HYDROLOGY H16/D52 2 PLANS

H16/D52

2 PLANS

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

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

April 19, 1984

Mr. Thomas L. Andrews
G.A. Baca & Associates, Ltd.
P.O. Box 2023
Santa Fe, NM 87501

REF: REVISED GRADING AND DRAINAGE PLAN FOR SOLV-EX CORPORATION (H16-D52)
RECEIVED APRIL 4, 1983

Dear Mr. Andrews:

The above referenced plan received on April 4, 1984 is approved.

Since this plan does not have a revision date on it, you and our inspectors will have to insure that the same approved plan is incorporated in the construction set prior to final sign-off.

Also, please attach the appropriately approved "Construction Within Public R/W" document to the construction set prior to release of the building permit.

If I can be of further assistance, please contace me at 766-7644.

Yours truly,

Billy J. Goolsby

Billy J. Goolsby, PE
City/County Flood Plain Admin.

BJG:mrk

cc: Greg Olsen

GODWIN
ENGINEERING
CORPORATION
Professional Consultants

JIM LEYMON, Engineer

3820 ACADEMY PARKWAY, NORTH
ALBUQUERQUE, NEW MEXICO 87109
PHONE (505) 345-8371

G. A. Baca and Associates, Ltd.
P.O. Box 2023
1220 Paseo de Peralta
Santa Fe, New Mexico 87501
Telephone (505) 983-2594

April 3, 1984

RECEIVED
APR 04 1984
CITY ENGINEER

City of Albuquerque
Engineering Division
P.O. Box 1293
Albuquerque, NM 87103

Attn: Mr. Billy J. Goolsby, P.E.

Re: Grading and Drainage Plan for Solv-Ex Corporation (H16-052) Addendum

Dear Mr. Goolsby:

In response to your letter dated February 24, 1984, and our telephone conversation on March 28, 1984, the following data are presented and numbered according to the letter.

1. We discussed on the phonethe pre-design meeting with Mr. Fred Aguirre, Mr. George Forster, and Mr. Tom Andrews, at City Hall on September 9, 1983.

2a. Based on the fact that the adjacent eastern neighbor has portions of the property developed and currently under development, and an existing earth berm (12" high x 24" bottom width x 12" top width) runs along the eastern boundary, no flow is expected to enter Solv-Ex property. However, additional channel flow capacity exists in case of breach in the earth berm. The asphalt speed bump serves to maintain flows within the public right-of-way of Woodland Avenue and shall be constructed as part of this project in agreement with our telephone conversation, March 28, 1984.

2b. On-site conditions are those unshaded portions of the enclosed plan sheet. Existing flows are shown in Table 2.0 of the November 2, 1983, Drainage Plan submittal. Developed flows are the same as the existing flows except that the proposed NS and EW channels will prevent runoff onto the adjacent lower property.

2c. Flow from the NS and EW channels is directed into the south gutter of Phoenix Avenue. The 100-year flow is less than 7.0 cfs. The first downstream inlet in Phoenix Avenue is a 2' x 4', Type A unit which can accomodate 4.4 cfs at existing conditions (Plate 22.3 D-5). This 4.4 cfs enters the existing 42-inch storm sewer. The remaining flow is carried along Phoenix Avenue and enters the catch basin on the west side of the Phoenix Avenue/Princeton Avenue intersection, thence into a 72-inch storm sewer. The 72-inch sewer discharges west of Interstate 25.

G. A. Baca and Associates, Ltd.

Also, I would like to bring to your attention the dimensional changes for the NS trapezoidal channel to 45 inches top width and 21 inches bottom width. This increase allows a flow capacity of 7 cfs at a depth of 10 inches with two inches of freeboard.

I hope these comments clarify and expand this Solv-Ex Corporation sitework.

Sincerely yours,

Thomas Andrews Charlotte Shore

Thomas L. Andrews, P.E.

TA:sf

Encl

cc: Mr. George Forster
Solv-Ex Corporation

City of Albuquerque
P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 24, 1984

Mr. Thomas L. Andrews
G.A. Baca & Associates, Ltd.
PO Box 2023
Santa Fe, NM 87501

RE: REVISED GRADING & DRAINAGE PLAN FOR SOLV-EX CORPORATION
RECEIVED JANUARY 31, 1984

Dear Mr. Andrews:

I have reviewed the above referenced submittal and forward the following comments:

1. It is suggested that for the future that you become more familiar with the processes and criteria within the City of Albuquerque. "I do not mean to discourage you from doing work here, I just feel that the more you know about the system the easier it will be for you.

