CITY OF ALBUQUERQUE

May 20, 2009

James Lewis, R.A.
General Design, Inc.
1620 Central Ave. SE
Albuquerque, NM 87106

Re: Nob Hill Condos, 110 Richmond Ave SE,
Certificate of Occupancy – Transportation Development
Engineer's Stamp dated 08-06-07 (K16-D071)
Certification dated 05-14-09

Dear Mr. Lewis,

Based upon the information provided in your submittal received 05-15-09, the above referenced certification is approved for release of permanent Certificate of Occupancy by Transportation Development.

If you have any questions, you can contact me at 924-3991.

Sincerely,

Kristal D. Metro, P.E.
Traffic Engineer, Planning Dept.
Development and Building Services

C: CO Clerk
File

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: ONE TEN RICHMOND ZONE MAP/DRG. FILE #: K-16 / D021
DRB #: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: TRACT A, BLOCK 40, UNIVERSITY HEIGHTS ADDITION
CITY ADDRESS: _____

ENGINEERING FIRM: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

OWNER: KENNY HINKES CONTACT: _____
ADDRESS: 110 RICHMOND ST SE PHONE: _____
CITY, STATE: ALBQ. NM ZIP CODE: 87106

ARCHITECT: JAMES C LEWIS ARCHITECT CONTACT: JAMES C LEWIS
ADDRESS: 1620 CENTRAL SE PHONE: 247-1521
CITY, STATE: ALBQ. NM ZIP CODE: 87106

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

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

CHECK TYPE OF SUBMITTAL:

____ DRAINAGE REPORT
____ DRAINAGE PLAN 1st SUBMITTAL, *REQUIRES TCL or equal*
____ DRAINAGE PLAN RESUBMITTAL
____ CONCEPTUAL GRADING & DRAINAGE PLAN
____ GRADING PLAN
____ EROSION CONTROL PLAN
____ ENGINEER'S CERTIFICATION (HYDROLOGY)
____ CLOMR/LOMR
__X__ 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
__X__ CERTIFICATE OF OCCUPANCY (PERM.)
____ CERTIFICATE OF OCCUPANCY (TEMP.)
____ GRADING PERMIT APPROVAL
____ PAVING PERMIT APPROVAL
____ WORK ORDER APPROVAL
____ OTHER (SPECIFY)

RECEIVED
MAY 15 2009
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:

____ YES
____ NO
____ COPY PROVIDED

DATE SUBMITTED: 5/15/09 BY: _____

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot 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.

James C Lewis Architect

May 14, 2009

re: Traffic Certification

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

Re: one ten richmond, 110 Richmond SE 87106

I, James C Lewis, NMRA, of the firm James C. Lewis Architect, Hereby by certify that this project is in substantial compliance with and in accordance with the design intent of the DRB, AA or TCL approved plan dated 1/11/08 (DRB chairpersons signature). The record information edited onto the original design document has been obtained by James C. Lewis, of the firm James C. Lewis Architect. I further certify that I have personally visited the project site on 5/14/09 and have determined by visual observation that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for Permanent Certificate of Occupancy.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE TRAFFIC ASPECTS OF THIS PROJECT. THOSE RELYING ON THE RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

JAMES C. LEWIS NO. 979

James C Lewis May 14, 2009

RECEIVED
MAY 15 2009
HYDROLOGY SECTION

General Design, Inc.
1620 Central Avenue SE • Albuquerque • NM • 87106
(505) 247-1529 • gdi@mac.com

CITY OF ALBUQUERQUE

May 20, 2009

John M. MacKenzie, P.E.
Mark Goodwin & Associates, P.A.
P.O. Box 90606
Albuquerque, NM 87199

Re: Nob Hill Condos, 110 Richmond SE,
(K-16/D071)
Approval of Permanent Certificate of Occupancy,
Engineer's Stamp Dated: 12-19-07
Engineer's Certification Date: 5-19-09

Dear Mr. MacKenzie,

Based upon the information provided on 5/19/09, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

If you have any questions, you can contact me at 924-3982.

Sincerely,

Timothy E. Sims
Plan Checker-Hydrology, Planning Dept
Development and Building Services

C: CO Clerk—Katrina Sigala
file

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: One Ten Richmond (Nob Hill Condos)
DRB #: _____ EPC#:_____

ZONE MAP/DRG. FILE #: K16/D71
WORK ORDER#:_____

LEGAL DESCRIPTION: Lot 1-A, 1-B 2 & 3 Blk 40 University heights subdivison
CITY ADDRESS:110 Richmond SE

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: John MacKenzie
PHONE: 828-2200
ZIP CODE: 87199

OWNER:_____
ADDRESS:
CITY, STATE:

CONTACT:
PHONE:
ZIP CODE:

ARCHITECT: James C. Lewis Architect General Design, Inc.
ADDRESS: 1620 Central Avenue SE
CITY, STATE: Albuquerque, NM

CONTACT: Phil Lightle
PHONE: 247-1529
ZIP CODE: 87106

SURVEYOR: Surv-Tek
ADDRESS: 9384 Valley View Drive
CITY, STATE: Albuquerque, NM

CONTACT: Russ Hugg
PHONE: 897-3366
ZIP CODE: 87114

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ 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

RECEIVED
MAY 19 2009
HYDROLOGY SECTION

DATE SUBMITTED: May 19, 2009

BY: John MacKenzie

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot 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:

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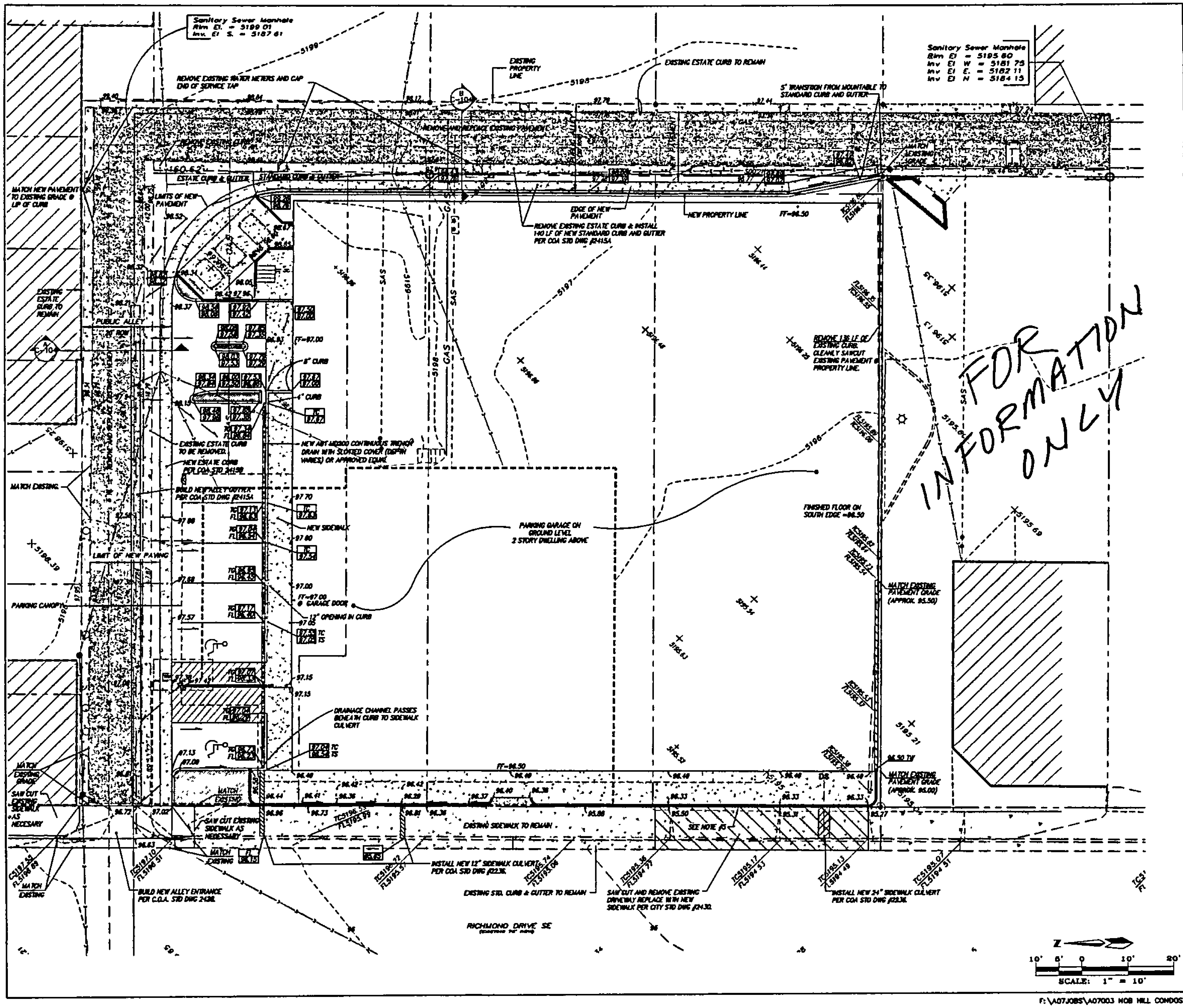
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.
3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.



ASC Bench Mark

Albuquerque Control Survey Benchmark "15-K16", Elevation = 5191.308 (NGVD29)

Notes

SEE SHEET C-104

Legend

X5196.44	EXISTING SPOT ELEVATION
	EXISTING POWER POLE
	EXISTING FOUND PROPERTY CORNER AS INDICATED
	EXISTING SET CONCRETE NAIL AND BRASS DISC
	EXISTING WATER METER
	EXISTING OVERHEAD UTILITY LINE
	EXISTING SEWER CLEAN OUT
	EXISTING WATER VALVE
	EXISTING TELEPHONE MANHOLE
	EXISTING POLE ANCHOR
	EXISTING SANITARY SEWER MANHOLE
	EXISTING LIGHT POLE
	EXISTING BOLLARD
	EXISTING PROPERTY LINE
	EXISTING BLOCK WALL
	EXISTING POWER POLE WITH FEED
	EXISTING CONCRETE AREA
GAS	EXISTING GAS LINE
SAS	EXISTING SANITARY SEWER LINE
WL	EXISTING WATER LINE
UTC	EXISTING UNDERGROUND TELEPHONE LINE
	EXISTING BUILDING
	REMOVE AND REPLACE EXISTING ASPHALT
	EXISTING CONCRETE
	NEW CONCRETE
DS	NEW ROOF DRAIN DOWN SPOUT
	PROPERTY LINE
	NEW PROPOSED EXTENDED STEM WALL
	PROPOSED FLOW DIRECTION
	OVER HANG OF BUILDING
	NEW HANDICAP PARKING
	SIDEWALK CULVERT
	NEW HEADER CURB PER STD DWG 2415B
	NEW BASIN BOUNDARY LINE
	NEW WATER METER
	NEW PRIVACY WALL
TS / TG / TC / FL	TOP OF SIDEWALK ELEVATION / TOP OF GRATE ELEVATION / TOP OF CURB ELEVATION / FLOW LINE ELEVATION

dmg
MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505)828-2200, FAX (505)797-9539

12-19-07

James C Lewis Architect
Architecture & Planning

one ten richmond

110 Richmond SE
Albuquerque, New Mexico 87106

ISSUE DATE: 5 July 2007

REVISIONS:

PROJECT # 2007-0703

Grading Plan

SHEET C-103
5 OF 52

CPN 628182

Sht. 4 of 8

F:\A07JOBS\A07003 NOB HILL CONDOS\DWG\GRADE & DRAIN\C-103 GRADING PLAN.DWG\12/19/2007\ CAR

228-2615

```
          AHYMO PROGRAM (AHYMO_97) -                              - Version:  1997.02d
               RUN DATE (MON/DAY/YR) = 05/11/2009
               START TIME (HR:MIN:SEC) = 15:08:18     USER NO.= AHYMO-I-
9702dGoodwinM-AH
               INPUT FILE = nobpump.dat

     START                                   TIME=0.0
     *****                                   110 RICHMOND CONDOS
     *****                                   CALCULATE FLOWS USING 100 YEAR 6 HOUR
STORM
          *****                                   INPUT FILE: NOBPUMP.DAT   05-11-09  JMM
          RAINFALL                  TYPE=1 RAIN QUARTER=0.0 IN
                                    RAIN ONE=2.10 IN RAIN SIX=2.35IN
                                    RAIN DAY=2.7 IN DT=0.03333 HR

                                  COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2
- PEAK AT 1.40 HR.
                                  DT =     .033330 HOURS        END TIME =     5.999400 HOURS
                                     .0000   .0008   .0017   .0026   .0035   .0044   .0054
                                     .0063   .0073   .0083   .0094   .0104   .0115   .0127
                                     .0138   .0150   .0163   .0176   .0189   .0203   .0217
                                     .0232   .0247   .0263   .0280   .0297   .0315   .0335
                                     .0355   .0376   .0399   .0457   .0519   .0585   .0727
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                                    1.7066  1.7584  1.8069  1.8526  1.8957  1.9364  1.9750
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                                    2.2399  2.2419  2.2439  2.2459  2.2478  2.2497  2.2515
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          **********************************************************************
          ***** DRAINAGE BASIN FOR NORTH PARKING LOT SUMP PUMP
          ***** 3,724 SF OR 0.0859 ACRES
          *****
          COMPUTE NM HYD            ID=1 HYD NO=101.0 AREA=0.000134 SQ MI
                                    PER A=0.0 PER B=0.0 PER C=0.00 PER D=100.00
                                    TP=0.1333 HR MASS RAINFALL=-1

               K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
```

UNIT PEAK = .52904 CFS UNIT VOLUME = .9786 B = 526.28 P60 = 2.1000
AREA = .000134 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

PRINT HYD ID=1 CODE=24

PARTIAL HYDROGRAPH 101.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.333	.1	2.666	.0
4.000	.0	5.333	.0		
.667	.0	2.000	.1	3.333	.0
4.666	.0	5.999	.0		

RUNOFF VOLUME = 2.11715 INCHES = .0151 ACRE-FEET
PEAK DISCHARGE RATE = .43 CFS AT 1.500 HOURS BASIN AREA = .0001 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 15:08:18

grindex

USA

GRINDEX IN ACTION NEWS GRINDEX IN USA ABOUT GRINDEX

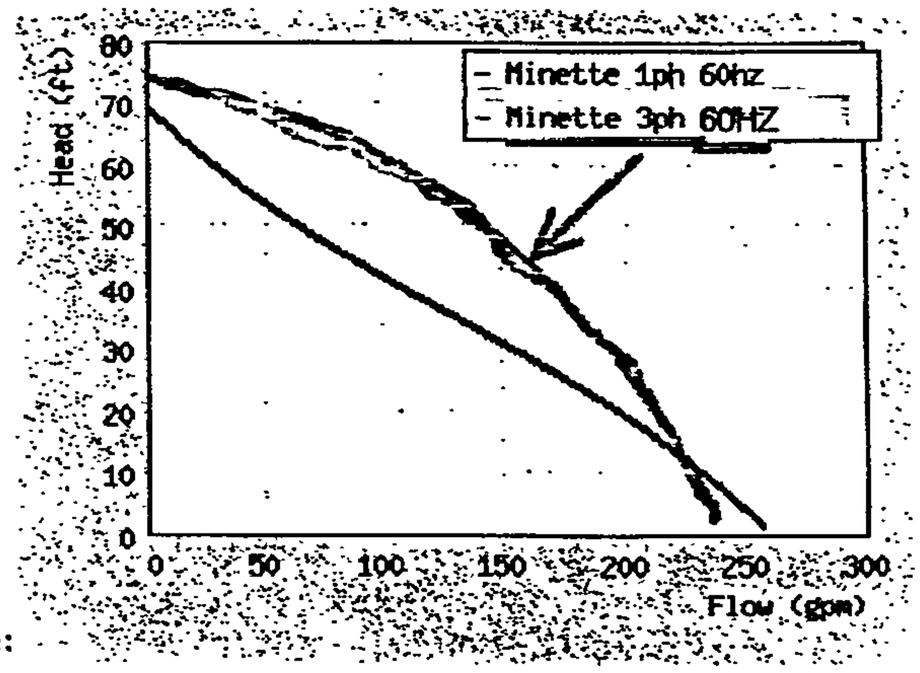
Minette

Minette: (2.4 - 3.5 HP - 3")

The Minette pump is the next smallest model in the drainage range, but it shares all important features and benefits with the larger models, resulting in the lowest cost per cubic meter pumped. The drainage range of pumps drain water, not your wallet! The revolutionary hydraulic design ensures high wear resistence and dramatically reduces performance drop due to long time wear.

Technical data

Pump type:
Electrical submersible
One-phase and Three-phase
Classification:
Class IP 68
Maximum submersion: 66 feet
Cable:
SUBCAB:
1-phase: 53 ft: 14AWG/3
3-phase: 53 ft: 14AWG/4
Discharge:
3" - hose, ISO-G or NPT
Limitations:
pH 5-8
Maximum liquid temperature: 104°F



Documents library
Data sheet (US)
Spare parts list 50/60Hz (Multi language)
Brochure (US)

Links
Download free Acrobat Reader to open PDF-files

	Minette 1-phase	Minette 3-phase
Rated power P_2	2.4 HP	3.5 HP
Maximum absorbed power P_1	2.2 kW	3.1 kW
Rated current at 230V	9.9 A	9.5 AMPS
Rated current at 460V		4.7 A
Rated current at 575V		3.6 A
Shaft speed	3420 r.p.m.	3410 r.p.m.
Throughlet / Maximum solid size	Ø 0.35"	Ø 0.35"
Weight	71 lbs	71 lbs
Dimensions (diameter / height)	Ø 9.5" / 27"	Ø 9.5" / 27"

sign philosophy facilitates service
d repair

rindex designs all pumps along the same principles, using components that are interchangeable between multiple models. This philosophy ensures design continuity, reduces spare parts and simplifies service.

UNIQUE BUILT-IN PROTECTION ENSURES LONGEVITY

Only Grindex pumps have Air Valves and the SMART system for the most extensive motor protection available.

(1) AIR VALVE

Water is generally used to cool the motor in a submersible pump, however there are times when a pump runs dry, damaging the pump. The Grindex Air Valve allows the pump to run dry without damage to the motor. The impeller acts like a fan and the hot air escapes through the air valve.

(2) SMART™ SYSTEM INCLUDES

PHASEGUARD™

Protects the motor against single phasing. Phase failure can cause extensive damage to a motor. Grindex Phaseguard™ will automatically shut down the pump if this occurs, thus preventing serious motor damage.

ROTASENSE™

Controls phase sequence. Rotasense™ ensures the motor will only run in the correct direction. This unique feature eliminates overloading, low pumping capacity, and abnormal wear.

TEMPERATURE GUARD™

Protects the motor from overheating. Overheating can cause serious damage to a pump motor. Temperature Guard™ automatically shuts down the pump if any stator winding exceeds 266° F (130° C).

QUALITY FOR LONGER LIFE

Grindex pumps are designed to be used for tough applications. The choice of materials for the pump is therefore extremely important. All materials used in Grindex pumps are of the highest quality ensuring durability and dependability.

(3) AQUATITE - DOUBLE MECHANICAL SHAFT SEALS

Two sets of mechanical seals work independently for double security. Furthermore, the new design of the upper seal seat uses the centrifugal force of the oil to ensure that the upper seal is fully lubricated at all times.

(4) OUTER CASING OF CORRUGATED STAINLESS STEEL

The outer casings of all Grindex pumps are made from 316 stainless steel to protect the pump from corrosion. The corrugation of the outer casing adds strength and is more than twice as strong as a plain casing.

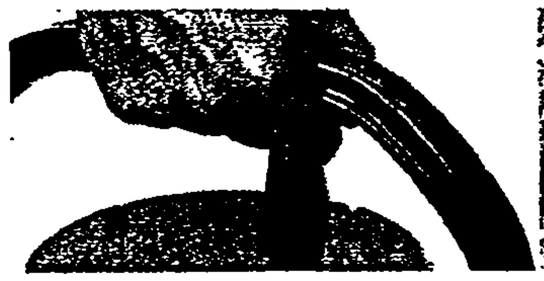
(5) ADJUSTABLE POLYURETHANE DIFFUSERS

Polyurethane diffusers are extremely durable and are highly resistant to abrasive materials. The diffusers are adjustable to maintain optimal pumping performance. Oil-resistant rubber diffusers are available as an option.

(6) HIGH CHROMIUM IMPELLERS

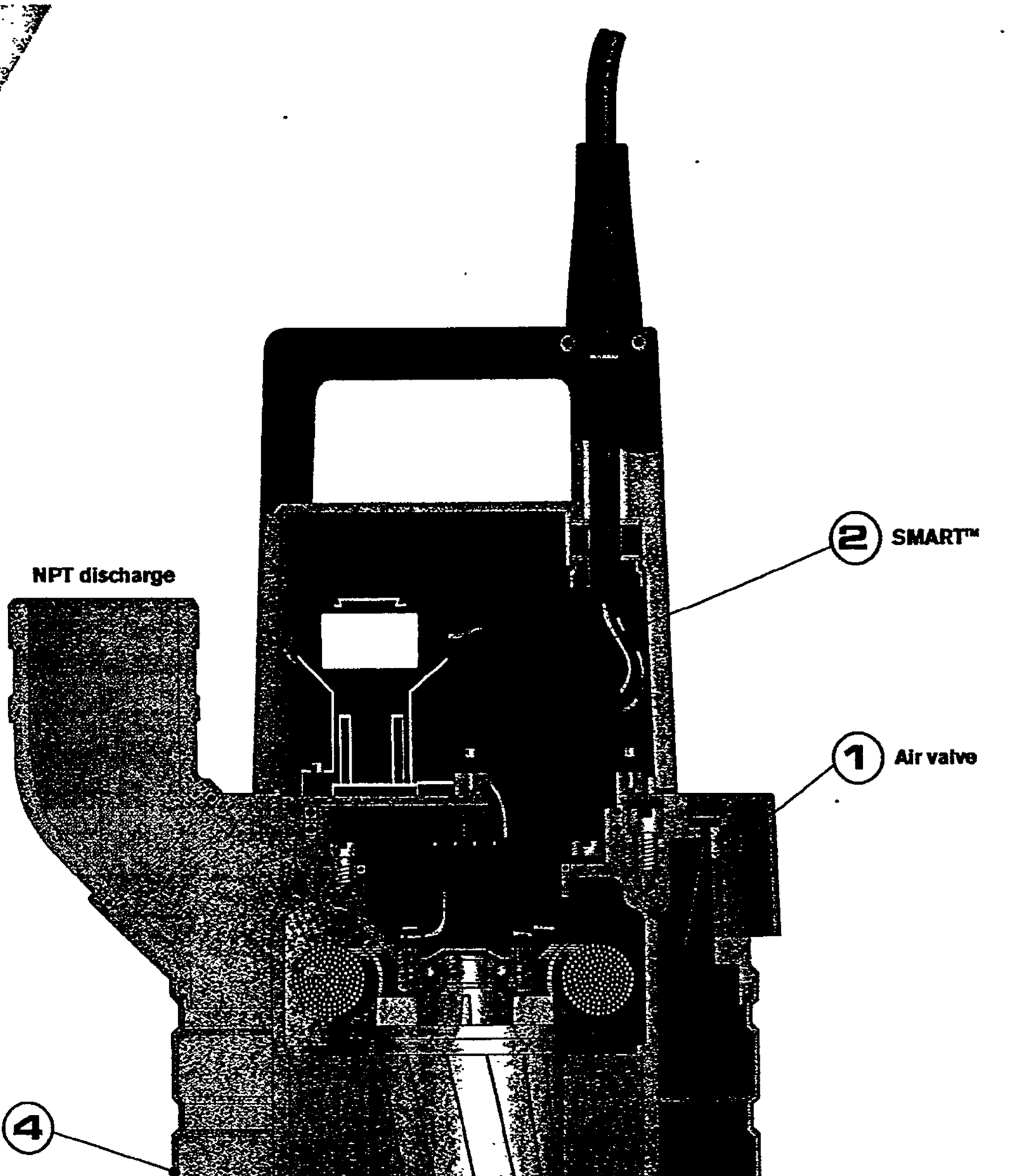
The impellers are made of chromium-alloyed white cast iron and have a hardness of 55 Rc. The impellers are resistant to abrasive materials such as sand, drill cuttings, clay, and grinder cuttings. Stainless steel impellers are available as an option.

