City of Albuquerque
Planning Department
505-924-3900 (main number)
505-924-3864 (fax number)
Development and Building Services (One Stop Shop)
Plaza Del Sol Building, 2nd Floor
600 2nd Street NW
Albuquerque, NM 87102

City of Albuquerque
Planning Dept.
Dev. & Bldg. Srvcs.

Fax

To: Susan **From:** Arlene

Copies to:

Fax: **Pages Sent:** 2 (including this page)

Phone: **Date:** 5/30/06

Time: 2:40 pm

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

COMMENTS:

05/30/06 TUE 14:35 FAX 5059243864 001

****
*** TX REPORT ***
****

TRANSMISSION OK

TX/RX NO	0308
CONNECTION TEL	9p7979539
SUBADDRESS	
CONNECTION ID	MARK GOODWIN
ST. TIME	05/30 14:34
USAGE T	00'43
PGS.	2
RESULT	OK

City of Albuquerque
Planning Department
505-924-3900 (main number)
505-924-3864 (fax number)
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COMMENTS:

CITY OF ALBUQUERQUE

March 29, 2006

Mr. John MacKenzie, PE
MARK GOODWIN & ASSOCIATES
P.O. Box 90606
Albuquerque, NM 87199

RE: GLENWOOD LOFTS (G-23/D8)
Engineers Certification for Release of Financial Guaranty
Engineers Stamp dated 09/14/2005
Engineers Certification dated 03/29/2006

Dear John:

Based upon the information provided in your Engineer's Certification Submittal dated 03/29/2006, the above referenced plan is adequate to satisfy the Grading and Drainage Certification for Release of Financial Guaranty.

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

Sincerely,

Arlene V. Portillo
Plan Checker, Planning Dept.- Hydrology
Development and Building Services

C: Marilyn Maldonado, COA# 762981
File

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

CITY OF ALBUQUERQUE

March 29, 2006

Mr. John MacKenzie, PE
MARK GOODWIN & ASSOCIATES
P.O. Box 90606
Albuquerque, NM 87199

RE: GLENWOOD LOFTS (G-23/D8)
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Arlene V. Portillo

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

C: Marilyn Maldonado, COA# 762981
File

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Glenwood Lofts
DRB #: _ EPC#:_____

ZONE MAP/DRG. FILE #:G23/D8
WORK ORDER#:762981

LEGAL DESCRIPTION: _____
CITY ADDRESS:_____

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

CONTACT: Scott Davis
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Glenwood Lofts, LLC
ADDRESS: 8300 Carmel NE, Suiote 201
CITY, STATE: Albuquerque, NM

CONTACT: Kenny Hinkes
PHONE: 798-1000
ZIP CODE: _____

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE:
ZIP CODE: _____

SURVEYOR: _____
ADDRESS: _____
CITY, STATE: Albuquerque, NM

CONTACT: _____
PHONE: _____
ZIP CODE: 87107

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
MAR 29 2006
HYDROLOGY SECTION

DATE SUBMITTED: 3-29 BY: Scott Davis

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.

CITY OF ALBUQUERQUE

August 30, 2005

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

Re: Glenwood Lofts Subdivision, SE corner of Tramway & Montgomery
Grading and Drainage Plan - Engineer's Stamp dated 8-23-05 (G23–D8)

Dear Mr. MacKenzie,

Based upon information provided in your submittal dated 8-24-05, the above referenced plan is approved as amended. This will be the plan that must be certified for Release of Financial Guaranty. Submit a mylar copy of the grading plan for my signature in order to obtain a Grading Permit.

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

Sincerely,

Phillip J. Lovato, E.I., C.F.M.
Engineering Associate, Hydrology,
Development and Building Services,
Planning Department

cc: file

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

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Glenwood Lofts Subdivision
DRB #: _____ EPC#:____

ZONE MAP/DRG. FILE #:G-23 D8
WORK ORDER#:_____

LEGAL DESCRIPTION: _____
CITY ADDRESS:

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

CONTACT: Scott Davis
PHONE: 828-2200
ZIP CODE: 87199

OWNER: Glenwood Lofts, LLC
ADDRESS: 8300 Carmel NE, Suite 201
CITY, STATE: Albuquerque, NM

CONTACT: Kenny Hinkes
PHONE: 798-1000
ZIP CODE: 87122

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE:
ZIP CODE: _____

SURVEYOR: Aldrich Land Surveying
ADDRESS: PO Box 30701
CITY, STATE: Albuquerque, NM

CONTACT: Tim Aldrich
PHONE: 884-1990
ZIP CODE: 87190-0701

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 AMENDED
- ☐ 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
AUG 24 2005
HYDROLOGY S

DATE SUBMITTED:8-24-05

BY: Scott Davis

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.

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

24 August 2005

Brad Bingham
Senior Engineer
Plaza Del Sol
620 2nd NW
Albuquerque, NM 87103

Re: Glenwood Lofts (G23-D8)

Dear Mr. Bingham:

In an attempt to balance the earthwork on the site, the grading plan has been changed slightly from the earlier approved plan. Pad grades on lots 1-4, and 19-24 were adjusted to generate more material. In addition, there was a minor change to the grades on Prairie Loft near the south end of the project. The developed drainage pattern, as defined in the previously approved report for this project, does not change.

If you have any questions regarding the changes made, please feel free to contact me.

Sincerely,

MARK GOODWIN & ASSOCIATES

Scott Davis
Project Engineer

MARK GOODWIN & ASSOCIATES, PA

LETTER OF TRANSMITTAL

TO: Brad Bingham – City of Albuq. **DATE:** August 24, 2005

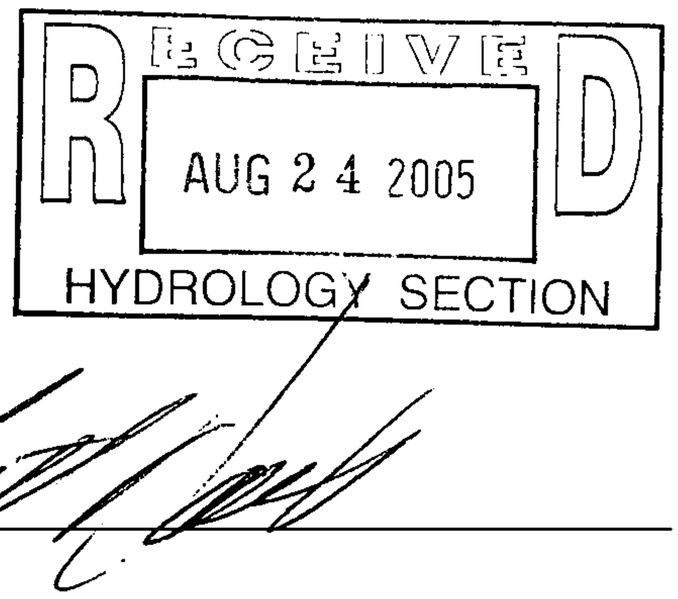
RE: G-23/D8

Glenwood Lofts

ITEMS BEING TRANSMITTED

1	Revised Grading Plan Submittal

PROJECT ENGINEER: Scott Davis .



P.O. Box 90606 ♦ Albuquerque, NM 87199 ♦ (505) 828-2200 ♦ (505) 797-9539 fax

CITY OF ALBUQUERQUE

September 20, 2005

John M. MacKenzie, PE.
Mark Goodwin & Associates, PA.
PO Box 90606
Albuquerque, NM 87199

Re: Glenwood Lofts Subdivision, Grading and Drainage Plan
Engineer's Stamp dated 9-14-05 (G23-D8)

Dear Mr. MacKenzie,

Based upon the information provided in your submittal dated 9-14-05, the above referenced plan is approved as Amended. This is now the plan that must be Certified for Release of SIA.

If you have any questions, you can contact me at 924-3695.

