

UPPER EAST FORK  
CAVE CREEK CHANNEL

GREENWAY PARKWAY CHANNEL

CITY OF PHOENIX,  
MARICOPA COUNTY, ARIZONA

**WOOD/PATEL**

**A460.909**

# WOOD, PATEL & ASSOC., INC.

# LETTER OF TRANSMITTAL

Civil Engineers, Hydrologists, Land Surveyors

2051 West North Avenue, Suite 100

Phoenix, AZ 85021

(602) 335-8500 • FAX 335-8580

DATE: 7/24/02 JOB NO. 09559, 64

ATTENTION: Don Kerick P.E.

Re: Greenway Parkway channel

TO:

Flood Control Dist. of Maricopa County

2801 W Durango, Phx 85009

FLOOD CONTROL DIST. DIST RECEIVED

JUL 24 '02

WE ARE SENDING YOU  Attached  Under separate cover via \_\_\_\_\_ the following items:

- Shop drawings
- Prints
- Plans
- Samples
- Specifications
- Copy of letter
- Change Order
- Survey
- Report
- Other

REC'D  
 ENR  
 FILE  
 CONTRACTS  
 ADMIN  
 311

| COPIES | DATE | NO. | DESCRIPTION   |
|--------|------|-----|---|
| 1 set  |      |     | LOMR - Technical Data Notebook including As-built plans |
|        |      |     |   |
|        |      |     |   |
|        |      |     |   |
|        |      |     |   |
|        |      |     |   |

THESE ARE TRANSMITTED as checked below:

- For approval
- For your use
- Approved as submitted
- As requested
- Approved as noted
- For review and comment

REMARKS:

Note that the LOMR package has been submitted to the City as well as FEMA.

txl

COPY TO: Hasan Mushtag, CSP  
Ralph Gaudell, CSP.

SIGNED: [Signature]



Darrel E. Wood, P.E., R.L.S.  
Ashok C. Patel, P.E., R.L.S.  
James S. Campbell, P.E.  
Gordon W. R. Wark, P.E.  
Thomas R. Gettings, R.L.S.  
Randall Beck, P.E.  
Timothy A. Huval, P.E.  
Jack K. Moody, P.E.  
Scott A. Nelson, R.L.S.  
Richard L. Hiner, P.E.  
Leslie J. Kland, P.E.  
Curtis L. Brown, P.E., R.L.S.  
Paul M. Haas, P.E.  
Shimin Zou, Ph.D., P.E.  
Michael T. Young, P.E.  
Shawn D. Gustafson, P.E.  
Joseph C. Daconta, P.E.  
Robert S. Unger, R.L.S.  
Steven J. Rinkevicz, P.E.  
Sherrick H. Campbell, P.E.  
James L. Condit, P.E.  
Sandra J. Lie, P.E.  
Joel P. McCarty, P.E.  
Michael Weinberg, P.E.

July 19, 2002

Mr. Matthew B. Miller  
Chief, Hazard Studies Branch  
Federal Emergency Management Agency  
500 "C" Street, SW  
Room 428  
Washington, DC 20472

Re: Request Conditional Letter of Map Revision  
Upper East Fork Cave Creek Channel  
City of Phoenix, Arizona  
Community Number 040051, Map Number 04013C, Panel 1220G  
**Case Number 99-09-1210R**  
WP #96559.04

Dear Mr. Miller:

We are respectfully requesting a Letter of Map Revision (LOMR) for the Upper East Fork Cave Creek Channel within the City of Phoenix, Arizona.

All appropriate data, including as-built plans, have been included in the enclosed Technical Data Notebook (TDN).

Should you have any questions or need clarification on this TDN, please do not hesitate to contact us. My email address is: [apatel@woodpatel.com](mailto:apatel@woodpatel.com).

Very truly yours,

**WOOD, PATEL & ASSOCIATES, INC.**

Ashok C. Patel, P.E., R.L.S.  
Principal

ACP/jmb

cc: Hasan Mushtaq, Ph.D., P.E., Floodplain Administrator, City of Phoenix  
Ralph Goodall, P.E., Street Transportation, City of Phoenix  
Don Rerick, Flood Control District of Maricopa County

Y:\WP\General Correspondence\96559.04 Request for LOMR.doc

**UPPER EAST FORK  
CAVE CREEK CHANNEL**

**GREENWAY PARKWAY CHANNEL**

**CITY OF PHOENIX,  
MARICOPA COUNTY, ARIZONA**

**LETTER OF MAP REVISION  
TECHNICAL DATA NOTEBOOK  
PROJECT: ST83130010  
FEMA CASE NUMBER: 99-09-1210R**

July 2002  
WP #96559.04

Property of  
Wood Control District of MC Library  
Please Return to  
2001 W. Lurago  
Phoenix, AZ 85009



*Submitted to:* **Federal Emergency Management Agency**  
Hazard Study Branch  
Chief, Matthew Miller  
Technical Services Division  
500 C Street Southwest  
Washington, DC 20472  
*Phone:* (202) 646-2746



*Prepared for:* **City of Phoenix**  
200 West Washington Street  
Phoenix, AZ 85003  
*Phone:* (602) 262-4960



*Prepared by:* **Wood, Patel & Associates, Inc.**  
2051 West Northern Avenue  
Suite 100  
Phoenix, AZ 85021  
*Phone:* (602) 335-8500

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EXHIBITS

Exhibit A As-Built Plan

jmb  
Y:\WP\Reports\Public Works Dept\96559.04 Greenway Parkway Channel LOMR TDN.doc



## 1.0 INTRODUCTION

The Federal Emergency Management Agency (FEMA) publishes series of maps known as Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs). These maps show flooding hazard zones that are used by FEMA to administer flood insurance through the National Flood Insurance Program.

Changes to the published floodplain or floodway delineations that are caused by new development are incorporated into the next revision of the FIRMs and FBFMs via procedures called Conditional Letter of Map Revision (CLOMR) and Letter of Map Revision (LOMR).

In a CLOMR request package, the proposed design is submitted to FEMA along with standard FEMA forms describing the technical details of the revised hydrologic and hydraulic analyses. When the package is approved by FEMA, a CLOMR is issued to the governing community stating that the FIRM or FBFM will be updated to reflect the revised floodplain and/or floodway boundaries on the condition that the project is built as proposed.

Once the project is built, the governing community may obtain a LOMR by submitting a package to FEMA consisting of as-built plans along with FEMA forms describing the as-built hydrologic and hydraulic conditions. When FEMA confirms that the as-built hydrologic and hydraulic conditions match those proposed in the CLOMR request, a LOMR is issued to the governing community stating that the future revision of the FIRM or FBFM will reflect the revised floodplain and/or floodway boundaries.

