



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

***Public Works Department  
Transportation Development Services Section***

February 25, 2002

Steve Crawford, PE  
3634 Highway 47  
Peralta, NM 87042

Re: Certification Submittal for Final Building Certificate of Occupancy for  
ProLube & Wash Auto Service Center, [K11/ D64]  
120 Coors, NW  
Engineer's Stamp Dated 2/20/02

Dear Mr. Crawford:

The TCL / Letter of Certification submitted on 2/20/02 is sufficient for acceptance by this office for final Certificate of Occupancy (C.O.). Notification has been made to Building and Safety and final C.O. has been logged in by Vicki Chavez in the Building Safety Section downstairs.

Sincerely,

Leslie Romero  
Engineering Associate  
Development and Building Services  
Public Works Department

c: Terri Martin, Hydrology  
File (1)

# DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

PROJECT TITLE: ProLube & Wash Auto Service Center ZONE MAP/DRG. FILE #: K-11/D64  
DRB #: — EPC#: — WORK ORDER#: —

LEGAL DESCRIPTION: Tract C, Atrisco Village  
CITY ADDRESS: 120 Coors, NW

ENGINEERING FIRM: Crawford Development Services  
ADDRESS: 3634 Highway 47  
CITY, STATE: Peralta, NM

CONTACT: Steve Crawford  
PHONE: 865-6742  
ZIP CODE: 87042

OWNER: —  
ADDRESS: —  
CITY, STATE: —

CONTACT: —  
PHONE: —  
ZIP CODE: —

ARCHITECT: —  
ADDRESS: —  
CITY, STATE: —

CONTACT: —  
PHONE: —  
ZIP CODE: —

SURVEYOR: —  
ADDRESS: —  
CITY, STATE: —

CONTACT: —  
PHONE: —  
ZIP CODE: —

CONTRACTOR: —  
ADDRESS: —  
CITY, STATE: —

CONTACT: —  
PHONE: —  
ZIP CODE: —

## CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC/CIRCULATION LAYOUT (TCL)
- ☒ ENGINEERS CERTIFICATION (TCL) ✓
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

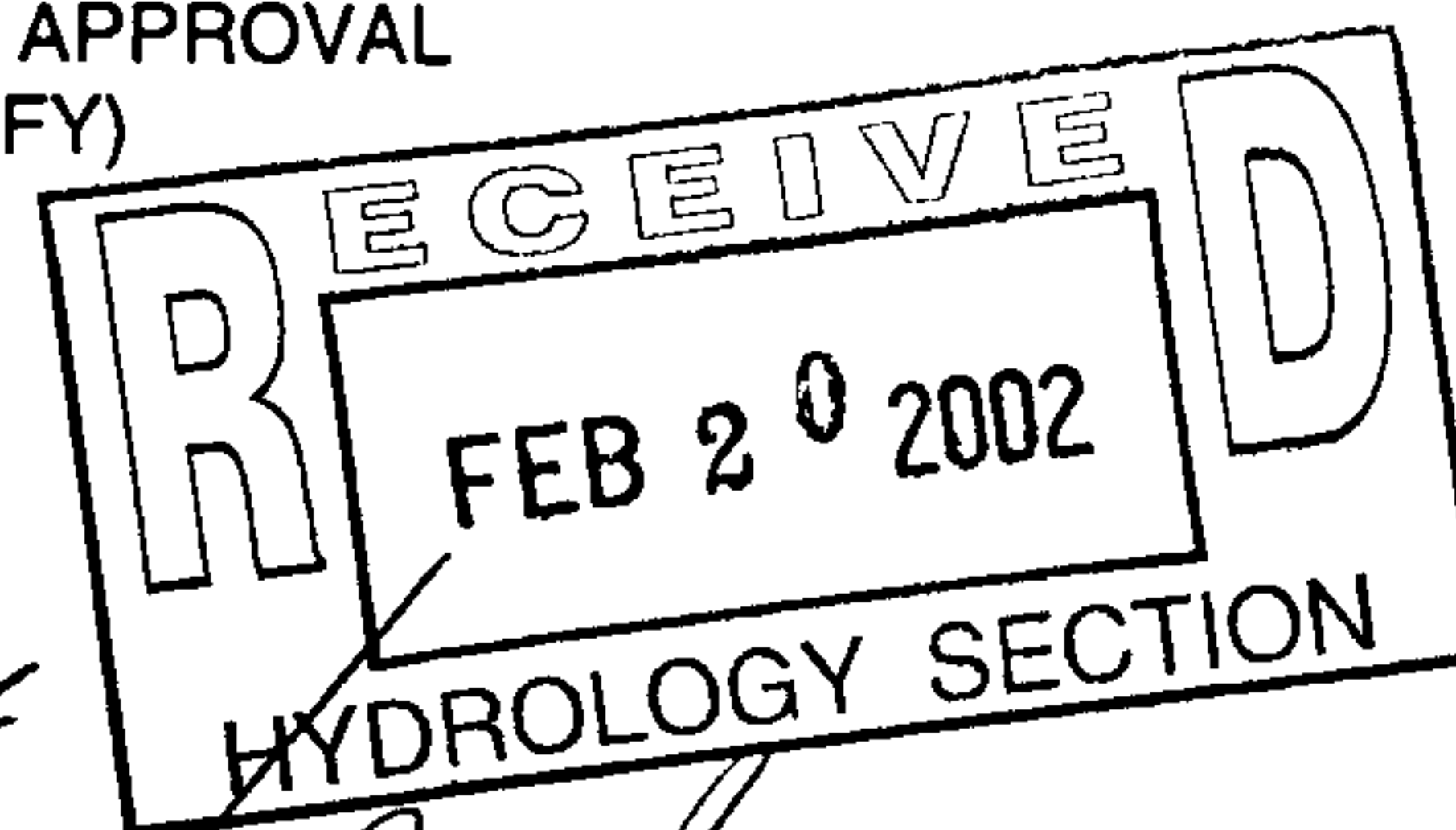
## CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☒ CERTIFICATE OF OCCUPANCY (PERM.) ✓
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

## WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: 02-20-02 BY: [Signature]



Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5)
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

called Viki

# CRAWFORD DEVELOPMENT SERVICES

3634 Highway 47, Peralta, NM 87042  
(505)865-6442

February 20, 2002

HAND DELIVERED

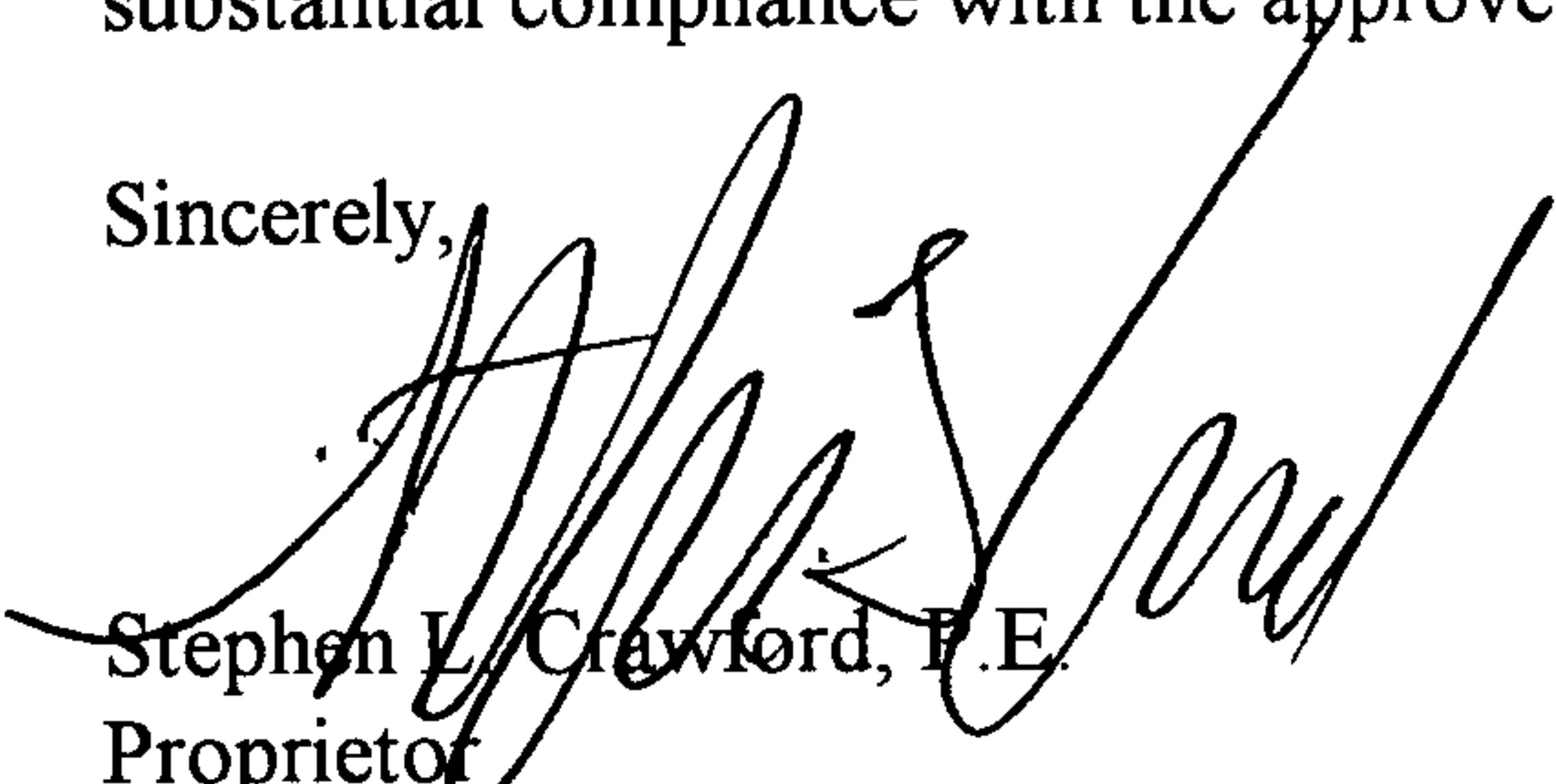
TO: Mike Zamora, Commercial Plan Checker  
Development and Building Services Section  
Public Works Department  
City of Albuquerque  
P.O. Box 1293  
Albuquerque, NM 87103

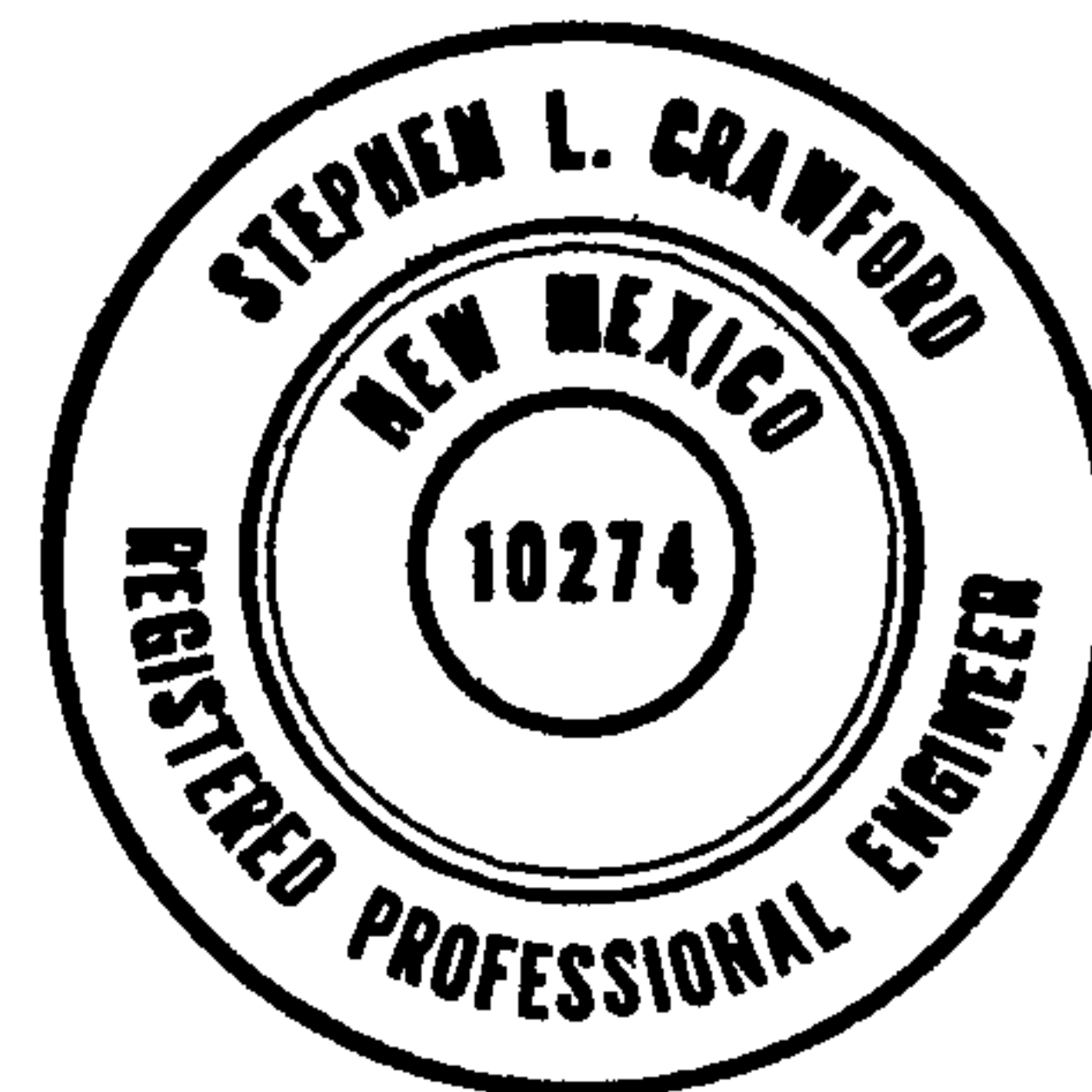
RE: Letter of Certification for Completed Sitework  
ProLube & Wash Auto Service Center  
Hydrology File # K11-D64

Dear Mr. Zamora:

On February 15, 2002, Crawford Development Services inspected the site and performed an as-built survey (for the Hydrology Engineering Certification) of the improvements. I, Stephen L. Crawford, hereby certify that the subject sitework improvements were built in substantial compliance with the approved TCL plan for the project.

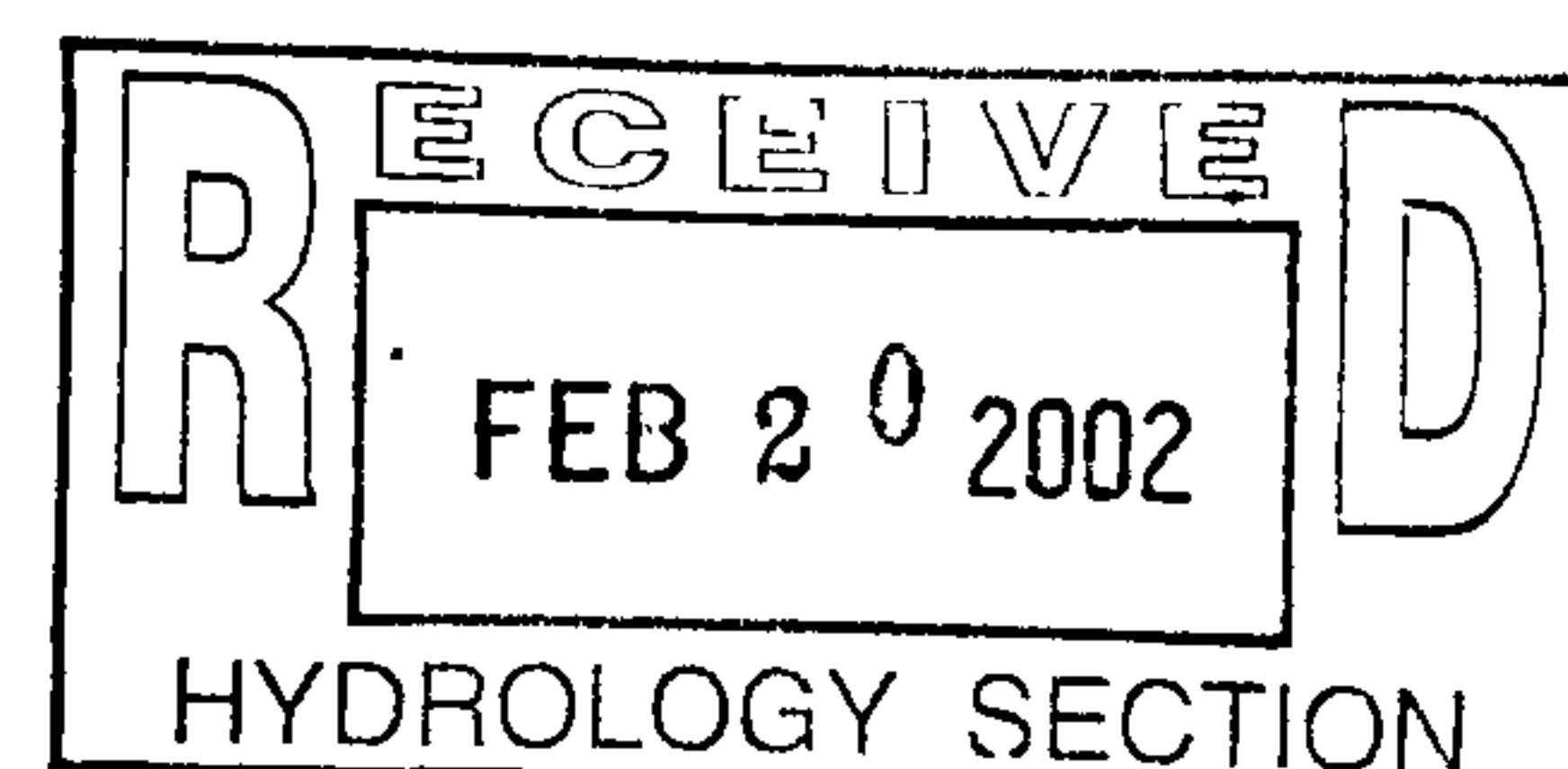
Sincerely,

  
Stephen L. Crawford, P.E.  
Proprietor



slc:slc  
A1008m05.doc

Enclosures: Copy of Approved TCL Plan Sheet (Sheet CS.1)  
Copy of Approval Letter





# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

## ***Public Works Department Transportation Development Services Section***

November 21, 2001

Steve Crawford, Registered Architect  
3634 Highway 47  
Peralta, N.M.  
Albuquerque, NM 87042

Re: Traffic Circulation Layout (TCL) Submittal for Building Permit Approval for  
Prolube & Wash Auto Service Center, [K11 / D064]  
120 Coors Blvd. N.W.  
Engineer's Stamp Dated 11/07/01

Dear Mr. Crawford:

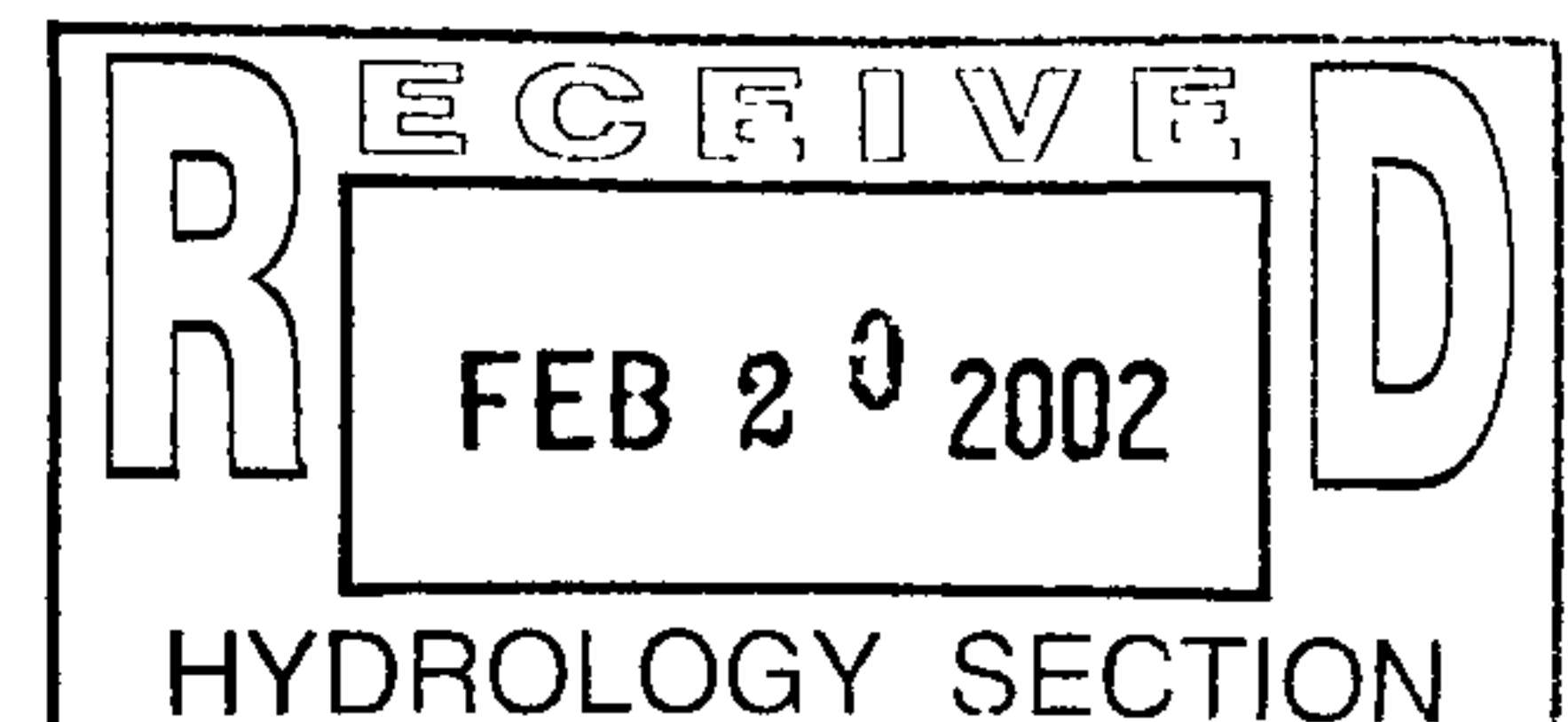
The TCL submittal, dated 11/08/01, is sufficient for acceptance by this office and is stamped and signed as such. Four copies were submitted. All copies were stamped: two for submittal of building permit plans, one for this office and one to be kept by you to be used for certification of the site for final C.O. for Hydrology/Transportation.

When superintendent of project is ready to call for a Temporary C.O. immediate issuance is no longer possible at that time. An exact copy of the approved TCL, marked up, showing incomplete work remaining, along with a letter of certification is required prior to issuance of Temporary C.O.

When site is complete and a Final C.O. is needed, a Letter of Certification, stating site was built in substantial compliance, needs to be attached to your stamped, approved TCL. All documentation must be submitted with a completed Drainage Information Application sheet also used for the Grading and Drainage submittal to Hydrology at the Development Services Center of Plaza Del Sol Building.

Sincerely,

Mike Zamora  
Commercial Plan Checker  
Development and Building Services  
Public Works Department



c: Terri Martin, Hydrology  
Office file



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 22, 2002

Steve Crawford, P.E.  
Crawford Development Services  
3634 Highway 47  
Peralta, New Mexico 87042

RE: PROLUBE & WASH AUTO SERVICE CENTER (Phase 1) (K-11/D64)  
(120 Coors NW)  
ENGINEERS CERTIFICATION FOR CERTIFICATE OF OCCUPANCY  
ENGINEERS STAMP DATED 9/25/2001, 10/10/2001 & 11/7/2001  
ENGINEERS CERTIFICATION DATED 2/18/2002

Dear Mr. Crawford:

Based upon the information provided in your Engineers Certification submittal dated 2/19/2002, and the approval of the SO19 dated 2/22/2002, the above referenced site is approved for Permanent Certificate of Occupancy for Phase 1.

If I can be of further assistance, please contact me at 924-3981.

Sincerely,

Teresa A. Martin  
Hydrology Plan Checker  
Public Works Department

BUB

C: Vickie Chavez, COA  
✓ drainage file  
approval file

# DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

PROJECT TITLE: PROLUBE & WASH  
DRB #: - EPC#: - ZONE MAP/DRG. FILE #: K-11/1764  
WORK ORDER#: -

LEGAL DESCRIPTION: TRACT 1, ATRISCO VILLAGE  
CITY ADDRESS: 120 COOKS BLVD, NW

ENGINEERING FIRM: CRAWFORD DEVELOPMENT SERV. CONTACT: STEVE CRAWFORD  
ADDRESS: 3634 HWY 47 PHONE: 865-6442  
CITY, STATE: PERALTA, N.M. 87042 ZIP CODE: -

OWNER: - CONTACT: -  
ADDRESS: - PHONE: -  
CITY, STATE: - ZIP CODE: -

ARCHITECT: - CONTACT: -  
ADDRESS: - PHONE: -  
CITY, STATE: - ZIP CODE: -

SURVEYOR: - CONTACT: -  
ADDRESS: - PHONE: -  
CITY, STATE: - ZIP CODE: -

CONTRACTOR: - CONTACT: -  
ADDRESS: - PHONE: -  
CITY, STATE: - ZIP CODE: -

## CHECK TYPE OF SUBMITTAL:

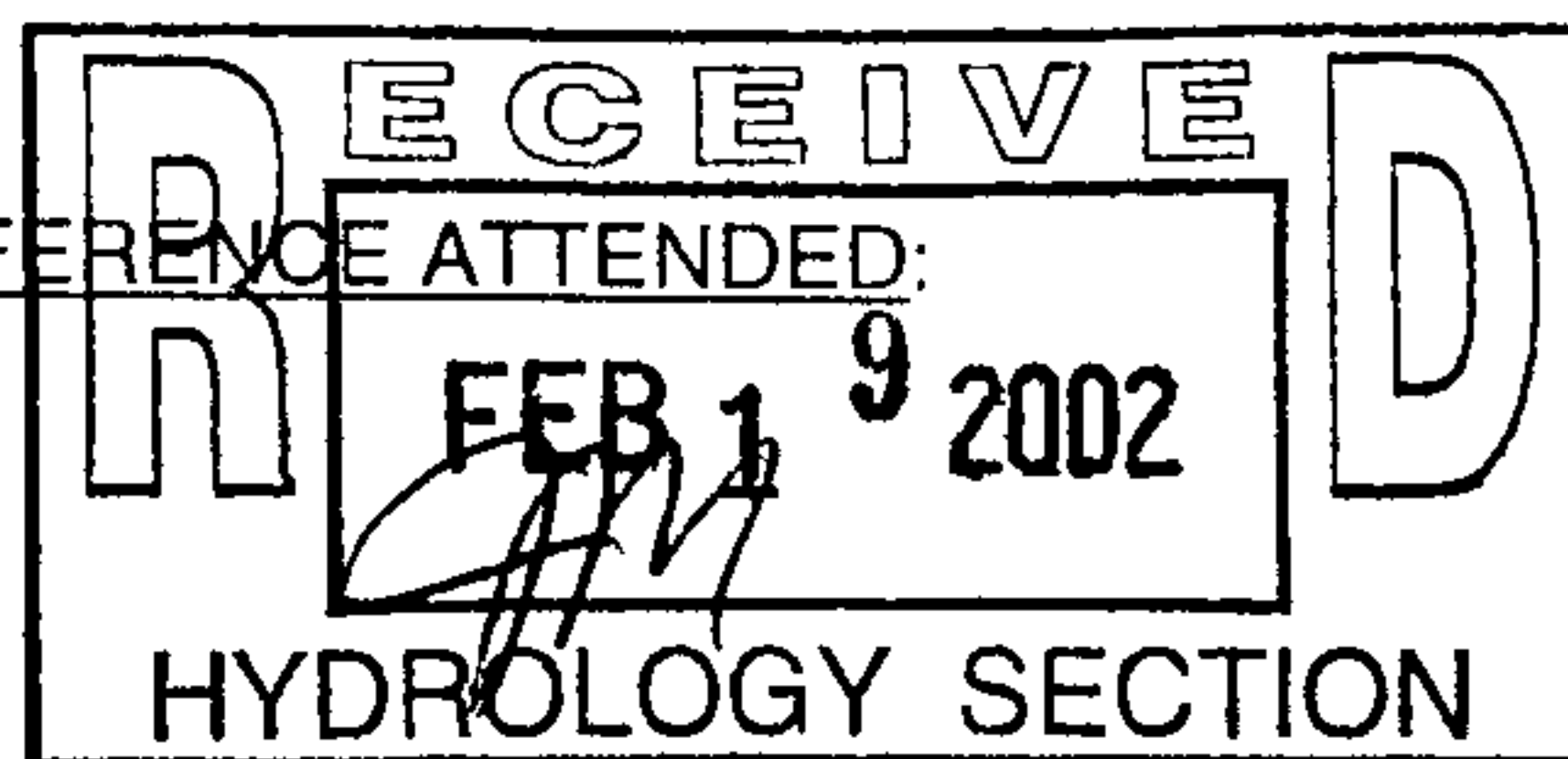
- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☒ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

## CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☒ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED



DATE SUBMITTED: FEB 19, 2002 BY: STEVE CRAWFORD

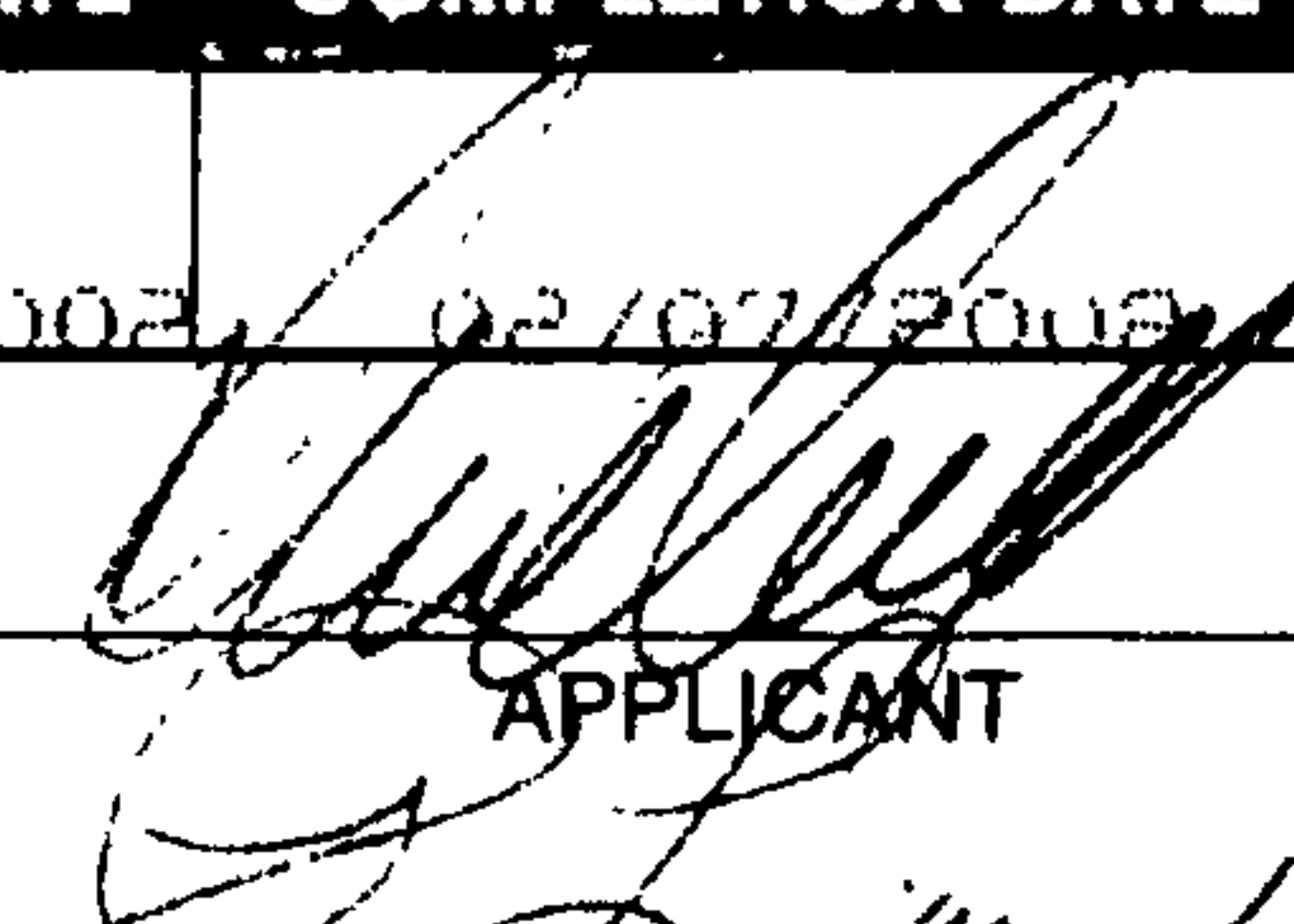
Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5)
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or

STORM DRAINAGE  
HATT KLINE 250-2640

# CITY OF ALBUQUERQUE

## PERMIT FOR EXCAVATION, CONSTRUCTION AND BARRICADING

|                                                                                                                   |                                      |                                                                                                                         |                                   |                     |                   |
|-------------------------------------------------------------------------------------------------------------------|--------------------------------------|-------------------------------------------------------------------------------------------------------------------------|-----------------------------------|---------------------|-------------------|
| <b>CONTRACTOR<br/>LICENSE<br/>ADDRESS</b>                                                                         | CURB DRAINAGE / CONC                 |                                                                                                                         | <b>PERMIT NUMBER</b>              | 2054180             |                   |
|                                                                                                                   | P.O. BOX 6666<br>ALBUQUERQUE, NM 871 |                                                                                                                         | <b>PROJECT NUMBER</b>             |                     |                   |
| <b>S<br/>I<br/>T<br/>E</b>                                                                                        | PH: 836-8638<br>120 SODAS RD NW      |                                                                                                                         | <b>PERMIT ISSUE DATE</b>          | 02/01/2002          |                   |
|                                                                                                                   |                                      |                                                                                                                         | <b>BARRICADED BY</b>              | AS                  |                   |
| <b>PERMIT AND DETOUR PLAN COMMENTS</b>                                                                            |                                      |                                                                                                                         | <b>BLUE STAKE</b>                 | 02/01/2002          |                   |
| 30#19, LETTER & PLANS ON FILE, BARRICADE<br>NBL ON COWS (WEST TO NORTH TURNING<br>LANE) AFTER PER HERMAN TRUJILLO |                                      |                                                                                                                         | <b>PAVING BY</b>                  | 000                 |                   |
|                                                                                                                   |                                      |                                                                                                                         | <b>EXCAVATION 443008-5810000</b>  | 0.00                | EX                |
|                                                                                                                   |                                      |                                                                                                                         | <b>SIDEWALK 443012-5810000</b>    | 0.00                | SW                |
|                                                                                                                   |                                      |                                                                                                                         | <b>DRIVEPAD 443011-5810000</b>    | 0.00                | DP                |
|                                                                                                                   |                                      |                                                                                                                         | <b>CURB/GUTTER 443010-5810000</b> | 0.00                | CG                |
|                                                                                                                   |                                      | <b>BARRICADING 443009-5810000</b>                                                                                       | 13.42                             | BA                  |                   |
|                                                                                                                   |                                      | <b>RESTORATION 443017-5810000</b>                                                                                       | 0.00                              | RS                  |                   |
|                                                                                                                   |                                      | <b>TOTAL FEE</b>                                                                                                        | 135.42                            |                     |                   |
| <b>START DATE</b>                                                                                                 | <b>COMPLETION DATE</b>               | <b>PERMIT EXPIRES</b>                                                                                                   | <b>INSURANCE EXPIRES</b>          | <b>BOND EXPIRES</b> | <b>ZONE ATLAS</b> |
| 02/06/2002                                                                                                        | 02/07/2002                           | 02/07/2002                                                                                                              | 02/11/2002                        | 02/31/2002          |                   |
| <br>APPLICANT                   |                                      | <b>VOID UNTIL VALIDATED BY CITY TREASURER</b>                                                                           |                                   |                     |                   |
| <br>ISSUED BY                  |                                      | WS# 003 TRANS# 0042<br>REFIPT# 00033136-00033136<br>PERMIT# 2054180 TRSKAI<br>Trans Amt. \$195.42<br>Excavation \$42.00 |                                   |                     |                   |

PERMITTEE AGREES TO ASSUME ALL LIABILITY, INCLUDING IDEMNIFYING, DEFENDING AND HOLDING THE CITY HARMLESS FOR ALL DAMAGES OR INJURY TO PERSONS OR PROPERTY RESULTING FROM PERMITTEE'S EXCAVATION AND/OR BARRICADE WORK. THIS PERMIT IS GRANTED IN CONSIDERATION OF PERMITTEE'S ASSUMING SAID LIABILITY AND IS APPROVED FOR THE WORK DESCRIBED ABOVE. IN ACCORDANCE WITH SECTION 6-5-2-1 ET SEQ. R.O. (1994), PERMITTEE AGREES TO COMPLY WITH ALL APPLICABLE CITY RULES, REGULATIONS AND ORDINANCES. AND WHEN EXCAVATING, TO PATCH OR PLATE PRIOR TO OPENING TO TRAFFIC IN ACCORDANCE WITH APPLICABLE RULES, REGULATIONS AND ORDINANCES. PLEASE CALL 760-2651 FOR ADDITIONAL INFORMATION

CAUTION: PROTECT UNDERGROUND UTILITIES CALL 260-1990, 48 HOURS IN ADVANCE FOR LINE STAKING

PWD 003 REV 07/98

PERMIT FOR EXCAVATION, CONSTRUCTION AND BARRICADING  
CITY OF ALBUQUERQUE

|                                            |              |                         |  |
|--------------------------------------------|--------------|-------------------------|--|
| PERMIT NUMBER                              |              | DATE EXCAVATION STARTED |  |
| EXCAVATION                                 |              | VEGETATION              |  |
| Backfill: Started                          | Completed    | Accepted                |  |
| Paved Cleared                              | Site Cleared | Warranty Exp            |  |
| Restoration Fee Refund Authorized          |              | BY                      |  |
| Cash Disbursement Prepared for Refund Date |              |                         |  |
| VOID UNTIL VALIDATED BY CITY TREASURER     |              | ISSUED BY               |  |
| APPLICANT                                  |              |                         |  |

CAUTION: PROTECT UNDERGROUND UTILITIES. CALL 505-1980-48 HOURS IN ADVANCE FOR LINE STAKING.

