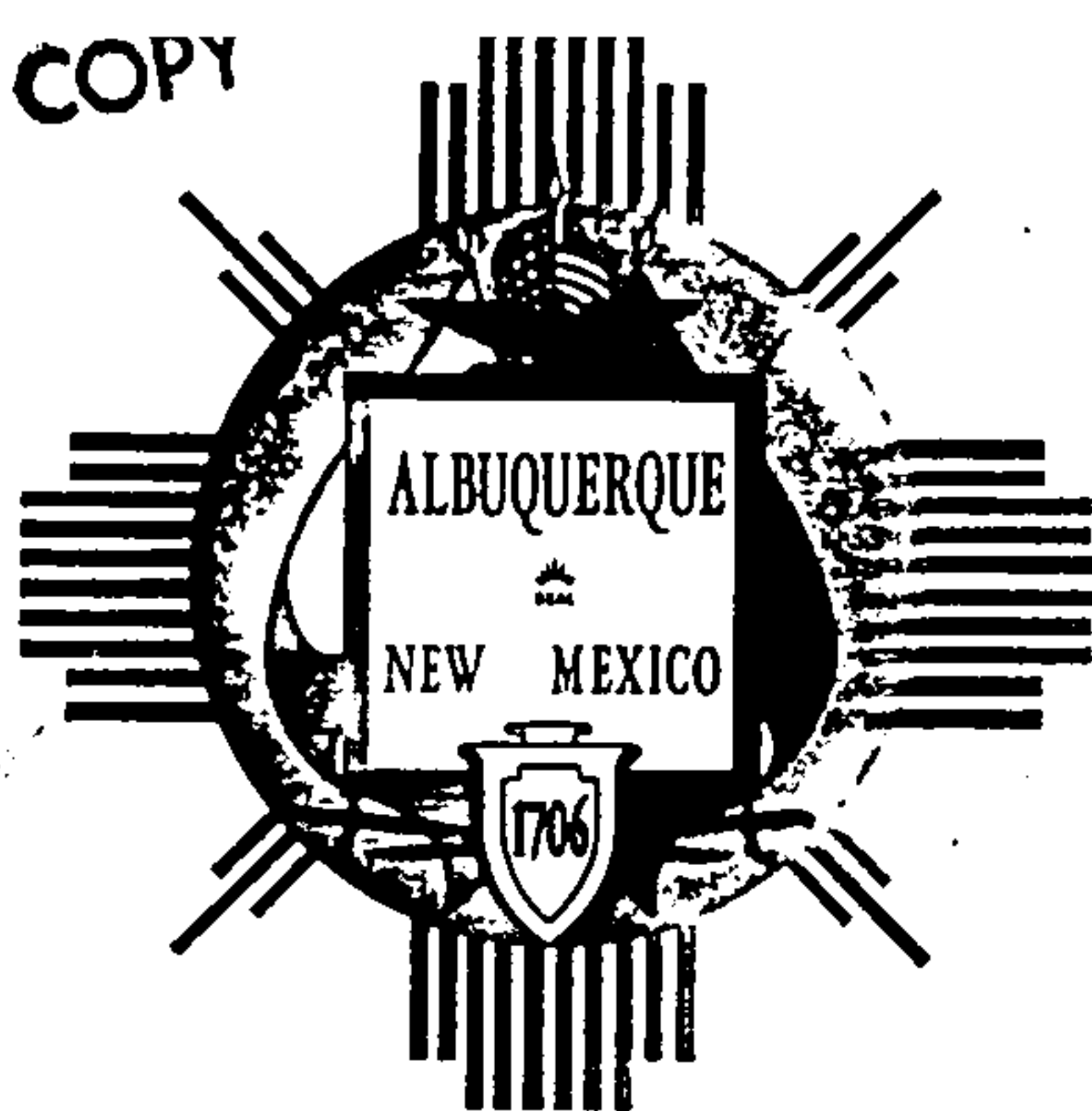




City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

April 11, 1986

Marvin Kortum
1605 Speakman Drive, NE
Albuquerque, New Mexico 87123

RE: REVISED DRAINAGE PLAN FOR HUDSON AVENUE TOWNHOUSES
(H-14/D40) RECEIVED APRIL 7, 1986

Dear Mr. Kortum:

I have reviewed the above referenced submittal and do not have any adverse comments regarding the re-design of the storm sewer. Please incorporate these same plans in your request for Work Order at DRC.

I am forwarding a copy of your report to Dan Hogan, since it is a field inspection report, and I feel it would be of interest to him for both making changes to the current facilities maps and for maintenance reasons.

If I can be of further assistance, please advise.

Cordially,

Billy J. Goolsby
Billy J. Goolsby, P.E.
C.E./Hydrology Section

cc: Ray Pando
708 Eleventh, NW

Andre Houle

BJG/bsj

MUNICIPAL DEVELOPMENT DEPARTMENT

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

DRAINAGE INFORMATION SHEET

PROJECT TITLE: Hudson Ave Townhouses ZONE ATLAS/DRNG. FILE #: H14-D40
 LEGAL DESCRIPTION: Hudson townhouses, replat of lots 1-4, Willcut Subdivision
 CITY ADDRESS: 500 Hudson Ave NW

ENGINEERING FIRM: Marvin R Kortum CONTACT: Marvin R Kortum

ADDRESS: 1605 Speakman Dr. SE PHONE: (505) 299-0774

OWNER: Ray P Pando & Robert Montoya CONTACT: _____

ADDRESS: 708 11th St. NW PHONE: _____

ARCHITECT: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: S W Survey CONTACT: Dan Graney

ADDRESS: 333 Lomas Blvd. NE PHONE: 247-4444

CONTRACTOR: _____ CONTACT: _____

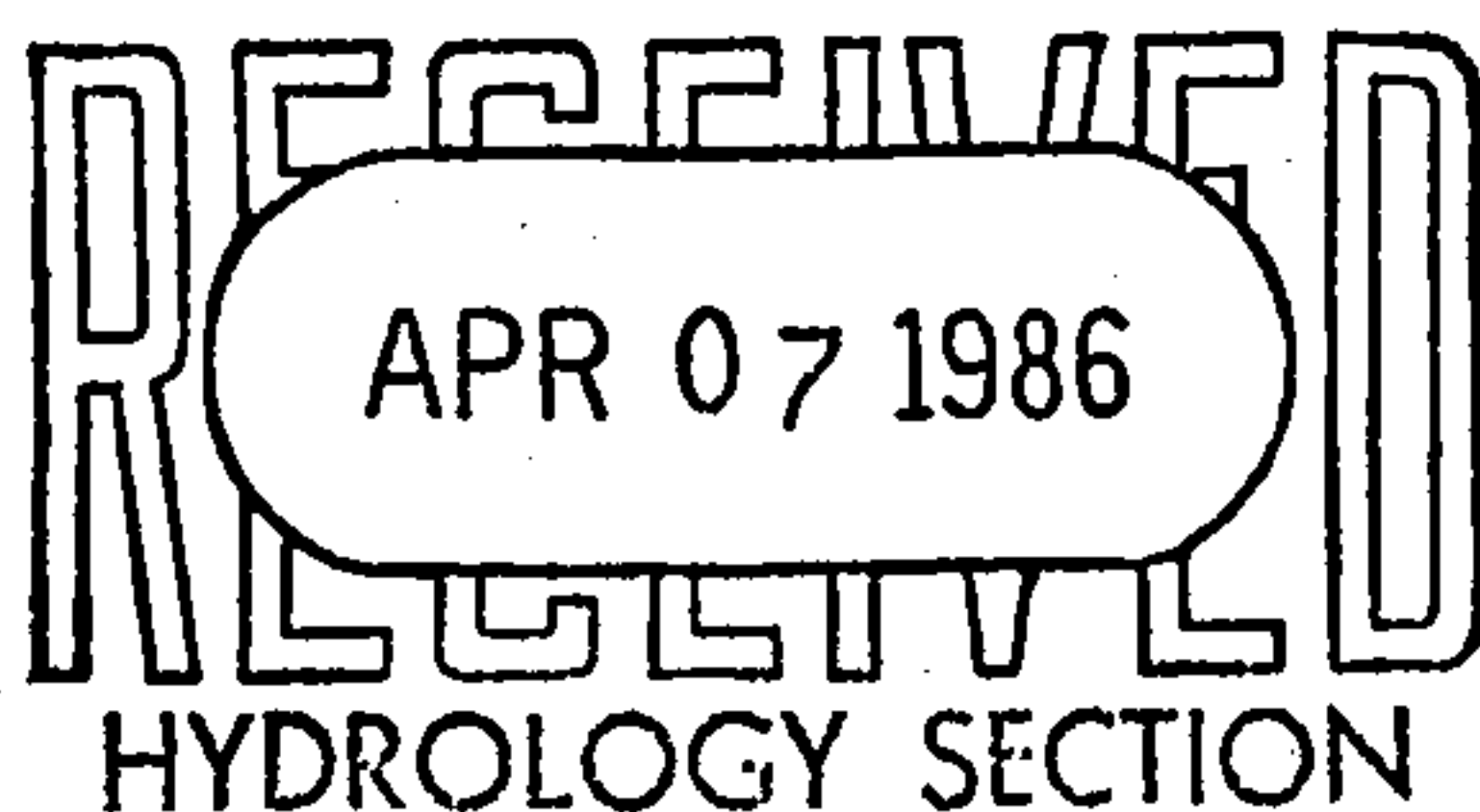
ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

☒ YES

☐ NO

☐ COPY OF CONFERENCE RECAP
SHEET PROVIDED



DRB NO. 84-56

EPC NO. _____

PROJ. NO. 2758

TYPE OF SUBMITTAL:

☐ DRAINAGE REPORT

☐ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☐ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

☒ Revision to approved Plan

Jun 27, 1985 approved Grading
and Drainage Plan is revised
a third time to delete the
requirement for off-street
ponding

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL

☐ PRELIMINARY PLAT APPROVAL

☐ SITE DEVELOPMENT PLAN APPROVAL

☐ FINAL PLAT APPROVAL

☐ BUILDING PERMIT APPROVAL

☐ FOUNDATION PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☐ ROUGH GRADING PERMIT APPROVAL

☐ GRADING/PAVING PERMIT APPROVAL

☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: APR 3 1986

BY: Marvin R Kortum



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

March 27, 1986

Marvin Kortum
1605 Speakman Drive, NE
Albuquerque, New Mexico 87123

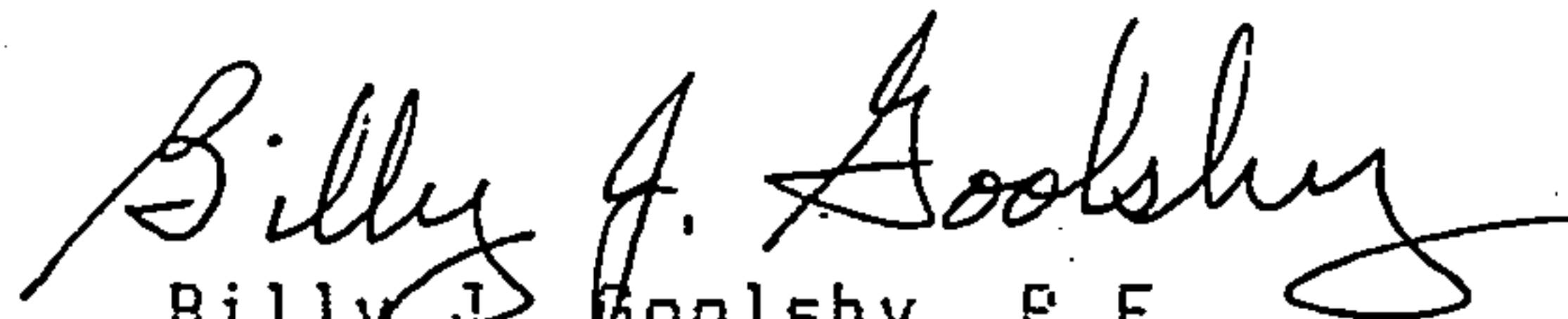
RE: REVISED DRAINAGE PLAN FOR HUDSON TOWNHOUSES
(H-14/D40) RECEIVED MARCH 13, 1986

Dear Mr. Kortum:

Pursuant to our meeting on March 25, 1986, I will not review this latest submittal. I will, however, try to expedite the forthcoming submittal for the same above referenced location.

Should you have any questions or comments, call me at 766-7644.

Cordially,


Billy J. Goolsby, P.E.
C.E./Design Hydrology

BJG/bsj

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

DRAINAGE INFORMATION SHEET

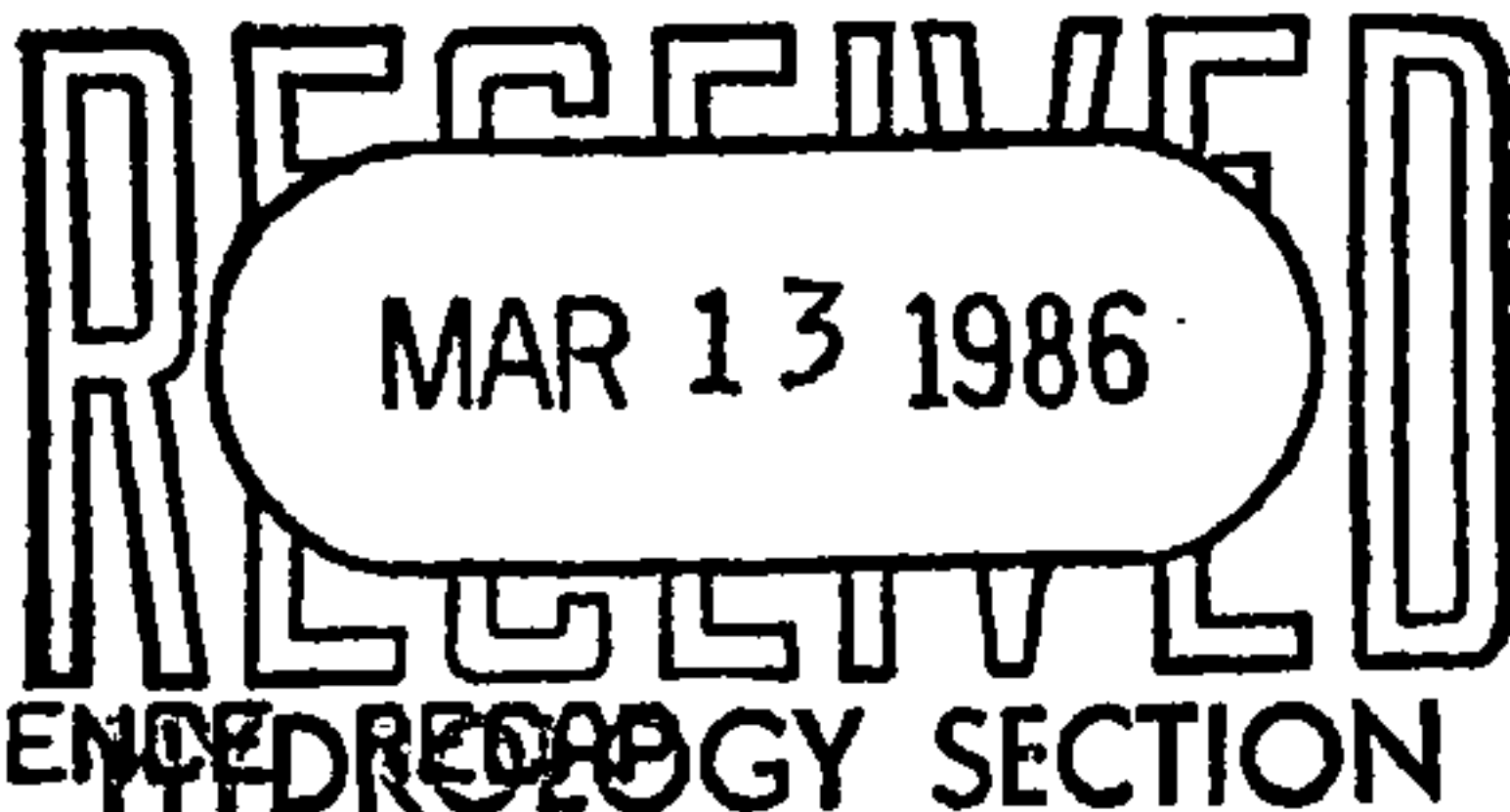
PROJECT TITLE: Hudson Ave Townhouses ZONE ATLAS/DRNG. FILE #: H14-D40
 LEGAL DESCRIPTION: Hudson townhouses, replat of lots 1-4, Willcut Subdivision
 CITY ADDRESS: 500 Hudson Ave NW
 ENGINEERING FIRM: Marvin R Kortum CONTACT: Marvin R Kortum
 ADDRESS: 1605 Speakman Dr. SE PHONE: (505) 299-0774
 OWNER: Ray P Pando & Robert Montoya CONTACT: _____
 ADDRESS: 708 11TH St. NW PHONE: _____
 ARCHITECT: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____
 SURVEYOR: S W Survey CONTACT: Dan Graney
 ADDRESS: 333 Lomas Blvd. NE PHONE: 247-4444
 CONTRACTOR: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

☒ YES

☐ NO

☐ COPY OF CONFERENCE RECORD
 SHEET PROVIDED



DRB NO. 84-56

EPC NO. _____

PROJ. NO. 2758

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION

☒ Revision to approved Plan
 Jun 27, 1985 approved Grading
 and Drainage Plan is revised
 a second time to reconcile
 street grades and ponding
 requirements

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT APPROVAL
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ SITE DEVELOPMENT PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY APPROVAL
- ☐ ROUGH GRADING PERMIT APPROVAL
- ☐ GRADING/PAVING PERMIT APPROVAL
- ☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: MARCH 13 1986

BY: Marvin R Kortum



March 4, 1986

Mr. Walt Nickerson, PE
Section Head
Planning and Engineering Division
Water Utilities Department
P.O. Box 1293
Albuquerque, NM 87103

Dear Mr. Nickerson:

We are requesting a Water and Sewer Availability Statement for a Phase I portion of "El Rancho Atrisco de Los Santos" subdivision. A filed and approved plat of the subdivision (zone atlas G-10) is enclosed for your use. As shown on the filed plat, we are requesting services for only 18 lots at this time.

The plan is to provide all streets and utilities including access, to these lots at this time. For the record, we are requesting availability for lots #22, 23, 29, 30, 31, 32, 39, 40, 129, 130, 131, 132, 133, 134, 135, 136, 137, and 138.

As shown on the plat we are bypassing the existing platted section at the entrance to the subdivision at Ouray Road. This is due to limitations of existing drainage.

Construction of this portion consists of single family residential homes. a total of 18 lots will be created on 3.6 acres.

If you have any questions or need additional information, please advise.

Sincerely,

Dennis D. Brand
P.E.

DDB/aim



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

January 17, 1986

Marvin Kortum
1605 Speakman Drive, SE
Albuquerque, New Mexico 87123

RE: REVISED DRAINAGE PLAN FOR HUDSON AVENUE TOWNHOUSES
RECEIVED DECEMBER 31, 1985 (H-14/D40)

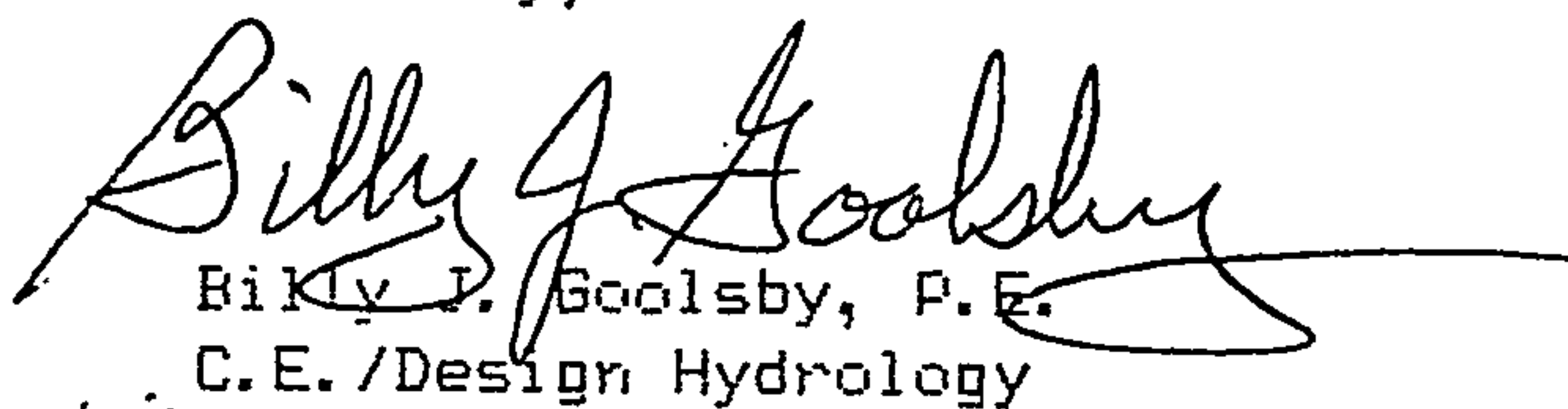
Dear Mr. Kortum:

The referenced plan dated December 27, 1985, is hereby approved for the purpose of obtaining Final Plat approval and Work Order.

Please attach a copy of this plan to the W.O. set such that the contractor can make the appropriate field changes. If the W.O. has not been issued as of yet, the plans will need to be incorporated for DRC sign-off.

If you have any questions, call me at 766-7644.

Cordially,


Billy J. Goolsby, P.E.
C.E./Design Hydrology

BJG/bsj

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

DRAINAGE INFORMATION SHEET

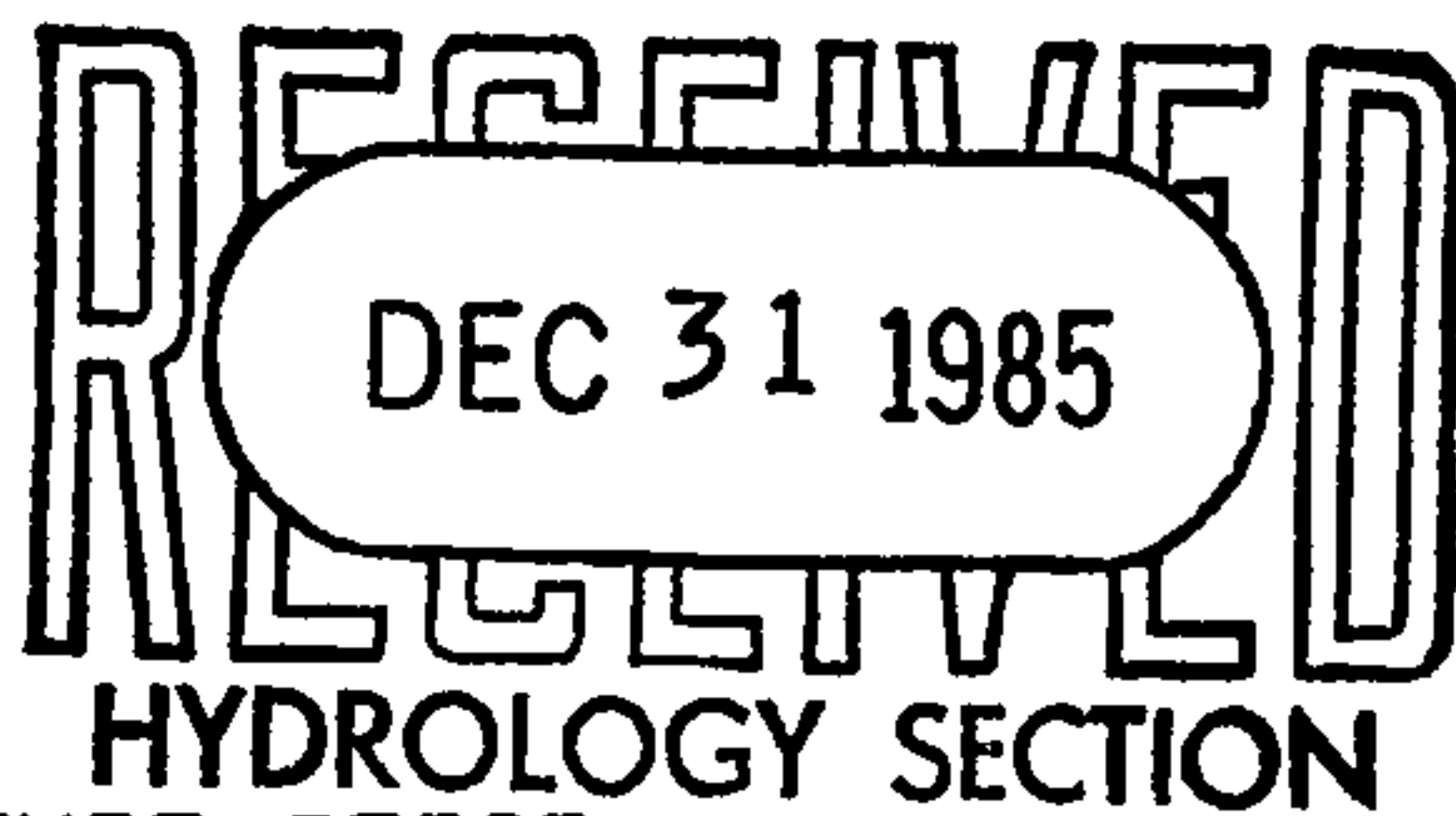
PROJECT TITLE: Hudson Ave Townhouses ZONE ATLAS/DRNG. FILE #: H14-D40
 LEGAL DESCRIPTION: Hudson townhouses, replat of lots 1-4, Willcut Subdivision
 CITY ADDRESS: 500 Hudson Ave NW
 ENGINEERING FIRM: Marvin R Kortum CONTACT: Marvin R Kortum
 ADDRESS: 1605 Speakman Dr. SE PHONE: (505) 299-0774
 OWNER: Ray P Pando & Robert Montoya CONTACT: _____
 ADDRESS: 708 11TH St. NW PHONE: _____
 ARCHITECT: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____
 SURVEYOR: S W Survey CONTACT: Dan Graney
 ADDRESS: 333 Lomas Blvd. NE PHONE: 247-4444
 CONTRACTOR: _____ CONTACT: _____
 ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

☒ YES

☐ NO

☐ COPY OF CONFERENCE RECAP
SHEET PROVIDED



DRB NO. 84-56

EPC NO. _____

PROJ. NO. 2758

TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION

☒ Revision to approved Plan
 Jun 27, 1985 approved Grading
 and Drainage Plan* is revised
 to accomodate sanitary sewer
 main and services.