The purpose of this package is to complete the requirements for a LOMR request. The project site is located within the Upper East Fork Cave Creek Wash in northeast Phoenix, Arizona. The modified reach for the East Fork Cave Creek channel starts from approximately 300 feet downstream of 9<sup>th</sup> Street to Detention Basin #3 at Cave Creek Road and Grovers Avenue. The area of the project is shown on the Maricopa County and incorporated areas Flood Insurance Rate Map (FIRM) number 04013C1220H, dated July 19, 2001.

The CLOMR Technical Data Notebook (TDN) for this project was submitted to FEMA in September 1999 and approved by FEMA in February 2000 (see CLOMR issued by FEMA in Appendix A). The proposed construction is now completed and the as-built plan is provided by

Wood, Patel & Associates, Inc. (see Exhibit A for as-built plan). The project construction has been inspected by the City of Phoenix and a certification letter of construction inspection from the City of Phoenix is included in Appendix C.

## 2.0 FEMA MT-2 FORM

Since the as-built conditions are the same as the engineering plan submitted in the CLOMR package, FEMA forms for hydrology, hydraulics, mapping information, channelization, bridge/culvert, and levee/floodwall are not needed anymore. The appropriate FEMA form needed from the current FEMA MT-2 packet is Form 1 – Revision Requestor and Community Official Form.

### 2.1 Form 1 – Revision Requestor and Community Official Form

The attached *Revision Requestor and Community Official Form* is provided per FEMA requirements for submittals. The basis for this revision request is physical change, specifically, detention basin, storm drain, and channelization.

Public reporting burden for this form is estimated to average 2.13 hours per response. The burden estimate includes the time for reviewing instructions, searching existing data sources, gathering and maintaining the needed data, and completing and reviewing the form. Send comments regarding the accuracy of the burden estimate and any suggestions for reducing this burden to: Information Collections Management, Federal Emergency Management Agency, 500 C Street, S.W., Washington DC 20472; and to the Office of Management and Budget, Paperwork Reduction Project (3067-0148), Washington, DC 20503.

You are not required to respond to this collection of information unless a valid OMB Control Number is displayed in the upper right corner of this form.

**1. REQUESTED RESPONSE FROM FEMA**

This request is for a:

- CLOMR A letter from FEMA commenting on whether a proposed project, if built as proposed, would justify a map revision, or proposed hydrology changes (See 44 CFR Ch. 1, Parts 60,65 & 72).
- LOMR A letter from FEMA officially revising the current NFIP map to show the changes to floodplains, floodway or flood elevations. LOMRs typically decrease flood hazards. (See 44 CFR Ch. 1 Parts 60 & 65.)
- Other Describe: \_\_\_\_\_

**2. OVERVIEW**

1. The basis for this revision request is (are): (check all that apply)

- Physical Change                       Improved Methodology/Data                       Floodway Revision
- Other Describe: \_\_\_\_\_

Note: A photograph is not required, but is very helpful during review.

2. Flooding Source: East Fork Cave Creek

3. Project Name/Identifier: Upper East Fork Cave Creek Channel, Greenway Parkway Channel

4. FEMA zone designations affected: Zone A, Zone X  
 (example: A, AH, AO, A1-A30, A99, AE, V, V1-V30, VE, B, C, D, X)

5. The NFIP map panel(s) affected for all impacted communities is (are):

| Community No. | Community Name   | State | Map No. | Panel No. | Effective Date |
|---------------|------------------|-------|---------|-----------|----------------|
| Ex: 480301    | Katy, City       | TX    | 480301  | 0005D     | 02/08/83       |
| 480287        | Harris County    | TX    | 48201C  | 0220G     | 09/28/90       |
| 040051        | Phoenix, City of | AZ    | 04013C  | 1220H     | 07/19/01       |
|               |                  |       |         |           |                |

6. The area of revision encompasses the following types of flooding and structures. Check all that apply.

| <u>Types of Flooding</u>                     |   | <u>Structures</u>                                  |   |
|--|---|--|---|
| <input checked="" type="checkbox"/> Riverine | <input type="checkbox"/> Coastal  | <input checked="" type="checkbox"/> Channelization | <input type="checkbox"/> Levee/Floodwall                                  |
| <input type="checkbox"/> Alluvial fan        | <input checked="" type="checkbox"/> Shallow Flooding (e.g. Zones AO and AH) | <input checked="" type="checkbox"/> Bridge/Culvert | <input type="checkbox"/> Dam  |
| <input type="checkbox"/> Lakes               | <input type="checkbox"/> Other (describe)                                   | <input type="checkbox"/> Fill                      | <input checked="" type="checkbox"/> Other - Detention Basin & Storm Drain |

**PLEASE REFER TO THE INSTRUCTIONS FOR THE APPROPRIATE MAILING ADDRESS**

#### 4. ENCROACHMENT INFORMATION

1. Does the State have jurisdiction over the floodway or its adoption by communities participating in the NFIP?  
 Yes  No

If Yes, attach a copy of a letter notifying the appropriate State agency of the floodway revision and documentation of the approval of the revised floodway by the appropriate State agency.

2. Does the development in the floodway cause the 1% annual chance (base) elevation to increase at any location by more than 0.000 feet?  Yes  No  N/A
3. Does the cumulative effect of all development that has occurred since the effective SFHA was originally identified cause the base flood elevation to increase at any location by more than one foot (or other increase limit if community or state has adopted more stringent criteria - even if a floodway has not been delineated by FEMA)?  Yes  No

If the answer to either items is Yes, please attach documentation that all requirements of Section 65.12 of the NFIP regulations have been met, regarding evaluation of alternatives, notice to individual legal property owners, concurrence of CEO, and certification that no insurable structures are impacted.

#### 5. MAINTENANCE RESPONSIBILITY

The community is willing to assume responsibility for  performing  overseeing compliance with the maintenance and operation plans of the Channelized Reach and Grovers Park (Detention Basin No 3)  
 (Name)

flood control structure. If not performed promptly by an owner other than the community, the community will provide the necessary services without cost to the Federal government.

Operation and maintenance plans are attached.  Yes  No  N/A

#### 6. REVIEW FEE

The review fee for the appropriate request category has been included.  Yes Fee amount: \$3,400

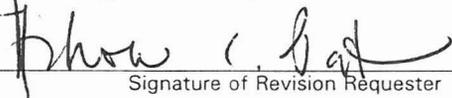
OR

This request is based on a federally sponsored flood-control project where 50 percent or more of the project's cost is federally sponsored, or the request is based on detailed hydrologic and hydraulic studies conducted by Federal, State, or local agencies to replace approximate studies conducted by FEMA and shown on the effective FIRM; thus the project is fee exempt.  Yes

Please see Instructions for Fee Amounts

#### 7. SIGNATURE

*Note:* I understand that my signature indicates that all information submitted in support of this request is correct

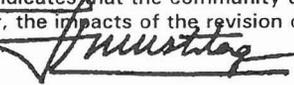
  
 Signature of Revision Requester

Ashok Patel, P.E., R.L.S. - Project Manager  
 Printed Name and Title of Revision Requester

Wood, Patel & Associates, Inc.  
 Company Name

Telephone No.: (602) 335-8500 Date: 18-July-2002

*Note:* Signature indicates that the community understands, from the revision requester, the impacts of the revision on flooding conditions in the community.