PERMITTEE AGREES TO ASSUME ALL LIABILITY INCLUDING IDENTIFYING, DEFENDING AND HOLDING THE CITY HARMLESS FOR ALL DAMAGES OR INJURY TO PERSONS OR PROPERTY RESULTING FROM PERMITTEE'S EXCAVATION AND/OR BARRICADE WORK. THIS PERMIT IS GRANTED IN CONSIDERATION OF PERMITTEE'S ASSUMING SAID LIABILITY AND IS APPROVED FOR THE WORK DESCRIBED ABOVE IN ACCORDANCE WITH SECTION 6-2-1 ET SEQ. N.C. (18N). PERMITTEE AGREES TO COMPLY WITH ALL APPLICABLE CITY RULES, REGULATIONS AND ORDINANCES, AND WHEN EXCAVATING TO PATCH OR PLATE PRIOR TO CLOSING TO TRAFFIC IN ACCORDANCE WITH APPLICABLE RULES, REGULATIONS AND ORDINANCES. PLEASE CALL 505-1980-48 FOR ADDITIONAL INFORMATION.



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

***Public Works Department  
Transportation Development Services Section***

November 21, 2001

Steve Crawford, Registered Architect  
3634 Highway 47  
Peralta, N.M.  
Albuquerque, NM 87042

Re: Traffic Circulation Layout (TCL) Submittal for Building Permit Approval for  
Prolube & Wash Auto Service Center, [K11 / D064]  
120 Coors Blvd. N.W.  
Engineer's Stamp Dated 11/07/01

Dear Mr. Crawford:

The TCL submittal, dated 11/08/01, is sufficient for acceptance by this office and is stamped and signed as such. Four copies were submitted. All copies were stamped: two for submittal of building permit plans, one for this office and one to be kept by you to be used for certification of the site for final C.O. for Hydrology/Transportation.

When superintendent of project is ready to call for a Temporary C.O. immediate issuance is no longer possible at that time. An exact copy of the approved TCL, marked up, showing incomplete work remaining, along with a letter of certification is required prior to issuance of Temporary C.O.

When site is complete and a Final C.O. is needed, a Letter of Certification, stating site was built in substantial compliance, needs to be attached to your stamped, approved TCL. All documentation must be submitted with a completed Drainage Information Application sheet also used for the Grading and Drainage submittal to Hydrology at the Development Services Center of Plaza Del Sol Building.

Sincerely,

Mike Zamora  
Commercial Plan Checker  
Development and Building Services  
Public Works Department

c: Terri Martin, Hydrology  
Office file

# DRAINAGE INFORMATION SHEET

(REV. 11/01/2001)

PROJECT TITLE: PROLIFE & WASH AUTO SERVICE CENTER ZONE MAP/DRG. FILE #: K-11/17064  
DRB #: \_\_\_\_\_ EPC#: \_\_\_\_\_ WORK ORDER#: \_\_\_\_\_

LEGAL DESCRIPTION: TRACT C, STRISCO VILLAGE  
CITY ADDRESS: 120 COORS BLVD, NW

ENGINEERING FIRM: CRAWFORD DEVELOPMENT SERVICES CONTACT: STEVE  
ADDRESS: 3634 HWY 47 PHONE: 865-6442  
CITY, STATE: PERALTA, NM 87042 ZIP CODE: \_\_\_\_\_

OWNER: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

ARCHITECT: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

SURVEYOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_ CONTACT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_ PHONE: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_ ZIP CODE: \_\_\_\_\_

## CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☒ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEERS CERTIFICATION (TCL)
- ☐ ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)
- ☐ OTHER

## CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☒ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM.)
- ☐ CERTIFICATE OF OCCUPANCY (TEMP.)
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ OTHER (SPECIFY)

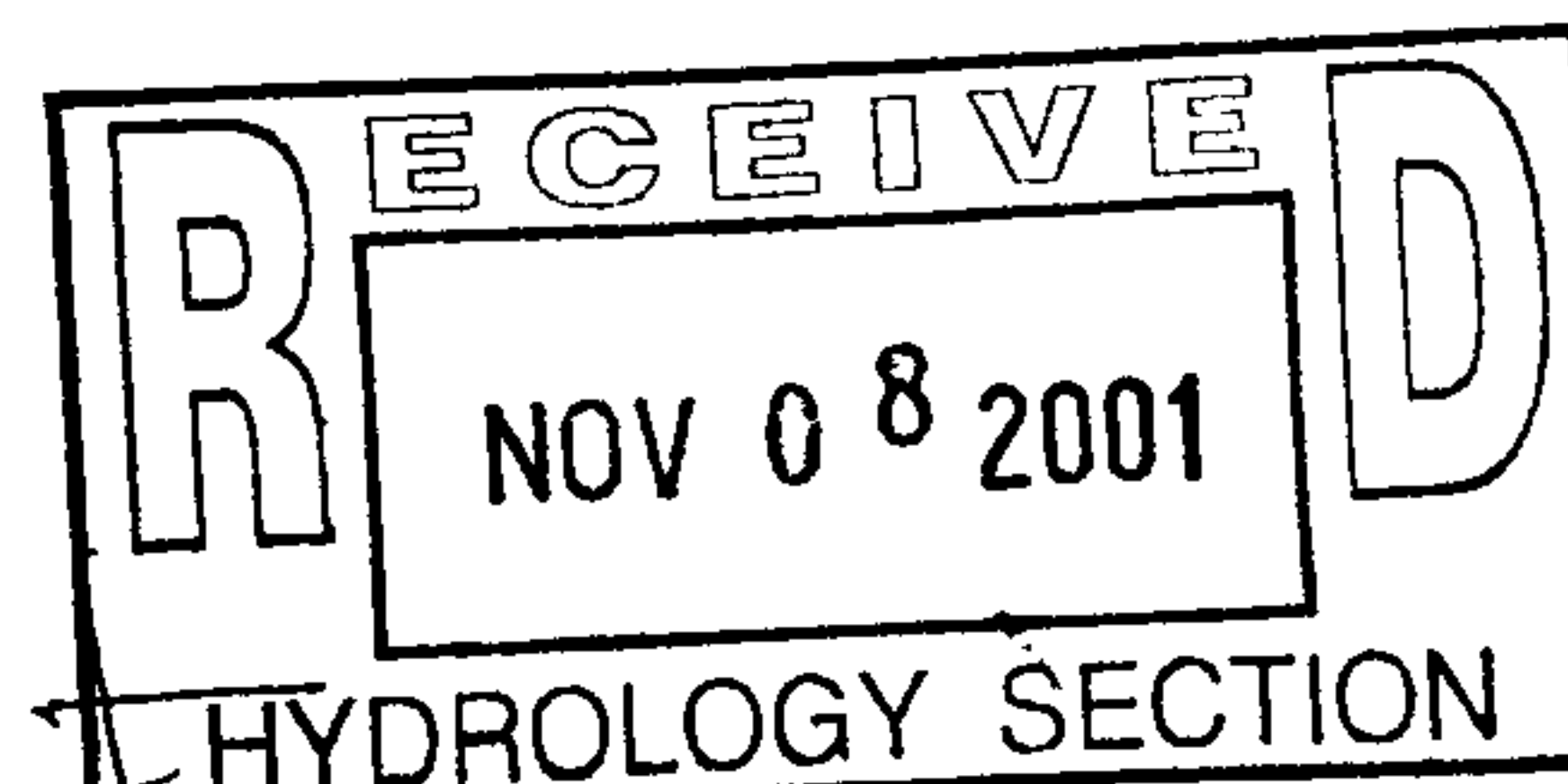
## WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

DATE SUBMITTED: NOV 8, 2001

BY: \_\_\_\_\_

FOR STEVE CRAWFORD



Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5)
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or

11/21/01 - App'd T.C.L.; C'd Arch. - 11/21/01; Log'n - T.M.

New Text Document

Pro Lube and Wash LLC  
25750 County Road 10  
La Jara, CO 81140

November 6, 2001

Crawford Development Services  
3634 Highway 47  
Peralta, NM 87042

Re: Curbing

Dear Steve:

Construction on the 2nd phase (Car Wash) will begin within 12 months  
of the completion and opening of the quick lube on 120 Coors Blvd NW

Sincerely,



Mike Crowther, Owner

## CRAWFORD DEVELOPMENT SERVICES

3634 Highway 47, Peralta, NM 87042  
(505)865-6442

November 7, 2001

HAND DELIVERED

TO: Mike Zamora, Commercial Plan Checker  
Transportation Development Services Section  
Public Works Department  
City of Albuquerque  
P.O. Box 1293  
Albuquerque, NM 87103

RE: ProLube & Wash Auto Service Center Response to TCL Second Review Comments  
Hydrology File # K11-D64

Dear Mr. Zamora:

We are in receipt of your review comment letter dated November 5, 2001. We revised the site plan per your redline comments and our discussion at the Permit Desk of November 6, 2001. The site plan was also updated to reflect Zoning Enforcement plan check comments concerning accessibility.

Based on our discussion, I asked the Owner when he would be starting on the second phase of the project and he indicated that it will occur in less than 12 months (see enclosed letter). Based on your statements concerning the life of asphalt curbing (one or two years), the temporary curbs on the north edge of the phase one area are proposed to remain asphalt (to make it easier to remove when the phase two construction begins).

The trash enclosure was rotated and shifted per your comments and those of the Solid Waste representative.

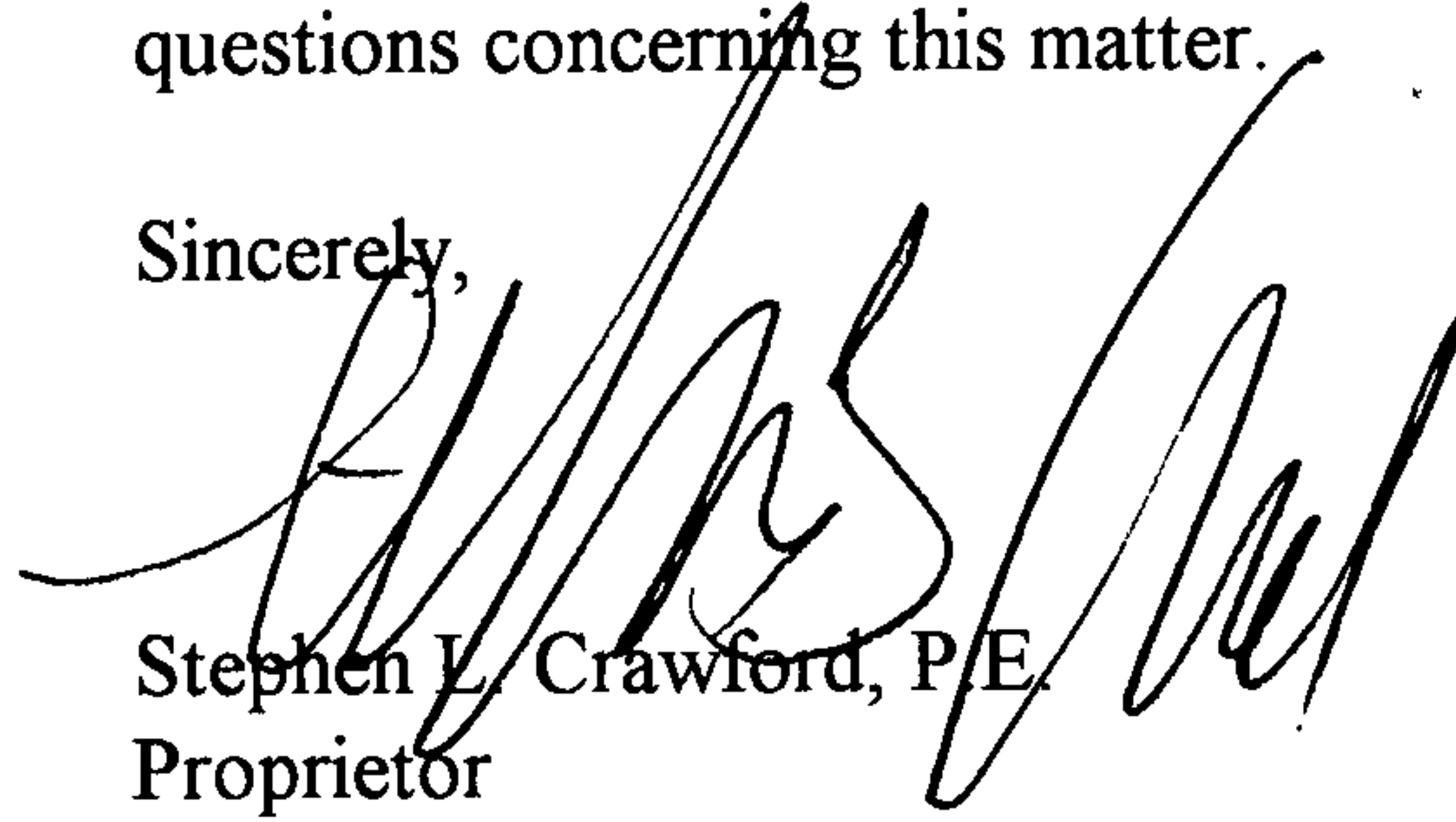
The project's grading plan was revised (copy enclosed) to reflect the shift in the trash dumpster location. The landscaping can be field adjusted to accommodate the trash dumpster shift.

The design vehicle for the site is the City's trash pickup vehicle and its ability to maneuver was discussed at our meeting.

The easement along the front of the property is an existing 45 foot cross access easement and its filing information was cited on the site plan.

Hopefully, the above comments and the enclosed, revised TCL plan sheets will allow you to approve this project for release of building permit. Please call me if there are any questions concerning this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'SLC', is written over the typed name and title.

Stephen L. Crawford, P.E.  
Proprietor

slc:slc  
A1008m03.doc

Enclosures: Owner Schedule Letter for Phase II  
4 Copies Revised TCL Plan Sheet (Sheet CS.1)  
1 Copy of Grading Plan  
Markups (Returned)



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 19, 2001

Stephen L. Crawford, P.E.  
Crawford Development Services  
3634 Highway  
Peralta, NM 87042

***RE: PROLUBE & WASH AUTO SERVICE CENTER (K11-D64). Revised GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT AND SO#19 PERMIT APPROVALS, COORS BOULEVARD NW. ENGINEER'S STAMP DATED OCTOBER 10, 2001.***

Dear Mr.Crawford:

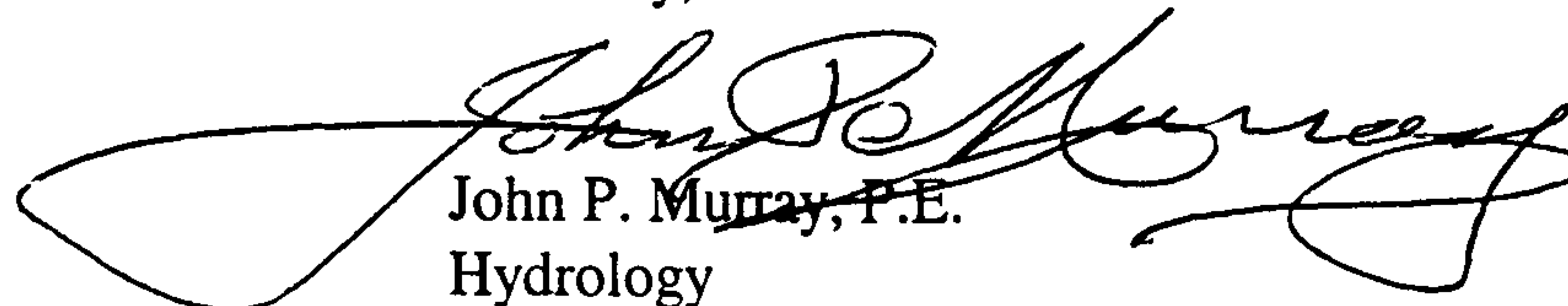
Based on the information provided on your October 10, 2001 resubmittal, the above referenced project is approved for both Building Permit and SO#19 Permit.

Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Prior to Certificate of Occupancy approval, an Engineer's Certification per the DPM will be required.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

  
John P. Murray, P.E.  
Hydrology

c: Terri Martin  
✓ File  
Pam LUJAN

# PUBLIC WORKS DEPARTMENT

OCTOBER 19, 2001

INTEROFFICE CORRESPONDENCE

HYDROLOGY DIVISION

TO: Pam Lujan, Permits

FROM:  John Murray, Hydrology, PWD

SUBJECT: **PRIVATE DRAINAGE FACILITIES WITHIN PUBLIC RIGHT-OF-WAY  
DRAINAGE FILE NUMBER (K11-D64). PROLUBE & WASH AUTO SERVICE,  
COORS BLVD NW**

---

Transmitted herewith is a copy of the approved drainage plan for the referenced project incorporating the SO #19 design.

This plan is being submitted to you for permitting and inspection. Please provide this section with a signed-off copy per the signature block upon construction and acceptance by your office.

As you are aware, the signed off SO #19 is required by this office for Certificate of Occupancy release; therefore your expeditious processing of this plan would be greatly appreciated and would avoid any unnecessary delay in the release of the Certificate of Occupancy.

Thank you for your cooperation and if you should have any questions and/or comments, please feel free to call me at 924-3984.