** pre & final
plat approval*

DATE SUBMITTED: Dec 31. 1985

BY: Marvin R Kortum

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SKETCH PLAT APPROVAL
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ SITE DEVELOPMENT PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY APPROVAL
- ☐ ROUGH GRADING PERMIT APPROVAL
- ☐ GRADING/PAVING PERMIT APPROVAL
- ☒ OTHER update (SPECIFY)



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

December 5, 1984

Mr. Frank Lovelady
7408 Morrow Road NE
Albuquerque, NM 87110

REF: CONCEPTUAL DRAINAGE REPORT FOR TOWNHOUSE SUBDIVISION-WILLCUT ADDITION
(H14-D40) RECEIVED NOVEMBER 5, 1984

Dear Frank:

I have reviewed the above referenced submittal and forward the following comment.

The report is very well presented and contains sufficient information to make it easy to review; however, it needs to be expanded a bit to finish it off. You ended it without a complete resolution as to what the proposed drainage scheme is or what the impacts will be. How deep will the total volume of stormwater from the watershed be? Will it get out of the R/W of the street? Is there an existing flooding area over the inlets? If so, what will be the impact of the increase in runoff from the proposed development? If it will cause substantial additional flooding to surrounding property or, cause property to be flooded that is not under existing conditions, then some method of on-site control may be required.

Should you have any questions or comments, please contact me at 766-7644.

Sincerely yours,

Billy J. Goolsby
Billy J. Goolsby, PE
Civil Engineer/Hydrology

BJG:mrk

MUNICIPAL DEVELOPMENT DEPARTMENT

Lyne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

June 27, 1985

Mr. Frank Lovelady
7408 Morrow Road NE
Albuquerque, NM 87110

REF: REVISED DRAINAGE PLAN FOR HUSTON AVENUE TOWNHOUSE SUBDIVISION (H14-D40)
RECEIVED JUNE 12, 1985

Dear Frank:

The above referenced plan, dated June 11, 1985, is hereby approved for the request for preliminary and final plat approvals.

Please be advised that prior to Hydrology sign-off on any construction plans that a recorded encroachment agreement will be required for this site.

Should you have any questions or comments, please call me at 766-7644.

Cordially,

Carlos A. Montoya
City/County Flood Plain Admin.

CAM:mrk

MUNICIPAL DEVELOPMENT DEPARTMENT

C. Dwayne Sheppard, P.E., City Engineer

ENGINEERING DIVISION

Telephone (505) 766-7467

AN EQUAL OPPORTUNITY EMPLOYER

DRAINAGE INFORMATION SHEET

PROJECT TITLE: HUDSON AVENUE TOWNHOUSES ZONE ATLAS/DRNG. FILE #: H14-D40

LEGAL DESCRIPTION: Lots 1 through 4, Willcut Addition.

CITY ADDRESS: _____

ENGINEERING FIRM: Lovelady & Associates. CONTACT: Frank Lovelady

ADDRESS: 7408 Morrow Road, N.E. PHONE: 883-7973

OWNER: Montoya / Pando, INC. CONTACT: Robert Montoya

ADDRESS: 708 11th Street, N.W. PHONE: 842-9612

ARCHITECT: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Southwest Surveying Co. INC CONTACT: Dan Graney

ADDRESS: 333 Lomas Blvd, N.E. PHONE: 247-4444

CONTRACTOR: N/A CONTACT: _____

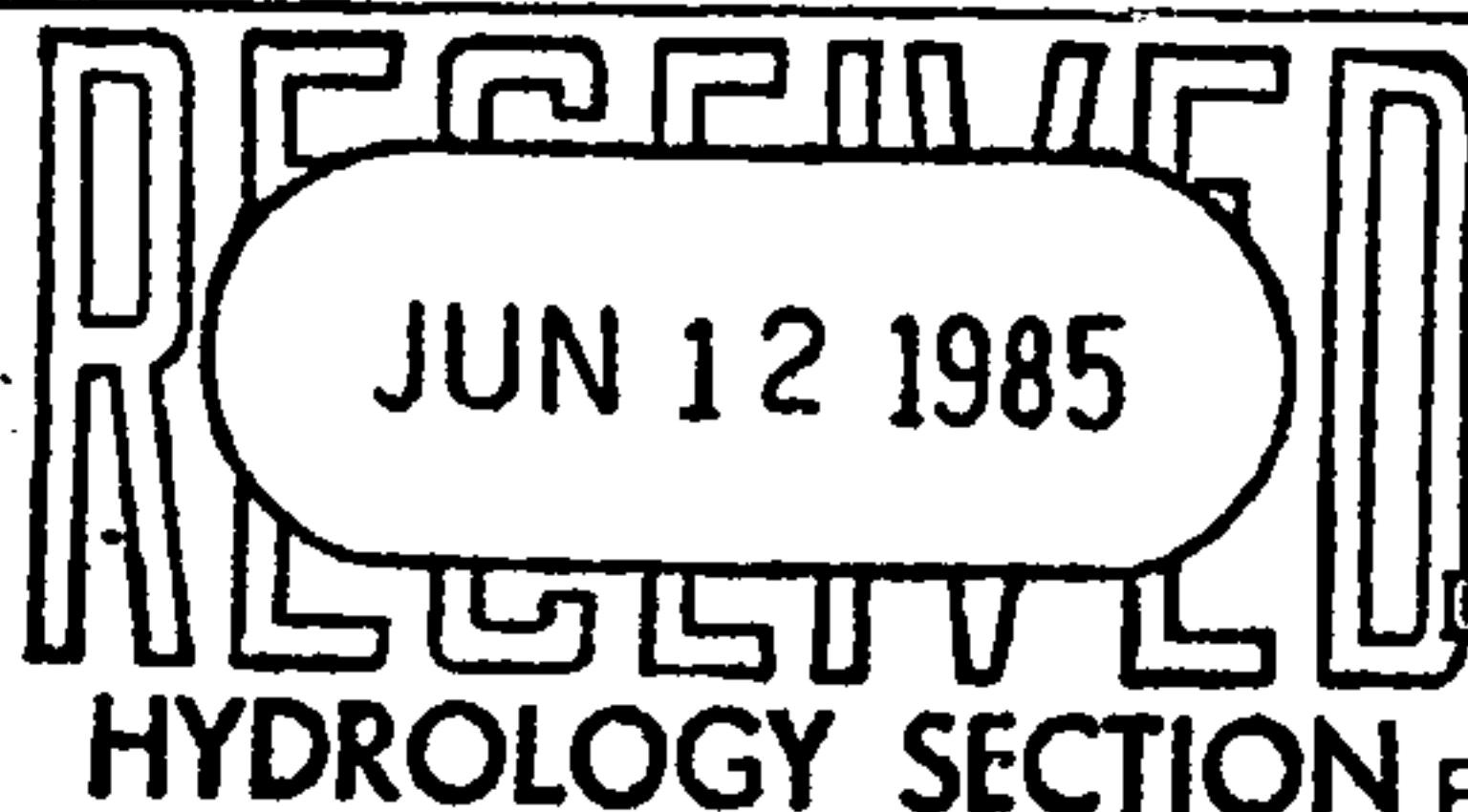
ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

☒ YES

☐ NO

☒ COPY OF CONFERENCE RECAP
SHEET PROVIDED



DRB NO. 84-787

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

☒ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

☒ Resubmittal due to revision of
pond and addition of sheet
2 of 2, showing pond details

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL

☒ PRELIMINARY PLAT APPROVAL

☐ SITE DEVELOPMENT PLAN APPROVAL

☒ FINAL PLAT APPROVAL

☐ BUILDING PERMIT APPROVAL

☐ FOUNDATION PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☐ ROUGH GRADING PERMIT APPROVAL

☐ GRADING/PAVING PERMIT APPROVAL

☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: June 11, 1985

BY: Frank D. Lovelady, P.E.



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

April 10, 1985

Frank Lovelady
7408 Morrow Road, NE
Albuquerque, New Mexico 87110

RE: GRADING & DRAINAGE PLAN FOR HUSTON AVENUE TOWNHOUSE SUB'D.
(H-14/D40) RECEIVED MARCH 13, 1985

Dear Mr. Lovelady:

I have reviewed the referenced plan dated March 13, 1985, and forward these comments:

- ✓ 1. The public storm drain through the subdivision will require an easement.
2. The encroachment onto the public easement will require an agreement.
3. Please give more drawing details on the proposed concrete pond.

If you have any questions or comments regarding this project, please call me at 766-7644.

Cordially,

Carlos A. Montoya, P.E.
City/County Floodplain Administrator

CAM/bsj

MUNICIPAL DEVELOPMENT DEPARTMENT

DRAINAGE INFORMATION SHEET

PROJECT TITLE: HUDSON AVENUE TOWNHOUSES ZONE ATLAS/DRNG. FILE #: H14-D40

LEGAL DESCRIPTION: Lots 1 through 4, Willcut Addition.

CITY ADDRESS: _____

ENGINEERING FIRM: Lovelady & Associates. CONTACT: Frank Lovelady

ADDRESS: 7408 Morrow Road, N.E. PHONE: 883-7973

OWNER: Montoya / Pando, INC. CONTACT: Robert Montoya

ADDRESS: 708 11th Street, N.W. PHONE: 842-9612

ARCHITECT: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Southwest Surveying Co. INC CONTACT: Dan Graney

ADDRESS: 333 Lomas Blvd, N.E. PHONE: 247-4444

CONTRACTOR: N/A CONTACT: _____

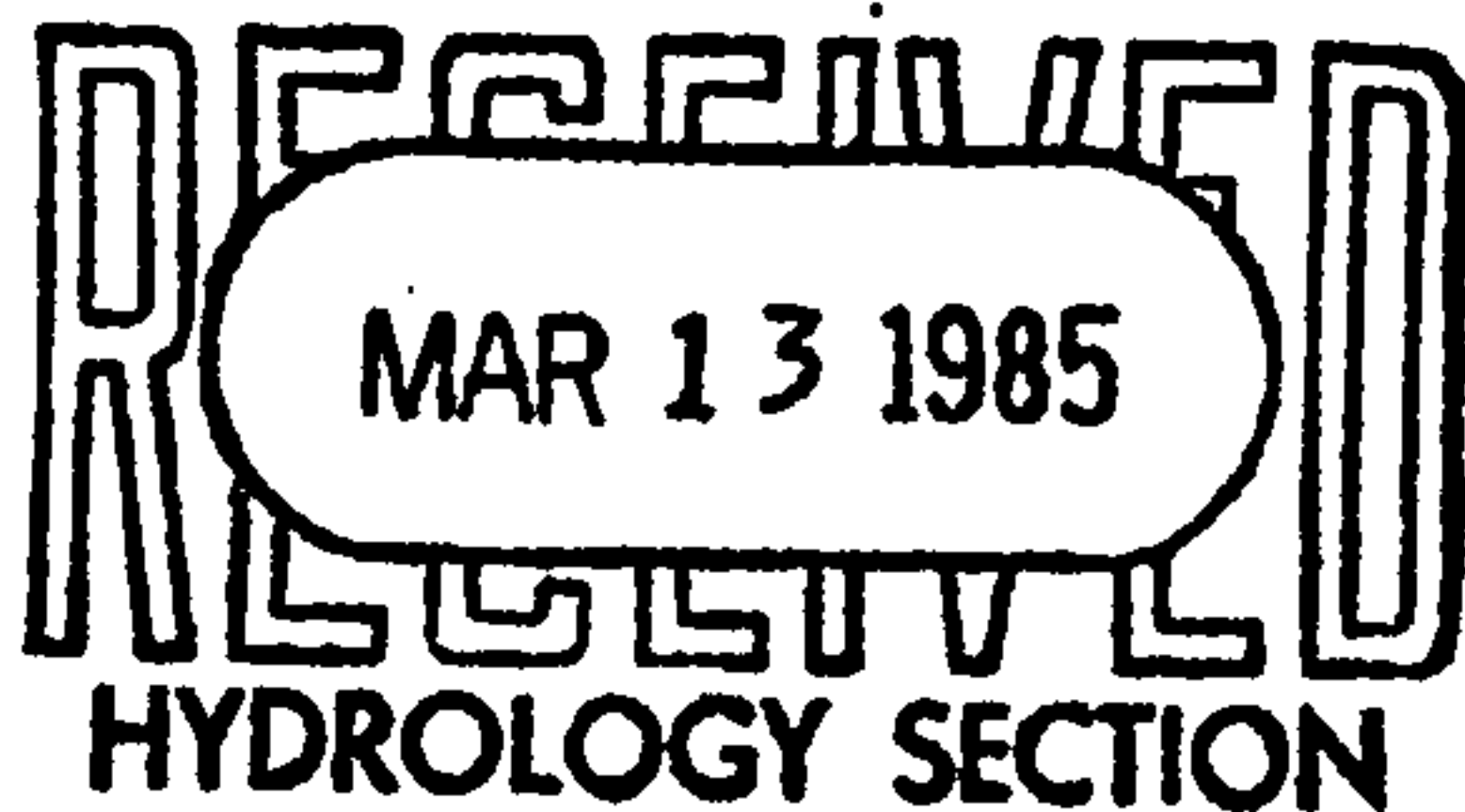
ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

☒ YES

☐ NO

☒ COPY OF CONFERENCE RECAP
SHEET PROVIDED



DRB NO. 84-787

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

☒ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL

☒ PRELIMINARY PLAT APPROVAL

☐ SITE DEVELOPMENT PLAN APPROVAL

☒ FINAL PLAT APPROVAL

☐ BUILDING PERMIT APPROVAL

☐ FOUNDATION PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☐ ROUGH GRADING PERMIT APPROVAL

☐ GRADING/PAVING PERMIT APPROVAL

☐ OTHER _____ (SPECIFY)

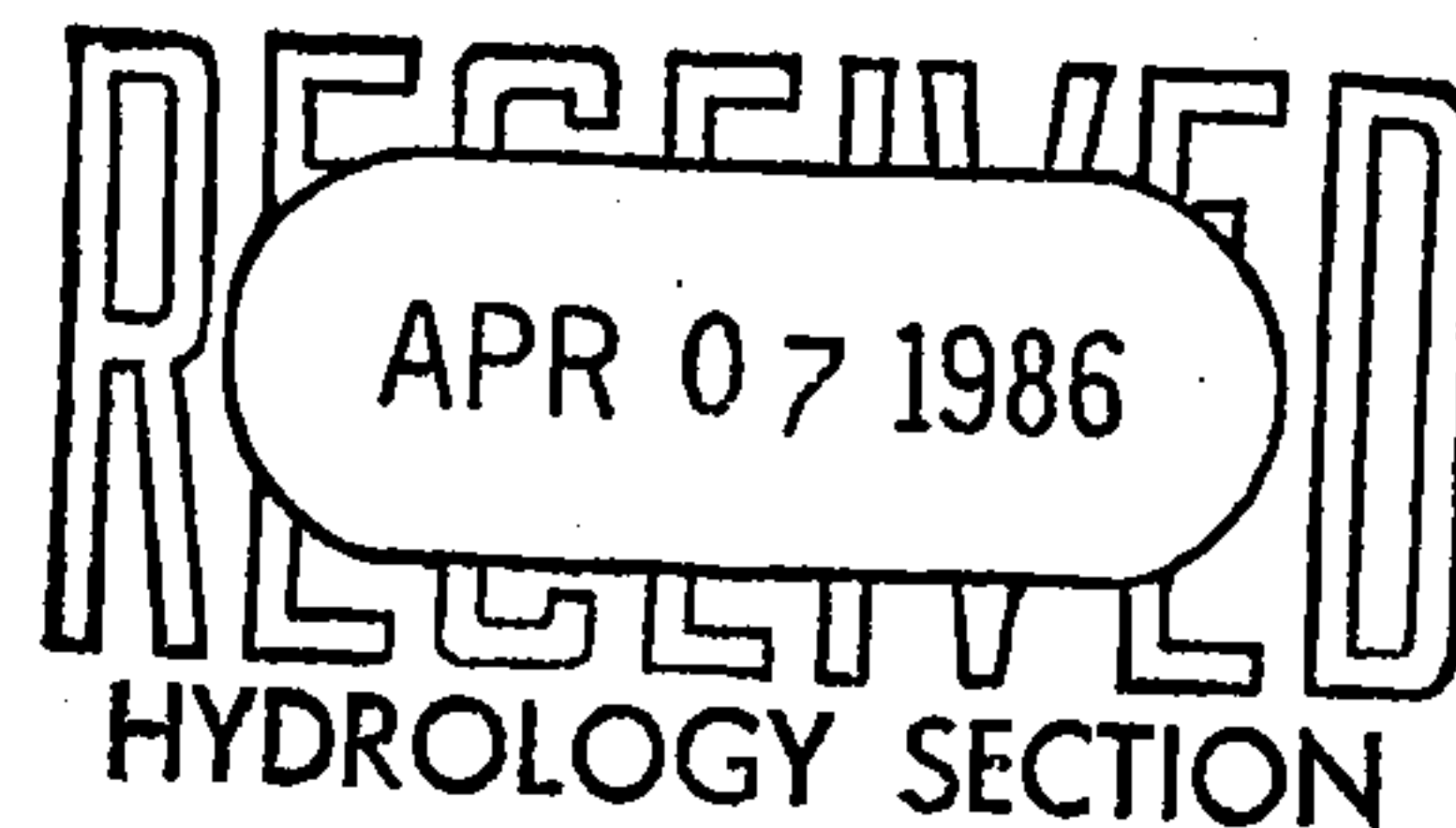
DATE SUBMITTED: March 13, 1985

BY: Frank D. Lovelady, P.E.

April 2, 1986

Marvin R. Kortum
1605 Speakman Drive S. E.
Albuquerque, New Mexico 87123

City of Albuquerque
Engineer Division
Design Hydrology Section
Engineer Design Section
Albuquerque, New Mexico 87102



REFERENCE: Project 2758
Hydro H14-D40
DRB 84-787

Gentlemen:

This letter is in response to the meeting held on March 25, 1986 concerning drainage and ponding for the referenced project. Attendance at the meeting was Ray Pando, owner; Andre Houle, Design Engineer; Billy Coolsby, Hydrology; and Marvin Kortum, Engineer Consultant for the owner. The purpose of the meeting, requested by Andre Houle, was to determine if it would be feasible to eliminate the off-site ponding that was included in the March 10, 1986 engineering drawings. Deletion of the ponding would be advantageous in that future maintenance of the open pond would not be required, and the risk of having an open pond adjacent to the residential buildings would be eliminated. The small area of the proposed subdivision (about 1 acre) forced such ponding to be integrated within the housing area.

BACKGROUND:

A. The initial drainage plan for the proposed subdivision was prepared between October 11, 1984 and June 11, 1985. This plan was approved on June 27, 1985, and included within the new subdivision in-street ponding of 1319 CF, and off-street ponding of 1505 CF. The in-street ponding on the existing developed portion of Hudson Avenue N. W. was to remain essentially unchanged.

B. The drainage plan as approved on June 11, 1985 was used as the basis for initial engineering drawings submitted on December 27, 1985. These drawings revised the on-street ponding by placing the ponding along the north curb line of the new street pavement. This shift was necessary in order to permit cover for the sanitary sewer. These modifications to the drainage plan were approved by Design Hydrology on January 17, 1986. However, other technical problems were apparent, specifically street vertical alignment criteria was not met, and access to developed property north of the street extension would require on-site grading since such properties were higher in elevation than the proposed street extension.

C. Subsequent engineering drawings were prepared and submitted on March 12, 1986. These drawings revised the drainage to eliminate on-street ponding within the new subdivision, re-located some of the existing 12" storm drain, and placed a single off-site pond to accommodate the required storm water retention. Minor movement of lot lines was required to accommodate the above, and correct for previously noted technical deficiencies.

REVISIONS TO DRAINAGE PLAN:

The drainage plan which was approved on June 11, 1985 has been reviewed and the following findings and discussion indicate that off-site ponding can be deleted without detrimental effect on the new subdivision, or on existing development within the Hudson Avenue N. W. (Fourth Street to Griegos Lateral) drainage basin, or the existing larger drainage basin interconnected with Hudson Avenue N. W. by subsurface drains. Please note that the effect of future developments on nearby vacant or undeveloped land may have an adverse effect on the Hudson Avenue N. W. drainage basin.

A. The hydrograph from the drainage plan approved on June 11, 1985 is used for the following analysis. Accumulation of storm runoff can be decreased if outflow from the storm drain can be increased. The attached calculations, chart and graph show that the outflow through the existing 12" storm drain can be increased considerably. At an outflow of about 3 DFS, the in-street ponding rises to an elevation of about 4964.10. This elevation is about 4 inches higher than that previously approved, but still generally within the public right-of-way or private driveways of existing developments. No buildings are inundated. A larger outflow results in a lower maximum pond elevation.

B. Downstream storm drain conditions have been checked to determine the validity of estimates based on a hydraulic gradient steeper than the gradient used for the original drainage plan. Actual downstream conditions as verified in the field do justify the estimated outflow based on the steeper hydraulic gradient. Specific findings are as follows:

1. About 240 feet downstream from the south boundary of the subdivision the existing 12" storm drain connects to an 18" storm drain. The city section map (H14 storm drain) shows that this is a 12" storm drain. The project as-builts show that it is an 18" storm drain. A field check indicates that in fact it is an 18" storm drain. (Note: The attached sketch shows that the line size was verified at MH 105. MH 106 and MH 107 could not be found. There is a discrepancy between the city section map and the as-built as to the location of these manholes.)

2. AT MH 204 and MH 205 in Los Tomases Drive, the storm drain is a 21" diameter line. The line here, and as found at MH 105 is relatively clean, (4" to 8" of sediment and gravel) and indicates recent flow of storm runoff.

3. The WW Steel Yards, in which MH 106 and MH 105 are located, is presently vacant and unused. Catch basin inlets which could be found show excessive clogging, with only a 1" to 3" clear channel in the top of a 10" concrete pipe. The yard is surfaced with gravel, with some catch basin inlets in apron ways of buildings. There are about 15 catch basin inlets within this yard which do not show on the city sectional (H-14 storm drain).

4. MH 104 which connects to the storm drain line within Los Tomases Drive could not be located. The condition of the storm drain line from north of this point along Los Tomases Drive could not be verified. Existing manholes which may be part of this line are filled with dirt, and do not show any indication of flow through. (Note: The street has recently been paved.)

CONCLUSIONS:

A. Estimated outflow from the existing 12" storm drain can be increased sufficiently to delete the requirement for off-street ponding.

B. The hydraulic gradient can be estimated at .005 feet/feet for the 12" storm drain based on an under used capacity for the existing 18" and 21" storm drains immediately down stream.

RECOMMENDATIONS:

A. The existing storm drain and inlet system within the W. W. Steel Yard, and within Los Tomases Drive and upstream, be mapped and evaluated.

B. Changes in use of the W. W. Steel Yard and adjacent vacant areas be evaluated as to how possible revised drainage will effect downstream and upstream flow.

C. All existing manholes and storm drains within the Los Tomases Drive system be inspected and cleaned as necessary. The unused or overfilled catch basins should be sealed or cleaned as appropriate.

D. The relocated storm drain within the Hudson Avenue Townhouse Subdivision be sized to 18" diameter from the catch basin K to manhole G. Upgrading the system downstream along the existing line, or directly west to an upgraded Los Tomases Drive storm drain would be less expensive if this line was installed now (current cost \$560 vs. \$2,500 future cost, based on todays unit prices).