  
 Signature of Community Official

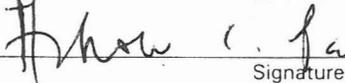
Hasan Mushtaq, Ph.D., P.E., C.F.M. - Floodplain Manager  
 Printed Name and Title of Community Official

City of Phoenix, Arizona  
 Community Name

Telephone No.: (602) 262-4026 Date:

#### CERTIFICATION BY REGISTERED PROFESSIONAL ENGINEER AND/OR LAND SURVEYOR

This certification is in accordance with 44 CFR Ch. 1, Sect 65.2

  
 Signature

Ashok Patel, P.E., R.L.S. - Project Manager  
 Printed Name and Title of Revision Requester

Registr. No. 10512 Expires (Date) Dec. 2002 State Arizona

Type of License/Expertise: Civil



#### Check which forms have been included with this request

- | Form Name and (Number)                           | Required if .....                       |
|--|---|
| <input type="checkbox"/> Hydrologic (3)          | new or revised discharges               |
| <input type="checkbox"/> Hydraulic (4)           | new or revised water-surface elevations |
| <input type="checkbox"/> Mapping (5)             | floodplain/floodway changes             |
| <input type="checkbox"/> Channelization (6)      | channel is modified                     |
| <input type="checkbox"/> Bridge/Culvert (7)      | addition/revision of bridge/culvert     |
| <input type="checkbox"/> Levee/Floodwall (8)     | addition/revision of levee/floodwall    |
| <input type="checkbox"/> Coastal (9)             | new or revised coastal elevations       |
| <input type="checkbox"/> Coastal Structures (10) | addition/revision of coastal structure  |
| <input type="checkbox"/> Dam (11)                | addition/revision of dam                |
| <input type="checkbox"/> Alluvial Fan (12)       | structures proposed on alluvial fan     |

### **3.0 HYDROLOGY, HYDRAULICS, AND MAP INFORMATION**

#### **3.1 Hydrology**

No new hydrologic analysis was conducted for this study.

#### **3.2 Hydraulic Models**

Since the as-built conditions are the same as the engineering plan submitted in the CLOMR package, no new hydraulic modeling was conducted for the LOMR package. The hydraulic modeling documentation was included in the CLOMR package.

#### **3.3 Mapping**

Field as-built survey for the project was conducted in July 2002. The as-built plan has been provided by Wood, Patel & Associates, Inc. The internal job number for this project by Wood/Patel is 96559.04. Both the study work map and annotated FIRM panel were previously included in the CLOMR package.

#### 4.0 SUMMARY

The purpose of this package is to complete the requirements for a LOMR request, since the CLOMR Technical Data Notebook (TDN) for this project was submitted to FEMA in September 1999 and approved by FEMA in February 2000 (see CLOMR issued by FEMA in Appendix A).

The requirements for a LOMR, as listed in the CLOMR letter, are as follows:

1. FEMA MT-2 Form 1 – Revision Requestor and Community Official Form: This form is provided in Section 2.0.
2. As-built plans of the project: The proposed construction has been completed and the as-built plan has been provided in Exhibit A.
3. Hydrologic model: Since the hydrology is the same as the CLOMR, no new hydrology study was conducted.
4. Hydraulic models: Since the project is built as proposed, no new hydraulic modeling was conducted.
5. Study workmaps: Since the project is built as proposed, the floodplain and floodway boundaries delineations are the same as the CLOMR study work maps.
6. Annotated FIRM panel: It is the same as the one provided in the CLOMR package.
7. Project operation and maintenance plan: It is included in Appendix B.
8. Inspection letter: A certification letter of the construction inspection is included in Appendix C.

**APPENDIX A**  
**CONDITIONAL LETTER OF MAP REVISION (CLOMR)**



Federal Emergency Management Agency **RECEIVED**

Washington, D.C. 20472

MAR 2 - 2000

FEB 28 2000

**WOOD / PATEL**

The Honorable Skip Rimsza  
Mayor of the City of Phoenix  
200 West Washington, 11<sup>th</sup> Floor  
Phoenix, Arizona 85003

IN REPLY REFER TO:

Case Number: 99-09-1210R  
Community Name: City of Phoenix, Maricopa  
County, Arizona  
Community Number: 040051

(104)

Dear Mayor Rimsza:

This is in reference to an August 30, 1999, letter from Mr. Ashok C. Patel, P.E., of Wood, Patel & Associates, Inc., requesting a conditional Letter of Map Revision (LOMR) for a proposed project to channelize and realign a portion of East Fork Cave Creek. The proposed project, which will be located adjacent to Greenway Parkway from a point approximately 300 feet downstream of 9<sup>th</sup> Street to Cave Creek Road, will consist of redirecting the watercourse from East Fork Cave Creek into the Greenway Parkway Channel. The flow will be carried to the Greenway Parkway Channel by two storm drains at 18<sup>th</sup> and 20<sup>th</sup> Streets from Detention Basin numbers 3A and 3B. The area of the proposed project is shown on the Maricopa County and incorporated areas Flood Insurance Rate Map (FIRM) number 04013C1220 G, dated September 30, 1995.

We received the following technical data, prepared by Wood, Patel & Associates, Inc., in support of this request:

- a certified engineering report, titled Upper East Fork Cave Creek Channel, Greenway Parkway Channel, City of Phoenix, Maricopa County, Arizona, Conditional Letter of Map Revision, Technical Data Notebook, dated August 30, 1999, containing the following:
  - a TR-20 hydrologic model, dated February 12, 1993, of the 1% annual chance (100-year) flood discharge for the East Fork Cave Creek watershed, reflecting existing conditions;
  - a TR-20 hydrologic model, dated November 4, 1998, of the 1% annual chance flood discharge for the East Fork Cave Creek watershed, reflecting proposed conditions;
  - a HEC-2 hydraulic model, dated February 25, 1993, of the 1% annual chance flood for East Fork Cave Creek from Central Avenue to 7<sup>th</sup> Street, duplicating the model used to prepare a LOMR (Case No. 92-09-161P), effective on October 1, 1992, and incorporated into Maricopa County FIRM number 04013C1215 H, dated September 30, 1995;
  - a HEC-RAS hydraulic model, dated July 8, 1999, of the 1% annual chance flood for Greenway Parkway Channel from 9<sup>th</sup> Avenue to Cave Creek Road, reflecting proposed conditions;
  - a topographic map, titled Upper East Fork Cave Creek, Drainage Channel, FEMA LOMR Submittal, dated September 1992, at a scale of 1"=200',

with a contour interval of 2 feet, reflecting the existing conditions 1% annual chance floodplain for East Fork Cave Creek from Central Avenue to 7<sup>th</sup> Street;

