

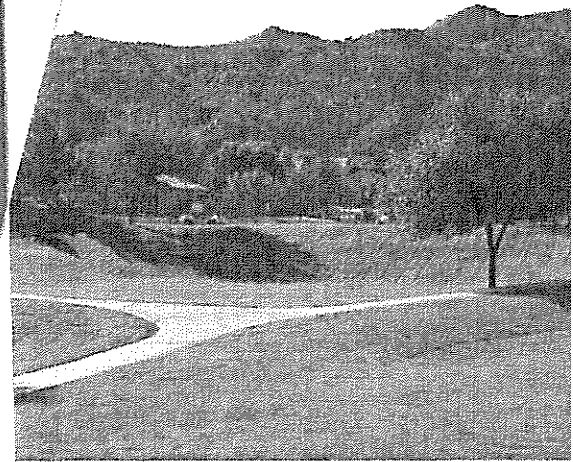
GROVES AT SOUTH MOUNTIAN HOMEOWNERS ASSOCIATION  
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**THIS REPORT IS A GUIDELINE FOR THE BOARD SO  
THEY CAN MAKE DECISIONS PERTAINING TO THE LONG  
TERM MAINTENANCE AND VIABILITY OF THE IRRIGATION  
AND LANDSCAPE ELEMENTS WITHIN THE GROVES.**

# Landscape and Irrigation Recommendations

The Groves

February 29, 2014  
JANUARY



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# 1 Site Assessment

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## 1.1 Site Meetings

### 1.1.1 November 7<sup>th</sup>, 2013 – Coordination with Maintenance Contractor

Andrea Pedersen of Cardno met with Todd of Green Innovations, and Luis Acosta of the Groves Homeowner's Association Board. The group discussed issues with the landscape, and irrigation on the site. Todd informed Andrea of the difficulty they are having with the irrigation system. He feels that it is not sized appropriately to adequately water the site. Due to the design of the system, over-seeding is a particular problem. As a result, Green Innovations has been over-seeding in two phases. The south half of the project is over-seeded first, and the north half second. Todd of Green Innovation recommended to Andrea Pedersen and Luis Acosta that a second meter be added to the irrigation system. He felt that this would solve the problem he is having with watering all of the plants sufficiently with the current irrigation system.

### 1.1.2 November 20<sup>th</sup>, 2013 – Irrigation System Evaluation

Andrea Pedersen of Cardno met with Bob Schottke of Hunter Industries, and Luis Acosta of the Groves Homeowner's Association Board. Bob Schottke is an expert in irrigation and water auditing. We checked the pressure at the sprinkler heads, and it was determined that the pressure is not a problem. Bob provided the following recommendations that he feels will improve the functionality of the system.

1. Install two smart controllers – one to replace Controller 'A' and one to replace Controller 'B' Refer to Appendix D. They will need to be connected together with a common wire. The new common wire will need to cross 27<sup>th</sup> street at the existing sleeve locations which can be located through the original mainline pipe's tracer wire. The smart controllers include several features that will provide water savings. They are as follows:
  - a. Weather sensors: A weather sensor will take rain, wind and evapotranspiration rates into account when preparing water schedules.
  - b. Flow sensor: Installation of a flow meter and a normally closed master valve prevent the system from running during an irrigation line break. The smart controllers (both wired to the flow meter) will sense when there is a break, and assure that the system doesn't operate until it has been repaired.
  - c. Cycle and Soak: This feature will prevent runoff from saturated soil.
2. Assure that all sprinkler nozzles are installed per the original plan set. A random sampling revealed that many nozzles have been changed out with a higher flow than they were originally designed. This can significantly impact the functionality of the system as a whole.

## 1.2 Site Visits

### 1.2.1 December 6<sup>th</sup>, 2013 – Planting Design Evaluation

Andrea Pedersen of Cardno completed a site assessment of the planting conditions. In particular, the areas that require additional planting for aesthetic purposes were noted.

### 1.2.2 January 22, 2014 – Hardscape and Amenity Evaluation

Andrea Pedersen of Cardno completed a site assessment of the hardscape and amenities.

### **1.3 Documentation Collected**

#### **1.3.1 Original Landscape Architectural Construction Documents**

Luis Acosta of the Groves Homeowner's Association Board was able to get a copy of the original landscape architectural construction documents from the City of Phoenix. They were prepared by Gilmore Graves, Inc, and are dated August 19, 1998. They are attached to this document as Appendix A.

#### **1.3.2 Project Photos**

Andrea Pedersen documented the existing condition of the landscape areas photographically. The photos are included below. The photos and location map are attached to this document as Appendix B.