NPT Threaded discharge connections. Hose connections also available

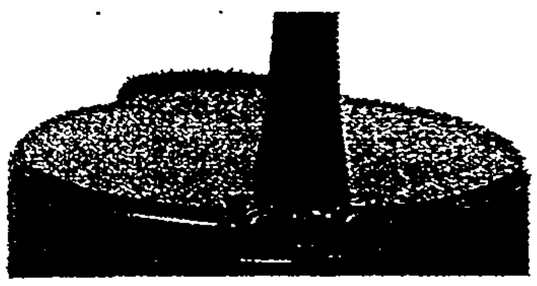


Regardless of size, Grindex pumps are easily moved by carrying handles or eyebolts.

Handy way of restarting the phase shifter switch

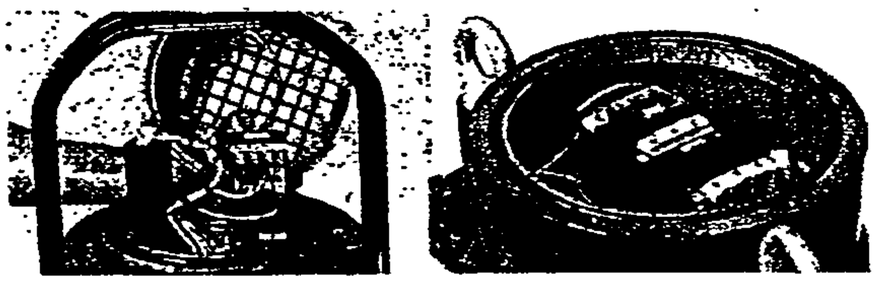


ump by



Cable entry protection sleeve.

Aquatite - the same shaft seal fits all our drainage and sludge pumps.



Functional design with built-in starter and motor protection for enhanced reliability.

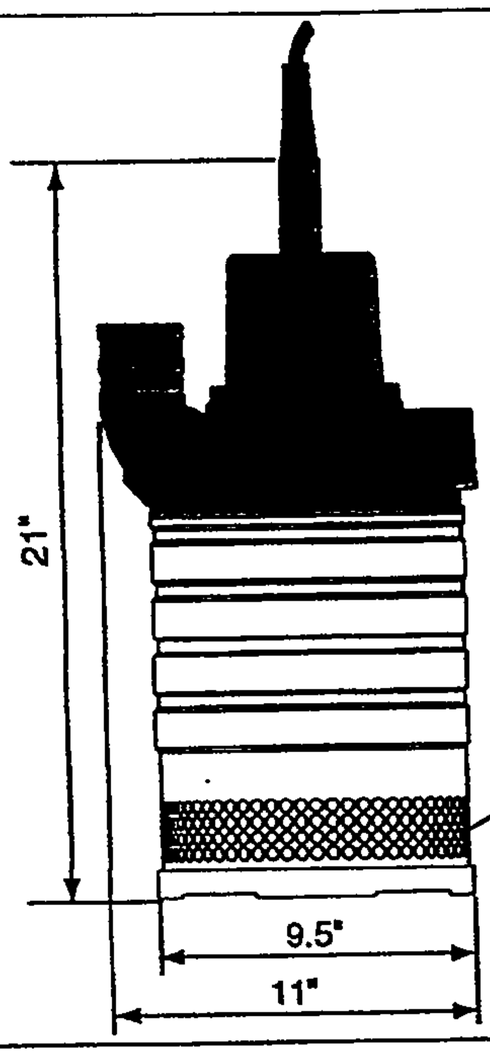
...NETTE

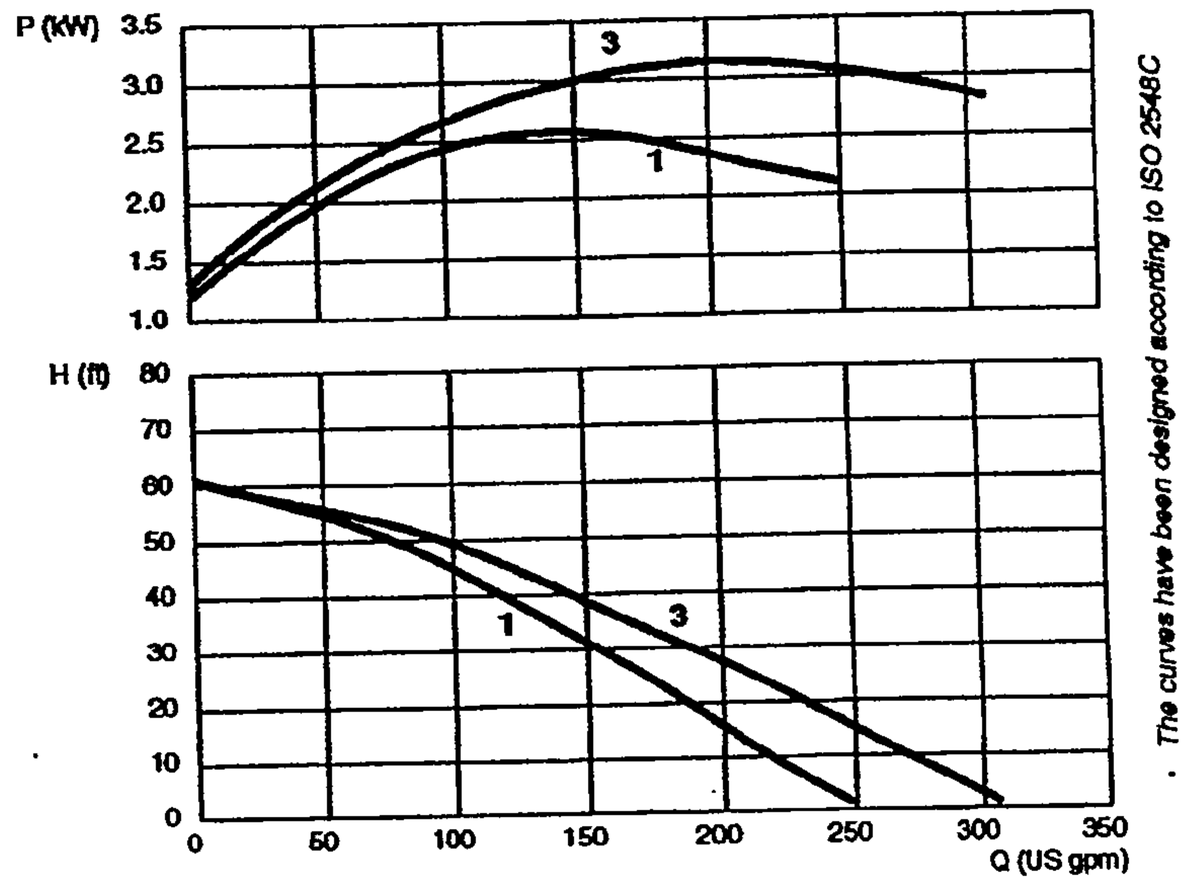
...rical submersible drainage pump | *60 Hz*

GRINDEX

PROLINE

www.grindexpumps.com





Pump types
1: single phase
3: 3-phase

Classification
Electrical submersible pump
Protection class: IP68
Max. submersion depth: 66 ft

Electrical motor
Single phase:Squirrel cage induction motor with start- and run capacitor
3-phase:Squirrel cage induction motor
Insulation class: F (IEC 85)

Technical data		Single phase	3-phase
Shaft speed	r.p.m.	3400	3400
HP-rating	hp	2.5	3.5
Max. power cons.	kW	2.6	3.1
Rated current A at	230 V	12	9.5
	460 V		4.5
	575 V		3.6

Other voltages on request

Motor protector
Single phase: Temperature guard with a thermal contact in the stator, airvalve
3-phase: Phase sequence control, phase failure guard, temperature guard with thermal contacts in the stator, airvalve (= SMART-system)

Power cable
H07RN-F, length 66 ft
Single phase: 3x2.5 mm^2
3-phase: 4x1.5 mm^2

Shaft seals
Double mechanical face seals with an oil compartment between the seals
Material lower seal: Silicon carbide - silicon carbide
Material upper seal: Carbon - silicon carbide

Bearings
Ball bearings with C3 clearance

Discharge connections
3" NPT

Materials

Casted parts	Aluminium
Outer casing	Stainless steel
Motor shaft	Stainless steel
Impeller	Cr-alloyed white cast iron
Screws and nuts	Stainless steel
Diffusers	Polyurethane or nitrile rubber

Accessories
Low suction collar
Zinc anodes
Float switch

Limitations
Max. submersion depth: 66 ft
Max. liquid temperature: 104°F
Max. liquid density: 68 lbs/ft^3
pH of the liquid: 5-8

GRINDEXpumps
18524 South 81st Avenue, Tinley Park, IL 60477. Tel: (708) 532-9988, Fax: (708) 532-8767
www. grindexpumps.com, e-mail: info@grindexpumps.com

John MacKenzie

From: John MacKenzie
Sent: Thursday, April 23, 2009 1:29 PM
To: Curtis Cherne (ccherne@cabq.gov)
Subject: One Ten Richmond (K16/D71)
Attachments: scan0435.pdf; 110sheet2.pdf; 110sheet1.pdf

Curtis,

Briefly, my calculations for the new 18-inch sidewalk culvert at the referenced site (SW corner of the site) that we discussed yesterday are attached. With Manning's it can carry 2.16 cfs and with the weir equation is can accept 1.54 cfs. The approved plan is also attached. In the upper left corner of sheet two it shows that the south part of the roof and the front (west) sidewalk all drain to the street thru that culvert with a developed flow of 1.28 cfs for the 100-year storm. Sheet 1 of the plan shows exactly where the new sidewalk culvert is supposed to be located to receive roof flows from the downspout (it was supposed to be a 24-inch culvert). The 12-inch culvert at the midpoint of the site's frontage onto Richmond is supplemental (the SW corner one can already carry all of this on-site basin's runoff) to help drain nuisance water that falls directly on the sidewalk in front of the condos instead of it draining all along the internal private sidewalk to the SW corner culvert, so there should not be capacity issues if the contractor has replaced the middle 12-inch culvert with two 4-inch pipe thru the curb. If they plug for some reason the flows would just continue south and go out the new 18-inch SW culvert.

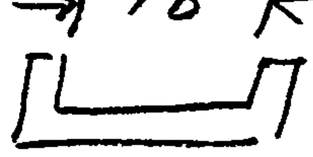
Do you want me to formally submit this now, or just include it with my as-builts?

John MacKenzie, PE
Mark Goodwin and Associates, PA
Phone: 505-828-2200
Fax: 505-797-9539
2008 ACEC/NM Small Firm Engineering Excellence Award Winner

Nob Hill Condos K16/D71

One Ten Richmond

Capacity of 18"×6" sidewalk culvert



Area = 1.5×0.5 $0.75\ ft^2$ $WP = 2.5'$

$S = 0.02$ $n = 0.012$ $R_H = \frac{0.75}{2.5} = 0.3$

$$Q = \frac{1.49}{n}(A)\, r_H^{3/2}\, S^{1/2} = \frac{1.49}{0.012}\, 0.75\, (0.3)^{3/2}\, 0.02^{1/2}$$

$Q = 2.16$ cfs

$$Q = CL\ H^{3/2} \qquad Q = 2.9(1.5)(0.5)^{3/2}$$

$Q = 1.54$ cfs

BRYN MAWR DRIVE

BASIN II
AREA = 0.33 AC
C = 10%
D = 90%

BASIN I
AREA = 0.53 AC
C = 10%
D = 80%

CENTRAL AVENUE

PUBLIC ALLEY
20' ROW

Q=2.43cfs

Qout = 1.52 cfs

Q100=1.52 CFS

020

WS=98.35

20' ROW

PUBLIC ALLEY

BASIN IIA
AREA = 0.03 AC
C = 0%
D = 100%

BASIN III
AREA = 0.42 AC
C = 3%
D = 97%

Q=1.97cfs

BASIN IV
AREA = 0.27 AC
D = 100%

Qout = 3.48 cfs

Qout = 1.28 cfs

Q100=3.48 CFS

010

WS=96.95

3,621 SF

BASIN IIIA
Qout = 0.1 cfs

RICHMOND DRIVE SE
(EXISTING 75' ROW)

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

~ 2008 ACEC/NM Award Winner for Engineering Excellence, Small Firm ~

May 19, 2009

Mr. Curtis Cherne, PE
Hydrology Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: Condos @ 110 Richmond (K-16 / D-71) As-built Certification with New Information

Dear Mr. Cherne:

We have performed a supplemental evaluation of the hydraulic condition along the north side of the on-site portion of the site due to changed conditions relative to the approved plan (dated 12/19/07). This drainage basin area covers all of the north side's private parking spaces, except for those parts of the spaces that are covered by roof. The covered spaces drain through a downspout that discharges directly north into the alley and not to the private parking area. This private parking area was originally designed to be collected in a east-west running trench drain that would outfall to Richmond by gravity. Contrary to the original drainage basin plan, there is also a small additional area within the building that now drains by internal piping to this north-side parking area. During construction it became apparent that the as-built features of the project would preclude gravity discharge of the trench drain directly to the street, so now a sump pump would have to be installed to drain the parking area. I have determined that now the total area draining to the pump is 3,621 SF. I ran AHYMO on this area to find that the discharge during the 100-year storm is 0.43 cfs (see attached), which is also equal to 192 gpm.

TP Pump was consulted and they recommended a Grindex Minette 3 HP submersible sump pump that is readily capable of receiving and grinding waste objects in the runoff water (specs. attached). It can pump up to 230 gpm under the relatively low-head application we have at this site. The pump will discharge into the new 18-inch sidewalk culvert where the trench drain was to originally discharge.

As discussed with you previously, this project will be cared for by an on-the-job maintenance worker who will be constantly monitoring the pumps performance as part of his daily routine.

Please contact me if I can be of further assistance.

Sincerely,

MARK GOODWIN & ASSOCIATES, PA

John M. MacKenzie, PE
President

JMM/a

Attachment

F:\1-Projects\2007\A07003 - Nob Hill Condos (110 Richmond)\As-builtCherne.doc

RECEIVED
MAY 19 2009
HYDROLOGY SECTION

CITY OF ALBUQUERQUE

Planning Department
Richard Dineen, Director

December 20, 2007

John MacKenzie, PE
Mark Goodwin Engineers
P.O. Box 90606
Albuquerque, NM 87199

RE: Drainage Plan for Nob Hill Condos, K16/D71

Dear John MacKenzie, PE:

The drainage plan received on December 19, 2007 the Nob Hill Condos, K16/D71 project is approved. Based upon the information provided in your submittal dated December 19, 2007, the above referenced plan is approved for Building Permit action with the constraint that no roof drainage be directed to a public sidewalk.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. In addition to submitting an NOI to the EPA and preparing a SWPPP, please send a copy of the SWPPP on a CD in Adobe PDF format to the following address:

Department of Municipal Development
Storm Drainage Division
P.O. Box 1293, One Civic Plaza, Rm. 301
Attn: Kathy Verhage
Albuquerque, NM 87103

If you have any questions, you can contact me at 924-3986.

Sincerely,

Bradley L. Bingham, PE
Principal Engineer, Planning Dept.
Development and Building Services

PLO:BLB

C: file

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

City of Albuquerque

Planning Department

Construction Management

INTEROFFICE MEMORANDUM **December 20, 2007**

TO: **Brad Bingham**

FROM: **Paul Olson** PLO

SUBJECT: **Nob Hills Condos, K16/D71**

I have reviewed the above project and it appears to meet City of Albuquerque requirements. I recommend approval of the drainage plan for Building permit.

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: One Ten Richmond (Nob Hill Condos)
DRB #: _____ EPC#:_____

ZONE MAP/DRG. FILE #: K16/D71
WORK ORDER#:_____

LEGAL DESCRIPTION: Lot 1-A, 1-B 2 & 3 Blk 40 University heights subdivison
CITY ADDRESS:110 Richmond SE

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: John MacKenzie
PHONE: 828-2200
ZIP CODE: 87199

OWNER: _____
ADDRESS: _
CITY, STATE: _

CONTACT:
PHONE:
ZIP CODE:

ARCHITECT: James C. Lewis Architect General Design, Inc.
ADDRESS: 1620 Central Avenue SE
CITY, STATE: Albuquerque, NM

CONTACT: Phil Lightle
PHONE: 247-1529
ZIP CODE: 87106

SURVEYOR: Surv-Tek
ADDRESS: 9384 Valley View Drive
CITY, STATE: Albuquerque, NM

RETURN FOR TCL-REVIEW 12/20/07 ES.

CONTACT: Russ Hugg
PHONE: 897-3366
ZIP CODE: 87114

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☐ 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

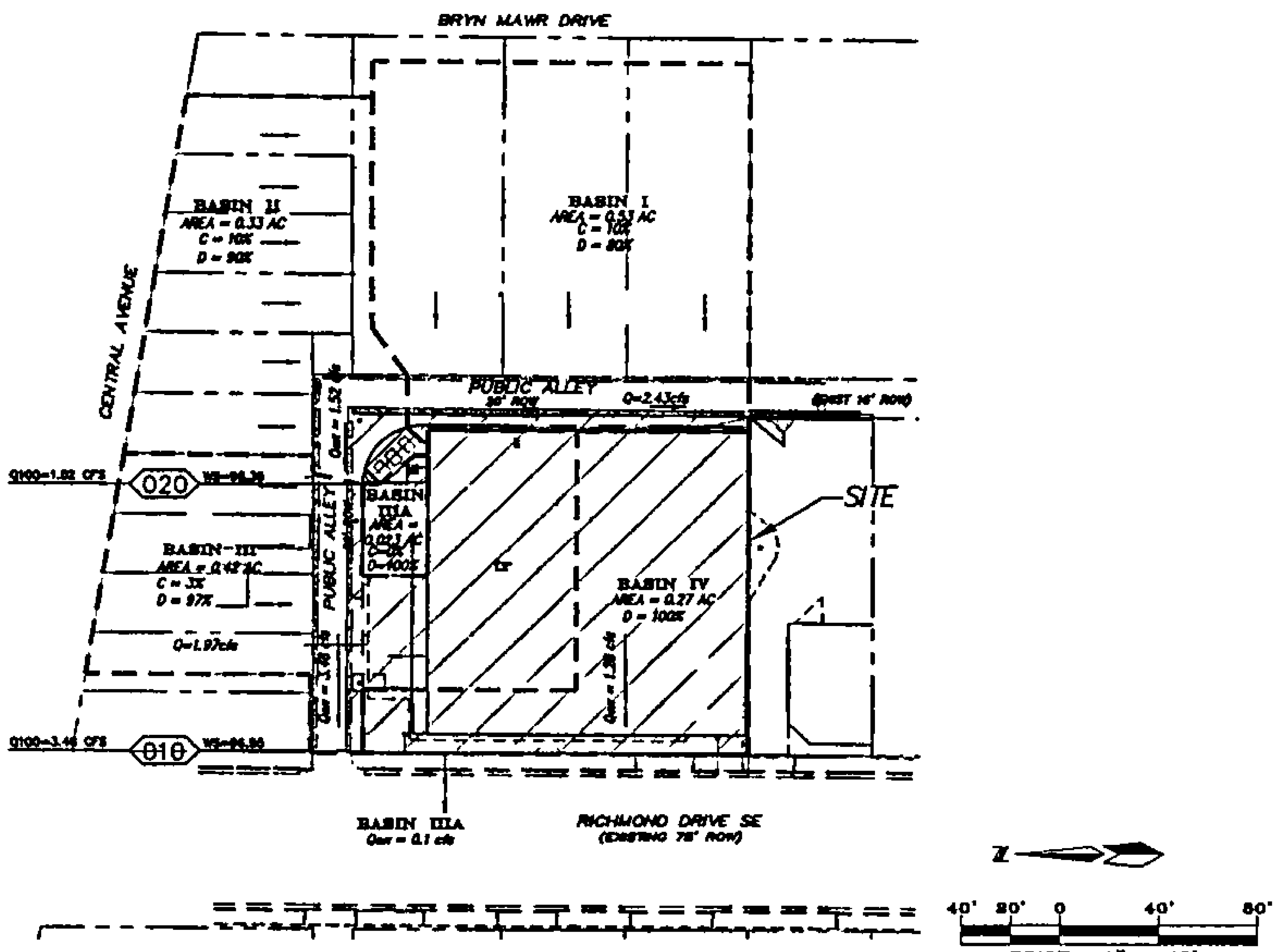
RECEIVED
DEC 19 2007
HYDROLOGY SECTION

DATE SUBMITTED: December 19, 2007 BY: John MacKenzie JMM

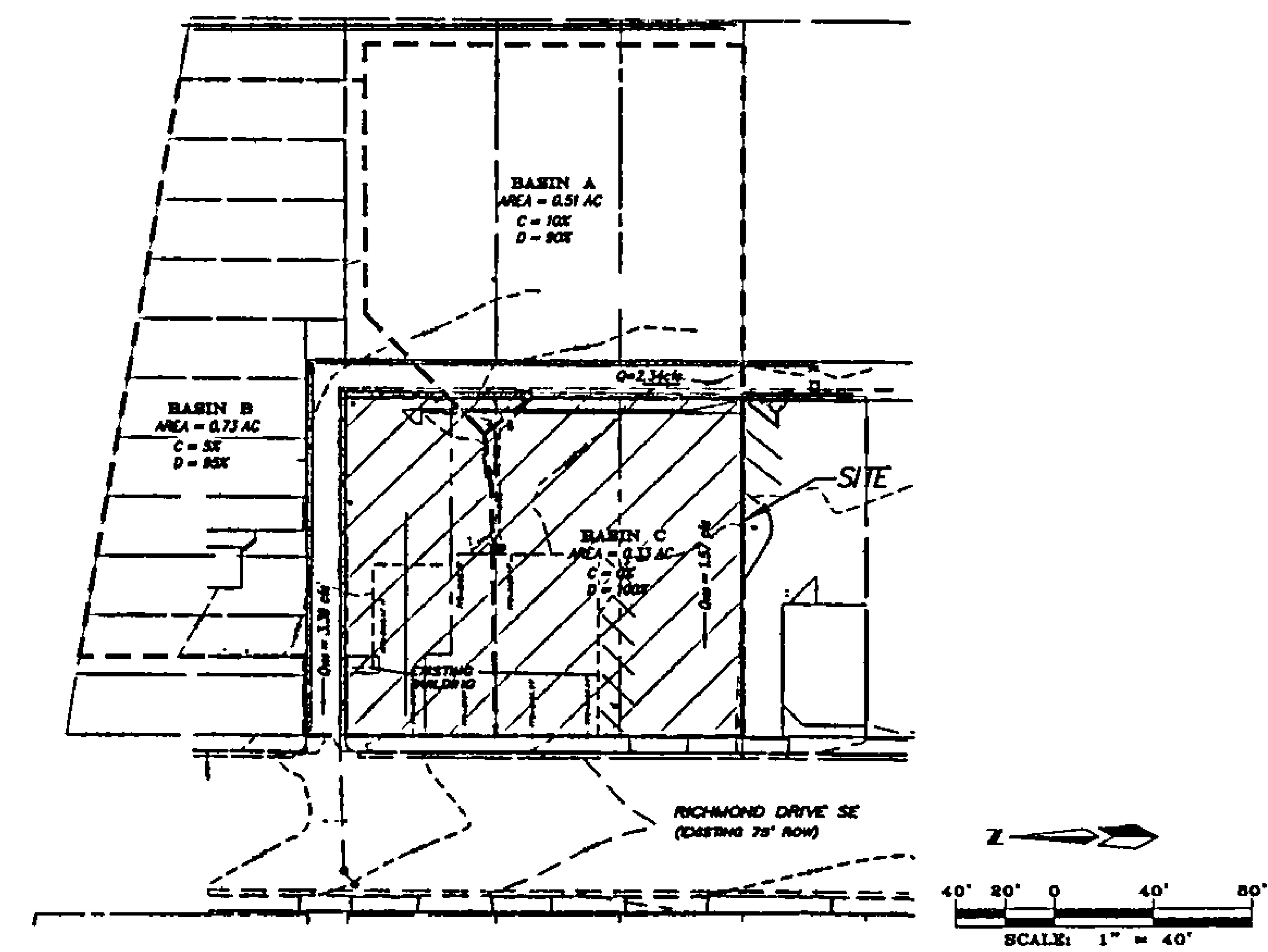
Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based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