E. Catch basins at the existing manhole D be upgraded to develop fully the capacity of the existing 12" storm drain.

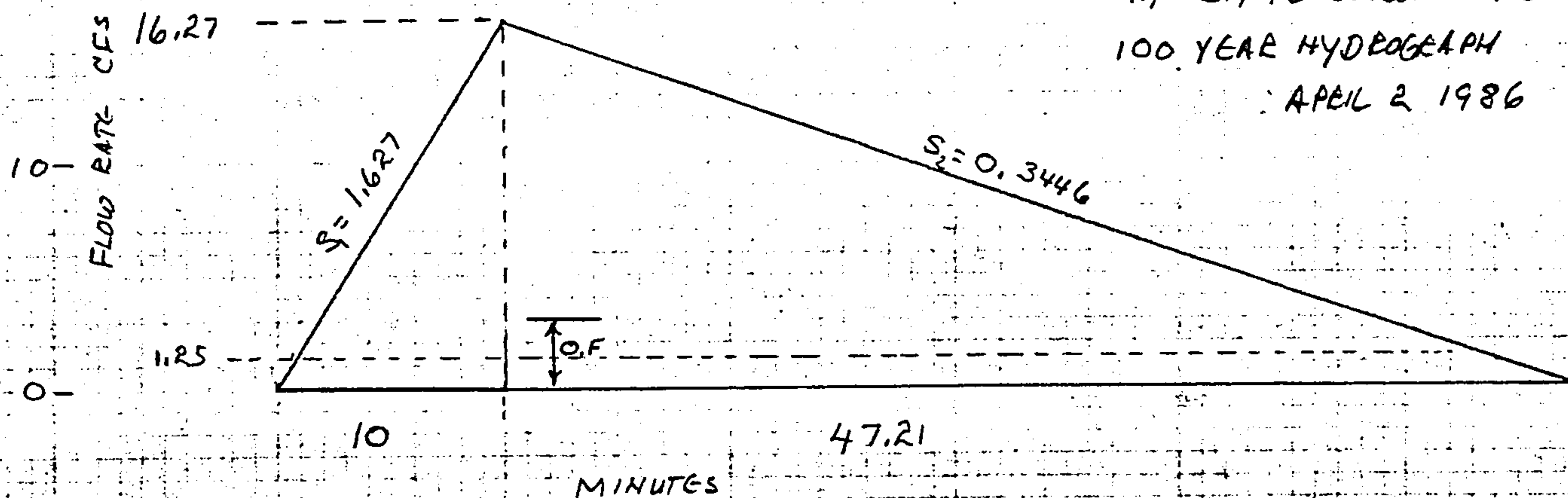
Sincerely,



Marvin R. Kortum
N.M.P.E. 6519

ATTACHMENTS : FIG 1 - 6

HUDSON AVE NAD.
4TH ST, TO GRIFFO'S LATERAL
100 YEAR HYDROGRAPH
APRIL 2 1986



O.F. = OUT FLOW RATE (1.25 $\approx$ O.F. of 12" RCP at $S = .0012$)

P.V. = POND VOLUME REQUIRED = Area above O.F. = $\frac{1}{2} (16.27 - 0.5) \left[\frac{16.27 - 0.5}{S_1} + \frac{16.27 - 0.5}{S_2} \right] (60) = CF$

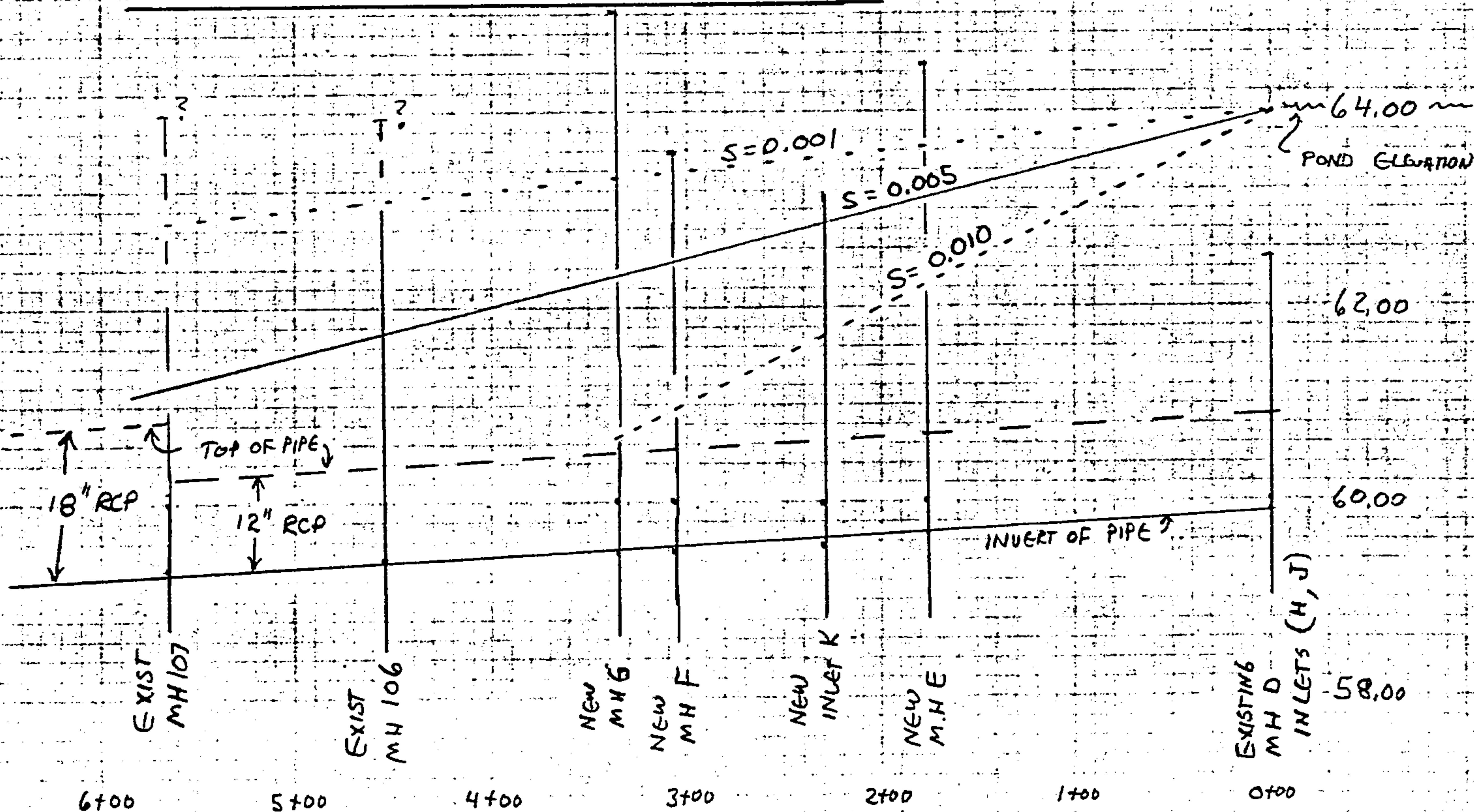
FROM HAZEN WILLIAMS: $O.F. = Q = VA = (A)(1.318)(C)(R_H)^{.63} (S)^{.54}$

FOR 12" RCP $A = .785 SF$ $R_H = .250 FT$ (FLOWING FULL) $C = 120$

S = hydraulic gradient,

$\therefore O.F. = (.785) (.250)^{.63} (1.318) (120) S^{.54} = (51.84) (S)^{.54}$

12" STORM DRAIN AND MANNHOLE SCHEMATIC



RELATIONSHIP BETWEEN PONDING AND OUTFLOW
 HUDSON AVE NW. STORM DRAIN
 BETWEEN 4TH STREET AND GEIGOS LATERAL
 FOR 12" STORM DRAIN

APRIL 2 1986

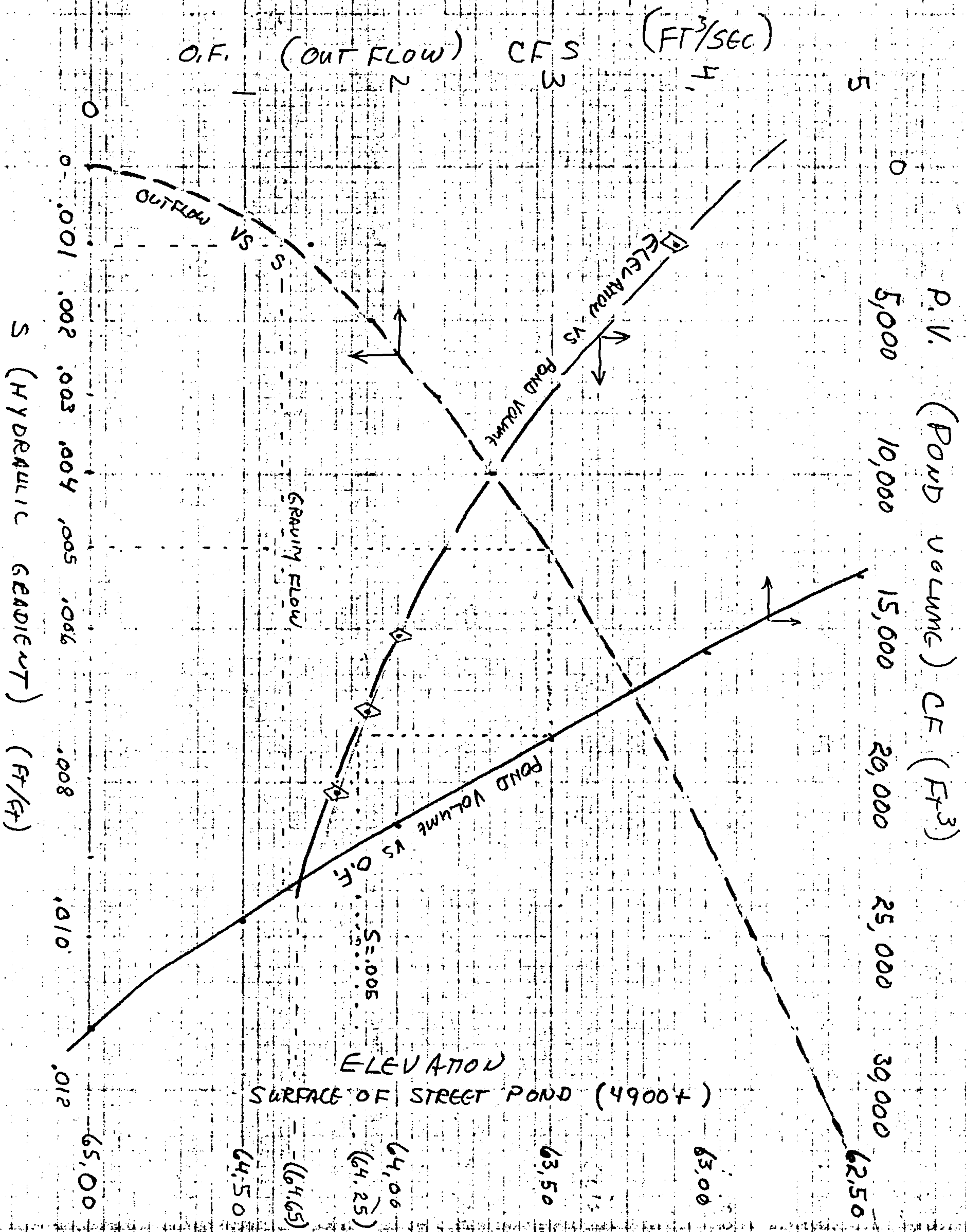


FIG 2

SKETCH OF STORM DRAINS THROUGH AND ADJACENT TO
W.W. STEEL YARD

APRIL 1, 1986

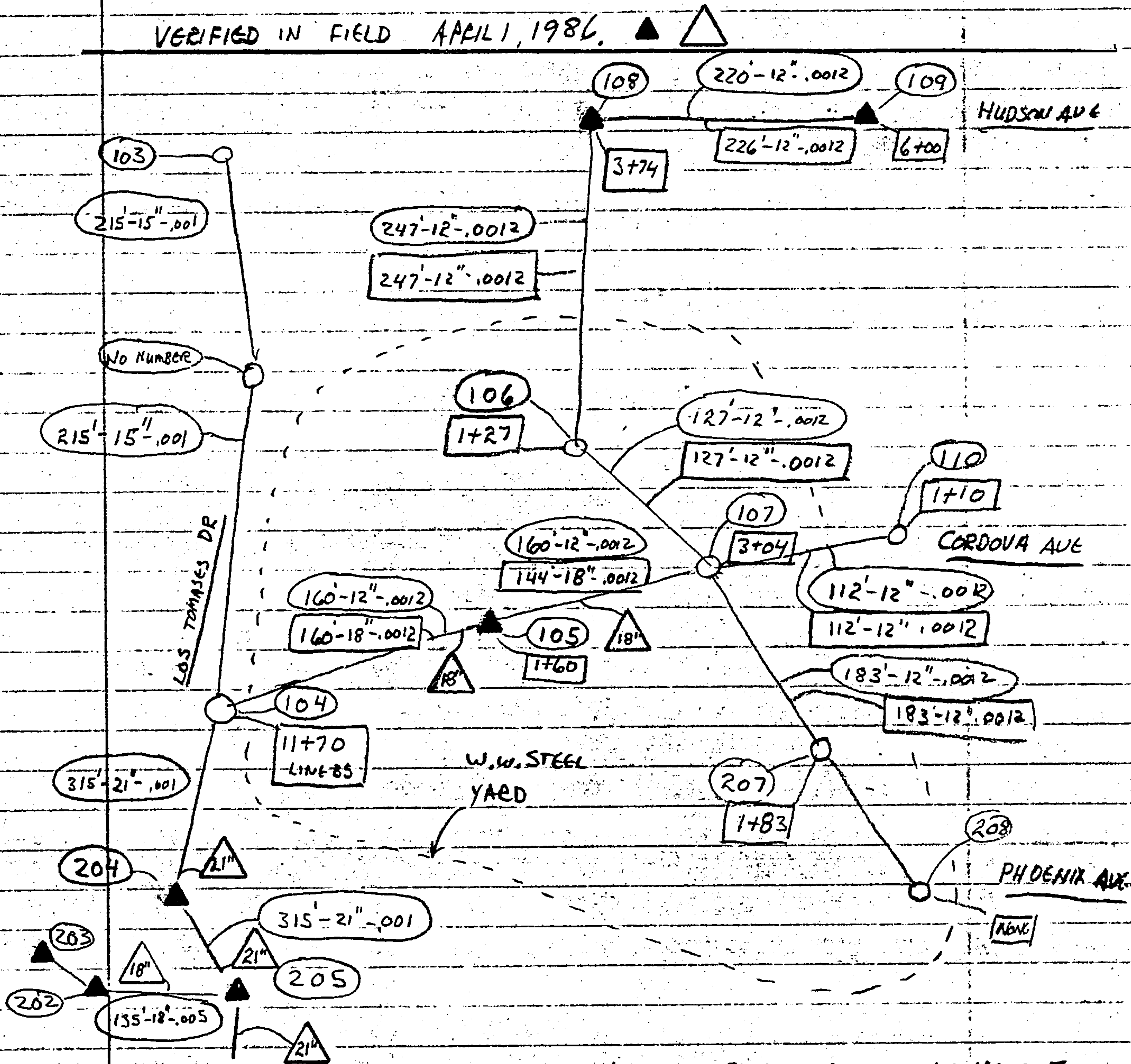
CITY SECTIONAL

H-14 STORM DRAIN

PROJECT ASBUILT 08 551 1455 101 59143

AREA 89 LINE B6D, D1, D2

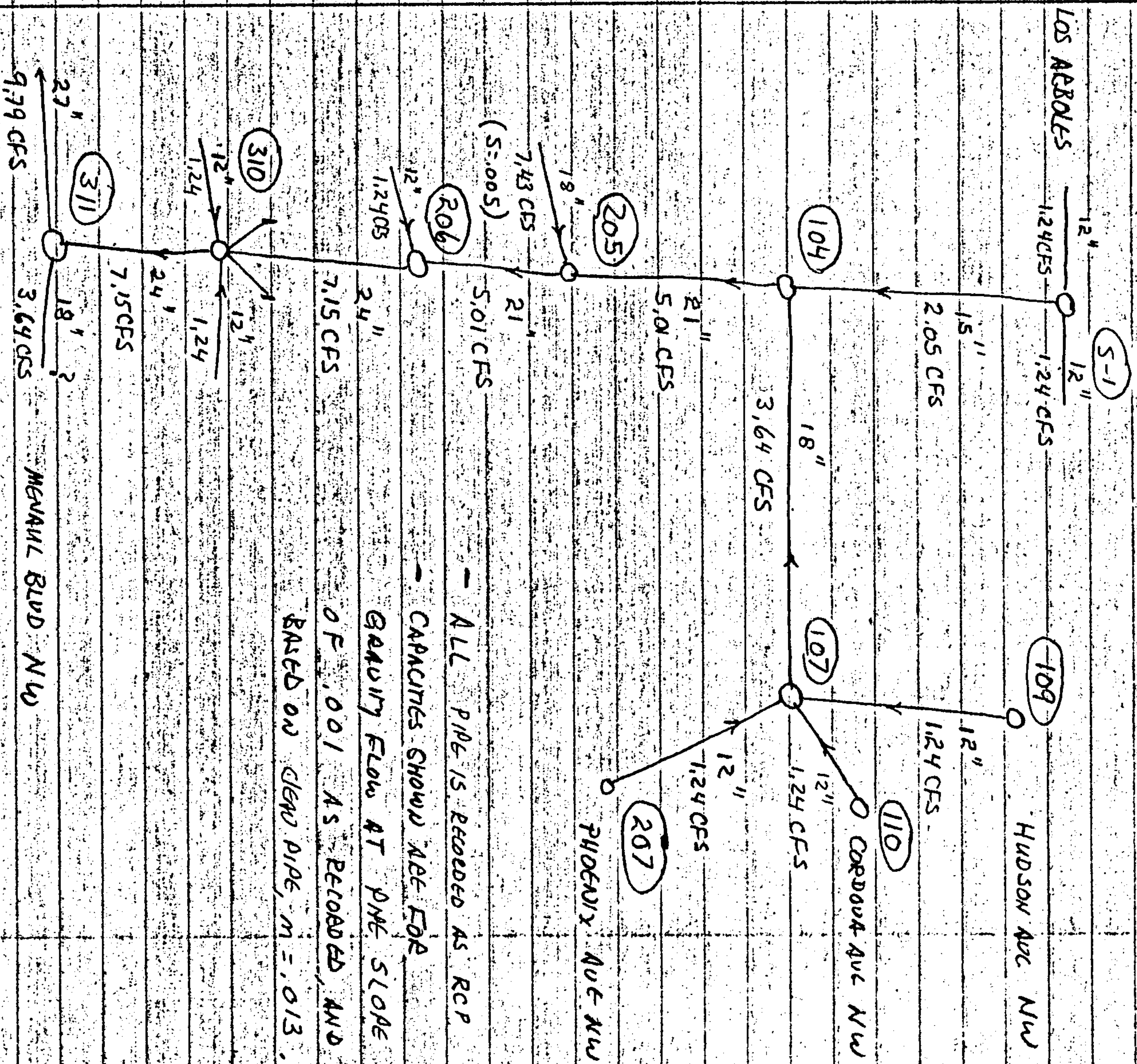
VERIFIED IN FIELD APRIL 1, 1986.



NOTE: STORM DRAIN INLETS ARE NOT
SHOWN. ABOUT 15 ARE
VISIBLE IN THE YARD

FIG 3

NORTH FROM MANUAL BLVD N.E.,
CITY SECTIONAL H-14 STORM DRAIN



FOR SALE OR LEASE

OFFICE BUILDING ON INDUSTRIAL TRACT AND RESIDENTIAL LOTS

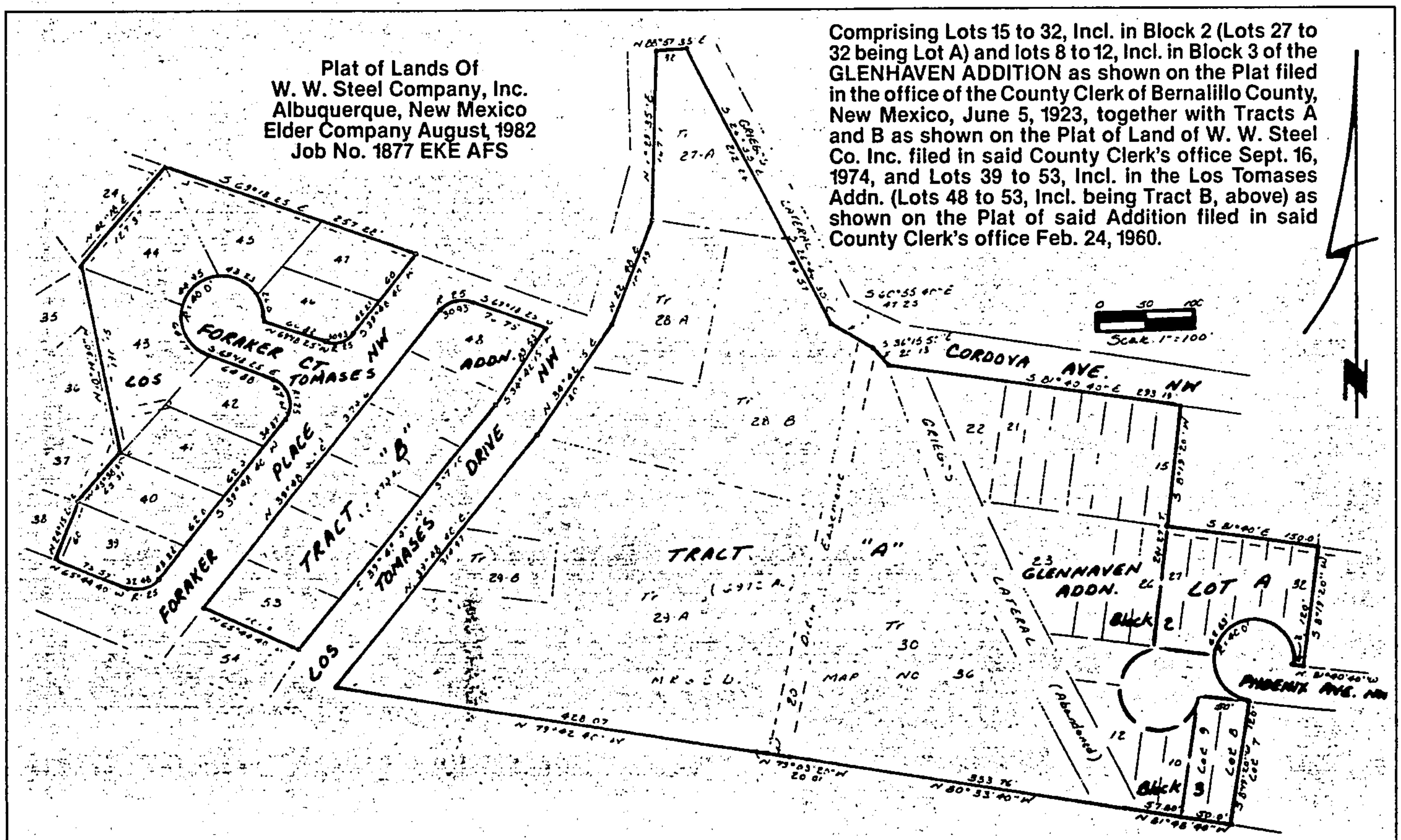
This land site contains a Class A-B office building of approximately 10,000 square feet along with two 20,000 square foot warehouses zoned SU-1 formerly occupied by W.W. Steel. Also included are nine R-1 lots suitable for a low rent housing development. Total land size is 10.6 acres.

The block stucco office building has roof mounted heating and cooling, skylights, and has recently been remodeled. The warehouses and office building included on the industrial acreage are surrounded by either tall chain link or block fencing. The land has access from a cul-de-sac off 4th Street from Phoenix and also a north-south access off Menaul via Los Tomases Drive.

The asking price is \$1,550,000 with consideration given to all offers.

500 PHOENIX NW

ALBUQUERQUE, NEW MEXICO



Offered By GEORGE WADE

F16 5

THE MOORE ORGANIZATION

BROKERAGE · CONSTRUCTION · CONSULTING · DEVELOPMENT · PROPERTY MANAGEMENT

11000 Spain NE · Albuquerque, NM 87111 · 505/292-4444 · Offices in New York & Albuquerque

OFFICE BUILDING ON INDUSTRIAL TRACT
AND RESIDENTIAL LOTS

500 Phoenix N.W.
Albuquerque, New Mexico

10.6 ACRES



(Photo by Eagle's Eye)

Offered by GEORGE WADE

FIG 6

THE · MOORE · ORGANIZATION

BROKERAGE · CONSTRUCTION · CONSULTING · DEVELOPMENT · PROPERTY MANAGEMENT
11000 Spain NE · Albuquerque, NM 87111 · 505/292-4444 · Offices in New York & Albuquerque

DRAINAGE REPORT

FOR

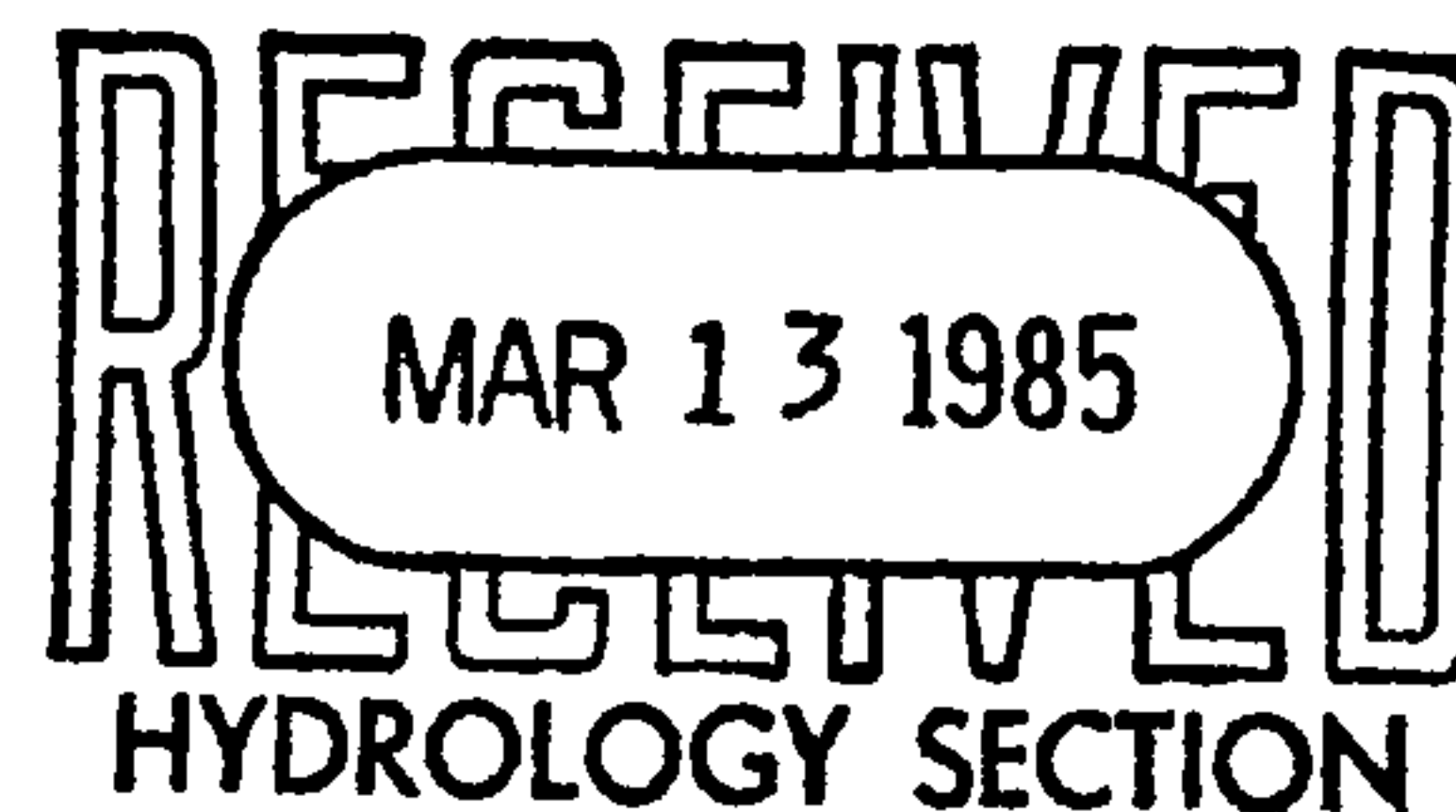
HUDSON AVENUE TOWNHOUSE SUBDIVISION

(Proposed 10-Lot Replat of Lots 1 Through 4, Willcut Addition)

ZONE ATLAS PAGE NUMBER H-14

Prepared By
Lovelady & Associates

March 13, 1985



DRAINAGE INFORMATION SHEET

PROJECT TITLE: HUDSON AVENUE TOWNHOUSES ZONE ATLAS/DRNG. FILE #: H14-D40

LEGAL DESCRIPTION: Lots 1 through 4, Willcut Addition.