Sincerely,

Rudy E. Rael Associate Engineer
Planning Department.
Development and Building Services

C: Chuck Carusso DMD
CC: file

P.O. Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Glenwood Lofts
DRB #: _____ EPC#:____

ZONE MAP/DRG. FILE #:G23/D8
WORK ORDER#:_____

LEGAL DESCRIPTION: _____
CITY ADDRESS:

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

CONTACT: SCOTT DAVIS
PHONE: 828-2200
ZIP CODE: 87199

OWNER: GLENWOOD LOFTS, LLC
ADDRESS: 8300 CARMEL NE, SUITE 201
CITY, STATE: ALBUQUERQUE, NM

CONTACT: KENNY HINKES
PHONE: 798-1000
ZIP CODE: 87122

ARCHITECT: _____
ADDRESS: _____
CITY, STATE: _____

CONTACT: _____
PHONE:
ZIP CODE: _____

SURVEYOR: Aldrich Land Surveying
ADDRESS: PO Box 30701
CITY, STATE: Albuquerque, NM

CONTACT: Tim Aldrich
PHONE: 884-1990
ZIP CODE: 87190-0701

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 (Rough Grad)
- ☐ 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
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- ☐ 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
SEP 14 2005
HYDROLOGY SECTION

DATE SUBMITTED:9-14-05

BY:SCOTT DAVIS

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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3. **Drainage Report**: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or more.

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

September 14, 2005

Phillip Lovato
Engineering Associate, Hydrology
Development and Building Services
Planning Department

Re: Glenwood Lofts Subdivision (G23-D8)

Dear Mr. Lovato:

Some minor changes to the previously approved plan, approved by your office per August 30, 2005 letter, have been made per DRC comments, and field conditions. As you will note in reviewing the revised plan, there is no changes to the drainage management plan associated with this project. Please update your files with this plan.

If you have any questions, feel free to call.

Sincerely,

MARK GOODWIN & ASSOCIATES

Scott Davis
Project Engineer

CITY OF ALBUQUERQUE

May 25, 2005

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

Re: Glenwood Lofts, Southeast Corner of Tramway Blvd and Montgomery Blvd NE, Preliminary Plat
Engineer's Stamp dated 5-06-05 (G23-D8)

Dear Mr. MacKenzie,

Based upon the information provided in your submittal received 5-06-05, the above referenced plan is approved for Preliminary Plat action by the DRB. Once the DRB has approved the plan, please submit a mylar copy to me in order to obtain rough grading approval.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit. If you have any questions regarding this permit please feel free to call the DMD Storm Drainage Design section at 768-3654 (Charles Caruso).

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

Sincerely,

Kristal D. Metro
Engineering Associate, Planning Dept.
Development and Building Services

C: Charles Caruso, DMD Storm Drainage Design
Bradley Bingham, DRB
file

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

DRAINAGE INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Glenwood Lofts (Resubmittal) ZONE MAP/DRG #: G-23/D8

DRB#: _____ EPC #: _____ W.O.#: _____

LEGAL DESCRIPTION: _____

CITY ADDRESS: _____

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	
ADDRESS:	PO Box 90606	PHONE:	828-2200
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87199
OWNER:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
ARCHITECT:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Aldrich Land Surveying	CONTACT:	Tim Aldirch
ADDRESS:	P.O. Box 30701	PHONE:	884-1990
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87190-0701
CONTRACTOR:		CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN 1ST SUBMITTAL, ~~req.~~ TCL or equal
- X DRAINAGE PLAN RESUBMITTAL
- X CONCEPTUAL GRADING & DRAINAGE PLAN
- X GRADING PLAN
- ____ EROSION CONTROL PLAN
- ____ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ____ CLOMR/LOMR
- ____ TRAFFIC CIRCULATION LAYOUT (TCL)
- ____ ENGINEER'S CERTIFICATION (TCL)
- ____ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
- ____ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ____ SIA / FINANCIAL GUARANTEE RELEASE
- X 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)
- X GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ OTHER (specify) _____

WAS A PRE-DESIGN CONFERENCE ATTENDED?

- ____ YES
- ____ NO
- ____ COPY PROVIDED

DATE SUBMITTED: 5/6/05 BY: _____

RECEIVED
MAY 06 2005
HYDROLOGY SECTION

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

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

Need copy of updated Grading & Drainage
Plan w/ [redacted] w/ stamp
date 5-6-05

DRAINAGE REPORT
for
GLENWOOD LOFTS

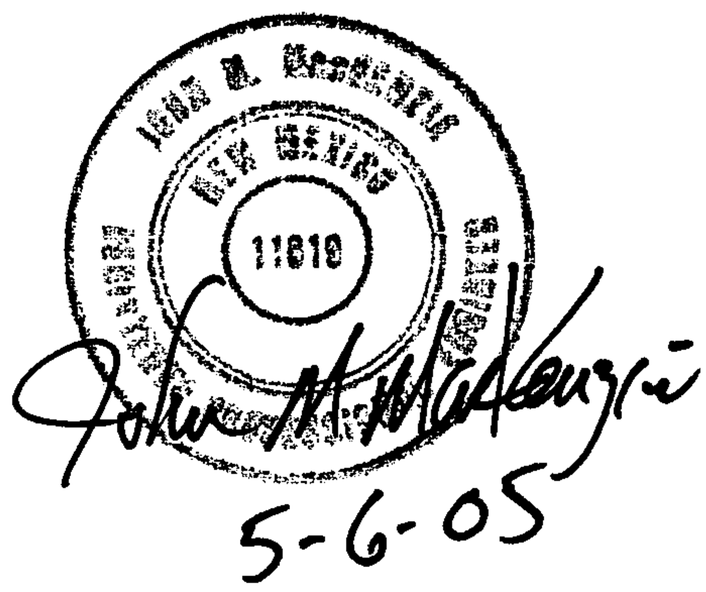
Prepared for

Mainstreet Properties, LLC
c/o Kenny Hinkis
8300 Carmel NE, Suite 201
Albuquerque, NM 87122
(505) 798-1000

Prepared by

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

May 2005



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APPENDIX B ..... *HYDRAULIC CALCULATIONS*

APPENDIX C ..... *DRAINAGE CALCULATIONS*

PLATES

PLATE 1 ..... *GRADING & DRAINAGE PLAN*

PURPOSE

This report has been prepared in support of the development of a 2.1 acre site located southeast of the intersection of Tramway Blvd NE and Montgomery Blvd NE. The proposed development includes a total of 24 single-family town home units.

EXISTING DRAINAGE CONDITIONS

In the existing state, the site is comprised of two individual lots. A currently vacant building is located on the northernmost lot at the southeast corner of the aforementioned intersection. Plans call for this structure to be razed with this development. Currently, storm flows form the structure's roof and parking lot discharge to the southwest to the Tramway Blvd right-of-way.

The southern portion of this site is currently undeveloped with sparse native vegetation. The site slopes to the southwest at approximately a 2%-4% grade. Similar to the northern lot, runoff surface discharges to Tramway Blvd.

Spanish Bit Street fronts, and is higher than this site, along its eastern boundary. The Spanish Bit street section includes 8" vertical curb on both the east, and west sides of the street. Storm flows generated within Spanish Bit, and contributing flows generated from a paved park and ride site to the east, are directed south in the street to existing Single 'A', and Double 'A' drop inlets located on both sides of the street. The collected storm flows are then routed via a 24" storm drain across the southern boundary of this site to a 48" storm drain within Tramway Boulevard. With concrete drive pads at the two existing driveways to this site from Spanish Bit, no off-site flows impact the property in the existing state.

DEVELOPED DRAINAGE CONDITIONS

An existing 48" storm drain runs parallel to this site along its western boundary within the Tramway Blvd right-of-way. A manhole on that line exists near the southwest quadrant of this site along the west edge of an existing asphalt recreational trail.