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## 2 Irrigation, Landscape, Hardscape & Amenity Recommendations

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### 2.1 Landscape and Rock Much

The landscape is in good condition. It is apparent that a tree and shrub replacement program has been implemented since original installation. The rock mulch is in fair condition. Bare spots can be found periodically, and it is recommended that the shrub areas are top dressed with new rock mulch.

#### 2.1.1 Trees (Proposed Budget: \$7,175.00)

Andrea Pedersen evaluated tree planting on the site to identify areas that would be aesthetically improved through the addition of trees. These proposed trees are prioritized into three phases. The first phase contains the proposed trees that would provide the most immediate impact, and would be experienced with the most of the Groves' homeowners. Phase Two contains the proposed trees that would impact a smaller percentage of the community, and therefore are not as immediate a need. Trees have limited life spans, so it is a good idea to plant new trees periodically that will mature as the originals reach the end of their life. The proposed planting design is attached to this report as Appendix C.

*Proposed Tree Budget:* (41 24" box @ \$175) = \$7,175.00

#### 2.1.2 Shrubs (Proposed Budget: \$3,750.00)

Andrea Pedersen evaluated shrub planting as well to identify areas that would be aesthetically improved through the addition of shrubs. The proposed planting design is attached to this report as Appendix C.

*Proposed Shrub Budget:*

$\$1,600 (160 \text{ 5 gallons @ } \$10) + \$2,148 (358 \text{ 1 gallons @ } \$6) = \$3,748.00$

#### 2.1.3 Rock Mulch (Proposed Budget: \$54,400.00)

The project contains a total of 188,600 square feet of rock mulch (a.k.a. decomposed granite) within the shrub areas. We are also proposing the addition of 14,500 square feet of rip rap.

*Proposed Rock Mulch Top Dressing Budget:*

$\$47,150 (188,600 \text{ of } \frac{1}{2} \text{\" screened rock mulch @ } \$0.25 \text{ per square foot}) + \$7,250 (14,500 \text{ of } 4 \text{\" minus rip rap @ } \$0.50 \text{ per square foot}) = \$74,930.00$

### 2.2 Irrigation

Andrea Pedersen performed an irrigation review to address two issues identified by the Homeowner's Association Board. The first is the irrigation system's capacity. The landscape contractor expressed difficulty in providing sufficient water to the turf areas. He feels the system is undersized. The second issue is water conservation. The cost of water has steadily risen since the inception of this community, and the HOA is looking for ways to reduce the water bill.

**2.2.1 Irrigation System Capacity (Proposed Budget: \$11,700.00)**

Andrea Pedersen reviewed the irrigation system by consulting with Todd of Green Innovations, Bob Schottke of Hunter Industries, visiting the site, and reviewing the original irrigation plans prepared by others. With the following list of recommended items, the irrigation can be restored to a fully functional system with adequate capacity to water all of the project's plant material. We have included a controller schedule exhibit that illustrates how the system shall be run on the hottest driest day of the year. The controller zone exhibit is attached to this report as Appendix D. The system will need to be run as two zones; Zone A and Zone B. Zone A contains the A valves, and Zone B contains the B valves. Each Zone will only be able to run one valve at a time, but Zone A and Zone B will need to run concurrently. The water window will be less than 10 hours. In order to maximize efficiency, the sprinklers should only be run between 8pm and 6am in the summer. If the irrigation system is upgraded with the following items, and the controller is programmed properly, water savings can reach 20% to 30% annually.

**Water Window Table Zone A**

| Valve        | Type                   | Run Time (minutes)      |
|--------------|------------------------|-------------------------|
| A-9          | MP rotator             | 45                      |
| A-10         | I-20 half              | 30                      |
| A-14         | I-20 half              | 30                      |
| A-15         | I-20 full              | 60                      |
| A-18         | I-20 (halves and full) | 30                      |
| A-19         | I-20 half              | 30                      |
| A-22         | I-20 full              | 60                      |
| A-23         | I-20 half              | 30                      |
| A-24         | I-20 full              | 60                      |
| A-25         | I-20 half              | 30                      |
| A-26         | I-20 half              | 30                      |
| A-27         | I-20 full              | 60                      |
| <b>TOTAL</b> |                        | <b>495 (8.25 hours)</b> |