CITY ADDRESS: _____

ENGINEERING FIRM: Lovelady & Associates. CONTACT: Frank Lovelady

ADDRESS: 7408 Morrow Road, N.E. PHONE: 883-7973

OWNER: Montoya / Pando, INC. CONTACT: Robert Montoya

ADDRESS: 708 11th Street, N.W. PHONE: 842-9612

ARCHITECT: N/A CONTACT: _____

ADDRESS: _____ PHONE: _____

SURVEYOR: Southwest Surveying Co. INC CONTACT: Dan Graney

ADDRESS: 333 Lomas Blvd, N.E. PHONE: 247-4444

CONTRACTOR: N/A CONTACT: _____

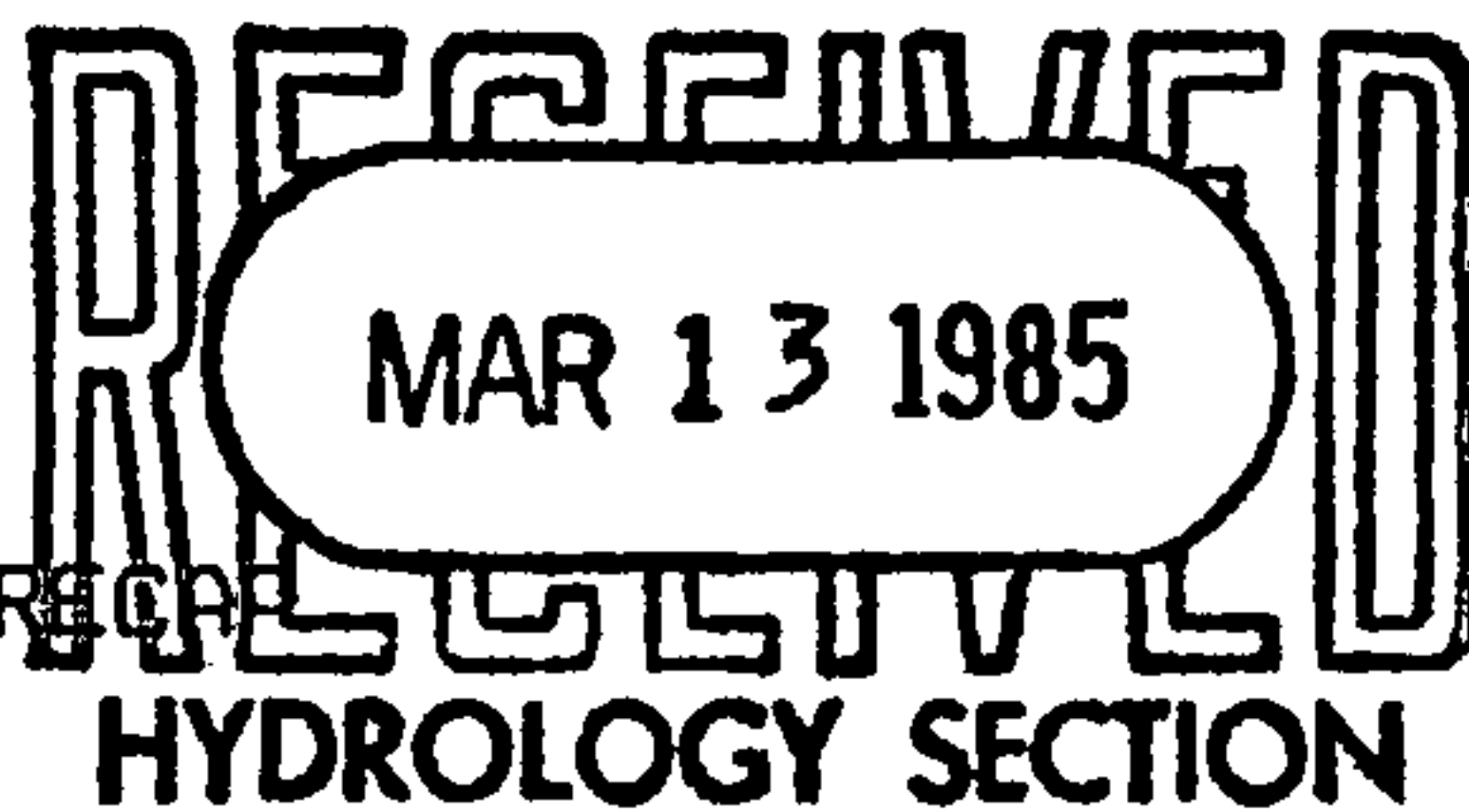
ADDRESS: _____ PHONE: _____

PRE-DESIGN MEETING:

☒ YES

☐ NO

☒ COPY OF CONFERENCE RECORD SHEET PROVIDED



DRB NO. 84-787

EPC NO. _____

PROJ. NO. _____

TYPE OF SUBMITTAL:

☒ DRAINAGE REPORT

☒ DRAINAGE PLAN

☐ CONCEPTUAL GRADING & DRAINAGE PLAN

☒ GRADING PLAN

☐ EROSION CONTROL PLAN

☐ ENGINEER'S CERTIFICATION

CHECK TYPE OF APPROVAL SOUGHT:

☐ SKETCH PLAT APPROVAL

☒ PRELIMINARY PLAT APPROVAL

☐ SITE DEVELOPMENT PLAN APPROVAL

☒ FINAL PLAT APPROVAL

☐ BUILDING PERMIT APPROVAL

☐ FOUNDATION PERMIT APPROVAL

☐ CERTIFICATE OF OCCUPANCY APPROVAL

☐ ROUGH GRADING PERMIT APPROVAL

☐ GRADING/PAVING PERMIT APPROVAL

☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: March 13, 1985

BY: Frank D. Lovelady, P.E.



CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION



HYDROLOGY SECTION PROJ. NO. H-14 DATE: 10/26/84

PLANNING DIVISION NO. _____

CONFERENCE RECAP

SUBJECT: Willcut Addition Lots 1-4

WHO	REPRESENTING
ATTENDANCE: <u>Frank Lovelady</u>	_____
<u>Billy Goolsky</u>	_____
_____	_____
_____	_____
_____	_____
_____	_____

FINDINGS: ① Minimum requirement for preliminary plat approval is an approved Conceptual Grading & Drainage report.

② Subdivision Improvements Agreement will be required for final plat approval.

③ Discharge to be determined by analysis of downstream capacity. Storm sewer in street may be utilized - Platting should show easement for existing stormsewer crossing the property).

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: <u>Billy G. Goolsky</u>	SIGNED: <u>Frank D. Lovelady</u>
TITLE: <u>CE/Hydrology</u>	TITLE: _____
DATE: <u>10/26/84</u>	DATE: <u>10/26/84</u>

* Please provide a copy of recap with submittal

TABLE OF CONTENTS

SECTION	PAGE
I. PURPOSE	1
II. SCOPE	1
III. LOCATION AND USE	1
IV. EXISTING CONDITIONS	1
V. PROPOSED (DEVELOPED) CONDITIONS	2
VI. FLOOD HAZARD MAP	2
VII. CONCLUSIONS	3
VIII. RECOMMENDATIONS	3

APPENDIX A - DRAINAGE CALCULATIONS

I. REFERENCES	5
II. GENERAL INFORMATION	5
III. PEAK DISCHARGE	5
IV. PEAK VOLUME	7
V. HUDSON AVENUE DRAINAGE AREA	7
VI. ANALYSIS OF STORM SEWER CAPACITY	7
VII. ANALYSIS OF EXISTING AND PROPOSED STORAGE	9

APPENDIX B - FIGURES

1. ZONE ATLAS PAGE H-14	13
2. ALBUQUERQUE MASTER DRAINAGE STUDY CELL MAP	14
3. CITY OF ALBUQUERQUE ORTHOPHOTO TOPOGRAPHIC MAP	15
4. STORM SEWER MAP	16
5. STORM SEWER AS-BUILT PLAN AND PROFILE	17
6. SOIL SURVEY MAP	18
7. FLOODWAY MAP	19
8. GRADING AND DRAINAGE PLAN	20

DRAINAGED REPORT

FOR

HUDSON AVENUE TOWNHOUSE SUBDIVISION

I. PURPOSE:

The purpose of this report is to present a comprehensive analysis of drainage control constraints on the proposed development and to present a plan for handling the storm runoff in a manner consistent with current drainage policy of the City of Albuquerque.

II. SCOPE:

The scope of this report includes determining off-site and on-site flow rates and volumes, verifying the capacity of the existing storm sewer system that serves the site, and determining on-site storage volumes.

III. LOCATION AND USE:

The area being developed is in Zone Atlas H-14. The property is on Hudson Avenue approximately 500 feet west of Fourth Street, N.W. The intended use of the property is development of a townhouse subdivision. The location of the site is shown on the Zone Atlas Page H-14 which is shown on Figure 1. (See Appendix A.)

IV. EXISTING CONDITIONS:

A. Off-site Drainage Area.

The proposed subdivision lies within Drainage Cell Number 74 as shown on the Albuquerque Master Drainage Study Cell Map. (Figure 2) Drainage Cell Number 74 has been outlined on the City Orthophoto Topographic Map, Figure 3.

B. Hudson Avenue Drainage Area.

The drainage area served by Hudson Avenue storm sewer is shown in Figure 3, City of Albuquerque Orthophoto topographic map. The area is bounded on the north by the centerline of Claremont Avenue; on the east by the centerline of North Fourth Street; on the south by the rear of the lots fronting the south side of Hudson Avenue; and, on the west by Griegos Lateral.

The low point of the area is the west end of the existing paved section of Hudson Avenue where the catch basins are located on both sides of the street. The entire area is drained by means of the two catch basins.

C. Existing On-site Conditions.

The site is presently undeveloped with little natural vegetation. The land slopes from southwest to northeast at about one percent slope. There is no flow entering the site from any direction. The soil is Gila loam (Gb), Hydrologic Soil Group B, as shown on sheet 20 of the Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico. (See Fig. 6)

V. PROPOSED (DEVELOPED) CONDITIONS:

The property is proposed to be developed as a ten (10) lot townhouse subdivision (See Figure 8, Grading And Drainage Plan.) Each lot will front on Hudson Avenue or the turnaround. Hudson Avenue will be graded to drain partly to the existing catch basins and partly to a new Type "D" catch basin in the center of the turnaround. Hudson Avenue will be paved and will have standard curb and gutter. Each lot will be graded to drain to Hudson Avenue. At the present time, all of the five streets in the cell have only two catch basins except for Claremont Avenue which has on positive drainage of its own but depends on the systems to the north and south of it.

The pipes connecting the catch basins to the manhole are 8-inch diameter; cross sectional area is 0.3491 sq.ft. The 12-inch RCP main line is approximately 12 percent larger in area than the two connecting pipes combined, or 0.7854 sq.ft. There is no advantage to installing additional catch basins since the capacity of the main line storm sewer is the controlling factor.

VI. FLOOD HAZARD MAP:

A copy of the City of Albuquerque Floodway Map is shown in Figure 7. The map shows that there is no flooding in the area at all with exception of the 500-year flood. There is no flooding shown anywhere between the site and point of outfall into the Alameda Drain.

VII. CONCLUSIONS:

The proposed site is an in-fill area that is one of the last, if not the last, undeveloped parcels within cell number 74. Development of this parcel will result in a moderate increase in runoff. However, the ponding that is proposed will insure that the burden on the storm sewer is not increased further. Paving the remaining 200 feet of Hudson Avenue will decrease the amount of sediment in the storm sewer resulting in a more efficient maintenance program.

The site is not in a flood hazard area nor are there any flood hazard areas downstream from the site. However, calculations show that the capacity of the storm sewer on Hudson Avenue will be exceeded by the rate of peak discharge which will result in some ponding in the street during major storms. This flooding must not be increased by runoff from the proposed development. Therefore, all runoff created by the proposed development must be ponded.

VIII. RECOMMENDATIONS:

1. It is recommended that the existing storm sewer system downstream from the site be given a thorough inspection and that all required maintenance be performed.
2. It is recommended that on-site ponding be provided as shown on the plan with a total volume equivalent to the developed volume minus the undeveloped volume thereby not increasing the total volume that must be contained in Hudson Avenue.

APPENDIX A

DRAINAGE CALCULATIONS

DRAINAGE CALCULATIONS

Willcut Addition

I. REFERENCES:

- A. City of Albuquerque Development Process Manual (DPM) Volume 2, Design Criteria, Chapter 22, Drainage, Flood Control and Erosion Control.
- B. Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico, United States Department of Agriculture, Soil Conservation Service.
- C. Floodway Boundary and Floodway Map, City of Albuquerque Bernalillo County, New Mexico, Panel No 22 of 50

II. GENERAL INFORMATION:

- A. Soil Type (Ref. B., Page 20) Soil type is (G6) Gila loam Hydrologic Soil Group B.

- B. Imperviousness:

Type of Surface	Existing Area Sq.Ft. Acres	Proposed Area Sq.Ft. Acres
Building roof	—	<u>15,577</u>
Concrete Surfaces	—	<u>6,125</u>
Asphalt Surfaces	—	<u>9,245</u>
Landscaping	—	<u>7,000</u>
Undeveloped surface	—	<u>7,309</u>
Site total	<u>45,256</u> <u>1.0389</u>	<u>45,256</u> <u>1.0389</u>
Percent impervious	<u>0%</u>	<u>68.7%</u>

SEE NEXT PAGE SUMMARY OF ON-SITE AREAS:

- C. "C" Factor (See Ref. A., Plate 22.2 C-1)

1. Undeveloped "C" Factor = 0.34
2. Developed "C" Factor = 0.68

- D. Rainfall, 100-year, 6-hour, R_6 ; (See Ref. A., Plate 22.2 D-1) $R_6 = \underline{2.2}$ Inches

- E. Time of Concentration, T; Use Kippich Equation $L = 335$

$$\Delta \text{Elev.} = 5.7 \quad S = 5.7 / 335 = 0.0170$$

$$T_c = 0.0078 (L^{0.77} / S^{0.385}) = 0.0078 (335^{0.77} / 0.017^{0.385}) = 3.3$$

Use 10 minutes as minimum Time of Concentration.

- F. Rainfall Intensity, I; (See Ref. A, Plate 22.2 D-2)

$$I = R_6 \times 6.84 \times T_c^{-0.51} = 2.2 \times 6.84 \times (10)^{-0.51} = \underline{4.65} \text{ in/hr}$$

III. PEAK DISCHARGE:

- A. Existing Conditions. (Use Rational Equation)

$$Q_{100} = 0.34 \times 4.65 \times 1.0389 = \underline{1.64} \text{ cfs}$$

$$Q_{10} = 0.657 \times 1.64 = \underline{1.08} \text{ (Ref. A., Plate 22.2 D-1)}$$

- B. Developed conditions.

$$Q_{100} = 0.68 \times 4.65 \times 1.0389 = \underline{3.29} \text{ cfs}$$

$$Q_{10} = 0.657 \times 3.29 = \underline{2.16} \text{ cfs}$$

Willcut Add. - Summary of on-site impervious areas.

Site Drainage:

Building Area:

Lot 1	58x25	= 1450
Lot 2	$(37 \times 28) + (11 \times 47) / 2$	= 1295
3	$(69 + 25) \times 25$	= 1175
4	(32×42)	= 1344
5	(32×42)	= 1344
6	(67×22)	= 1474
7	(86×20)	= 1720
8	(81×25)	= 2025
9	77×25	= 1925
10	73×25	= 1825

TOTAL 15,577

CONCRETE AREA

LOT 1	21x18	= 378
2	21x18	= 378
3	20x18	= 360
4	20x18	= 360
5	30x18	= 540
6	20x18	= 360
7	20x18	= 360
8	20x18	= 360
9	22x18	= 396
10	26x18	= <u>468</u>
		3960

AC PAVING: $3360 + 420 + 1201 + 200 + 489 + 240 + 3335 = 9245$

CONC. CURB & GUTTER $2.625 \times 525 = 2165$

TOTAL AREA OF LOTS 1 THRU 4 WILLCUT SVS = 45256 (BY SCALE)
AREA OF NEW LOTS = 31856 = 6.73 ac

IV. Peak Volume

A. Existing Conditions:

$$V_{100} = 0.34 (2.2/12) 45,256 = 2,820 \text{ cf}$$

$$V_{10} = 0.657 \times 2820 = 1853 \text{ cf}$$

B. DEVELOPED CONDITIONS:

$$V_{100} = 0.68 (2.2/12) 45,256 = 5642 \text{ cf}$$

$$V_{10} = 0.657 \times 5642 = 3707 \text{ cf}$$

V

HUDSON AVENUE DRAINAGE AREA:

PERG ANALYSIS OF IMPERVIOUSNESS, HUDSON AVE. DRAINAGE AREA IS 537, IMPERVIOUS. (SEE NEXT PAGE)

TIME OF CONCENTRATION IS 10 MINUTES (SEE ORIGINAL SUBMITTAL)

$$Q_{100} = 0.59 \times 4.65 \times 4.73 = 12.98 \text{ cfs.}$$

$$Q_{10} = 0.657 \times 12.98 = 8.52$$

$$V_{100} = 0.59 (2.2/12) 226,000 = 22,282 \text{ cf}$$

$$V_{10} = 0.657 \times 22,282 = 14,639$$

VI Analysis of Storm Sewer Capacity

A. TOTAL VOLUME

THE STORM SEWER WILL BE REQUIRED TO DISCHARGE THE FOLLOWING VOLUME:

1. HUDSON AVE DRAINAGE AREA (LESS SUBDIVISION) 22,282 cf

2. SUBDIVISION 5,642

TOTAL VOLUME 27,924

B. TOTAL RUNOFF RATE

$$\text{TOTAL RATE OF DISCHARGE} = 12.98 + 8.52 = 21.50 \text{ cfs.}$$

$$\text{C. DURATION} = 2 \times 27924 / 60 \times 16.27 = 57.21 \text{ MINUTES}$$

D. CAPACITY OF STORM SEWER

STORM SEWER IS 12" RCP @ SLOPE OF 0.0012 ft/ft.

CAPACITY BY MANNING'S EQUATION $Q = A (1.486/n) R^{2/3} S^{1/2}$

WHERE: A = Cross Sectional Area of Pipe = 0.7854 sf

R = HYDRAULIC RADIUS A/P P = TPD = 3.14 R = 0.25

S = Slope = 0.0012

n = Manning's roughness 0.013 for conc. pipe

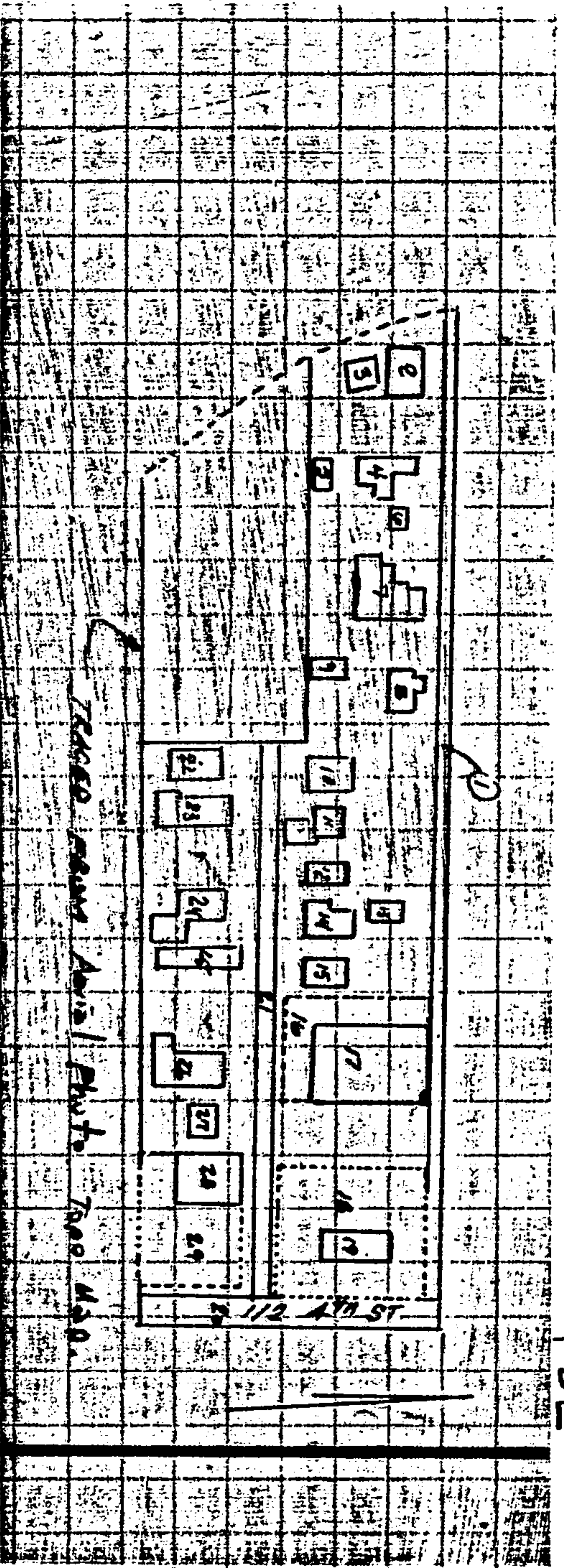
$$Q = 0.7854 (1.486/0.013) (0.25)^{2/3} (0.0012)^{1/2} = 1.23 \text{ cfs}$$

IMPERVIOUSNESS

SHT 4 of 7

March 7, 1985

FDL



1. South 1/2 of Claremont Assume 24' Paved width.

930X12

= 11,160

25. 20X80

= 1,600

2. 30X45

= 1,350

26. (5X30)+(20X20) = 2,350

3. 30X25

= 750

27. 25X25 = 625

4. 20X15 + 32X25 + 16X16

= 1,356

28. 60X50 = 3,000

5. 16X30

= 480

29. (15X10)+(5X50) = 9250

6. 16X20

= 320

7. (22X60)+(10X50)+(15X35)+(15X30)

= 2,795

8. (24X40)+(10X16)

= 1,120

TOTAL 109,345

9. 20X36

= 720

10. 32X45

= 1,440

109,345/43560 = 2,5102 AC.

11. (28X28) + (30X25)

= 1,534

12. (40X20)

= 800

TOTAL HUDSON AVE. AREA

13. (20X25)

= 700

540X160 = 86,400

14. (25X50) + (20X10)

= 1,450

(890+950)/2 X 130 = 119,600

15. (40X25)

= 1,000

TOTAL 206,000

16. (140X25) + (50X25)

= 5,250

206,000/43560 = 4,7291 AC.

17. (110X75)

= 8,250

Percent Imperviousness

18. (140X120) - (65X30)

= 18,750

2,5102 = 0.53

19. (65X30)

= 1,950

4,7291

20. 280X30

= 8,400

5390 IMPERVIOUS

21. 515X23

= 16,995

22. 50X30

= 1,500

23. (70X30) + (65X10)

= 2,350

24. (45X30) + (25X30)

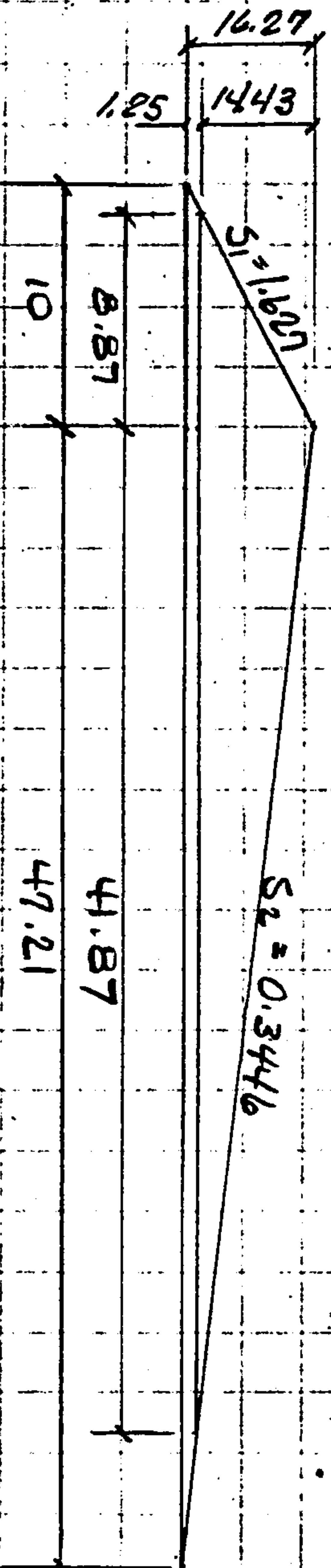
= 2,100

D. CAPACITY OF STORM SEWER, CONTINUED.

SHEET 5 of 7

The above neglects surcharge. Whether the storm sewer can actually carry this much flow is dependent upon downstream conditions. It is assumed that the surcharge created by ponding in Hudson Avenue will cause the discharge to be at least 1.25 cfs.

