1.22718	24.59815	20.04438

→
@Q=9.3 cfs

D_N=.53'

V=18.6 f/s

AZ-64

Normal Depth Calc: 15" SD - Basin B-16
 15" RCP -- SLOPE=2.5%
 Line "A-8"

CULVERT RATING TABLE

15. INCH DIAMETER PIPE

N = 0.01300 INCREMENT = 1.00 SLOPE = 0.02500

FLOW DEPTH (IN)	FLOW AREA (SQ FT)	DISCHARGE (CFS)	VELOCITY (FPS)
1.00000	0.03513	0.09051	2.57616
2.00000	0.09727	0.38902	3.99932
3.00000	0.17472	0.89443	5.11912
4.00000	0.26271	1.58931	6.04966
5.00000	0.35808	2.44857	6.83803
6.00000	0.45839	3.44193	7.50874
7.00000	0.56155	4.53491	8.07574
8.00000	0.66564	5.68911	8.54687
9.00000	0.76879	6.86205	8.92574
10.00000	0.86910	8.00642	9.21229
11.00000	0.96447	9.06835	9.40240
12.00000	1.05246	9.98367	9.48604
13.00000	1.12991	10.66834	9.44173
14.00000	1.19205	10.98520	9.21539
15.00000	1.22718	10.21383	8.32298

→
 @Q=7.1cfs
 D_N=.77'
 V=9.0fps

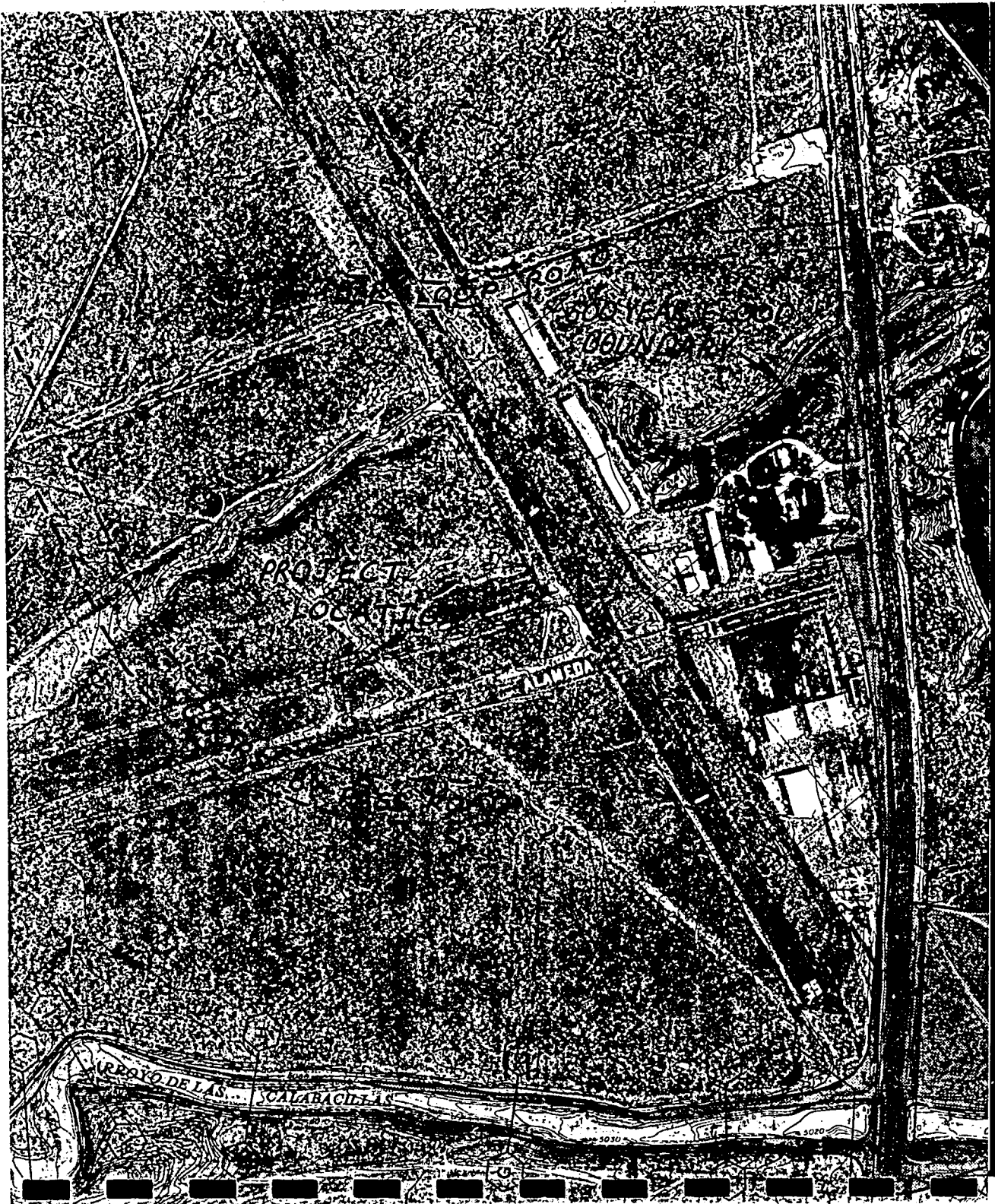
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PLATE 1

CONCEPTUAL GRADING AND DRAINAGE PLAN

PLATE 2

NFIP FLOOD BOUNDARY AND FLOODWAY MAP



NATIONAL FLOOD INSURANCE PROGRAM

TAKEN FROM:
FLOODWAY
FLOOD BOUNDARY AND
FLOODWAY MAP

CITY OF
ALBUQUERQUE,
NEW MEXICO
BERNALILLO COUNTY

PANEL 2 OF 50



COMMUNITY-PANEL NUMBER

350002 0002

EFFECTIVE DATE:

SEPTEMBER 15, 1983



Federal Emergency Management Agency