As reflected on the enclosed grading and drainage plan, the majority of the developed site (Basin D-1) will surface discharge to the new on-site street. Sloping from north to south, the collected flows will be routed within the street to the south side of the site. Adequately sized drop inlets will be placed within the street to collect the flows. The collected flows will be conveyed, via a storm drain lateral, to the existing 24" line

which is located 4' off of the southern property line. Due to the depth of the existing line, and it's close proximity to an existing block wall on the southern property line, it is proposed that a storm drain wye connection be made to the existing line, rather than a manhole.

The remaining on-site flows (Basin D-2) originate from the rear roof areas and the backyards of the homes along Tramway. It is proposed that these flows collect at the southwest corner of those lots, and surface discharge via back wall weep holes (weep holes to be placed 6" above the ground surface elevation) to Tramway Blvd. With the back yard ponding proposed, 55 cubic feet of floodwaters will be detained within the back yards prior to any discharge entering the Tramway ROW.

Lots 1-4, located along the east side of the new on-site road, are shown with all roof areas draining to the front, or sides. Due to the grade differential between these lots and Spanish Bit Street, it is proposed that backyard generated storm water remain within each backyard.

As depicted on the site grading plan, water blocks are proposed at all three intersections with Spanish Bit Street. With that, no off-site storm waters impact this site upon the completion of development.

SUMMARY

With the development of this site in the manner proposed in this report, the 100-year surface discharge to the Tramway Blvd right-of-way will be reduced from approximately 7.6 cfs to 1.5 cfs. Further, since this site is adjacent to the regional storm drain line, waters discharging from this site will pass through the system prior to storm water from the upper reaches of the basin. Developing the Glenwood Lofts Subdivision in the manner presented will cause no adverse impact downstream of the site.

F-22-Z F-23-Z F-24-Z

G-22-Z G-24-Z

H-22-Z H-24-Z

H-23-Z

UNPLATTED

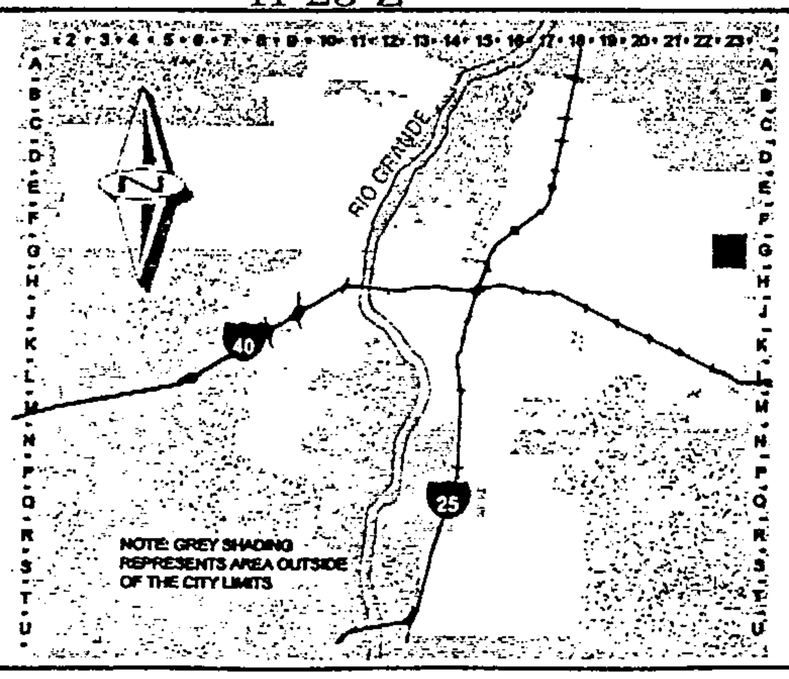
Zone Atlas Page: **G-23-Z**

Map amended through: **Aug 06, 2004**

Selected Symbols

- Unincorporated Areas
- Sector Plan Boundaries
- Parcel Boundaries
- Easement Lines
- Freeway Lanes
- Jurisdictional Boundaries
- Westgate Wall
- Escarpment
- Grant Boundaries
- Petroglyph
- H-1 Buffer Zone
- Arroyos
- LDN Noise Level
- Airport Clearance Zone
- Design Overlay Zones

0 750 1,500 Feet



CITY OF ALBUQUERQUE 1706 THREE HUNDRED YEARS 1706 • 2006 ALBUQUERQUE Haciendo Historia

A lbuquerque G eographic I nformation S ystem

PLANNING DEPARTMENT

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
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PROJECT GLENWOOD LOFTS
SUBJECT DRAINAGE CALCS.
BY JSO DATE 4-22-05
CHECKED _____ DATE _____
SHEET ____ OF ____

# GLENWOOD LOFTS DEVELOPED DRAINAGE
AREA = 2.055 ACRES

1. FIND Q PER LOT:

PADS = 25'X60' = 1500 SF
DRIVES = 1/2(15'X27') = 2035 SF
1,703 SF

∴ 1,703 SF X 24 LOTS = 40,872 SF = 0.94AC → 'D'

2. FIND Q GENERETED FROM ROAD AND PARKING AREAS:

ROW = 31'X620' = 19,220 SF = .44AC
FOR ROADS, USE 100% 'D'
PARKING
(50'X55') + (8'X185') + (40'X65') + (8'X60')
= 7,310 SF = 0.17AC → 'D'

3. TREATMENT TOTALS:

'D' = 0.94AC + 0.44AC + 0.17AC = 1.55 AC → 75.4%
'B' = 2.055AC - 1.55AC = 0.505AC → 24.6%

4. RAINFALL:

P_1 = 2.14 IN., P_6 = 2.60 IN.

5. FIND Q PONDING IN BACKYARDS:

1/3 OF EACH ROOF + BACKYARD
'D' = (25'X20') • 20 LOTS = 10,000 SF = 0.23AC
'B' = (10'X25') + 1/2(5'•18') • 20 = 5900 SF = 0.14AC

6. AHYMO SUMMARY

EXISTING: Q = 7.66 CFS
DEVELOPED: Q = 9.07 CFS
BACKYARDS: Q = 1.54 CFS OR 0.077 CFS/LOT

7. BACKYARD DETENTION PONDS FOR HOMES ALONG TRAMWAY
Q = .077 CFS VOL = .0028 AC-FT = 122 CF
DESIGN VOL = 1/3(.5)(312.5+0) + ($\sqrt{312.5+0}$) = 55 CF
SET WALL DRAIN @ FP ELEV., 6" ABOVE LOW PT. IN BACK YARDS.

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PROJECT Glenwood Lofts
SUBJECT Drainage Calcs
BY JSD DATE 2-19-05
CHECKED _____ DATE _____
SHEET 2 OF 2

1. Look at Street carrying capacity

- Proposed section is 20'F-F, roll curb
- Look @ 'worst case' - where S = 1.10 %
- Q in street:

From AHYMD run, Q from entire site less the runoff surface discharging to Tramway equals the Q being carried in the street.

$Q_{street} = 8.96 - 1.54 = 7.42$ cfs

Use a depth of flow = 0.33'

$A = [(.33-.20)\cdot 20] + [2(.1\cdot 10)] = 4.6$ sf

$R_h = A/WP = 4.6/(20+.66) = .22$

$V = 1.49(R)^{2/3}(S)^{1/2}/n = 1.49(.22)^{2/3}(.011)^{1/2}/.017 = 3.33$ fps

$Q = VA = 3.33(4.6) = 15.33$ cfs

$15.33 > 7.42 \rightarrow$ OK

Is $.33 + V^2/2g < .53$?