E. 100-YEAR HYDROGRAPH



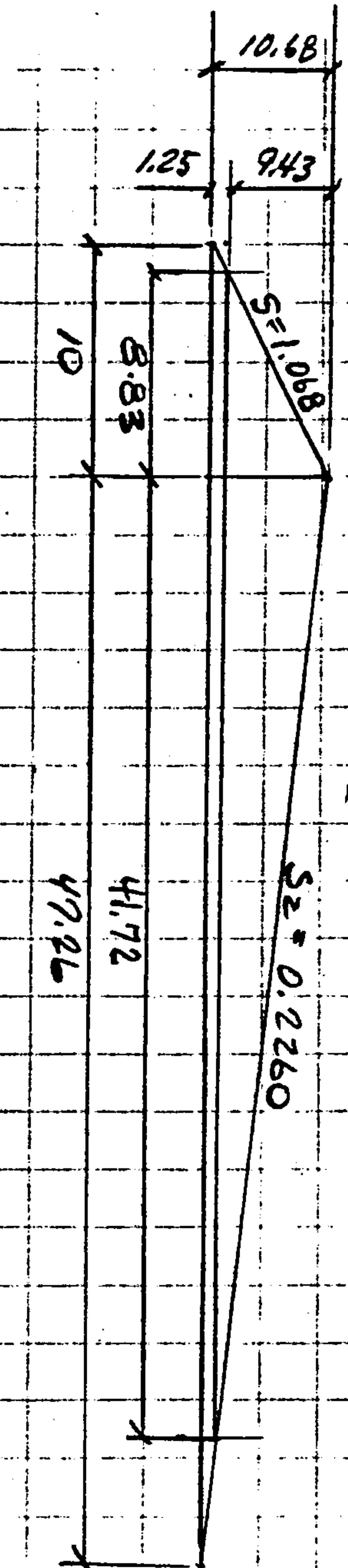
$$\text{REQUIRED POND VOLUME} = \frac{1}{2} (8.87 + 4.87) (14.43) (60) = 21,965 \text{ CF}$$

F. 10-YEAR HYDROGRAPH

$$Q = 8.52 + 2.16 = 10.68$$

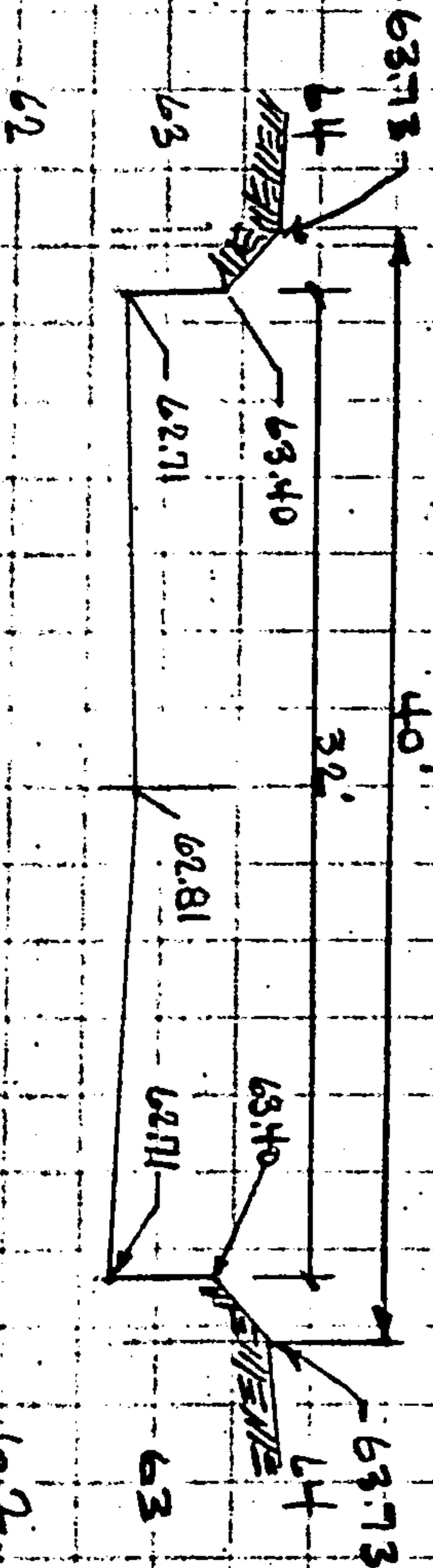
$$V = 14,639 + 3707 = 18346 \text{ CF}$$

$$\text{DURATION} = 2 \times 18346 / (60)(10.68) = 57.26 \text{ MIN.}$$



$$\text{REQUIRED POND VOLUME} = (8.83 + 4.172) (9.43) (60) (\frac{1}{2}) = 14,300 \text{ CF}$$

VII. ANALYSIS OF EXISTING STORAGE VOLUME: (I.E. STREET VOLUME)



AREA AT LOW POINT (ABOVE SECTION)

$$A = 0.33(40+32)/2 + 1/2(0.69+0.59) \times 32 = 32.36 \text{ SF.}$$

PER CITY ORTHOPHOTO TOPOGRAPHIC MAP, THE STREET SLOPE IS 0.0034 ft/ft. THEREFORE DISTANCE TO POINT WHERE STREET SLOPE INTERSECTS ELEVATION 63.73 (HIGH WATER LEVEL) IS COMPUTED AS FOLLOWS:

$$(63.73-62.71)/0.0034 = 300 \text{ feet.}$$

TOTAL PONDING VOLUME IN STREET IS

$$1/2 (32.36 \times 300) = 4854 \text{ CF} < 21965$$

THEREFORE, THE PONDING IN HUDSON AVENUE IS INADEQUATE. FOR THIS REASON THE PROPOSED DEVELOPMENT SHOULD NOT ADD ANY VOLUME TO THE PRESENT VOLUME. IN OTHER WORDS, ADEQUATE PONDING SHOULD BE PROVIDED FOR THE DEVELOPED VOLUME MINUS THE UNDEVELOPED VOLUME.

$$V_{100} \text{ Developed} = 5642 \text{ CF}$$

$$V_{100} \text{ EXISTING} = \underline{2820}$$

$$\text{DIFFERENCE} = 2822 \text{ CF}$$

THIS WILL BE ACCOMPLISHED IN TWO WAYS

1. PONDING IN STREET

CONTIGUOUS	AREA	AVERAGE	ELEV	VOLUME
62.6	0			
63.0	490	245	0.4	98
63.7	3000	1745	0.7	1221
				<u>1319 CF</u>

2. PONDING IN CONC LINED POND AT SW CORNER OF THE SITE

$$2822 - 1319 = 1503 \text{ CF}$$

Depth of pond must be equal to depth of storm sewer, or 59.50, THE TOP of about ground level or 65.5

However, the water level will not rise above the high water level in Hudson Ave, Estimated to be 63.73

$$103.73 - 59.5 = 44.23 \text{ SF}$$

Therefore, the total pond area should be

$$1503 \div 4.2 = 357.8 \text{ say } 358 \text{ SF}$$

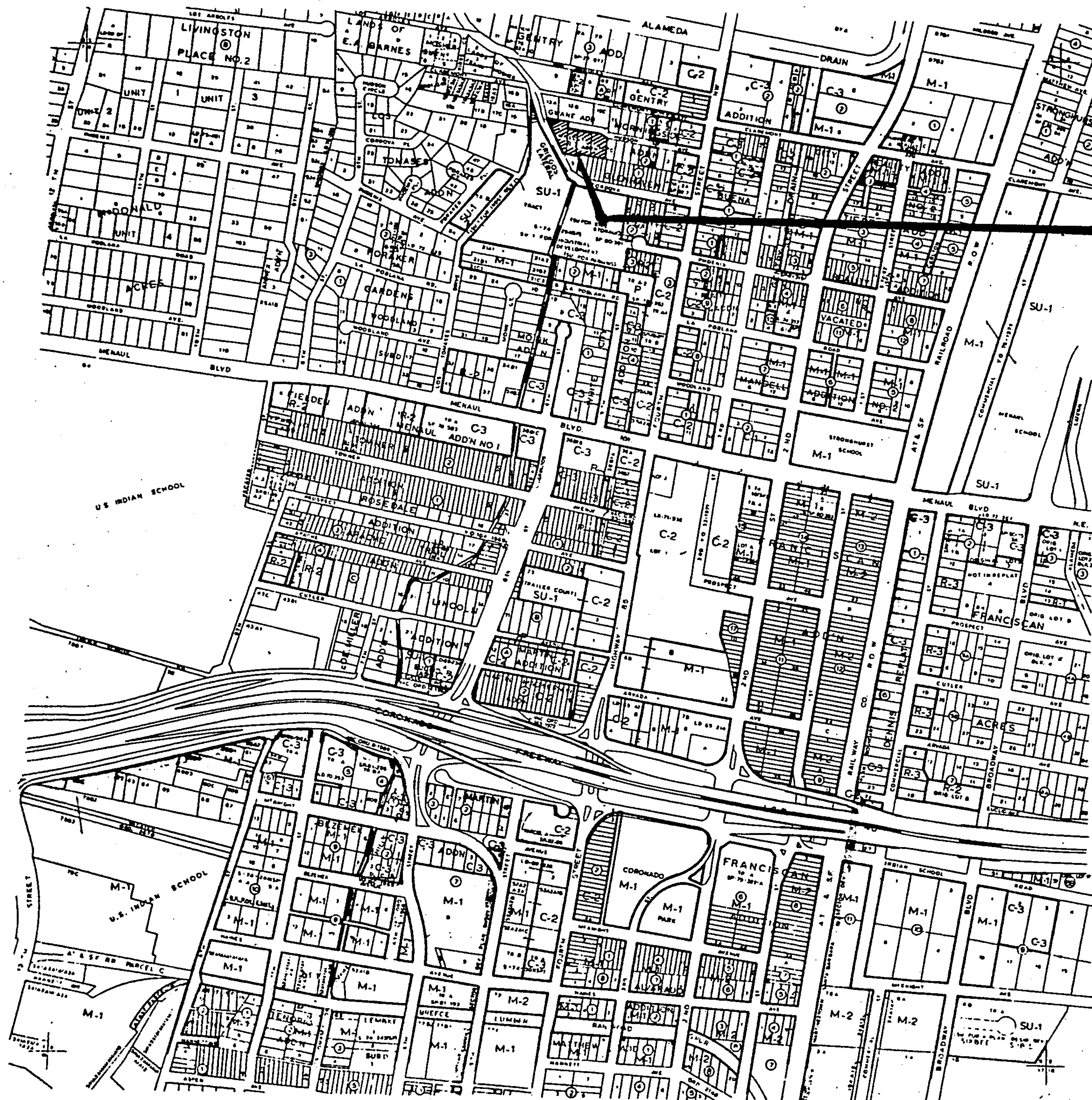
Actual Pond Volume (See Plan)

$$(3 + 22) / 2 \times 28.67 = 358.37$$

APPENDIX B

FIGURES

Fig 1.



SITE



100 200 300 400
SCALE

LEGAL DESCRIPTION
T. 10 N.
R. 3 E.
SEC. 8
HARCE MAP 38

UNIFORM PROPERTY CODE
1-64-028

MAP AND RECORD THROUGH
CITY OF SAN FRANCISCO

H-14-Z

ALSO SHOWS PLANNED DOWNS ON
CITY OF SAN FRANCISCO DEVELOPMENT DEPARTMENT

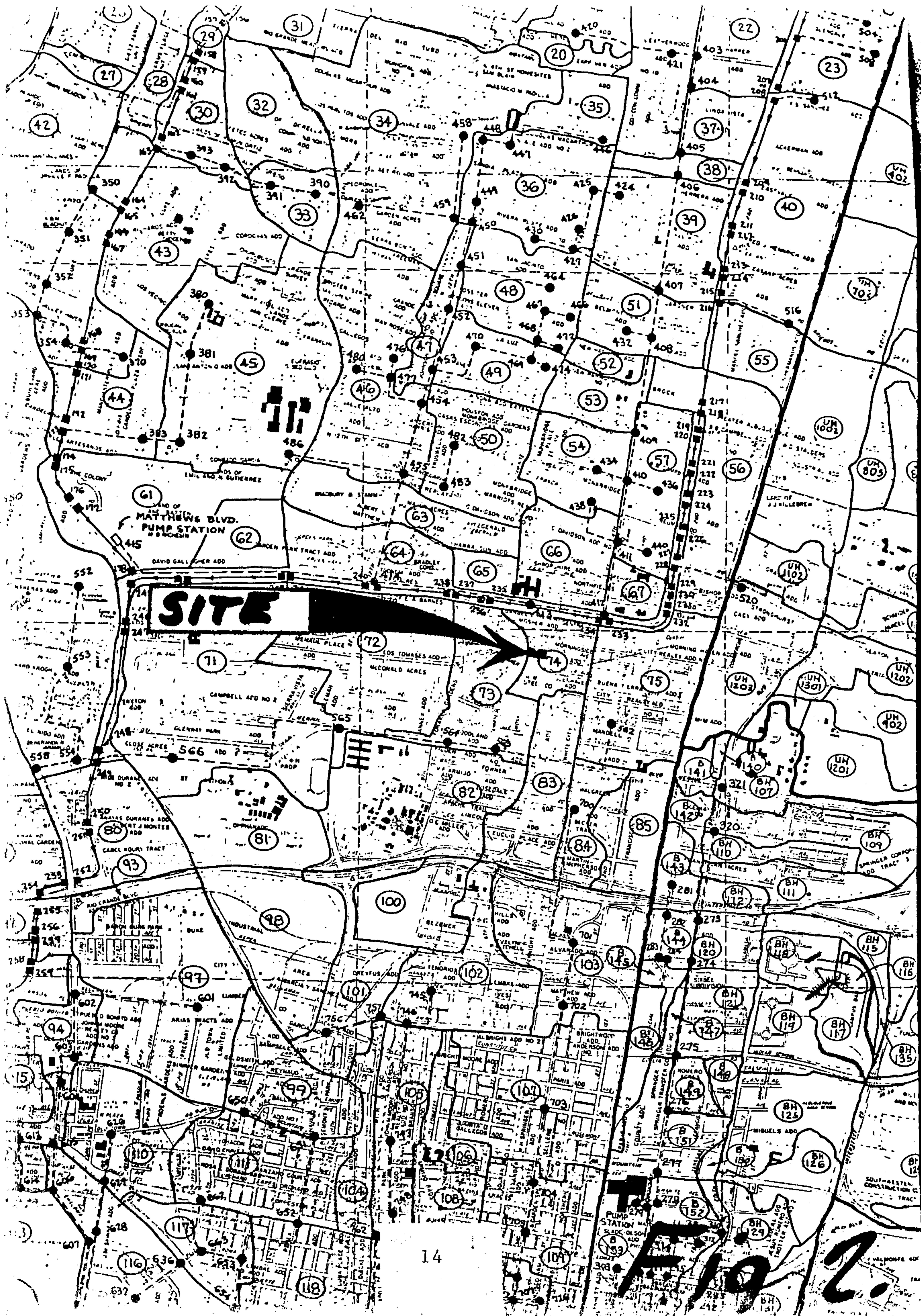


Fig 2.

LEGEND

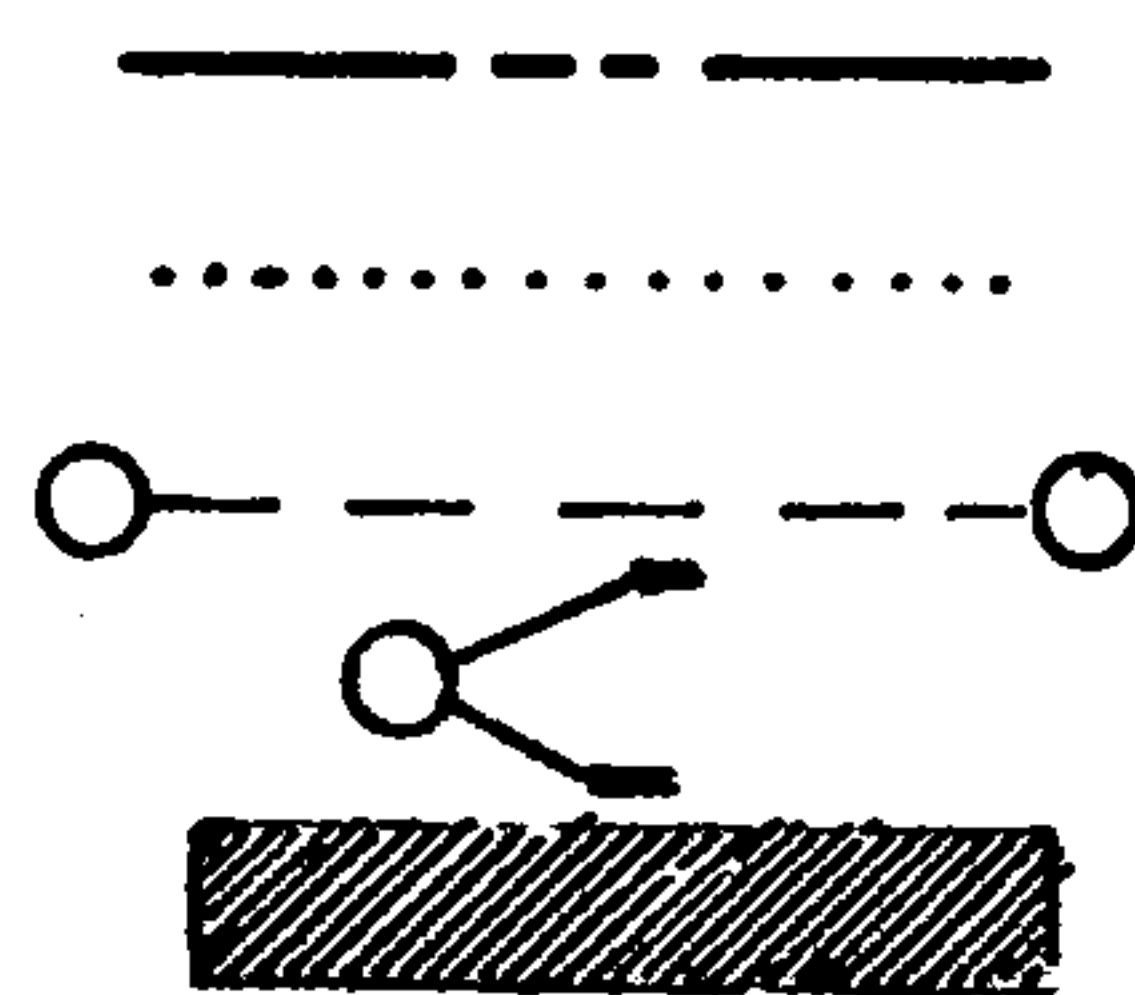
Cell Boundary, Cell #74

Boundary, Hudson Ave. Drainage Area

Storm Sewer

Manhole and Catch Basins

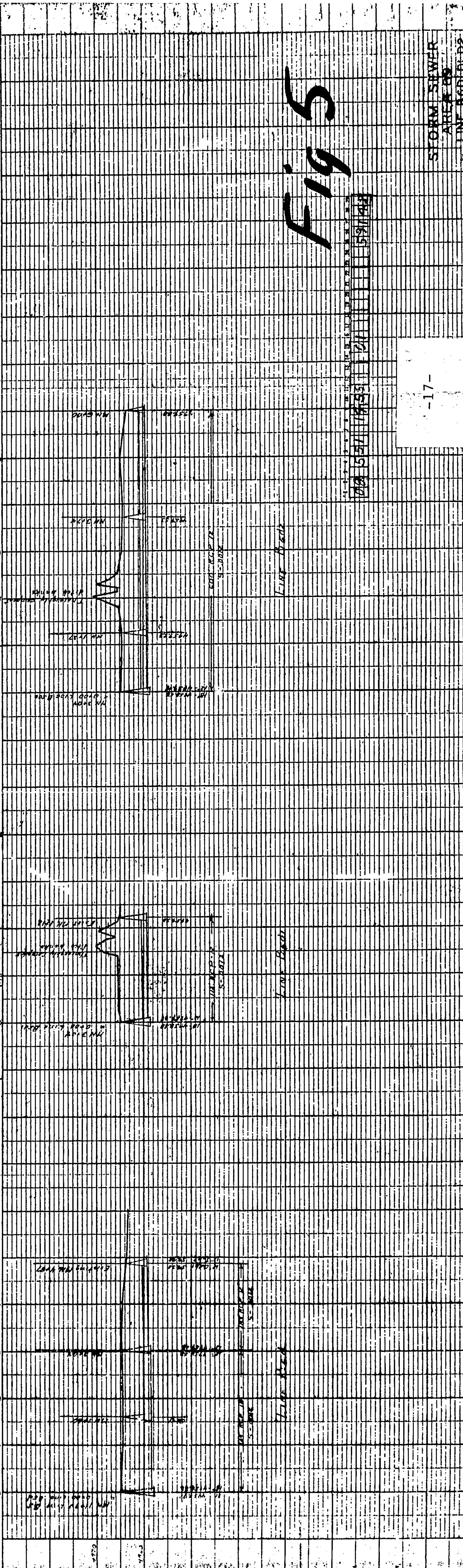
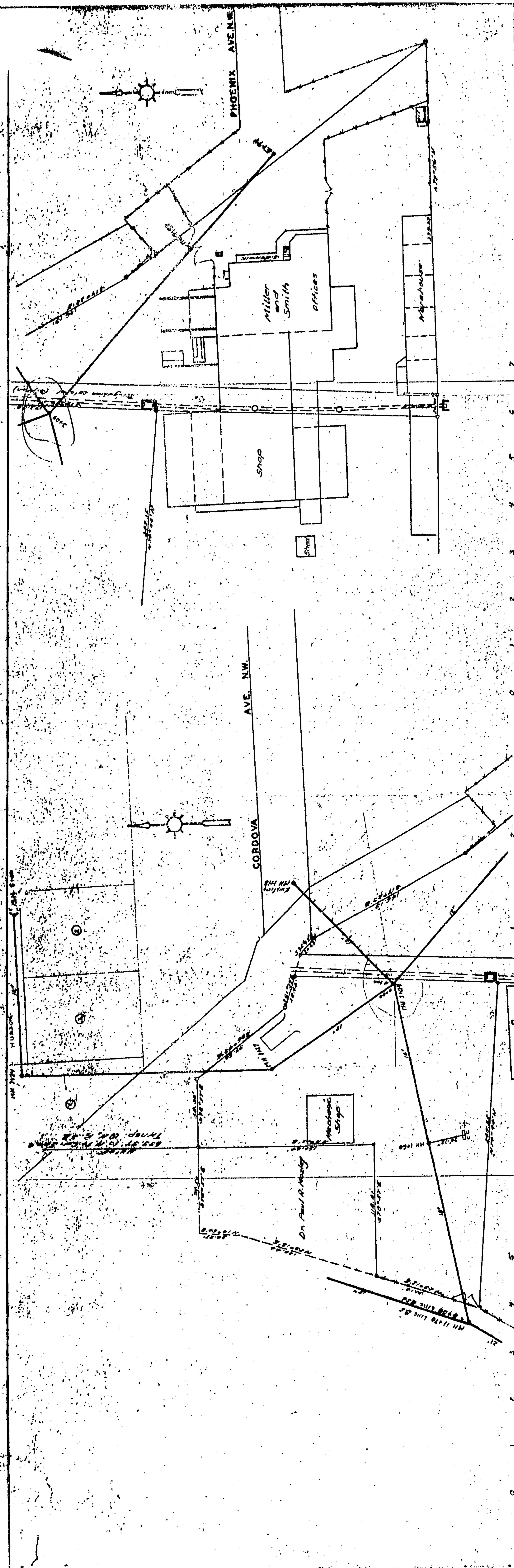
proposed Subdivision

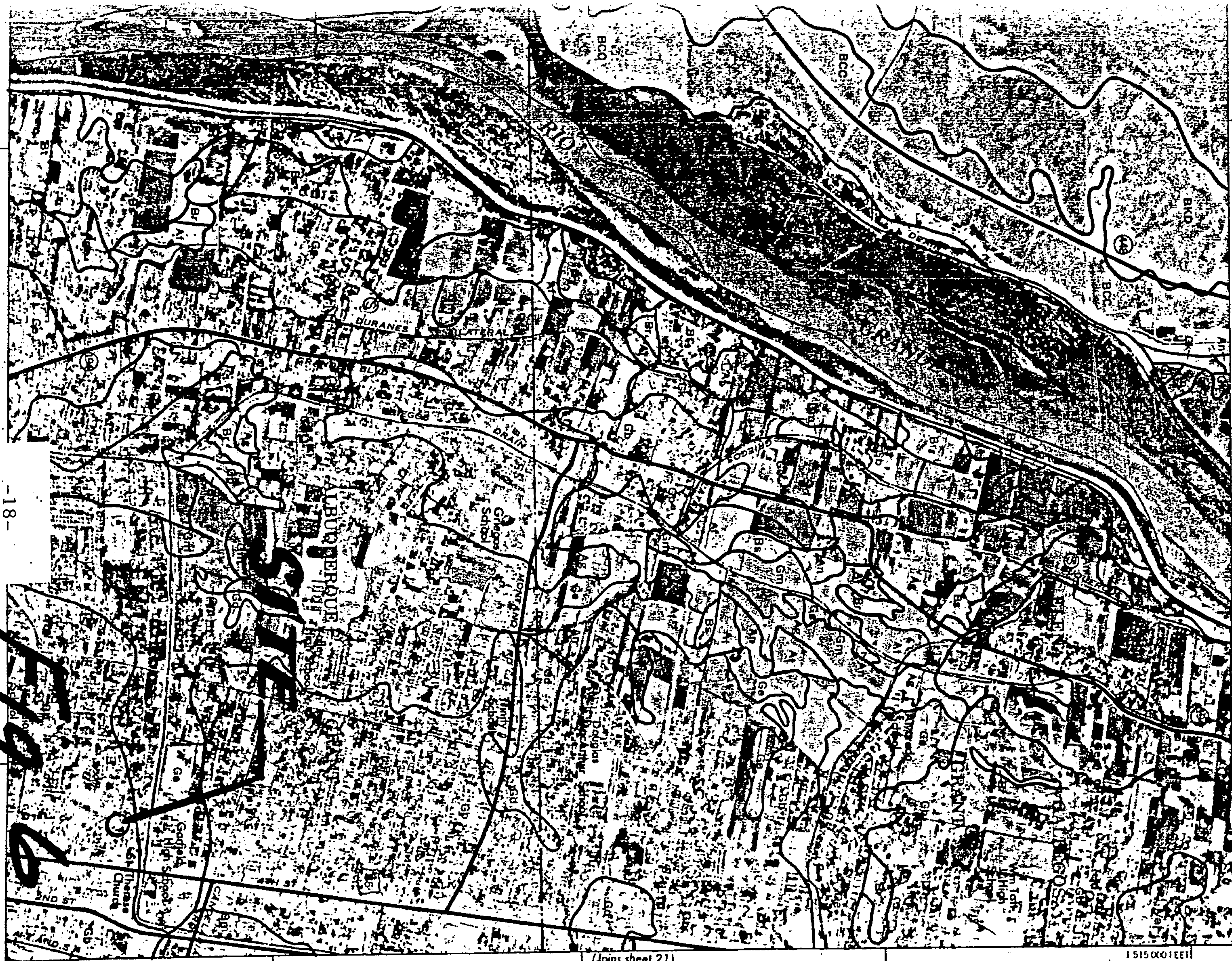


ALAMEDA

SITE

F104





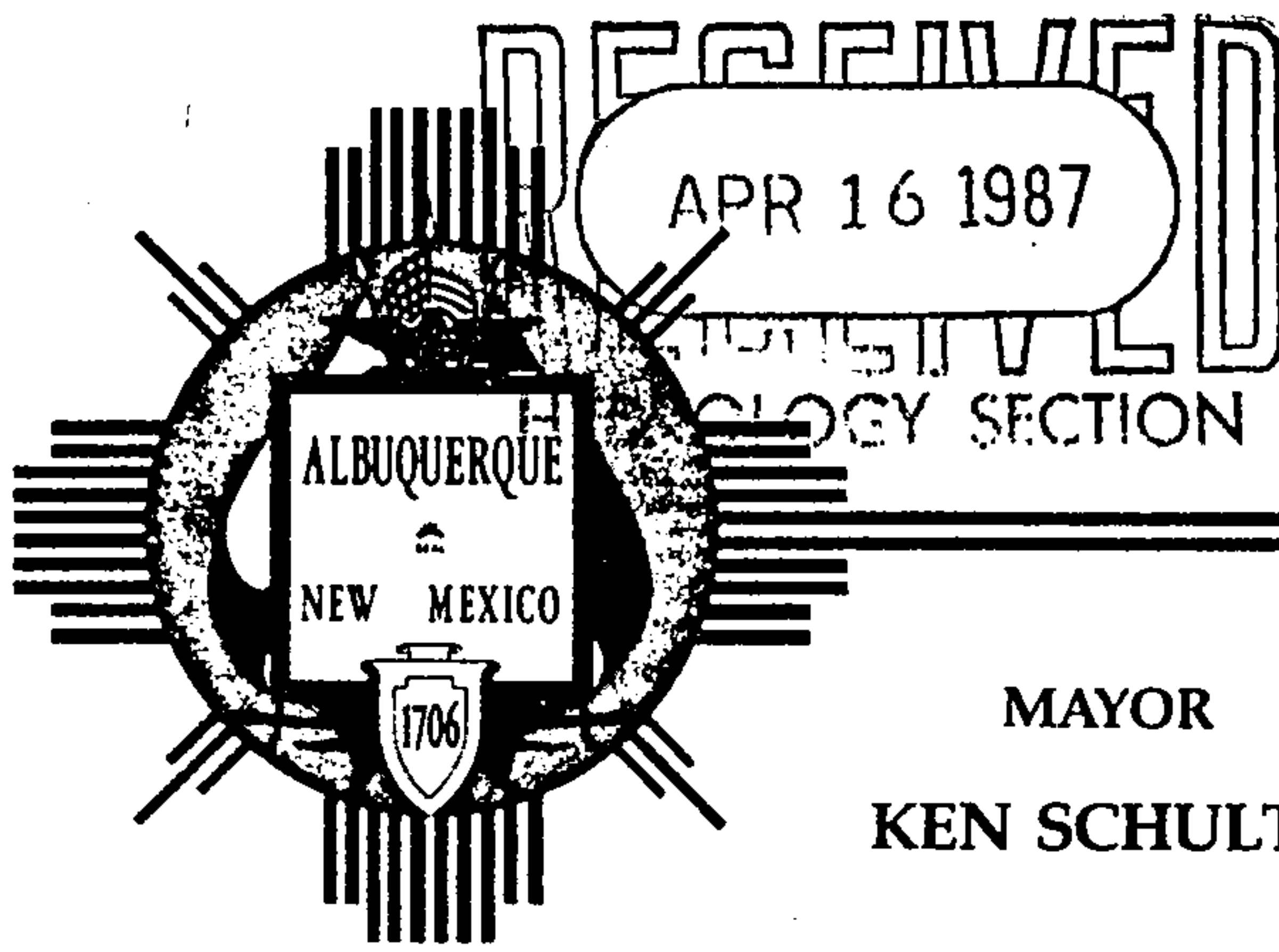
(Joins sheet 21)

1515 000 FEET

ARVADA

SIZE

COMMERCIAL



City of Albuquerque

HYDROLOGY SECTION P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

H14/D40

MAYOR
KEN SCHULTZ

CHIEF
ADMINISTRATIVE OFFICER

GENE ROMO

DEPUTY CAO
PUBLIC SERVICES

FRANK MARTINEZ

DEPUTY CAO
PLANNING/DEVELOPMENT

BILL MUELLER

April 15, 1987

Mr. Ray Paul Pando
Montoya Pando Inc. Realtors
1025 1/2 Lomas N.W.
Albuquerque, NM 87102

RE: PROJECT #2758 - HUDSON AVE. TOWNHOUSES

Dear Mr. Pando:

Enclosed is an executed copy of the Sidewalk Variance Agreement, and Letter of Credit for the above noted project.