- a topographic map, titled Proposed Floodway Work Map, Upper East Fork Cave Creek, Greenway Parkway Channel, FEMA CLOMR Submittal, dated January 5, 1999, at a scale of 1"=200', with a contour interval of 2 feet, reflecting the proposed conditions 1% annual chance (Zone A) floodplain for Greenway Parkway Channel; and
- an annotated copy of Maricopa County FIRM number 04013C1220 G, dated September 30, 1995, reflecting the proposed conditions 1% annual chance (Zone A) floodplain for Greenway Parkway Channel;
- a set of certified plans, titled City of Phoenix, Street Transportation Department, Design & Construction Management Division, Greenway Parkway Channel, 9<sup>th</sup> Street to Cave Creek Road, dated September 2, 1999, reflecting the proposed conditions for Greenway Parkway Channel;
- a letter, dated December 10, 1999, from the City of Phoenix, approving the proposed revision to the 1% annual chance (Zone A) floodplain and certifying that no structures would be impacted by the proposed project; and
- completed application/certification forms, including community concurrence with this request.

We received all data necessary to process this request by December 13, 1999.

We have reviewed the submitted data and determined that the proposed project meets the minimum floodplain management criteria of the National Flood Insurance Program (NFIP). If the project is built as proposed, a revision to the FIRM for your community will be warranted. This revision will show the removal of the 1% annual chance (Zone A) floodplain of East Fork Cave Creek from Beardsley Road to a point approximately 300 feet west of 9<sup>th</sup> Street and the addition of a 1% annual chance (Zone A) floodplain for the proposed Greenway Parkway Channel from 9<sup>th</sup> Street to Cave Creek Road, as shown by the aforementioned data. The addition of the 1% annual chance (Zone A) floodplain will be contained within the channel right of way. Future revisions to the FIRM or restudies of the flood hazards in this area could modify this determination.

We based this determination on the 1% annual chance flood discharges computed in the aforementioned proposed conditions TR-20 hydrologic model. Future development of projects upstream could cause increased flood discharges, which could cause increased flood hazards. A comprehensive restudy of your community's flood hazards would consider the cumulative effects of development on flood discharges and could, therefore, establish greater flood hazards in the area.

Your community must approve all proposed floodplain development, including this proposed project, and ensure that permits required by other Federal agencies and/or State and local agencies have been obtained. State and/or community officials may set standards for construction that are more restrictive than the minimum NFIP standards or may limit

development in floodplains, based on knowledge of local conditions and in the interest of safety. If the State of Arizona and/or the City of Phoenix have adopted more restrictive or comprehensive floodplain management criteria, those criteria take precedence over the minimum NFIP requirements.

NFIP regulations Section 65.3 states that when a community's base (1% annual chance) flood elevations increase or decrease because of physical changes that affect flooding conditions, the community must submit technical or scientific data to Federal Emergency Management Agency (FEMA) that substantiate these changes. The community must submit such data as soon as possible, but no later than 6 months after such data become available, so that FEMA can base risk premium data and floodplain management requirements on current information.

Channel modifications and culverts will fail to function as designed without proper maintenance, such as regular clearing of the channelized area or culvert. To avoid such failures, we require participating communities to ensure that the flood-carrying capacity within the altered or relocated portion of any watercourse is maintained according to NFIP regulations Subparagraph 60.3(b)(7). Therefore, upon completion of the project, your community must submit documentation ensuring that the modified channel and culverts will be maintained to preserve their design function. We may request that your community submit a description and schedule of its channel and culvert maintenance, as outlined in Subparagraph 65.6(a)(12) of the NFIP regulations.

Upon completion of the proposed project, your community should request a revision to the FIRM. The revision request should be submitted to our Regional Office in San Francisco, California, and include the data listed below.

1. Evidence of compliance with NFIP regulations Paragraph 65.4(b) which states that "all requests for changes to effective maps... must be made in writing by the community's Chief Executive Officer (CEO) or an official designated by the CEO. Should the CEO refuse to submit such a request on behalf of another party, we will agree to review the request only if written evidence is provided indicating the CEO or designee has been requested to do so."
2. As-built plans of the project, certified by a registered professional engineer.
3. A TR-20 hydrologic model of the 1% annual chance flood discharge for Greenway Parkway Channel, representing as-built conditions.
4. A HEC-RAS hydraulic model of the 1% annual chance flood for Greenway Parkway Channel, representing as-built conditions.
5. Delineation of the 1% annual chance (Zone A) floodplain for Greenway Parkway Channel along with the locations and alignments of cross sections used in the aforementioned HEC-RAS hydraulic model. The revised floodplain boundaries must tie-in with effective information at both the upstream and downstream limits of the area of revision.
  - a. Please show this information on a certified map of suitable scale and topographic definition to provide reasonable accuracy.

- b. Label all items for easy cross-referencing to the summary data.
6. An annotated copy of Maricopa County FIRM number 04013C1220 G, dated September 30, 1995, reflecting the as-built 1% annual chance (Zone A) floodplain. The as-built floodplain boundaries must tie-in with the effective boundaries at both the upstream and downstream limits of the area of revision.
7. Evidence of compliance with Subparagraphs 65.6(a)(12) of the NFIP regulations regarding channel and culvert maintenance, as previously discussed.
8. If structures are constructed on filled areas within the 1% annual chance (Zone A) floodplain, evidence of compliance with Subparagraph 65.5(a)(4), as discussed previously, certified by a registered professional engineer or licensed land surveyor.

If the project is built as proposed, you do not have to resubmit items 3 and 4; otherwise, please resubmit them. We have enclosed a copy of our application/certification forms for your reference. Typically, we do not require these forms if the project is completed as proposed. The enclosed document, titled Requirements for Submitting Application/Certification Forms to Support Requests for NFIP Map Revisions, describes in detail the circumstances under which the forms are required.