$.33 + (3.33)^2/64.4 = .50 \rightarrow$ OK

2. Inlet Requirement

- The proposed drop inlets will be placed within a sump area at the south end of the onsite street. A single C' will be placed on either side of street @ low point in sump. If one were to become clogged, water would cross to other side inlet.

```
START              TIME=0.0
*****              GLENWOOD LOFTS
*****              CALCULATE & ROUTE STORM FLOWS
*****              USE 100 YEAR 6 HOUR STORM EVENT
*****              FILE:  GLENWOODLOFTS.DAT     2-07-05 JSD
**************************************************************
RAINFALL           TYPE=1 RAIN QUARTER=0.0 IN
                   RAIN ONE=2.14 IN RAIN SIX=2.60 IN
                   DT=0.03333 HR
**************************************************************
*****
*****FIRST LOOK AT EXISTING FLOW
*****
COMPUTE NM HYD          ID=1 HYD NO=101.0 AREA=0.0032 SQ MI
                  PER A=0 PER B=0 PER C=82 PER D=18
                  TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD         ID=1 CODE=1
*****
*****DETERMINE DEVELOPED FLOW FOR ENTIRE SITE
*****
COMPUTE NM HYD          ID=2 HYD NO=102.0 AREA=0.0032 SQ MI
                  PER A=0 PER B=27 PER C=0 PER D=73
                  TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD         ID=2 CODE=1
*****
*****LOOK AT AMOUNT OF BACKYARD FLOWS SURFACE DISCHARGING TO TRAMWAY
*****
COMPUTE NM HYD          ID=3 HYD NO=103.0 AREA=0.000578 SQ MI
                  PER A=0 PER B=38 PER C=0 PER D=62
                  TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD         ID=3 CODE=1
FINISH
```

```
          AHYMO PROGRAM (AHYMO_97) -                              - Version:
1997.02d
               RUN DATE (MON/DAY/YR) = 02/09/2005
               START TIME (HR:MIN:SEC) = 12:58:00     USER NO.= AHYMO-I-
9702dGoodwinM-AH
               INPUT FILE = C:\PROGRA~1\AHYMO_97\GLENWO~1.DAT\GLENWO~1.DAT


     START                          TIME=0.0
     *****                          GLENWOOD LOFTS
     *****                          CALCULATE & ROUTE STORM FLOWS
     *****                          USE 100 YEAR 6 HOUR STORM EVENT
     *****                          FILE:  GLENWOODLOFTS.DAT     2-07-05 JSD
     ********************************************************************
       RAINFALL                   TYPE=1 RAIN QUARTER=0.0 IN
                                       RAIN ONE=2.14 IN RAIN SIX=2.60 IN
                                       DT=0.03333 HR

                                COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS
2 - PEAK AT 1.40 HR.
                                DT =     .033333 HOURS        END TIME =     5.999940 HOURS
                                   .0000   .0027   .0055   .0084   .0113   .0143   .0173
                                   .0204   .0236   .0269   .0302   .0337   .0372   .0408
                                   .0445   .0484   .0523   .0564   .0606   .0649   .0694
                                   .0741   .0789   .0839   .0892   .0946   .1004   .1063
                                   .1126   .1193   .1263   .1322   .1385   .1453   .1598
                                   .1923   .2424   .3142   .4123   .5412   .7055   .9101
                                  1.1598  1.3908  1.4874  1.5690  1.6417  1.7077  1.7685
                                  1.8250  1.8777  1.9272  1.9737  2.0176  2.0591  2.0984
                                  2.1356  2.1708  2.2043  2.2361  2.2662  2.2737  2.2808
                                  2.2875  2.2939  2.3001  2.3061  2.3118  2.3173  2.3226
                                  2.3278  2.3328  2.3376  2.3424  2.3470  2.3515  2.3558
                                  2.3601  2.3643  2.3684  2.3724  2.3763  2.3801  2.3838
                                  2.3875  2.3911  2.3947  2.3982  2.4016  2.4050  2.4083
                                  2.4116  2.4148  2.4179  2.4210  2.4241  2.4271  2.4301
                                  2.4331  2.4360  2.4388  2.4417  2.4445  2.4472  2.4499
                                  2.4526  2.4553  2.4579  2.4605  2.4631  2.4656  2.4682
                                  2.4706  2.4731  2.4755  2.4780  2.4803  2.4827  2.4851
                                  2.4874  2.4897  2.4919  2.4942  2.4964  2.4986  2.5008
                                  2.5030  2.5052  2.5073  2.5094  2.5115  2.5136  2.5157
                                  2.5177  2.5198  2.5218  2.5238  2.5258  2.5278  2.5297
                                  2.5317  2.5336  2.5355  2.5374  2.5393  2.5412  2.5431
                                  2.5449  2.5468  2.5486  2.5504  2.5522  2.5540  2.5558
                                  2.5575  2.5593  2.5610  2.5628  2.5645  2.5662  2.5679
                                  2.5696  2.5713  2.5730  2.5746  2.5763  2.5779  2.5795
                                  2.5812  2.5828  2.5844  2.5860  2.5876  2.5892  2.5907
                                  2.5923  2.5939  2.5954  2.5969  2.5985  2.6000

     ********************************************************************
     *****
     *****FIRST LOOK AT EXISTING FLOW
     *****
     COMPUTE NM HYD             ID=1 HYD NO=101.0 AREA=0.0032 SQ MI
                                     PER A=0 PER B=0 PER C=82 PER D=18
                                     TP=0.1333 HR MASS RAINFALL=-1
```

```
          K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =   2.2741    CFS   UNIT VOLUME =    .9941       B =
526.28      P60 = 2.1400
          AREA =      .000576 SQ MI    IA =    .10000 INCHES    INF =
.04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =   .033333


          K =    .108912HR    TP =    .133300HR    K/TP RATIO =    .817047
SHAPE CONSTANT, N =  4.373949
          UNIT PEAK =   7.4680    CFS   UNIT VOLUME =    .9987       B =
379.38      P60 = 2.1400
          AREA =      .002624 SQ MI    IA =    .35000 INCHES    INF =
.83000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =   .033333

     PRINT HYD                ID=1 CODE=1

                                        PARTIAL HYDROGRAPH   101.00


          RUNOFF VOLUME =     1.48172 INCHES      =         .2529 ACRE-FEET
          PEAK DISCHARGE RATE =       7.66 CFS  AT   1.500 HOURS   BASIN AREA =
.0032 SQ. MI.



     *****
     *****DETERMINE DEVELOPED FLOW FOR ENTIRE SITE
     *****
     COMPUTE NM HYD           ID=2 HYD NO=102.0 AREA=0.0032 SQ MI
                                   PER A=0 PER B=27 PER C=0 PER D=73
                                   TP=0.1333 HR MASS RAINFALL=-1


          K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =   9.2227    CFS   UNIT VOLUME =    .9981       B =
526.28      P60 = 2.1400
          AREA =      .002336 SQ MI    IA =    .10000 INCHES    INF =
.04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =   .033333


          K =    .133656HR    TP =    .133300HR    K/TP RATIO =  1.002670
SHAPE CONSTANT, N =  3.520804
          UNIT PEAK =   2.0861    CFS   UNIT VOLUME =    .9937       B =
321.84      P60 = 2.1400
          AREA =      .000864 SQ MI    IA =    .50000 INCHES    INF =
1.25000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =   .033333

     PRINT HYD                ID=2 CODE=1
```

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 1.96798 INCHES = .3359 ACRE-FEET
PEAK DISCHARGE RATE = 8.96 CFS AT 1.500 HOURS BASIN AREA =
.0032 SQ. MI.