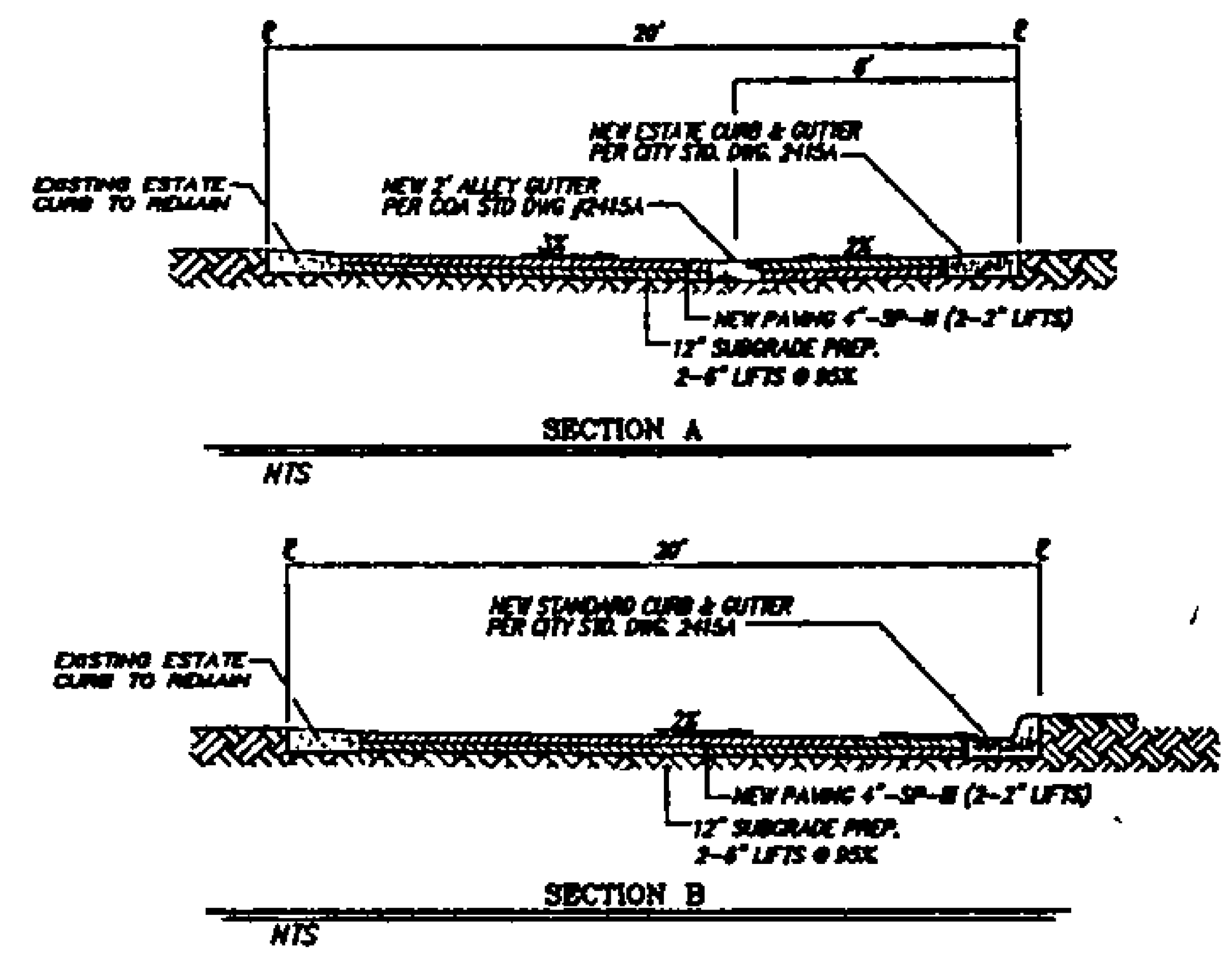

CENTRAL
CENTRAL
GIRARD



DEVELOPED DRAINAGE BASINS AND HEC-RAS MAP



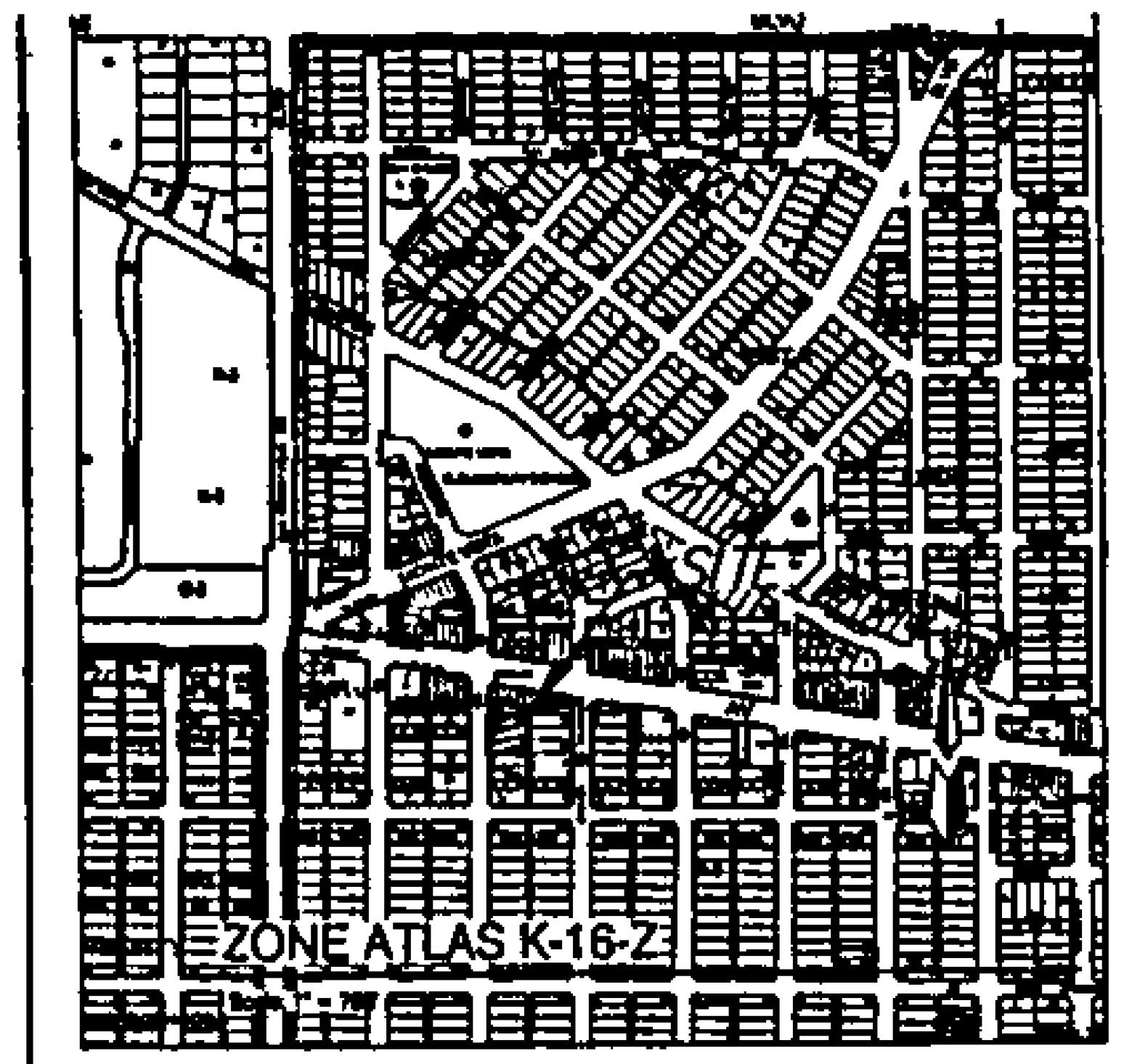
EXISTING DRAINAGE BASINS



FOR INFORMATION ONLY

NOTES

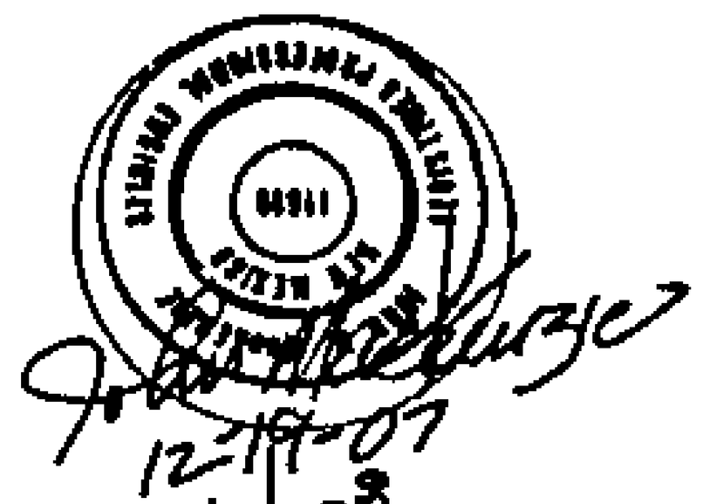
1. TOPOGRAPHIC SURVEY PROVIDED BY SURVTEK, FEBRUARY 2007.
2. ALL CONSTRUCTION MATERIALS SHALL BE IN ACCORDANCE WITH COA STANDARD SPECIFICATIONS.
3. ALL ROOF DRAINS AND DOWN SPOUTS SHALL DISCHARGE ONTO OR DRAIN DIRECTLY TO PUBLIC RIGHT OF WAY.
4. ALL OVERHEAD AND UNDERGROUND UTILITIES MAY NOT BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR LOCATING SUCH UTILITIES TO AVOID CONFLICT.
5. RUNOFF FROM SIDEWALK ADJACENT TO BUILDING SHALL SUFFICIENTLY DRAIN ONTO ADJACENT PUBLIC SIDEWALK THRU MINIMUM 4" DIA. HOLES IN BASE OF PERIMETER PRIVACY WALL AT MINIMUM SPACING OF 10' ON CENTER.
6. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS BEFORE INITIATING CONSTRUCTION WORK.



Legend

- EXISTING SPOT ELEVATION
- EXISTING POWER POLE
- EXISTING FOUND PROPERTY CORNER AS INDICATED
- EXISTING SET CONCRETE NAIL AND BRASS DISC
- EXISTING WATER METER
- EXISTING OVERHEAD UTILITY LINE
- EXISTING SEWER CLEAN OUT
- EXISTING WATER VALVE
- EXISTING TELEPHONE MANHOLE
- EXISTING POLE ANCHOR
- EXISTING SANITARY SEWER MANHOLE
- EXISTING LIGHT POLE
- EXISTING BOLLARD
- EXISTING PROPERTY LINE
- EXISTING BLOCK WALL
- EXISTING POWER POLE WITH FEED
- EXISTING CONCRETE AREA
- EXISTING GAS LINE
- EXISTING SANITARY SEWER LINE
- EXISTING WATER LINE
- EXISTING UNDERGROUND TELEPHONE LINE
- EXISTING BUILDING
- REMOVE AND REPLACE EXISTING ASPHALT
- EXISTING CONCRETE
- NEW CONCRETE
- NEW ROOF DRAIN DOWN SPOUT
- PROPERTY LINE
- NEW PROPOSED EXTENDED STEM WALL
- PROPOSED FLOW DIRECTION
- OVER HANG OF BUILDING
- NEW HANDICAP PARKING
- SIDEWALK CULVERT
- NEW HEADER CURB PER STD DWG 2415B
- NEW BASIN BOUNDARY LINE
- NEW WATER METER
- NEW PRIVACY WALL
- SUB-BASIN BOUNDARY
- 100-YEAR WATER SURFACE LIMITS
- HEC-RAS CROSS-SECTION ID

CPN 628182



dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505)828-2200, FAX (505)797-9539

James C Lewis Architect
Architecture & Planning

one ten richmond
110 Richmond SE
Albuquerque, New Mexico 87106

ISSUE DATE: 5 July 2007

REVISIONS:

PROJECT # 2007-0703

DETAIL SHEET

SHEET C-104
8 OF 52

Sht. 5 of 8

F:\A07JOBS\A07003 HOB HILL CONDOS\DWG\GRADE & DRAIN\C-103 GRADING PLAN.DWG\12-19-07\ CAR RFH SPS

PLAT OF

ONE TEN RICHMOND

(BEING A REPLAT OF LOTS 1-A, 1-B, 2 AND 3,
BLOCK 40, UNIVERSITY HEIGHTS ADDITION)
WITHIN
SECTION 22, TOWNSHIP 10 NORTH, RANGE 3 EAST
NEW MEXICO PRINCIPAL MERIDIAN
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
JUNE, 2007

Additional Street right of way dedicated to the City of Albuquerque in fee simple with warranty covenants by this plat. (0.0305 Ac. - Cross hatched area)

CURVE TABLE						
CURVE	LENGTH	RADIUS	TANGENT	CHORD	CHORD BEARING	DELTA
C1	39.38'	25.00'	25.11'	35.43'	S44°45'54"E	90°14'37"

DRB PROJECT NO 1006913 CITY PROJECT NO 628182

SHEET 3 OF 3

070428 REPLAT.dwg

SURV-TEK, INC.
Consulting Surveyors

PLAT OF

ONE TEN RICHMOND

(BEING A REPLAT OF LOTS 1-A, 1-B, 2 AND 3, BLOCK 40, UNIVERSITY HEIGHTS ADDITION)
WITHIN
SECTION 22, TOWNSHIP 10 NORTH, RANGE 3 EAST
NEW MEXICO PRINCIPAL MERIDIAN
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
JULY, 2007

LEGAL DESCRIPTION

Lots numbered One-A (1-A) and One-B (1-B) in Block numbered Forty (40) of the UNIVERSITY HEIGHTS ADDITION to the City of Albuquerque, New Mexico, as the same is shown and designated on the Map of said Addition, filed in the Office of the County Clerk of Bernalillo County, New Mexico, on July 20, 1972, in Plat Book B6, Folio 194.

AND

Lots numbered Two (2) and Three (3) in Block numbered Forty (40) of the UNIVERSITY HEIGHTS ADDITION to the City of Albuquerque, New Mexico, as the same is shown and designated on the Map of said Addition, filed in the Office of the County Clerk of Bernalillo County, New Mexico, on February 7, 1916.

Above Parcels contain 0.5236 acres gross (22,764 square feet), more or less.

FREE CONSENT AND DEDICATION

SURVEYED AND REPLATTED and now comprising "PLAT OF ONE TEN RICHMOND (BEING A REPLAT OF LOTS 1-A, 1-B, 2 AND 3, UNIVERSITY HEIGHTS ADDITION) WITHIN SECTION 22, TOWNSHIP 10 NORTH, RANGE 3 EAST, NEW MEXICO PRINCIPAL MERIDIAN, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, is with the free consent of and in accordance with the wishes and desires of the undersigned owner(s) and proprietors(s). Said owner(s) and proprietor(s) do hereby warrant that they hold among them complete and indefeasible title in fee simple to the land subdivided. Said owner(s) and proprietor(s) do hereby dedicate the additional street right of way, as shown hereon, to the City of Albuquerque in fee simple with warranty covenants. Said owner(s) and proprietor(s) do hereby consent to all of the foregoing and do hereby certify that they are so authorized to act.

OWNER(S)
110 Richmond LLC,
a New Mexico Limited Liability Company

By: _____
Kenny Hinkes, Managing Member

ACKNOWLEDGMENT

STATE OF NEW MEXICO
COUNTY OF BERNALILLO SS

The foregoing instrument was acknowledged before me this _____ day of _____, 2007, by Kenny Hinkes, Managing Member of 110 Richmond, LLC

_____ My commission expires _____
Notary Public

DOCUMENTS USED IN THE PREPARATION OF THIS SURVEY

A. Plat entitled "A PLAT OF LOT 7A, BLOCK 40 OF UNIVERSITY HEIGHTS, SITUATE WITHIN SECTION 22, T 10 N, R 3 E, N.M.P.M., CITY OF ALBUQUERQUE, NEW MEXICO", filed September 1, 1995, in Volume 95C, Folio 334, records of Bernalillo County, New Mexico.

B. Plat entitled "SUMMARY PLAT OF LOTS 10 AND 11 IN BLOCK 40 OF UNIVERSITY HEIGHTS ADDITION, ALBUQUERQUE, NEW MEXICO", filed May 11, 1961, in Volume B1B, Folio 167, records of Bernalillo County, New Mexico.

C. Plat entitled "LAND DIVISION PLAT OF LOT 1, BLOCK 40, OF UNIVERSITY HEIGHTS, AN ADDITION TO THE CITY OF ALBUQUERQUE, NEW MEXICO, NOW BEING LOTS 1-A AND 1-B, OF SAID ADDITION, ALBUQUERQUE, NEW MEXICO", filed July 20, 1972, in Volume B6, Folio 194, records of Bernalillo County, New Mexico.

D. Plat entitled "REPLAT OF BLOCK 2, MONTEVISTA ADDITION, ALBUQUERQUE, NEW MEXICO", filed January 30, 1940, in Volume 3, Folio 183, records of Bernalillo County, New Mexico.

E. Plat entitled "PLAT OF UNIVERSITY HEIGHTS, AN ADDITION TO THE CITY OF ALBUQUERQUE", filed February 7, 1916, in Volume D, Folio 27, records of Bernalillo County, New Mexico.

F. Title Report prepared for this property by First American Title Insurance Company, Commitment for Title Insurance No. 958481-AL16, dated January 8, 2007.

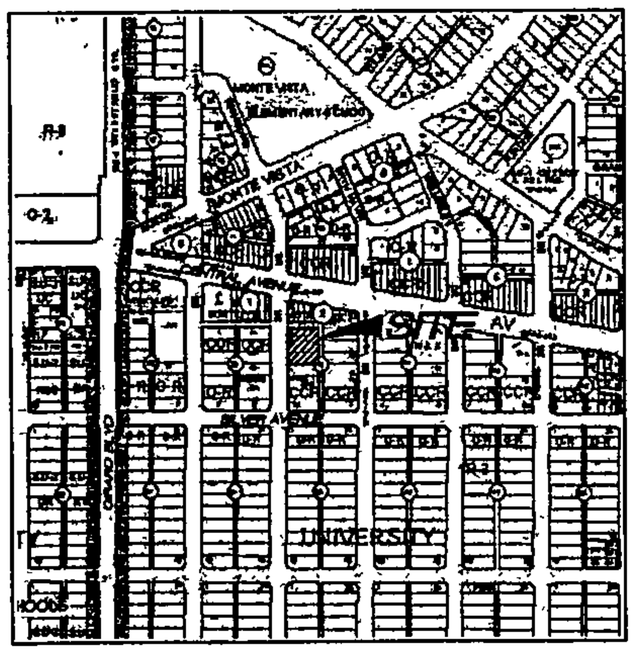
070428 REPLAT.dwg

SURVTEK, INC.
Consulting Surveyors
8500 Valley View Drive, N.W. Albuquerque, New Mexico 87114 Phone: 505-897-8868 Fax: 505-897-8877

PLAT OF

ONE TEN RICHMOND

(BEING A REPLAT OF LOTS 1-A, 1-B, 2 AND 3, BLOCK 40, UNIVERSITY HEIGHTS ADDITION)
WITHIN
SECTION 22, TOWNSHIP 10 NORTH, RANGE 3 EAST
NEW MEXICO PRINCIPAL MERIDIAN
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
JULY, 2007



VICINITY MAP
NOT TO SCALE

GENERAL NOTES

1. Bearings are New Mexico State Plane Grid Bearings (Central Zone - NAD27) orighated at the Albuquerque Control Survey Monument "15-K16".
2. Distances are ground.
3. Distances along curved lines are are lengths.
4. Record Plat or Deed bearings and distances, where they differ from those established by this field survey, are shown in parentheses ( ).
5. All corners found in place and held were tagged with a brass disk stamped "HUGG L.S. 9750 OR HUGG L.S. 11808" unless otherwise indicated hereon.
6. All corners that were set are either a 5/8" rebar with cap stamped "HUGG L.S. 9750 OR HUGG L.S. 11808" or a concrete nail with brass disk stamped "HUGG L.S. 9750 OR HUGG L.S. 11808" unless otherwise indicated hereon.
17. This property is subject to all exceptions pertaining to this property as listed in SCHEDULE B, PART II (Exceptions) of the Title Report prepared for this property by First American Title Insurance Company, Commitment for Title Insurance No. 958-481-AL16, dated January 8, 2007.
8. U.C.L.S. Log Number 2007231576
9. Field surveys were performed during the month of January, 2007.
15. City of Albuquerque Zone Atlas Page: K-15-Z
16. This property is currently zoned "CCR" as shown on the City of Albuquerque Zone Atlas, dated March 14, 2006.

PURPOSE OF PLAT:

A. Create 1 Tract from 4 existing Lots
B. Dedicate the additional street right of way to the City of Albuquerque

TREASURER'S CERTIFICATION

This is to certify that taxes are current and paid on the following:

_____
_____
_____
Bernalillo County Treasurer Date

PUBLIC UTILITY EASEMENTS

PUBLIC UTILITY EASEMENTS shown on this plat are granted for the common and joint use of:

A. PNM Electric Services for installation, maintenance, and service of underground electrical lines, transformers, and other equipment and related facilities reasonably necessary to provide electrical service.
B. PNM Gas Services for installation, maintenance, and service of natural gas lines, valves and other equipment and facilities reasonably necessary to provide natural gas.
C. Qwest Corporation for the installation, maintenance, and service of such lines, cable, and other related equipment and facilities reasonably necessary to provide communication services, including but not limited to ground pedestals and closures.
D. Comcast Cable for the installation, maintenance, and service of such lines, cable, and other related equipment and facilities reasonably necessary to provide Cable TV service.

Included, is the right to build, rebuild, construct, reconstruct, locate, relocate, change, remove, modify, renew, operate, and maintain facilities for the purposes described above, together with free access to, from, and over said easements, including sufficient working area space for electric transformers, with the right and privilege to trim and remove trees, shrubs or bushes which interfere with the purposes set forth herein. No building, sign, pool (aboveground or subsurface), hot tub, concrete or wood pool decking, or other structure shall be erected or constructed on said easements, nor shall any well be drilled or operated thereon. Property owners shall be solely responsible for correcting any violations of National Electrical Safety Code by construction of pools, decking, or any structures adjacent to or near easements shown on this plat.

Easements for electric transformer/switchgears, as installed, shall extend ten feet (10') in front of transformer/switchgear doors and five feet (5') on each side.

DISCLAIMER

In approving this plat, Public Electric Services and Gas Services (PNM) did not conduct a Title Search of the properties shown hereon. Consequently, PNM does not waive nor release any easement or easement rights to which it may be entitled.

SECTION 14-14-4-7 PROHIBITION ON PRIVATE RESTRICTIONS ON THE INSTALLATION OF SOLAR COLLECTORS

"No property within the area of requested final action shall at any time be subject to a deed restriction, covenant, or binding agreement prohibiting solar collectors from being installed on buildings or erected on the lots or parcels within the area of proposed plat. The foregoing requirement shall be a condition to approval of this plat or site development plan for subdivision"

PLAT OF

ONE TEN RICHMOND

(BEING A REPLAT OF LOTS 1-A, 1-B, 2 AND 3, BLOCK 40, UNIVERSITY HEIGHTS ADDITION)
WITHIN
SECTION 22, TOWNSHIP 10 NORTH, RANGE 3 EAST
NEW MEXICO PRINCIPAL MERIDIAN
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
JULY, 2007

PROJECT NUMBER: _____

Application Number: _____

PLAT APPROVAL

Utility Approvals:

PNM Gas and Electric Services	Date
Qwest Corporation	Date
Comcast	Date

City Approvals:

City Surveyor, Department of Municipal Development	Date
Real Property Division	Date
Environmental Health Department	Date
Traffic Engineering, Transportation Division	Date
ABCWUA	Date
Parks and Recreation Department	Date
AMAFCA	Date
City Engineer	Date
DRB Chairperson, Planning Department	Date

SURVEYOR'S CERTIFICATION

I, Russ P. Hugg, New Mexico Professional Surveyor Number 9750, hereby certify that this plat of survey was prepared from field notes of an actual ground survey performed by me or under my direct supervision; that it meets the Standards for Land Surveys in the State of New Mexico as adopted by the New Mexico State Board of Registration for Professional Engineers and Professional Surveyors; that it meets the minimum requirements for surveys and monumentation of the Albuquerque Subdivision Ordinance; that it shows all easements of record; and that it is true and correct to the best of my knowledge and belief.

