HYDROLOGY E18/D15 5 PLANS

E18/D15

5 Plans

Boyle Engineering Corporation

Suite D
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Albuquerque, New Mexico 87110

consulting engineers

505 / 883-7700

Mr. Brian G. Burnett
Civil Engineer/Hydrology
Engineering Division
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

January 29, 1982

RE: ANNE PICKARD CONVALESCENT HOSPITAL DRAINAGE STUDY, REVISION NO. 5

Dear Brian:

The subject drainage study has been revised to show calculations for the capacity of the "rundown" right of station 3+00 on Forest Hills Drive and to explain its purpose.

The proposed transverse grate that will intercept the Forest Hills Drive flow has adequate capacity even though only the south half would be constructed at this time.

If you have any questions regarding this revised study, please call me.

Sincerely,

BOYLE ENGINEERING CORPORATION

Frank D. Lovelady

Frank D. Lovelady, P.E.
Senior Civil Engineer

FDL:sof

cc: Southwest Community Health Services
Stevens, Mallory, Pearl & Campbell

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I. ARROYO DEL PINO
II. OFF-SITE DRAINAGE BASINS
III. ON-SITE DRAINAGE COMPUTATIONS
IV. TRANSVERSE GRATE - STRUCTURE AND GRATE CAPACITY
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STORM DRAINAGE STUDY
RELATIVE TO THE CONSTRUCTION OF
ANNE PICKARD CONVALESCENT HOSPITAL
ALBUQUERQUE, NEW MEXICO

1. PURPOSE: It is the purpose of this report to transmit data relative to the Storm Drainage Study for the proposed site of the Anne Pickard Convalescent Hospital. This data presents development parameters relative to applicable drainage policies and standards but is not intended to present detailed grading and construction plans. These development parameters have been developed such that the proposed development will be protected from storm runoff and will not increase the threat of flood damage to contiguous properties.

2. SCOPE: The scope of this study is limited to an investigation of the existing conditions which affect storm flows on the study site. Upstream areas which have been constructed since 1972 are assumed to meet the restrictions of Resolution 1972-2. Recent hydrologic studies of adjacent areas have been incorporated by reference.

3. LOCATION: The study site is a parcel located within the City of Albuquerque and defined as a portion of parcels B-1 and B-2, Unit 5 of Academy Acres Subdivision. The parcel is bounded by Forest Hills Drive on the north, Academy Acres Subdivision on the east, Harper Drive on the south, and State Road 422 (frontage road) on the west; excluding Tract A of the Academy Acres Subdivision. The study is limited to the proposed improvements located in the northernmost 18.5 acres of the site and as shown on Plate 1.

4. EXISTING DRAINAGE CONDITIONS: The study site is presently undeveloped. Proposed development plans call for the two phase construction of a Convalescent Hospital, associated parking areas and access roads. Drainage

on the site is generally from east to west with an average slope of 2.8%. Soils on the site consist of interbedded layers of silty sand and sandy clay. The vegetative cover consists of a light growth of native grass and brush. The site contains one westward draining arroyo which transports storm flow to existing culverts located beneath Interstate 25.

Academy Acres Subdivision which is located adjacent to the eastern boundary of the site contains one concrete lined drain which empties on to the study area. Approximately 44 c.f.s. are transported through the drain from the 18.1 Ac. drainage area. The site plan reflects the open swale system required to transmit flow generated by the upstream subdivision, through the study site.

South of the study site is the remaining portion of lots B-1 and B-2 which will remain in their present condition. Flows in this area are transmitted from east to west which prevents flows in either the Academy Acres Subdivision or Harper Drive from entering the site.

Immediately north of the building site is the existing right-of-way for the extension of Forest Hills Drive. The Forest Hills Drive improvements (shown on Plate IV) connect to the existing Forest Hills Drive at the east property line of the proposed development. Approximately 500 feet north of the site lies the Arroyo del Pino producing an estimated runoff of 1,250 c.f.s. for the 100 year frequency at the Frontage Road. Using the slope area method the flood limits for the 100 year storm are shown on Plate No. 1.

The existing drainage structure under the Frontage Road at the Arroyo del Pino consists of six 36 inch reinforced concrete pipe culverts having a

flow capacity of approximately 450 c.f.s. Since the drainage structure can accomodate only 450 c.f.s. the excess flows (under existing conditions) will flow north and south along the Frontage Road with the majority of the flow being diverted to the south. The existing 24 inch corrugated steel pipe culvert underneath the driveway to the Kernco and ABC Complex cannot accomodate the excess flows from the Arroyo del Pino and will automatically flood the Kernco and ABC Complex with the runoff regrouping at the drainage structure just south of the Kernco and ABC Complex.

The drainage structure south of the Kernco and ABC Complex consists of two 36 inch reinforced concrete pipe culverts. The worst possible flooding condition would occur if the two pipe culverts were to get plugged and the runoff would pond behind the structure until the water would overtop the Frontage Road. Without performing a flood routing analysis it can be assumed that the highest elevations the water will ever rise for a 100-year storm is 5182.59 plus or minus without the maximum depth of flow over the Frontage Road exceeding 0.67 feet.

worst case would be if the 6 culverts were also clogged.

The Kernco and ABC building complex is definitely in a flood plain area and site improvements are necessary at the complex for it to be protected from flooding.

Without any site improvements the proposed Anne Pickard Convalescent building complex first phase of construction would be outside of the flood plain. However, because of the critical condition of the existing area any earth moving in the vicinity could easily place the building in a flood hazard area.

The City of Albuquerque is in the process of designing a new flood

channel for the Arroyo del Pino which will eliminate the flood hazard potential in its entirety when the channel is built. ?

5. PROPOSED DRAINAGE PLANS:

A. Criteria:

1) Resolution No. 1972-2, Albuquerque Metropolitan Arroyo Flood Control Authority.

2) Interim Drainage Guidelines, November, 1979.

3) Project Storm - 100 year intensity; frequency duration as shown on the Curves Chart 1, "1963 Master Plan of Drainage for the City of Albuquerque and Environs," as prepared by Gordon Herkenhoff and Associates, Inc., Consulting Engineers.

B. Flood Protection: As previously noted, positive protective measures are necessary to protect the Convalescent Hospital from possible flooding. Sheet flows from Forest Hills present a problem due to the uncertainty of proposed street alignment and channel improvements. However, it is proposed that only the south half of the divided street section be constructed at this time with a transition of the east end to channelize traffic from the existing westbound lanes. Forest Hills Drive should be constructed to a minimum of eighteen inches above existing grade to serve as a dike and help contain the flows of the Arroyo del Pino. The street should be designed to collect the flows from Forest Hills Drive and discharge the flows as described in the next paragraph. Until the street is constructed the developer will construct a two foot berm within the north property line to insure the property against flooding. Plate II shows the location of cross-sections on the Pino Arroyo at 500' intervals. The cross-section shown on Plate III were plotted from the contour lines on Plate II.

When will construction occur?

In the location of the future west-bound lanes, a ditch is proposed

which will intercept flow from the north. The ditch will serve to increase the capacity of Forest Hills Drive as described below until the north half is constructed.

It is proposed to handle this anticipated flow of 97 cfs from Forest Hills Drive in the following manner. At the point of minimum grade, the capacity of the 1/2 street section flowing at full curb depth is 61 cfs through the section of least grade. This is adequate capacity for the flow in the south half of the street. Previously, it was proposed to transition the flow on the north flow line to the south flow line where the transition is made from existing 4-lanes to proposed 2 lanes. This would have required flow approximately 2 inches above curb height. However, we now propose to discharge the flow in the north flow line into the ditch dexcribed in the previous paragraph by means of a paved and rip-rapped rundown.

What is flow in south half?

The New Mexico State Highway Department has agreed to permit the discharge from Forest Hills Drive to be routed south along the east side of the frontage road to the existing two 36" culverts subject to approval of specific details of structures and other work located within the state right-of-way. The design will, of course, have to preclude flooding of adjacent properties as a result of this diversion.

What is status?

To satisfy this condition, the existing 24" CMP under the Kernco/ABC complex drive will have to be replaced by a culvert or culverts with adequate capacity for the additional flow. The amount of flow, or design discharge, consists of the Forest Hills Drive flow of 97 c.f.s.

plus the capacity of the existing 24" CMP which is 13 c.f.s. for a total of 110 c.f.s. However, a one-third safety factor increasing the design discharge to 146.3 c.f.s. should satisfactorily preclude that flooding as a result of the flow from Forest Hills Drive will not occur. This flow can be handled by three 43" x 27" arches. The layout and cross-sections of these culverts are shown on Plate V. Flooding from overflow from the Pino Arroyo will likely continue until the city's improvements have been completed.

who will construct?

The flow from Forest Hills Drive is proposed to be collected by a transverse grate at its low point near the Frontage Road. Grate capacity computations show that only 21.7 lineal feet of grate is required to accomodate the 97 c.f.s. which is less width than the proposed half street section. The grate will discharge to the south into the Frontage Road ditch. Some minimal regrading of this ditch will be required to provide a 6 foot bottom with 2 to 1 side slopes and 3 foot depth (two foot flow depth and one foot freeboard). The north end of the transverse grate structure should have an inlet behind the curb to prevent water from the Frontage Roade ditch from overtopping the curb. (See Plate IV)

Flows from the Academy Acres Subdivision which empty on to the study area will be transported across the property through an open swale to the detention pond before it is eventually discharged into the two 36 inch reinforced concrete pipe culverts underneath the Frontage Road. A 30-ft. drainage easement, centered on the swale, is provided for channel maintenance access.

The onsite runoff will be diverted to a ponding area west of the proposed west parking lot. Flow from the Academy Acres Subdivision (drainage sub-basin B on Plate I) where will also be detained in the pond. An uncontrolled discharge pipe will be used to maintian flows from the pond equal to or below those generated during a five year storm frequency. The one hundred year flows from onsite and Academy Acres will be discharged from the pond via the spillway.