Attachment

# DRAINAGE INFORMATION SHEET

*PROLUBE & WASH*

PROJECT TITLE: AUTO SERVICE CENTER

DRB #:                      EPC#:                     

ZONE MAP/DRG. FILE #: K-11/D064

WORK ORDER#:                     

LEGAL DESCRIPTION: Tract C, Atrisco Village

CITY ADDRESS: 120 Coors Blvd, NW

ENGINEERING FIRM: Crawford Development Services

ADDRESS: 3834 Highway 47

CITY, STATE: Peralta, NM 87042

CONTACT: Steve Crawford

PHONE: 865-6442

ZIP CODE:                     

OWNER:                     

ADDRESS:                     

CITY, STATE:                     

CONTACT:                     

PHONE:                     

ZIP CODE:                     

ARCHITECT:                     

ADDRESS:                     

CITY, STATE:                     

CONTACT:                     

PHONE:                     

ZIP CODE:                     

SURVEYOR:                     

ADDRESS:                     

CITY, STATE:                     

CONTACT:                     

PHONE:                     

ZIP CODE:                     

CONTRACTOR:                     

ADDRESS:                     

CITY, STATE:                     

CONTACT:                     

PHONE:                     

ZIP CODE:                     

**CHECK TYPE OF SUBMITTAL:**

- ☒ DRAINAGE REPORT
- ☒ DRAINAGE PLAN
- ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
- ☐ GRADING PLAN
- ☐ EROSION CONTROL PLAN
- ☐ ENGINEER'S CERTIFICATION
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ OTHER

**WAS A PRE-DESIGN CONFERENCE ATTENDED:**

- ☐ YES
- ☒ NO
- ☐ COPY PROVIDED

**CHECK TYPE OF APPROVAL SOUGHT:**

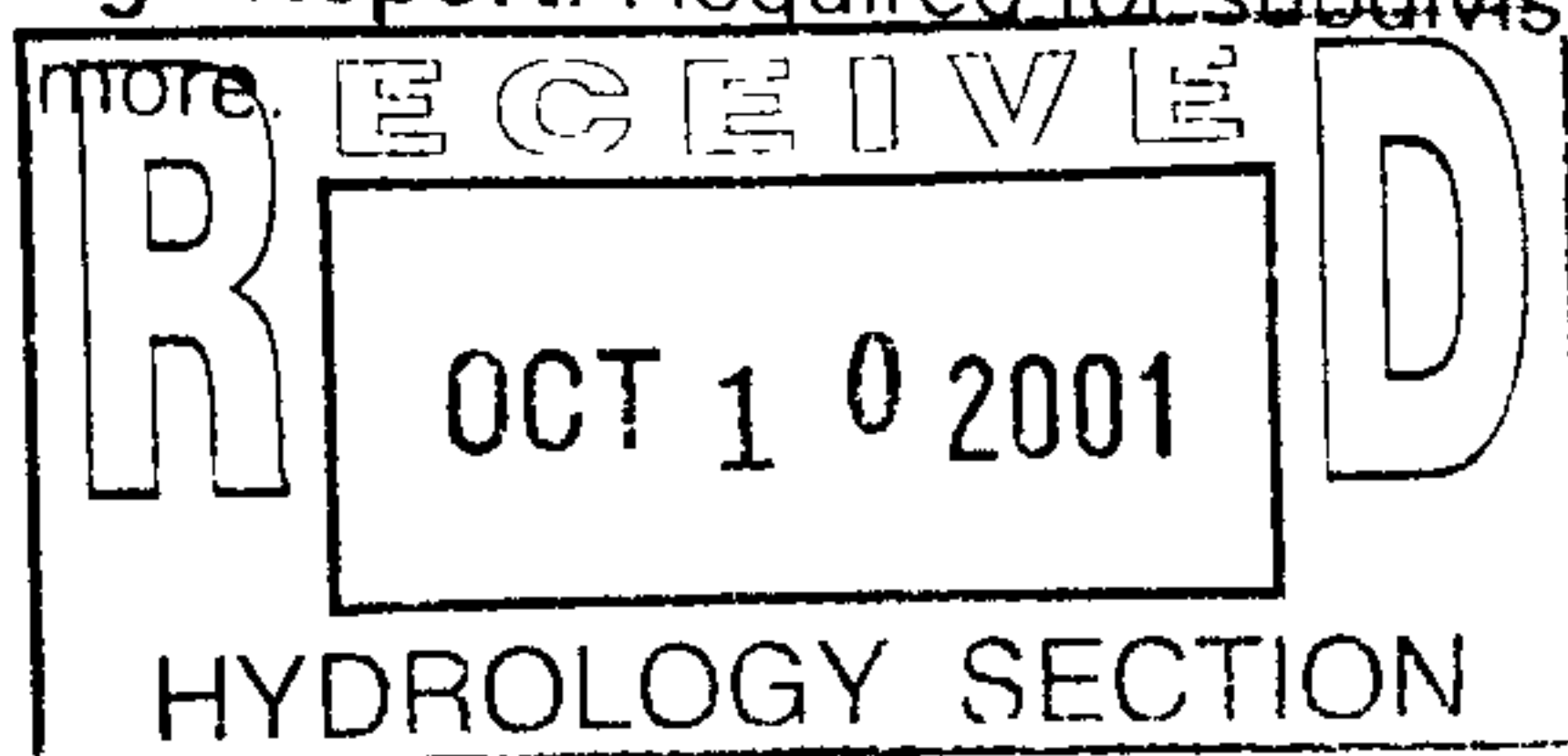
- ☐ SIA / FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
- ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☐ FINAL PLAT APPROVAL
- ☒ FOUNDATION PERMIT APPROVAL
- ☒ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY APPROVAL
- ☐ GRADING PERMIT APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☒ OTHER (SPECIFY)

DATE SUBMITTED: Oct 10, 2001 BY: [Signature]

*ISO 19 for SW Culvert*

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or

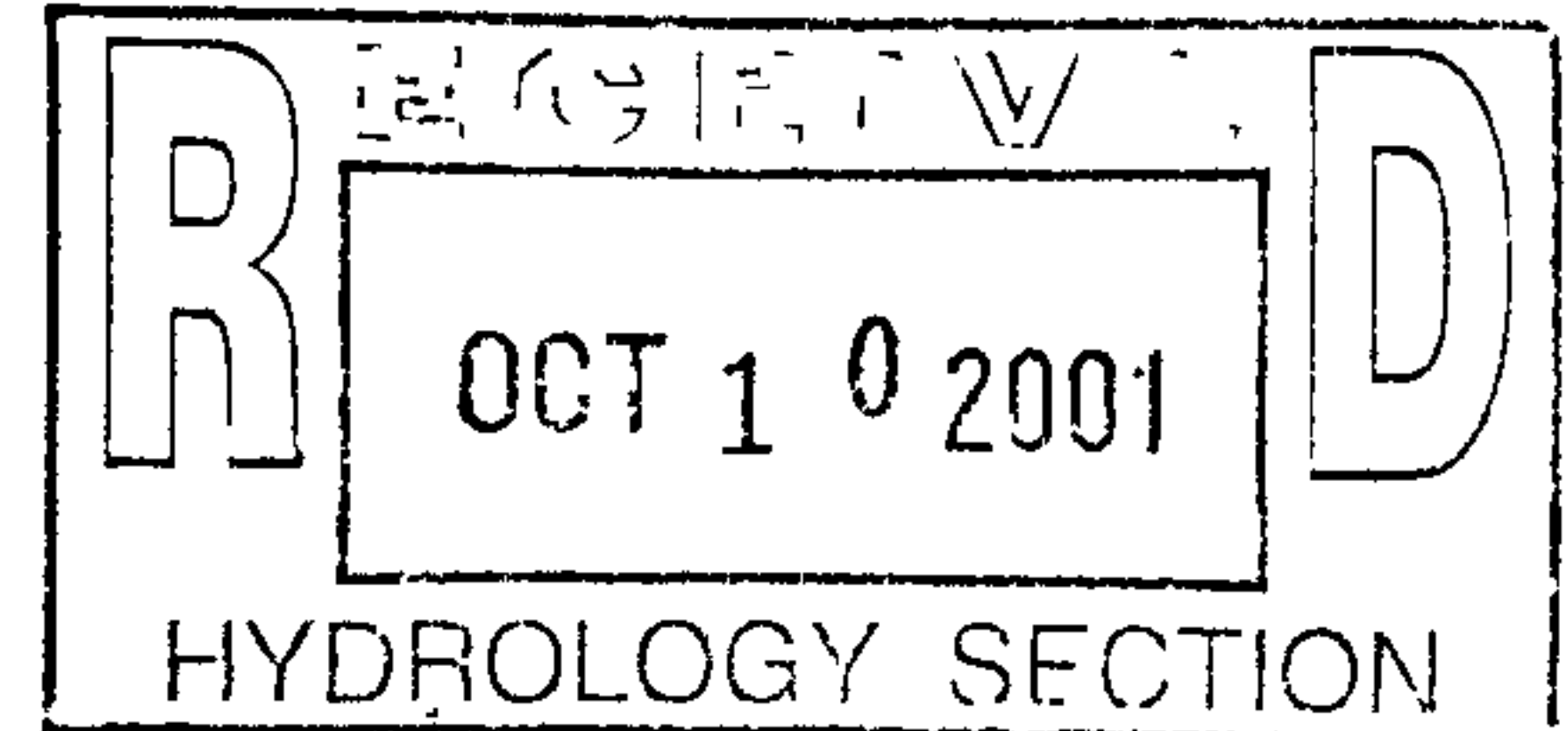


## CRAWFORD DEVELOPMENT SERVICES

3634 Highway 47, Peralta, NM 87042  
(505)865-6442

October 10, 2001

HAND DELIVERED



TO: John Murray, P.E.  
Hydrology Division  
Public Works Department  
City of Albuquerque  
P.O. Box 1293  
Albuquerque, NM 87103

RE: ProLube & Wash Auto Service Center Response to Drainage Review Comments  
Hydrology File # K11-D64

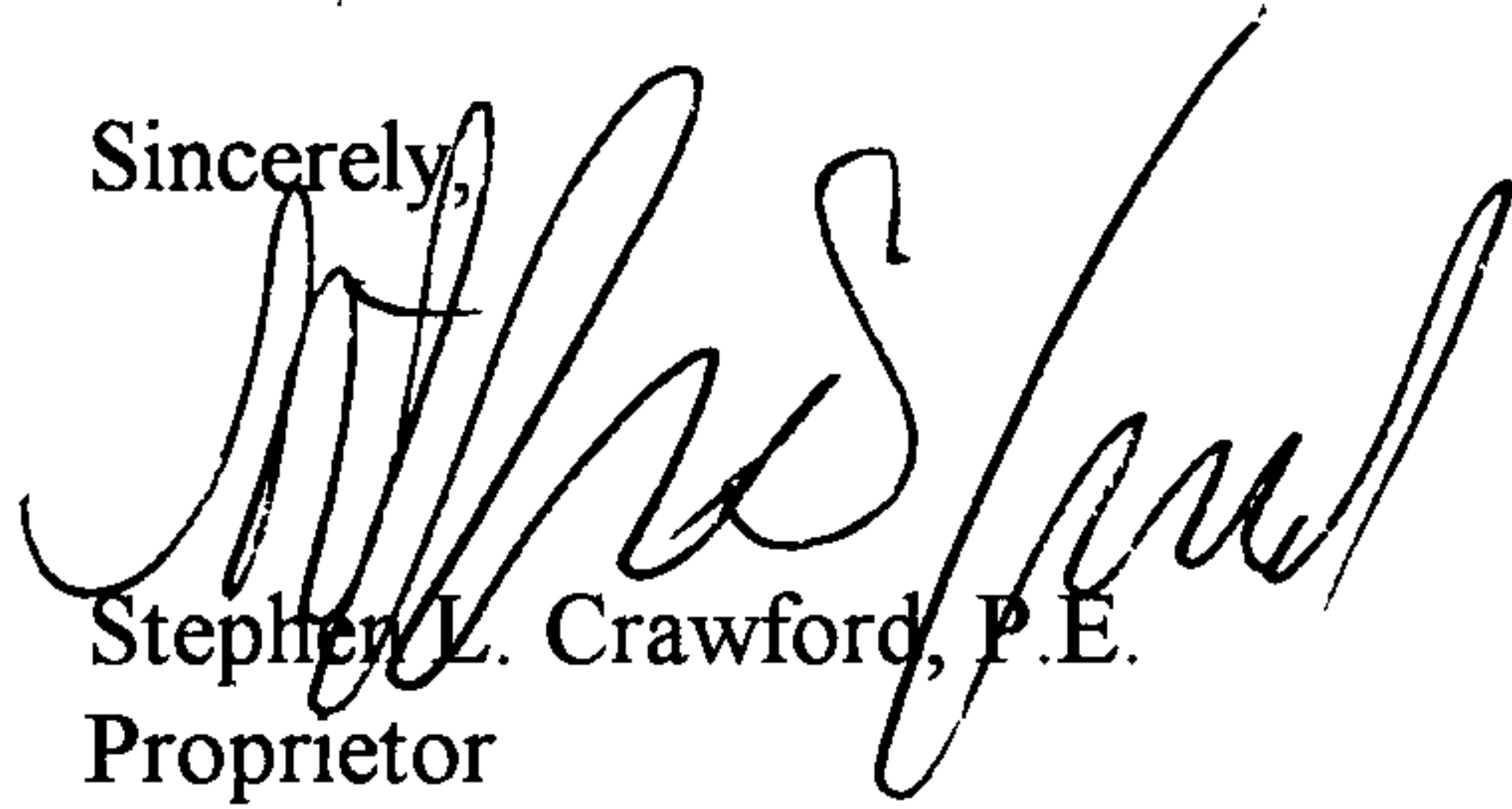
Dear Mr. Murray:

We are in receipt of your review comment letter dated October 5, 2001. The following paragraphs explain our responses to your review comments.

- a) The CG.1 plan sheet was revised to add the SO 19 signature block as requested.
- b) Notes were added to the plan to clarify the limits of improvements for the phase one project.
- c) The area of the site that is behind the berm will continue to pond on the easterly portion of the site as per the existing condition (see discussion on page 1 of the report concerning existing site flows) until the second phase of the project is constructed.
- ✓ d) We are requesting approval for both phases of construction at this point in time, however your comment about a possible requirement to update this drainage plan at the time of future construction is recognized as a reasonable possibility.
- e) The offsite topography was more clearly noted on the grading plan as requested.

Hopefully, the above comments and the enclosed, revised grading plan sheet will allow you to approve this project. Please call me if there are any questions concerning this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'SLC', is written over the typed name and title.

Stephen L. Crawford, P.E.  
Proprietor

slc:slc  
A1008m02.doc

Enclosures: Revised CG.1 Plan Sheet



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

***Public Works Department  
Transportation Development Services Section***

October 4, 2001

Steve Crawford, Registered Professional Engineer,  
Crawford Development Services  
3634 Highway 47  
Peralta, New Mexico 87105

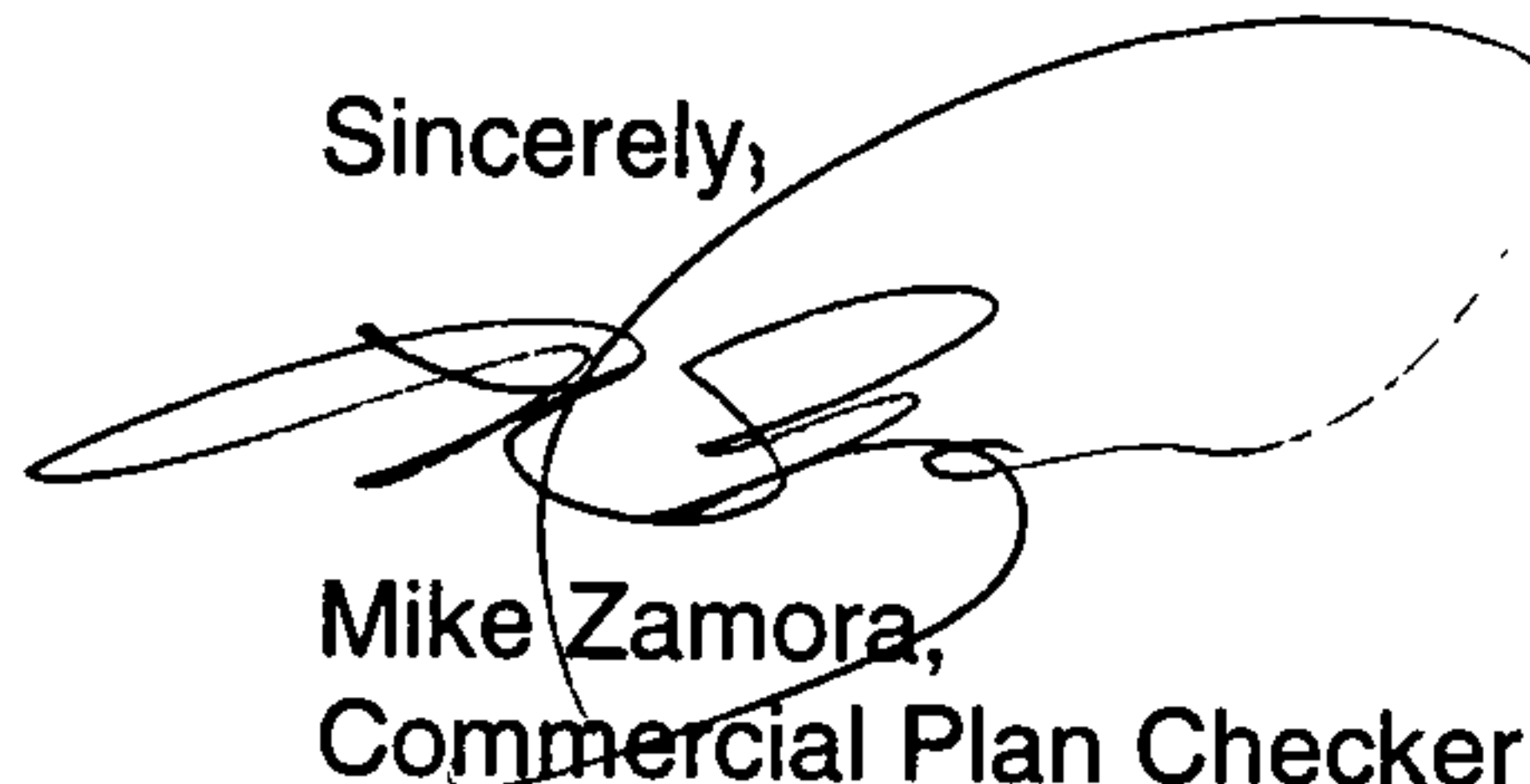
Re: T.C.L. submittal for building permit approval for Pro Lube & Wash Auto Service Center,  
120 Coors Blvd. N.W. [K11/D064],  
Engineer's Stamp dated 10/4/2001.

Dear Mr. Crawford,

The location referenced above is not acceptable and requires modification to the Traffic Circulation Layout (T.C.L.) prior to Building Permit release as stated on the attached TCL checklist, and red-lined T.C.L. markup with comments.

Please resubmit revised T.C.L. after addressing typed and marked up comments.  
Submit Plan along with typed comments and all red-lined, mark-up copies.

Sincerely,



Mike Zamora,  
Commercial Plan Checker

cc:  
Engineer  
Terri Martin  
Office File

# TRAFFIC CIRCULATION LAYOUT CHECKLIST

**SITE ADDRESS:** 120 Coors Blvd. N.41  
**AGENT:** Steven Crawford - Crawford Development Services  
**LEGAL DESCRIPTION:** Afrisco Village - Tract C **DATE:** 10/24/01  
**ZONE ATLAS PAGE:** K-11

The Traffic Circulation Layout (TCL) is a basic Site Plan that contains information on all new and existing elements involved in the development of the site including: buildings, street widths, street sidewalks and curb & gutter, parking lot features, driveways, landscaped areas, lot lines and easement limits, etc. It will be reviewed prior to submittal of plans for a building permit. The TCL must be reviewed and approved prior to the approval of the plans for building permit. In most all cases the TCL must be certified by the designer-of-record prior to the issuance of a Certificate of Occupancy for that site.

The design firm needs to comply with the *TRAFFIC CIRCULATION LAYOUT CHECKLIST* provided, along with requirements of Chapter 23 of the Development Process Manual (DPM).

## GENERAL INFORMATION REQUIRED:

- ☒ 1. TCL must be stamped, signed and dated by N.M. registered architect or engineer.
- ☒ 2. Street address of site, also include the drainage plan reference number.
- ☒ 3. Provide legal description, name of subdivision, lot number and/or tract number on TCL.
- ☒ 4. Any Infrastructure work on city property, as part of this development, must be complete before issuance of CO. If work is not completed, Financial Guarantee must be on file with City Engineer.
- ☒ 5. Encroachment agreements are needed when structures, fences, walls or items of equal conflict are within City property.
- ☐ 6. Drainage and Landscape Plans must match the Site Plan.