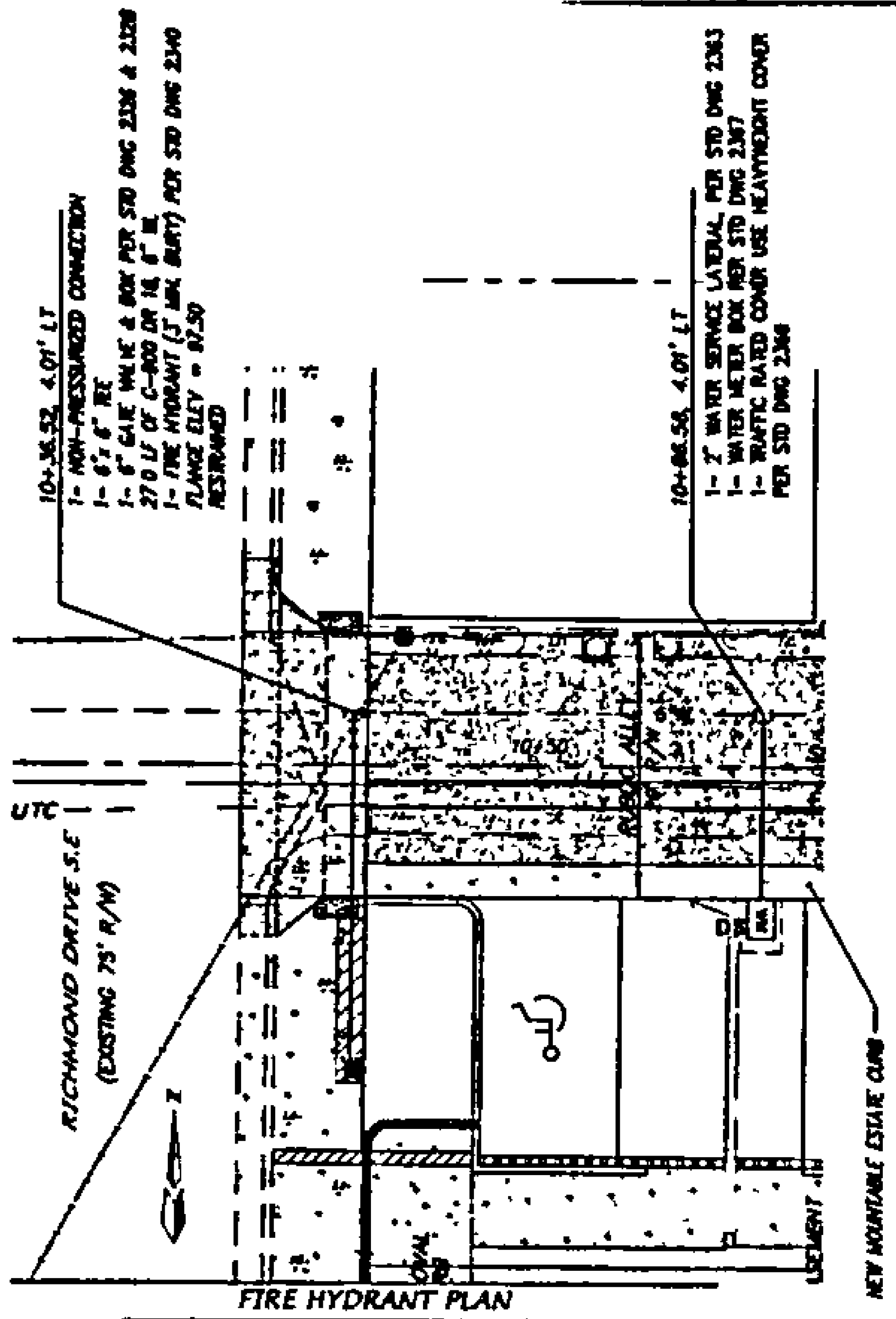
_____
Russ P. Hugg
NMPS No. 9750
July 16, 2007

SURVTEK, INC.
Consulting Surveyors
8500 Valley View Drive, N.W. Albuquerque, New Mexico 87114 Phone: 505-897-8868 Fax: 505-897-8877

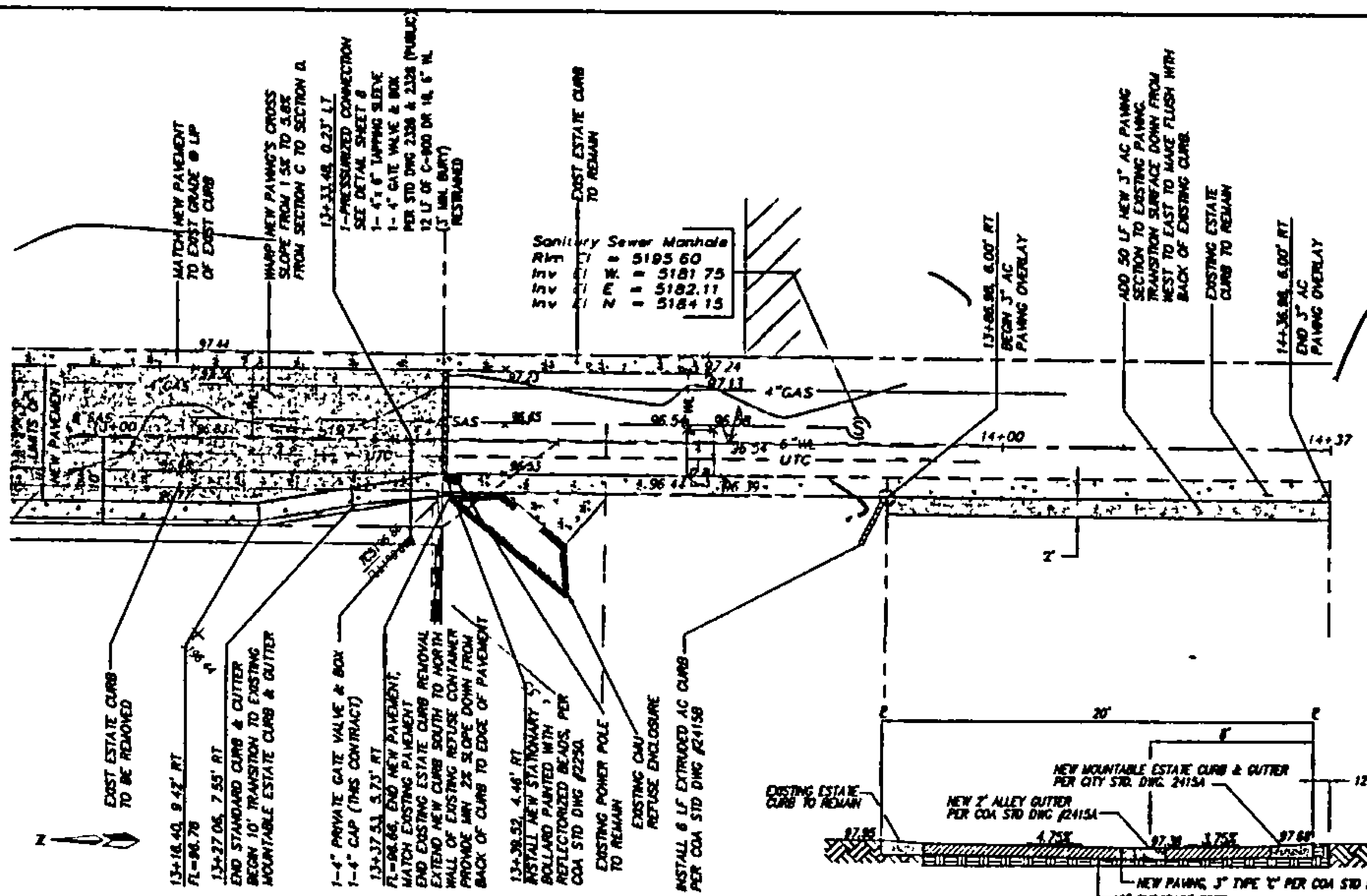
DRB PROJECT NO. 1006913 CITY PROJECT NO. 628182 SHEET 2 OF 3

F:\AD7JOBS\AD7075 110 RICHMOND\Dwgs\FINAL PLATS\FINAL PLAT.DWG\01-02-07\ CAM

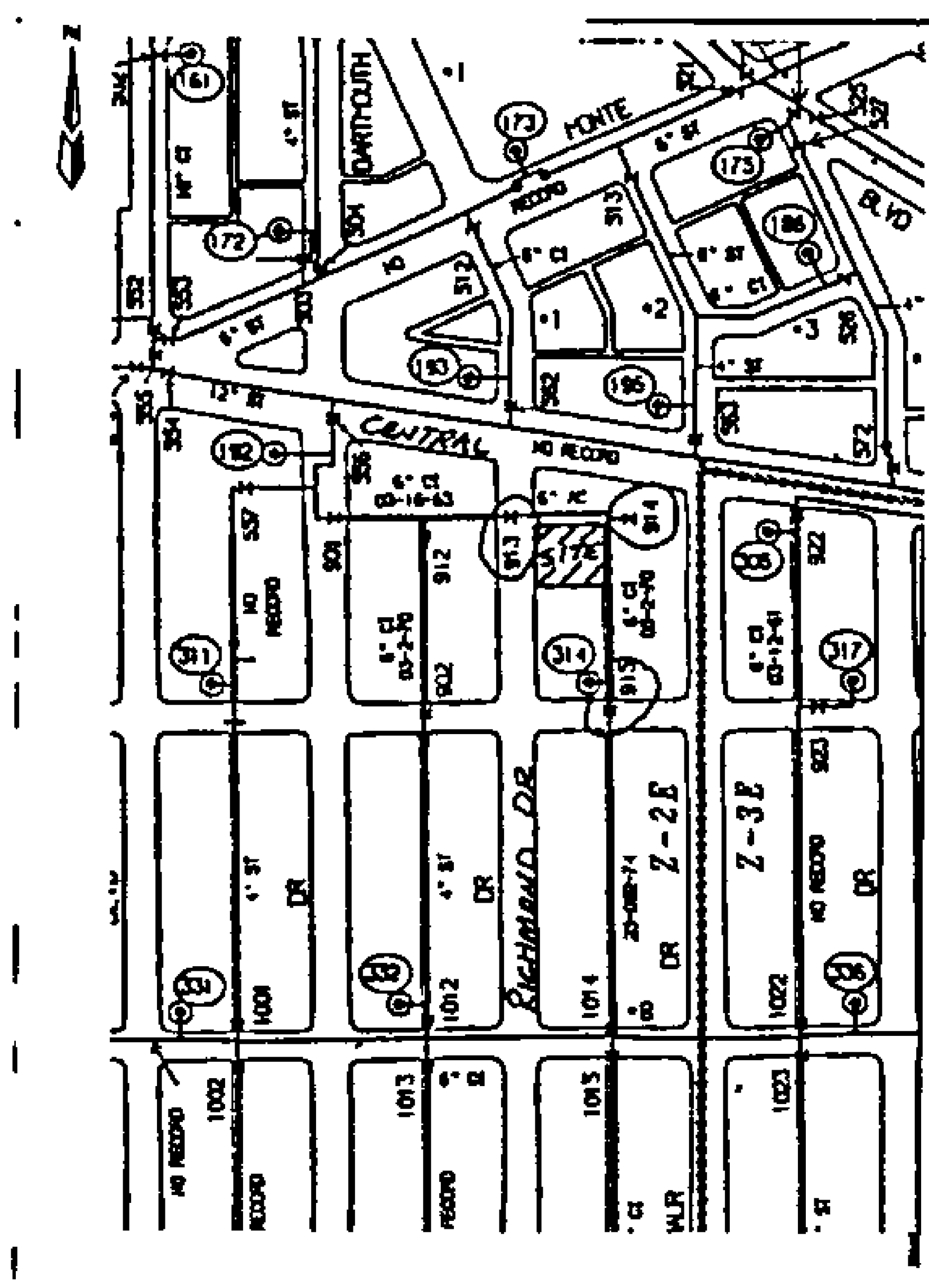
070428 REPLAT.dwg



FIRE HYDRANT PLAN
SCALE 1"=10'

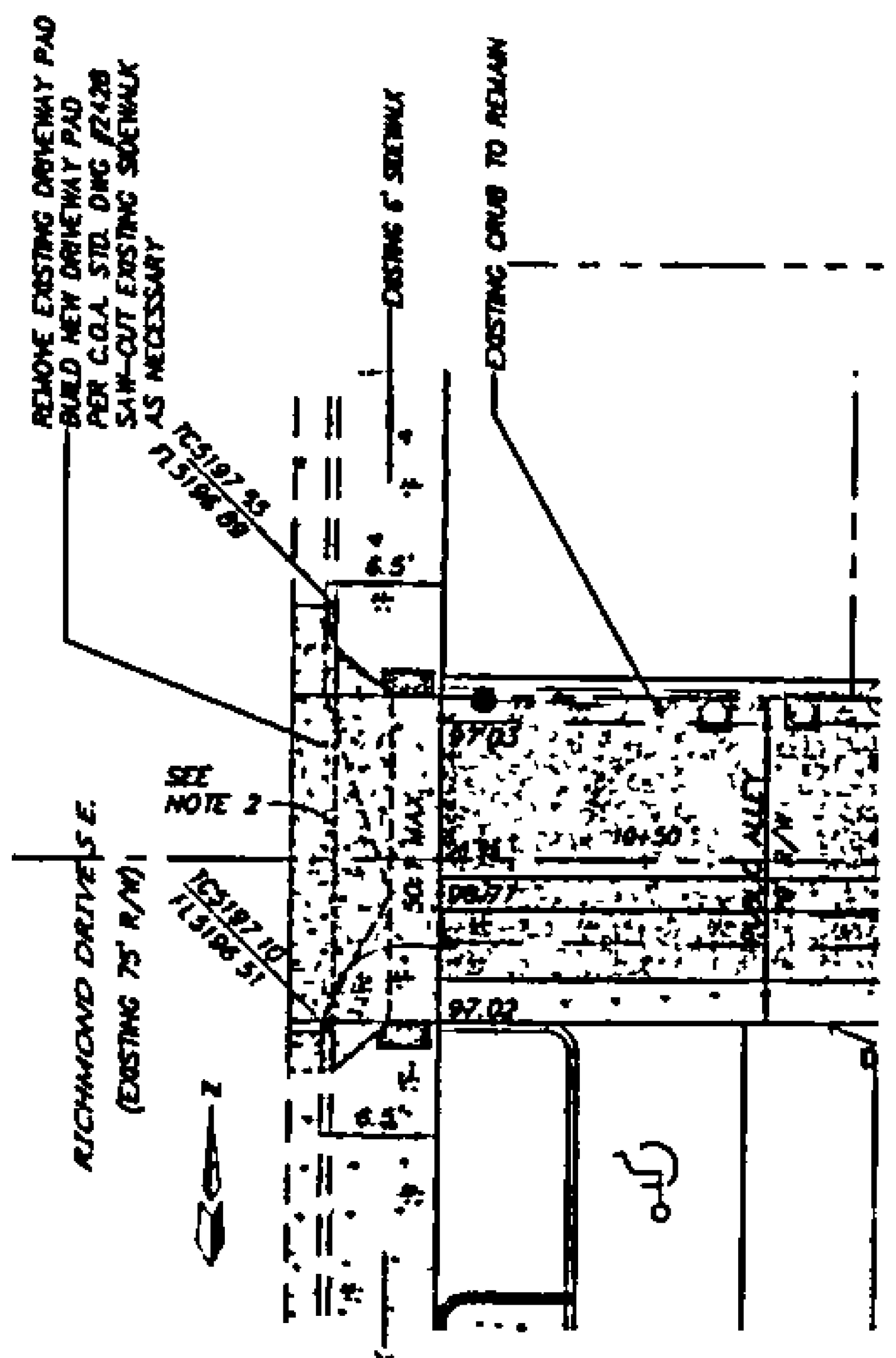


4" FIRE LINE DETAIL
SCALE 1"=10'



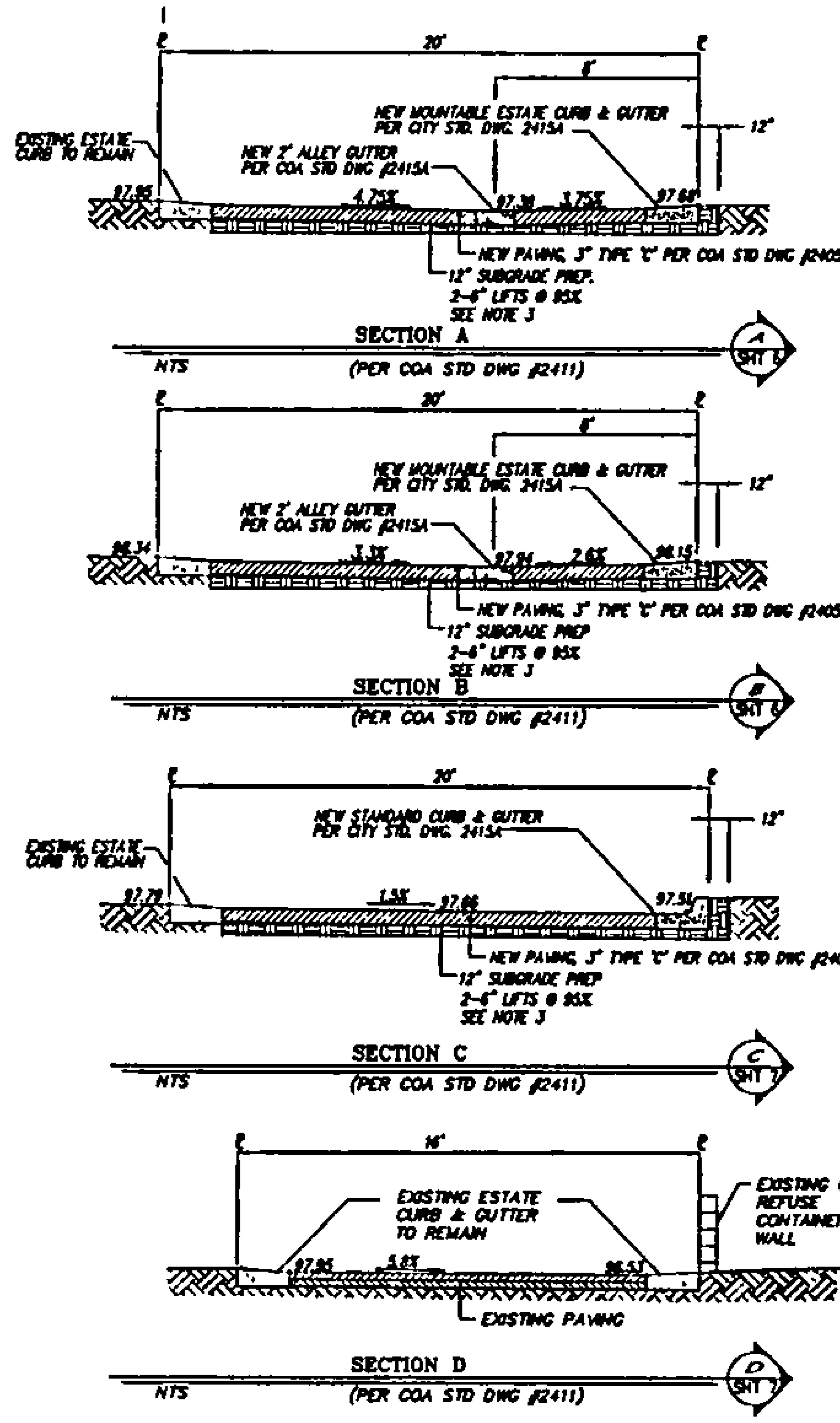
WATER SHUT-OFF PLAN
SCALE 1"=300'

1. CONTRACTOR WILL CONTACT WATER SYSTEMS AT 857-8200, SEVEN (7) DAYS PRIOR TO NECESSARY SHUT-OFF
2. VALVES SHALL ONLY BE OPERATED BY CITY WATER EMPLOYEES. SEE THIS SHEET FOR VALVE NUMBERS & LOCATIONS.
3. WHEN INSTALLING NEW FIRE HYDRANT AND NEW FIRE SPRINKLER LINE, SHUT VALVES 913, 914 AND 915



NOTE: *TRUNCATED DOME DESIGN PER A.D.A GUIDLINES
*SUBMIT SPECIFICATIONS TO C.O.A. CONSTRUCTION ENGINEER FOR EVALUATION PRIOR TO CONSTRUCTION
*ALLEY INTERSECTION PER COA STD DWG #2426

DRIVEWAY PLAN
SCALE 1"=10'



NOTES

1. ALL STATIONING IS BASED ON CENTERLINE OF ALLEY.
2. 1/2" EXPANSION JOINT.
3. SOIL NOT HAVING THE MINIMUM R-VALUE OF 50 FOR ALLEY SHALL BE REMOVED TO A DEPTH OF 2 FEET AND REPLACED, BY THE CONTRACTOR, WITH SUITABLE MATERIAL, OR A PAVEMENT SECTION SHALL BE DESIGNED BY THE CONSULTANT ACCOMMODATING THE EXISTING R-VALUE PER C.O.A. STANDARD SPECIFICATIONS.

AS BUILT INFORMATION | BENCH MARKS | SURVEY INFORMATION | FIELD NOTES | ENGINEER'S SEAL

NO	DATE	BY	REVISIONS	REMARKS

DESIGN	DATE
DESIGNED BY JMM	11/07
DRAWN BY DER	11/07
CHECKED BY DMG	11/07

MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200, FAX (505) 797-9539

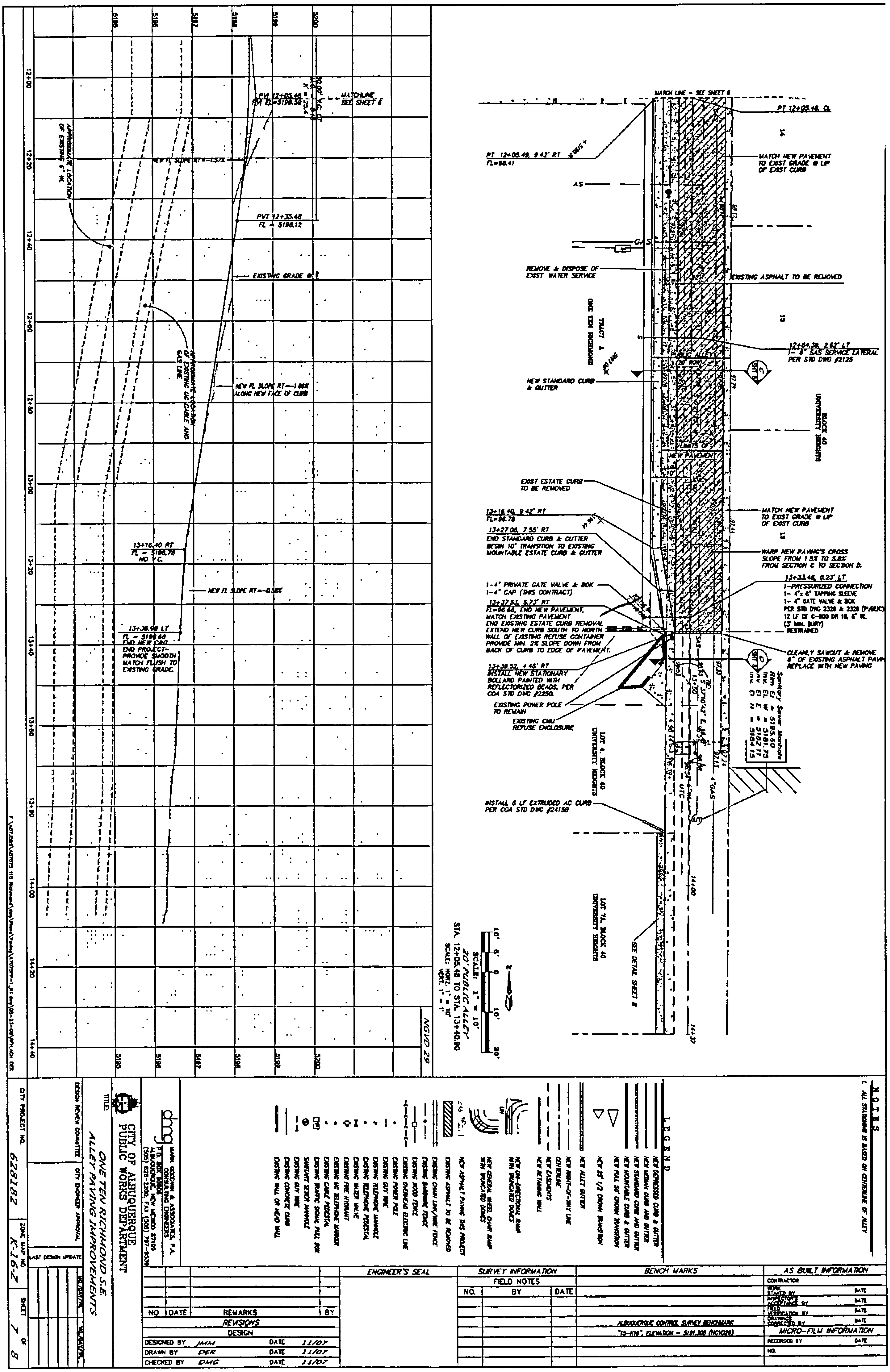
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