When the channel for the Arroyo del Pino is improved to current city standards, flow north of Forest Hills Drive should be directed into the Arroyo del Pino.

C. Erosion Control Plan: To comply with eroision and sediment transport requirements it is proposed that disturbed earth surfaces which remain unpaved will be sodded or seeded with an eroision resistant grass mixture. Specific mix formulation is stated in Section 02800, Landscaping specification as part of a separate contract prepared by Stevens, Mallory, Pearl & Campbell, Architects. The site Landscaping Plan is included in this report as Plate VII.

6. CONCLUSIONS AND RECOMMENDATIONS: On the basis of this study, the property under consideration can be adequately developed as proposed if the following improvements are made:

A. Provide street improvements on Forest Hills Drive to serve as a dike and to transport the present 97.0 c.f.s. to the East Frontage Road. The finish grade of the street should be a minimum of 18" above existing grade. Provide a temporary ditch on north side.

B. Provide a transverse grate across Forest Hills Drive to collect the 97 c.f.s. The transverse grate is to have an opening behind the north curb to provide for minimum overflow from the Frontage Road ditch to the north. Only the south half of this structure is proposed in the initial contract.

C. Provide drainage improvement in East Frontage Road ditch consisting of replacement of the existing 24" CMP under the Kernco/ABC entrance with three 43" x 27" CMP arches plus required minimal channel deepening and widening. Who will carry out?

D. Provide channel grading and improvements to accomodate the flow of 44.0 c.f.s. from Academy Acres Subdivision.

E. Provide a minimum ponding area with a volume of at least 73,750 $ft.^3$. The discharge pipe should have capacity of 21.0 c.f.s. when the pond is full.

If the above improvements are made in conjunction with the construction of the hospital, it is the finding of this report that the site will not be subject to flood damages.

It is also the conclusion of this report that flooding has occurred to Tract A (Kernco and ABC Complex) and will continue to occur whether this project is constructed or not. It is advised that the property owners be contacted and encouraged to make the necessary site improvements to protect their property from future flooding. Who does?

REGISTERED PROFESSIONAL ENGINEER
NO. 4570
NEW MEXICO
JACOB A. VIGIL

Jacob A. Vigil, P.E. #4570
Principal Civil Engineer

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

June 1, 1983

Thornton D. Schwenk, PE
Boyle Engineering Corporation
Suite D 3939 San Pedro NE
Albuquerque, NM 87110

REF: Anne Pickard Convalescent Hospital Drainage Certification (E18-D5A)

Dear Mr. Schwenk:

Your letter dated 5/27/83, certifying the required hydroseeding concluded the certification requirements for the overall site; consequently, a green tag was released to the owner's representative on 5/31/83.

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

Sincerely,

Fred J. Aguirre, PE
Civil Engineer/Hydrology

FJA:mrk

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 / 883-7700

May 27, 1983
AL-S14-100-50

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

ATTN: Mr. Fred J. Aguirre, Civil Engineer/Hydrology

RE: ENGINEER'S CERTIFICATION OF COMPLIANCE WITH APPROVED DRAINAGE PLAN, ANNE PICKARD CONVALESCENT HOSPITAL

Dear Fred:

As noted in my April 25, 1983 letter to you, the one remaining aspect of flood and erosion control to be completed at the hospital site was the seeding of the landscaped areas east and south of the building. I personally inspected these areas today and wish to report that the hydroseeding of both these areas has been completed. As the south area includes the unlined channel within the dedicated drainage easement, the Erosion Control Plan, as outlined by our January 29, 1982 Drainage Study (Plate VII and SMPC Landscaping Specification 02800) has now been implemented.

We therefore request full acceptance of the drainage features of this project and recommend issuance of the Certificate of Occupancy.

Please call me to confirm receipt of this letter or to answer any questions you may still have.

Sincerely,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

Thornton D. Schwenk, P.E.
Senior Civil Engineer

Enclosures

cc: Brian Burnett, Hydrology/City of Albuquerque
Jerry Mayfield, APCH
Gordon Aird, SCHS
Don Stevens, SMPC
Fred Burns, B.E.C.

copy File [redacted]
ovr L.R.F.

Boyle Engineering Corporation

consulting engineers

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

505 / 883-7700

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

RECEIVED
APR 30 1981
CITY ENGINEER

Attention: Mr. Charles M. Easterling
Principal Assistant City Engineer

RE: ANNE PICKARD CONVALESCENT HOSPITAL

Dear Chuck:

As you requested of Boyle Engineering, we have obtained a preliminary depth of water elevation for the above referenced site. Bohannan-Huston is in the process of updating the Flood Hazard Boundary Maps for Albuquerque and Bernalillo County, and they indicate that the expected 100-year depth of water on the site will be approximately one foot. Please refer to the attached letter and enclosures from Pat Stiehr of Bohannan-Huston.

Yours Sincerely,

BOYLE ENGINEERING CORPORATION

Peter Jacobsen

Peter Jacobsen
Assistant Civil Engineer

E18-D5a

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 / 883-7700

RECEIVED
MAY 02 1983
CITY ENGINEER

City of Albuquerque
P. O. Box 1 93
Albuquerque, New Mexico 87103

April 25, 1983
AL-S14-100-50

ATTN: Mr. Fred J. Aguirre, Civil Engineer/Hydrology

RE: EXTENSION OF TEMPORARY CERTIFICATE OF OCCUPANCY
ANNE PICKARD CONVALESCENT HOSPITAL

Dear Fred:

This letter is to confirm our conversation of this date, wherein you agreed to an extension to July 31, 1983, for the temporary Certificate of Occupancy for the Hospital.

This extension is made until the Erosion Control Plan, as outlined by the January 29, 1982 Drainage Study (Plate VII and SMPC Landscaping Specification 02800), can be fully implemented. Our office has been informed by the Architect (SMPC) that the Landscaping Contractor will begin seeding operations on May 1, 1983, and is expected to carry out the terms of his 90-day contract on or before July 31. As soon as this remaining site work has been completed, we will request full acceptance of this project for issuance of its "green tag".

Please call if you have any questions.

Sincerely,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

Thornton D. Schwenk, P.E.
Senior Civil Engineer

Enclosures

cc: Brian Burnett, Hydrology/City of Albuquerque
Don C. Humphrey, APCH
Gordon Aird, SCHS
Don Stevens, SMPC
Fred Burns, B.E.C.

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505 / 883-7700

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

March 30, 1983
AL-S14-100-50

ATTN: Mr. Fred J. Aguirre, Civil Engineer/Hydrology

RE: ENGINEER'S CERTIFICATION OF APPROVED DRAINAGE PLAN
ANNE PICKARD CONVALESCENT HOSPITAL

Dear Fred:

Transmitted herewith are an INFORMATION SHEET and a record drawing of the above-referenced site showing as-built elevations of selected points. These elevations are provided for all drainage structures built on the site, as listed on the Engineer's Certification Checklist of the DPM. Also included are spot elevations of selected points having significant impact on the flood protection of the site.

As you are aware from our March 3, 1983 letter to your office, there had been substantial concern over the absence of the required waterstops at the entry driveways to the site. We are pleased to report that the City and Universal Constructors, working together, have rectified this problem.

Re-construction concepts for these two entrances were approved by Chuck Easterling and Rip Orr on March 4, 1983, (see attached concurrences) and actual construction was completed on March 24, 1983. We have re-surveyed the new pavement surfaces at the driveways and find them to be in substantial compliance with the one-foot protection requirement above the flow line in Forest Hills Drive. We are also enclosing Sheets 1 & 2 of our plans entitled DRIVEWAY RE-CONSTRUCTION FOR REQUIRED FLOOD PROTECTION dated 3-10-83, showing critical spot elevations.

The one remaining aspect of flood and erosion control **not yet in place is the seeded portion of the site as shown on the architect's Landscaping Plan.** As I have discussed with you earlier, the landscaper is under contract to complete this final aspect of the site work as soon as daily temperatures will insure maximum seed germination.

Therefore we wish to recommend acceptance of this project for compliance with the approved Drainage Report (Revision No. 5) dated January 5, 1982.

RELEASED 3/30/83 - 30 DAY TEMP.

Please call if you have any questions.

Sincerely,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

Thornton D. Schwenk, P.E.
Senior Civil Engineer

REGISTERED PROFESSIONAL ENGINEER
STATE OF NEW MEXICO
No. 4739
THORNTON D. SCHWENK

Enclosures

cc: Paul Stone, Universal Constructors, Inc.
Don C. Humphrey, APCH
Don Stevens, SMPC
Fred Burns, B. E. C.

Boyle Engineering Corporation

consulting engineers

Suite D
3928 San Pedro N.E.
Albuquerque, New Mexico 87110

505 / 883 7700

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

March 3, 1983
AL-S14-100-50

ATTN: Mr. Fred J. Aguirre, Civil Engineer/Hydrology

RE: NECESSARY RE-CONSTRUCTION OF DRIVEWAY ENTRANCES AT ANNE PICKARD CONVALESCENT HOSPITAL FOR COMPLIANCE WITH DRAINAGE REPORT AND WITH CONTRACT DRAWINGS FOR JOB 1265 - EXTENSION OF FOREST HILLS DRIVE

Dear Fred:

Reference is made to the attached copy of our February 8, 1983 letter to Presbyterian Hospital Center describing certain areas of non-compliance of constructed facilities with the recommendations as set forth in the City-approved January 29, 1982 Drainage Report for the Anne Pickard site.

As described in that report, the site was to be protected from the 100-year and smaller storms by designing and constructing a street section which would carry the anticipated 97 cfs flow in the extension of Forest Hills Drive. To achieve this required protection, the grades of the sidewalk and driveway entrances were to be elevated at the R. O. W. at least one foot above the flow line in the gutter. (This requirement is listed as item 24.K in the Drainage Report Checklist, page 108 of the DPM.) This relative elevation difference was shown in Section A-A on Sheet 2 of 5 of the City-approved drawings for Job 1265. To achieve this difference at the centerline of the east driveway, where the design flow line passed through elevation 5208.5, it was necessary for the property line to be graded to an elevation of 5209.5. This spot elevation was shown at the property line of the Architect's grading plan, Sheet A-2.