## SPECIFIC INFORMATION REQUIRED:

- ☒ 1. State Highway Department approval is required at locations where access is being taken from a Highway Department roadway.
- ☐ 2. Delivery vehicle and refuse maneuvering area must be contained on the site.
- ☐ 3. State the design vehicle to be used for deliveries to this site.
- ☐ 4. Show new and existing infrastructure on TCL, clearly labeled, dimensioned and to scale. Clearly distinguish between the new and existing improvements.
- ☒ 5. Clearly show the phasing for this site.

- ☒ 6. Curb cuts need to be in accordance with Chapter 23.6.B of the DPM and COA standard dwg #2425 or #2426.
- ☐ 7. Parking stalls and drive aisles need to be in accordance with Chapter 23.7.A of the DPM.
- ~~NA~~ ☐ 8. Adequate queuing needs to be provided in accordance with Chapter 23.7.C of the DPM.
- ~~VA~~ ☐ 9. Label parking stalls for small car as "COMPACT" or equal.
- ~~JA~~ ☐ 10. Sidewalks are required to be 5ft when placed between a building and parking stall.
- ~~IA~~ ☐ 11. Drive-through facilities shall be designed in accordance with Chapter 23.7.E.
- ~~JA~~ ☐ 12. Clearly show both sides of the adjacent street to scale and all existing infrastructure, include the sidewalk, curb and gutter, median, etc. as applicable.
- ☐ 13. Handicap parking stalls must be in accordance with the New Mexico State Building code for accessibility.
- ~~JA~~ ☐ 14. Handicap ramps are required at street corners.
- ☐ 15. Cross access easements may be needed.

# DRAINAGE INFORMATION SHEET

K-11/D64

PROJECT TITLE: Pro Lube & WASH Auto Service Center ZONE MAP/DRG. FILE # K11Z  
 DRB # \_\_\_\_\_ EPC#: \_\_\_\_\_ WORK ORDER#: \_\_\_\_\_

LEGAL DESCRIPTION: TRACT C OF ATRISCO VILLAGE Bernalillo County New Mexico  
 CITY ADDRESS: 120 COOTS BVD NW, ALBUQUERQUE NM 87105

ENGINEERING FIRM: Crawford Development Services  
 ADDRESS: 3634 Highway 47  
 CITY, STATE: Peralta NM 87042

CONTACT: STEVE Crawford  
 PHONE: 505 865 6442  
 ZIP CODE: 87402

OWNER: MICHAEL C. Crowther  
 ADDRESS: 25750 CR 10  
 CITY, STATE: Las Alamos NM 87140

CONTACT: M. C.  
 PHONE: 505 263 0770  
 ZIP CODE: 87140

ARCHITECT: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

SURVEYOR: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

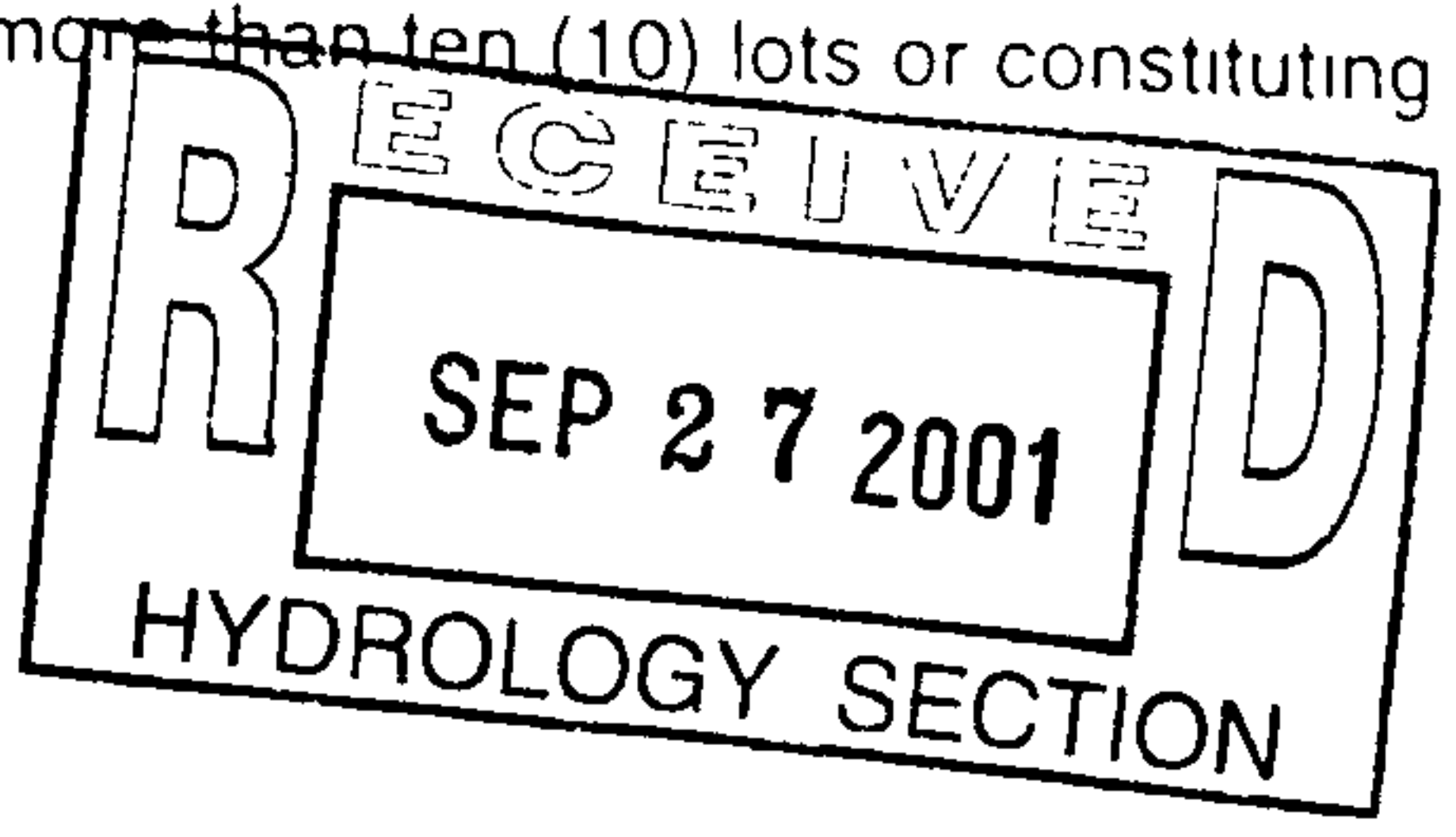
- TYPE OF SUBMITTAL:
- ☐ DRAINAGE REPORT
  - ☒ DRAINAGE PLAN
  - ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
  - ☐ GRADING PLAN
  - ☐ EROSION CONTROL PLAN
  - ☐ ENGINEER'S CERTIFICATION
  - ☐ CLOMR/LOMR
  - ☒ OTHER: ETC.
- WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ☐ YES
  - ☒ NO
  - ☐ COPY PROVIDED

- CHECK TYPE OF APPROVAL SOUGHT:
- ☐ SIA / FINANCIAL GUARANTEE RELEASE
  - ☐ PRELIMINARY PLAT APPROVAL
  - ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
  - ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
  - ☐ SECTOR PLAN APPROVAL
  - ☐ FINAL PLAT APPROVAL
  - ☐ FOUNDATION PERMIT APPROVAL
  - ☒ BUILDING PERMIT APPROVAL
  - ☐ CERTIFICATE OF OCCUPANCY APPROVAL
  - ☐ GRADING PERMIT APPROVAL
  - ☐ PAVING PERMIT APPROVAL
  - ☐ WORK ORDER APPROVAL
  - ☒ OTHER (SPECIFY) S.O. 19 For Sidewalk Culvert in the Right of way

DATE SUBMITTED: 9-27-01 BY: Michael C. Crowther

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.



3:30 pm  
MA



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

***Public Works Department  
Transportation Development Services Section***

November 5, 2001

Stephen Crawford  
3634 Highway 47  
Peralta, NM 87042

Re: Traffic Circulation Layout (TCL) Submittal for Building Permit Approval for  
Prolube & Wash Auto Service Center, [K11 / D064]  
120 Coors Blvd., NW  
Engineer's Stamp Dated

Dear Mr. Crawford:

The TCL submitted for second review is not sufficient for acceptance by this office. It requires completion of the items not yet addressed on the checklist or the original mark up and items called out on the TCL revised by the designer.

Please submit the corrected TCL again to Hydrology along with all documentation and mark-up copies.

Sincerely,

Mike Zamora  
Commercial Plan Checker  
Development and Building Services  
Public Works Department

c: Terri Martin, Hydrology  
Office File

# DRAINAGE INFORMATION SHEET

PROLUBE & WASH  
PROJECT TITLE: AUTO SERVICE CENTER  
DRB #:                      EPC#:                      ZONE MAP/DRG. FILE #: K-11/D064  
WORK ORDER#:                     

LEGAL DESCRIPTION: TRACT C, ATRISCO VILLAGE  
CITY ADDRESS: 120 Coors Blvd, NW

ENGINEERING FIRM: Crawford Development Services  
ADDRESS: 3634 Highway 47  
CITY, STATE: Peralta, NM 87042

CONTACT: Steve  
PHONE: 865-6742  
ZIP CODE: \_\_\_\_\_

OWNER: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
ZIP CODE: \_\_\_\_\_

ARCHITECT: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
ZIP CODE: \_\_\_\_\_

SURVEYOR: \_\_\_\_\_  
ADDRESS \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
ZIP CODE: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
PHONE: \_\_\_\_\_  
ZIP CODE: \_\_\_\_\_

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT  
☐ DRAINAGE PLAN  
☐ CONCEPTUAL GRADING & DRAINAGE PLAN  
☐ GRADING PLAN  
☐ EROSION CONTROL PLAN  
☐ ENGINEER'S CERTIFICATION  
☐ CLOMR/LOMR  
☒ TRAFFIC CIRCULATION LAYOUT (TCL)  
☐ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ☐ SIA / FINANCIAL GUARANTEE RELEASE  
☐ PRELIMINARY PLAT APPROVAL  
☐ S. DEV. PLAN FOR SUB'D. APPROVAL  
☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL  
☐ SECTOR PLAN APPROVAL  
☐ FINAL PLAT APPROVAL  
☐ FOUNDATION PERMIT APPROVAL  
☒ BUILDING PERMIT APPROVAL  
☐ CERTIFICATE OF OCCUPANCY APPROVAL  
☐ GRADING PERMIT APPROVAL  
☐ PAVING PERMIT APPROVAL  
☐ WORK ORDER APPROVAL  
☐ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

☒ YES  
☐ NO  
☐ COPY PROVIDED

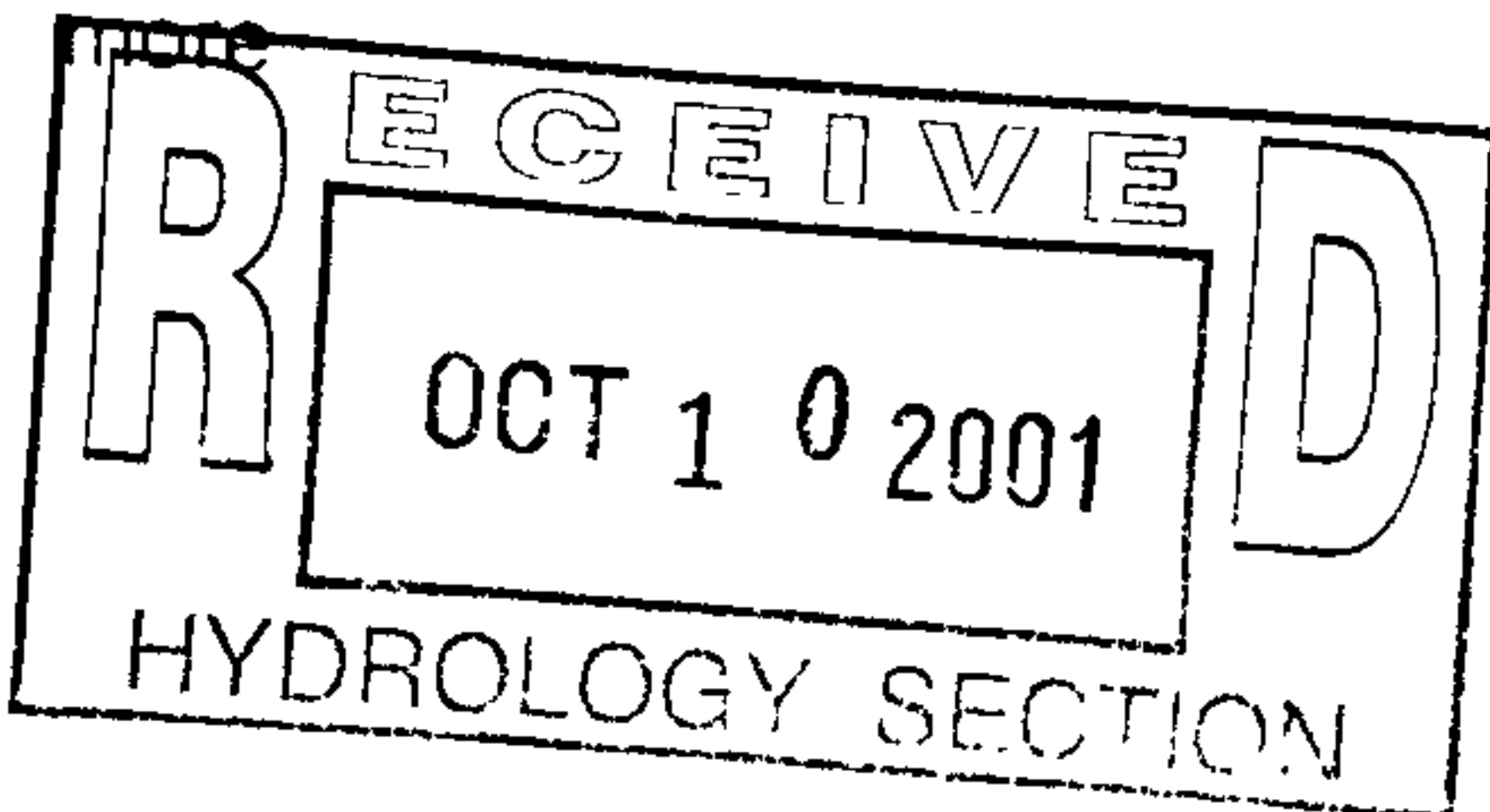
DATE SUBMITTED: Oct 10, 2001 BY: [Signature]

Requests for approvals of Site Development Plans and/or Subdivisions, Plans, etc.

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. Conceptual Grading and Drainage

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.



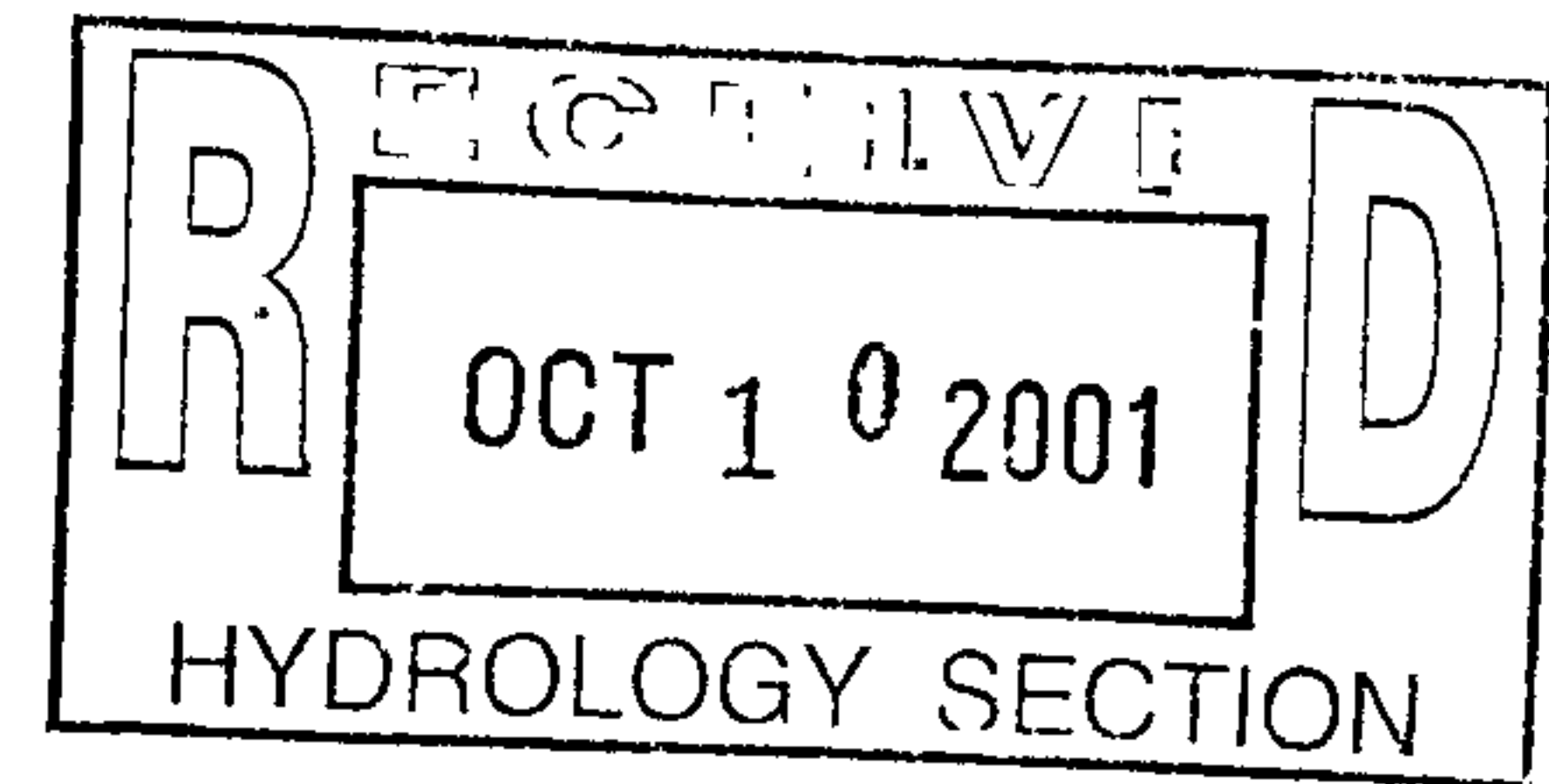
11/1/01 - Cld Engineer, Busy  
11/5/01 - " " , L.M.M. "Plan Ready"  
— - logged in

**CRAWFORD DEVELOPMENT SERVICES**

3634 Highway 47, Peralta, NM 87042  
(505)865-6442

October 10, 2001

HAND DELIVERED



TO: Mike Zamora, Commercial Plan Checker  
Transportation Development Services Section  
Public Works Department  
City of Albuquerque  
P.O. Box 1293  
Albuquerque, NM 87103

RE: ProLube & Wash Auto Service Center Response to TCL Review Comments  
Hydrology File # K11-D64

Dear Mr. Zamora:

We are in receipt of your review comment letter dated October 4, 2001. We revised the site plan per your redline comments. The curb that is being placed along the north edge of the phase one construction area is proposed to be temporary asphalt curb (to make it easier to remove when the phase two construction begins).