*****
*****LOOK AT AMOUNT OF BACKYARD FLOWS SURFACE DISCHARGING TO TRAMWAY
*****
COMPUTE NM HYD ID=3 HYD NO=103.0 AREA=0.000578 SQ MI
PER A=0 PER B=38 PER C=0 PER D=62
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.4148 CFS UNIT VOLUME = .9911 B =
526.28 P60 = 2.1400
AREA = .000358 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

K = .133656HR TP = .133300HR K/TP RATIO = 1.002670
SHAPE CONSTANT, N = 3.520804
UNIT PEAK = .53031 CFS UNIT VOLUME = .9733 B =
321.84 P60 = 2.1400
AREA = .000220 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 1.81021 INCHES = .0558 ACRE-FEET
PEAK DISCHARGE RATE = 1.54 CFS AT 1.500 HOURS BASIN AREA =
.0006 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 12:58:00

```
START           TIME=0.0
*****           GLENWOOD LOFTS
*****           CALCULATE & ROUTE STORM FLOWS
*****           USE 100 YEAR 6 HOUR STORM EVENT
*****           FILE:  GLENWOODLOFTS.DAT     2-07-05 JSD
**************************************************************
RAINFALL        TYPE=1 RAIN QUARTER=0.0 IN
                RAIN ONE=2.14 IN RAIN SIX=2.60 IN
                DT=0.03333 HR
**************************************************************
*****
*****FIRST LOOK AT EXISTING FLOW
*****
COMPUTE NM HYD        ID=1 HYD NO=101.0 AREA=0.0032 SQ MI
                PER A=0 PER B=0 PER C=82 PER D=18
                TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD       ID=1 CODE=1
*****
*****DETERMINE DEVELOPED FLOW FOR ENTIRE SITE
*****
COMPUTE NM HYD        ID=2 HYD NO=102.0 AREA=0.0032 SQ MI
                PER A=0 PER B=24.6 PER C=0 PER D=75.4
                TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD       ID=2 CODE=1
*****
*****LOOK AT TOTAL AMOUNT OF BACKYARD FLOWS TO BE PONDED
*****
COMPUTE NM HYD        ID=3 HYD NO=103.0 AREA=0.000578 SQ MI
                PER A=0 PER B=38 PER C=0 PER D=62
                TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD       ID=3 CODE=1
*****
*****LOOK AT INDIVIDUAL LOT PONDING
*****
COMPUTE NM HYD        ID=4 HYD NO=104.0 AREA=0.000029 SQ MI
                PER A=0 PER B=38 PER C=0 PER D=62
                TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD       ID=4 CODE=1
FINISH
```

```
          AHYMO PROGRAM (AHYMO_97) -                              - Version:
1997.02d
               RUN DATE (MON/DAY/YR) = 05/06/2005
               START TIME (HR:MIN:SEC) = 13:21:12     USER NO.= AHYMO-I-
9702dGoodwinM-AH
               INPUT FILE = C:\PROGRA~1\AHYMO_97\GLENWO~1.DAT\GLENWO~1.DAT


     START                          TIME=0.0
     *****                          GLENWOOD LOFTS
     *****                          CALCULATE & ROUTE STORM FLOWS
     *****                          USE 100 YEAR 6 HOUR STORM EVENT
     *****                          FILE:  GLENWOODLOFTS.DAT     2-07-05 JSD
     ********************************************************************
     RAINFALL                  TYPE=1 RAIN QUARTER=0.0 IN
                                    RAIN ONE=2.14 IN RAIN SIX=2.60 IN
                                    DT=0.03333 HR

                          COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS
2 - PEAK AT 1.40 HR.
                          DT =     .033333 HOURS        END TIME =     5.999940 HOURS
                             .0000   .0027   .0055   .0084   .0113   .0143   .0173
                             .0204   .0236   .0269   .0302   .0337   .0372   .0408
                             .0445   .0484   .0523   .0564   .0606   .0649   .0694
                             .0741   .0789   .0839   .0892   .0946   .1004   .1063
                             .1126   .1193   .1263   .1322   .1385   .1453   .1598
                             .1923   .2424   .3142   .4123   .5412   .7055   .9101
                            1.1598  1.3908  1.4874  1.5690  1.6417  1.7077  1.7685
                            1.8250  1.8777  1.9272  1.9737  2.0176  2.0591  2.0984
                            2.1356  2.1708  2.2043  2.2361  2.2662  2.2737  2.2808
                            2.2875  2.2939  2.3001  2.3061  2.3118  2.3173  2.3226
                            2.3278  2.3328  2.3376  2.3424  2.3470  2.3515  2.3558
                            2.3601  2.3643  2.3684  2.3724  2.3763  2.3801  2.3838
                            2.3875  2.3911  2.3947  2.3982  2.4016  2.4050  2.4083
                            2.4116  2.4148  2.4179  2.4210  2.4241  2.4271  2.4301
                            2.4331  2.4360  2.4388  2.4417  2.4445  2.4472  2.4499
                            2.4526  2.4553  2.4579  2.4605  2.4631  2.4656  2.4682
                            2.4706  2.4731  2.4755  2.4780  2.4803  2.4827  2.4851
                            2.4874  2.4897  2.4919  2.4942  2.4964  2.4986  2.5008
                            2.5030  2.5052  2.5073  2.5094  2.5115  2.5136  2.5157
                            2.5177  2.5198  2.5218  2.5238  2.5258  2.5278  2.5297
                            2.5317  2.5336  2.5355  2.5374  2.5393  2.5412  2.5431
                            2.5449  2.5468  2.5486  2.5504  2.5522  2.5540  2.5558
                            2.5575  2.5593  2.5610  2.5628  2.5645  2.5662  2.5679
                            2.5696  2.5713  2.5730  2.5746  2.5763  2.5779  2.5795
                            2.5812  2.5828  2.5844  2.5860  2.5876  2.5892  2.5907
                            2.5923  2.5939  2.5954  2.5969  2.5985  2.6000

     ********************************************************************
     *****
     *****FIRST LOOK AT EXISTING FLOW
     *****
     COMPUTE NM HYD            ID=1 HYD NO=101.0 AREA=0.0032 SQ MI
                                    PER A=0 PER B=0 PER C=82 PER D=18
                                    TP=0.1333 HR MASS RAINFALL=-1
```

```
          K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =   2.2741    CFS   UNIT VOLUME =    .9941        B =
526.28      P60 = 2.1400
          AREA =       .000576 SQ MI    IA =    .10000 INCHES    INF =
.04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =   .033333


          K =    .108912HR    TP =    .133300HR    K/TP RATIO =    .817047
SHAPE CONSTANT, N =  4.373949
          UNIT PEAK =   7.4680    CFS   UNIT VOLUME =    .9987        B =
379.38      P60 = 2.1400
          AREA =       .002624 SQ MI    IA =    .35000 INCHES    INF =
.83000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =   .033333

     PRINT HYD                ID=1 CODE=1

                                        PARTIAL HYDROGRAPH   101.00


          RUNOFF VOLUME =     1.48172 INCHES      =         .2529 ACRE-FEET
          PEAK DISCHARGE RATE =       7.66 CFS  AT   1.500 HOURS   BASIN AREA =
.0032 SQ. MI.



     *****
     *****DETERMINE DEVELOPED FLOW FOR ENTIRE SITE
     *****
     COMPUTE NM HYD           ID=2 HYD NO=102.0 AREA=0.0032 SQ MI
                                   PER A=0 PER B=24.6 PER C=0 PER D=75.4
                                   TP=0.1333 HR MASS RAINFALL=-1


          K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =   9.5259    CFS   UNIT VOLUME =    .9982        B =
526.28      P60 = 2.1400
          AREA =       .002413 SQ MI    IA =    .10000 INCHES    INF =
.04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =   .033333


          K =    .133656HR    TP =    .133300HR    K/TP RATIO =  1.002670
SHAPE CONSTANT, N =  3.520804
          UNIT PEAK =   1.9006    CFS   UNIT VOLUME =    .9932        B =
321.84      P60 = 2.1400
          AREA =       .000787 SQ MI    IA =    .50000 INCHES    INF =
1.25000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =   .033333

     PRINT HYD                ID=2 CODE=1
```

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 2.00241 INCHES = .3417 ACRE-FEET
PEAK DISCHARGE RATE = 9.07 CFS AT 1.500 HOURS BASIN AREA = .0032 SQ. MI.