Please call me if I may be of further assistance.

Sincerely,

Della Gallegos
Administrative Assistant

Enclosures

cc: Fred Aguirre, Hydrology Department/PWD
Project File #2758

DG/mr(2582E)

08738677

SIDEWALK VARIANCE AGREEMENT

THIS AGREEMENT, made this 13th day of April, 1987, is between the City of Albuquerque, a New Mexico municipal corporation ("City"), and [state name of developer:] Montoya Pando Inc., a New Mexico Corp. ("Developer"), a [state type of business entity (e.g.: "a New Mexico corporation," "a partnership," "joint venture," etc.):]

pursuant to Section 6 of the City's Subdivision Ordinance (7-16-6 R.O. 1974, Enactment No. 56-1983, effective June 29, 1983, as amended).

WHEREAS, the Developer is developing certain lands within the City of Albuquerque, County of Bernalillo, State of New Mexico, known as [describe:] Lots 1 - 10 Hudson Townhouses, a replat of Lots 1 - 4 L.G. Wilcutt Addn (the "Subdivision"); and

WHEREAS, the Developer has submitted and the City has approved Developer's development plans and [state "preliminary" or "final":] plat, to be identified as [state name of plat:] Hudson Ave. Townhouses Subdivision; and

WHEREAS, Developer has requested and the City has determined that it is acceptable for the Developer to defer construction of the sidewalks within the Subdivision until after construction of other required infrastructure; and

WHEREAS, the Subdivision Ordinance requires all infrastructure, including sidewalks, to be completed within two (2) years after execution of the Agreement to Construct Subdivision Improvements; and

WHEREAS, the Developer must execute and deliver to the City an Agreement and an acceptable financial guarantee to provide funds for constructing the sidewalk improvements in case the Developer does not complete the construction as required;

Now, therefore, the City and the Developer agree:

1. Sidewalk Construction Deadline. Developer has obtained a sidewalk variance, as shown in the attached Exhibit "A", which is a copy of the Development Review Board's letter regarding the variance granted. Developer agrees to utilize the City's sidewalk permit process and complete the sidewalks to the satisfaction of the City by Mar 17, 1988 ("Sidewalk Construction Deadline").

2. Financial Guarantee. Developer will provide a financial guarantee in an amount of not less than 125% of the cost of constructing the sidewalk improvements within the Subdivision, as determined by the City. The financial guarantee must be irrevocable and may be in the form of a bond, letter of credit, escrow deposit or other acceptable pledge of liquid assets payable to the City at any time within the sixty (60) days immediately following the Sidewalk Construction Deadline. To meet the Subdivision Ordinance requirements, the Developer has acquired or is able to acquire the following "Financial Guarantee":

Type of Financial Guarantee: Escrow Letter
 Amount: \$ 482.63 Financial Institution or Surety
 Providing Guarantee: Sunwest Bank of Albuquerque
 Inclusive Dates of Guarantee (In case of default, City must be able to call on Financial Guarantee for the 60 days immediately following Sidewalk Construction Deadline.):
March 17, 1988, 1988 through May 17, 1988
 Additional Information: _____

3. Default. If the Developer fails or neglects to fulfill its obligations under this Agreement, the City shall have the right to construct or cause the sidewalk improvements to be constructed as shown on the plat referred in the first page of this Agreement and the plat and specifications approved by the City. The Developer as principal and the surety or sureties shall be jointly and severally liable to pay to, and indemnify the City for the total cost of construction, including, but not limited to engineering, legal and contingent costs, together with any damages, either direct or consequential, which the City may sustain as a result of the failure of the Developer to perform all of the terms of this Agreement. The City shall have the unconditional right to call upon the Financial Guarantee for the purposes specified, up to the amount specified in the Guarantee.

4. Completion, Acceptance and Release. The Developer shall report completion of sidewalk construction in writing to the City. The Developer shall submit a City standard plan showing the location, width, depth and materials of the sidewalks constructed. The plan shall be drafted in accordance with Chapter 27 of the Development Process Manual, Volume 2. The plan shall be certified by an independent civil engineer or land surveyor who is practicing in accordance with 61-23-1 et seq (N.M.S.A. 1973 Comp.)

The City shall inspect the sidewalks to verify accuracy of the plans. Upon verification of the improvements, the City

shall issue a release of financial guarantee and release of Sidewalk Variance Agreement no later than sixty (60) days after the verification.

5. Conveyance. When the sidewalks have been constructed, if the City does not own the real property upon which the sidewalks are constructed, the Developer shall convey to the City the real property and property rights required by the City, together with the improvements, free and clear of all claims, encumbrances and liens, before the City will release the financial guarantee and Sidewalk Variance Agreement. Conveyance may be by dedication on the final plat of the Subdivision.

6. Assignment. This Agreement shall not be assigned until and unless both parties hereto and the financial institution or surety which has provided the Financial Guarantee for completion of the sidewalk improvements have given their express written consent to the assignment. If assigned, this Agreement shall extend to and be binding upon the successors and assigns of the party to this Agreement.

7. Conveyance of Subdivision, Replacement of Developer and Guarantee. If the Subdivision, or any part thereof, is sold, conveyed or assigned, the City will not release the Developer from its obligations under this Agreement, nor will it release the Financial Guarantee, and the City will continue to hold the Developer responsible for construction of the sidewalk improvements, until a successor in interest to the Developer has: A. entered into a replacement Sidewalk Variance Agreement with the City; and B. posted an acceptable replacement financial guarantee. When the replacement agreement and replacement financial guarantee have been provided to the City by the Developer's successor in interest, the City will release the Developer from the Developer's Agreement to Construct Subdivision Improvements and will release the Developer's Sidewalk Construction Financial Guarantee.

8. Request for Extension. If, in this Agreement, Developer has requested a Sidewalk Construction Deadline which is later than the (60) days from the date of the Sidewalk Construction Agreement, the Developer may request that the Sidewalk Construction Deadline and Financial Guarantee be extended for an additional period of time agreed upon by the City and the Developer, not to exceed two (2) years from execution of the Subdivision Improvements Agreement. The form of the Financial Guarantee Extension and the amount must be approved by the City, but shall not exceed 125% of the City's estimate of the cost of construction at the time Developer requests an extension.

9. Conflict in Terms. If there is a conflict between the terms and conditions of this Agreement and the terms and conditions of any other document referred to herein, the terms and conditions of this Agreement shall govern.

10. Form Not Changed. The Developer agrees that changes to the wording of this form are not binding upon the City unless initialed by the Developer and approved and signed by the City Legal Department in writing on this form.

DEVELOPER Montoya Pando Inc.

CITY OF ALBUQUERQUE, NEW MEXICO

By: Ray P. Pando
Name: Ray P. Pando
Title: Vice President

By: Gene Romo
GENE ROMO
Chief Administrative Officer

APPROVED:

By: Walter H. Nickerson, Jr.
Walter H. Nickerson, Jr., City Engineer,
Utility Dev. Div., Engineering Group/PWD

(EXHIBIT "A" ATTACHED)

STATE OF New Mexico,
COUNTY OF Bernalillo) ss.

The foregoing instrument was acknowledged before me this 3rd day of April, 1987, by [individual's name:] Ray P. Pando, [title:] Vice President of [Developer's name:] Montoya Pando Inc.

(S E A L)

My commission expires: 2/24/89

Carmen L. Castillo
NOTARY PUBLIC
OFFICIAL SEAL
CARMEN L. CASTILLO

NOTARY PUBLIC - STATE OF NEW MEXICO

My Commission Expires 3/24/89

(S E A L)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 13th day of April, 1987, by GENE ROMO, Chief Administrative Officer of the City of Albuquerque.

(S E A L)

My commission expires: 3-17-90

Priscilla Phillips
NOTARY PUBLIC

SIDEWALK VARIANCE AGREEMENT

424

ESTIMATE

P-42 4" PCC SIDEWALK - 270 S.F. @ \$1.43 per S.F. = \$386.10

\$386.10 x 125% = \$482.63 (FINANCIAL GUARANTEE)

OK FOR FINANCIAL GUARANTEE

Amlett Howard
4/2/87

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD

1987 APR 15 AM 11:43

BK 15475A G 420-425

GLADYS H. DAVIS
CO CLERK & RECORDER
DEPUTY

[Signature]



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

425

MAYOR
KEN SCHULTZ

CHIEF
ADMINISTRATIVE OFFICER
GENE ROMO

DEPUTY CAO
PUBLIC SERVICES
FRANK MARTINEZ

DEPUTY CAO
PLANNING/DEVELOPMENT
BILL MUELLER

January 28, 1987

Ray P. Pando & Robert Montoya
1025-1/2 Lomas NW
Albuquerque, NM 87102

REF: SV-87-7
DRB-87-51

Marvin R. Kortum, agent for Ray P. Pando and Robert Montoya, requests Sidewalk Variance approval of Lots 1-10 in the Hudson Townhouses, zoned (City). (H-14)

At the January 27, 1987, Development Review Board meeting the Sidewalk variance was approved.

1. The temporary deferral of the construction of sidewalks is approved, provided that the sidewalks are constructed by the earlier of the two following times:
 - A. Upon the completion of building structure on each lot or tract.
 - B. Two years after final plat approval unless an extension is granted by the Development Review Board.
2. Financial guarantees are required for the sidewalks.

If you have any questions, please call me at 768-3860.

Richard Dineen
Richard Dineen, Chairman *R.C.K.*

cc: Traffic Engineering

City Engineering

Transportation

Marvin R. Kortum PE, 1605 Speakman Dr. SE, 87123

File

Sunwest Bank of Albuquerque, N.A.
P.O. Box 25500
Albuquerque, New Mexico 87125-5500
Tel. 505-765-2211

FILED WITH CITY CLERK'S OFFICE

4-15-87

Scott K. Browning
Vice President

**SUNWEST
BANK**

April 1, 1987

Mr. Gene Romo
Chief Administrative Officer
City of Albuquerque
P. O. Box 1293
Albuquerque, NM 87103

RE: Escrow Letter for Montoya/Pando, Inc.
City of Albuquerque Project No. 2758

Dear Mr. Romo:

This is to advise the City of Albuquerque that Sunwest Bank of Albuquerque, N.A., holds in Escrow in our loan reserves the sum of \$482.63 for the exclusive purpose of providing the financial guarantees required by Montoya/Pando, Inc., for the installation of those improvements in Hudson Ave. Townhouses (Project No. 2758) identified in the Agreement between the City of Albuquerque and Montoya/Pando, Inc. The Agreement is attached hereto as Exhibit "A", and is recorded in Book Misc. 383-A, at pages 145 to 163, of the records of the County of Bernalillo, State of New Mexico ("Agreement") and Sidewalk Variance Agreement recorded in Book Misc. 475-A, at pages 420 to 425, of the records of the County of Bernalillo, State of New Mexico.

The funds from this Escrow of loan reserves will be released for the specific purpose of paying for the installation of the improvements referenced in the Agreement, and will only be released upon the written approval by William F. McNamara, City Engineering Department, or such other City representative as shall be designated by the City Engineer. If, by the date March 17, 1988, the improvements described in the Agreement have not been fully installed, inspected, approved and accepted by the City of Albuquerque, then upon presentation between the dates March 17, 1988 and May 17, 1988 of the City's notarized certification, executed by the Chief Administrative Officer of the City of Albuquerque, stating that Montoya/Pando, Inc. has failed to comply with the terms of the Agreement, and also certifying the estimated costs of completing the improvements specified in the Agreement, then Sunwest Bank of Albuquerque, N.A. shall draw by Certified Check to the City of Albuquerque, from the Escrow of loan reserves, the amount of 125% of the estimated costs of completing the improvements specified in the Agreement, not to exceed \$482.63.

This Escrow of loan reserves for the benefit of the City of Albuquerque shall be irrevocable until the occurrence of one of the following:

1. Sixty (60) days following final City acceptance of the completed improvements specified in the Agreement;

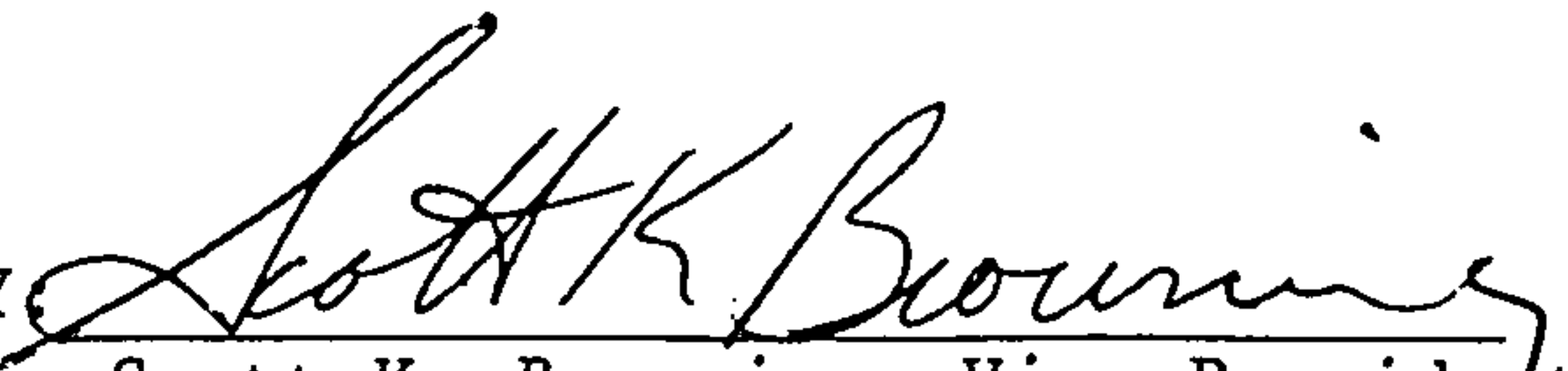
Mr. Gene Romo
April 1, 1987
Page TWO

2. City notification of failure of Montoya/Pando, Inc. to comply with the terms of the Agreement, and payment by Certified Check from Sunwest Bank of Albuquerque, N.A. to the City of Albuquerque of the sum of 125% of the estimated costs of completing the improvements specified in the Agreement; or

3. The expiration of the date May 17, 1988.

Very truly yours,

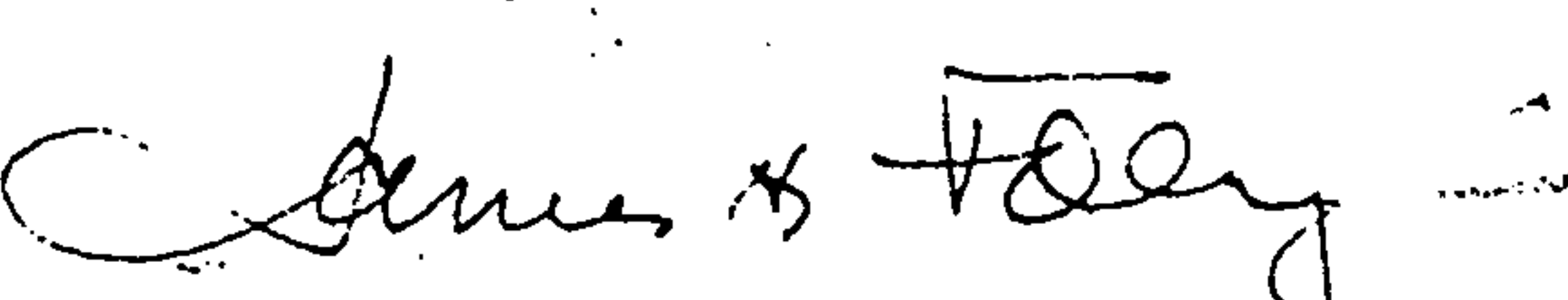
SUNWEST BANK OF ALBUQUERQUE, N.A.

BY 
Scott K. Browning, Vice President

APPROVED AS TO FORM:

CITY OF ALBUQUERQUE


Assistant City Attorney


Date: 4/9/87

86 75286

AGREEMENT TO CONSTRUCT
SUBDIVISION IMPROVEMENTS
PUBLIC & PRIVATE

RECEIVED
AUG 15 1986
HYDROLOGY SECTION

145

THIS AGREEMENT made this 12th day of August, 1986, by and between the City of Albuquerque, New Mexico (hereinafter referred to as "City") and MONTOYA PANDO INC.

(hereinafter referred to as "Developer") pursuant to Section 6 of the City's Subdivision Ordinance (Enactment No. 56-1983, effective June 29, 1983).

WHEREAS, the Developer is developing certain lands within the City of Albuquerque, County of Bernalillo, State of New Mexico known as LOTS 1 THROUGH 4, L.G. WILCUTT ADDN. (hereinafter referred to as the "Subdivision"); and

WHEREAS, the Developer has submitted and the City has approved a preliminary plat identified as HUDSON AVE. TOWNHOUSES SUBD. describing the Subdivision; and

WHEREAS, the preliminary plat submitted by the Developer proposes both private and public infrastructure improvements within the subdivision; and

WHEREAS, Section 6 of the City's Subdivision Ordinance requires the Developer to install and construct certain public improvements at no cost to the City; and

WHEREAS, the City requires the execution of an Agreement to construct said public improvements, together with actual satisfactory construction or acceptable guarantees of construction as specified below, as a prerequisite to approval of a Final Plat of the Subdivision; and

STATE OF NEW MEXICO
COUNTY OF BERNALILLO
FILED FOR RECORD
1986 AUG 13 AM 11:40
153834 PG 145-163
LOLORES C. WALLER
CLERK & RECORDER
SUSAN J. DEPUTY

WHEREAS, the Developer must obtain City approval of construction plans, specifications, and cost estimates for the improvements and upon City approval of such construction plans, specifications, and cost estimates the City is prepared to issue the Developer a Work Order permitting the commencement of construction activities upon execution of this Agreement and payment of all required fees, all as set forth and specified in Exhibit "A", which is attached hereto and incorporated herein as if fully set forth in this Agreement; and

WHEREAS, the City is willing to inspect or monitor the private inspection of the improvements during the course of their construction and accept said improvements upon their satisfactory completion, all as set forth and specified in Exhibit "B", which is attached hereto and incorporated herein as if fully set forth in this Agreement; and

WHEREAS, the Developer financially guarantees the satisfactory completion of the infrastructure construction required herein and the payment of all labor and material costs and charges, all as set forth and specified in Exhibit "C", which is attached hereto and incorporated herein as if fully set forth in this Agreement;

NOW, THEREFORE, in consideration of the above, the City and the Developer hereby agree as follows:

1. The Developer shall, on or before the 30th day of JUNE, 1987, complete to the satisfaction of the City the improvements required for the Subdivision as set forth, specified and referenced in Exhibit "A" attached hereto. The improvements which the Developer shall satisfactorily complete within the time limitation stated above are described and identified in Exhibit "D", which is attached hereto and incorporated herein as fully set forth in this Agreement.

The time limitation stated above may be extended by the City Engineer for a period not to exceed twelve (12) months if the Developer shows adequate reasons for said extension.

2. After execution of this Agreement, payment of all fees as specified in Exhibit "A" attached hereto, and, if applicable, delivery of the financial guarantee specified in Exhibit "C" attached hereto, the Developer shall be issued a Work Order by the City. The Developer shall advise the City Engineer in advance of the actual start of construction and arrange for all inspections required and specified in Exhibit "B" attached hereto. The Developer shall permit the City, or other participating agencies to make such tests and inspections during the construction of the improvements and upon completion of the improvements as are necessary or desirable.

3. a) Prior to final acceptance of the completed Public Improvements by the City, the Developer shall furnish to the City Engineer all documentation of the completion of construction as set forth and specified in Exhibit "A" attached hereto.

b) Prior to release of financial assurance, the Developer shall either provide Certification by a New Mexico registered Professional Engineer that the required Private Improvements have been constructed in compliance with approved plans and specifications or the Developer shall make necessary arrangements for Certification by the City Engineer that the required improvements are satisfactorily completed.

4. Until acceptance of the improvements by the City, the Developer shall be solely responsible for maintaining the premises being subdivided in a safe condition. The Developer agrees to defend, indemnify and hold harmless the City and its officers, agents and employees from and against all suits, actions or claims of any character brought because of any injury or damage arising out of the design or construction of the improvements or by reason of

any act or omission, or misconduct of the Developer, his agents, employees or the Engineer or Contractor or their agents or employees. The indemnity required hereunder shall not be limited by reason of the specifications of any particular insurance coverage in this Agreement. Nothing herein is intended to impair any right or indemnity under the laws of the State of New Mexico.

5. The Developer shall procure or cause to be procured and maintain public liability insurance in the amount of not less than One Million Dollars (\$1,000,000) for accidents or occurrences which cause bodily injury, death or property damage to any member of the public resulting from any condition of the lands of the subdivision or improvements therein or the construction activities thereon. The insurance policy must name the City of Albuquerque, its employees, and elected officials, as their interest may appear, as additional insureds. The Developer shall maintain such insurance until acceptance of the improvements by the City. Any cancellation provision must provide that if the policy is cancelled prior to the expiration date hereof, materially changed, or not renewed, the issuing company will mail 30 days written notice to the City, attention City Engineer. The Developer shall furnish the City Engineer a certificate of said insurance prior to issuance of a Work Order for construction of the improvements.

6. If at the time that construction of the Project is completed the City does not own the real property on or in which the improvements are constructed, the Developer shall convey such real property and property rights as the City deems necessary, together with all improvements, to the City free and clear of all claims, encumbrances and liens prior to final acceptance of the improvements by the City. Conveyance may be appropriate dedication on the final plat of the subdivision.

7. At the time of acceptance of the completed improvements or any portion thereof by the City, the Developer shall furnish or cause to be furnished a bond or other suitable guarantee in a form and with a surety satisfactory to the City to guarantee the completed project against defective materials and workmanship for a period of three (3) years following the date of acceptance by the City.

8. The City shall either perform or monitor the performance of inspections during the course of construction of the improvements and inspect the improvements upon their completion in a timely manner, all as set forth and specified in Exhibit "B" attached hereto.

9. The City shall designate a Construction Engineer and/or Inspector for this project.

10. The City shall make available at established reproduction costs for the use of the Developer or its agents all of its maps, records, laboratory tests, or other data pertinent to the work to be performed by the Developer or its agents pursuant to this Agreement and also any other maps, records, or other materials available to the City upon the City's request to any other public agency or body.

11. a) The City shall issue a Certificate of Completion and Acceptance for the Public Improvements upon final completion to the City's satisfaction of the Improvements as described in the plans and specifications as set forth and specified in Exhibit "A" attached hereto.

b) The City shall issue a Certificate of Completion for the Private Improvements upon final completion to the City's satisfaction of the Private Improvements as described in the plans and specifications as set forth and specified in Exhibit "A" attached hereto.

12. If the Developer has requested Final Plat approval by the City prior to the actual construction of the improvements, the City will approve the Final Plat for recordation upon execution of this Agreement, payment of all fees specified in Exhibit "A" attached hereto, delivery of the financial guarantee specified in Exhibit "C" attached hereto and full compliance with the City's Subdivision Ordinance.

13. This Agreement shall not be assigned except with the written consent of the parties hereto and the express written concurrence of any surety who has undertaken to guarantee the completion of the Improvements. If so assigned, this Agreement shall extend to and be binding upon the successors and assigns of the parties hereto.

14. In the event of the sale, conveyance, or assignment of the Subdivision or any portion thereof, the City will not release the Developer from its obligations under this Agreement and will continue to hold the Developer responsible for all Improvements until a successor in interest to the Developer has posted a suitable guarantee and entered into a Subdivision Improvement Agreement with the City. At such time as acceptable security has been posted by the Developer's successor in interest and the Agreement executed, the City will release the guarantee.

15. Should there be a conflict between the terms and conditions of this Agreement (with Exhibits A, B, C, and D) and the terms and conditions of any other document referred to herein, the terms and conditions of this Agreement (with Exhibits A, B, C, and D) shall govern.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement as of the date first above written.

DEVELOPER Montoya Pando Inc.

Ray P. Pando
Signed

Ray P. Pando
Name
Vice President
Title

ATTEST:
N/A
City Clerk

REVIEWED BY:
[Signature]
Assistant City Attorney
[Signature]
City Attorney

CITY OF ALBUQUERQUE NEW MEXICO
[Signature]
James N. Hicks, Jr., Principal Engineer,
Design Division, Public Works Dept.
[Signature]
Gene Romo
Chief Administrative Officer

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss.

The foregoing instrument was acknowledged before me this 16th day
of July, 19 86, by Ray P. Pando
of Montoya Pando Inc.

Glebera B. Mock
Notary Public

My Commission Expires:
My Commission Expires 2/24/89

STATE OF NEW MEXICO)
COUNTY OF BERNALILLO) ss.

The foregoing instrument was acknowledged before me this _____ day
of _____, 19 _____, by James N. Hicks, Jr., Principal
Engineer, of the City of Albuquerque.

Notary Public

My Commission Expires:

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

The foregoing instrument was acknowledged before me this 12th day
of August, 1986, by Gene Romo, Chief Administrative
Officer of the City of Albuquerque.