   A pre-design conference is generally entertained in most of the departments to discuss the project and some of the requirements. Most departments have submittal forms and checklists that are followed in the reviews of the jobs. I have enclosed copies for this section for your use. The checklist is a guide and not all the items are applicable. I have tried to highlight the ones that are general requirements for all plans.

2. With regard to your response to my previous comments additional information and minor modifications to your plan will need to be provided for me to complete my review and give it an approval.

   a. It is a requirement that the site has to accept all off-site flows onto the property if they exist now. They may not be blocked. Also, they may not be diverted off-site without adjacent owners approval and appropriate easements. Consequently, the berm along the east property line and the asphalt bump in in the south entrance are not acceptable. The only flows that may be blocked are those generated on

public Right-of Ways. The flows from the adjacent properties that come onto the site will have to be accepted and included in the treatment of the on-site flows.

b. In addressing the on-site existing conditions, the flows will need to be quantified and the calculations provided.

c. The discussion of the discharge into Phoenix Avenue needs additional analysis. What is the capacity of the street? What other areas contribute to this street and will the street have the capacity to accept the flows from your site? How do the flows get into the storm sewer? If by inlets, what are their capacities?

Your request to visit the site is not a standard practice. I sincerely wish it were possible but with the workload that our department is currently under, we just can't afford the time. However, we do entertain field trips if a site has a specific problem that can only be resolved by a field inspection.

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

I hope to work with you on future projects and strongly suggest you contact either me or one of the other engineers in the office to discuss and outline the requirements for the site such that your submittal will receive the earliest possible approval.

Sincerely yours,

Billy J. Goolsby

Billy J. Goolsby, P.E.
City/County Flood Ordinance Administrator

BJG/ca

G. A. Barra and Associates, Ltd.
P.O. Box 2023
1520 Paseo de Peralta
Santa Fe, New Mexico 87501
Telephone (505) 983-2594

January 26, 1984

RECEIVED
JAN 31 1984

City of Albuquerque
Engineering Division
P.O. Box 1293
Albuquerque, NM 87103

ATTN: Mr. Billy J. Goolsby, P.E.

RE: Grading and Drainage Plan for Solv-Ex Corporation
(H16-D52) Addendum

Dear Mr. Goolsby:

The following are responses to your comments dated November 1983, regarding the above submittal. The following numerical sequence corresponds to the comments.

✓ 1. The Solv-Ex site is not within a flood hazard zone as delineated on Panel 23 of the Flood Insurance Rate Map, adopted September 5, 1983.

2. Erosion control for the estimated 21-day construction period shall be as follows:

a. Rough grading: The construction area, as delineated on the enclosed, revised Plan Sheet, lies within a medium-coarse, sandy soil area. The estimated 935 cubic yards removed for the channels shall be used as fill for the northwest lot area.

✓ b. Construction: Prior to lining the channels and during the construction period, all on-site flow and soil shall be retained on-site by a temporary berm at the downstream end of the NS channel.

c. Permanent grades and flows: Sheet flow enters the NS channel from Area A2. Based on sandy soil, Manning n=0.033, S=0.0123, Q100=3.82 cfs, the estimated 100-year flow depth is 0.035 feet (0.42 inches) and a velocity of 0.45 fps. Thus, a negligible amount of sand will enter the NS channel.

3. Figure 1.0, Surface Flow Map, and the Plan Sheet show that an area of less than 400 X 30 feet (0.275 acres) may contribute to offsite, eastern flows to Solv-Ex property. Potential flows from the east will be directed north and not allowed to flow onto Solv-Ex property by completing the existing earthern berm on the eastern property boundary with a 12-inch high earth berm (top width 12 inches; bottom width 24 inches).

NO!

Resubmittal

FILE COPY

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

November 17, 1983

Mr. Thomas L. Andrews
G.A. Baca and Associates, Ltd.
1520 Paseo de Peralta
Santa Fe, NM 87501

REF: GRADING & DRAINAGE PLAN FOR SOLV-EX CORPORATION (H16-D52)

Dear Mr. Andrews:

I have reviewed the above referenced plan and forward the following comments which are based on the DPM checklist:

1. Flood hazard delineation has not been addressed.

2. An erosion control plan for the period of construction has not been addressed.

3. The report states that figure 1 delineated the off-site contributing area. The copy in our file doesn't specifically show anything. The contours on the plan sheet indicate the site receives off-site flows from the east. These off-site flows have not been adequately addressed or incorporated in the computations. If there are none, then it needs quantifying. If there are, what are they and how are they to be handled on-site?