*****
*****LOOK AT TOTAL AMOUNT OF BACKYARD FLOWS TO BE PONDED
*****
COMPUTE NM HYD ID=3 HYD NO=103.0 AREA=0.000578 SQ MI
PER A=0 PER B=38 PER C=0 PER D=62
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.4148 CFS UNIT VOLUME = .9911 B = 526.28 P60 = 2.1400
AREA = .000358 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .133656HR TP = .133300HR K/TP RATIO = 1.002670
SHAPE CONSTANT, N = 3.520804
UNIT PEAK = .53031 CFS UNIT VOLUME = .9733 B = 321.84 P60 = 2.1400
AREA = .000220 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 1.81021 INCHES = .0558 ACRE-FEET
PEAK DISCHARGE RATE = 1.54 CFS AT 1.500 HOURS BASIN AREA = .0006 SQ. MI.

*****
*****LOOK AT INDIVIDUAL LOT PONDING
*****
COMPUTE NM HYD ID=4 HYD NO=104.0 AREA=0.000029 SQ MI
PER A=0 PER B=38 PER C=0 PER D=62
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = .70986E-01CFS UNIT VOLUME = .8874 B =

526.28 P60 = 2.1400
AREA = .000018 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

K = .133656HR TP = .133300HR K/TP RATIO = 1.002670
SHAPE CONSTANT, N = 3.520804
UNIT PEAK = .26607E-01CFS UNIT VOLUME = .8691 B = 321.84 P60 = 2.1400
AREA = .000011 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033333

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 104.00

RUNOFF VOLUME = 1.81021 INCHES = .0028 ACRE-FEET
PEAK DISCHARGE RATE = .09 CFS AT 1.500 HOURS BASIN AREA = .0000 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 13:21:12

CITY OF ALBUQUERQUE

April 11, 2005

Mark Goodwin, P.E.
Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199

Re: Glenwood Lofts, Southeast Corner of Tramway Blvd and Montgomery Blvd NE, Preliminary Plat

Engineer's Stamp dated 2-15-05 (G23-D8)

Dear Mr. Goodwin,

Based upon the information provided in your submittal received 2-15-05, the above referenced plan cannot be approved for Preliminary Plat until the following comments are addressed:

1. On-site flows will not be allowed to drain to Tramway Boulevard via weep holes in the rear wall. One alternative is to pond the flow in each yard, placing a weep hole 6" above the 100-year water surface for overflow. Another option is to place a hard lined channel (2 feet?) along the rear property line that will guide flow to the proposed storm drain to the south.
2. Address offsite flow. Where does the existing flow on Spanish Bit Street drain?
3. Label the existing contours. Based upon the assumed values of the contour lines, you do not appear to be matching the existing elevations at intersections with Spanish Bit Street.
4. Check the proposed slopes; when calculated by hand, they do not appear to match their labeled value.
5. Show the storm drain located along Montgomery Blvd.
6. Check the as-builts for this area; I believe there is an existing storm drain located parallel to your proposed storm drain.
7. Call out the diameter of the proposed storm drain (note: 24" minimum diameter).
8. I would suggest you set up a meeting to review these comments. Please contact Kristal Metro (924-3981) or myself to schedule.

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

C: File

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

AND VALVE #63 TO PROVIDE NON-PRESSURE CONNECTION. THE CONTRACTOR SHALL CONTACT WATER SYSTEMS DIVISION (857-8200) 5 WORKING DAYS PRIOR TO SHUT-OFF OR TURN-ON AT VALVES. ONLY CITY PERSONNEL ARE ALLOWED TO OPERATE VALVES.

KEYED NOTE □

1. EXST STORM DRAIN FLOWS WEST TO TRAMWAY BLVD. CONTRACTOR TO FIELD VERIFY LOCATION.

RECEIVED
NOV 2 1 2002
HYDROLOGY SECTION

Dekker/Perich/Sabatini
architecture ▪ interiors ▪ planning ▪ engineering
6801 Jefferson NE, Suite 100
Albuquerque, NM 87109
505 761-9700
fax 761-4222

D/P/S 97092.03

G-23/D11

NO.	DATE	BY	REMARKS

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: **Montgomery & Tramway Police Subst**
Grading/Drainage & Utility Plan

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

PROJECT NO. **6230.91**
MAP NO. **G-23-Z**
SHEET **C1**

TC	FL
21.21	20.71
--	20.36
--	20.39

	TC	FL
1	--	19.92
2	--	20.04
3	--	20.16

DRAINAGE INFORMATION SHEET

(REV. 1/28/2003rd)

PROJECT TITLE: Glenwood Lofts — ZONE MAP/DRG #: 623/D8

DRB#: — EPC #: — W.O.#:

LEGAL DESCRIPTION:

CITY ADDRESS: S/E Corner of Tramway & Montgomery NE.

ENGINEERING FIRM:	Mark Goodwin & Associates, PA	CONTACT:	Scott Davis
ADDRESS:	PO Box 90606	PHONE:	828-2200
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87199
OWNER:		CONTACT:	Kenny Hinkes
ADDRESS:		PHONE:	615-8613
CITY, STATE:		ZIP CODE:	
ARCHITECT:	N/A	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	
SURVEYOR:	Aldrich Land Surveying	CONTACT:	Tim Aldirch
ADDRESS:	P.O. Box 30701	PHONE:	884-1990
CITY, STATE:	Albuquerque, NM	ZIP CODE:	87190-0701
CONTRACTOR:	N/A	CONTACT:	
ADDRESS:		PHONE:	
CITY, STATE:		ZIP CODE:	

CHECK TYPE OF SUBMITTAL:

- X DRAINAGE REPORT
- ___ DRAINAGE PLAN 1ST SUBMITTAL, **req. TCL or equal**
- ___ DRAINAGE PLAN RESUBMITTAL
- X CONCEPTUAL GRADING & DRAINAGE PLAN
- ___ GRADING PLAN
- ___ EROSION CONTROL PLAN
- ___ ENGINEER'S CERTIFICATION (HYDROLOGY)
- ___ CLOMR/LOMR
- ___ TRAFFIC CIRCULATION LAYOUT (TCL)
- ___ ENGINEER'S CERTIFICATION (TCL)
- ___ ENGINEER'S CERTIFICATION (DRB APPR. SITE PLAN)
- ___ OTHER

CHECK TYPE OF APPROVAL SOUGHT:

- ___ SIA / FINANCIAL GUARANTEE RELEASE
- X PRELIMINARY PLAT APPROVAL
- X S. DEV. PLAN FOR SUB'D. APPROVAL
- X S. DEV. PLAN 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)
- X GRADING PERMIT APPROVAL
- ___ PAVING PERMIT APPROVAL
- ___ WORK ORDER APPROVAL
- ___ OTHER (specify)

RECEIVED
FEB 15 2005
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED?

- ___ YES
- X NO
- ___ COPY PROVIDED

DATE SUBMITTED: 2/15/05 — BY: Scott Davis

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

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

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

February 15, 2005

Brad Bingham, PE
Principal Engineer, Planning Dept.
P.O. Box 1293
Albuquerque, NM 87103

Re: Glenwood Lofts

Dear Mr. Bingham:

As noted on the Drainage Information sheet, I am submitting the Conceptual Grading & Drainage plan at this time for your review and approval. If there are any comments regarding this report, I respectfully request that your office approve the conceptual grading plan, and make final building permit approval contingent upon your concerns being addressed. Else, you can approve everything and my request will be a moot point.