Christine M. Lovato
Notary Public

My Commission Expires:

3-26-86

EXHIBIT "A"

TO SUBDIVISION IMPROVEMENT AGREEMENT
EXECUTED BY AND BETWEEN MONTROYA PANDO INC. (DEVELOPER)
AND CITY OF ALBUQUERQUE, NEW MEXICO (CITY) ON
THE 12th DAY OF August, 1986.

1. COMMITMENT TO CONSTRUCT IMPROVEMENTS.

The Developer shall construct in a manner satisfactory to the City the improvements listed in Paragraph 1 of the Subdivision Improvement Agreement and which are shown in greater detail on the Developer's proposed and approved Subdivision Improvements Plan, which was filed with the office of the City Engineer and identified as Project No. 2758.

2. DESIGN AND CONSTRUCTION METHODS.

As soon as reasonably practical after approval of the Developer's Preliminary Plat of the Subdivision, the Developer shall submit to the City Engineer final construction plans, specifications, and cost estimates for the proposed public improvements. At this time, the Developer shall pay all fees required under Section 12.D of the City's Subdivision Ordinance and Paragraph 4 of this Exhibit.

The Developer has engaged MARVIN R. KORTUM as Engineer(s) for the construction project, who are Registered Professional Engineers in the State of New Mexico. The Developer shall ensure that the Engineer(s), in such capacity, shall provide the following services prior to, during, and after construction of the improvements:

- PLANS AND SPECIFICATIONS FOR INERA-STRUCTURE TO CONSTRUCT AS REQUIRED.
- _____
- _____
- _____
- _____

154

The Developer shall ensure that the Engineer(s) perform all of the above services in a satisfactory manner and submit to the City Engineer any reports required by the City Engineer.

The Developer has engaged SUNDANCE MECHANICAL & UTILITY CONTRACTORS as Contractor(s), who is properly licensed in the State of New Mexico. The Developer shall ensure that the Contractor(s), in such capacity, shall in a manner satisfactory to the City construct the improvements as shown on Developer's proposed Subdivision Improvements Plan (Project No. 2758), incorporating any change orders approved by the City Engineer, City of Albuquerque Interim Standard Specifications for Public Works Construction, 1985, and all other applicable laws, regulations, and policies. Construction surveying and testing shall be performed as set forth in Exhibit "B" of the Subdivision Improvement Agreement between Developer and the City.

3. COMPLETION OF CONSTRUCTION.

The Developer shall report the completion of construction in writing to the City Engineer. Upon receipt of the report, the City Engineer or his representative shall visually inspect the public improvements to verify completion of construction according to plan. Subsequent to verification, the Developer shall submit to the City Engineer a "final acceptance package", which shall consist of the following documents:

a. "As-built" drawings of reproducible quality, depicting all construction of the public improvements as actually accomplished in the field and certified by a New Mexico Registered Professional Engineer or Land Surveyor, as appropriate,

b. A list of quantities of contract items in place, using the bid items in the City Engineer's Standard Estimated Unit Prices.

This list shall be divided into the following categories as applicable:

- (1) Sanitary sewer items and quantities;
- (2) Water service items and quantities;
- (3) Street paving quantities;
- (4) Street curb and gutter quantities; and
- (5) Storm drainage improvements and quantities.

The City shall concurrently provide a written certification from the City Engineer that the construction has been performed in substantial compliance with the City of Albuquerque Interim Standard Specifications for Public Works Construction, 1985, and with the approved final plans and specifications for public improvements. If the City is acting as the Contractor for all or a portion of the improvements constructed pursuant to this Agreement, the City shall prepare its own final acceptance package documents for those improvements actually constructed by the City.

Upon receipt of the Developer's "final acceptance package", the City Engineer shall review it for completeness and accuracy. If the documentation has been satisfactorily completed, the City Engineer shall approve the package and issue a Certificate of Completion and Acceptance. Any financial guarantee provided by the Developer in accordance with Section 6.D.2 of the City's Subdivision Ordinance and as described in Exhibit "C" to the Subdivision Improvement Agreement between the Developer and the City shall be released no later than sixty (60) days after approval of the final acceptance package by the City Engineer.

4. PAYMENT OF FEES.

Prior to issuance of a Work Order, the Developer shall pay to the City the following fees:

<u>Type of Fee</u>	<u>Amount</u>
<u>Engineering Fee</u>	<u>6% OF ALL CONSTRUCTION COST FOR PUBLIC</u>
	<u>AND PRIVATE IMPROVEMENTS</u>
<u>Excavation Ordinance Fee</u>	<u>As required per City approved</u>
	<u>engineer's estimate</u>
<u>Sidewalk Ordinance Fee</u>	<u>As required per City approved</u>
	<u>engineer's estimate</u>

Prior to final acceptance of the improvements by the City, the Developer shall pay any other City fees which may have been incurred during the course of construction.

EXHIBIT "B"
 TO SUBDIVISION IMPROVEMENT AGREEMENT
 EXECUTED BETWEEN MONTOYA PANDO INC. (DEVELOPER)
 AND THE CITY OF ALBUQUERQUE (CITY)
 ON THE 12th DAY OF August, 1988

1. CONSTRUCTION INSPECTION METHODS.

Inspection of the subdivision improvement construction shall be performed by CITY OF ALBUQUERQUE on private facilities and by CITY OF ALBUQUERQUE on public facilities both being New Mexico Registered Professional Engineers, in accordance with all applicable laws, ordinances and regulations. If said inspection is performed by an entity other than the City, the City may monitor said inspection and the Developer shall ensure that the inspecting entity provides all inspection results, reports and related data to the City as required for review. The City retains the right to perform its own general overall inspection of the construction project at any time prior to final acceptance of the improvements if deemed necessary or advisable by the City Engineer. For any inspections performed by the City, the Developer shall pay to the City a reasonable fee therefor.

2. CONSTRUCTION SURVEYING.

Construction surveying for the subdivision improvement project shall be performed by CITY OF ALBUQUERQUE on private facilities and by CITY OF ALBUQUERQUE on public facilities in accordance with all applicable laws, ordinances and regulations. If said construction surveying is performed by an entity other than the City, the City may monitor said construction surveying and the Developer shall ensure that the construction surveying entity provides all construction surveying field notes, plats, reports and related data to the City as required for review. If any construction surveying is performed by the City, the Developer shall pay to the City a reasonable fee therefor.

3. FIELD TESTING.

Field testing of the subdivision improvement construction shall be performed by CITY OF ALBUQUERQUE on private facilities and by CITY OF ALBUQUERQUE on public facilities, each being a certified testing laboratory under the supervision of a New Mexico Registered Professional Engineer, in accordance with the technical standards contained in the applicable contract documents and all applicable laws, ordinances and regulations. If any field testing is performed by an entity other than the City, the City may monitor said field testing and the Developer shall ensure that the field testing entity provides all field testing results, reports and related data to the City as required for review. If any field testing is performed by the City, the Developer shall pay to the City a reasonable fee therefor.

4. RECORD TESTING.

Notwithstanding the provisions of Paragraph 3 above, the City retains the right to perform any and all record testing which may be deemed necessary or advisable by the City Engineer at the expense of the Developer.

EXHIBIT "C"
TO SUBDIVISION IMPROVEMENT AGREEMENT
EXECUTED BETWEEN MONTOYA PANDO INC. (DEVELOPER)
AND THE CITY OF ALBUQUERQUE (CITY) ON
THE _____ DAY OF _____, 198__.

1. PLAT APPROVAL STATUS

The Developer has has not (circle one) requested final plat approval by the City prior to construction of the Subdivision Improvements described in Paragraph 1 of the Subdivision Improvement Agreement. If the Developer has not requested final plat approval prior to construction of the improvements, no financial guarantee is required by the City. However, the Developer understands and agrees that the City will not approve the Developer's proposed plat until the improvements are completed in accordance with the Agreement to which this document is attached as an Exhibit.

If the Developer has requested final plat approval prior to the construction of the improvements, a financial guarantee in an amount of not less than 125 percent of the costs of completing the improvements (as estimated by the City Engineer) is required pursuant to the City's Subdivision Ordinance. Said financial guarantee must be irrevocable in form and may be effected by a bond, letter of credit, escrow deposit, or other acceptable pledge of liquid assets payable to the City in the event of Developer's default under the Subdivision Improvement Agreement.

2. FINANCIAL GUARANTEE.

With respect to the Subdivision Improvement Agreement to which this document is attached as an Exhibit, the Developer has acquired or is able to acquire the following described financial guarantee (describe fully, indicate amount, identification number, names of bank or bonding entity, inclusive dates of guarantee, and all other relevant information):

N/A Not requesting final Plat sign-off.

The Developer understands and agrees that the original executed financial guarantee described above must be delivered to the City simultaneously with the City's execution of the Subdivision Improvement Agreement between Developer and the City; and must be in an amount of not less than 125 percent of the cost of completing the improvements, as estimated by the City Engineer.

In the event the Developer shall fail or neglect to fulfill his obligations under this Agreement, the City shall have the right to construct or cause to be constructed the Improvements specified herein, as shown on the Final Plat and in the plans and specifications as approved, and the Developer as Principal and the surety or sureties shall be jointly and severally liable to pay to and indemnify the City, the total cost to the City thereof, including but not limited to, engineering, legal, and contingent costs together with any damages, either direct or consequential, which the City may sustain on account of the failure of the Developer to carry out and execute all of the provisions of the Agreement to which this document is attached as an Exhibit. The City shall have the unconditional right to call upon the financial guarantee provided by the Developer described in this paragraph for the purposes specified and in the amounts enumerated in such guarantee.

3. PROCEDURES FOR REDUCTION OF FINANCIAL GUARANTEE UPON PARTIAL COMPLETION OF IMPROVEMENTS.

The Developer may request a reduction in the amount of financial guarantee upon partial completion of the subdivision improvements. To qualify for a financial guarantee reduction, the completed improvements must be of a free-standing nature, functionally independent of any uncompleted

improvements, and completed in substantial compliance with the subdivision improvement construction plans as determined by an inspection conducted by the City.

If the completed improvements meet the above requirements, the City Engineer will then estimate the cost of completing the remaining improvements. The Developer may then submit the following documents to the City for review and approval:

a) A revised financial guarantee in an amount of not less than 125 percent of the City Engineer's estimated cost of completing the remaining improvements;

b) A release of the original financial guarantee for execution by the City;

c) Documentation that the completed improvements and the land in which the completed improvements are located are subject to no liens, claims or other encumbrances;

d) A bond or other suitable instrument guaranteeing the completed improvements against defective materials and workmanship for a period of three (3) years as set forth in Paragraph 7 of the Subdivision Improvement Agreement between the Developer and the City.

Upon receipt of the above-described documents in forms acceptable to the City, the City shall issue a Certificate of Completion and Acceptance for the completed improvements and accepts the revised financial guarantee tendered by the Developer.

Figure 11

EXHIBIT "D"
to Subdivision Improvements Agreement
D.R.B. REQUIRED INFRASTRUCTURE LISTING
for HUDSON AVENUE TOWNHOUSES

RECEIVED

MAY 15 1986

Following is a summary of Public/Private Infrastructure required to be constructed or financially guaranteed to be constructed for the above development.

Size	*Type Improvement	Location	From	To
79'	12" R.C.P. Storm drainage		cul-de-sac to	South
95'	18" R.C.P. Storm drainage			
+ 3	Storm manhole			
3	INLETS			

This instructional
Information may be deleted
from official listings

* Types may include Arterial Paving, Residential Paving, Water Line, Sanitary Sewer, Storm Sewer, Drainage Channel, Sidewalks, and Retaining Walls. Any non-standard design or waivers must be clearly described in this listing.

Use additional sheets as necessary to complete the listing. The final page must be signed by the preparer and provide signature spaces for DRB members, as illustrated below.

Prepared by: Daniel M. Granev
Print Name Daniel M. Granev
Firm Southwest Surveying Co., Inc.

Page 2 of 2

Development Review Board Member Approvals

Robert A. Fournier 5-13-86
Traffic Date

Thomas H. Fournier
WRD 5-13-86 Date

James L. Davis 5-13-86
Parks & Rec. Date

Richard D. Meon 5/13/86
DRB Chairman Date

John J. Caprin 5/13/86
City Engineer, AMAFCA Date

Original
Fred Aquire

D.B. Case No. S 84-56
D.R.C. Project No. 2758
Date Submitted 5/13/80

DRB 84-787

Figure 11

EXHIBIT "D" *Amended*
to Subdivision Improvements Agreement

D.R.B. REQUIRED INFRASTRUCTURE LISTING for HUDSON AVENUE TOWNHOUSES

Following is a summary of Public/Private Infrastructure required to be constructed or financially guaranteed to be constructed for the above development.

<u>Size</u>	<u>*Type Improvement</u>	<u>Location</u>	<u>From</u>	<u>To</u>
<u>Public</u>	<u>Paving (32')</u>	<u>Cul-de-sac and existing</u>	<u>Hudson Ave.</u>	<u>to end of project</u>
<u>270'</u>	<u>4'-wide sidewalk</u>	<u>S. side Hudson Avenue</u>	<u>adjacent to paving,</u>	<u>barrier curb & gutter</u>
<u>270'</u>	<u>barrier curb & gutter</u>	<u>(excluding drive cuts)</u>	<u>both sides</u>	<u>of street</u>
<u>366'</u>	<u>6" water line</u>	<u>from 4" Hudson Ave. line</u>	<u>to 8" line</u>	<u>on Claremont (loop)</u>
<u>1</u>	<u>standard fire hydrant</u>	<u>& necessary appurtenances</u>		
<u>157'</u>	<u>8" sanitary sewer line</u>	<u>from existing 8" line</u>	<u>of Hudson Avenue</u>	
<u>1</u>	<u>manhole & services</u>	<u>with necessary appurtenances</u>		<u>(continued next page)</u>

This instructional
Information may be deleted
from official listings

* Types may include Arterial Paving, Residential Paving, Water Line, Sanitary Sewer, Storm Sewer, Drainage Channel, Sidewalks, and Retaining Walls. Any non-standard design or waivers must be clearly described in this listing.

Use additional sheets as necessary to complete the listing. The final page must be signed by the preparer and provide signature spaces for DRB members, as illustrated below.

Prepared by: Daniel M. Graner
 Print Name Daniel M. Graner
 Firm Southwest Surveying Co., Inc.

Page 1 of 2

Development Review Board Member Approvals

~~Traffic Date~~

~~DRB Chairman Date~~

~~WRD _____ Date~~

~~City Engineer/AMAFCA _____ Date~~

~~Parks & Rec. Date~~

Figure 11

EXHIBIT "D"
to Subdivision Improvements Agreement

D.R.B. REQUIRED INFRASTRUCTURE LISTING
for HUDSON AVENUE TOWNHOUSES

Following is a summary of Public/Private Infrastructure required to be constructed or financially guaranteed to be constructed for the above development.

<u>Size</u>	<u>*Type Improvement</u>	<u>Location</u>	<u>From</u>	<u>To</u>
<u>79'</u>	<u>12" R.C.P. Storm drainage</u>		<u>cul-de-sac to</u>	<u>South</u>
<u>95'</u>	<u>18" R.C.P. Storm drainage</u>			
<u>+ 3</u>	<u>Storm manhole</u>			
<u>3</u>	<u>INLETS</u>			

RECEIVED
MAY 15 1986
HYDROLOGY SECTION

This instructional
Information may be deleted
from official listings

* Types may include Arterial Paving, Residential Paving, Water Line, Sanitary Sewer, Storm Sewer, Drainage Channel, Sidewalks, and Retaining Walls. Any non-standard design or waivers must be clearly described in this listing.

Use additional sheets as necessary to complete the listing. The final page must be signed by the preparer and provide signature spaces for DRB members, as illustrated below.

Prepared by: Daniel M. Graney
Print Name Daniel M. Graney
Firm Southwest Surveying Co., Inc.

Page 2 of 2

Development Review Board Member Approvals

Robert A. Farnough 5-13-86 Traffic Date
Thomas H. Farnough 5-13-86 WRD Date
Janet D. Davis 5-13-86 Parks & Rec. Date
Richard D. Meen 5/13/86 DRB Chairman Date
Paul J. Caprin 5/13/86 City Engineer/AMAFCA Date



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

DESIGN HYDROLOGY SECTION
123 Central NW, Albuquerque, NM 87102
(505) 766-7644

April 11, 1986

Marvin Kortum
1605 Speakman Drive, NE
Albuquerque, New Mexico 87123

RE: REVISED DRAINAGE PLAN FOR HUDSON AVENUE TOWNHOUSES
(H-14/D40) RECEIVED APRIL 7, 1986

Dear Mr. Kortum:

I have reviewed the above referenced submittal and do not have any adverse comments regarding the re-design of the storm sewer. Please incorporate these same plans in your request for Work Order at DRC.

I am forwarding a copy of your report to Dan Hogan, since it is a field inspection report, and I feel it would be of interest to him for both making changes to the current facilities maps and for maintenance reasons.

If I can be of further assistance, please advise.

Cordially,

Billy J. Goolsby
Billy J. Goolsby, P.E.
C.E./Hydrology Section

cc: Ray Pando
708 Eleventh, NW

Andre Houle

BJG/bsj

MUNICIPAL DEVELOPMENT DEPARTMENT

ENGINEERING DIVISION

Telephone (505) 766-7467

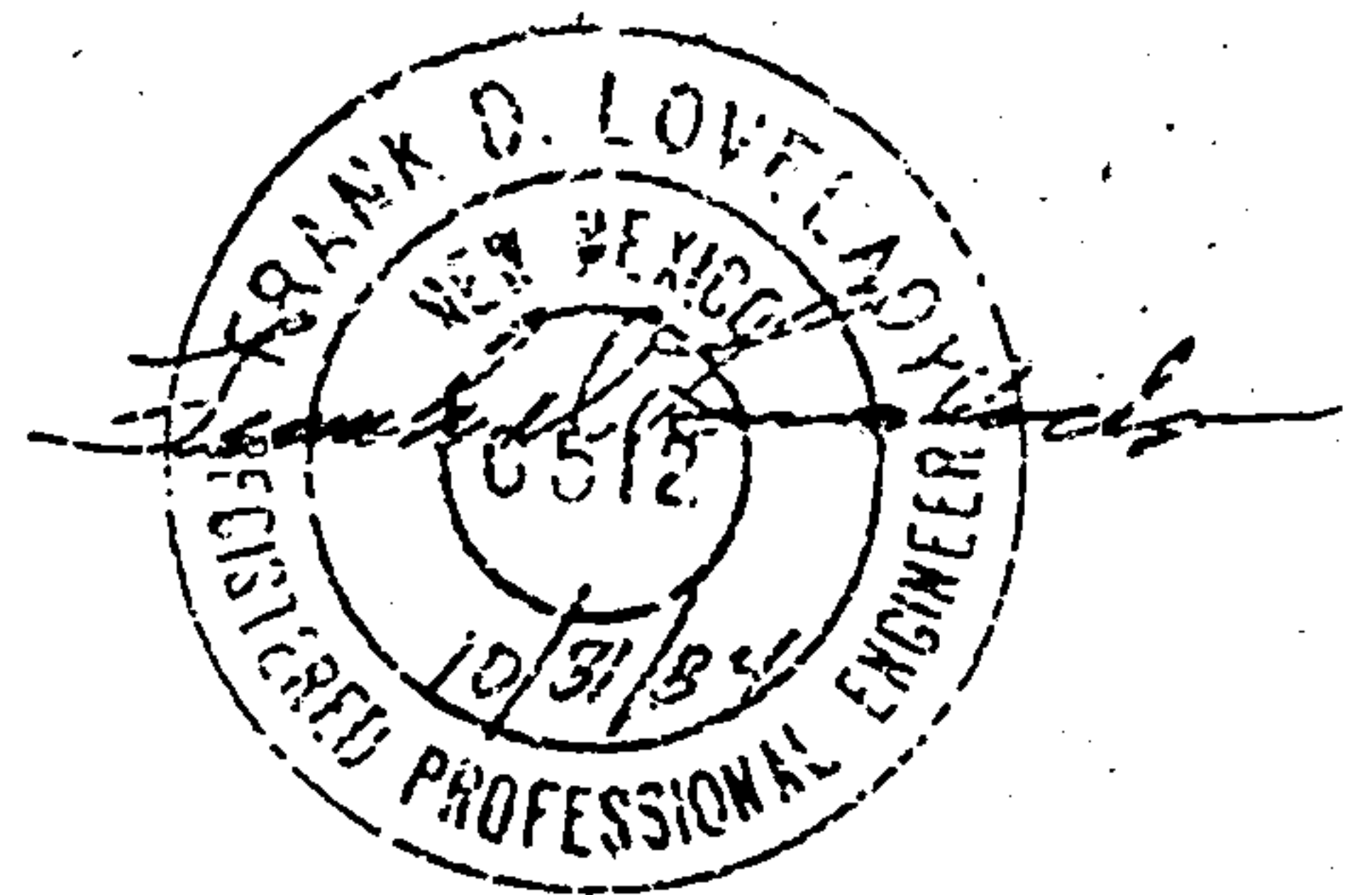
AN EQUAL OPPORTUNITY EMPLOYER

CONCEPTUAL
STORM DRAINAGE REPORT

PROPOSED TOWNHOUSE SUBDIVISION
(LOTS 1 THROUGH 4, WILLCUT ADDITION)

Prepared By
Frank D. Lovelady, P.E.

October 31, 1984



INFORMATION SHEET

PROJECT TITLE Proposed Townhouse Subdivision
Lots 1 thru 4, Willcut Addition TYPE OF SUBMITTAL Conceptual Storm
Drainage Report

ZONE ATLAS PAGE NO. H-14/ ^{D40 new} CITY ADDRESS _____

LEGAL DESCRIPTION Lots 1 through 4 Willcut Addition, proposed replat into
lots 1 thru 11.

ENGINEERING FIRM Lovelady and Assoc. CONTACT Frank Lovelady

ADDRESS 7408 Morrow Road, N.E. PHONE 883-7973

OWNER Montoya/ Pando, Inc. CONTACT Robert Montoya

ADDRESS 708 11th Street NW 87102 PHONE 842-9612

ARCHITECT _____ CONTACT _____

ADDRESS _____ PHONE _____

SURVEYOR Southwest Surveying Co. Inc. CONTACT Dan Graney

ADDRESS 333 Lomas Blvd N.E. PHONE 247-4444

CONTRACTOR _____ CONTACT _____

ADDRESS _____ PHONE _____

PRE-DESIGN MEETING:

☒ YES
☐ NO
☒ COPY OF CONFERENCE RECAP SHEET PROVIDED

DRB-84-787

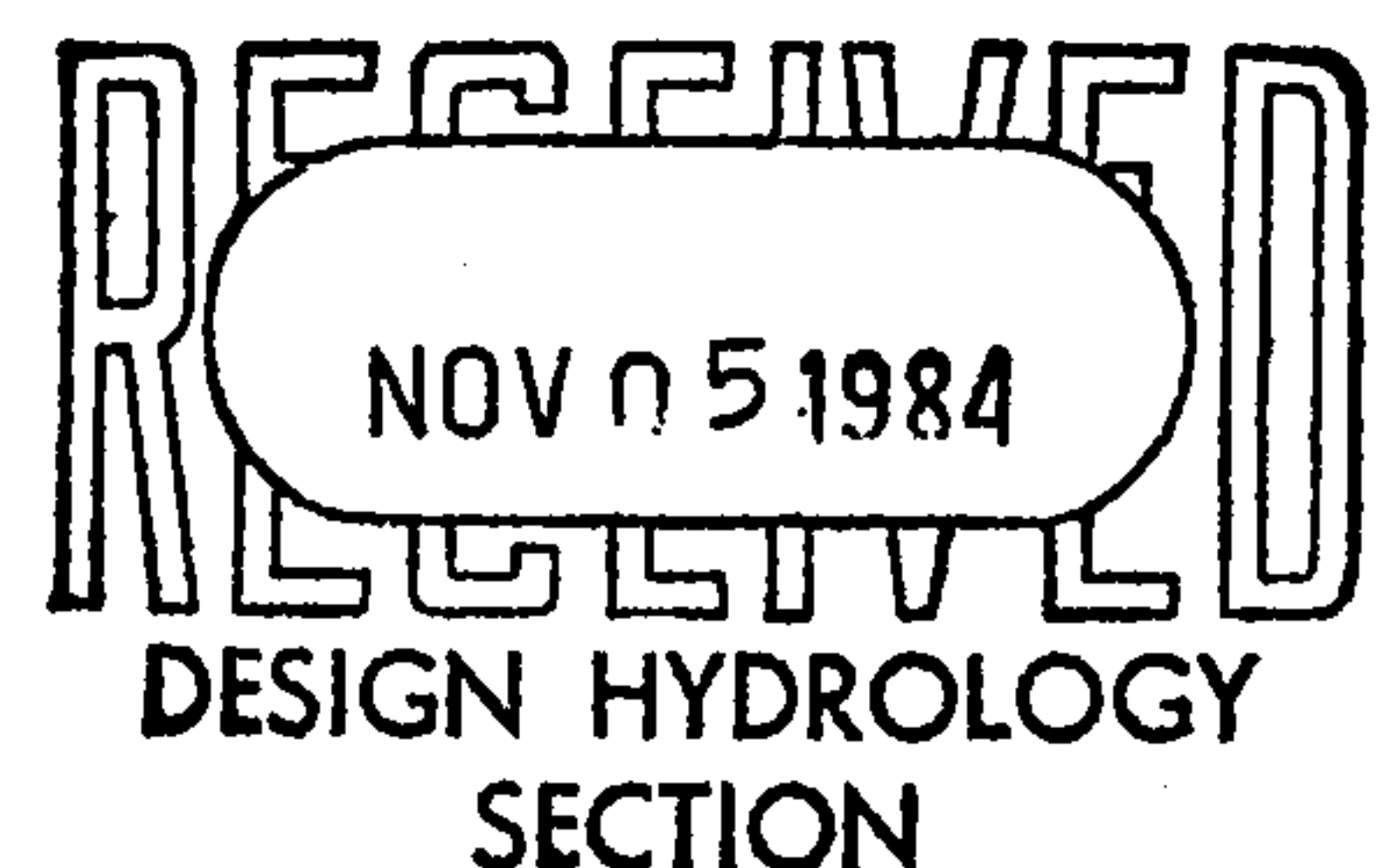
2.81.117 8/19/82

PLEASE CHECK TYPE OF APPROVAL EXPECTED WITH THIS SUBMITTAL:

☒ SKETCH PLAT APPROVAL
☐ PRELIMINARY PLAT APPROVAL
☐ SITE DEVELOPMENT PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY APPROVAL
☐ ROUGH GRADING PERMIT APPROVAL
☐ GRADING/PAVING PERMIT APPROVAL
☐ OTHER _____ (SPECIFY)

DATE SUBMITTED: October 31, 1984

BY: Frank D. Lovelady, P.E.