**Water Window Table Zone B**

| Valve        | Type                   | Run Time (minutes)      |
|--------------|------------------------|-------------------------|
| B-3          | I-20 full              | 60                      |
| B-4          | I-20 half              | 30                      |
| B-5          | MP Rotator             | 45                      |
| B-6          | I-20 half              | 30                      |
| B-7          | MP Rotator             | 45                      |
| B-8          | I-20 full              | 60                      |
| B-10         | I-20 full              | 60                      |
| B-11         | I-20 half              | 30                      |
| B-12         | I-20 half              | 30                      |
| B-13         | I-20 half              | 30                      |
| B-14         | I-20 full              | 60                      |
| B-19         | MP Rotator             | 45                      |
| B-20         | I-20 (halves and full) | 30                      |
| <b>TOTAL</b> |                        | <b>555 (9.25 hours)</b> |

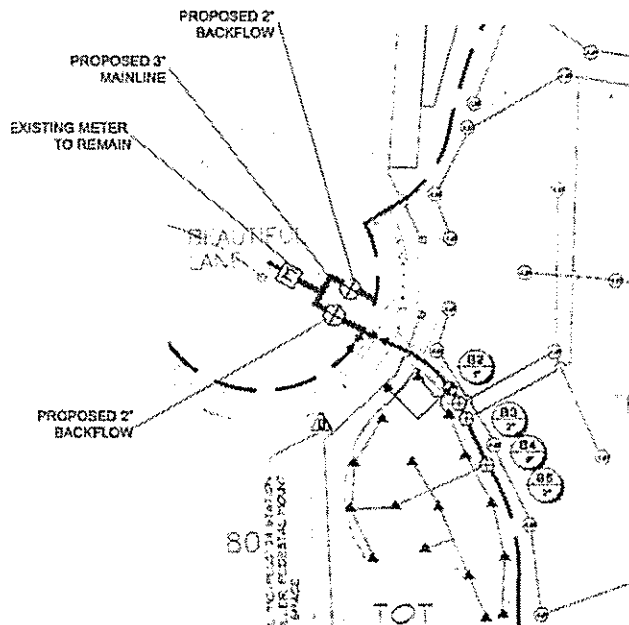


Suggested irrigation upgrades (refer to Point of Connection Diagram Below for Items 2 and 3):

1. Assure that all I-20 sprinkler nozzles are replaced with their originally specified nozzle. The original irrigation design specified that the nozzles be either 3.0 or 4.0. This means that each sprinkler would provide 3 or 4 gallons per minute. Upon a review of the system, it was discovered that most of the nozzles were replaced incorrectly, and as a result are producing double or triple their original design amount.
2. Provide an additional 2" backflow preventer to manifold the system into two parts. This addition will allow the system to run two valves at a time without exceeding the backflow preventer's maximum flow.
3. Change the mainline from the meter to the backflow manifold from a 2" to a 3" line. This will also allow the system to run two valves at a time without exceed the mainline's maximum flow.
4. Replace PGM spray heads with MP Rotators. The MP Rotators are a much more efficient sprinkler. They deliver water at a slower rate, and reduce.
5. Update to smart controllers. The newest smart controllers claim significant water savings. This is accomplished through the following:
  - a. Utilizing site weather and soil conditions to determine the actual amount of water necessary for the plant material.
  - b. Monitoring flow. If a mainline breaks, it immediately shuts the system off preventing large quantities of water loss during the breakage.
  - c. Cycle and soak. The controller is able to open valves for short, more frequent durations, and cycle through the valves multiple times a day. This allows the water to soak into the soil and reduces runoff.
6. Add a normally closed master valve and flow meter. When a master valve is normally closed, the irrigation mainline is only pressurized while it is running. This reduces wear and tear, and leakage. The flow meter allows the controller to know when there is a mainline break.

*Proposed Irrigation Upgrade Cost:*

|   |                        |
|---|------------------------|
| 1. <i>Replace sprinkler nozzles:</i>                                    | <i>\$1,500</i>         |
| 2. <i>Additional backflow preventer:</i>                                | <i>\$2,500</i>         |
| 3. <i>Mainline re-size</i>  | <i>\$1,500</i>         |
| 4. <i>Replace PGMs with MP Rotators</i>                                 | <i>\$1,200</i>         |
| 5. <i>Update Controller 'A' and Controller 'B' to smart controllers</i> | <i>\$5,000</i>         |
| <b>TOTAL</b>  | <b><i>\$11,700</i></b> |



Note: Existing irrigation meter is shown in the street for graphic purposes only. The existing meter is actually located in the shrub area to the east of the cul-de-sac. Construction will consist of manifolding the irrigation into two systems. The mainline downstream of the existing 2" meter shall be changed to a 3" mainline, and the two proposed 2" backflows will installed in a manifolded configuration. The existing 2" backflow can be salvaged, but will require a new concrete pad and backflow preventer cage

Figure 2-1 Revised Irrigation Point of Connection Exhibit

2.2.2 **Water Conservation (Proposed Budget: \$37,500.00)**

The modifications above will conserve some water, however if more savings is desired or necessary, a reduction in the turf area will be necessary. This can be done with the least amount of disturbance by removing the turf areas that are for aesthetic purposes only, and are not conducive to an active use. I would suggest considering the removal of the turf areas shown on Appendix E. These areas could be replaced with rock mulch and shrubs

Turf area: 163,760 S.F.