The NFIP is not funded by taxes; rather, its expenses are primarily borne by policyholders. To minimize the financial burden on our policyholders, FEMA has established a flat processing fee for review of proposed projects and requests for revisions to published flood information and maps. Currently the fee for an as-built LOMR request in follow-up to this conditional LOMR is \$3,400, which must be received before we can begin processing. This fee represents the new fee schedule effective September 23, 1999. Please note that the fees are subject to change, and the fee for the follow-up LOMR may change between the date of this letter and the date that the follow-up LOMR is submitted. If items 3 and 4 listed above must be resubmitted, the review and processing fee could be higher. Your payment must be a check or money order made payable to the National Flood Insurance Program and should be forwarded to:

Federal Emergency Management Agency  
Fee Charge System Administrator  
P.O. Box 3173  
Merrifield, Virginia 22216

Once we receive the items listed above, including the processing fee, complete our review, and verify that the completed project meets all applicable NFIP standards, we will revise your community's FIRM to incorporate the effects of the completed project, as appropriate.

Part 65 of the enclosed NFIP regulations further describes the nature and extent of the material needed to support a request to revise a FIRM. Your compliance with the criteria outlined in this document will streamline our review, allowing us to expeditiously revise your community's FIRM.

5

If you have any questions, please do not hesitate to contact the Director, Mitigation Division of FEMA in Denton, Texas, at (940) 898-5399, or the FEMA Map Assistance Center toll free at 1-877-FEMA MAP (336-2627).

Sincerely,



Max H. Yuan, P.E.  
Project Engineer  
Hazards Study Branch  
Mitigation Directorate

For: Matthew B. Miller, P.E., Chief  
Hazards Study Branch  
Mitigation Directorate

Enclosures

cc: Ms. Cindy D. White, P.E., City of Phoenix Floodplain Manager  
Mr. Ashok C. Patel, P.E.  
State Coordinator

**APPENDIX B**  
**OPERATION AND MAINTENANCE PLAN**



## City of Phoenix

STREET TRANSPORTATION DEPARTMENT

July 18, 2002

Federal Emergency Management Agency  
Hazard Study Branch  
Matthew B. Miller, P. E., Chief.  
500 "C" Street Southwest  
Washington D. C. 20472

Dear Mr. Miller:

RE: LETTER OF MAP REVISION FOR GREENWAY PARKWAY CHANNEL  
CASE NUMBER: 99-09-121OR

The City of Phoenix will adopt and enforce the modified regulatory floodway, according to the Phoenix City Code, Article 1, Chapter 32B, Floodplains. A copy of the stated regulation is included with this letter. The City of Phoenix also understands the responsibility and the liability for the inspections and to ensure flow carrying capacities for the Greenway Parkway Channel. Attached is a copy of the City of Phoenix Policy and Procedure for Maintenance of Drainage Facilities. This letter is in accordance with 65.6 (a) (12) of the National Flood Insurance Program Regulations.

Sincerely,

A handwritten signature in black ink, appearing to read "Mushtaq".

Hasan Mushtaq Ph.D., P. E., C. F. M.  
Floodplain Manager

HM/DW/aff/maintenance.doc

Attachments



CITY OF PHOENIX

## STREET MAINTENANCE DIVISION POLICY AND PROCEDURE

4.14

1 of 2

NUMBER

MAINTENANCE OF DRAINAGE FACILITIES

12-02-92

SUBJECT

ISSUE DATE

### PURPOSE:

To insure all drainage facilities are maintained and kept clear from objects that may impede the flow of storm runoff.

### POLICY:

All drainage facilities shall be inspected and cleaned on a maintenance schedule.

### PROCEDURE:

1. The Street Maintenance Drainage Foreman shall visually inspect each drainage facility in his/her section once a month.
2. The Drainage Foreman shall schedule the cleaning as needed, but no more than the established service levels, unless it is determined that if allowed to exist could become an obstruction to drainage.
3. The following is the established service levels.
  - a) Man-made Drainage Easements: Inspected and cleaned, if needed, once a month.
  - b) Dedicated Natural Washes: Inspected monthly and cleaned of debris twice annually.
  - c) Un-dedicated Natural Washes: Inspect twice annually and notify adjacent property owner to clean as needed. If the property owner does not remove the debris from the wash, the Foreman shall advise the area Street Maintenance Field Inspector who shall follow through by notifying NIH - Zoning Enforcement.
  - d) Man-made Detention Basins: Inspect monthly and clean as needed.
  - e) Storm Drainage Inlets: Inspect monthly and clean as needed.

The Street Maintenance Section shall respond to any complaints regarding the clogging of drainage facilities and correct the problem within five days of notification. The above service levels shall be followed for routine maintenance. Extenuating circumstances may require deviation.

DTM:ve

## Chapter 32B

### FLOODPLAINS\*

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\* **Cross References:** Engineering and Architectural Services Department, § 2-27; Development Advisory Board, § 2-164 et seq.; building regulations, ch. 9; subdivisions, ch. 32; grading and drainage, ch. 32A.

**State Law References:** Floodplain management, A.R.S. § 48-3601 et seq.; municipal floodplain management programs, A.R.S. § 48-3610.

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#### Article I. General

Sec. 32B-1. Implementation.  
Sec. 32B-2. Definitions.

#### Article II. Regulations

Sec. 32B-3. Maps.  
Sec. 32B-4. Classification of floodplains.  
Sec. 32B-5. Regulation.  
Sec. 32B-6. Interim elevations.  
Sec. 32B-7. Coordination in floodplain management.  
Sec. 32B-8. Non-prohibited construction.  
Sec. 32B-9. Reserved.  
Sec. 32B-9.1. Manufactured homes.  
Sec. 32B-9.2. Mechanical and utility equipment.  
Sec. 32B-9.3. Federal and State permits.  
Sec. 32B-9.4. Openings in enclosures below a structure's lowest floor.  
Sec. 32B-10. Sand and gravel operations.  
Sec. 32B-11. Variance provisions.  
Sec. 32B-12. Appeals.  
Sec. 32B-13. Structures in violation of regulations.  
Sec. 32B-14. Diversion of water flow.  
Sec. 32B-15. Violation as separate offense.  
Sec. 32B-16. Severability.  
Sec. 32B-17. Floodplain plan review fees.

### ARTICLE I.

#### GENERAL

##### Sec. 32B-1. Implementation.

To implement the regulation of the floodplain areas in the City of Phoenix, the City Council is designated as the Floodplain Board and the City Engineer is designated as the administrative agent for these regulations.

(Ord. No. G-2027, § 2)

##### Sec. 32B-2. Definitions.

*Area of shallow flooding* means a designated zone in which the base flood depths range from one to three feet; a clearly defined channel does not exist; the path of flooding is unpredictable and indeterminate; and high velocity flow may be evident.

*Area of special flood hazard* means the land within a floodplain which is subject to inundation by the base flood.

*Base flood* means the flood having a one percent chance of being equalled or exceeded in any given year, i.e., the one-hundred-year flood.