TITLE: ONE TEN RICHMOND S.E.
ALLEY PAVING IMPROVEMENTS

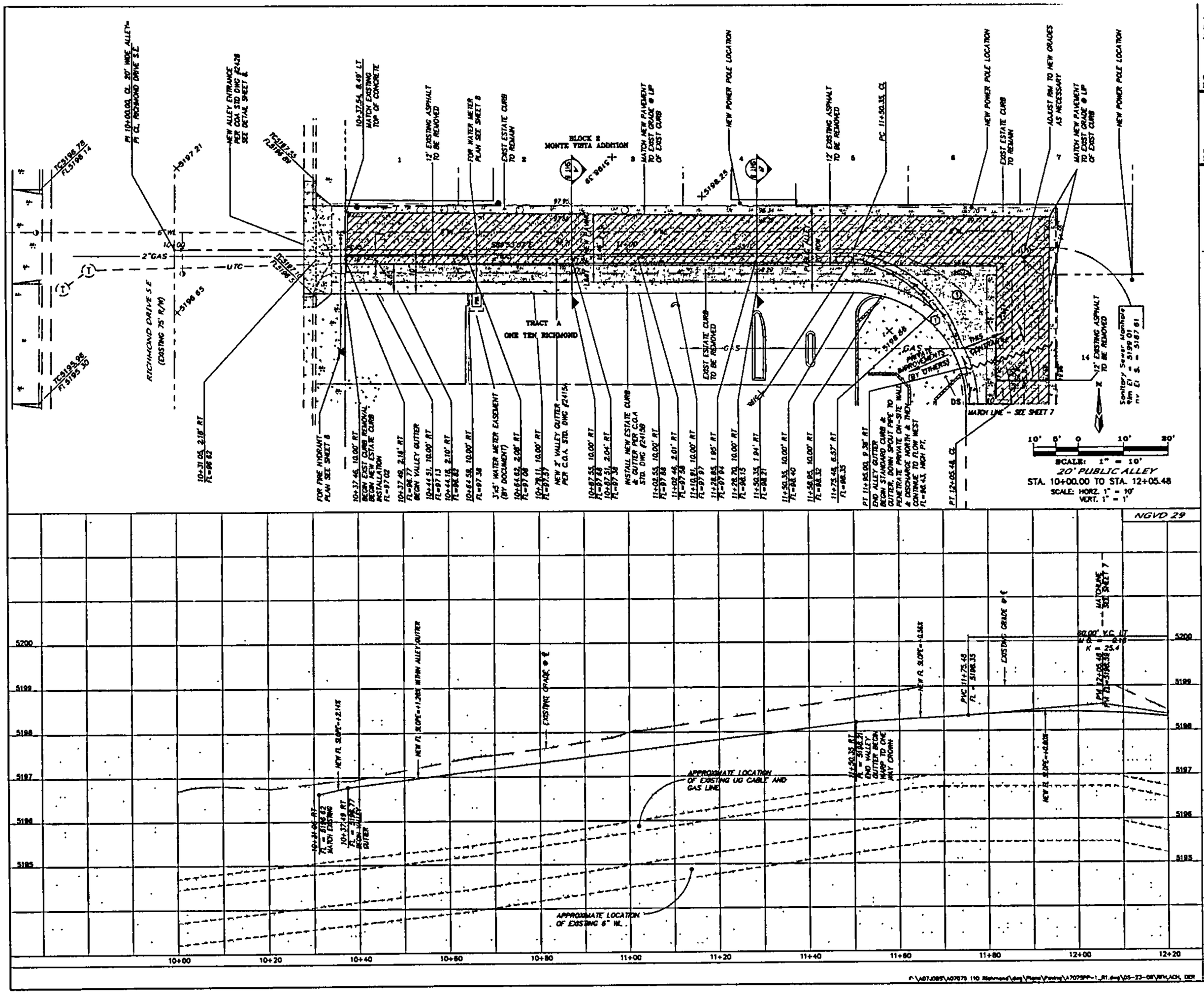
DESIGN REVIEW COMMITTEE | CITY ENGINEER APPROVAL | LAST DESIGN UPDATE | MO./DAY/YR. | MO./DAY/YR.

CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
628182	K-16-Z	8	8

F:\A07JOBS\A07075 110 Richmond\dwg\Plans\Paving\A7075PP-1_R1.dwg, \08-23-08\RPLACH DER



MATCH LINE - SEE SHEET 6
PT 12+05.48, CL
PT 12+05.48, 9.42' RT
FL=98.41
MATCH NEW PAVEMENT TO EXIST GRADE @ LIP OF EXIST CURB
REMOVE & DISPOSE OF EXIST WATER SERVICE
EXISTING ASPHALT TO BE REMOVED
TRACT A ONE TEN RICHMOND
12+64.38, 2.62' LT
1 - 6" SAS SERVICE LATERAL PER STD DWG #2125
NEW STANDARD CURB & GUTTER
BLOCK 40 UNIVERSITY HEIGHTS
EXIST ESTATE CURB TO BE REMOVED
13+16.40, 9.42' RT
FL=98.78
13+27.06, 7.55' RT
END STANDARD CURB & GUTTER BEGIN 10' TRANSITION TO EXISTING MOUNTABLE ESTATE CURB & GUTTER
WARP NEW PAVING'S CROSS SLOPE FROM 1.5% TO 5.8% FROM SECTION C TO SECTION D.
1-4" PRIVATE GATE VALVE & BOX
1-4" CAP (THIS CONTRACT)
13+33.48, 0.23' LT
1-PRESSURIZED CONNECTION
1- 4"x 6" TAPPING SLEEVE
1- 4" GATE VALVE & BOX
PER STD DWG 2326 & 2328 (PUBLIC)
12 LF OF C-900 DR 18, 6" WL
(3' MIN. BURY)
RESTRAINED
13+37.53, 5.73' RT
FL=98.68, END NEW PAVEMENT, MATCH EXISTING PAVEMENT
END EXISTING ESTATE CURB REMOVAL
EXTEND NEW CURB SOUTH TO NORTH WALL OF EXISTING REFUSE CONTAINER
PROVIDE MIN. 2% SLOPE DOWN FROM BACK OF CURB TO EDGE OF PAVEMENT.
CLEANLY SAWCUT & REMOVE 6" OF EXISTING ASPHALT PAVING REPLACE WITH NEW PAVING
13+38.52, 4.48' RT
INSTALL NEW STATIONARY BOLLARD PAINTED WITH REFLECTORIZED BEADS, PER COA STD DWG #2250.
EXISTING POWER POLE TO REMAIN
EXISTING CMU REFUSE ENCLOSURE
Sanitary Sewer Manhole
LOT 4, BLOCK 40 UNIVERSITY HEIGHTS
INSTALL 6 LF EXTRUDED AC CURB PER COA STD DWG #2415B
LOT 7A, BLOCK 40 UNIVERSITY HEIGHTS
SEE DETAIL SHEET 8
SCALE: 1" = 10'
20' PUBLIC ALLEY
STA. 12+05.48 TO STA. 13+40.90
SCALE: HORZ. 1" = 10'
VERT. 1" = 1'
NGVD 29
PVI 12+05.48
PVI EL=5198.58
MATCHLINE SEE SHEET 6
APPROXIMATE LOCATION OF EXISTING 6" WL
NEW FL SLOPE RT=-1.57%
PVT 12+35.48
FL = 5198.12
EXISTING GRADE @ CL
APPROXIMATE LOCATION OF EXISTING UG CABLE AND GAS LINE
NEW FL SLOPE RT=-1.66% ALONG NEW FACE OF CURB
13+16.40 RT
FL = 5198.78
NO V.C.
NEW FL SLOPE RT=-0.58%
13+36.98 LT
FL = 5198.68
END NEW C&G
END PROJECT-PROVIDE SMOOTH MATCH FLUSH TO EXISTING GRADE.
5195 5196 5197 5198 5199 5200
12+00 12+20 12+40 12+60 12+80 13+00 13+20 13+40 13+60 13+80 14+00 14+20 14+40
NOTES
1. ALL STATIONING IS BASED ON CENTERLINE OF ALLEY
LEGEND
NEW DEPRESSED CURB & GUTTER
NEW MEDIAN CURB AND GUTTER
NEW STANDARD CURB AND GUTTER
NEW MOUNTABLE CURB & GUTTER
NEW FULL 50' CROWN TRANSITION
NEW 25' 1/2 CROWN TRANSITION
NEW ALLEY GUTTER
NEW RIGHT-OF-WAY LINE
CENTERLINE
NEW EASEMENTS
NEW RETAINING WALL
NEW UNI-DIRECTIONAL RAMP WITH TRUNCATED DOMES
NEW GENERAL WHEEL CHAIR RAMP WITH TRUNCATED DOMES
NEW ASPHALT PAVING THIS PROJECT
EXISTING ASPHALT TO BE REMOVED
EXISTING CHAIN LINK/WIRE FENCE
EXISTING BARBWIRE FENCE
EXISTING WOOD FENCE
EXISTING OVERHEAD ELECTRIC LINE
EXISTING POWER POLE
EXISTING TELEPHONE POLE
EXISTING WATER VALVE
EXISTING TELEPHONE PEDESTAL
EXISTING TELEPHONE MANHOLE
EXISTING FIRE HYDRANT
EXISTING UG TELEPHONE MARKER
EXISTING CABLE PEDESTAL
EXISTING TRAFFIC SIGNAL PULL BOX
SANITARY SEWER MANHOLE
EXISTING GUY WIRE
EXISTING CONCRETE CURB
EXISTING WALL OR HEAD WALL
MARK GOODWIN & ASSOCIATES, P.A. CONSULTING ENGINEERS
ALBUQUERQUE, NEW MEXICO 87199
CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
TITLE:
ONE TEN RICHMOND S.E.
ALLEY PAVING IMPROVEMENTS
DESIGN REVIEW COMMITTEE
CITY ENGINEER APPROVAL
LAST DESIGN UPDATE
CITY PROJECT NO. 628182
ZONE MAP NO. K-16-Z
SHEET 7 OF 8
ENGINEER'S SEAL
SURVEY INFORMATION
FIELD NOTES
NO. BY DATE
BENCH MARKS
ALBUQUERQUE CONTROL SURVEY BENCHMARK
"15-K16", ELEVATION = 5191.308 (NGVD29)
AS BUILT INFORMATION
CONTRACTOR
WORK STAKED BY DATE
INSPECTOR'S ACCEPTANCE BY DATE
FIELD VERIFICATION BY DATE
DRAWINGS CORRECTED BY DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.
NO DATE REMARKS BY
REVISIONS
DESIGN
DESIGNED BY JMM DATE 11/07
DRAWN BY DER DATE 11/07
CHECKED BY DMG DATE 11/07



NOTES

1. ALL STATIONING IS BASED ON CENTERLINE OF ALLEY.
2. FOR PAVEMENT SECTION, SEE SHEET 8.

CURVE DATA – DESCRIBES CENTERLINE

① Δ=90°14'37" L=55.13 R=35.00 Tan=35.15

CURVE DATA – DESCRIBES THEORETICAL FACE OF NEW CURB

① Δ=90°14'37" L=39.38 R=25.00 Tan=25.11

LEGEND

- NEW DEPRESSED CURB & GUTTER
- NEW MEDIAN CURB AND GUTTER
- NEW STANDARD CURB AND GUTTER
- NEW MOUNTABLE CURB & GUTTER
- NEW FULL 50' CROWN TRANSITION
- NEW 25' 1/2 CROWN TRANSITION
- NEW ALLEY GUTTER
- NEW RIGHT-OF-WAY LINE
- CENTERLINE
- NEW EASEMENTS
- NEW RETAINING WALL
- NEW UNI-DIRECTIONAL RAMP WITH TRUNCATED DOMES
- NEW GENERAL WHEEL CHAIR RAMP WITH TRUNCATED DOMES
- NEW ASPHALT PAVING THIS PROJECT
- EXISTING ASPHALT TO BE REMOVED
- EXISTING CHAIN LINK/WIRE FENCE
- EXISTING BARBWIRE FENCE
- EXISTING WOOD FENCE
- EXISTING OVERHEAD ELECTRIC LINE
- EXISTING POWER POLE
- EXISTING GUY WIRE
- EXISTING TELEPHONE MANHOLE
- EXISTING TELEPHONE PEDESTAL
- EXISTING WATER VALVE
- EXISTING FIRE HYDRANT
- EXISTING UG TELEPHONE MARKER
- EXISTING CABLE PEDESTAL
- EXISTING TRAFFIC SIGNAL PULL BOX
- SANITARY SEWER MANHOLE
- EXISTING GUY WIRE
- EXISTING CONCRETE CURB
- EXISTING WALL OR HEAD WALL
- WATER BREAK

MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
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ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200, FAX (505) 797-9539

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT

TITLE: ONE TEN RICHMOND S.E. ALLEY PAVING IMPROVEMENTS

DESIGN REVIEW COMMITTEE	CITY ENGINEER APPROVAL	LAST DESIGN UPDATE	MO./DAY/YR.	MO./DAY/YR.

CITY PROJECT NO.	ZONE MAP NO.	SHEET	OF
628182	K-16-Z	6	8

AS BUILT INFORMATION
CONTRACTOR — DATE
WORK BY — DATE
INSPECTION BY — DATE
MATERIALS BY — DATE
SURVEYED BY — DATE
CONSTRUCTED BY — DATE

SURVEY INFORMATION
BENCH MARKS
ALBUQUERQUE CONTROL SURVEY BENCHMARK — MICRO-FILM INFORMATION
"16-H16", ELEVATION = 5181.366 (NGVD29) — RECORDED BY — DATE — NO.

FIELD NOTES

NO.	BY	DATE

ENGINEER'S SEAL

NO	DATE	REVISIONS / REMARKS	BY

DESIGNED BY JMH 11/07
DRAWN BY DER 11/07
CHECKED BY DMG 11/07

P:\A07JOBS\A07875 110 Richmond\dwg\Plans\Paving\A7075PP-1_R1.dwg\05-23-08\RICHMOND_DER

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539

July 10, 2008

Mr. Curtis Cherne
Hydrology Department
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87103

Re: Nob Hill Condos - 110 Richmond (K-16 / D-71)

Dear Mr. Cherne:

As requested, we have performed a supplemental evaluation of the hydraulic condition within the existing public alley located south and downstream of the referenced project. Based upon a meeting we had in the field on June 13, 2008, you wanted this work done to determine if addition improvements were needed to contain runoff in the alley.

From our meeting it was decided that a couple of addition HEC-RAS sections (03 & 04, see attached) were needed about 75 feet south of the southeast corner of the subject site, behind Lot 7A, University Heights Addition (existing day care business). The attached plan is a modified version of one of the previously submitted grading and drainage plan sheets.

As suspected, our work shows that an additional 3" of paving is needed along the back of Lot 7A adjacent to the alley in order to keep flow contained within the alley during the 6-hour, 100-year storm. Our DRC Work Order Plans have been modified accordingly show this proposed work.

Please contact me if I can be of further assistance.

Sincerely,

MARK GOODWIN & ASSOCIATES, PA

John M. MacKenzie, PE
President

JMM/a

Attachment

F:\1-Projects\2007\A07003 - 110 Richmond Condos (Nob Hill)\Ltr. to Cherne.doc

D. Mark Goodwin and Associates, P.A.
Consulting Engineers
P.O. Box 90606 Albuquerque, NM 87199
(505) 828-2200 (505) 797-9539 fax
e-mail: john@goodwinengineers.com

LETTER OF TRANSMITTAL

TO: Hydrology
DRB - One Stop
Attn: Curtis Cherne

Date: July 10, 2008

RE: One Ten Richmond Nob Hill Condos
(K-16/D-71)

We are sending:

Additional HEC-RAS Sections

_____ For your Approval __X__ For your information

_____ As you requested _____ For a Statement

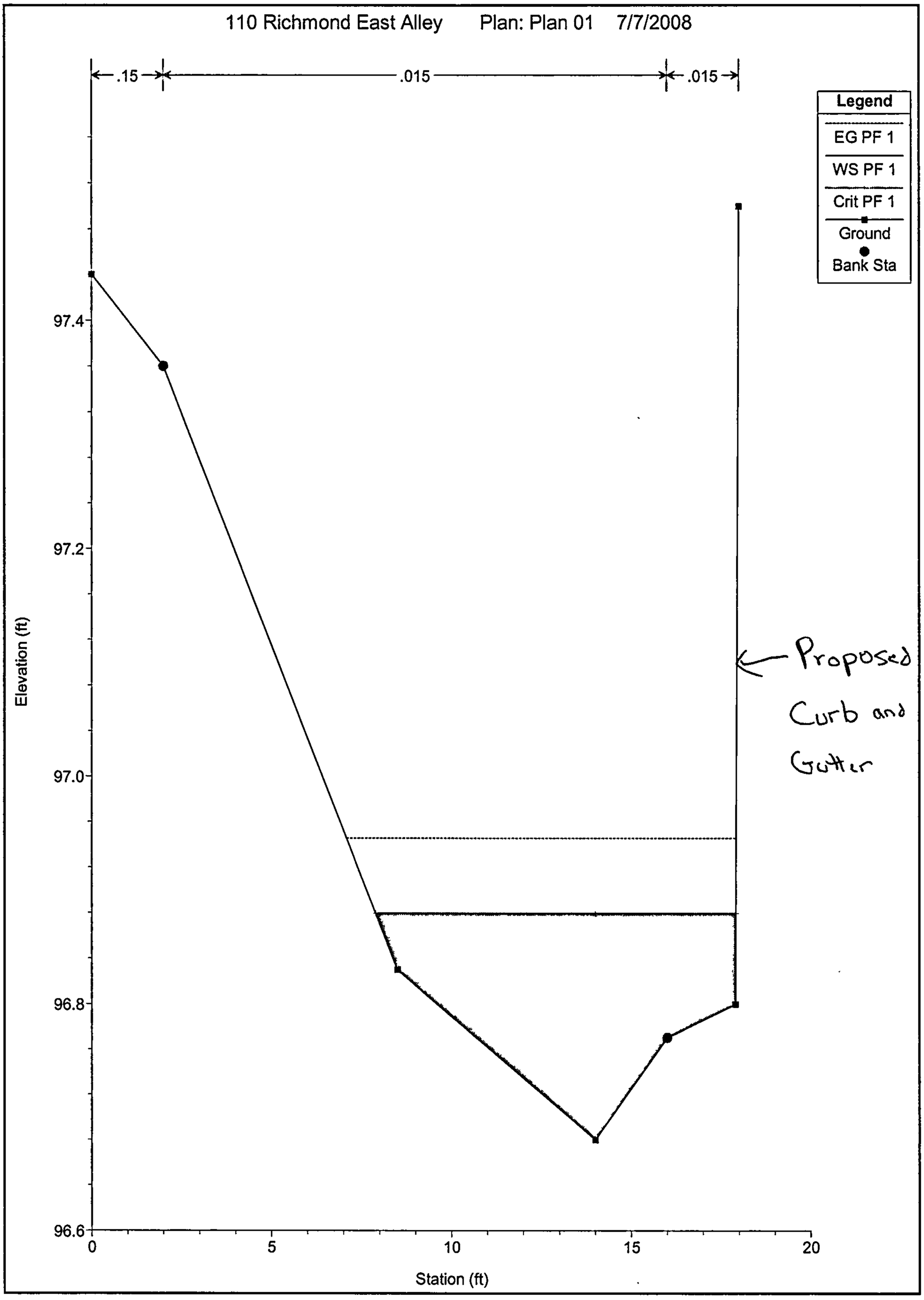
_____ Request for Bid _____ Pre-Design Meeting

NOTES:

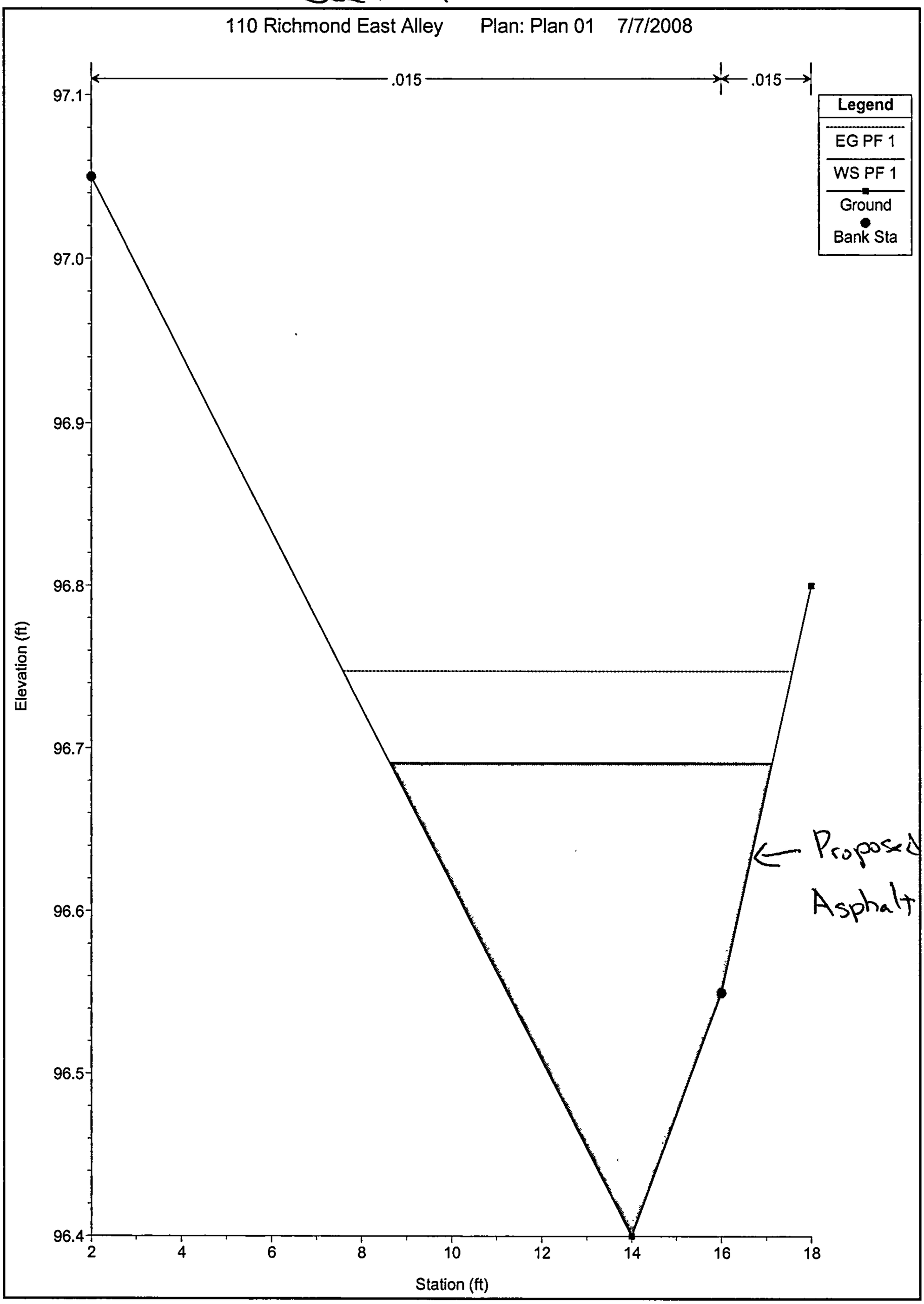
Project Engineer

SIGNED:

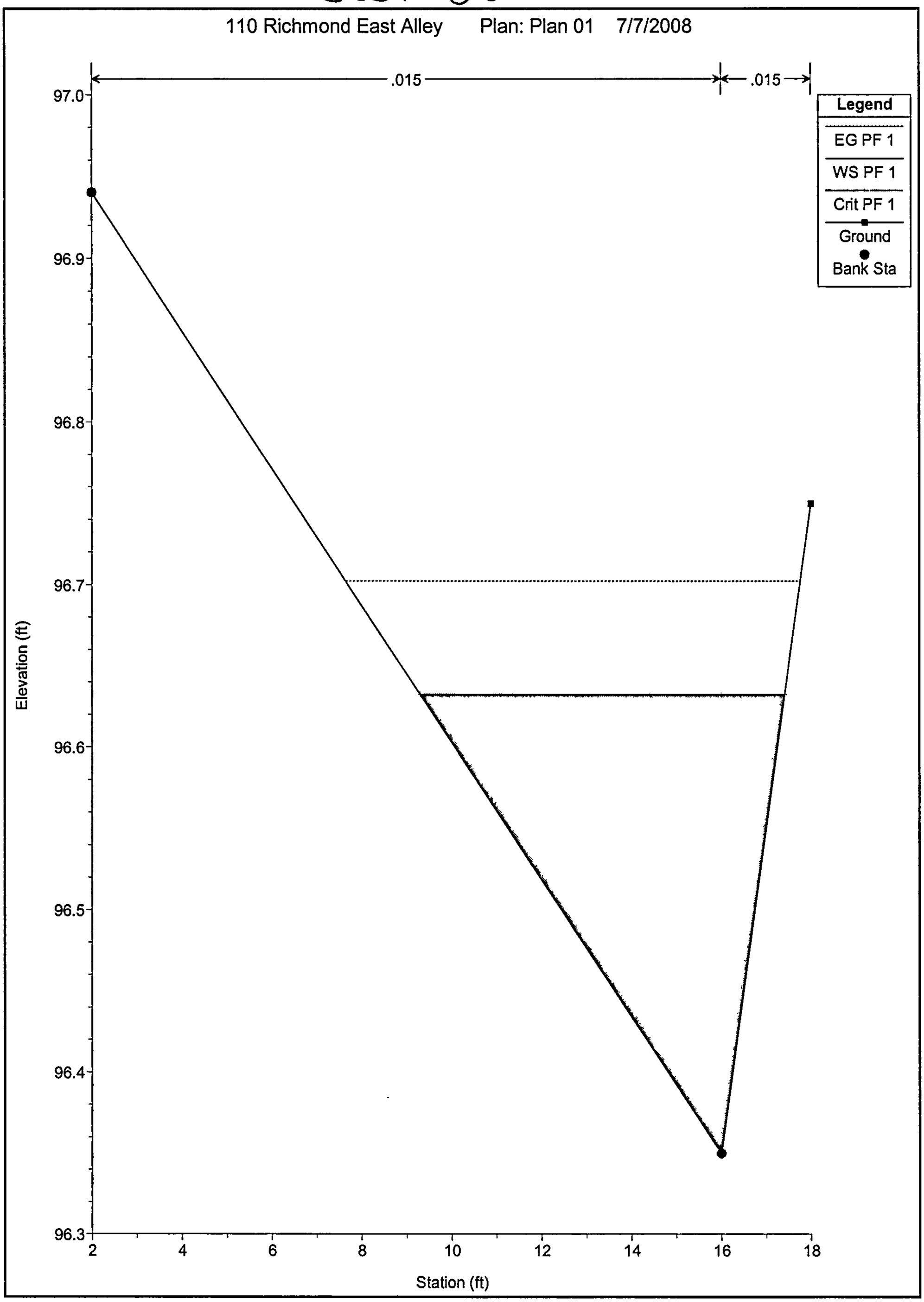
Sect 50


110 Richmond East Alley Plan: Plan 01 7/7/2008
.15
.015
.015
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
97.4
97.2
97.0
96.8
96.6
Elevation (ft)
0
5
10
15
20
Station (ft)
← Proposed
Curb and
Gutter

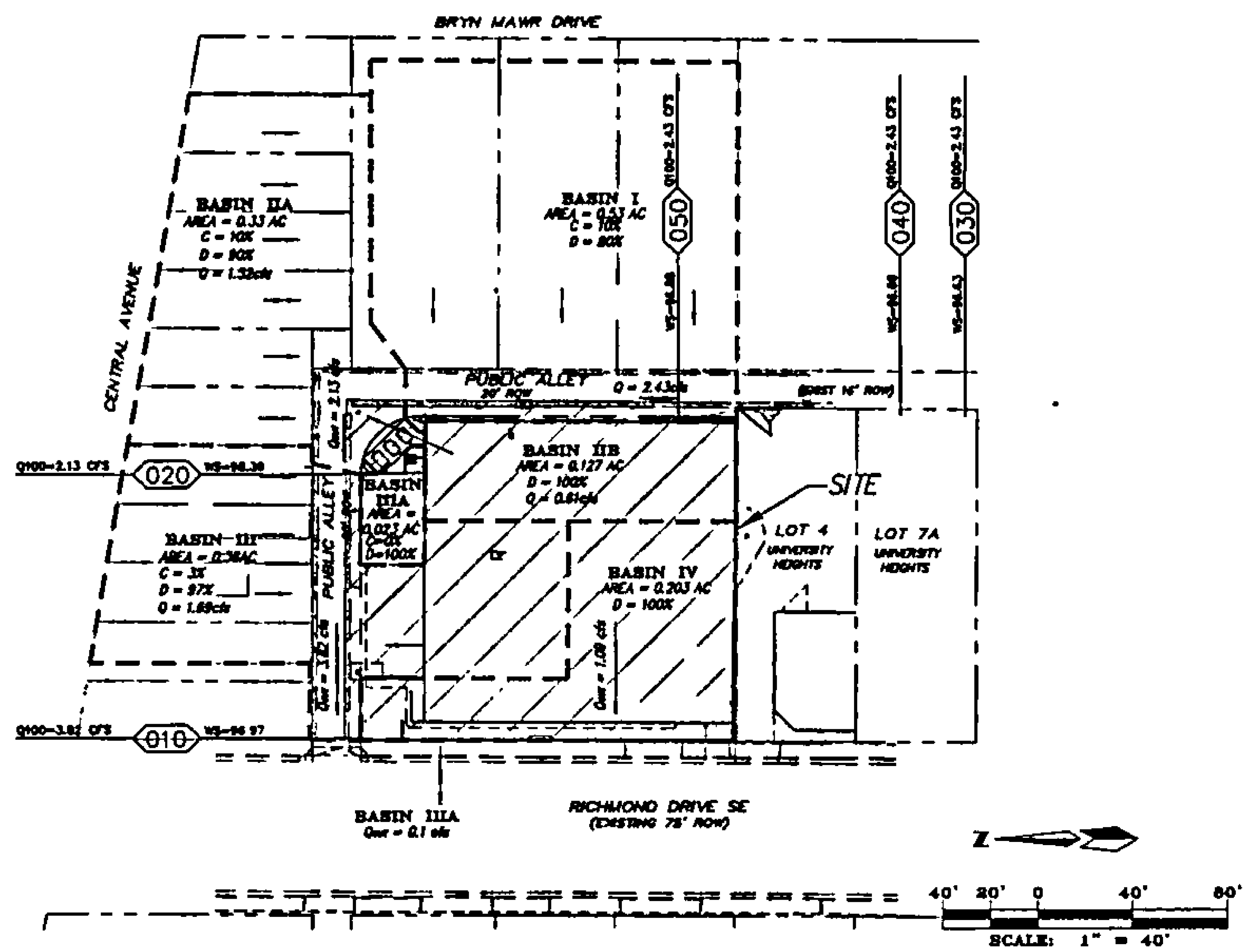
Sect 40


110 Richmond East Alley Plan: Plan 01 7/7/2008
.015
.015
Legend
EG PF 1
WS PF 1
Ground
Bank Sta
97.1
97.0
96.9
96.8
96.7
96.6
96.5
96.4
Elevation (ft)
2
4
6
8
10
12
14
16
18
Station (ft)
← Proposed Asphalt

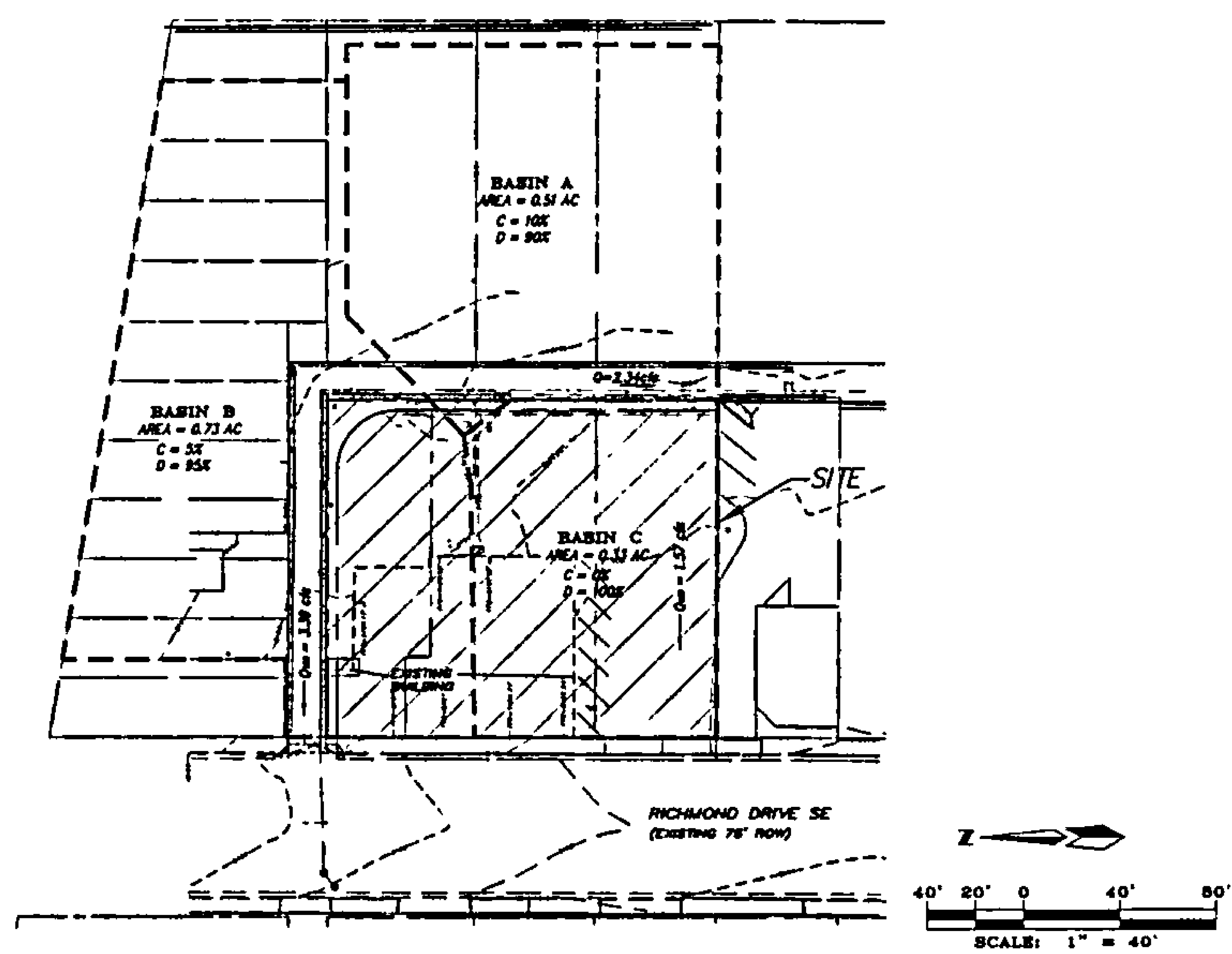
Sect 30


110 Richmond East Alley Plan: Plan 01 7/7/2008
.015
.015
Legend
EG PF 1
WS PF 1
Crit PF 1
Ground
Bank Sta
97.0
96.9
96.8
96.7
96.6
96.5
96.4
96.3
Elevation (ft)
2
4
6
8
10
12
14
16
18
Station (ft)

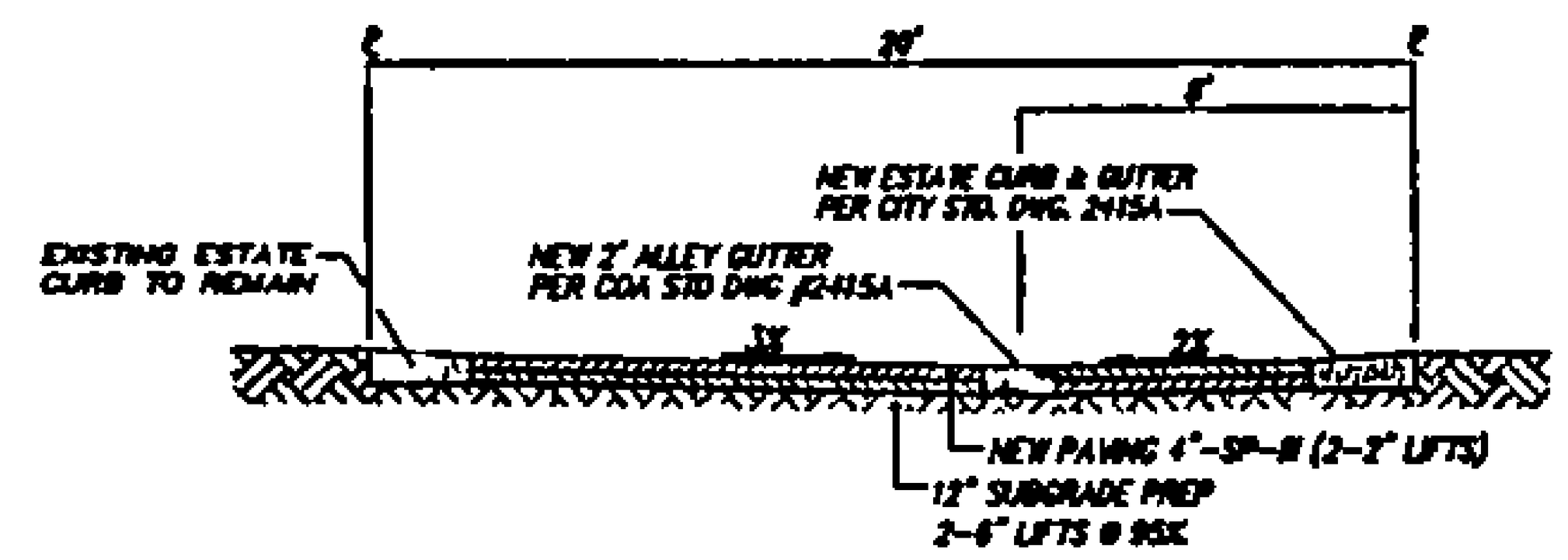

96.94
96.35
96.75
96.55
97.05
CURB EDGE
96.40



DEVELOPED DRAINAGE BASINS AND HEC-RAS MAP

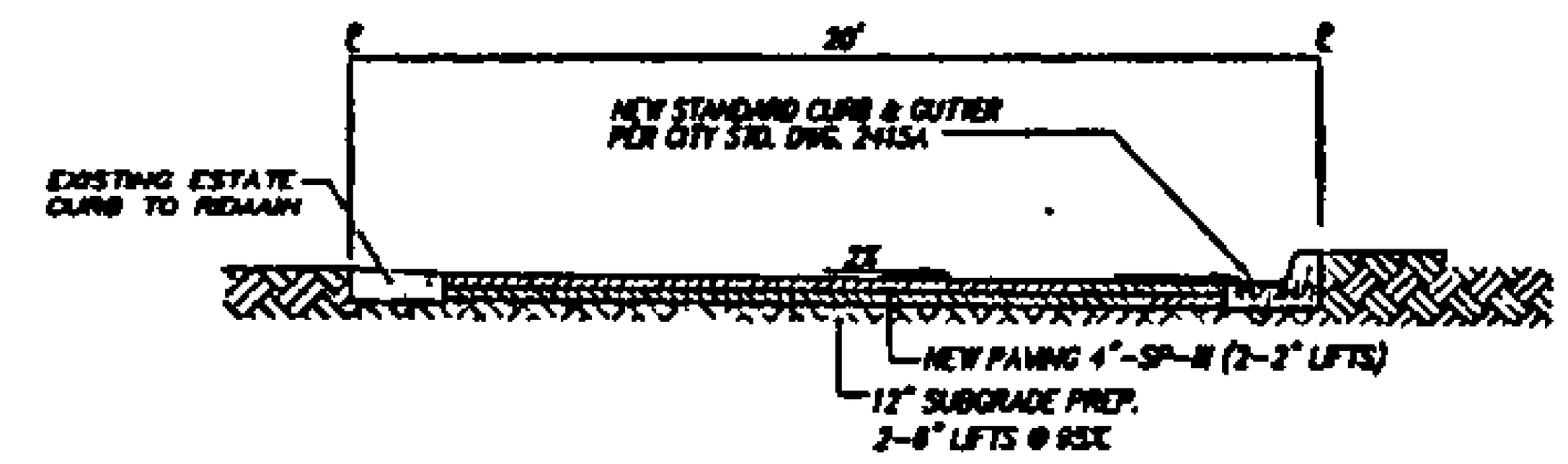


EXISTING DRAINAGE BASINS



SECTION A

NTS

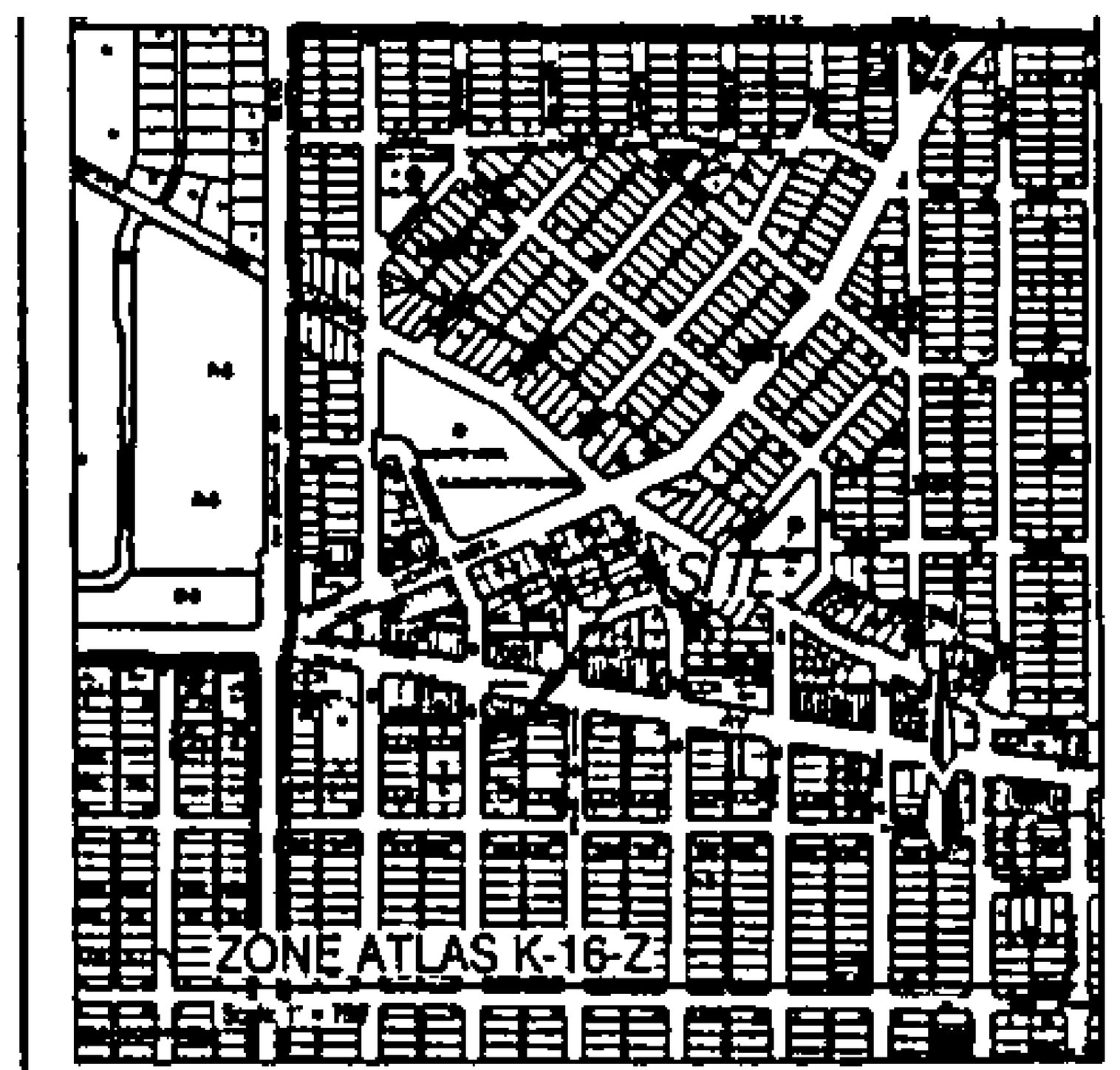


SECTION B

NTS

NOTES

1. TOPOGRAPHIC SURVEY PROVIDED BY SURVTEK, FEBRUARY 2007.
2. ALL CONSTRUCTION MATERIALS SHALL BE IN ACCORDANCE WITH COA STANDARD SPECIFICATIONS.
3. ALL ROOF DRAINS AND DOWN SPOUTS SHALL DISCHARGE ONTO OR DRAIN DIRECTLY TO PUBLIC RIGHT OF WAY.
4. ALL OVERHEAD AND UNDERGROUND UTILITIES MAY NOT BE SHOWN. CONTRACTOR IS RESPONSIBLE FOR LOCATING SUCH UTILITIES TO AVOID CONFLICT.
5. RUNOFF FROM SIDEWALK ADJACENT TO BUILDING SHALL SUFFICIENTLY DRAIN ONTO ADJACENT PUBLIC SIDEWALK THRU MINIMUM 4" DIA. HOLES IN BASE OF PERIMETER PRIVACY WALL AT MINIMUM SPACING OF 10' ON CENTER.
6. CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS AND APPROVALS BEFORE INITIATING CONSTRUCTION WORK.



Legend

- X5196.44 EXISTING SPOT ELEVATION
- EXISTING POWER POLE
- EXISTING FOUND PROPERTY CORNER AS INDICATED
- EXISTING SET CONCRETE NAIL AND BRASS DISC
- EXISTING WATER METER
- EXISTING OVERHEAD UTILITY LINE
- EXISTING SEWER CLEAN OUT
- EXISTING WATER VALVE
- EXISTING TELEPHONE MANHOLE
- EXISTING POLE ANCHOR
- EXISTING SANITARY SEWER MANHOLE
- EXISTING LIGHT POLE
- EXISTING BOLLARD
- EXISTING PROPERTY LINE
- EXISTING BLOCK WALL
- EXISTING POWER POLE WITH FEED
- EXISTING CONCRETE AREA
- GAS — EXISTING GAS LINE
- SAS — EXISTING SANITARY SEWER LINE
- WL — EXISTING WATER LINE
- UTC — EXISTING UNDERGROUND TELEPHONE LINE
- EXISTING BUILDING
- REMOVE AND REPLACE EXISTING ASPHALT
- EXISTING CONCRETE
- NEW CONCRETE
- DS NEW ROOF DRAIN DOWN SPOUT
- PROPERTY LINE
- NEW PROPOSED EXTENDED STEM WALL
- PROPOSED FLOW DIRECTION
- OVER HANG OF BUILDING
- NEW HANDICAP PARKING
- SIDEWALK CULVERT
- NEW HEADER CURB PER STD DWG 2415B
- NEW BASIN BOUNDARY LINE
- NEW WATER METER
- NEW PRIVACY WALL
- SUB-BASIN BOUNDARY
- 100-YEAR WATER SURFACE LIMITS
- HEC-RAS CROSS-SECTION ID

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505)828-2200, FAX (505)797-9539

James C Lewis Architect
General Design, Inc.
Architecture & Planning

one ten richmond

110 Richmond SE
Albuquerque, New Mexico 87106

ISSUE DATE: 5 July 2007

REVISIONS:

PROJECT # 2007-0703

DETAIL SHEET

SHEET C-104
6 OF 52

F:\A07JOBS\A07075 110 RICHMOND\DWG\GRADE & DRAIN\C-103 GRADING PLAN DWG\03-17-08\ CAR RFH SPS
DRB PROJECT NO. 1006913 CITY PROJECT NO. 628182 SHEET 5 OF 8

Cherne, Curtis

From: John MacKenzie [John@goodwinengineers.com]
Sent: Thursday, July 10, 2008 10:02 AM
To: Cherne, Curtis
Subject: One Ten Richmond - Nob Hill Condos (CPN 628182)
Attachments: DEST2080.pdf; MX-3501N_20080710_090955.pdf; MX-3501N_20080625_090331.pdf

Curtis,

This morning these documents are being delivered to address your concerns about flow in the alley behind the site, as we discussed in the field on June 13th.

The additional HEC-RAS sections show we do indeed need to add a 3-inch paving section in order to contain 100-year flows in the alley and not let them escape west into the adjoining day care business. Of course typical nuisance flows should not be a problem.