Hopefully, the above comments and the enclosed, revised TCL plan sheet will allow you to approve this project for release of building permit. Please call me if there are any questions concerning this matter.

Sincerely,

Stephen L. Crawford, P.E.  
Proprietor

slc:slc  
A1008m03.doc

Enclosures: Revised TCL Plan Sheet (Sheet CS.1)  
Markups (Returned)



# ***City of Albuquerque***

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 5, 2001

Stephen L. Crawford, P.E.  
Crawford Development Services  
3634 Highway  
Peralta, NM 87042

***RE: PROLUBE & WASH AUTO SERVICE CENTER (K11-D64). GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT AND SO#19 PERMIT APPROVALS, COORS BOULEVARD NW. ENGINEER'S STAMP DATED SEPTEMBER 25, 2001.***

Dear Mr. Crawford:

Based on the information provided on your September 27, 2001 submittal, City Hydrology has the following comments:

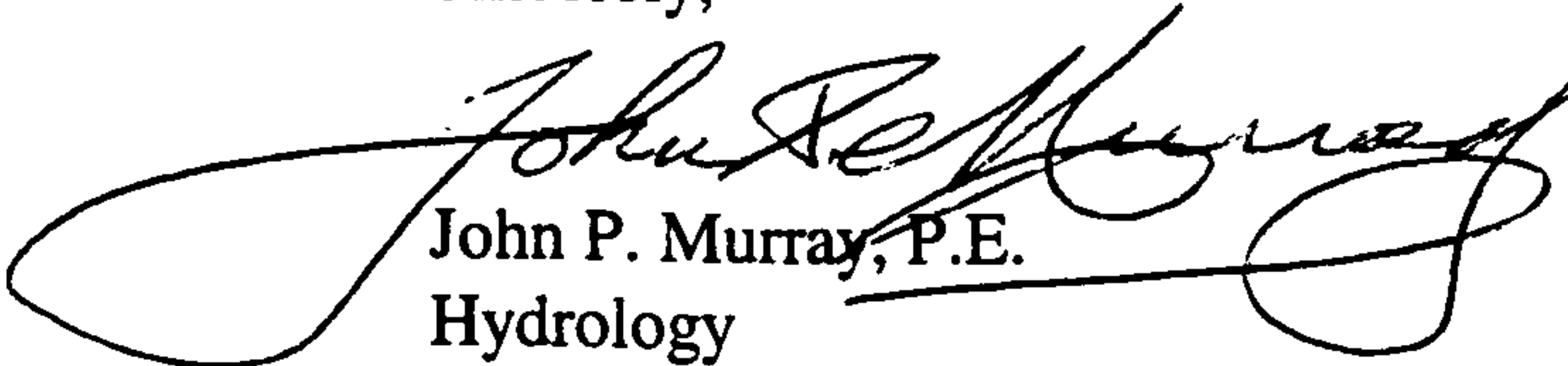
The Standard Notes and Signature Block - Inspector's Signature only - need to be added to the G&D Plan.

The two (2) phases of the project need to be more clearly defined. The temporary diversion berm cuts off runoff from the northeast area of the site to the sidewlak culvert.

A second plan may be needed to show how the Car Wash Phase of the project follows onto the first Phase. Although off-site flow is addressed in the report, some off-site topographic detail should be shown on the G & D Plan.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

  
John P. Murray, P.E.  
Hydrology

c: Terri Martin  
✓ File

# DRAINAGE INFORMATION SHEET

K-11/D64

PROJECT TITLE: Pro Lube & Wash Auto Service Center ZONE MAP/DRG. FILE #: K11Z  
 DRB #: \_\_\_\_\_ EPC#: \_\_\_\_\_ WORK ORDER#: \_\_\_\_\_

LEGAL DESCRIPTION: TRACT C OF ATRISCO Village Bernalillo County New Mexico  
 CITY ADDRESS: 120 COORS RD NW, ALBUQUERQUE NM 87105

ENGINEERING FIRM: Crawford Development Services  
 ADDRESS: 3634 Highway 47  
 CITY, STATE: Peralta NM 87042

CONTACT: STEVE Crawford  
 PHONE: 505 865 6442  
 ZIP CODE: 87402

OWNER: MICHAEL C. Crowther  
 ADDRESS: 25750 CR 10  
 CITY, STATE: Las Alamos NM 87140

CONTACT: Mike  
 PHONE: 719-589-4199 505 2630770  
 ZIP CODE: 81140

ARCHITECT: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

SURVEYOR: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

CONTRACTOR: \_\_\_\_\_  
 ADDRESS: \_\_\_\_\_  
 CITY, STATE: \_\_\_\_\_

CONTACT: \_\_\_\_\_  
 PHONE: \_\_\_\_\_  
 ZIP CODE: \_\_\_\_\_

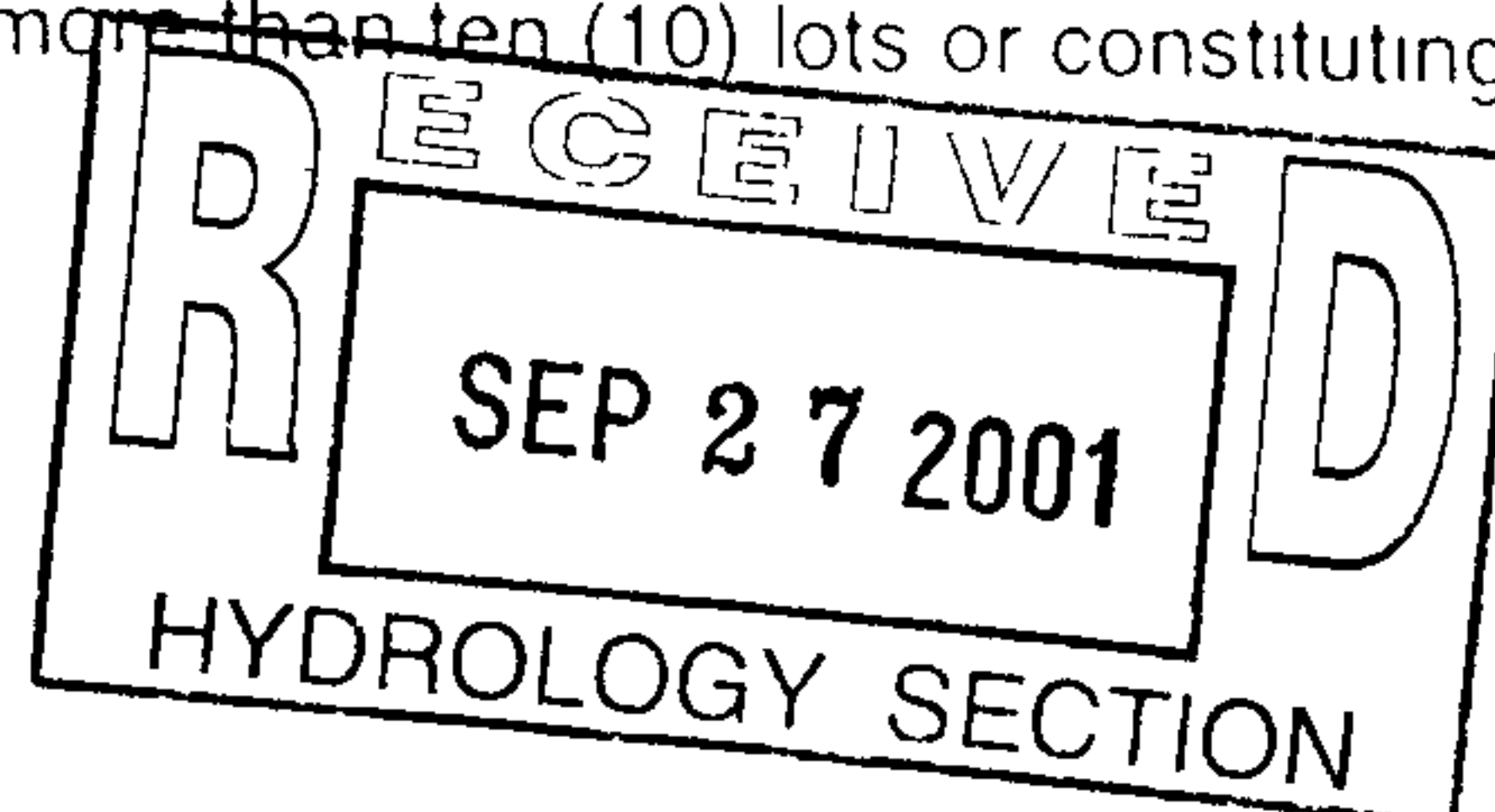
- TYPE OF SUBMITTAL
- ☐ DRAINAGE REPORT
  - ☒ DRAINAGE PLAN
  - ☐ CONCEPTUAL GRADING & DRAINAGE PLAN
  - ☐ GRADING PLAN
  - ☐ EROSION CONTROL PLAN
  - ☐ ENGINEER'S CERTIFICATION
  - ☐ CLOMR/LOMR
  - ☒ OTHER T.C.L.
- WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ☐ YES
  - ☒ NO
  - ☐ COPY PROVIDED

- CHECK TYPE OF APPROVAL SOUGHT:
- ☐ SIA / FINANCIAL GUARANTEE RELEASE
  - ☐ PRELIMINARY PLAT APPROVAL
  - ☐ S. DEV. PLAN FOR SUB'D. APPROVAL
  - ☐ S. DEV. PLAN FOR BLDG. PERMIT APPROVAL
  - ☐ SECTOR PLAN APPROVAL
  - ☐ FINAL PLAT APPROVAL
  - ☐ FOUNDATION PERMIT APPROVAL
  - ☒ BUILDING PERMIT APPROVAL
  - ☐ CERTIFICATE OF OCCUPANCY APPROVAL
  - ☐ GRADING PERMIT APPROVAL
  - ☐ PAVING PERMIT APPROVAL
  - ☐ WORK ORDER APPROVAL
  - ☒ OTHER (SPECIFY) S.O. 19 For Sidewalk Culvert in the Right of way

DATE SUBMITTED: 9-27-01 BY: Michael C. Crowther

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location and scope of the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans.
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report:** Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.



3:30 pm  
MA

# DRAINAGE PLAN

for

## PROLUBE & WASH AUTO SERVICE CENTER

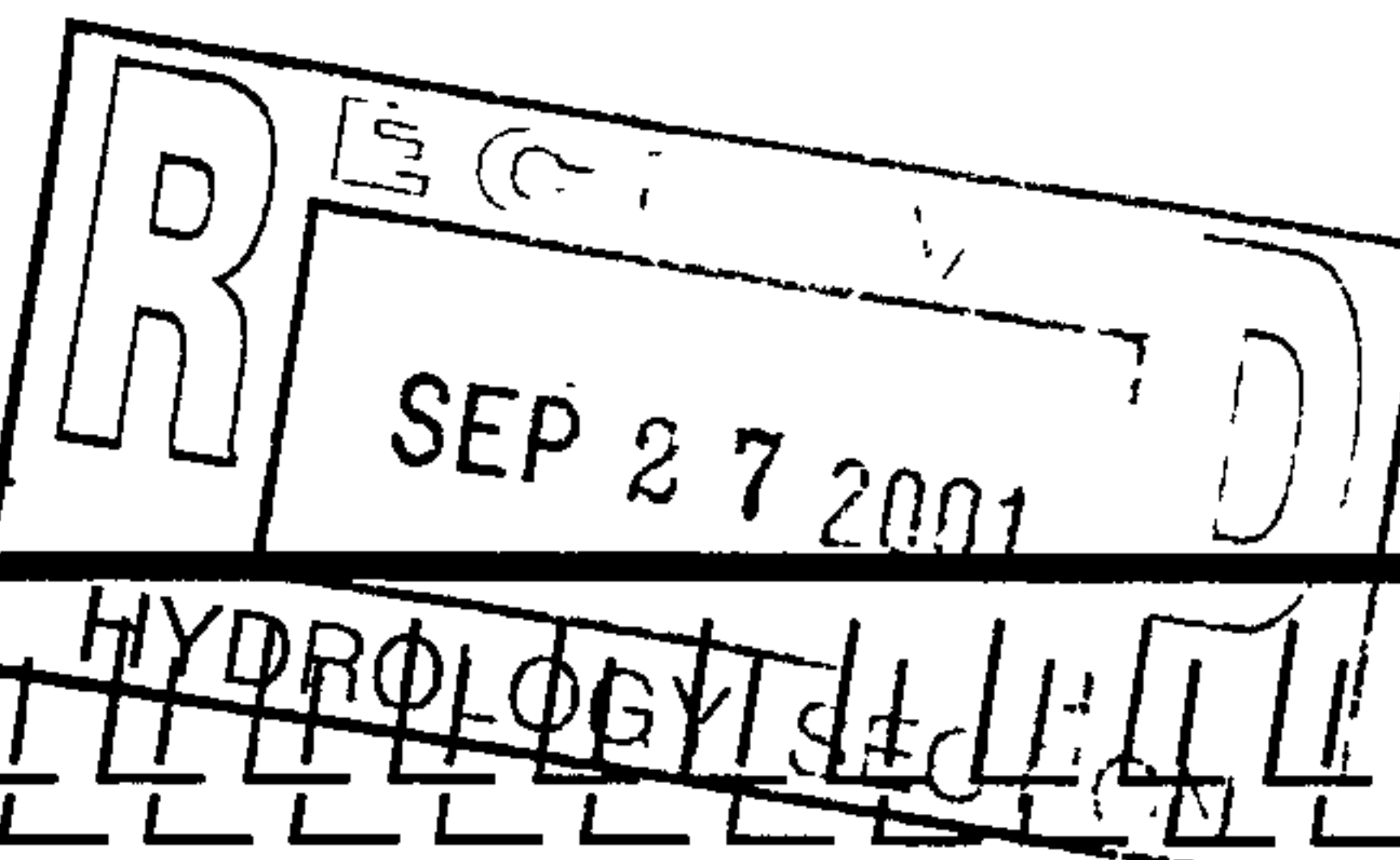
EAST SIDE COORS BOULEVARD  
NORTH OF CENTRAL AVENUE  
ALBUQUERQUE, NEW MEXICO

SEPTEMBER 2001

Crawford  
Development  
Services  
*Founded 1989*



Stephen L. Crawford, P.E.



3634 HIGHWAY 47, PERALTA, NM 87042

865-6442

## **Table of Contents**

|      |                                          |        |
|------|------------------------------------------|--------|
| I.   | Site Location . . . . .                  | page 1 |
| II.  | Proposed Project . . . . .               | page 1 |
| III. | Off-Site Drainage . . . . .              | page 1 |
| IV.  | Existing Conditions . . . . .            | page 1 |
| V.   | Proposed Conditions . . . . .            | page 2 |
| VI.  | Summary / Conclusions . . . . .          | page 3 |
|      | Appendix A - FEMA Map Excerpt            |        |
|      | Appendix B - AHYMO Output                |        |
|      | Appendix C - Misc Hydraulic Calculations |        |
|      | Map Pocket - Site Plan                   |        |
|      | - Grading Plan                           |        |

## **I. SITE LOCATION :**

The 0.85 acre auto service center and carwash site is located on Tract C of the Atrisco Village subdivision on the east side of Coors Boulevard just north of Central Avenue in the City of Albuquerque, New Mexico. See the vicinity map on the grading plan in the map pocket at the back of this report. The project site is located within flood zone X (no shading) per FIRM Panel Number 35001C 0329 D, dated September 20, 1996, "Areas determined to be outside 500-year floodplain." See Appendix A for FEMA Map Excerpt.

## **II. PROPOSED PROJECT & PURPOSE :**

The proposed project consists of a 5,700 sq ft auto service and carwash building, a paved parking area, and landscaped areas along the front, sides, and rear of the property. The project will be constructed in two phases with the auto service center building (south portion of site) being constructed with the initial phase and the carwash building being installed at a later date. This report addresses the drainage requirements for the entire site and supports the building permits for both buildings.

## **III. OFF-SITE DRAINAGE :**

There are no offsite flows impacting the project site. The areas to the east of the project site are lower and the tract of land to the south has its developed flows directed towards the street (Coors Boulevard). The tract of land that is north of the project site is undeveloped and its historic flows pond on the easterly portion of that site. The land to the west of the project site is the Coors Boulevard right-of-way and it is drained by a storm drain system.

## **IV. EXISTING CONDITIONS :**

Currently the Pro Lube site is vacant land which is nearly flat with the exception of a historic slope grading easement along its east boundary. The existing flows from the site pond on the easterly portion of the site. The AHYMO run in Appendix B indicates that the existing flow from the site is 1.24 cfs during the 100-year 6 hour design storm.

## V. PROPOSED CONDITIONS:

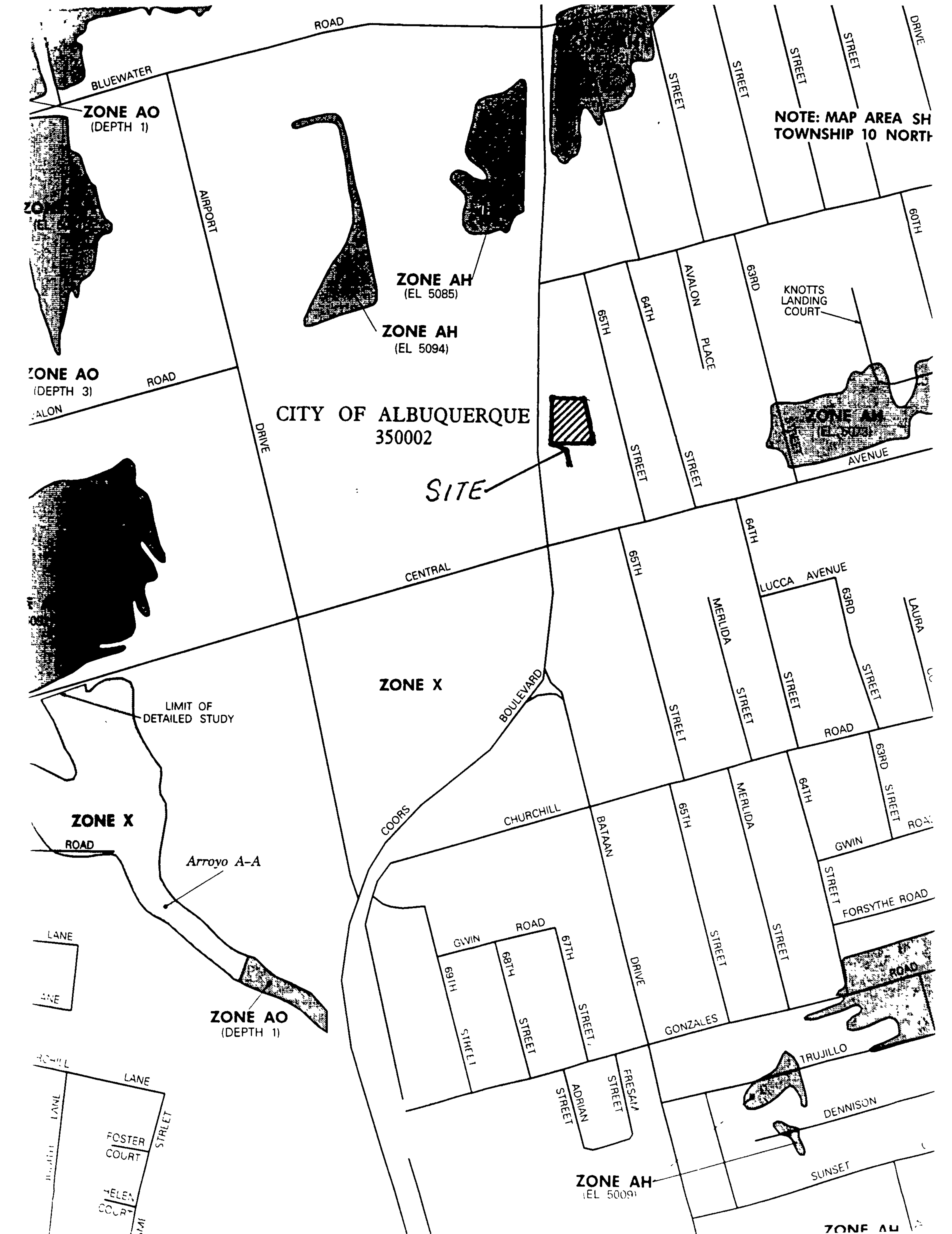
A 5,700 sf auto service center & car wash building with a paved parking lot and landscaped areas will be installed on Tract C of the Atrisco Village subdivision. The post development condition will divide the site into three drainage basins (see Grading Plan in map pocket of this report). Basin B-1 is the westerly half of the landscaped street yard berm along the front of the property and it will sheet flow into the Coors Boulevard right-of-way. Basin B-2 is the main area of the site and it is designed to have its flows conveyed via surface swales and rundowns to a pair of sidewalk culverts that discharge into the curb and gutter of Coors Boulevard. Basin B-3 is a "rear yard" slope grading area that makes up the difference in grades between the parking lot of the project and the existing housing to the east. This is a historic slope grading area and has been used as such by adjacent projects.