For whatever reasons, both driveway entrances were not constructed to the elevations called out on the drawings. Although this AHBA project was being inspected by the City, this portion of the construction was completed by the Contractor with the apparent approval of the General Construction Inspector.

Our conclusion based upon the as-constructed measurements is that flood water will enter the east driveway whenever the depth of flow in Forest Hills Drive exceeds 0.12 feet. We therefore cannot certify "substantial compliance" with the approved Drainage Report.

On February 9, 1983, we were directed by our clients, Stevens, Mallory, Pearl & Campbell and Southwest Community Health Services, to submit design drawings for use by the Contractor to remedy the lack of flood protection.

In the interest of obtaining a solution acceptable to the City, we met with you at the site on March 2, 1983, to inspect the situation and to reach some decisions relative to the re-construction. (See the attached list for the names of others attending this site meeting.) A summary of our understanding of the main decisions reached at this meeting are as follows:

1. At the east driveway, the Contractor will remove and replace the curb and gutter and handicap ramps within the public R. O. W. and will place an additional layer of paving to achieve an 8-inch (0.67 ft.) elevation difference between the flow line in the street gutter and the corresponding offset points in the driveway along the edge of the R. O. W. Also, the grade beneath the removed concrete will be raised to permit placement of new curb and gutter and ramps, whose elevations will be consistent with the raised driveway. Inside the property, it will be the responsibility of the Owner's contractor to place additional paving until a total freeboard of 1.0 feet has been achieved above the gutter. The new paving will then be feathered out to meet the existing pavement.

2. The re-construction described above will be inspected while the work is in progress by a City inspector who understands the priority which must be placed on the one-foot flood protection requirement.

3. At the west driveway, ~~no~~ removal of concrete within the public R. O. W. will be needed. ~~Instead~~, CME 3-4-83 One-foot protection can be achieved by placing an additional layer of paving between the faces of the existing curb of the driveway. The location of this line of protection will lie about 10 feet south of the R. O. W. RELOCATION OF THE WHEELCHAIR RAMP (WEST) TO THE SOUTH WILL LESSEN THE POSSIBILITY OF RUNOFF LEAVING THE STREET ROW AT THAT POINT. CME 3-4-83

The fiscal year for Presbyterian Hospital ends on March 31, at which time the books on their convalescent patient services at their present location must be closed. Therefore time is of the essence in completing the re-construction and obtaining the Certificate of Occupancy before the scheduled opening of the new convalescent facility on April 1.

If you concur with the above three items as accurately sumarizing our discussion on the method of achieving the required flood protection for this site, please sign in the space provided and return a signed copy to me.

Sincerely,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk, P.E.
Senior Civil Engineer

Concur: 3-4-83
Principal City Engineer/DESIGN GROUP

Concur: 3/4/83
Principal City Engineer/FIELD GROUP

cc: Paul Stone, Universal Constructors, Inc.
Don C. Humphrey, APCH
Don Stevens, SMPC
Fred Burns, B. E. C.

LIST OF ATTENDEES

1:30 P. M. MARCH 2, 1983 SITE MEETING
ANNE PICKARD CONVALESCENT HOSPITAL

PURPOSE: TO REVIEW ACCEPTABLE ALTERNATIVES FOR RE-CONSTRUCTION OF DRIVEWAY ENTRANCES TO PROVIDE REQUIRED FLOOD PROTECTION

NAME	REPRESENTATING
Fred Aguirre	City/Hydrology
Tom Aragon	City/General Const. Inspection
Dan Montano	City/Surveying
Morris Gonzales	City/Survey Crew Supervisor
Paul Stone	Universal Constructors
Gilbert Luna	Universal Constructors
Paul Ziegler	Universal Constructors
Thornton Schwenk	Boyle Engineering Corporation
Jim Wills	Boyle Engineering Corporation

Boyle Engineering Corporation

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3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 883-7700

Presbyterian Hospital Center
1100 Central Avenue, S.E.
Albuquerque, New Mexico 87102

February 8, 1983
AL-S14-100-50

ATTN: Mr. Don C. Humphrey, Administrator

RE: NON-COMPLIANCE OF CERTAIN ANNE PICKARD DRAINAGE FACILITIES WITH THE APPROVED DRAINAGE REPORT

Dear Mr. Humphrey:

Before the City authority will issue a Certificate of Occupancy for the Anne Pickard Convalescent Hospital, it must receive a certification, stamped and signed by a professional engineer, stating that there is substantial compliance with the approved drainage report for the site. As proposed in our February 1, 1983 letter to you, Boyle Engineering has conducted an on-site inspection of facilities constructed for protection from storm runoff.

We are in the process of drafting the results of our survey onto a reproducible copy of the SMPC site plan. This record drawing will be available in a few days. However, we wish to furnish you with certain data as soon as possible, because this data indicates non-compliance with one important requirement of the drainage report, i.e., protection of the site from storm flows within the right-of-way of Forest Hills Drive.

As described in our January 29, 1982 Drainage Study (Revision No. 5), the site was to be protected from these flows by designing and constructing a street section which would carry the anticipated 97 cfs flow in the extension of Forest Hills Drive. As an added protection, it is a standard City requirement that the property line is to be elevated at least one foot above the flow line in the gutter. (Reference City of Albuquerque Subdivision Ordinance, Section 21.B, and item 24.K from the Drainage Report Checklist, page 108 in the DPM.) This relative elevation difference was shown in Section A-A on Sheet 2 of 5 of Boyle Drawing 1265. To achieve this difference at the centerline of the east driveway, where the design flow line passes through elevation 5208.5, it was necessary for the property line to be graded to an elevation of 5209.5. This spot elevation was shown at the property line on the SMPC grading plan, Sheet A2. (At the centerline of the west driveway, the design flow line was to be 5201.86 and the property line elevation 5203.0, as shown on both drawings.)

As shown on the attached tables and sketches, the as-built conditions in the driveways do not reflect the required one-foot protection at the property line, particularly in the east driveway. There are two causes for these discrepancies.

1. The curb and gutter in the vicinity of the driveway are approximately 2 1/2" too high (0.21 feet at the centerline of the east driveway and 0.25 feet at fifty feet on either side of the centerline).

2. The east driveway was not graded to achieve the 5209.5 high point elevation at the intersection with the property line.

The as-built elevation of this point is only 5208.84, resulting in a measured differential between the flow line and the property line of only 0.12 feet as compared to the required 1.00 foot. (At the west driveway, the situation is only slightly better: the differential is only 0.49 feet, with the high point in the driveway being about 12 feet south of the property line.)

The obvious conclusion from these measurements is that water will enter the site through the east driveway whenever the depth of flow in Forest Hills Drive exceeds 0.12 feet. This will certainly occur during the 100-year event and even during smaller intensity storms. This is a distressing conclusion in view of the fact that this potential problem was recognized in late September and early October during the construction of the connecting sections of curb and gutter between the street and the driveway. The one-foot requirement was emphasized at our site meeting with the Contractor and the City Surveyors on October 18, 1982. We were assured at that meeting that the necessary water stop could still be built into the driveways, even though the Forest Hills gutter was about 0.2 ~~inches~~ feet higher than called for on the drawings.

While the other drainage aspects of the project appear to be in excellent agreement with the Drainage Report and with the two sets of contract drawings, we regret that we cannot certify "substantial compliance". We recommend that you schedule an immediate meeting with us and your contractors to plan a resolution to this problem.

Sincerely,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

THORNTON D. SCHWENK, P.E.
SENIOR CIVIL ENGINEER

cc: Don Stevens, SMPC

February 8, 1983

TOP OF CURB AND FLOW LINE ELEVATIONS
AT THE SOUTH GUTTER OF THE EASTBOUND TRAFFIC LANE

EXTENSION OF FOREST HILLS DRIVE
CITY OF ALBUQUERQUE WORK ORDER 1265

Surveyed by P. O'Neill and Ben Zambrano, Boyle Engineering Corporation, 2-7-83
Computed by T. Schwenk, 2-7-83

STATIONING WITH RESPECT TO C/L R.O.W.	TOP OF CURB ELEV.		FLOW LINE ELEV.		
	AS-BUILT	COMPUTED FROM PLANS	AS-BUILT	COMPUTED FROM PLANS	DIFFERENCE
0+00	5213.21	5213.30	5212.54	5212.63	-0.09
0+50	12.32	11.96	11.65	11.29	+0.36
1+00	11.31	11.03	10.64	10.36	0.28
1+50	10.36	10.11	09.69	09.44	0.25
2+00	(09.39)*	(09.18)*	08. 2**	08.51	0.21
2+50	08.50	08.25	07.83	07.58	0.25

*projected elevation, curb does not carry across driveway
**compare to high point in east driveway = 08.84
difference = 0.12 feet (1.00 feet required)

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 / 883-7700

RECEIVED
NOV 30 1982
CITY ENGINEER

November 24, 1982

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

Attn: Brian Burnett
Civil Engineer/Hydrology

RE: DRAINAGE IMPROVEMENTS AT I-25 FRONTAGE ROAD
FOR SOUTHWEST COMMUNITY HEALTH SERVICES

Dear Brian:

A copy of the attached letter dated November 22, 1982, from Mr. Don Lepic will alert you to the requirement we will have of coordinating our design reviews of the proposed drainage improvements with the Highway Department and Bohannan-Huston, Inc. as well as with the City.

After reviewing the Bohannan-Huston report, we well attempt to demonstrate that our added design flows will not exceed the capacity of existing downstream structures under I-25.