4. The existing condition flows have not been addressed.

5. What is proposed to be developed and what is existing? It's not clear on the plan.

6. Downstream capacities have not been adequately addressed.

7. For future reference, this plan is not of standard engineering scale.

8. The plan does not have a legend, vicinity map, zone atlas map index number or legal description as per DPM.

9. Spot elevations, both existing and proposed, would be appropriate to adequately show conditions on-site.

10. The finished floor elevations with MSL designation for all existing and proposed structures on-site and adjacent off-site should be provided.

11. Existing City top-of-curb and flowline elevations are not shown. Is Woodland Avenue on improved street with curb and gutter? What is the R/W?

12. Are there any retaining or garden walls existing or proposed?

13. The contours along the west property line indicates an excessive slope, how is this to be handled? Also, it appears that the NS channel is going to be up in the air. How will this work?

14. Is the drivepad at the property line a minimum of 1 foot above the gutter flowline as per City design standards?

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

Yours truly,

Billy J. Goolsby

Billy J. Goolsby, PE
Civil Engineer/Hydrology

BJG:mrk

G. A. Baca and Associates, Ltd.
P.O. Box 2023
1520 Paseo de Peralta
Santa Fe, New Mexico 87501
Telephone (505) 983-2594

H76-052

November 2, 1983

RECEIVED
NOV 03 1983
CITY ENGINEER

City of Albuquerque
Municipal Development Department
Engineering Division
P.O. Box 1293
406 Marquette N.W.
Albuquerque, N.M. 87103

Attn: Mr. Fred Aguirre

Re: Solv-Ex Corporation, 2121 Menaul, Drainage Plan

Dear Mr. Aguirre:

Enclosed please find two (2) copies of the Drainage Plan and site drainage improvements on the referenced property. Please direct any comments to this office, and thank you for your prompt review as we would like to solicit construction bids, make award, and commence construction immediately.

Sincerely,

Thomas L. Andrews, P.E.

Thomas L. Andrews, P.E.

Enclosure
Copies: Mr. George Forster, Vice-President
Solv-Ex Corporation

G. A. Baca and Associates, Ltd.
P.O. Box 2023
1520 Paseo de Peralta
Santa Fe, New Mexico 87501
Telephone (505) 983-2594

DRAINAGE PLAN

PREPARED FOR

SOLV-EX CORPORATION
2610 SAN MATEO
ALBUQUERQUE, NEW MEXICO 87110

PREPARED BY
G. A. BACA AND ASSOCIATES, LTD.
POST OFFICE BOX 2023
1520 PASEO DE PERALTA
SANTA FE, NEW MEXICO 87501

G. A. Baca and Associates, Ltd.

INFORMATION SHEET

Project Title: Solv-Ex Corporation

Type of Submittal: Grading Plan

Zone Atlas Page No: H-16-Z

City Address: 2121 Menaul Blvd. NE
Albuquerque, New Mexico 87107

Legal Description: Lot E-4A, a replat of Tract D and E of Menaul Development Area, December 9, 1977. Zone M-1

Engineering Firm: G. A. Baca and Associates, Ltd.
Post Office Box 2023
Santa Fe, New Mexico 87501
Mr. Thomas L. Andrews, P.E.
(505)983-2594

Owner: Solv-Ex Corporation
2121 Menaul Blvd. NE
Albuquerque, New Mexico 87107
Mr. George Forster
(505)883-0331

Surveyor: Albuquerque Surveying Co., Inc.
2119 Menaul Blvd. NE
Mr. Fred Sanchez, L.S.
(505)884-2036

Contractor:

Date Submitted:

By:

1.0 OFF-SITE CONDITIONS

The water shed area delineating off-site contributing water sheds is shown in Figure 1.0 on the City of Albuquerque Ortho-Topo Area map (1"=200'). Based on existing adjacent development, no significant off-site flows impact the subject area.

2.0 ON-SITE CONDITIONS

The subject lot is 399.27' (NS) x 153.74' (EW)(average) with the surface sloping NW between 1 and 3 percent. Based on existing site development and grading, the site is divided into two areas, A1 and A2. For runoff calculations, area A1 flows are intercepted by a proposed EW rectangular channel as shown on the attached Grading Plan sheet. Flows for the entire lot, areas A1 and A2, are to be intercepted by a proposed NS trapezodial channel. The following Table 2.0 are peak flows and velocities in the EW and NS channels and the assumptions used in the calculations.