*Development* means any manmade change to improved or unimproved real estate, including, but not limited to, buildings and other structures, utilities, pipelines, mining, dredging, filling, grading, paving, or excavation located within the area of special flood hazard.

*Dwelling unit* means any structure usable for residential purposes and which may be located in a single- or multiple-dwelling building, which includes working, sleeping, eating, cooking, recreation facilities, or a combination thereof, except a structure used only for storage purposes.

*Flood or floodwaters* means a temporary overflow of water on land not normally covered by water.

*Flood boundary and floodway maps (FBFM)* means the official map for the community on which the Federal Insurance Administration has delineated the area of special flood hazard and the selected floodway.

*Flood insurance rate maps (FIRM)* means the official maps on which the Federal Insurance Administration has delineated both the areas of special flood hazard and the risk premium insurance rates applicable to the community.

*Flood insurance study* means the official report provided by the Federal Insurance Administration that includes flood profiles, the flood boundary and floodway maps, and the water surface elevations of the base flood.

*Floodplain* means the relatively flat area adjoining the channel of a watercourse, or areas where drainage is or may be restricted by natural or manmade structures which may have been or may be covered partially or wholly by floodwater from a base flood.

*Floodplain Board or Board* means the City Council acting as the "Floodplain Board."

*Floodway fringe area* means that portion of the area of special flood hazard that is not included in the selected floodway.

*Lowest floor* means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access or storage, in an area other than a basement area, is not considered a building's lowest floor, provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this ordinance.

*Manufactured home* means a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. For floodplain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than one hundred eighty consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers, and other similar vehicles.

*Manufactured home park or subdivision* means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

*Mean sea level* means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD of 1929) or other datum, to which base flood elevations shown on a community's flood insurance rate map are referenced.

*Person* means any individual or his agent, firm, partnership, association, corporation, or any agent of the aforementioned groups, or a federal, State, County or municipal government agency or political subdivision thereof.

*Reasonable alteration or repair* means any modification or improvement to existing facilities in which the total cost does not exceed fifty percent of the real cash value assessed at the commencement of construction. A reasonable alteration, however, should not be construed to mean any improvement which would increase the flood hazard to that property or the properties of surrounding homes.

*Regulatory flood elevation* means the elevation which is one foot above the "base flood" elevation for a "watercourse" for which the "base flood" elevation has been determined and shall be as determined by the criteria developed by the City Engineer for all other watercourses.

*Selected floodway* means the limits, as determined by the City Engineer, where the permitted encroachment in the floodplain will allow passage of the one-hundred-year flood without increasing the flood heights more than one foot. Additional hydraulic criteria such as maximum flow velocities of five feet per second at the limits of the selected floodway, smooth transitions around developments, and equal conveyance removal from each side will be used in computing the lines of the selected floodway.

*Start of construction* includes substantial improvement, and means the date the

building permit was issued, provided the actual start of construction, repair, reconstruction, placement, or other improvement was within one hundred eighty days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the state of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers, or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure.

*Structure* means a walled and roofed building or "manufactured home" that may or may not be habitable, may or may not be constructed on a permanent foundation, and was manmade.

*Substantial improvement* means any repair, reconstruction or improvement of a structure, the cost of which equals or exceeds fifty percent of the market value of the structure either before the improvement or if the structure was damaged and is being restored, before the damage occurred. A substantial improvement will not be permitted nor should it be construed to mean any modification which will increase flood hazard risk.

*Violation* means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the elevation certificate, other certifications, or other evidence of compliance required by this chapter is presumed to be in violation until such time as that documentation is provided.

*Watercourse* means any lake, river, creek, stream, wash, arroyo, channel, or other body of water having banks and bed through which waters flow at least periodically. The term may include specifically designated areas in which flood damage may occur. (Ord. No. G-2027, § 2; Ord. No. G-3092, § 2)

**Cross References:** Definitions and rules of construction generally, § 1-2.

## ARTICLE II.

### REGULATIONS

#### Sec. 32B-3. Maps.

The areas of special flood hazard and the selected floodway for designated floodplains are shown on the current maps labeled "FIRM" and "Floodway," or as they may subsequently be amended, on file with the City Engineer, which maps are incorporated herein by reference. The maps are consistent with the criteria established by

the Arizona Department of Water Resources and Federal Emergency Management Agency. New or additional engineering data may be considered for re-evaluation of floodplain and floodway delineations if circumstances indicate such action is in the public interest. Any such scientific or technical data will be submitted to the office of the City Engineer for review and conformance with established policy.  
(Ord. No. G-2027, § 2; Ord. No. G-2641, § 1; Ord. No. G-3092, § 3)

#### **Sec. 32B-4. Classification of floodplains.**

To encourage the safe and orderly development of floodplain land, the Board recognizes that the floodplains consist of two distinct areas: the floodway fringe area having lower water velocities and shallower depths of flow and, the selected floodway which contains greater flow depths and damaging velocities. The Board also recognizes that encroachment into the floodway fringe area will not substantially increase the flood hazard to adjoining properties. It is also recognized that development and construction within the selected floodway will require higher standards of engineering and construction than development within the floodway fringe area in order to insure that there is no substantial hazard to such development or construction and that it does not create a substantial hazard to other property within the floodplain.  
(Ord. No. G-2027, § 2)

#### **Sec. 32B-5. Regulation.**

In order to promote the public health, safety and general welfare, the Floodplain Board will enforce the following regulations:

1. No person may either obstruct, divert, or reduce the capacity within the area of special flood hazard by constructing any development or altering the width or course of said floodways except as provided in these regulations.
2. Construction and development may occur within the floodway fringe and the areas of shallow flooding provided that the City Engineer review and approve all such requests for building permits prior to issuance by the Building Official. The City Engineer will ascertain that the proposed construction will incorporate appropriate floodproofing measures to the "regulatory flood elevation," or that the "lowest floor" is above the "regulatory flood elevation." A "dwelling unit" shall be so constructed so as to place the "lowest floor" elevation of the "dwelling unit" above the "regulatory flood elevation." Appropriate floodproofing measures may include, but not be limited to: providing access during flood events, maintaining electrical, water, and sewer services, designing foundations and structures to withstand hydraulic loadings expected during the base flood and designing windows, doorways and other openings located below the level of the base flood to prevent the entrance of floodwaters. Any

applicant for a building permit has the burden of furnishing the Development Services Director satisfactory evidence to enable him to either determine that the applicant's property does not fall within the area of special flood hazard or that there is no substantial hazard, either to the proposed development or to the property.