Sincerely,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

Thornton D. Schwenk, P.E.
Senior Civil Engineer

TDS/mw
Enclosure

STATE OF NEW MEXICO
HIGHWAY DEPARTMENT

BRUCE KING
GOVERNOR

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Louis M. Whitlock
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Carlos Gallegos
Member, Las Vegas

Stephen T. "Bud" Richards
Member, Las Cruces

DEPARTMENT

Chief Highway Administrator
J.J. Hewett

General Office
P.O. Box 1149
Santa Fe, NM 87503
505-983-0100

District One Office
P.O. Box 231
Deming, NM 88030
505-546-2603

District Two Office
P.O. Box 1457
Roswell, NM 88201
505-622-8441

District Three Office
P.O. Box 3768-Station D
Albuquerque, NM 87110
505-821-4651

District Four Office
P.O. Box 30
Las Vegas, NM 87701
505-425-7527

District Five Office
P.O. Box 4127-Coronado Sta.
Santa Fe, NM 87503
505-983-0221

AN EQUAL
OPPORTUNITY
EMPLOYER

November 22, 1982

REF: I-IR-025-4(66)227 Gen

RECEIVED
Boyle Engineering Corporation
NOV 24 1982
Albuquerque Office
FILE

Mr. Thornton Schwenk
Boyle Engineering Corporation
3939-D San Pedro, NE
Albuquerque, New Mexico 87110

RE: Southwest Community Health Services Drainage Improvements

Dear Mr. Schwenk:

As you have requested, portions of the I-25 Frontage Roads Drainage Structure Analysis, prepared by Bohannan-Huston, Inc., are attached. Use this data for determining your drainage requirements.

We can incorporate your drainage improvements into our I-25 Frontage Roads project, with the following conditions:

The improvements will be adequate for the design storm flow, will not cause the capacity of existing structures downstream to be exceeded, and will provide erosion-resistant channels throughout our right of way.

You will coordinate with and supply your plans to our consultant, Bohannan-Huston, Inc., in a timely manner to be incorporated into the frontage road plans, as our contractor will do all construction within our right of way,

The requirements of the City of Albuquerque are satsified,

An agreement is executed with the Department for payment of the required drainage improvements.

Very truly yours,

Donald E. Lepic
Technical Services Engineer

DEL/gs

xc: Kenneth E. Bower, Jr. -- John D. Winton -- Richard L. Russell
Harley V. Parr -- Mike Irwin, Bohannan-Huston, Inc.

E18-D5A8D

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 883-7700

Mr. Richard L. Olsen
Vice President
Presbyterian Hospital
Albuquerque, New Mexico 87102

October 26, 1982

RE: GRADE ELEVATIONS AT MAIN ENTRANCE FROM FOREST HILLS DRIVE, ANNE PICKARD CONVALESCENT HOSPITAL

Dear Mr. Olsen:

On September 28, 1982, we received a call from Mr. Leon Dick, your project manager at the Anne Pickard site. Mr. Dick noted that the City surveyors had just completed the staking for the south curb and gutter of Forest Hills Drive adjoining the site. It appeared to him that the stakes in the vicinity of the main driveway into the site were too high with respect to the recently-placed curb and gutter in the driveway itself.

In the afternoon of the same day, I visited the site, accompanied by Bob Platt of our office. We noted that indeed the stakes in question seemed high, but that the contractor still had to place at least a foot of additional fill in the right-of-way. It appeared that it would still be possible to grade the driveway entrance in accordance with the grades shown on the site plans. Approximately 30 feet was available for this transition grading between the stakes marking the curb and gutter in the street and the last sections of curb and gutter in place in the driveway.

In response to a call from Mr. Dick on October 14, 1982, we sent a team to the site to survey the top of curb which had by then been placed by the paving contractor along the south side of Forest Hills Drive. This survey showed that the new curb was slightly higher (from 0.10′ to 0.20′) than the grades shown on Sheet 2 of the construction drawings for City Job No. 1265, prepared by our office. The differences for various stations measured with respect to the design centerline of Forest Hills are shown on the attached table. We notified you of these differences on October 15.

To make all parties aware of these elevation differences, you arranged for a site meeting at 10:00 a.m. on October 18. This meeting was attended by representatives from the City Surveying staff (Dan Montano), Universal Constructors (Gilbert Luna), in addition to SCHS staff and myself. Two conclusions were reached at this meeting:

1. The elevation differences could be explained by noting that the City Surveyors began their curb and gutter staking

from the end of the existing curb of Forest Hills drive which actually was about two feet west of the beginning station shown on Sheet 2 of the Forest Hills plans. (Other possible sources of confusion in measurement could have arisen from the fact that the bench mark at the northeast corner of the property does not fall on the property corner as shown on Sheet A2 of the site plans, nor is it in line with the property line. Rather it lies on the existing curb about 8' east of the intersection of the east property line and the street right-of-way. Also, the east property line is not coincident with the block wall at the rear of the adjoining lot in Academy Acres. Rather, the property line angles away from the wall as it approaches Forest Hills, to a maximum offset of about 16 feet west by the time it reaches the south sidewalk.)

2. The remaining dirveway curb and gutter and pavement can be transitioned to fit the curb and gutter already in place in the driveway and along the south edge of the street and still conform to the site plans. Inasmuch as the City surveyors will probably do the survey inspection for compliance with the grading and drainage plans prior to issuance of a Certificate of Occupancy, Mr. Montano said his field crew would work with the Contractor in establishing the necessary grades for the curb returns and the handicap ramps at the driveway. I emphasized to these parties that the critical concern as far as drainage, was the one-foot water stop in the driveway, as this was the key element in preventing storm water, which flows west in the street, from entering the property.

Sincerely,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

Thornton D. Schwenk, P.E.
Senior Civil Engineer

TDS:mw

cc:Dan Montano, City Surveyor

October 26, 1982

TOP OF CURB ELEVATIONS
FOR SOUTH CURB OF EASTBOUND TRAFFIC LANE

EXTENSION OF FOREST HILLS DRIVE

CITY OF ALBUQUERQUE WORK ORDER 1265

Surveyed by P. O'Neill And B. Platt, Boyle Engineering Corporation, 10-14-82
Computed by T. Schwenk, 10-15-82

DISTANCE ALONG CURB MEASURED FROM BENCH MARK	STATIONING WITH RESPECT TO C/L R.O.W.	AS-BUILT TOP OF CURB ELEV.	TOP OF CURB ELEV. COMPUTED FROM PLANS
45.0	0+26.9	5212.71	5212.58
95.0	0+74.8	5211.74	5211.50
145.0	1+21.8	5210.88	5210.63
190.0	1+64.2	5210.06	5209.85
270.0	2+39.6	5208.65	5208.45
295.0	2+63.1	5208.23	5208.02
345.0	3+12.3	5207.40	5207.19

Boyle Engineering Corporation

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

May 5, 1982

ATTN: Bob Kielich,
Assistant City Engineer

RE: REVIEW NO. 1265, FOREST HILLS DRIVE EXTENTION

Dear Mr. Kielich:

In talking to Sergio Miranda on April 27, 1982, we understand that final signature approval of the Forest Hills Drive project is now awaiting the resolution of two new issues raised by Robert Fosnaugh in his April 21, 1982 letter to us. We offer the following explanations relative to his comments:

1. Construction of the south sidewalk:

   Our drawings call for the division of responsibility for the construction of this sidewalk to be similar to the division of responsibility for the roadway itself, i.e., our client, Southwest Community Health Services (SCHS) will pay for the portion of the south sidewalk which parallels the northern property line of their site (STA -0+11.58 to STA 7+33.62). We do not have any objection if the City does not choose to construct the remainder of the south sidewalk westward to the Frontage Road. However, the sidewalk in front of the Anne Pickard Convalescent Hospital site should clearly be constructed by our client at this time. This sidewalk, with its wheelchair ramps, is definitely needed by convalescent patients whose physicians prescribe fresh air and exercise as part of their total recovery treatment. We do not believe the City wishes to confine these people to the site because of an absence of sidewalks leading to the attractive walking neighborhoods to the east.

2. Transverse grate inlet across Forest Hills Drive at STA 12+40:

   A transverse grate is required because standard City catch basins do not have sufficient capacity to carry the 97 cfs design flow in Forest Hills Drive. According to Table V in Herkenhoff's 1963 Master Plan of Drainage, City of Albuquerque, New Mexico, and Environs: Charts, Tables and Maps, the average intercepting capacity is 10 cfs for a Double C inlet and 5 cfs for a Double D inlet.

Rosie Elwell of the City Property Management office has received a Grant of Temporary Construction Easement for Slope Purposes signed on April 8, 1982 by Jasper Conner, Sr., owner of ABC Mechanical, for the 20-ft slope easement called out on our drawings.

Please notify us when the signatures have been affixed to the mylars in your possession so that we may run sets of prints for bidding purposes. Also the hospital contractor, Cole-Templeton, needs a set of approved plans to match the on-site construction to the proposed Forest Hills Drive construction.

Sincerely,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

Thornton D. Schwenk, P.E.
Senior Civil Engineer

cc: Robert Fosnaugh, Traffic Engineering
Joseph Martin, Acting Director of Transportation
Richard Heller, City Engineer
Richard Olsen, Presbyterian Hospital
Don Stevens, Stevens, Mallory, Pearl & Campbell

TDS:cc

Boyle Engineering Corporation

consulting engineers

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

505 / 883-7700

Mr. Brian G. Burnett
Civil Engineer/Hydrology
Engineering Division
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

January 29, 1982

RECEIVED
FEB 1 1982
CITY ENGINEER

RE: ANNE PICKARD CONVALESCENT HOSPITAL DRAINAGE STUDY, REVISION NO. 5

Dear Brian:

The subject drainage study has been revised to show calculations for the capacity of the "rundown" right of station 3+00 on Forest Hills Drive and to explain its purpose.

The proposed transverse grate that will intercept the Forest Hills Drive flow has adequate capacity even though only the south half would be constructed at this time.

If you have any questions regarding this revised study, please call me.