Proposed treatment of on-site flows based on discussion with the City Engineering Division, is to discharge collected flows at the NW corner of the site and into the Phoenix Avenue storm sewer. The NS trapezoidal channel shall transition to a 24-inch wide checker plate channel as per City design standards. The depth of flow at Q_{100} = 6.98 cfs is approximately 6.28 inches or 90 percent of total available depth as calculated using the Manning Equation. The incremental discharge to the Phoenix Avenue storm sewer is not expected to have significant impact on available capacity as confirmed by the Engineering Division.

TABLE 2.0 EXISTING PEAK FLOWS AND VELOCITIES FOR EW AND NS CHANNELS[a]

EW Channel (A1 = 0.638 ac)[b]

Q_{100} = CIA = (1.0)(4.945 in/hr)(0.638 ac)
= 3.15 cfs

V_{100} = 2.52 fps

Q_{10} = (0.657)(3.15 cfs) = 2.07 cfs

NS Channel (A1 + A2 = 1.41 ac)[c]

Q_{100} = CIA = (1.0)(4.945 in/hr)(1.41 ac)
= 6.97 cfs

V_{100} = 3.17 fps

Q_{10} = (0.657)(6.97 cfs)= 4.58 cfs

---

a C = 1.0; T_c = 10 min;
I_{130} = 2.15 x 2.30 in = 4.945 in/hr; I_{10} = 0.657 I_{100}
(Plates 22.2 D-1 and D-2);

b EW channel cross section: 24" width; 12" depth;
d_{100} = 7.5; n = 0.014; S = 0.002 ft/ft

c NS channel cross section: 42" top width;
18" bottom width; sideslope 1:1;
12" depth; d_{100} = 10.94"; n = 0.014; S = 0.002 ft/ft

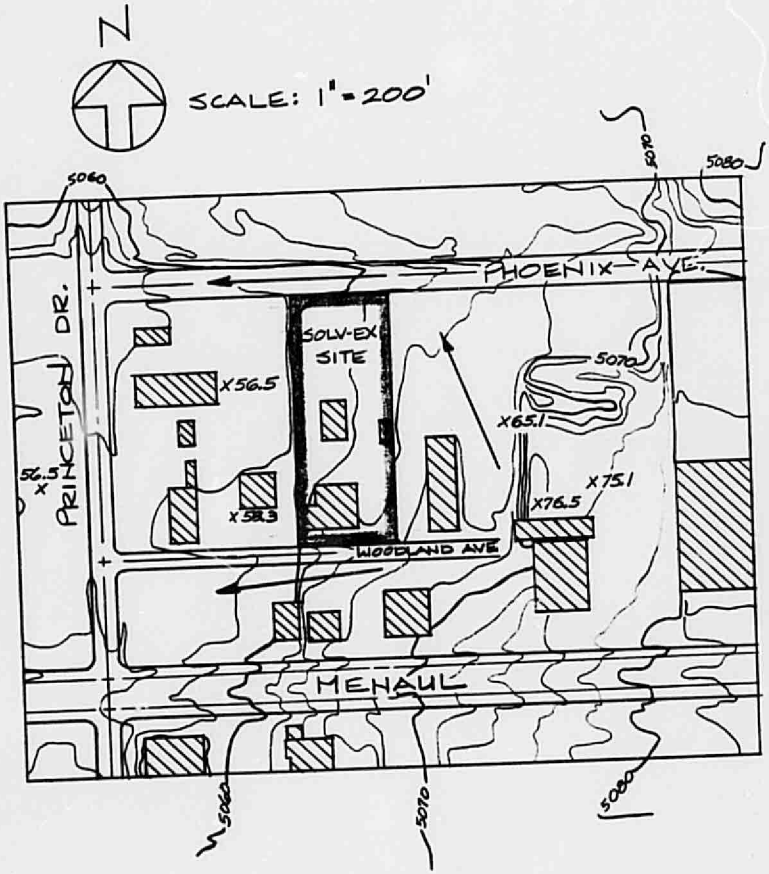


FIGURE 1.0 - SURFACE FLOW MAP

G. A. Baca and Associates, Ltd.

Not quantified

4. Existing flow conditions are from southeast and east to a sunken area on the northwest portion of the lot.

5. The construction items (flow structures and recontouring) are listed in the added general note on the enclosed Plan Sheet.

6. The on-site flows are discharged into Phoenix Avenue (Q100=6.97 cfs) are received by a 42-inch diameter RCP (1.52% slope, n=0.015) having a capacity of 110 cfs.