3. Construction and development may be permitted within the selected floodway subject to review and approval by the City Engineer, on an individual permit basis; however, no development in the selected floodway will be allowed which will increase the water surface elevation of the base flood.
4. These regulations do not affect the existing use of property in the areas of special flood hazard or the right to the continuation of that use, nor do they affect the reasonable repair or alteration of property for the purpose for which such property was lawfully used on February 12, 1974.
5. Any substantial improvements to existing structures must conform to the requirements of this chapter.
6. New developments which provide on-site waste disposal systems must locate them outside the boundary of the base flood.
7. Within one hundred twenty days after completion of any flood control project, the areas of special flood hazard and the selected floodway in the area benefited by such works will be redefined.
8. Any new building or development located or maintained within the area of special flood hazard must have prior written authorization from the City Engineer, except as specified in 32B-8 and 32B-10 of these regulations.
9. The owner must have a registered professional engineer, or registered land surveyor, certify to the Development Services Director the actual elevation of the minimum finished floor of any new or substantially improved structure located within the area of special flood hazard. A record of these certifications shall be maintained with the Development Services Director. In addition, where a nonresidential structure is intended to be made watertight below the base flood level, a registered professional engineer or registered architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice for meeting the applicable provisions of this section. A record of such certification which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained with the Development Services Director.

10. The City Engineer and the Development Services Director will obtain and maintain for public inspection, all records pertaining to the provisions of this ordinance.
11. No development shall increase the one-hundred-year twenty-four-hour peak or the one-hundred-year two-hour peak whichever is higher. Nor shall the time of the peak change or the total runoff exceed the pre-development total runoff.
12. In areas of special flood hazard without a selected floodway or its flood insurance rate map (FIRM) [or] flood insurance flood boundary and floodway maps (FBFM): No new flood boundary and floodway maps, construction, substantial improvements, or other development (including fill) shall be permitted unless it is demonstrated that the cumulative effect of the proposed developments, when combined with all other existing and proposed developments will not increase the water surface elevation of the base flood more than one foot at a point within the community.

(Ord. No. G-2027, § 2; Ord. No. G-3092, § 4; Ord. No. G-3313, § 1)

#### **Sec. 32B-6. Interim elevations.**

When base flood elevations and delineations are not available due to recent annexation or other causes, the City Engineer may obtain, review, and reasonably utilize any base flood elevation data available from a federal, State, County or other political subdivision for the purpose of securing a base flood determination, until such time as the Federal Emergency Management Agency has published the final FIRM (flood insurance rate maps) and FBFW (flood boundary and floodway maps).

(Ord. No. G-2027, § 2; Ord. No. G-3313, § 1)

#### **Sec. 32B-7. Coordination in floodplain management.**

The Floodplain Board may adopt other regulations which provide for coordination with all other interested and affected political subdivisions and State agencies and may enter into agreements for cooperative regulations, planning, designs, and construction. The Development Services Director shall advise the Flood Control District of Maricopa County and any other adjacent jurisdiction having responsibility for floodplain management, in writing, and provide a copy of any development plan of all applications for floodplain use permits or variances to develop land in a floodplain or floodway within one mile of the boundary between the City's area of jurisdiction and the area of jurisdiction of the District. The Development Services Director shall also advise the District and any adjacent jurisdiction having responsibility for floodplain management in writing and provide a copy of any development plan of any major development proposed within a floodplain or floodway which could affect floodplains, floodways or watercourses outside the City's area of jurisdiction. Written notice and a copy of the plan of development shall be sent to any adjacent jurisdiction no later than

three working days after having been received.  
(Ord. No. G-2027, § 2; Ord. No. G-3092, § 5; Ord. No. G-3313, § 1)

**Sec. 32B-8. Non-prohibited construction.**

Written authorization shall not be required nor shall the Floodplain Board prohibit:

1. The construction of bridges, culverts, dikes, and other structures necessary to the construction of public highways, roads, and streets intersecting or crossing a watercourse.
2. The construction of storage dams for watering livestock or wildlife structures on banks of a creek, stream, river, wash, arroyo or other watercourses to prevent erosion of or damage to adjoining land, or dams for the conservation of floodwaters as permitted by A.R.S. tit. 45, ch. 3.1 (A.R.S. § 45-801.01 et seq.).
3. Construction of tailing dams and waste disposal areas for use in connection with mining and metallurgical operations.

(Ord. No. G-2027, § 2)

**Sec. 32B-9. Reserved.**

**Editors Note:** Section 32B-9 was repealed; see Ord. No. G-3092, § 6.

**Sec. 32B-9.1. Manufactured homes.**

Any manufactured homes to be placed within the area of special flood hazard shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated so that the bottom of the structural frame or the lowest point of any attached appliances, whichever is lower, is at or above the regulatory flood elevation and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State requirements.

(Ord. No. G-3092, § 6)

**Sec. 32B-9.2. Mechanical and utility equipment.**

Electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.

(Ord. No. G-3092, § 6)

**Sec. 32B-9.3. Federal and State permits.**

All development located within an area of special flood hazard shall obtain all permits required by State and federal law, specifically that required by section 404 of the Federal Water Pollution Control Amendments of 1972.

(Ord. No. G-3092, § 6)

**Sec. 32B-9.4. Openings in enclosures below a structure's lowest floor.**

For all new construction and substantial improvements, fully enclosed areas below the lowest floor that are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria:

A minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(Ord. No. G-3092, § 6)

**Sec. 32B-10. Sand and gravel operations.**

Sand and gravel operations are allowed within the floodplain subject to the following conditions:

1. Within the selected floodway, sand and gravel operations may be conducted without permit provided that:
  - (a) The operations are restricted to [the] extraction of sand and gravel for commercial purposes; and
  - (b) Excavations are not so located nor of such depth as to present a hazard to other development, including, but not limited to, roads, bridges, culverts, and utilities.
2. No stockpiling, within the selected floodway, of material or tailings that may obstruct, divert, or retard the flow of floodwaters will be permitted except as reviewed and approved by the City Engineer, on an individual permit basis.
3. Stockpiling of sand and gravel products within the floodway fringe area may be done without permit provided that the operator furnishes the City Engineer satisfactory evidence that such stockpiling is within the floodway fringe area rather than in the selected floodway.

4. Excavations for sand and gravel for commercial purposes within the floodway fringe area which exceed the definitions contained in section 32A-6, paragraph (b)(1) [sic] (Grading and Drainage) of the City Code will be permitted subject to review and approval by the City Engineer, on an individual permit basis.