Sincerely,

BOYLE ENGINEERING CORPORATION

Frank D. Lovelady

Frank D. Lovelady, P.E.
Senior Civil Engineer

FDL:sof

cc: Southwest Community Health Services
Stevens, Mallory, Pearl & Campbell

FORM NO. M-202
Rev. 10-1-75

APPLICATION FOR PERMIT TO INSTALL UTILITY FACILITIES WITHIN PUBLIC RIGHT OF WAY

TO: NEW MEXICO STATE HIGHWAY DEPARTMENT
P. O. BOX 1149
SANTA FE, NEW MEXICO 87503

Permit No. 3-11063
- [ ] New Installation
- [ ] Renewal Permit
- [X] Relocation
- [ ] Remain in Place

1. Pursuant to New Mexico Statutes Annotated, 1953 Compilation, Sections 55-7-19 and 55-2-7, the undersigned Boyle Engineering Corporation Consulting Engineer for South West Community Health Services (Presbyterian Hospital Albuquerque NM)
Address: 3939 San Pedro NE Suite D, Albuq. NM 87110
herein makes application to use highway rights of way to install:
Size and Type of Facility Three 43" x 27" CMPA x 53' Long
in the following location: N. M. Project No. 1-025-4 (17) 226, S. R. No. 422 (Frontage Road)
Hwy. Station 30+32 to Hwy. Station 30+85,
County, Section 26, Township 11N, Range 3 E

2. For the purpose of this application "within" shall be construed as meaning "on, over, under, across or along."

a. "Engineer" shall be construed as meaning the State Highway Engineer of the New Mexico State Highway Department or his representative.

b. "Applicant" shall be construed as meaning the individual, firm, corporation, association, governmental subdivision, or other organization making application, or the successors of any of the above.

c. "Facility" shall be construed as meaning, but not limited to, any publicly, privately, cooperatively, municipally or governmentally owned facility used for carriage, distribution or transmission of water, gas or electricity, oil and products derived therefrom, sewage, steam or other products carried by means of pipelines, conduits, wires, culverts, ditches, conveyors or other methods.

d. If application is for a parallel installation, justification as to why private right may not be utilized must be furnished.

Applicant proposes to relocate, install or leave facility 7 feet within the E. Frontage right of way line.

The proposed installation shall be:

Parallel	Subsurface	Trenching
(Crossing or Parallel)	(Subsurface or Overhead)	(Boring, Jacking, or Pavement Cut)

a. If Applicant requests installation by pavement cut, complete justification therefore shall be submitted by attachment.

b. Where application for pavement cut is justified, the application may be held in abeyance pending receipt of cash bond in an amount to be fixed by the Engineer.

4. There is attached hereto a diagrammatic dimensioned drawing showing the location of existing and/or proposed installation referenced to roadway and right of way, right of way lines, any access control lines, distance of proposed installation above or below grade, highway stationing, identification of materials to be used and any other pertinent data. If application is for parallel installation, nature of adjacent land use shall be shown. Proposed installations on or in bridges or other structures, or for the installation of any structures, will require detailed structural drawings.

5. Applicant desires this permit to be in affect for 25 years. Permit will not be issued for a period longer than 25 years, must be renewed upon expiration and the burden of timely renewal is on the Applicant. The Applicant shall formally notify the Engineer of actual commencement and completion of construction of the installation. The Applicant shall also formally notify the Engineer of removal or abandonment of the facility, or relinquishment of the permit.

6. The signing of the application by the Engineer and returning it to the Applicant shall validate this application as a permit. The granting of this permit shall not be construed as granting any easement or property right.

7. Servicing of facilities will not be permitted within the access control lines on any controlled access project. Should an emergency occur, the Applicant shall notify the Engineer and shall provide such flagmen, flashers, warning or other safety devices as required by the Engineer. All routine maintenance shall be performed from outside any access control lines.

8. The relocation or installation of facilities within public right of way shall be in strict conformance with all provisions of this application, drawing and the Instructions for Utility Permits, as they may be modified by the Engineer, and no departure therefrom may be made without the written consent of the Engineer. All facilities shall be so placed that they will not interfere with nor endanger any roadway features nor other existing facilities. All construction of facilities shall be subject to the inspection and approval of the Engineer. All such work shall be performed so that danger, inconvenience and delay to the traveling public will be held to a minimum. Protection and handling of traffic during the installation are the responsibility of the Applicant and must be approved by the Engineer.

9. The Applicant will, except as otherwise ordered by the Engineer, restore the public right of way, and all bridges or other structures thereon or adjacent thereto which have been altered or affected by facility installation performed hereunder, in accordance with sound construction practices and the Engineer's specifications, and shall cause the work to be done in a workmanlike manner. If any damage is caused to the highway right of way or to any bridge, structure or improvement thereon or adjacent thereto by reason of the installation, maintenance, alteration or removal of such facilities or other appurtenances, the Applicant will reimburse the Engineer the full amount thereof promptly upon demand by the Engineer; provided, however, that the obligation imposed under this paragraph shall not apply in the event the damage resulted from causes beyond the control of the Applicant. All such facilities located within the right of way shall at all times be kept in such repair so as not to damage the highway, inconvenience or endanger the traveling public and shall be kept free from advertisements, posters and the like.

FORM NO. M-202
Rev. 10-1-75

APPLICATION FOR PERMIT TO INSTALL UTILITY FACILITIES WITHIN PUBLIC RIGHT OF WAY

TO: NEW MEXICO STATE HIGHWAY DEPARTMENT
P. O. BOX 1149
SANTA FE, NEW MEXICO 87503

Permit No. 3-11063
- [ ] New Installation
- [ ] Renewal Permit
- [X] Relocation
- [ ] Remain in Place

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(Crossing or Parallel)	(Subsurface or Overhead)	(Boring, Jacking, or Pavement Cut)

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Boyle Engineering Corporation
Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

RECEIVED
AUG 07 1981
CITY ENGINEER

consulting engineers
505 / 883-7700

LETTER OF TRANSMITTAL

TO: CITY ENGINEER
P.O. BOX 1293
ALBUQUERQUE, NEW MEXICO 87103

ATTN: MR. CHUCK EASTERLING

DATE: 08/05/81

RE: ANNE PICKARD DRAINAGE REPORT

B.E.C. PROJECT No. AL-S14-100-50

GENTLEMEN:
We are sending you: [X] Attached [ ] Under separate cover via
the following items:

- [ ] Shop Drawings
- [ ] Design calculations
- [ ] Tracings
- [ ] Prints
- [ ] Details
- [X] UTILITY PERMIT
- [ ] Addendum
- [ ] Copy of letter
- [ ] Specifications
- [ ] Schedules
- [ ] Descriptive Literature

copies	date	No.	description
1	8/7/81	1	APPROVED UTILITY PERMIT FROM NMSHD, DIST. III

These are transmitted as checked below:

- [ ] For approval
- [ ] Approved as submitted
- [ ] Approved as noted
- [ ] Returned for corrections
- [ ] As Requested
- [ ]
- [ ] For Bids due ____ 19____
- [ ] Prints returned after loan to us
- [ ] Resubmit ____ copies for approval
- [ ] Return ____ corrected prints
- [X] For your use
- [ ] For review and comment
- [ ] ____ copies for distribution

REMARKS:

Copies also sent to:

From: Hunter Ashwood, P.E.

STATE OF NEW MEXICO
HIGHWAY DEPARTMENT

RECEIVED AUG 5 1981

40-02

D - Gen.

BRUCE KING
GOVERNOR

COMMISSION

Louis M. Whitlock
Chairman, Carlsbad

James W. Cheney
Vice-Chairman, Moriarty

Sosimo Padilla
Secretary, Albuquerque

Albert N. Sanchez
Member, Santa Rosa

James T. Martin
Member, Las Cruces

DEPARTMENT

Chief Highway Administrator
J. J. Hewett

General Office
P.O. Box 1149
Santa Fe, NM 87503
505-983-0100

District One Office
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Deming, NM 88030
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District Two Office
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District Three Office
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Albuquerque, NM 87110
505-821-4651

District Four Office
P.O. Box 30
Las Vegas, NM 87701
505-425-7527

District Five Office
P.O. Box 4127-Coronado Sta.
Santa Fe, NM 87503
505-983-0221

AN EQUAL
OPPORTUNITY
EMPLOYER

August 3, 1981

Boyle Engineering Corporation
Suite D
3939 San Pedro N. E.
Albuquerque, N. M.

Gentlemen:

Subject: Drainage Report - Anne Pickard Convalescent Hospital Site

We have reviewed the Drainage Report, Revision No. 3, on the subject project which was transmitted with your letter of July 30, 1981.

The proposed transverse drop inlet, the 3-43"x27" arch pipe, and the open-ditch along the frontage road are adequate in size to handle the estimated flows.

If there are any questions, please advise.

Very truly yours,

H. V. Parr
Drainage Engineer

jc
cc: C. E. Serna
District 3

Diversion In ~~City~~ - Right-of-Way Permission

Diane DT Morrison

Boyle Engineering Corporation
Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers
505 / 883-7700

LETTER OF TRANSMITTAL

TO: CITY ENGINEER
PO Box 1293
Albuquerque, New Mexico 87103

DATE: 08/05/81

RE: ANNE PICKARD DRAINAGE REPORT

ATTN: Chuck Easterling

B.E.C. PROJECT No. AL-S14-100-50

GENTLEMEN:
We are sending you: XX Attached ☐ Under separate cover via
the following items:

- ☐ Shop Drawings
- ☐ Design calculations
- ☐ Tracings
- ☐ Prints
- ☐ Details
- XX Utility Permit
- ☐ Addendum
- XX Copy of letter
- ☐ Specifications
- ☐ Schedules
- ☐ Descriptive Literature

copies	date	No.	description
1	8/3/81	1	Letter from H. V. Parr to B. E. C.
~~1~~	~~8/6/81~~	~~1~~	~~Approved Utility Permit from NMSHD, Dist. III~~

These are transmitted as checked below:

- ☐ For approval
- ☐ Approved as submitted
- ☐ Approved as noted
- ☐ Returned for corrections
- ☐ As Requested
- ☐
- ☐ For Bids due ____ 19____
- ☐ Prints returned after loan to us
- ☐ Resubmit ____ copies for approval
- ☐ Return ____ corrected prints
- ☐ For your use
- XX For review and comment
- ☐ ____ copies for distribution

REMARKS:

Copies also sent to: Dick Olsen, Presbyterian Hospital
John Salazar

From: Thornton D. Schwenk

Thornton D. Schwenk, P.E.