Where? What depth with the flow in Phoenix? with the other flows.

7. Noted for future reference.

8, 9, 10. Added on revised Plan Sheet.

11. Woodland Avenue south of the Solv-Ex site is a paved parking lot without any curb and gutter. Offsite flows bypass the Solv-Ex property along the course noted as Woodland Avenue. Any possible flows currently entering the site's southeast gate shall be diverted south by the 20"w X 4"h X 27'l traffic control bump to be constructed as part of this project.

12. The existing 8" CMU wall along the western boundary is added to the revised Plan Sheet.

13. The NS channel shall be located so that subgrade can be compacted in place providing a stabilized western slope and firm structural channel support.

14. Existing north entry drivepad elevations are shown on the revised Plan Sheet.

After reviewing this submittal, I suggest we visit the site accompanied by the Solv-Ex Corporation engineer, Mr. George Forster.

Sincerely,

Thomas L. Andrews, P.E.

Fine for blocking flows from the site but not onto the site.

Thomas L. Andrews, P.E.

encl

cc: Mr. George Forster, Solv-Ex Corporation
File

RECEIVED

THIS MICROFILM IS THE BEST POSSIBLE REPRODUCTION DUE TO THE POOR QUALITY OF THE ORIGINAL DOCUMENT

CITY OF ALBUQUERQUE DRAINAGE REPORT

ZONE ATLAS NO.	NAME OF CONSTRUCTION	OBSERVER	DATE OBSERVED
	[illegible]	William K Pena	4-6-79

ADDRESS: [illegible]

Reason for Field Check: For the final drainage inspection on this office addition

FINDINGS AND CONCLUSION: There is only one pond to take care of this bldg addition it is located on the west side of the bldg. Everything look like the roof of this addition the only space that give water to this pond.

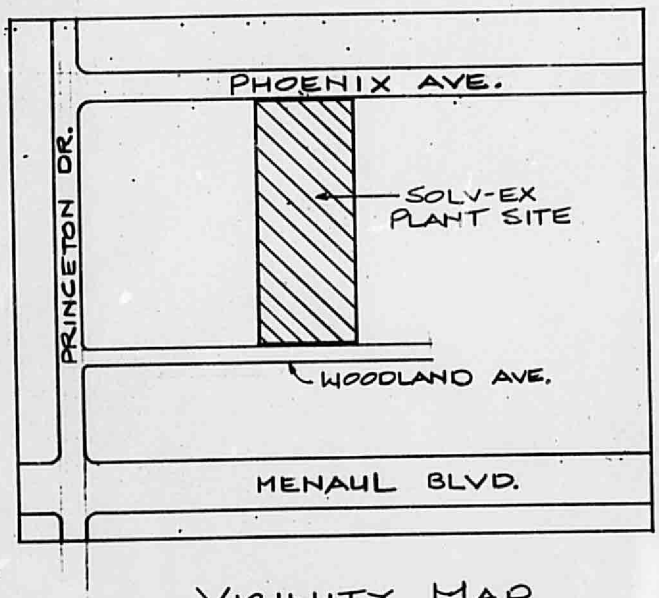
FOLLOW UP ACTION REQUIRED: No follow-up will be needed because this bldg. passed the final inspection

SKETCH:

William K Pena
OBSERVER

CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY



N

SCALE: 1" = 200'

VICINITY MAP

THOMAS L. ANDRESS
NEW MEXICO
6672
REGISTERED PROFESSIONAL ENGINEER

10-24-83

NOTICE TO CONTRACTOR

1. An excavation/construction permit will be required before beginning any work within City right-of-way. An approved copy of these plans must be submitted at the time of application for this permit.
2. All work detailed on these plans to be performed, except as otherwise stated or provided hereon, shall be constructed in accordance with "Contract Documents for City-Wide Utilities and Cash Paving No. 31 "
3. Two working days prior to any excavation, contractor must contact Line Locating Service, 765-1234, for location of existing utilities.
4. Prior to construction, the contractor shall excavate and verify the horizontal and vertical locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay.
5. Backfill compaction shall be according to (NOT APPLICABLE) street use.