CITY OF ALBUQUERQUE
MUNICIPAL DEVELOPMENT DEPARTMENT
ENGINEERING DIVISION



HYDROLOGY SECTION PROJ. NO. H-14 DATE: 10/26/84

PLANNING DIVISION NO. _____

CONFERENCE RECAP

SUBJECT: Willcut Addition Lots 1-4

WHO	REPRESENTING
ATTENDANCE: <u>Frank Lovelady</u>	_____
<u>Billy Goolsby</u>	_____
_____	_____
_____	_____
_____	_____
_____	_____

FINDINGS: ① Minimum requirement for preliminary plat approval is an approved Conceptual Grading & Drainage report.

② Subdivision Improvements Agreement will be required for final plat approval.

③ Discharge to be determined by analysis of downstream capacity. Storm sewer in street may be utilized - Platting should show easement for existing stormsewer crossing the property.

The undersigned agrees that the above findings are summarized accurately and are only subject to change if further investigation reveals that they are not reasonable or that they are based on inaccurate information.

SIGNED: Billy G. Goolsby
TITLE: CE/Hydrologist
DATE: 10/26/84

SIGNED: Frank D. Lovelady
TITLE: _____
DATE: 10/26/84

* Please provide a copy of recap with submittal

TABLE OF CONTENTS

SECTION	PAGE
I. PURPOSE	
II. SCOPE	
III. LOCATION AND USE	
IV. EXISTING CONDITIONS	
V. PROPOSED (DEVELOPED) CONDITIONS	
VI. FLOOD HAZARD MAP	
VII. CONCLUSIONS	
VIII. RECOMMENDATIONS	

APPENDIX A - DRAINAGE CALCULATIONS

I. REFERENCES	
II. GENERAL INFORMATION	
III. PEAK DISCHARGE	
IV. STORM SEWER CAPACITY	

APPENDIX B - FIGURES

1. Zone Atlas, page H-14
2. Albuquerque Master Drainage Study Cell Map
3. City of Albuquerque Orthotopo Map
4. Storm Sewer Map
5. Storm Sewer As-built Plan and Profile
6. Soil Survey Map
7. Floodway Map
8. Conceptual Grading and Drainage Plan.

CONCEPTUAL
STORM DRAINAGE REPORT

I. PURPOSE:

The purpose of this report is to present a comprehensive analysis of drainage control constraints on the proposed development and to present a plan for handling the storm runoff in a manner consistent with current drainage policy of the City of Albuquerque.

II. SCOPE:

The scope of this report includes determining off-site and on-site flow rates and verifying the capacity of the existing storm sewer system that serves the site.

III. LOCATION AND USE:

The area being developed is in Zone Atlas H-14. The property is on Hudson Avenue approximately 500 feet west of Fourth Street NW. The intended use of the property is development of a townhouse subdivision. The location of the site is shown on the Zone Atlas page H-14 which is reproduced as Figure 1. (see Appendix A.)

IV. EXISTING CONDITIONS:

A. Off-site Drainage Area.

The proposed subdivision lies within Drainage Cell number 74 as shown on the Albuquerque Master Drainage Study Cell Map. (Figure 2) Drainage Cell number 74 has been outlined on the City orthotopo map, Figure 3.

B. Storm Sewer System;

A storm sewer system serves Cell Number 74. The City storm sewer map for the area is shown in Figure 4. Of the five east-west streets serving the cell, the only street that does not have catch basins is Claremont Avenue.

The storm sewer serving Hudson Avenue consists of two shallow curb-type catch basins located at the east end of the proposed subdivision which is the point where the paving and curb and gutter now ends. The as-built plans for the system are shown in Figure 5. From a manhole near these catch basins, a 12-inch RCP runs west to an existing manhole in lot 4 (current plat). From this manhole a 12-inch RCP line runs nearly parallel with the east boundary of lot 4, crossing the Griegos Lateral to a manhole located on the property of the W.W. Steel Company. Location of this manhole is being determined by the City Storm Sewer Maintenance Unit. The system in this area is in need of maintenance probably due to its being on private property. In checking out the system at the request of the writer, the crew discovered that the catch basins on Phoenix Avenue are not shown on the City storm sewer maps. Manholes S-106, S-107 and S-207 have not been found at the time of this writing.

The system runs south in Los Tomases and west in Menaul Boulevard to the Alameda Drain where it discharges.

C. Hudson Avenue Drainage Area.

The drainage area served by the Hudson Avenue storm sewer is shown in Figure 3, the City orthotopo map. The area is bounded on the north by the centerline of north Fourth Street; on the south by the rear lot lines of the lots fronting on the south side of Hudson Avenue; and, on the west by the Griegos Lateral.

The low point of the area is the west end of the existing paved section of Hudson Avenue where catch basins are located on both sides of the street. The entire area is drained by means of the two catch basins.

D. Existing On-site Conditions.

The site is presently undeveloped with little natural vegetation. The land slopes from southwest to northeast at about one percent slope. There is no flow entering the site from any direction. The soil is Gila Loam (Gb), Hydrologic Soil Group B, as shown on sheet 20 of the Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico. (See Figure 6.)

V. PROPOSED (DEVELOPED) CONDITIONS:

The property is proposed to be developed as an eleven lot townhouse subdivision. (See Figure 8, Conceptual Grading and Drainage Plan.) Each lot will front on Hudson Avenue or the turnaround. Hudson Avenue will be paved with curb and gutter. Each lot will be graded to drain to Hudson Avenue which naturally slopes from west to east to the low point at the existing catch basins. It is proposed that these two catch basins

continue to serve as the only collectors for the street. At the present time, all of the five streets in the cell have only two catch basins except for Claremont Avenue which has no positive drainage of its own but depends on the streets north and south of it.

The pipes connecting the catch basins to the manhole are 8-inch diameter; cross sectional area is 0.3491 sq. ft. The 12-inch RCP main line is approximately 12 percent larger in area than the two connecting lines combined or 0.7854 sq. ft. There is no advantage to installing additional catch basins since the capacity of the main line storm sewer is the controlling factor.

VI. FLOOD HAZARD MAP:

A copy of the City of Albuquerque Floodway Map is shown in Figure 7. The map shows that there is no flooding in the area at all with exception of the 500 year flood. There is no flooding anywhere between the site and the point of outfall into the Alameda Drain.

VII. CONCLUSIONS:

The proposed site is an in-fill area that is one of the last, if not the last, undeveloped parcels within cell number 74. Development of this parcel will result in a slight increase in runoff that the storm sewer system must carry. However, paving the remaining 200 feet of Hudson Avenue will decrease the amount of sediment in the storm sewer resulting in more efficient operation.

The site is not in a flood hazard area nor are there

any flood hazard areas downstream from the site, an indication that the storm sewer system has adequate capacity. However, calculations show that the capacity of the storm sewer on Hudson Avenue will be exceeded by the rate of peak discharge which will result in some ponding in the street during major storms.

VIII. RECOMMENDATIONS:

1. It is recommended that the existing storm sewer system downstream from the site be given a thorough inspection and that all required maintenance be performed.
2. It is recommended that no modifications to the existing storm sewer be made.

APPENDIX A

DRAINAGE CALCULATIONS

I. REFERENCES:

- A. City of Albuquerque Development Process Manual (DPM) Volume 2 Design Criteria, Chapter 22, Drainage, Flood Control and Erosion Control.
- B. Soil Survey of Bernalillo County and Parts of Sandoval and Valencia Counties, New Mexico, United States Department of Agriculture, Soil Conservation Service.
- C. Albuquerque Master Drainage Study, Bohannon Huston, Inc., 1982.

II. GENERAL INFORMATION:

- A. Soil Type. (See Ref. B.) Soil is Gila Loam (Gb), Hydrologic Soils group B.
- B. Imperviousness. (See Ref. A, Plate 22.2 C-2) Runoff curve number calculation. For residential lots 1/8 acre or less, the average percent impervious is 65 percent.
- C. "C" Factor (See Ref A. Plate 22.2 C-1)
 1. Undeveloped (Subdivision only) Curve B for zero percent impervious, $C = 0.34$.
 2. Developed (Subdivision and surrounding developed area) curve B for 65% impervious, $C = 0.66$.
- D. Rainfall, 100-year, 6-hour. (R_6) (See Ref. A, Plate 22.2 D-1.) The site is west of the 2.2-inch line. Therefore, $R_6 = 2.2$ inches.
- E. Time of Concentration (T_c) Use Kirpich Equation.)
 1. Hudson Avenue Drainage Area.
$$T_c = 0.0078(L^{0.77}/S^{0.385})$$

Where: L = distance from most hydrologically remote point (in this case, the intersection of Claremont Avenue

and Fourth Street.

S = Average watershed slope

Elev. of most hydrologically remote point = 65.8 (from city orthotopo maps.)

Elev of catch basin inlet = 63.7 (From as-builts)

S = (65.8 - 63.7) / 675 ft. = 0.0031 ft./ft.

$$T_c = 0.0078 (675^{0.77} / 0.0031^{0.385}) = 10.88 \text{ minutes.}$$

2. Subdivision drainage area. The minimum T_c is 10 minutes. Since the drainage area for the entire area is only 10.88 minutes, it follows that T_c for the subdivision would be much less than 10 minutes. Use the minimum T_c of 10 minutes.

F. Areas

1. Hudson Avenue drainage Area

$$(800 + 950) / 2 \times 290 = 253,750 \text{ sq.ft.} = 5.82 \text{ acres.}$$

2. Subdivision 0.83 acres, not including the street right-of-way.

G. Rainfall Intensity. (See Ref A. Plate 22.2 D-2)

$$I = R_6 \times 6.84 \times T_c^{-0.51}$$

$$= 2.2 \times 6.84 \times 10.88^{-0.51} = 4.45 \text{ inches per hour.}$$

III. PEAK DISCHARGE:

A. Undeveloped. Weighted "C" Factor for the Hudson Avenue Drainage Area is as follows.

$$\frac{(5.82 - 0.83) 0.66 + 0.83 \times 0.34}{5.82} = 0.61$$

$$Q_{100} = CIA = 0.61 \times 4.45 \times 5.82 = 15.8 \text{ cfs}$$

$$Q_{10} = 15.8 \times 0.657 = 10.38 \text{ cfs}$$

B. Developed C = 0.66 for entire area.

$$Q_{100} = CIA = 0.66 \times 4.45 \times 5.82 = 17.1 \text{ cfs}$$

$$Q_{10} = 17.1 \times 0.657 = 11.23 \text{ cfs}$$

IV. STORM SEWER CAPACITY:

A. Inlets. Assume 6" ponding and assume orifice is at lower end of elbow, approximately 1 foot below lip. From orifice equation,

$$Q = C A \sqrt{2gh}$$

$$= 0.6 \times 0.3491 \sqrt{2 \times 32.2 \times 1.5}$$

$$= 3.84 \text{ cfs} \times 2 = 7.65 \text{ cfs for both inlets.}$$

B. Mainline sewer capacity. Slope is 0.0012 ft./ft. Using ARMCO sewer pipe calculator, for 1.0 parts full, $Q = 1.2 \text{ cfs}$ Surge at the inlets will increase this flow somewhat.

APPENDIX B

FIGURES

SITE



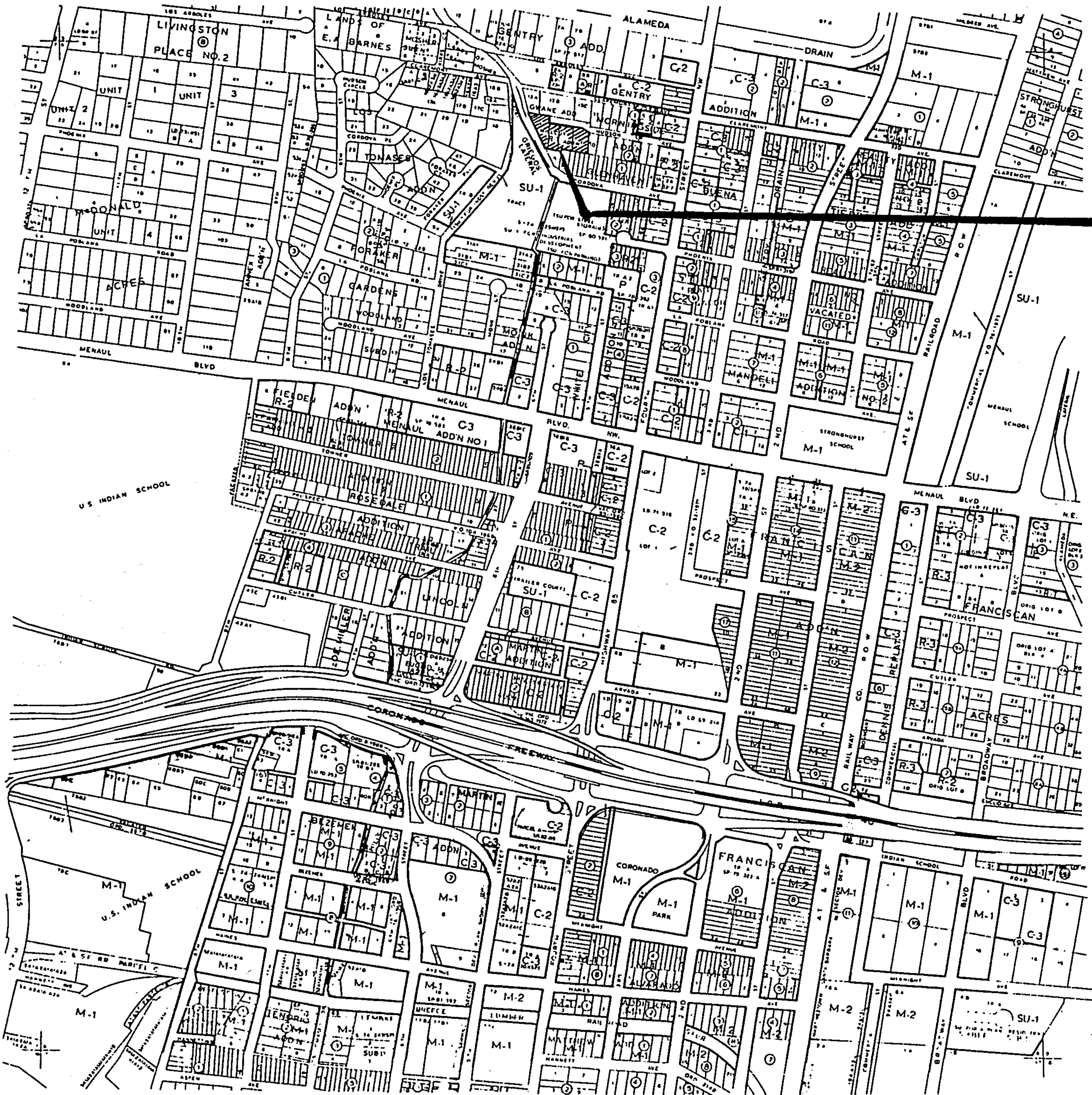
LEGAL DESCRIPTION
T 10 N
R 3 E
SEC 6
MERCER MAP 36

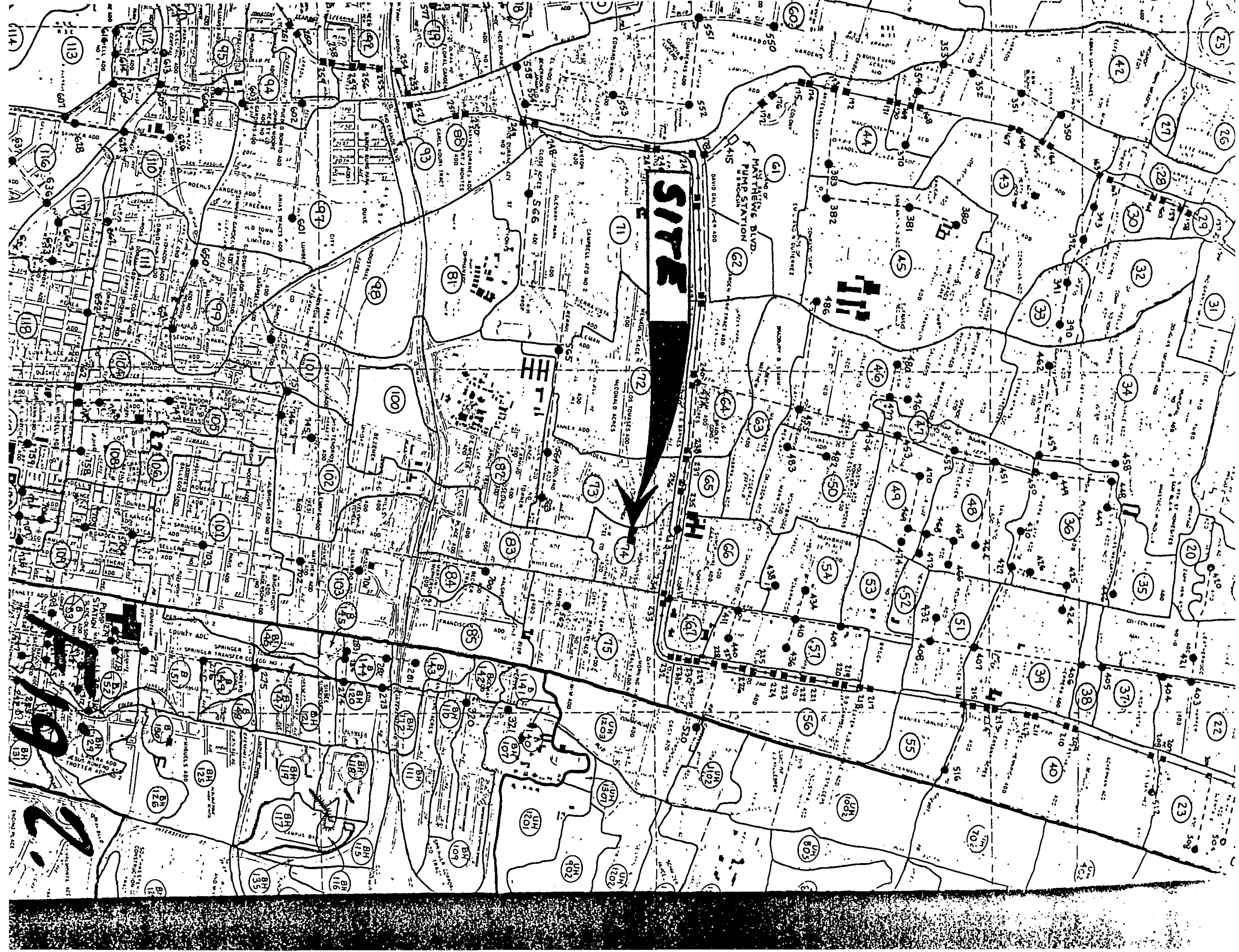
UNIFORM PLATON CODE
1-614-1950

MAP APPROVED THROUGH
UNIFIED 1967

H-14-Z
ALBUQUERQUE PLANNING DEPT. ON
MUNICIPAL DEVELOPMENT DEPARTMENT

Fig 1.

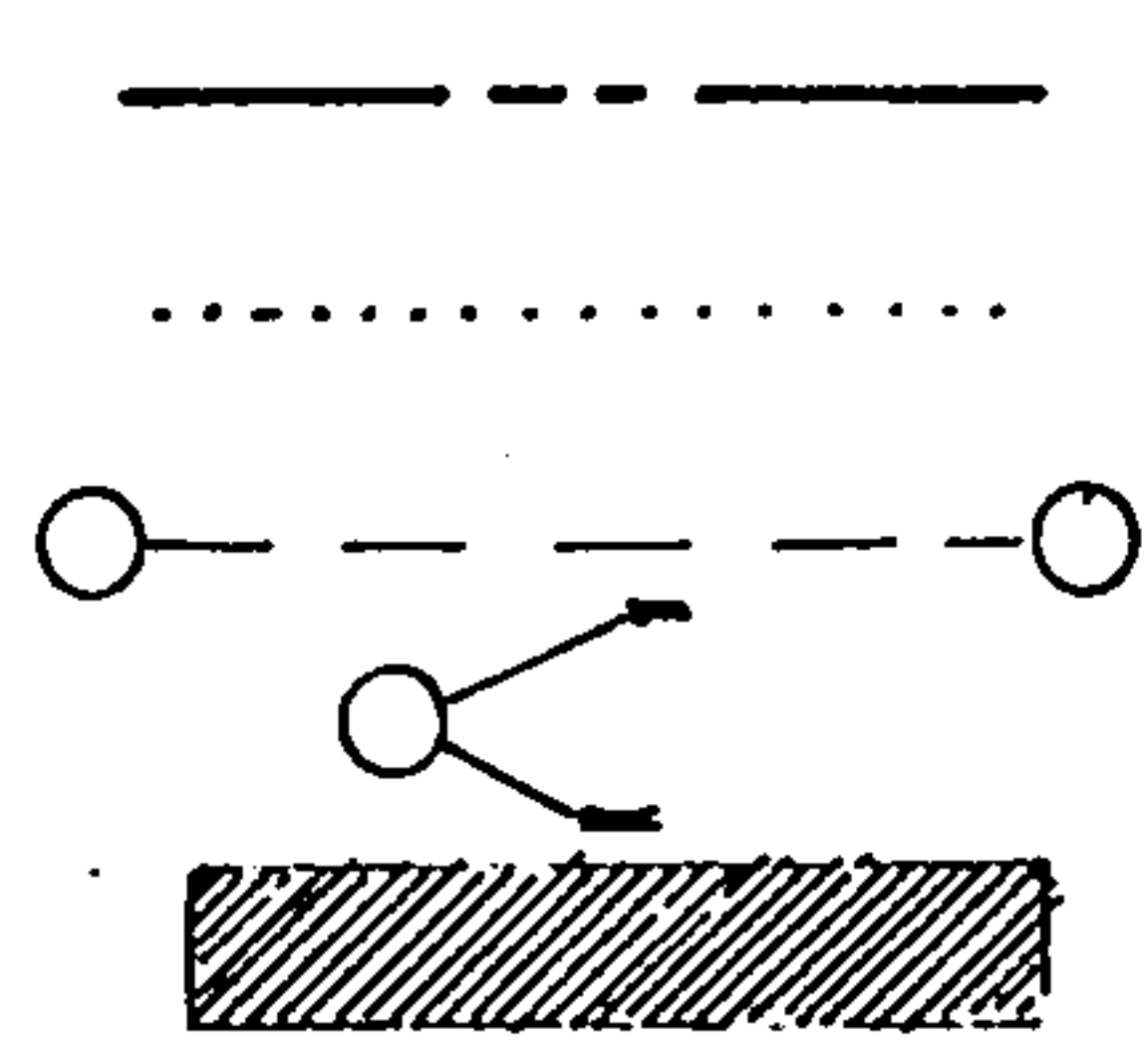




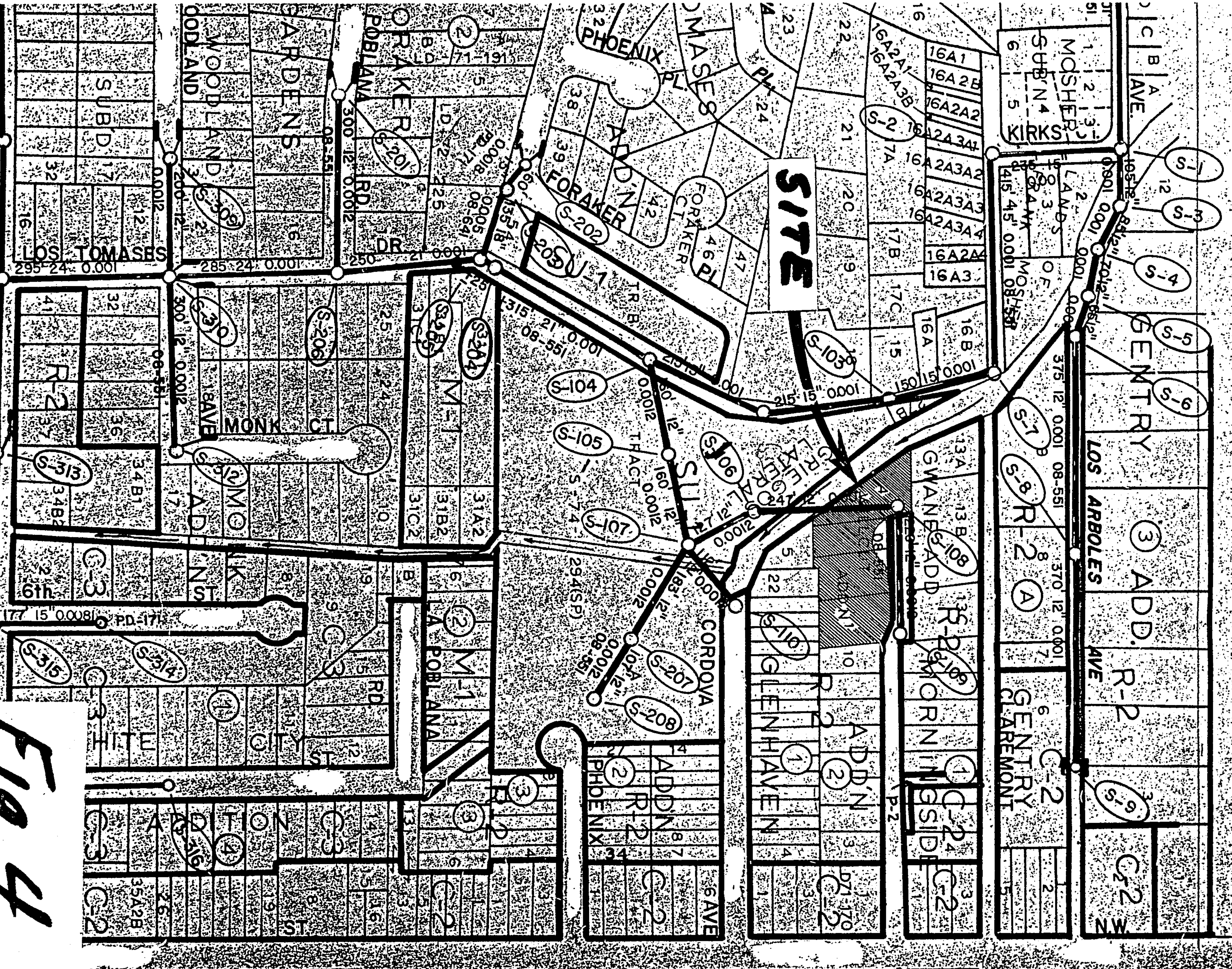


LEGEND

- Cell Boundary, Cell #74
- Boundary, Hudson Ave. Drainage Area
- Storm Sewer
- Manhole and Catch Basins
- proposed Subdivision



19-3



SITE

Fig 4

1380 000 FEET