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 [illegible]

H. V. PARR
Drainage Bureau Chief
New Mexico State Highway Department
P. O. Box 1149
Santa Fe, New Mexico 87503

July 30, 1981

RE: DRAINAGE IMPROVEMENTS - I-25 FRONTAGE ROAD (S. R. 442) FOR ANNE PICKARD CONVALESCENT HOSPITAL SITE

Dear Mr. Parr:

Transmitted herewith is a copy of our Drainage Report, Revision No. 3, on the above referenced project as you requested in your letter of June 3, 1981. Attached as part of the report are the 24" x 36" Plates numbered I through VI. Plate VII - Landscaping Plan is not included.

Plates IV, V and VI will become part of a set of construction drawings and specifications, and will be issued to our client, Southwest Community Health Services (Presbyterian Hospital) in a few days. After all approvals have been granted, SCHS will advertise for bids.

As part of our planning, we were asked to determine the impact of the proposed Frontage Road widening and re-alignment on our proposed improvements. According to preliminary R. O. W. sketches furnished to us by Don Lepic, T S & E, Santa Fe (983-0554), the present R. O. W. in the vicinity of our construction will not be changed.

To summarize the findings of our report as they affect construction within the State's R. O. W.:

1. The six 36" R. C. P. structure under the Frontage Road will [illegible] carry the 1,250 c.f.s. flow of the 100-year event in the Pino Arroyo. As a result, flooding has occurred and will continue to occur at Tract A (Kernco and ABC Complex) whether this project is constructed or not.

2. Replace the existing 24" CMP under the Kernco/ABC entrance with three 43" x 27" CMP arches to handle the collected flow of 97 c.f.s. from Forest Hills Drive plus a 1/3 safety factor.

3. Provide minimal deepening and widening of the Frontage Road ditch to accomodate 135.8 c.f.s.

We appreciate your continued advice and assistance in this design. We respectfully request that a permit be issued for the proposed construction within your R. O. W. We understand that such permits are granted by the District 3 Office and have thus transmitted copies of the report and drawings to Mr. Paul Myers of the District 3 Permit Section. We are most anxious to obtain this approval as bond issues, re-plat approval and drainage report approval by the City of Albuquerque are immediately affected.

Please call me or Jake Vigil should you have further questions.

Truly yours,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

Thornton D. Schwenk, P.E.
Senior Civil Engineer

TDS/bag

cc: Paul Myers Dist. 3
Chuck Easterling, Assistant City Engineer, Albuquerque

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

May 7, 1981

Mr. Thornton D. Schwenk
Senior Engineer
Boyle Engineering
Suite D
3939 San Pedro Drive N.E.
Albuquerque, New Mexico 87110

Re: Anne Pickard Convalescent Hospital

Dear Mr. Schwenk:

I am in receipt of your April 30, 1981 submittals concerning the Anne Pickard Convalescent Hospital.

The information provided does not properly address my questions of our April 1, 1981 conference.

The information supplied to you by Bohannan-Huston, Inc. is not final and based on my preliminary calculations, requires some modification.

In order to properly analyze the flooding potential adjacent to the East Frontage Road from the Pino Arroyo, the following determinations must be performed:

1. Inlet hydraulics at each of the structures discharging through I-25.

2. Flood routing of the appropriate Leonard Rice hydrograph through the area subject to flooding and in light of the inlet hydraulics from (1) above.

In order to approve of the berming scheme we discussed at our April 1, 1981 meeting, similar calculations and determinations must be performed for the proposed configuration.

The hydrograph supplied to you by AMAFCA is not appropriate for flood routing purposes at the Frontage Road. The assumption that the peak rate is basically equivalent is realistic. However, the problem at the Frontage Road is one of volume and a hydrograph from two miles upstream, while having a similar peak; will have a substantially different volume.

Also, please be reminded that the subject parcel has some previous obligations as to the dedication of drainage easements. (See attached).

If you have any questions, please contact me.

Sincerely,

Charles M. Easterling
Principal Assist. City Engineer/Hydrology

CME/fs

cc - Rich Leonard, AMAFCA
Anne Pickard Hospital

Enclosure

FILE

Boyle Engineering Corporation

consulting engineers

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

505 / 883-7700

April 30, 1981

E18-D5a

Mr. Charles M. Easterling
Principal Assistant City Engineer-
Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

RE: DRAINAGE REPORT FOR ANNE PICKARD CONVALESCENT HOSPITAL

Dear Chuck:

In your early April meeting with Fred Burns and I on the above-referenced project, you indicated that Boyle should submit additional data to use as background information in gaining your final approval of the site drainage plan. We have completed this additional work and transmit it herewith, supplemented by the following discussion.

1. Theoretical Capacity of Pipe Culverts under the East Frontage Road and I-25 south of San Antonio.

These capacities are based on solution of Manning's equation for a pipe flowing full using our field survey data (enclosed) and a roughness coefficient, n = 0.012. The culvert locations are shown on the enclosed photocopy of NMSHD drawing for Project I-025-4 (17) 226, Sheet 5 of 108, December 12, 1958, which we obtained from Santa Fe Records and Files, Rm. B-5.

A. 6 - Barrel, 36 - in. Diam. Culverts at STA 333+90 (Arroyo del Pino)

S = 0.021 Q = 612 cfs

All 6 culverts are approximately 50% silted.

B. Single 30 - in. Diam. Culvert at STA 328+43.9

S = 0.0248 Q = 70 cfs

Culvert is unsilted and clear.

C. 2 - Barrel, 36 - inc. Diam. Culvert at STA 321+00

S = 0.0128 Q = 163 cfs

Both culverts are approximately 50% silted.

2. 100-Year Flood Hydrograph for Pino Arroyo

Rich Leonard has supplied us with a 100-year hydrograph upstream of the old Pino Dam. This hydrograph was taken from AMAFCA files of the 1975 study by Leonard Rice report. Although the reach of this hydrograph is two miles upstream of our site, Rich felt that the hydrograph would retain the same shape further downstream. Also, since the peak flow of 1250 cfs coincides closely with the peak flow of 1300 cfs in the Pino between Louisiana and the Frontage Road, that this hydrograph would give sufficiently close results when routed through the structures in questions. (Reference May 2, 1979 letter from R.S. Heller to John Andrews.)

3. 100-Year Depth of Water from Preliminary Flood Insurance Studies by Bohannan-Huston

Referencing our transmittal to you of April 29, 1981, it is noted that the parcel in question would experience a 100-year flood flow depth of approximately one foot, based on the preliminary hydrograph studies by Patrick Stiehr of Bohannan-Huston using data supplemented to that cited in the Rice report. Based on the obvious inability of the culvert system in question to transmit the Pino flow, Bohannan-Huston's predicted flood hazard boundary show this one-foot depth as covering a portion of the planned development at the Hospital site.

It would therefore appear that our proposed temporary solution of providing a two-foot berm along the south right-of-way of Forrest Hills would protect our site from the backwater of the Pino. We realize, of course, such a berm would alter the topography and flow pattern considered by Bohannan-Huston and thereby increase the flood depth somewhat above the estimated one-foot on adjacent properties. We would further propose that the berm be extended westward past our site to furnish protection for the site of ABC Mechanical Company at 6200 Pan American.

We would wish to emphasize again that the berm concept was originally acceptable to the City in the consultation between Vic Chavez and Bruno Conegliano of October 20, 1980, and later in the consultation between you and Fred Burns and myself on April 1, 1981. The concern seemed to be whether a two-foot berm was sufficiently high to protect against the 100-year flood depth. We believe that the most recent data provided by Bohannan-Huston demonstrates that both our site and the downstream site can be protected in this way.

Finally, it must be remembered that the berm concept is a temporary solution. Once the improvements have been made to channelize the Pino, the flood hazard would be removed. It is certainly a possiblity that if the site is not inundated during the upcoming flood season, that the San Antonio corridor improvements could be made before occupancy of the site and the next flood season, as was expressed by you in our last meeting.

We are certainly eager to discuss with you further the necessary steps to obtain the immediate approval of the drainage solution for Presbyterian Hospital. As you may know, they have received State approval for construction with bid letting in less than two weeks and construction beginning in late June.

Sincerely,

BOYLE ENGINEERING CORPORATION

Thornton D. Schwenk

Thornton D. Schwenk, P.E.
Senior Engineer

TDS:sof

Enclosures

cc: John P. Salazar,
Rodey, Dickason, Slaon, Akin & Robb, P.A.
20 First Plaza, Suite 700
Albuquerque, NM 87103

E18-D15

BOHANNAN-HUSTON INC.
2125 CARLISLE BLVD., N.E. ALBUQUERQUE, NEW MEXICO 87107 505 881-2000

April 29, 1981

Mr. Charles M. Easterling
Principal Assistant City Engineer –
Hydrology
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Dear Chuck:

This letter, as requested by Peter Jacobsen, Boyle Engineers, concerns the flood potential of a parcel of land (18½ acres) located south of Forest Hills Drive, and about 500 feet east of the East Frontage Road of Interstate Highway 25.

We are completing the Flood Insurance Studies for Albuquerque and Bernalillo County, and our study results indicate the above mentioned parcel is subject to flooding from the 100-year flood. The Flood Hazard Boundary Map also shows flooding of the parcel. See enclosed maps.

This parcel was observed during the recent August 14, 1980 flood, and shallow overflow flooding from the Arroyo Del Pino was present.

The Flood Insurance Studies are considered preliminary at this time and are subject to revision and final approval by the Federal Emergency Management Agency.

If there are any questions concerning the flood potential of this parcel, please call.