(Ord. No. G-2027, § 2)

**Sec. 32B-11. Variance provisions.**

A. The City Engineer may authorize variances from the terms of this chapter when a literal enforcement of any provisions of this ordinance would result in an unnecessary property hardship and when evidence is presented demonstrating to the satisfaction of the City Engineer that all of the following conditions are fulfilled:

1. That special conditions and circumstances exist which are peculiar to the land or structure involved and which are not applicable to other lands or structures within the same general area such as a new structure to be erected on a lot of one-half acre or less, contiguous to and surrounded by lots with existing structures built below the level of the base flood; and
2. That the alleged hardships caused by literal interpretation of the provisions of this chapter are property hardships which include more than personal inconvenience and financial hardships, and do not result from the action of the owner or the applicant; and
3. That the variances will not be detrimental to persons residing or working in the vicinity and to adjacent property, to the neighborhood and to the public welfare in general; and
4. That the variance is the minimum variance that will make possible the reasonable use of the land or structure; and
5. That appropriate and specific conditions have been stipulated by the City Engineer in connection with the variances as may be deemed necessary in order to fully carry out the intent of the Floodplain Ordinance. The stipulation may include, among other things, a requirement that the applicant insert a note on any future deed or other conveyance of the property stating that the property is located in a floodprone area. The notice will include the number of feet that the lowest non-floodproofed floor of the proposed structure is below the base flood level and a statement that the actuarial flood insurance rates increase as the first floor elevation decreases. A violation of any condition shall be considered a violation of the Floodplain Ordinance and such violation shall render the variance null and void; and

6. That the burden of proof in all matters heard by the City Engineer shall rest with the applicant. The granting of a variance is a matter of grace, resting on the discretion of the City Engineer, and a refusal is not a denial of a right, conditional or otherwise.

B. A variance will be issued for the reconstruction, rehabilitation, or restoration of all structures listed on the National or State Register of Historic Places or the State inventory of historic places, without regard to conflicting procedures and provisions set forth in this section.

(Ord. No. G-2027, § 2)

**Sec. 32B-12. Appeals.**

Appeals from decisions of the City Engineer in application of these regulations may be taken to the Development Advisory Board acting as the Floodplain Appeal Board. Any person aggrieved by a decision of the Floodplain Appeal Board may bring special action in a court of competent jurisdiction. The Floodplain Appeal Board, when reviewing an appeal from a decision of the City Engineer, shall follow the rules and standards set forth in this ordinance.

(Ord. No. G-2027, § 2; Ord. No. G-3313, § 1; Ord. No. G-4176, § 13, passed 5-19-1999, eff. 6-18-1999)

**Sec. 32B-13. Structures in violation of regulations.**

Except as provided in paragraphs 32B-8 and 32B-10, all new development located or maintained within any area of special flood hazard in violation of the regulations of this chapter and without written authorization from the Floodplain Board or the City Engineer as administrative agent of the Floodplain Board is hereby declared to be a public nuisance per se and may be abated, prevented or restrained by action of the City.

(Ord. No. G-2027, § 2)

**Sec. 32B-14. Diversion of water flow.**

A. It is unlawful for any person to divert, retard, or obstruct any watercourse in the City of Phoenix whenever such action creates a hazard to life or property without securing the written authorization required by the preceding regulations.

B. Any person violating the provisions of this section shall be guilty of a misdemeanor.

(Ord. No. G-2027, § 2)

**Sec. 32B-15. Violation as separate offense.**

Each day of violation of these regulations shall constitute a separate offense.

(Ord. No. G-2027, § 2)

**Sec. 32B-16. Severability.**

If any provision of this ordinance is held invalid, such invalidity shall not affect other provisions which can be given effect without the invalid provision, and to this end the provisions of this ordinance are declared to be severable.

(Ord. No. G-2027, § 2)

**Sec. 32B-17. Floodplain plan review fees.**

The Development Services Director shall collect the fees set forth in this section before providing floodplain plan review services:

FLOODPLAIN PLAN REVIEW  
FEE SCHEDULE  
Effective September 1, 1987

1. Generated through grading and drainage review:

\$240.00/plan sheet for office review.

\$170.00/plan sheet for third review and each thereafter.

\$240.00/plan sheet for revisions to approved plans.

\$125.00/plan sheet for updates to approved plans.

2. Generated through building safety check:

\$17.00/form, finished floor requirement. (Form 126-225D Rev.)

\$240.00/plan sheet for office review.

(Ord. No. G-2217, § 1; Ord. No. G-2226, § 2; Ord. No. G-2512, § 1; Ord. No. G-2629, § 1; Ord. No. G-2787, § 1; Ord. No. G-3011, § 1; Ord. No. G-3127, § 3)

**Cross References:** Development Services Department fee schedule, app. A.2.

**APPENDIX C**

**CERTIFICATION LETTER**  
**OF THE CONSTRUCTION INSPECTION**



## City of Phoenix

STREET TRANSPORTATION DEPARTMENT  
DESIGN AND CONSTRUCTION MANAGEMENT DIVISION

February 7, 2002

FNF Construction, Inc.  
PO Box 5005  
Tempe, Arizona 85280

Gentlemen:

**RE: CITY OF PHOENIX PROJECT NO: ST83130010 CONTRACT NO. 94247  
GREENWAY PARKING CHANNEL – 9<sup>TH</sup> STREET TO CAVE CREEK ROAD.**

A final inspection of the above named project has been made, and it was found to have been completed substantially in accordance with the approved plans and/or specifications.

This project has been accepted as of January 25, 2002, and all securities can be released to the contractor.

Sincerely,

Peter A. Johnson, P.E.  
Deputy Street Transportation Director

PAJ:jlo

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|                                     |                     |                                 |
|-------------------------------------|---------------------|---------------------------------|
| c: Vicky Miel                       | - City Clerk        | Robert Bortfeld                 |
| John Workley                        | - Accounts          | Joyce Compton                   |
| Ruby Mendez                         | - Eng/Architecture  | Charlie Oxford                  |
| Pat Griffin                         | - Eng/Utilities     | Mark Landrith                   |
| Michael Gritzuk                     | - Water Services    | Materials Lab                   |
| Dee Thompson                        | - Water Services    | Mike Miller                     |
| Greg Ramon                          | - Water Services    | Ralph Goodall                   |
| Andy Brown                          | - Water Services    | Roger Luczu                     |
| Ross Blakely                        | - St. Trans.        | Fred Gardner                    |
| Robert Ashton                       | - St. Trans./CIP    | Gary Meinders                   |
| Sandy Remy                          | - St. Trans./Admin. | Tony Humphrey                   |
| Raymond Acuna                       | - St. Maint.        | Ed Scolia                       |
| Barbara Hunt                        | - St. Maint.        | JoAnne Dukeshire - Goals Compl. |
| CENTRAL FILE / FIELD FILE           |                     | Carnell Thurman - Dev. Svcs.    |
| TICKLER FILE: <u>December, 2002</u> |                     | Jim Taschner - Dev. Svcs.       |

**EXHIBIT A**  
**AS-BUILT PLAN**

As-built plans are under separate cover.