The AHYMO run in Appendix B of this report indicates that the post development runoff from this site totals about 3.59cfs in the 100-year 6 hour design storm. This flow must be safely conveyed through the concrete rundown and under the sidewalk into the Coors Boulevard street area. The calculations in Appendix C of this report demonstrate that the proposed 4 wide rundown and double 24" sidewalk culvert can safely handle the 3.59 cfs of developed flows.

**VI. SUMMARY / CONCLUSION :**

The development of this site will not adversely affect any downstream or offsite areas. The onsite grading has been designed to direct stormwater flows away from the auto service center and carwash building.

# APPENDIX A



BLUEWATER

ZONE AO  
(DEPTH 1)

NOTE: MAP AREA SH  
TOWNSHIP 10 NORTH

AIRPORT

ZONE AH  
(EL 5085)

ZONE AH  
(EL 5094)

CITY OF ALBUQUERQUE  
350002

SITE

ZONE X

LIMIT OF  
DETAILED STUDY

ZONE X

Arroyo A-A

ZONE AO  
(DEPTH 1)

ZONE AH  
(EL 5009)

SUNSET

DENNISON

TRUJILLO

GONZALES

FRESA  
ADRIAN  
STREET

CHURCHILL

COORS

BOULEVARD

LUCCA AVENUE

ROAD

FORSYTHE ROAD

ROAD

GWIN

STREET

64TH

MERLIDA

STREET

65TH

65TH

BATAAN

DRIVE

ROAD

GWIN

68TH

69TH

STREET

STREET

67TH

STREET

KNOTTS  
LANDING  
COURT

ZONE AH  
(EL 5085)

AVENUE

AVALON  
PLACE

64TH

65TH

STREET

STREET

60TH

STREET

STREET

STREET

STREET

DRIVE

ROAD

ROAD

ZONE AO  
(DEPTH 3)

AVALON

LANE

LANE

LANE

FOSTER  
COURT

HELEN  
COURT

STREET

CHURCHILL

LANE

**APPENDIX B**

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994  
RUN DATE (MON/DAY/YR) = 09/25/2001  
START TIME (HR:MIN:SEC) = 05:47:15 USER NO.= CRAWFORD.194  
INPUT FILE = G:\A1008\ENG\AHYMO\A1008DV1.DAT

\*S PROLUBE AT COORS/CENTRAL  
\*S  
START TIME=0.0 HR PUNCH CODE=0  
RAINFALL TYPE=1 RAIN QUARTER=0.0  
RAIN ONE=1.90 IN RAIN SIX=2.20 IN  
DT=0.033333 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.  
DT = .033333 HOURS END TIME = 5.999940 HOURS

|        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|
| .0000  | .0013  | .0027  | .0041  | .0055  | .0069  | .0084  |
| .0099  | .0115  | .0131  | .0147  | .0164  | .0181  | .0199  |
| .0217  | .0236  | .0256  | .0276  | .0296  | .0318  | .0340  |
| .0363  | .0387  | .0412  | .0438  | .0465  | .0493  | .0523  |
| .0554  | .0587  | .0622  | .0675  | .0731  | .0791  | .0920  |
| .1209  | .1653  | .2291  | .3162  | .4306  | .5765  | .7582  |
| .9799  | 1.1849 | 1.2707 | 1.3432 | 1.4077 | 1.4663 | 1.5203 |
| 1.5704 | 1.6173 | 1.6612 | 1.7025 | 1.7415 | 1.7783 | 1.8132 |
| 1.8462 | 1.8775 | 1.9072 | 1.9354 | 1.9622 | 1.9681 | 1.9737 |
| 1.9789 | 1.9839 | 1.9887 | 1.9933 | 1.9976 | 2.0019 | 2.0059 |
| 2.0098 | 2.0136 | 2.0172 | 2.0208 | 2.0242 | 2.0276 | 2.0308 |
| 2.0340 | 2.0371 | 2.0401 | 2.0430 | 2.0458 | 2.0486 | 2.0514 |
| 2.0541 | 2.0567 | 2.0592 | 2.0618 | 2.0642 | 2.0667 | 2.0690 |
| 2.0714 | 2.0737 | 2.0759 | 2.0781 | 2.0803 | 2.0825 | 2.0846 |
| 2.0867 | 2.0887 | 2.0908 | 2.0927 | 2.0947 | 2.0966 | 2.0986 |
| 2.1004 | 2.1023 | 2.1041 | 2.1060 | 2.1077 | 2.1095 | 2.1113 |
| 2.1130 | 2.1147 | 2.1164 | 2.1180 | 2.1197 | 2.1213 | 2.1229 |
| 2.1245 | 2.1261 | 2.1277 | 2.1292 | 2.1308 | 2.1323 | 2.1338 |
| 2.1353 | 2.1367 | 2.1382 | 2.1396 | 2.1411 | 2.1425 | 2.1439 |
| 2.1453 | 2.1466 | 2.1480 | 2.1494 | 2.1507 | 2.1520 | 2.1534 |
| 2.1547 | 2.1560 | 2.1573 | 2.1585 | 2.1598 | 2.1611 | 2.1623 |
| 2.1636 | 2.1648 | 2.1660 | 2.1672 | 2.1684 | 2.1696 | 2.1708 |
| 2.1720 | 2.1731 | 2.1743 | 2.1755 | 2.1766 | 2.1777 | 2.1789 |
| 2.1800 | 2.1811 | 2.1822 | 2.1833 | 2.1844 | 2.1855 | 2.1866 |
| 2.1876 | 2.1887 | 2.1898 | 2.1908 | 2.1919 | 2.1929 | 2.1939 |
| 2.1950 | 2.1960 | 2.1970 | 2.1980 | 2.1990 | 2.2000 |        |

\*S \*\*\*\*\*  
\*S COMPUTE EXISTING CONDITION HYDROGRAPH FOR PROPERTY  
\*S \*\*\*\*\*  
COMPUTE NM HYD ID=1 HYD NO=100.EX DA=0.001322 SQ MI  
PER A=90.00 PER B=00.00 PER C=10.00 PER D=00.00  
TP=-0.133333 HR MASS RAIN=-1

K = .157294HR TP = .133333HR K/TP RATIO = 1.179710 SHAPE CONSTANT, N = 3.008112  
UNIT PEAK = 2.8008 CFS UNIT VOLUME = .9945 B = 282.48 P60 = 1.9000  
AREA = .001322 SQ MI IA = .62000 INCHES INF = 1.58600 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA 100.EX

RUNOFF VOLUME = .49003 INCHES = .0345 ACRE-FEET  
PEAK DISCHARGE RATE = 1.24 CFS AT 1.533 HOURS BASIN AREA = .0013 SQ. MI.

\*S \*\*\*\*\*  
\*S COMPUTE DEVELOPED CONDITION HYDROGRAPH FOR BASIN B-1  
\*S \*\*\*\*\*  
COMPUTE NM HYD ID=2 HYD NO=101.DV DA=0.000067 SQ MI  
PER A=00.00 PER B=00.00 PER C=100.00 PER D=00.00  
TP=-0.133333 HR MASS RAIN=-1

K = .106231HR TP = .133333HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737  
UNIT PEAK = .19454 CFS UNIT VOLUME = .9361 B = 387.15 P60 = 1.9000  
AREA = .000067 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA 101.DV

RUNOFF VOLUME = 1.01258 INCHES = .0036 ACRE-FEET  
PEAK DISCHARGE RATE = .13 CFS AT 1.500 HOURS BASIN AREA = .0001 SQ. MI.

\*S \*\*\*\*\*  
\*S COMPUTE DEVELOPED CONDITION HYDROGRAPH FOR BASIN B-2  
\*S \*\*\*\*\*  
COMPUTE NM HYD ID=3 HYD NO=102.DV DA=0.001140 SQ MI  
PER A=00.00 PER B=00.00 PER C=00.00 PER D=100.00  
TP=-0.133333 HR MASS RAIN=-1

K = .072666HR TP = .133333HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420  
UNIT PEAK = 4.4997 CFS UNIT VOLUME = .9969 B = 526.28 P60 = 1.9000  
AREA = .001140 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA 102.DV

RUNOFF VOLUME = 1.96637 INCHES = .1196 ACRE-FEET  
PEAK DISCHARGE RATE = 3.24 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

\*S \*\*\*\*\*  
\*S COMPUTE DEVELOPED CONDITION HYDROGRAPH FOR BASIN B-3  
\*S \*\*\*\*\*  
COMPUTE NM HYD ID=4 HYD NO=103.DV DA=0.000115 SQ MI  
PER A=00.00 PER B=00.00 PER C=100.00 PER D=00.00  
TP=-0.133333 HR MASS RAIN=-1

K = .106231HR TP = .133333HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737  
UNIT PEAK = .33392 CFS UNIT VOLUME = .9623 B = 387.15 P60 = 1.9000  
AREA = .000115 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=4 CODE=1

HYDROGRAPH FROM AREA 103.DV

RUNOFF VOLUME = 1.01258 INCHES = .0062 ACRE-FEET  
PEAK DISCHARGE RATE = .22 CFS AT 1.500 HOURS BASIN AREA = .0001 SQ. MI.

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 05:47:15

## APPENDIX C

# MANNING'S EQUATION FOR UNIFORM FLOW--TRAPEZOIDAL CHANNEL

## \*INPUT\*

|                              |        |      |
|------------------------------|--------|------|
| DEPTH--GUESS (FT):           | 0.50   | 0.50 |
| FLOW RATE--CALCULATED (CFS): | 6.73   |      |
| MANNING'S "n" VALUE:         | 0.017  |      |
| BED SLOPE (FT/FT):           | 0.0050 |      |
| BOTTOM WIDTH (FT):           | 4.00   |      |
| SIDESLOPE #1 (HORZ:VERT):    | 0.00   |      |
| SIDESLOPE #2 (HORZ:VERT):    | 0.00   |      |
| OWN--NEG. FOR INVERTED (FT): | 0.00   |      |

4' WIDE X 6"  
DEEP RUNDOWN

## \*OUTPUT\*

|                        |      |
|------------------------|------|
| CROSS SECT. AREA (SF): | 2.00 |
| TOP WIDTH (FT):        | 4.00 |
| WETTED PERIMETER (FT): | 5.00 |
| HYDRAULIC RADIUS (FT): | 0.40 |
| VELOCITY (FPS):        | 3.36 |
| FROUDE NUMBER:         | 0.84 |

# SIDEWALK CULVERT CAPACITY

0.67' DEEP x 2' WIDE

$$Q = 2.60 \times L \times H^{1.5} = 2.60 \times 2 \times (0.67)^{1.5} = 2.85 \text{ cfs per } 2EA = 5.70 \text{ cfs}$$

OK

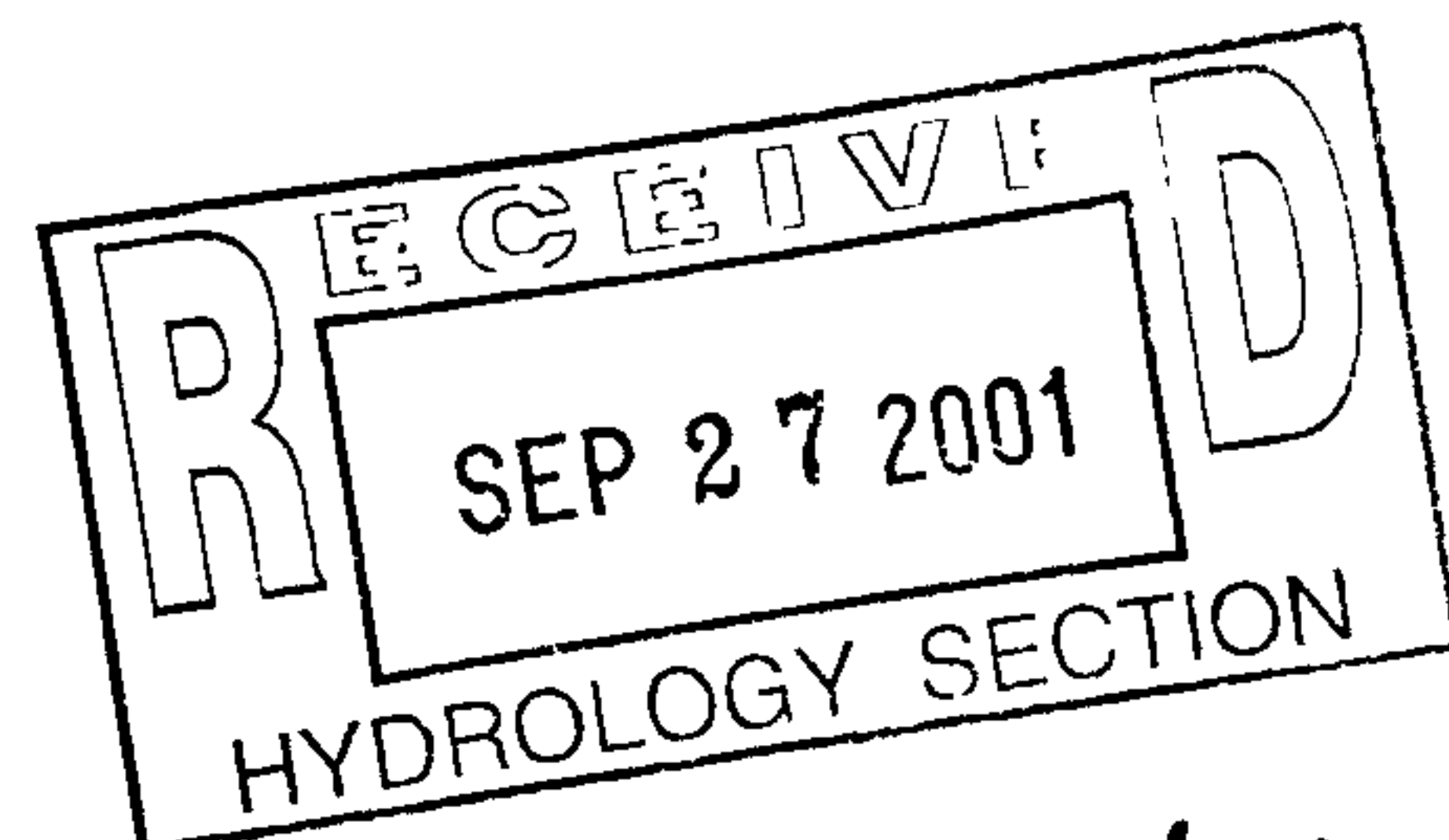
(3.59 cfs reqd)

# DRAINAGE PLAN

for

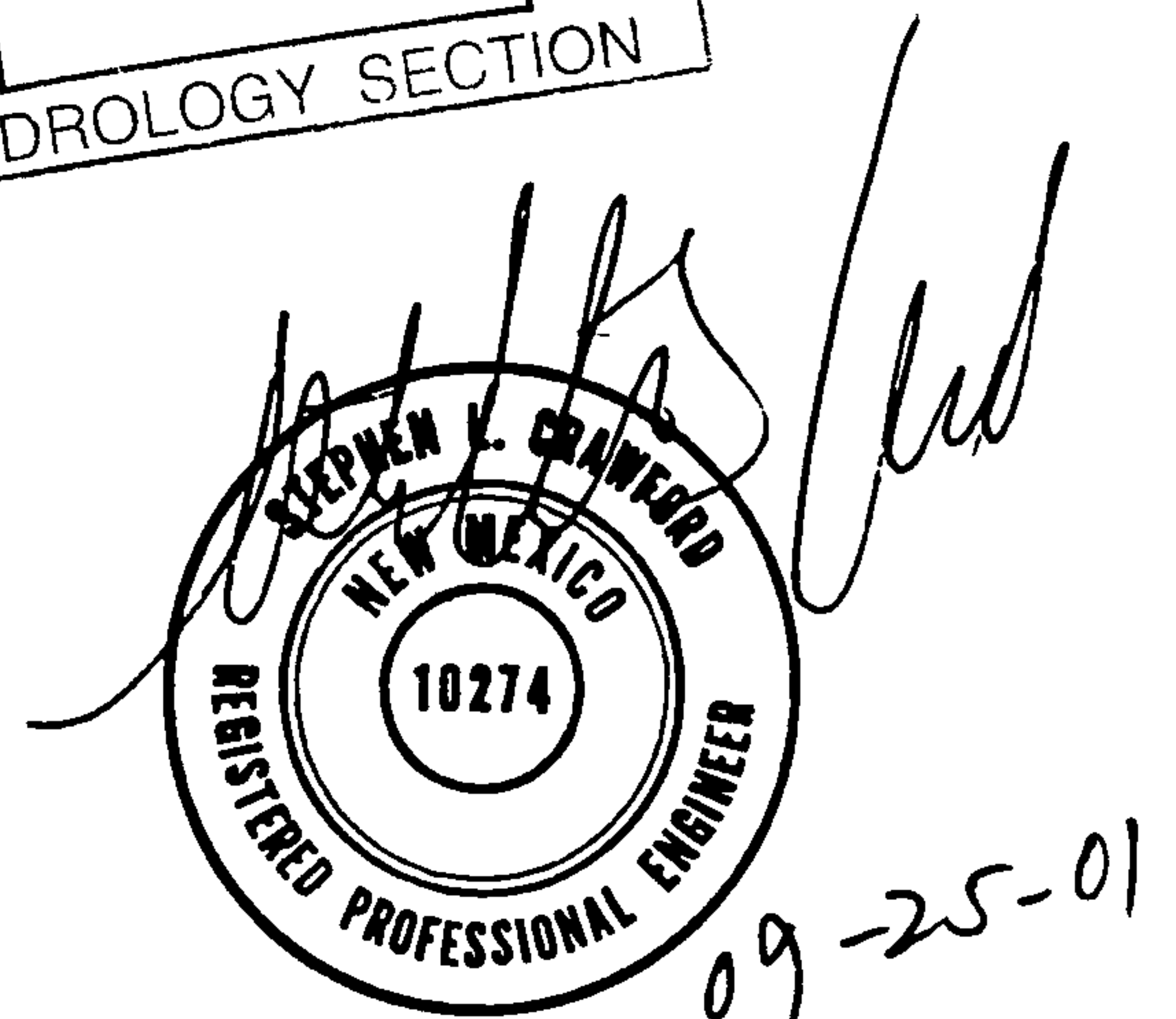
## PROLUBE & WASH AUTO SERVICE CENTER

EAST SIDE COORS BOULEVARD  
NORTH OF CENTRAL AVENUE  
ALBUQUERQUE, NEW MEXICO

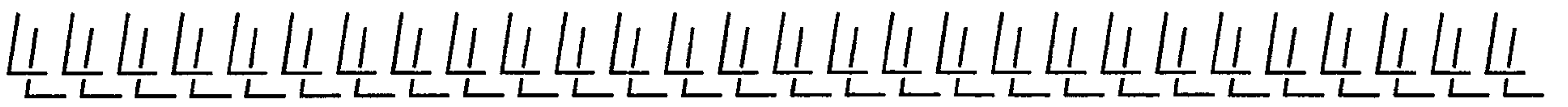


SEPTEMBER 2001

Crawford  
Development  
Services  
*Founded 1989*



Stephen L. Crawford, P.E.