Sincerely,

Patrick L. Stiehr

Patrick L. Stiehr, P.E.
Project Manager

Enclosures

PLS/cs
Job No. 19203

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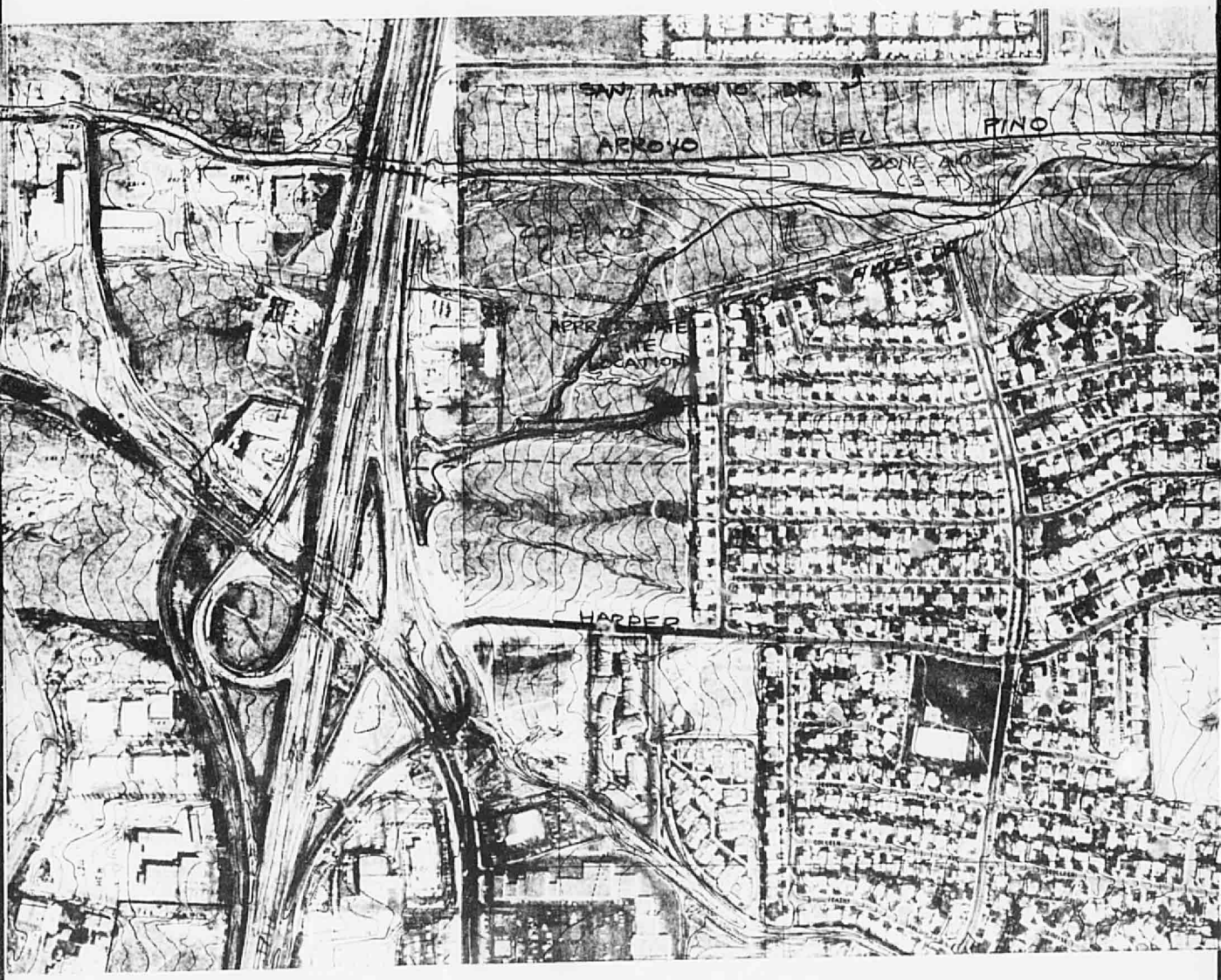
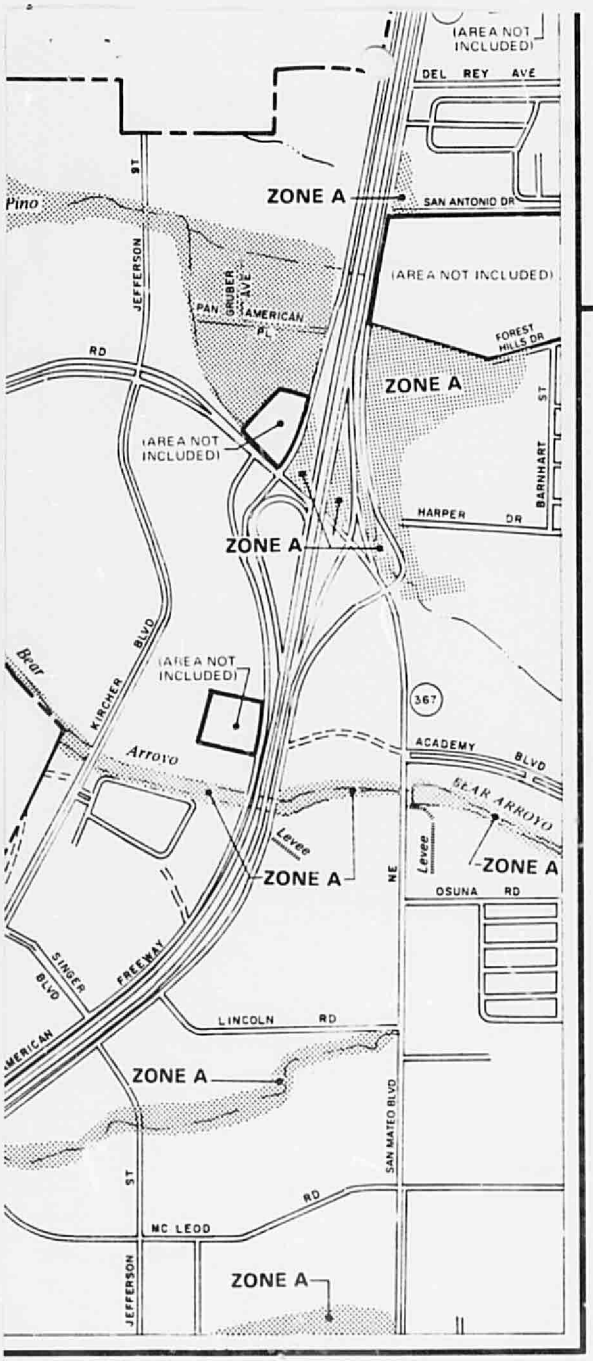
OF THE ORIGINAL DOCUMENT





Levee

APPROXIMATE SCALE

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NATIONAL FLOOD INSURANCE PROGRAM

FHBM

FLOOD HAZARD BOUNDARY MAP

CITY OF ALBUQUERQUE, NEW MEXICO

BERNALILLO COUNTY

PAGE 2 OF 9

SEE MAP INDEX FOR PAGES NOT PRINTED

COMMUNITY-PANEL NUMBER
350002 0002 B

MAP REVISED:
DECEMBER 4, 1979

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
FEDERAL INSURANCE ADMINISTRATION

File
E18-015

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

CONSULTING ENGINEERS
505/883-7500

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

RECEIVED
1981
CITY ENGINEER

Attention: Mr. Charles M. Easterling
Principal Assistant City Engineer

RE: ANNE PICKARD CONVALESCENT HOSPITAL

Dear Chuck:

As you requested of Boyle Engineering, we have obtained a preliminary depth of water elevation for the above referenced site. Bohannan-Huston is in the process of updating the Flood Hazard Boundary Maps for Albuquerque and Bernalillo County, and they indicate that the expected 100-year depth of water on the site will be approximately one foot. Please refer to the attached letter and enclosures from Pat Stiehr of Bohannan-Huston.

Yours Sincerely,

BOYLE ENGINEERING CORPORATION

Peter Jacobsen

Peter Jacobsen
Assistant Civil Engineer

Boyle Engineering Corporation

Suite D
3939 San Pedro N.E.
Albuquerque, New Mexico 87110

consulting engineers

505 / 883-7700

Mr. Bruno Conegliano
Assistant Hydrology Engineer
City of Albuquerque
P.O. Box 1293
Albuquerque, New Mexico 87103

December 23, 1980

RECEIVED
DEC 24 1980
CITY ENGINEER

RE: ANNE PICKARD CONVALESCENT HOSPITAL - DRAINAGE STUDY

Dear Mr. Conegliano:

In response to your comments by letter on December 5, 1980, the following information is submitted in order to clarify or correct those problem areas which you have outlined concerning the above referenced project.

The first area of concern involves providing temporary flood protection from the Pino Arroyo until channelization of the Arroyo is completed. We propose to construct a two foot earthen berm within the R.O.W. of Forest Hills Road adjacent to the North Boundary of the site as shown on the attached drainage plan. In our files we have a memo from Vic Chavez concerning a meeting he had with you on October 20, 1980, in which the idea of the earthen berm was acceptable to you as a temporary solution as long as protection was provided for property downstream of the site. An onsite inspection revealed that a temporary berm currently exists along the north boundary of the property downstream. In providing access to the project site, the owner will be aware of this criteria if any changes in elevation occur.

The second area of concern involves drainage from Academy Acres Unit 3. The approved drainage plan for this residential development anticipates a discharge of 47 cfs from the rundown which enters the proposed development approximately 400 feet south of the northeast property corner. We have therefore revised our drainage channel calculations to include the 47 cfs from Academy Acres Unit 3 plus the anticipated runoff contributed from subject development. (See Sheet 1 attached.) Also, the drainage channel will be dedicated as a 20 foot wide drainage easement and is so noted on the attached drainage plan.