The final DRC for the WO drawings is set for 3:30 on Tuesday. At that time we can discuss it further, if necessary, or call me beforehand if you need to.

John MacKenzie, PE
Mark Goodwin and Associates, PA
Phone: 505-828-2200
Fax: 505-797-9539
john@goodwinengineers.com

NOB HILL CONDOS
HEC-RAS SUMMARY

Reach	STA	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
East Alley	50	2.43	96.68	96.88	96.88	96.95	0.007269	2.1	1.19	10.02	1.05
East Alley	40	2.43	96.4	96.69		96.75	0.004225	1.93	1.29	8.5	0.84
East Alley	30	2.43	96.35	96.63	96.63	96.7	0.006269	2.13	1.15	8.11	1

4-23-09
cc

Cherne, Curtis

To: John MacKenzie

Subject: RE: One Ten Richmond (K16/D71)

John,
Looks good. I just spoke with the inspector. Just include it with the as-builts.

Curtis

From: John MacKenzie [mailto:John@goodwinengineers.com]
Sent: Thursday, April 23, 2009 1:29 PM
To: Cherne, Curtis
Subject: One Ten Richmond (K16/D71)

Curtis,

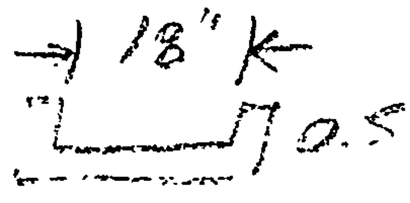
Briefly, my calculations for the new 18-inch sidewalk culvert at the referenced site (SW corner of the site) that we discussed yesterday are attached. With Manning's it can carry 2.16 cfs and with the weir equation is can accept 1.54 cfs. The approved plan is also attached. In the upper left corner of sheet two it shows that the south part of the roof and the front (west) sidewalk all drain to the street thru that culvert with a developed flow of 1.28 cfs for the 100-year storm. Sheet 1 of the plan shows exactly where the new sidewalk culvert is supposed to be located to receive roof flows from the downspout (it was supposed to be a 24-inch culvert). The 12-inch culvert at the midpoint of the site's frontage onto Richmond is supplemental (the SW corner one can already carry all of this on-site basin's runoff) to help drain nuisance water that falls directly on the sidewalk in front of the condos instead of it draining all along the internal private sidewalk to the SW corner culvert, so there should not be capacity issues if the contractor has replaced the middle 12-inch culvert with two 4-inch pipe thru the curb. If they plug for some reason the flows would just continue south and go out the new 18-inch SW culvert.

Do you want me to formally submit this now, or just include it with my as-builts?

John MacKenzie, PE
Mark Goodwin and Associates, PA
Phone: 505-828-2200
Fax: 505-797-9539
2008 ACEC/NM Small Firm Engineering Excellence Award Winner

Nob Hill Condos K16/D71
One Ten Richmond

Capacity of 18"x6" corrugated culvert



$Area = 1.5 \times 0.5 = 0.75\ ft^2$ $WP = 2.5'$

$S = 0.02$ $n = 0.012$ $R_H = \frac{0.75}{2.5} = 0.3$

$$Q = \frac{1.49}{n}(A)\, r_H^{2/3} S^{1/2} = \frac{1.49}{0.012}\, 0.75\,(0.3)^{2/3} 0.02^{1/2}$$

$Q = 2.16\ cfs$

$$Q = CL\ H^{3/2} \qquad Q = 2.9(1.5)(0.5)^{3/2}$$

$Q = 1.54\ cfs$

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Nob Hill Condos
DRB #: _____ EPC#:_____

ZONE MAP/DRG. FILE #:K16/D71
WORK ORDER#:_____

LEGAL DESCRIPTION: Lot 1-A, 1-B 2 & 3 Blk 40 University heights subdivison
CITY ADDRESS:110 Richmond SE

ENGINEERING FIRM: Mark Goodwin & Associates, PA
ADDRESS: PO Box 90606
CITY, STATE: Albuquerque, NM

CONTACT: John MacKenzie
PHONE: 828-2200
ZIP CODE: 87199

OWNER:_____
ADDRESS: _
CITY, STATE: _

CONTACT:
PHONE:
ZIP CODE:

ARCHITECT: James C. Lewis Architect General Design, Inc.
ADDRESS: 1620 Central Avenue SE
CITY, STATE: Albuquerque, NM

CONTACT: Phil Lightle
PHONE: 247-1529
ZIP CODE: 87106

SURVEYOR: Surv-Tek
ADDRESS: 9384 Valley View Drive
CITY, STATE: Albuquerque, NM

CONTACT: Russ Hugg
PHONE: 897-3366
ZIP CODE: 87114

CONTRACTOR: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE: _____
ZIP CODE: _____

CHECK TYPE OF SUBMITTAL:

- ☐ DRAINAGE REPORT
- ☐ DRAINAGE PLAN 1st SUBMITTAL, ***REQUIRES TCL or equal***
- ☒ DRAINAGE PLAN RESUBMITTAL
- ☐ 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

RECEIVED
DEC 12 2007
HYDROLOGY SECTION

DATE SUBMITTED: December 12, 2007

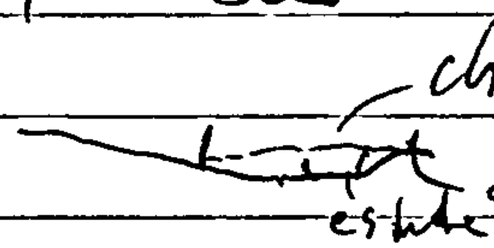
BY: John MacKenzie

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature , location and scope ot the proposed development defines the degree of drainage detail. Orne 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.

110 Richmond

1. Calc and mark channel capacity in front of day Care



2. Construct asphalt transition block at NE corner of day care to direct runoff to FL which is east side of asphalt curb

3. Construct estate curb with steeper slope at SE corner of 110 Richmond to key flow on east side of telephone pole.

CC 6-13-00

For

DRC

Submitted

[redacted]

MARK GOODWIN
& ASSOCIATES
CONSULTING ENGINEERS

DRAINAGE REPORT

for

ONE TEN RICHMOND

Prepared for

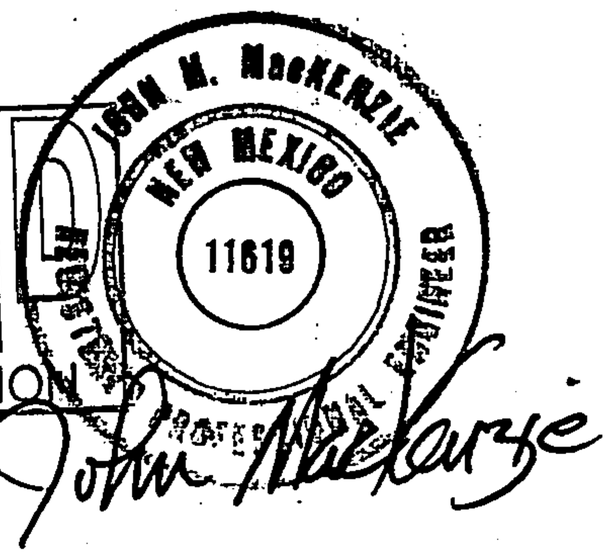
James C. Lewis Architect General Design, Inc
1620 Central Avenue SE
Albuquerque, NM 87106
(505) 247-1529

Prepared by

Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199
(505) 828-2200

June 2007

(Updated December 2007)



12.12.07

TABLE OF CONTENTS

I. PROJECT DESCRIPTION

The project covers approximately 0.48 acres of developed property located along the east side of Richmond Drive SE, approximately one-half block south of Central Avenue. The site is also bounded by existing public alleys on its north and east and then an existing office to its south. Its current legal description is "Lots 1-A, 1-B, 2, and 3, Block 40, University Heights Addition." The developer's plan is to demo the existing office building and associated paving, and then replace it with residential condominiums that will occupy virtually all of the subject property. Parking for a majority of the residences will be on the street level and then dwelling units will extend three floors above. The purpose of this report is to present how drainage from the new building will be handled and how existing runoff surrounding the site will be routed around the new building.

II. DRAINAGE DESIGN CRITERIA

The design criteria used in this report was in accordance with Section 22.2 Hydrology of the Development Process Manual. The 100-year, 6-hour storm event for the site was modeled utilizing site runoff rates estimated at P(6 hr) =2.35, obtained from the precipitation graphs in the DPM. The on-site land treatment values for use by AHYMO were estimated primarily as all Type D, but with incidental amounts of Type C up to 20% representing gravel parking on parts of the surrounding property.

III. EXISTING DRAINAGE CONDITION

The property formerly contained an existing building that was entirely surrounded by paved parking. Roof runoff from that building was directed into the adjoining alley on its north or to the west out into Richmond Avenue, while runoff from the on-site paved parking sheet-flowed from NE to SW across the site, also primarily discharging into Richmond. In general, the surrounding local area also slopes form NE to SW. In order to determine both the existing and developed flows affecting the site, AHYMO calculations were performed. Approximately 2.34 cfs of flow from properties east of the east alley (Basin A) are collected and conveyed south in the alley to Silver Avenue. From existing topo and observed field conditions, it appears that runoff from large events may presently exceed the alley's capacity and then enter the subject property (and its southerly neighbor) and continue flowing west across the site to Richmond. Existing buildings fronting Central Avenue between Richmond and Bryn Mawr Avenue to the east (Basin B) all discharge to the south off their south sides into the alley north of the subject site, along with portions of the on-site building, where they combine and then continue west to Richmond with a 100-year flow of 3.39 cfs. Basin C, covering the balance of the building and remaining portions of the on-site parking currently drains toward Richmond Drive with a 100-year flow of 1.57 cfs.

IV. DRAINAGE MANAGEMENT PLAN

Based upon the fact that the site formerly contained entirely impervious surfaces, there is no net increase to the developed flow condition from its existing state. Between on-site and off-site flows the site and its surrounding area was split up into four separate basins as represented on the second sheet of the grading and drainage plan. A 100-year flow of 3.48 cfs from off-site Basins 2 and 3 is routed west around the site, and a 100-year flow of 2.43 cfs from Basin 1 is routed to the south. A 100-year flow of 1.28 cfs will approach Richmond Avenue from basin 4, and 0.10 cfs from Basin IIIA will approach Richmond Avenue via a pipe. On-site discharge is directed both into the alley on its north side and into Richmond on its west side. Off-site flow from the east will continue to be directed into the east alley and then be contained in the alley with the aid of new curb and gutter along its western flank as it flows south toward Silver Avenue. For both of the alleys existing pavement will be removed and replaced with new paving, along with new alley gutter for the north alley. A HEC-RAS model was run on the north alley to show that the relatively low 100-year, 6-hour storm flow is fully contained within alley right-of-way. Since there is no increase in discharge to the east alley, it was not modeled for existing flow.

From the building and a north-side parking space overhang, roof downspouts discharge directly into the adjoining alleys or street. A small area of on-site paving along the north side of the uncovered parking area will drain west through pipes or sidewalk culverts into Richmond.

The AHYMO models for existing and developed conditions, as well as the HEC-RAS model for developed conditions, are included in the Appendix.

V. CONCLUSION

The proposed drainage scheme for the new residential development does not affect the existing off-site flow conditions for the east alley although it does increase flow in the north alley by 0.09 cfs. Flow in the north alley has been checked and it is shown there is sufficient capacity resulting from improved alley conditions so that impact to on and off site properties can be minimized. The on-site flows have been routed into the surrounding alleys and Richmond Avenue. The net impact to the surrounding area is relatively unchanged due to the fact that there is not additional runoff created relative to the pre-existing on-site conditions.

APPENDIX A

HYDROLOGY

AHYMO CALCULATION, EXISTING CONDITIONS

EXISTING

```
    AHYMO PROGRAM (AHYMO_97) -                          - Version:  1997.02d
         RUN DATE (MON/DAY/YR) = 12/12/2007
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*S    PREPARED FOR:  CITY
*S    PREPARED BY:  MARK GOODWIN & ASSOCIATES
*S
*S    MODEL DESCRIPTION -
*S 1. 100-YEAR 6-HOUR RAINFALL EVENT
*S 2. THIS MODEL ASSUMES EXISTING CONDITIONS
*S
START               TIME=0.0
*S***** AHYMO -Nobhill Condos. DAT
*S***** DECEMBER 12, 2007
*S***** HYDROLOGY FOR ONE TEN RICHMOND ONSITE EXISTING

RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=2.01 IN RAIN SIX=2.35 IN RAIN DAY=2.7 IN
                    DT=0.0333 HR


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                   .0000   .0016   .0033   .0049   .0066   .0084   .0102
                   .0120   .0139   .0158   .0178   .0198   .0219   .0241
                   .0263   .0285   .0309   .0333   .0358   .0384   .0410
                   .0438   .0467   .0497   .0528   .0561   .0595   .0630
                   .0668   .0708   .0750   .0805   .0864   .0928   .1059
                   .1359   .1822   .2488   .3398   .4596   .6124   .8028
                  1.0352  1.2584  1.3500  1.4271  1.4955  1.5577  1.6150
                  1.6682  1.7178  1.7644  1.8082  1.8495  1.8885  1.9255
                  1.9605  1.9937  2.0252  2.0551  2.0835  2.0912  2.0972
                  2.1030  2.1085  2.1137  2.1188  2.1236  2.1282  2.1327
                  2.1370  2.1412  2.1452  2.1491  2.1529  2.1566  2.1602
                  2.1637  2.1671  2.1704  2.1737  2.1768  2.1799  2.1830
                  2.1859  2.1889  2.1917  2.1945  2.1973  2.2000  2.2026
                  2.2052  2.2078  2.2103  2.2128  2.2152  2.2176  2.2200
                  2.2223  2.2246  2.2268  2.2291  2.2313  2.2334  2.2356
                  2.2377  2.2397  2.2418  2.2438  2.2458  2.2478  2.2498
                  2.2517  2.2536  2.2555  2.2574  2.2592  2.2611  2.2629
                  2.2647  2.2664  2.2682  2.2699  2.2716  2.2733  2.2750
                  2.2767  2.2784  2.2800  2.2816  2.2832  2.2848  2.2864
                  2.2880  2.2895  2.2911  2.2926  2.2941  2.2956  2.2971
                  2.2986  2.3000  2.3015  2.3029  2.3044  2.3058  2.3072
                  2.3086  2.3100  2.3113  2.3127  2.3141  2.3154  2.3168
                  2.3181  2.3194  2.3207  2.3220  2.3233  2.3246  2.3259
                  2.3271  2.3284  2.3297  2.3309  2.3321  2.3334  2.3346
                  2.3358  2.3370  2.3382  2.3394  2.3406  2.3418  2.3429
                  2.3441  2.3452  2.3464  2.3475  2.3487  2.3498
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     UNIT PEAK =   2.8426    CFS   UNIT VOLUME =    .9955       B =   526.28      P60 = 2.0100
     AREA =      .000720 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .107446HR    TP =   .133300HR    K/TP RATIO =   .806046     SHAPE CONSTANT, N =  4.440701
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                                PARTIAL HYDROGRAPH   101.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000       .0          1.332        .7         2.664        .0         3.996        .0         5.328        .0
      .666       .0          1.998        .6         3.330        .0         4.662        .0         5.994        .0

     RUNOFF VOLUME =     2.01658 INCHES     =         .0860 ACRE-FEET
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     UNIT PEAK =   4.2757    CFS   UNIT VOLUME =    .9965       B =   526.28      P60 = 2.0100
     AREA =      .001083 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300


     K =   .107446HR    TP =   .133300HR    K/TP RATIO =   .806046     SHAPE CONSTANT, N =  4.440701
     UNIT PEAK =   .16401    CFS   UNIT VOLUME =    .9195       B =   383.55      P60 = 2.0100
     AREA =      .000057 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=2 CODE=24
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PARTIAL HYDROGRAPH 102.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
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.666	.0	1.998	.8	3.330	.0	4.662	.0	5.994	.0

RUNOFF VOLUME = 2.06596 INCHES = .1256 ACRE-FEET
PEAK DISCHARGE RATE = 3.39 CFS AT 1.499 HOURS BASIN AREA = .0011 SQ. MI.

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*S***** BASIN C - (0.33 ACRES)

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                     TP=0.1333 HR MASS RAINFALL=-1

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     UNIT PEAK =   2.0530    CFS   UNIT VOLUME =    .9941       B =   526.28      P60 = 2.0100
     AREA =      .000520 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD            ID=3 CODE=24
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PARTIAL HYDROGRAPH 103.00

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.666	.0	1.998	.4	3.330	.0	4.662	.0	5.994	.0

RUNOFF VOLUME = 2.11533 INCHES = .0587 ACRE-FEET
PEAK DISCHARGE RATE = 1.57 CFS AT 1.499 HOURS BASIN AREA = .0005 SQ. MI.

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*S
*S
FINISH

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AHYMO CALCULATION, DEVELOPED CONDITIONS

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*S    PREPARED FOR:  CITY
*S    PREPARED BY:  MARK GOODWIN & ASSOCIATES
*S
*S    MODEL DESCRIPTION -
*S 1. 100-YEAR 6-HOUR RAINFALL EVENT
*S 2. THIS MODEL ASSUMES DEVELOPED CONDITIONS
*S
START               TIME=0.0
*S***** AHYMO -Nobhill Condos. DAT
*S***** DECEMBER 12, 2007
*S***** HYDROLOGY FOR ONE TEN RICHMOND ONSITE DEVELOPED

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                    RAIN ONE=2.01 IN RAIN SIX=2.35 IN RAIN DAY=2.7 IN
                    DT=0.0333 HR


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                   .0263   .0285   .0309   .0333   .0358   .0384   .0410
                   .0438   .0467   .0497   .0528   .0561   .0595   .0630
                   .0668   .0708   .0750   .0805   .0864   .0928   .1059
                   .1359   .1822   .2488   .3398   .4596   .6124   .8028
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                  2.1030  2.1085  2.1137  2.1188  2.1236  2.1282  2.1327
                  2.1370  2.1412  2.1452  2.1491  2.1529  2.1566  2.1602
                  2.1637  2.1671  2.1704  2.1737  2.1768  2.1799  2.1830
                  2.1859  2.1889  2.1917  2.1945  2.1973  2.2000  2.2026
                  2.2052  2.2078  2.2103  2.2128  2.2152  2.2176  2.2200
                  2.2223  2.2246  2.2268  2.2291  2.2313  2.2334  2.2356
                  2.2377  2.2397  2.2418  2.2438  2.2458  2.2478  2.2498
                  2.2517  2.2536  2.2555  2.2574  2.2592  2.2611  2.2629
                  2.2647  2.2664  2.2682  2.2699  2.2716  2.2733  2.2750
                  2.2767  2.2784  2.2800  2.2816  2.2832  2.2848  2.2864
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                  2.2986  2.3000  2.3015  2.3029  2.3044  2.3058  2.3072
                  2.3086  2.3100  2.3113  2.3127  2.3141  2.3154  2.3168
                  2.3181  2.3194  2.3207  2.3220  2.3233  2.3246  2.3259
                  2.3271  2.3284  2.3297  2.3309  2.3321  2.3334  2.3346
                  2.3358  2.3370  2.3382  2.3394  2.3406  2.3418  2.3429
                  2.3441  2.3452  2.3464  2.3475  2.3487  2.3498
```

```
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     K =    .107446HR     TP =    .133300HR     K/TP RATIO =    .806046     SHAPE CONSTANT, N =  4.440701
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PRINT HYD            ID=1 CODE=24

                              PARTIAL HYDROGRAPH   101.00

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      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
     .000       .0           1.332       .7          2.664       .0          3.996       .0          5.328       .0
     .666       .0           1.998       .6          3.330       .0          4.662       .0          5.994       .0

     RUNOFF VOLUME =      2.01658 INCHES     =         .0893 ACRE-FEET
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*S***** BASIN II - (0.33 ACRES)

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     UNIT PEAK =   1.8299     CFS   UNIT VOLUME =     .9932       B =   526.28      P60 = 2.0100
     AREA =       .000464 SQ MI     IA =     .10000 INCHES     INF =     .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300


     K =    .107446HR     TP =    .133300HR     K/TP RATIO =    .806046     SHAPE CONSTANT, N =  4.440701
     UNIT PEAK =   .14818     CFS   UNIT VOLUME =     .9107       B =   383.55      P60 = 2.0100
     AREA =       .000052 SQ MI     IA =     .35000 INCHES     INF =     .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =    .033300

PRINT HYD            ID=2 CODE=24
```

PARTIAL HYDROGRAPH 102.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.332	.4	2.664	.0	3.996	.0	5.328	.0
.666	.0	1.998	.4	3.330	.0	4.662	.0	5.994	.0

RUNOFF VOLUME = 2.01658 INCHES = .0554 ACRE-FEET
PEAK DISCHARGE RATE = 1.52 CFS AT 1.499 HOURS BASIN AREA = .0005 SQ. MI.

*S***** BASIN III - (0.42 ACRES)

COMPUTE NM HYD ID=3 HYD NO=103 AREA=0.000656 SQ MI
PER A=0 PER B=00 PER C=3 PER D=97
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.5122 CFS UNIT VOLUME = .9948 B = 526.28 P60 = 2.0100
AREA = .000636 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

K = .107446HR TP = .133300HR K/TP RATIO = .806046 SHAPE CONSTANT, N = 4.440701
UNIT PEAK = .56626E-01CFS UNIT VOLUME = .8780 B = 383.55 P60 = 2.0100
AREA = .000020 SQ MI IA = .35000 INCHES INF = .83000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033300

PRINT HYD ID=3 CODE=24

PARTIAL HYDROGRAPH 103.00

TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS	TIME HRS	FLOW CFS
.000	.0	1.332	.6	2.664	.0	3.996	.0	5.328	.0
.666	.0	1.998	.5	3.330	.0	4.662	.0	5.994	.0

RUNOFF VOLUME = 2.08571 INCHES = .0730 ACRE-FEET
PEAK DISCHARGE RATE = 1.97 CFS AT 1.499 HOURS BASIN AREA = .0007 SQ. MI.