3634 HIGHWAY 47, PERALTA, NM 87042

865-6442

## **Table of Contents**

|      |                                 |        |
|------|---------------------------------|--------|
| I.   | Site Location . . . . .         | page 1 |
| II.  | Proposed Project . . . . .      | page 1 |
| III. | Off-Site Drainage . . . . .     | page 1 |
| IV.  | Existing Conditions . . . . .   | page 1 |
| V.   | Proposed Conditions . . . . .   | page 2 |
| VI.  | Summary / Conclusions . . . . . | page 3 |

Appendix A - FEMA Map Excerpt

Appendix B - AHYMO Output

Appendix C - Misc Hydraulic Calculations

Map Pocket - Site Plan  
- Grading Plan

## **I. SITE LOCATION :**

The 0.85 acre auto service center and carwash site is located on Tract C of the Atrisco Village subdivision on the east side of Coors Boulevard just north of Central Avenue in the City of Albuquerque, New Mexico. See the vicinity map on the grading plan in the map pocket at the back of this report. The project site is located within flood zone X (no shading) per FIRM Panel Number 35001C 0329 D, dated September 20, 1996, "Areas determined to be outside 500-year floodplain." See Appendix A for FEMA Map Excerpt.

## **II. PROPOSED PROJECT & PURPOSE :**

The proposed project consists of a 5,700 sq ft auto service and carwash building, a paved parking area, and landscaped areas along the front, sides, and rear of the property. The project will be constructed in two phases with the auto service center building (south portion of site) being constructed with the initial phase and the carwash building being installed at a later date. This report addresses the drainage requirements for the entire site and supports the building permits for both buildings.

## **III. OFF-SITE DRAINAGE :**

There are no offsite flows impacting the project site. The areas to the east of the project site are lower and the tract of land to the south has its developed flows directed towards the street (Coors Boulevard). The tract of land that is north of the project site is undeveloped and its historic flows pond on the easterly portion of that site. The land to the west of the project site is the Coors Boulevard right-of-way and it is drained by a storm drain system.

## **IV. EXISTING CONDITIONS :**

Currently the Pro Lube site is vacant land which is nearly flat with the exception of a historic slope grading easement along its east boundary. The existing flows from the site pond on the easterly portion of the site. The AHYMO run in Appendix B indicates that the existing flow from the site is 1.24 cfs during the 100-year 6 hour design storm.

## V. PROPOSED CONDITIONS:

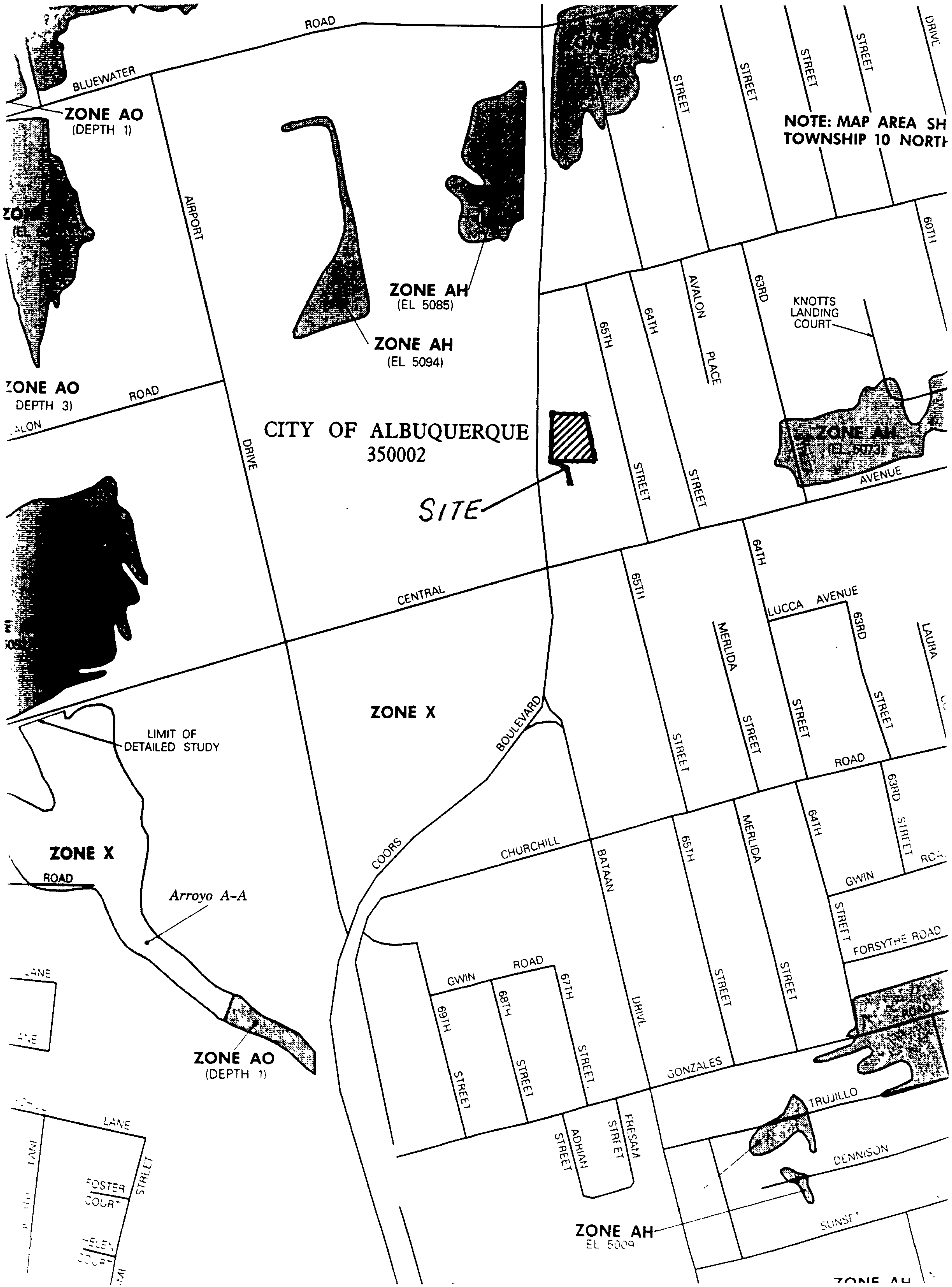
A 5,700 sf auto service center & car wash building with a paved parking lot and landscaped areas will be installed on Tract C of the Atrisco Village subdivision. The post development condition will divide the site into three drainage basins (see Grading Plan in map pocket of this report). Basin B-1 is the westerly half of the landscaped street yard berm along the front of the property and it will sheet flow into the Coors Boulevard right-of-way. Basin B-2 is the main area of the site and it is designed to have its flows conveyed via surface swales and rundowns to a pair of sidewalk culverts that discharge into the curb and gutter of Coors Boulevard. Basin B-3 is a "rear yard" slope grading area that makes up the difference in grades between the parking lot of the project and the existing housing to the east. This is a historic slope grading area and has been used as such by adjacent projects.

The AHYMO run in Appendix B of this report indicates that the post development runoff from this site totals about 3.59cfs in the 100-year 6 hour design storm. This flow must be safely conveyed through the concrete rundown and under the sidewalk into the Coors Boulevard street area. The calculations in Appendix C of this report demonstrate that the proposed 4 wide rundown and double 24" sidewalk culvert can safely handle the 3.59 cfs of developed flows.

## **VI. SUMMARY / CONCLUSION :**

The development of this site will not adversely affect any downstream or offsite areas. The onsite grading has been designed to direct stormwater flows away from the auto service center and carwash building.

# APPENDIX A



NOTE: MAP AREA SH  
TOWNSHIP 10 NORTH

CITY OF ALBUQUERQUE  
350002

SITE

ZONE X

ZONE AH  
EL 5009

ZONE AO  
(DEPTH 1)

ZONE AO  
DEPTH 3)

ZONE AO  
(DEPTH 1)

LIMIT OF  
DETAILED STUDY

Arroyo A-A

KNOTTS  
LANDING  
COURT

ZONE AH  
EL 5073

DENNISON

SUNSET

ZONE AH

## APPENDIX B

AHYMO PROGRAM (AHYMO194) - AMAFCA Hydrologic Model - January, 1994  
RUN DATE (MON/DAY/YR) = 09/25/2001  
START TIME (HR:MIN:SEC) = 05:47:15      USER NO.= CRAWFORD.194  
INPUT FILE = G:\A1008\ENG\AHYMO\A1008DV1.DAT

\*S                    PROLUBE AT COORS/CENTRAL  
\*S  
START                TIME=0.0 HR PUNCH CODE=0  
RAINFALL            TYPE=1 RAIN QUARTER=0.0  
                     RAIN ONE=1.90 IN RAIN SIX=2.20 IN  
                     DT=0.033333 HRS

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.  
DT = .033333 HOURS                    END TIME = 5.999940 HOURS

|        |        |        |        |        |        |        |
|--------|--------|--------|--------|--------|--------|--------|
| .0000  | .0013  | .0027  | .0041  | .0055  | .0069  | .0084  |
| .0099  | .0115  | .0131  | .0147  | .0164  | .0181  | .0199  |
| .0217  | .0236  | .0256  | .0276  | .0296  | .0318  | .0340  |
| .0363  | .0387  | .0412  | .0438  | .0465  | .0493  | .0523  |
| .0554  | .0587  | .0622  | .0675  | .0731  | .0791  | .0920  |
| .1209  | .1653  | .2291  | .3162  | .4306  | .5765  | .7582  |
| .9799  | 1.1849 | 1.2707 | 1.3432 | 1.4077 | 1.4663 | 1.5203 |
| 1.5704 | 1.6173 | 1.6612 | 1.7025 | 1.7415 | 1.7783 | 1.8132 |
| 1.8462 | 1.8775 | 1.9072 | 1.9354 | 1.9622 | 1.9681 | 1.9737 |
| 1.9789 | 1.9839 | 1.9887 | 1.9933 | 1.9976 | 2.0019 | 2.0059 |
| 2.0098 | 2.0136 | 2.0172 | 2.0208 | 2.0242 | 2.0276 | 2.0308 |
| 2.0340 | 2.0371 | 2.0401 | 2.0430 | 2.0458 | 2.0486 | 2.0514 |
| 2.0541 | 2.0567 | 2.0592 | 2.0618 | 2.0642 | 2.0667 | 2.0690 |
| 2.0714 | 2.0737 | 2.0759 | 2.0781 | 2.0803 | 2.0825 | 2.0846 |
| 2.0867 | 2.0887 | 2.0908 | 2.0927 | 2.0947 | 2.0966 | 2.0986 |
| 2.1004 | 2.1023 | 2.1041 | 2.1060 | 2.1077 | 2.1095 | 2.1113 |
| 2.1130 | 2.1147 | 2.1164 | 2.1180 | 2.1197 | 2.1213 | 2.1229 |
| 2.1245 | 2.1261 | 2.1277 | 2.1292 | 2.1308 | 2.1323 | 2.1338 |
| 2.1353 | 2.1367 | 2.1382 | 2.1396 | 2.1411 | 2.1425 | 2.1439 |
| 2.1453 | 2.1466 | 2.1480 | 2.1494 | 2.1507 | 2.1520 | 2.1534 |
| 2.1547 | 2.1560 | 2.1573 | 2.1585 | 2.1598 | 2.1611 | 2.1623 |
| 2.1636 | 2.1648 | 2.1660 | 2.1672 | 2.1684 | 2.1696 | 2.1708 |
| 2.1720 | 2.1731 | 2.1743 | 2.1755 | 2.1766 | 2.1777 | 2.1789 |
| 2.1800 | 2.1811 | 2.1822 | 2.1833 | 2.1844 | 2.1855 | 2.1866 |
| 2.1876 | 2.1887 | 2.1898 | 2.1908 | 2.1919 | 2.1929 | 2.1939 |
| 2.1950 | 2.1960 | 2.1970 | 2.1980 | 2.1990 | 2.2000 |        |

\*S                    \*\*\*\*\*  
\*S                    COMPUTE EXISTING CONDITION HYDROGRAPH FOR PROPERTY  
\*S                    \*\*\*\*\*  
COMPUTE NM HYD      ID=1 HYD NO=100.EX DA=0.001322 SQ MI  
                     PER A=90.00 PER B=00.00 PER C=10.00 PER D=00.00  
                     TP=-0.133333 HR MASS RAIN=-1

K = .157294HR      TP = .133333HR      K/TP RATIO = 1.179710      SHAPE CONSTANT, N = 3.008112  
UNIT PEAK = 2.8008      CFS      UNIT VOLUME = .9945      B = 282.48      P60 = 1.9000  
AREA = .001322 SQ MI      IA = .62000 INCHES      INF = 1.58600 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD            ID=1 CODE=1

HYDROGRAPH FROM AREA 100.EX

RUNOFF VOLUME = .49003 INCHES      = .0345 ACRE-FEET  
PEAK DISCHARGE RATE = 1.24 CFS      AT 1.533 HOURS      BASIN AREA = .0013 SQ. MI.

\*S                    \*\*\*\*\*  
\*S                    COMPUTE DEVELOPED CONDITION HYDROGRAPH FOR BASIN B-1  
\*S                    \*\*\*\*\*  
COMPUTE NM HYD      ID=2 HYD NO=101.DV DA=0.000067 SQ MI  
                     PER A=00.00 PER B=00.00 PER C=100.00 PER D=00.00  
                     TP=-0.133333 HR MASS RAIN=-1

K = .106231HR TP = .133333HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737  
UNIT PEAK = .19454 CFS UNIT VOLUME = .9361 B = 387.15 P60 = 1.9000  
AREA = .000067 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA 101.DV

RUNOFF VOLUME = 1.01258 INCHES = .0036 ACRE-FEET  
PEAK DISCHARGE RATE = .13 CFS AT 1.500 HOURS BASIN AREA = .0001 SQ. MI.

\*S \*\*\*\*\*  
\*S COMPUTE DEVELOPED CONDITION HYDROGRAPH FOR BASIN B-2  
\*S \*\*\*\*\*  
COMPUTE NM HYD ID=3 HYD NO=102.DV DA=0.001140 SQ MI  
PER A=00.00 PER B=00.00 PER C=00.00 PER D=100.00  
TP=-0.133333 HR MASS RAIN=-1

K = .072666HR TP = .133333HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420  
UNIT PEAK = 4.4997 CFS UNIT VOLUME = .9969 B = 526.28 P60 = 1.9000  
AREA = .001140 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA 102.DV

RUNOFF VOLUME = 1.96637 INCHES = .1196 ACRE-FEET  
PEAK DISCHARGE RATE = 3.24 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

\*S \*\*\*\*\*  
\*S COMPUTE DEVELOPED CONDITION HYDROGRAPH FOR BASIN B-3  
\*S \*\*\*\*\*  
COMPUTE NM HYD ID=4 HYD NO=103.DV DA=0.000115 SQ MI  
PER A=00.00 PER B=00.00 PER C=100.00 PER D=00.00  
TP=-0.133333 HR MASS RAIN=-1

K = .106231HR TP = .133333HR K/TP RATIO = .796738 SHAPE CONSTANT, N = 4.498737  
UNIT PEAK = .33392 CFS UNIT VOLUME = .9623 B = 387.15 P60 = 1.9000  
AREA = .000115 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=4 CODE=1

HYDROGRAPH FROM AREA 103.DV

RUNOFF VOLUME = 1.01258 INCHES = .0062 ACRE-FEET  
PEAK DISCHARGE RATE = .22 CFS AT 1.500 HOURS BASIN AREA = .0001 SQ. MI.

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 05:47:15

# APPENDIX C

# MANNING'S EQUATION FOR UNIFORM FLOW--TRAPEZOIDAL CHANNEL

## \*INPUT\*

|                              |        |      |
|------------------------------|--------|------|
| DEPTH--GUESS (FT):           | 0.50   | 0.50 |
| FLOW RATE--CALCULATED (CFS): | 6.73   |      |
| MANNING'S "n" VALUE:         | 0.017  |      |
| BED SLOPE (FT/FT):           | 0.0050 |      |
| BOTTOM WIDTH (FT):           | 4.00   |      |
| SIDESLOPE #1 (HORZ:VERT):    | 0.00   |      |
| SIDESLOPE #2 (HORZ:VERT):    | 0.00   |      |
| OWN--NEG. FOR INVERTED (FT): | 0.00   |      |

4' WIDE X 6"  
DEEP RUNDOWN

## \*OUTPUT\*

|                        |      |
|------------------------|------|
| CROSS SECT. AREA (SF): | 2.00 |
| TOP WIDTH (FT):        | 4.00 |
| WETTED PERIMETER (FT): | 5.00 |
| HYDRAULIC RADIUS (FT): | 0.40 |
| VELOCITY (FPS):        | 3.36 |
| FROUDE NUMBER:         | 0.84 |

# SIDEWALK CULVERT CAPACITY

① 0.67' DEEP x 2' WIDE

$$Q = 2.60 \times L \times H^{1.5}$$

$$= 2.60 \times 2 \times (0.67)^{1.5}$$

$$= 2.85 \text{ cfs per}$$

$$2 EA = 5.70 \text{ cfs}$$

✓ OK

(3.59 cfs reqd)