The third point of disagreement involves the collection and conveyance of flows in Forest Hills Drive N.E. In your letter you have indicated that 120 cfs will be transported in Forest Hills Drive. On Sheet 2 attached is a calculation showing that the capacity of the temporary street section is adequate to handle this flow. You also stated in your letter that it would be the responsibility of the developer to handle the 120 cfs in one of two ways.

1. Construct downstream drainage facilities at the frontage road to convey this flow into the Pino Arroyo, or

2. The need to handle said flow across the subject property and to discharge it to the pipes located under the Pan American Freeway.

We take exception to both of your statements for the following reasons:

1. The APPROVED drainage plan by Campbell - Hicks and Associates, Inc. of April 1972 indicates that all drainage on Forest Hills Drive will be transported to the Pino Arroyo near the Frontage Road via a 60 foot Drainage Easement. We understand that this easement has since been found to be illegal. However, it is felt that it is unjustified for the City to penalize the developer for a problem which the City is responsible for.

2. The APPROVED drainage plan by Campbell - Hicks and Associates, Inc. in no manner indicates that any drainage in Forest Hills Drive should be diverted and handled across subject property. In keeping with City policy the approved drainage plan should be followed.

3. All drainage on Forest Hills Drive is contributed by the residential development of Academy Acres to the East and by properties North of Forest Hills Drive. No runoff will be discharged from subject development to Forest Hills Drive. We therfore fail to see the justification for requiring this developer to either divert flows from Forest Hills Drive across his property or to construct downstream drainage facilities to handle said flows.

4. City policy only requires improvement for facilities within or adjacent to the proposed site.

The fourth and final point of disagreement pertains to lack of compliance with drainage guidelines. On sheet three attached, we have revised our calculations to show that the total amount of runoff discharged from the developed site will be less than the amount of runoff currently discharged in the undeveloped state in the event of a 100 year storm. All excess (resulting from development) runoff will be ponded in accordance with the interim guidelines of November 1979. Also refer to the revised drainage plan attached.

Also enclosed is your copy of the Campbell - Hicks drainage report. I would like to thank you for providing this report to us for our reference.

Your immediate review and response to this material will be appreciated.

Sincerely,

BOYLE ENGINEERING CORPORATION

John A. Segotta

John A. Segotta
Assistant Civil Engineer

JAS:sof

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

December 5, 1980

Mr. Vic Chavez
Boyle Engineering
3939 San Pedro N.E., Suite D
Albuquerque, N.M. 87110

RE: ANNE PICKARD CONVALESCENT HOSPITAL

Dear Mr. Chavez:

I have reviewed the drainage report for the referenced project and I can't concur with its recommendations on several grounds.

In the first place, implementation of the recommendations would not provide flood protection from the Pino Arroyo in the case of a delay of the proposed channelization. In the absence of such protection what is the engineer's proposal to remove the flood hazard designations?

Secondly, the drainage report does not acknowledge the existence of previous studies on file in this office, which were used in the planning, design and construction of the residential development to the east. The approved drainage plan for Academy Acres, Unit 5, anticipates a discharge of 47 cfs from each of the rundowns entering Tract B-3, Academy Acres, Unit 5. The evaluations in your report are at variance with the mentioned and approved drainage plan. Further, the approved replat of Tract B, Unit 5, Academy Acres Subdivision indicates that drainage easements must be provided across Tract B-1 to accommodate the flows generated by Academy Acres, Unit 3; this fact is not acknowledged in your drainage report.

Thirdly, another point of disagreement with the approved drainage report, is the estimated discharge from Forest Hills Drive N.E. At present, some of the flow that should be contributing to Forest Hills Drive is diverted to the Pino Arroyo, but to my knowledge no easement is available, north of the municipal limits. Even though that diversion is desirable, it is presently illegal because it was performed over lands not owned by the developer of Academy Acres. As a result, my expectation is that the flow in Forest Hills Drive will amount to 120 cfs rather than the 73.3 cfs indicated by the drainage report. In the absence of a satisfactory means to convey this flow to the Pino Arroyo, development of this site should take into account the need to handle said flow across the property and to discharge it, to the pipes located under the Pan American Freeway.

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OF THE ORIGINAL DOCUMENT

My fourth objection pertains to the lack of compliance with the interim drainage guidelines published last year by the office of the City Engineer. The eastern and southern portion of the 18.5 acre parcel is shown to discharge directly onto the dedicated channel, which is in conflict with the requirement that the 100 year storm volume be detained, with a release rate equivalent to the five year undeveloped discharge rate.

In conclusion, the points of this agreement with the discharge report is as follows:

1. Protection from flooding by the Pino Arroyo.

2. An acceptable provision for the collection and conveyance of the flows in Forest Hills Drive.

3. Insufficient or inadequate consideration of the flows generated by Academy Acres, Unit 3 and lack of drainage easement dedication

4. Method of handling of the on-site flow not in compliance with the requirements of the interim drainage guidelines.

In my opinion, the submission of a drainage report for this site at this time, in the absence of a resolution of the drainage problems with the Pino Arroyo is not justified.

Very truly yours,

Bruno Conegliano
Asst. Hydrology Engineer

BC/tsl

cc: Richard Leonard, AMALCA
R. S. Heller, City Engineer
Drainage File

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City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

MAYOR
David Rusk

MAY 03 1979
AMAFCA

May 2, 1979

RCC
Asst. Engr.
✓ Engineer
Admin. Asst.
Rel. Eng.
Secretary
Foreman
Return to
File #
Hold Till

Mr. John Andrews
Andrews, Asbury & Robert, Inc.
401 San Pedro N.E.
Albuquerque, New Mexico 87108

Re: PINO ARROYO IMPROVEMENTS

Dear John:

In discussions with AMAFCA on the projected flows that can be expected in the Pino Arroyo, the following shall be used as your criteria for design.

1)	At Louisiana Blvd.	1300 cfs
2)	At I-25	1300 cfs
	a) design the I-25 crossing for	1450 cfs
3)	At Jefferson Street	
	a) including the Beta Channel	2200 cfs

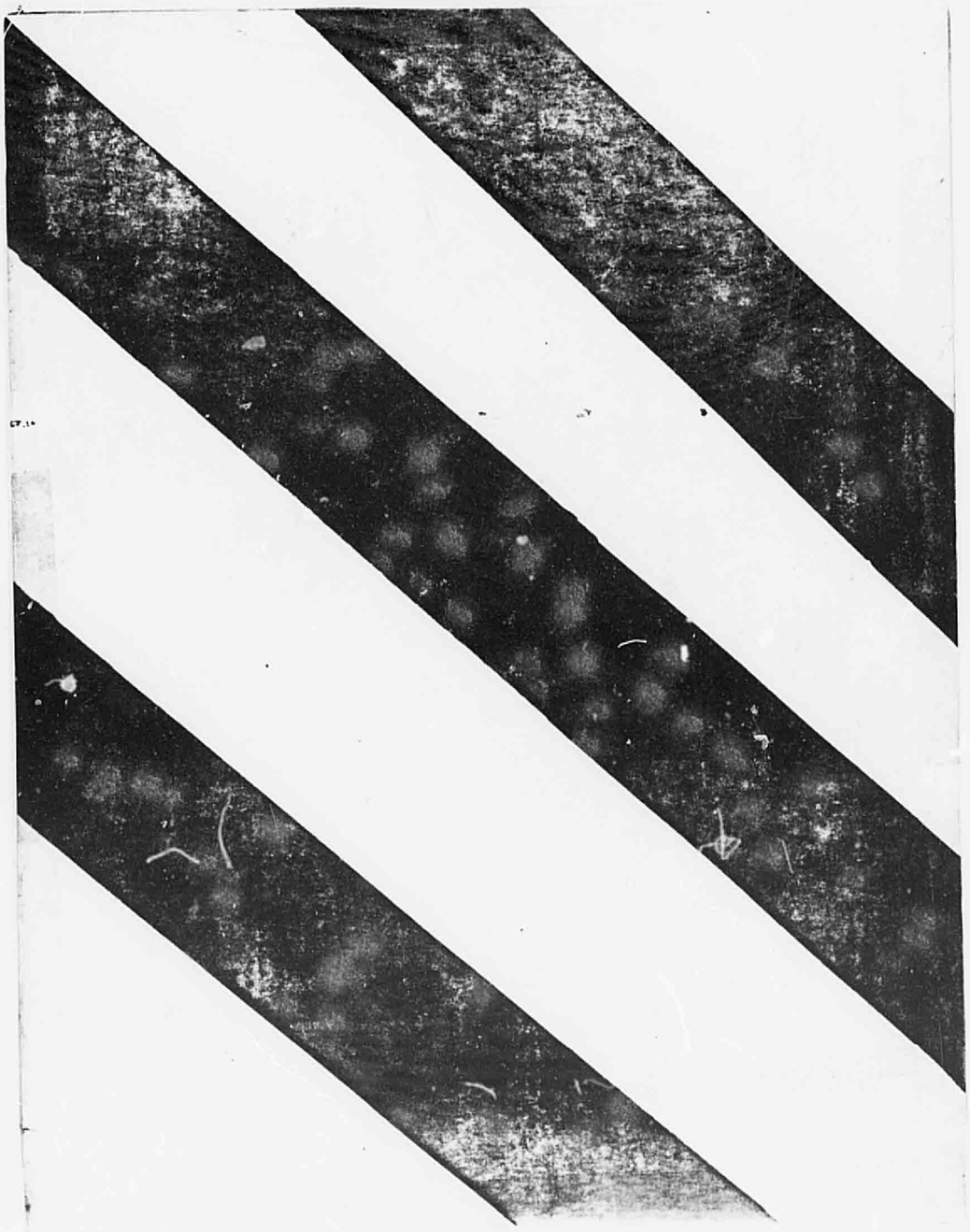
Please continue your design based on the above. Should you have any questions, feel free to call me.

Very truly yours,

Richard S. Heller

Richard S. Heller
City Engineer

RSH/fs

cc - Rich Leonard, AMAFCA
H. R. Orr, Jr., Deputy Dir. of MDD
Bruno Conegliano, Assist. City Engineer-Hydrology

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