Sincerely,

MARK GOODWIN & ASSOCIATES, PA

Scott Davis
Project Engineer

[redacted]

MARK GOODWIN & ASSOCIATES
CONSULTING ENGINEERS

DRAINAGE REPORT
for
GLENWOOD LOFTS

Prepared for

Mainstreet Properties, LLC
c/o Kenny Hinkis
8300 Carmel NE, Suite 201
Albuquerque, NM 87122
(505) 798-1000

Prepared by

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

February 2005

TABLE OF CONTENTS

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DEVELOPED DRAINAGE CONDITIONS..... 1

SUMMARY..... 2

APPENDICES

APPENDIX A..... *HYMO INPUT & OUTPUT FILES*

APPENDIX B..... *HYDRAULIC CALCULATIONS*

APPENDIX C..... *DRAINAGE CALCULATIONS*

PLATES

PLATE 1..... *GRADING & DRAINAGE PLAN*

PURPOSE

This report has been prepared in support of the development of a 2.1 acre site located southeast of the intersection of Tramway Blvd NE and Montgomery Blvd NE. The proposed development includes a total of 24 single-family town home units.

EXISTING DRAINAGE CONDITIONS

In the existing state, the site is comprised of two individual lots. A currently vacant building is located on the northernmost lot at the southeast corner of the aforementioned intersection. Plans call for this structure to be razed with this development. Currently storm flows form the structure's roof and parking lot discharge to the southwest to the Tramway Blvd right-of-way.

The southern portion of this site is currently undeveloped with sparse native vegetation. The site slopes to the southwest at approximately a 2%-4% grade. Similar to the northern lot, runoff surface discharges to Tramway Blvd.

Spanish Bit Street fronts this site along its eastern boundary. A minimal amount of off-site flow enters this site from an existing driveway, just south of Montgomery Blvd.

DEVELOPED DRAINAGE CONDITIONS

An existing 48" storm drain runs parallel to this site along its western boundary within the Tramway Blvd right-of-way. A manhole on that line exists near the southwest quadrant of this site along the west edge of an existing asphalt recreational trail.

As reflected on the enclosed grading and drainage plan, the majority of the developed site (Basin D-1) will surface discharge to the new on-site street. Sloping from north to south, the collected flows will be routed within the street to the south side of the site. An adequately sized drop inlet(s) will be placed within the street to collect the flows. New storm drain will then transfer the flows to the existing aforementioned manhole on the 48" line.

The remaining on-site flows (Basin D-2) originate from the rear roof areas and the backyards of the homes along Tramway. It is proposed that these flows collect at the southwest corner of those lots, and surface discharge via weep holes in the new rear wall to Tramway Blvd.

Lots 1-4, located along the east side of the new on-site road, are shown with all roof areas draining to the front. Due to the grade differential between these lots and Spanish Bit Street, it is proposed that backyard generated storm water remain within each backyard.

As depicted on the site grading plan, water blocks are proposed at all three intersections with Spanish Bit Street. With that no off-site storm waters impact this site upon the completion of development.

SUMMARY

With the development of this site in the manner proposed in this report, surface discharge to the Tramway Blvd right-of-way will be reduced from approximately 7.6 cfs to 1.5 cfs. Further, since this site is adjacent to the regional storm drain line, waters discharging from this site will pass through the system prior to storm water from the upper reaches of the basin. Developing the Glenwood Lofts Subdivision in the manner presented will cause no adverse impact downstream of the site.

F-23-Z

F-22-Z

F-24-Z

G-22-Z

G-24-Z

H-22-Z

H-24-Z

H-23-Z

UNPLATTED

Zone Atlas Page: **G-23-Z**

Map amended through: **Aug 06, 2004**

Selected Symbols

- Unincorporated Areas
- Sector Plan Boundaries
- Parcel Boundaries
- Easement Lines
- Freeway Lanes
- Jurisdictional Boundaries
- Westgate Wall
- Escarpment
- Grant Boundaries
- Petroglyph
- H-1 Buffer Zone
- Arroyos
- LDN Noise Level
- Airport Clearance Zone
- Design Overlay Zones

Feet

0 750 1,500

NOTE: GREY SHADING REPRESENTS AREA OUTSIDE OF THE CITY LIMITS

CITY OF ALBUQUERQUE 1706

THREE HUNDRED YEARS 1706 • 2006

ALBUQUERQUE

Haciendo Historia

Albuquerque Geographic Information System

PLANNING DEPARTMENT

```
START              TIME=0.0
*****              GLENWOOD LOFTS
*****              CALCULATE & ROUTE STORM FLOWS
*****              USE 100 YEAR 6 HOUR STORM EVENT
*****              FILE:  GLENWOODLOFTS.DAT     2-07-05 JSD
**************************************************************
RAINFALL           TYPE=1 RAIN QUARTER=0.0 IN
                   RAIN ONE=2.14 IN RAIN SIX=2.60 IN
                   DT=0.03333 HR
**************************************************************
*****
*****FIRST LOOK AT EXISTING FLOW
*****
COMPUTE NM HYD          ID=1 HYD NO=101.0 AREA=0.0032 SQ MI
                  PER A=0 PER B=0 PER C=82 PER D=18
                  TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD         ID=1 CODE=1
*****
*****DETERMINE DEVELOPED FLOW FOR ENTIRE SITE
*****
COMPUTE NM HYD          ID=2 HYD NO=102.0 AREA=0.0032 SQ MI
                  PER A=0 PER B=27 PER C=0 PER D=73
                  TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD         ID=2 CODE=1
*****
*****LOOK AT AMOUNT OF BACKYARD FLOWS SURFACE DISCHARGING TO TRAMWAY
*****
COMPUTE NM HYD          ID=3 HYD NO=103.0 AREA=0.000578 SQ MI
                  PER A=0 PER B=38 PER C=0 PER D=62
                  TP=0.1333 HR MASS RAINFALL=-1
PRINT HYD         ID=3 CODE=1
FINISH
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          AHYMO PROGRAM (AHYMO_97) -                              - Version:
1997.02d
               RUN DATE (MON/DAY/YR) = 02/09/2005
               START TIME (HR:MIN:SEC) = 12:58:00     USER NO.= AHYMO-I-
9702dGoodwinM-AH
               INPUT FILE = C:\PROGRA~1\AHYMO_97\GLENWO~1.DAT\GLENWO~1.DAT


     START                          TIME=0.0
     *****                          GLENWOOD LOFTS
     *****                          CALCULATE & ROUTE STORM FLOWS
     *****                          USE 100 YEAR 6 HOUR STORM EVENT
     *****                          FILE:  GLENWOODLOFTS.DAT     2-07-05 JSD
     ********************************************************************
     RAINFALL                  TYPE=1 RAIN QUARTER=0.0 IN
                               RAIN ONE=2.14 IN RAIN SIX=2.60 IN
                               DT=0.03333 HR

                          COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS
2 - PEAK AT 1.40 HR.
                          DT =     .033333 HOURS        END TIME =     5.999940 HOURS
                             .0000   .0027   .0055   .0084   .0113   .0143   .0173
                             .0204   .0236   .0269   .0302   .0337   .0372   .0408
                             .0445   .0484   .0523   .0564   .0606   .0649   .0694
                             .0741   .0789   .0839   .0892   .0946   .1004   .1063
                             .1126   .1193   .1263   .1322   .1385   .1453   .1598
                             .1923   .2424   .3142   .4123   .5412   .7055   .9101
                            1.1598  1.3908  1.4874  1.5690  1.6417  1.7077  1.7685
                            1.8250  1.8777  1.9272  1.9737  2.0176  2.0591  2.0984
                            2.1356  2.1708  2.2043  2.2361  2.2662  2.2737  2.2808
                            2.2875  2.2939  2.3001  2.3061  2.3118  2.3173  2.3226
                            2.3278  2.3328  2.3376  2.3424  2.3470  2.3515  2.3558
                            2.3601  2.3643  2.3684  2.3724  2.3763  2.3801  2.3838
                            2.3875  2.3911  2.3947  2.3982  2.4016  2.4050  2.4083
                            2.4116  2.4148  2.4179  2.4210  2.4241  2.4271  2.4301
                            2.4331  2.4360  2.4388  2.4417  2.4445  2.4472  2.4499
                            2.4526  2.4553  2.4579  2.4605  2.4631  2.4656  2.4682
                            2.4706  2.4731  2.4755  2.4780  2.4803  2.4827  2.4851
                            2.4874  2.4897  2.4919  2.4942  2.4964  2.4986  2.5008
                            2.5030  2.5052  2.5073  2.5094  2.5115  2.5136  2.5157
                            2.5177  2.5198  2.5218  2.5238  2.5258  2.5278  2.5297
                            2.5317  2.5336  2.5355  2.5374  2.5393  2.5412  2.5431
                            2.5449  2.5468  2.5486  2.5504  2.5522  2.5540  2.5558
                            2.5575  2.5593  2.5610  2.5628  2.5645  2.5662  2.5679
                            2.5696  2.5713  2.5730  2.5746  2.5763  2.5779  2.5795
                            2.5812  2.5828  2.5844  2.5860  2.5876  2.5892  2.5907
                            2.5923  2.5939  2.5954  2.5969  2.5985  2.6000

     ********************************************************************
     *****
     *****FIRST LOOK AT EXISTING FLOW
     *****
     COMPUTE NM HYD            ID=1 HYD NO=101.0 AREA=0.0032 SQ MI
                                    PER A=0 PER B=0 PER C=82 PER D=18
                                    TP=0.1333 HR MASS RAINFALL=-1
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          K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =    2.2741    CFS    UNIT VOLUME =     .9941        B =
526.28       P60 = 2.1400
          AREA =       .000576 SQ MI    IA =     .10000 INCHES    INF =
.04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =    .033333


          K =    .108912HR    TP =    .133300HR    K/TP RATIO =    .817047
SHAPE CONSTANT, N =  4.373949
          UNIT PEAK =    7.4680    CFS    UNIT VOLUME =     .9987        B =
379.38       P60 = 2.1400
          AREA =       .002624 SQ MI    IA =     .35000 INCHES    INF =
.83000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =    .033333

     PRINT HYD                 ID=1 CODE=1

                                        PARTIAL HYDROGRAPH    101.00


          RUNOFF VOLUME =      1.48172 INCHES      =          .2529 ACRE-FEET
          PEAK DISCHARGE RATE =        7.66 CFS  AT    1.500 HOURS    BASIN AREA =
.0032 SQ. MI.



     *****
     *****DETERMINE DEVELOPED FLOW FOR ENTIRE SITE
     *****
     COMPUTE NM HYD            ID=2 HYD NO=102.0 AREA=0.0032 SQ MI
                                    PER A=0 PER B=27 PER C=0 PER D=73
                                    TP=0.1333 HR MASS RAINFALL=-1


          K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000
SHAPE CONSTANT, N =  7.106420
          UNIT PEAK =    9.2227    CFS    UNIT VOLUME =     .9981        B =
526.28       P60 = 2.1400
          AREA =       .002336 SQ MI    IA =     .10000 INCHES    INF =
.04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =    .033333


          K =    .133656HR    TP =    .133300HR    K/TP RATIO =   1.002670
SHAPE CONSTANT, N =  3.520804
          UNIT PEAK =    2.0861    CFS    UNIT VOLUME =     .9937        B =
321.84       P60 = 2.1400
          AREA =       .000864 SQ MI    IA =     .50000 INCHES    INF =
1.25000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT =    .033333

     PRINT HYD                 ID=2 CODE=1
```