*S
*S***** BASIN IIIA - (0.02 ACRES)

COMPUTE NM HYD ID=4 HYD NO=104 AREA=0.00003 SQ MI
PER A=0 PER B=00 PER C=0 PER D=100
TP=0.1333 HR MASS RAINFALL=-1

```
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .11844    CFS   UNIT VOLUME =    .9031       B =   526.28      P60 = 2.0100
     AREA =      .000030 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD           ID=4 CODE=24

                                   PARTIAL HYDROGRAPH  104.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000       .0           .666       .0          1.332       .0          1.998       .0          2.664       .0

    RUNOFF VOLUME =     2.11533 INCHES     =        .0034 ACRE-FEET
    PEAK DISCHARGE RATE =        .10 CFS  AT   1.499 HOURS   BASIN AREA =    .0000 SQ. MI.



*S***** BASIN IV - (0.27 ACRES)

COMPUTE NM HYD      ID=5 HYD NO=105 AREA=0.000422 SQ MI
                    PER A=0 PER B=00 PER C=0 PER D=100
                    TP=0.1333 HR MASS RAINFALL=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   1.6661    CFS   UNIT VOLUME =    .9922       B =   526.28      P60 = 2.0100
     AREA =      .000422 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033300

PRINT HYD           ID=5 CODE=24

                                   PARTIAL HYDROGRAPH   105.00

     TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW          TIME      FLOW
      HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS           HRS       CFS
      .000       .0          1.332       .4          2.664       .0          3.996       .0          5.328       .0
      .666       .0          1.998       .3          3.330       .0          4.662       .0          5.994       .0

    RUNOFF VOLUME =     2.11533 INCHES     =        .0476 ACRE-FEET
    PEAK DISCHARGE RATE =       1.28 CFS  AT   1.499 HOURS   BASIN AREA =    .0004 SQ. MI.


*S
*S ADD THE ROUTED FLOW FROM II TO THE FLOW FROM III
ADD HYD             ID=6 HYD=II+III I=2 II=3
PRINT HYD           ID=6 CODE=1

                                   HYDROGRAPH FROM AREA II+III
```

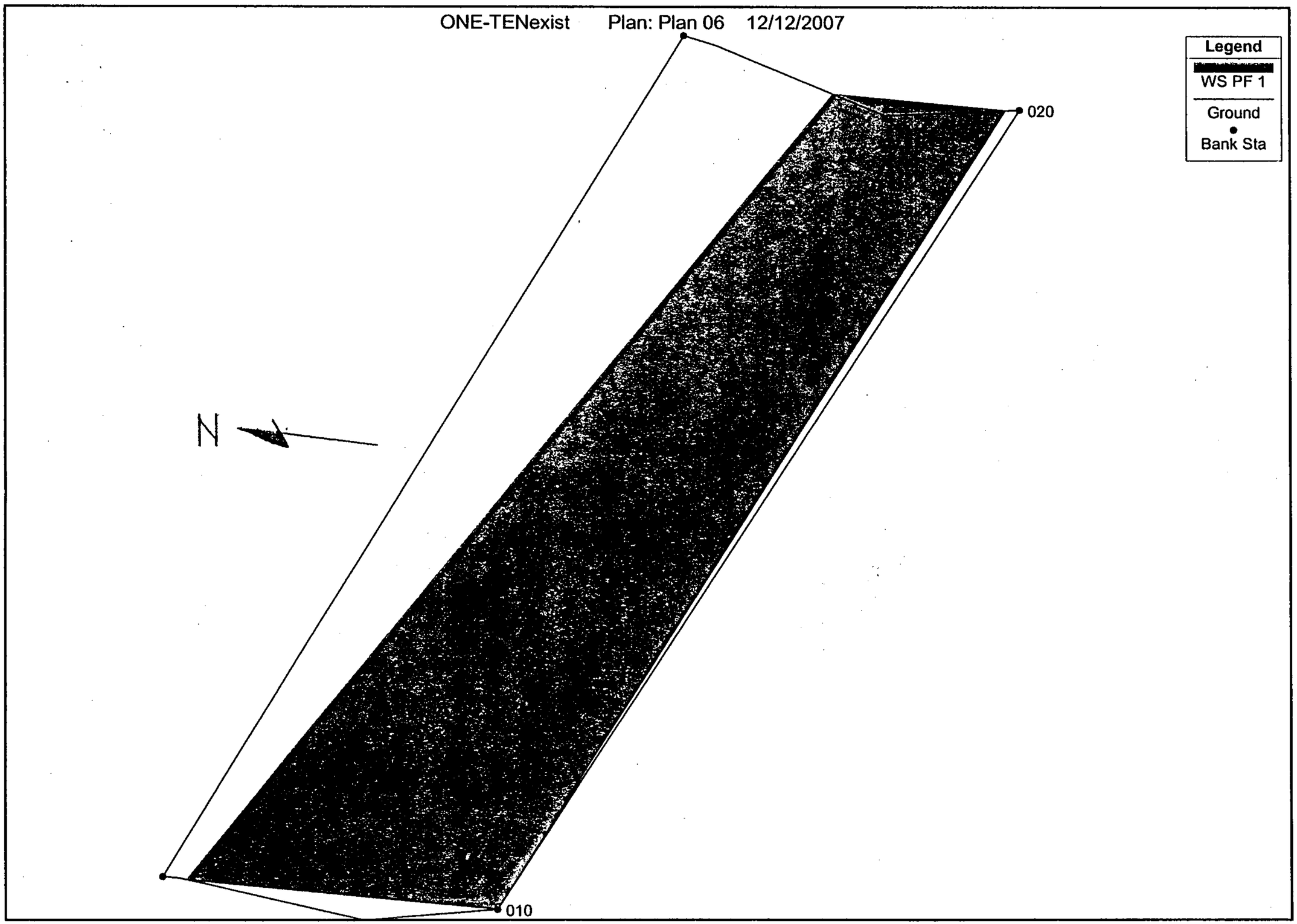
```
    RUNOFF VOLUME =      2.05484 INCHES      =         .1283 ACRE-FEET
    PEAK DISCHARGE RATE =        3.48 CFS  AT    1.499 HOURS    BASIN AREA =    .0012 SQ. MI.


*S
*S ADD THE ROUTED FLOW FROM IIIA TO THE FLOW FROM IV
ADD HYD                  ID=7 HYD=IIIA+IV I=4 II=5
PRINT HYD                ID=7 CODE=1

                                        HYDROGRAPH FROM AREA IIIA+IV


    RUNOFF VOLUME =      2.10806 INCHES      =         .0508 ACRE-FEET
    PEAK DISCHARGE RATE =        1.38 CFS  AT    1.499 HOURS    BASIN AREA =    .0005 SQ. MI.


*S
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 12:46:08
```

APPENDIX B

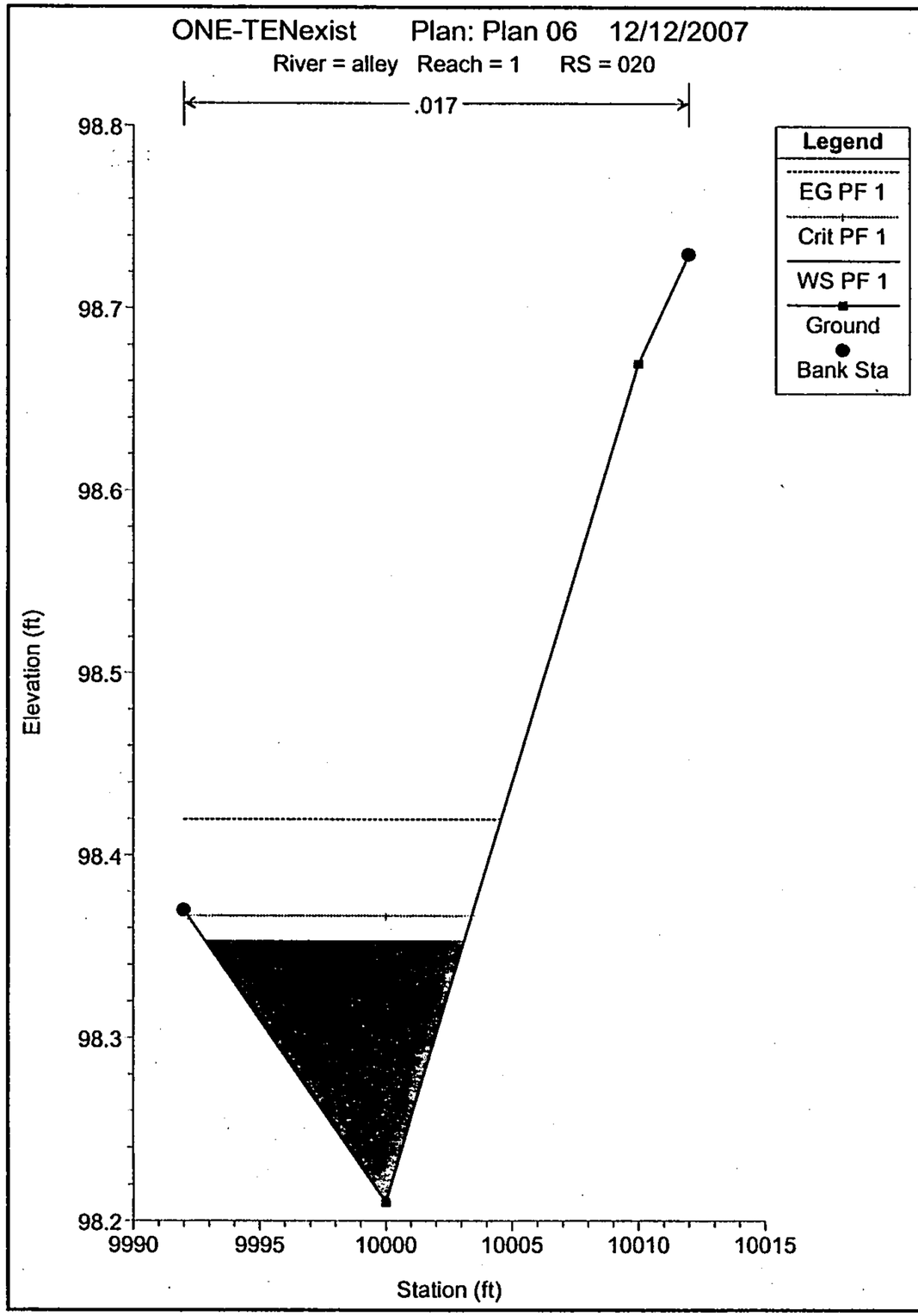
HYDRAULICS

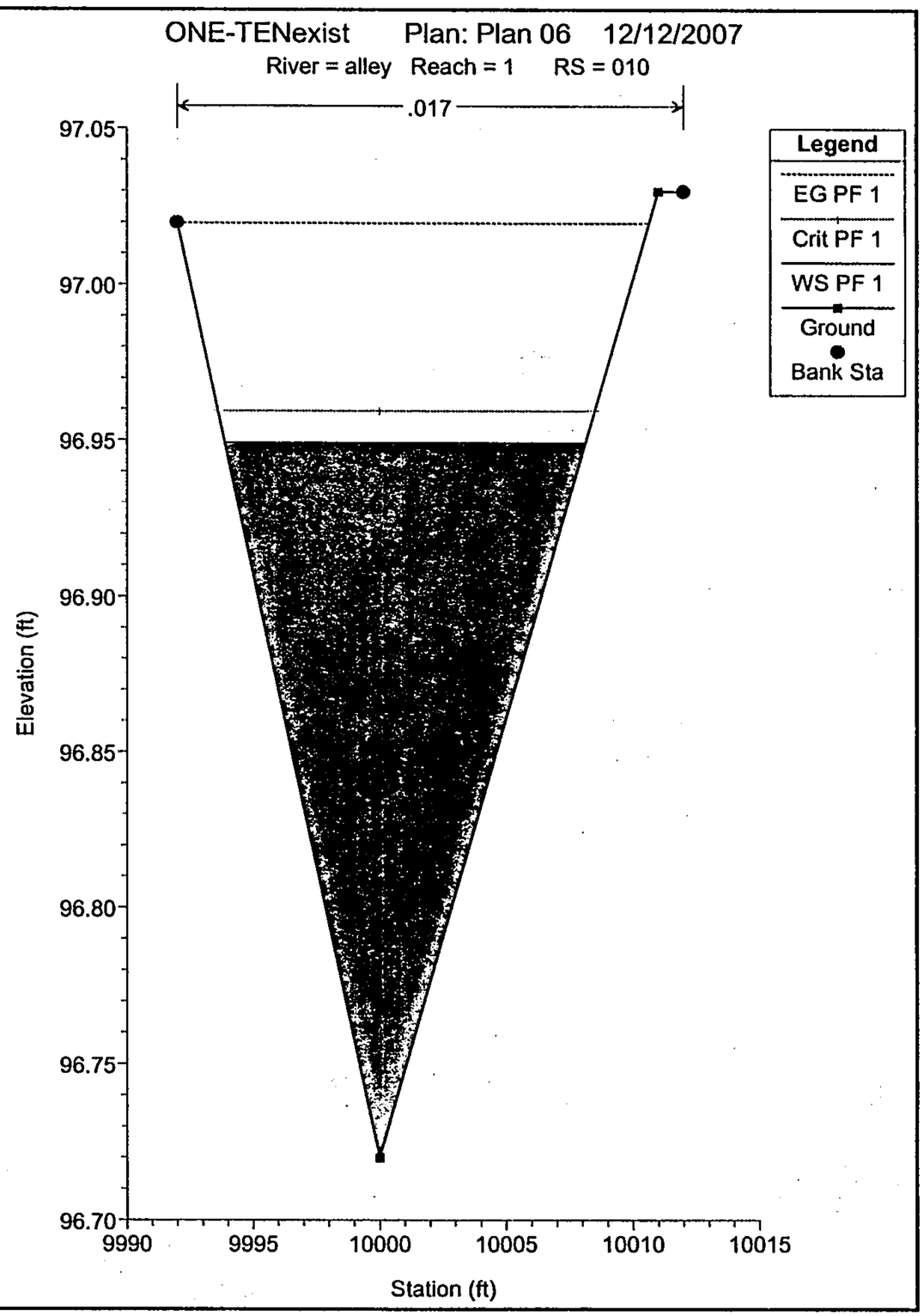
HEC-RAS CALCULATION, DEVELOPED CONDITIONS

HEC-RAS, DEVELOPED,



RICHMOND


ONE-TENexist Plan: Plan 06 12/12/2007
River = alley Reach = 1 RS = 020
.017
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
98.8
98.7
98.6
98.5
98.4
98.3
98.2
9990
9995
10000
10005
10010
10015
Station (ft)


ONE-TENexist Plan: Plan 06 12/12/2007
River = alley Reach = 1 RS = 010
.017
Legend
EG PF 1
Crit PF 1
WS PF 1
Ground
Bank Sta
Elevation (ft)
97.05
97.00
96.95
96.90
96.85
96.80
96.75
96.70
9990
9995
10000
10005
10010
10015
Station (ft)

HEC-RAS Plan: Plan 03 River: alley Reach: 1 Profile: PF 1

Reach	River Sta	Profile	Q Total	Min Ch El	W.S. Elev	Crit W.S.	E.G. Elev	E.G. Slope	Vel Chnl	Flow Area	Top Width	Froude # Chl
			(cfs)	(ft)	(ft)	(ft)	(ft)	(ft/ft)	(ft/s)	(sq ft)	(ft)	
1	020	PF 1	1.52	98.21	98.35	98.37	98.42	0.019009	2.07	0.73	10.25	1.37
1	010	PF 1	3.48	96.72	96.95	96.96	97.02	0.010681	2.13	1.63	14.25	1.11

CITY OF ALBUQUERQUE

January 11, 2008

James Lewis, R.A.
General Design, Inc.
1620 Central Ave. SE
Albuquerque, NM 87106

Re: Nob Hill Condos, 110 Richmond Ave SE (K16-D071), Traffic Circulation Layout
Architect's Stamp dated 8-06-07 (K16-D71)

Dear Mr. Lewis,

The TCL submittal received 1-11-08 is approved for Building Permit. The plan is stamped and signed as approved. A copy of this plan will be needed for each of the building permit plans. Please keep the original to be used for certification of the site for final C.O. for Transportation. **Public infrastructure or work done within City Right-of-Way shown on these plans is for information only and is not part of approval. A separate DRC and/or other appropriate permits are required to construct these items.**

If a temporary CO is needed, a copy of the original TCL that was stamped as approved by the City will be needed. This plan must include a statement that identifies the outstanding items that need to be constructed or the items that have not been built in "substantial compliance," as well as the signed and dated stamp of a NM registered architect or engineer. Submit this TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

When the site is completed and a final C.O. is requested, use the original City stamped approved TCL for certification. A NM registered architect or engineer must stamp, sign, and date the certification TCL along with indicating that the development was built in "substantial compliance" with the TCL. Submit this certification TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

Once verification of certification is completed and approved, notification will be made to Building Safety to issue Final C.O. To confirm that a final C.O. has been issued, call Building Safety at 924-3306.

Sincerely,

Kristal D. Metro, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

K-16/D71

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

Nob Hill Condos (REV 12/2005)

PROJECT TITLE: one ten richmond ZONE MAP: K-16

DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Tract A Block 40 University Heights Addn.

CITY ADDRESS: 110 richmond SE

ENGINEERING FIRM: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

OWNER: Kenny Hinkes CONTACT: —

ADDRESS: 9805 Greenbriar Rd NE PHONE: 798-1000

CITY, STATE: ABQ NM ZIP CODE: 87110

ARCHITECT: James C. Lewis Arch CONTACT: PHIL LIGHTEE

ADDRESS: 1620 Central Ave SE PHONE: 247-1529

CITY, STATE: ABQ NM ZIP CODE: 87106

SURVEYOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: _____ CONTACT: _____

ADDRESS: _____ PHONE: _____

CITY, STATE: _____ ZIP CODE: _____

TYPE OF SUBMITTAL:

_____ DRAINAGE REPORT
_____ DRAINAGE PLAN 1st SUBMITTAL
_____ DRAINAGE PLAN RESUBMITTAL
_____ CONCEPTUAL G & D PLAN
_____ GRADING PLAN
_____ EROSION CONTROL PLAN
_____ ENGINEER'S CERT (HYDROLOGY)
_____ CLOMR/LOMR
X TRAFFIC CIRCULATION LAYOUT
_____ ENGINEER'S CERT (TCL)
_____ ENGINEER'S CERT (DRB SITE PLAN)
_____ OTHER (SPECIFY)

CHECK TYPE OF APPROVAL SOUGHT:

_____ SIA/FINANCIAL GUARANTEE RELEASE
_____ PRELIMINARY PLAT APPROVAL
_____ S. DEV. PLAN FOR SUB'D APPROVAL
_____ S. DEV. FOR BLDG. PERMIT APPROVAL
_____ SECTOR PLAN APPROVAL
_____ FINAL PLAT APPROVAL
_____ FOUNDATION PERMIT APPROVAL
X 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:

X YES
_____ NO
_____ COPY PROVIDED

RECEIVED
JAN 11 2008
LAND DEVELOPMENT SECTION

TRANSPORTATION
APPROVED
1-11-08

DATE SUBMITTED: 1/10/08 BY: _____

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to 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 subdivision containing more than ten (10) lots or constituting five (5) acres or more.

FIRE MARSHAL

(505) 924-3611 Case # 3577-07

THIS WORK WILL REQUIRE A FIRE INSPECTION BY THIS OFFICE.

- All items listed below shall be installed in accordance with applicable fire codes prior to a building (or portion of a building) being occupied.
- All required fire hydrants shall be installed and operable before any building (or portion of the building) is occupied.
- An approved and adequate water supply shall be provided before any combustible materials are delivered to the building site.

NAME OF BUSINESS 110 Richmond Dr. S.E. STORE OR SPACE NO. 39,682
OCCUPANCY GROUP R-2, S-2 CONSTRUCTION TYPE V-B Sprink
FIRE FLOW REQ'D. 2689 Gpm 1677 FIRE HYDRANTS REQ'D. 2 - 8

PLANS DISAPPROVED RCA DATE 8-29-07
PLANS APPROVED Full DATE 1/7/08

PLANS CORRECTIONS REQUIRED:
(INDICATE ORDINANCE SECTION REFERENCE)

1) Existing fire hydrants do not meet distance requirements
2) Fire extinguisher coverage is inadequate on all levels, noted exception on code analysis sheet under 2003 I.F.C. does not apply to R-2, S-2 occupancies. (906.1)
3) Provide detail sheet for fire sprinkler system Post indicator valve.
4) Locations of Fire dept. connection and Post Indicator valve shall be approved by this office.
5) Fire sprinkler system shop drawings must be submitted for review & approval prior to construction of system
6) Fire Alarm system shop drawings shall be submitted for review & approval prior to installation of system.
7) Provide Knox box for fire dept access.

RECEIVED
JAN 11 2008
LAND DEVELOPMENT SECTION

INTI

(505) 924-

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CITY OF ALBUQUERQUE

Planning Department
Transportation Development Services Section

January 3, 2008

James Lewis, R.A.
General Design, Inc.
1620 Central Ave. SE
Albuquerque, NM 87106

Re: TCL Submittal for Building Permit Approval for
110 Richmond [K16 / D071]
Architect Stamp, 08/06/07

Dear Mr. Baker:

The location referenced above, dated December 19, 2007, is not acceptable and requires modification to the Traffic Circulation Layout (TCL) prior to Building Permit release as stated on the attached *Site Plan*, and red-lined TCL markup with comments.

Public infrastructure or work required within City of Albuquerque Right-of-way shown on these plans is for information only and will need a separate DRC work order to construct these items (If applicable).

Please resubmit revised TCL after addressing typed and marked up comments. Submit plan along with checklist and all current and past red-lined, mark-up copies. Contact me at (505)924-3630 if you need any further instruction for resubmittal.

Sincerely,

Nilo Salgado-Fernandez, P.E.
Senior Traffic Engineer
Development and Building Services
Planning Department

c: Engineer
Hydrology file
File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

CITY OF ALBUQUERQUE

October 16, 2007

James Lewis, R.A.
General Design, Inc.
1620 Central Ave. SE
Albuquerque, NM 87106

Re: Nob Hill Condos, 110 Richmond Ave SE, Traffic Circulation Layout
Architect's Stamp dated 8-06-07 (K16-D071)

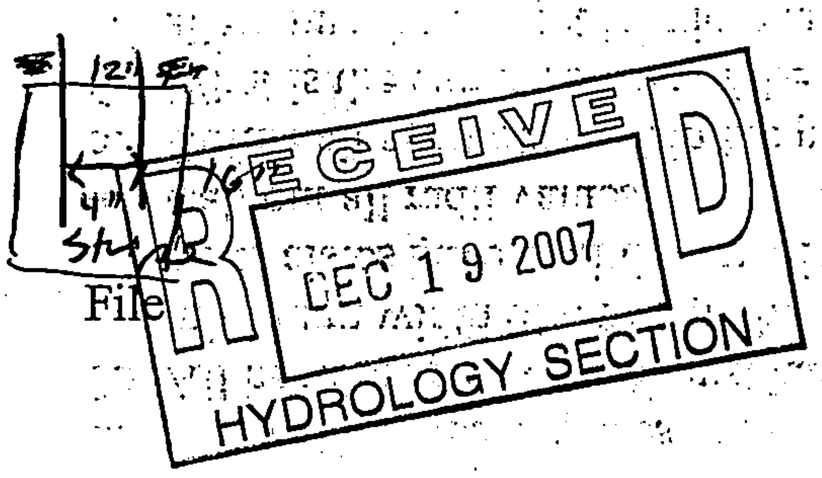
Dear Mr. Lewis,

Based upon the information provided in your submittal received 10-03-07, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. The aisle widths shown at the entrance and exit for the underground parking are very narrow. Please justify these widths. Doors are 8' wide
2. Label all compact spaces with the word "compact."
3. All handicapped spaces must have a striped aisle. One aisle must have a minimum width of 8 feet (to be designated as a "van access aisle"), and the other aisles have a minimum width of 5 feet.
4. Call out all radii values.
5. Define all symbols used in the plan.
6. What is the current status of the alley? To take access off of the alley, the alley must be ~~24~~ feet in width and paved. A work order will be required for the paving. 20' ROW
7. A wall appears to block the access aisle for the handicapped spaces; does the eastern space have a 5 foot minimum aisle?
8. Parking spaces along the alley should be offset a minimum of 2 feet from the alley.
9. All wheelchair ramps located within the City right of way must have truncated domes. - No ramps, dropped per CoA Std
10. A re-plat or cross lot access easement is needed. - in process

If you have any questions, you can contact me at 924-3981.

12"x 16" Column



Sincerely,

Kristal D. Metro, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: File

P.O. Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

CITY OF ALBUQUERQUE

February 9, 2007

D. Mark Goodwin, P.E.
D. Mark Goodwin & Associates, P.A.
PO Box 90606
Albuquerque, NM 87199

Re: Nob Hill Condos, Engineer's Stamp Dated 8-10-07, (K16/D71)
Lots 1A, 1B, 2 and 3 of the University Heights Addition

Dear Mr. Mackenzie,

Based upon the information provided in your submittal received on August 9, 2007, there are items that must be revised prior to permit approval. Those items are as follows.

- The scale is mislabeled.
- Remove all references to Silver Tree Park from the AHYMO calculations.
- Will the new sidewalks be constructed per standard drawing 2430? Will the "standup curb and gutter" be built per standard drawing 2415A? Please cite all applicable standard drawings or provide a detail.
- Indicate where the transition(s) from estate to stand up curb will occur.
- What is the floodplain status? Please give this information and specifically reference the appropriate F.I.R.M panel.
- Please provide a copy of the manufacturer's cut sheet for the new sump pump.
- Due to the dedication of additional right-of-way as well as the structure's location on top of existing lot lines, a replatting action is required. Has that process been initiated?
- What are the finished floor elevations for the new structure and the existing structure to the south?
- You call out a new alley entrance at Richmond to be constructed per standard drawing 2425. That detail is for a typical drive pad. Is this correct or was it intended to reference an alley intersection (2428)?
- Where will the roof drains be located and to what point will they discharge? Will they connect to the trench drains?
- What do the three (3) rectangles at the northeast corner and the open rectangle at the northwest corner of the site represent? What does the triangle / pointer at the eastern entrance represent? Please add notes and / or legend entries to clarify.
- Please show the location of the relocated utilities and define the extents of the pavement cuts.

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

- Will you be providing an opening in the pre-cast wall to allow for easterly drainage or is the intention to drain that area west to Richmond thus requiring a sidewalk culvert? Why does the curb not extend east to the pre-cast wall?
- Arial photographs suggest but are unclear as to the presence of valley gutter within the adjacent alleys. Is that infrastructure present? If not, its construction may be necessary since you will now be draining east and adding flow to the alley instead of draining west Richmond. Please show this on the plan.

If you have any questions, you can contact me at 924-3990.

Sincerely,

Jeremy Hoover, P.E., C.F.M.
Senior Engineer
Hydrology Section
Development and Building Services

cc: file F10/D13