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		

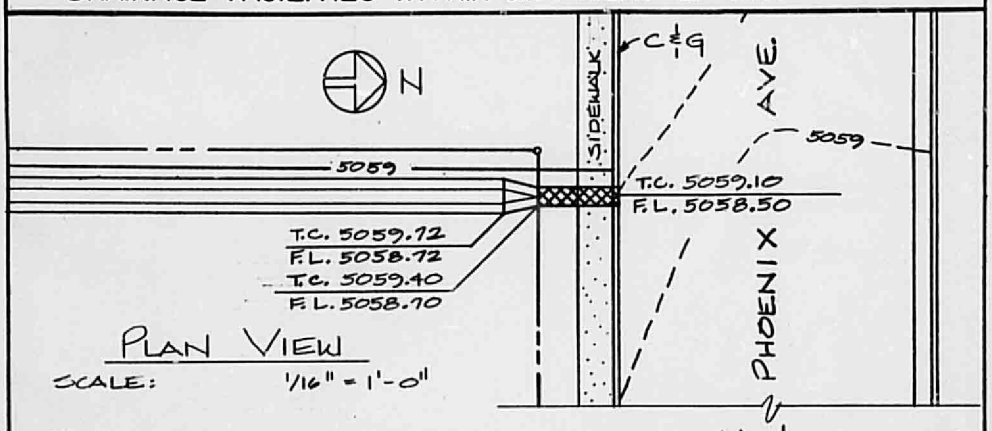
TITLE: SOLV-EX CORP.
2121 MENAUL BLVD. NE
- DRAINAGE IMPROVEMENTS -

PERMIT NO.
SHEET 1 OF 2

MAP NO. H-16-Z

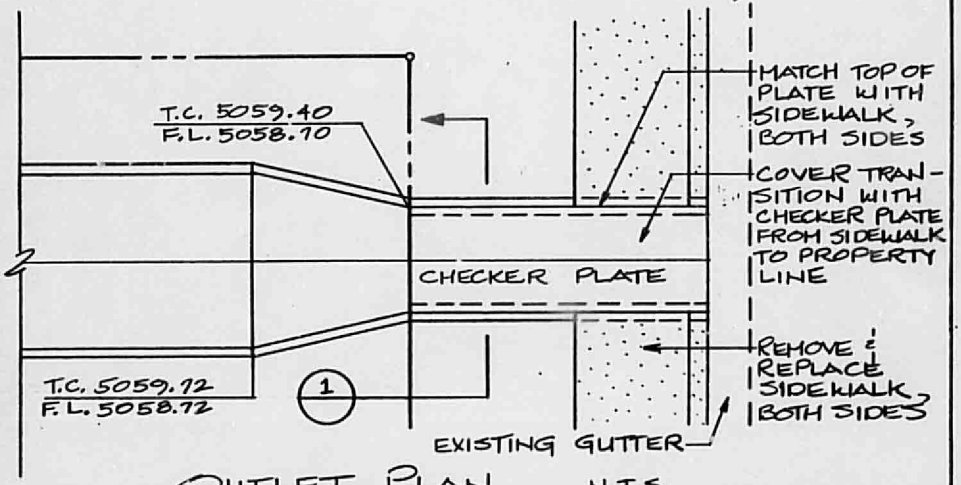
CITY OF ALBUQUERQUE

DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY

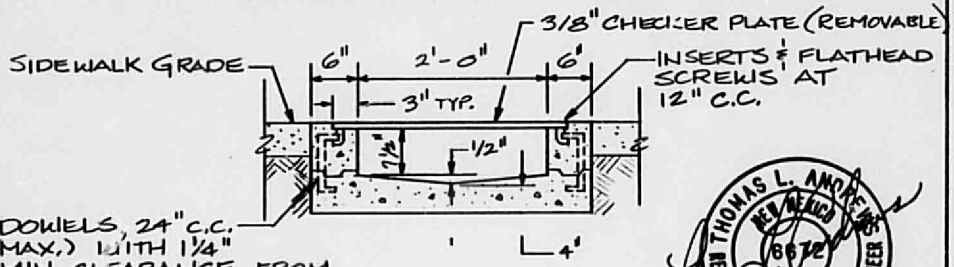


PLAN VIEW

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



OUTLET PLAN N.T.S.



SECTION 1

N.T.S.

THOMAS L. AMOS NEW MEXICO 8672 REGISTERED PROFESSIONAL ENGINEER

10-24-83

APPROVALS	NAME	DATE
A.C.E./DESIGN		
INSPECTOR		
A.C.E./FIELD		

TITLE: SOLV-EX CORP.
2121 MENAUL BLVD. NE
— DRAINAGE IMPROVEMENTS —

PERMIT NO.

SHEET 2 OF 2

MAP NO. H-16-Z