PARTIAL HYDROGRAPH 102.00

RUNOFF VOLUME = 1.96798 INCHES = .3359 ACRE-FEET
PEAK DISCHARGE RATE = 8.96 CFS AT 1.500 HOURS BASIN AREA =
.0032 SQ. MI.

*****
*****LOOK AT AMOUNT OF BACKYARD FLOWS SURFACE DISCHARGING TO TRAMWAY
*****
COMPUTE NM HYD ID=3 HYD NO=103.0 AREA=0.000578 SQ MI
PER A=0 PER B=38 PER C=0 PER D=62
TP=0.1333 HR MASS RAINFALL=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000
SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.4148 CFS UNIT VOLUME = .9911 B =
526.28 P60 = 2.1400
AREA = .000358 SQ MI IA = .10000 INCHES INF =
.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

K = .133656HR TP = .133300HR K/TP RATIO = 1.002670
SHAPE CONSTANT, N = 3.520804
UNIT PEAK = .53031 CFS UNIT VOLUME = .9733 B =
321.84 P60 = 2.1400
AREA = .000220 SQ MI IA = .50000 INCHES INF =
1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD -
DT = .033333

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 103.00

RUNOFF VOLUME = 1.81021 INCHES = .0558 ACRE-FEET
PEAK DISCHARGE RATE = 1.54 CFS AT 1.500 HOURS BASIN AREA =
.0006 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 12:58:00

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539
e-mail: goodwinengrs@comcast.net

PROJECT Glenwood Lofts
SUBJECT Drainage Calcs
BY _____ DATE _____
CHECKED _____ DATE _____
SHEET 1 OF 2

Glenwood Lofts
Developed Drainage Conditions
Area = 2.055 Acres

1. Find Q per lot:

Pads = 25'x60' = 1500 sf
Drives = 1/2 (15'·27') = 203 sf
1,703 sf
Σ = 1703 · 24 = 40,872 sf = 0.94 Ac → 'D'
Q = ?

2. Find Q generated in road & parking areas:

ROW = 31'x620' = 19,220 sf = .44 ac
for roads, use 10% 'B' & 90% 'D'
∴ 'B' = .04 Ac, 'D' = .40 ac.

Parking ('D')
(20'x25') + (65'x40') + (185'x8') + (55'x45')
= 7,055 sf = 0.16 ac. → 'D'

3. Treatment Totals:

'D' = .94 ac + .40 ac + .16 ac = 1.50 ac
"B" = 2.055 ac - 1.50 c = 0.56 ac

4. Rainfall:

P_1 = 2.14 in P_6 = 2.60 in.

5. Find Q to Surface Discharging to Tramway
• 1/3 of each roof + backyards
'D' = (25'x20') · 20 = 10,000 sf = .23 ac
'B' = (10'x25') + (1/2·5·18') · 20 = 5,900 sf = 0.14 ac

6. AHYMO SUMMARY

$Q_{exist.}$ = 7.66 cfs $Q_{DEV(site)}$ = 8.96 cfs $Q_{(TO\ TRAMWAY)}$ = 1.54 cfs

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE,NM 87199
(505) 828-2200 FAX 797-9539
e-mail: goodwinengrs@comcast.net

PROJECT Glenwood Lofts
SUBJECT Drainage Calcs
BY JSD DATE 2-19-05
CHECKED _____ DATE _____
SHEET 2 OF 2

1. Look at street carrying capacity

- Proposed section is 20'F-F, roll curb
- Look @ 'worst case' - where S = 1.10%
- Q in street:

From AHYMD run, Q from entire site less the runoff surface discharging to Tramway equals the Q being carried in the street.

$Q_{street} = 8.96 - 1.54 = 7.42$ cfs

Use a depth of flow = 0.33'

$A = [(.33-.20)\cdot 20] + [2(.1\cdot 10)] = 4.6$ sf

$R_h = A/WP = 4.6/(20+.66) = .22$

$V = 1.49(R)^{2/3}(S)^{1/2}/n = 1.49(.22)^{2/3}(.011)^{1/2}/.017 = 3.33$ fps

$Q = VA = 3.33(4.6) = 15.33$ cfs

$15.33 > 7.42 \rightarrow$ OK

Is $.33 + V^2/2g < .53$?

$.33 + (3.33)^2/64.4 = .50 \rightarrow$ OK

2. Inlet Requirement

- The proposed drop inlets will be placed within a sump area at the south end of the onsite street. A single 'C' will be placed on either side of street @ low point in sump. If one were to become clogged, water would cross to other side inlet.