Potential Removal: 31,800 S.F. (20%)

Proposed Turf Removal Cost:

|   |          |
|---|----------|
| 1. Turf Demolition                            | \$12,000 |
| 2. New Rock Mulch                             | \$11,500 |
| 3. New shrubs (one shrub per 250 square feet) | \$2,500  |
| 4. New drip irrigation                        | \$11,500 |

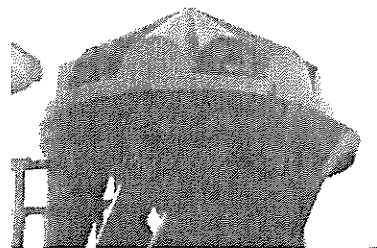
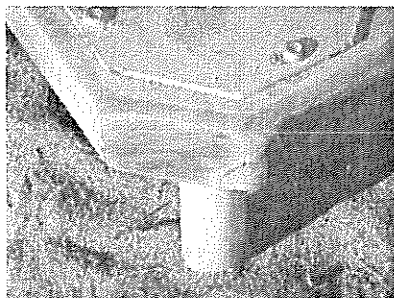
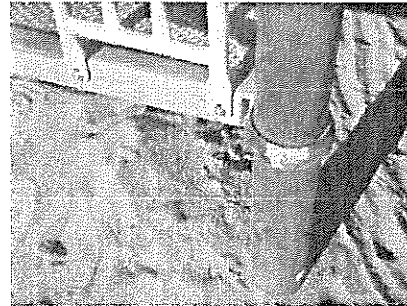
## 2.3 Hardscape and Amenities

### 2.3.1 Hardscape

The hardscape is generally in good condition. The entry monument at 27<sup>th</sup> Street and Baseline's stone veneer and signage looks attractive and does not need to be addressed. The split rail fencing has a fresh coat of paint, but is showing signs of cracking. There, however, does not appear to be an immediate need to replace it. It appears that the theme wall has been recently stuccoed and repainted.

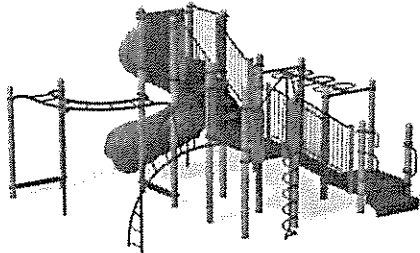
### 2.3.2 Amenities (Proposed Budget: \$ 35,250.00 to \$71,000.00)

The original play structure still exists within the tot lot. Although according to Luis Acosta, it has recently passed a safety inspection, it will require replacement soon.

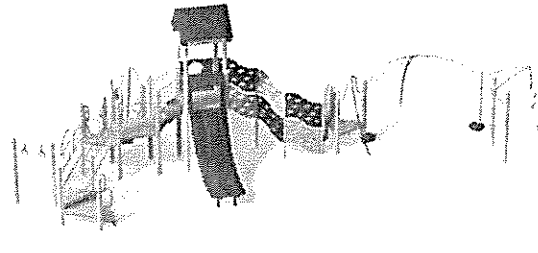


The following images illustrate three potential replacement options along with their respective cost:

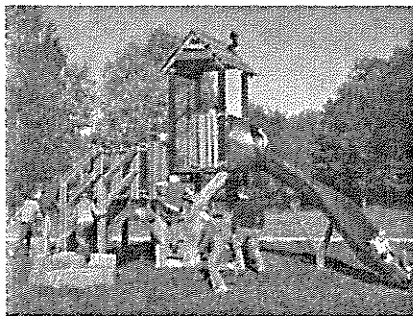
**Figure 2-2 Tot Lot Replacement Options**



Tot Lot Replacement Option One  
Landscape Structures #3733  
Unit Price - \$22,500  
Installation - \$6,750  
Rubberized Safety Surface - \$3,750  
Total Replacement budget - \$33,000

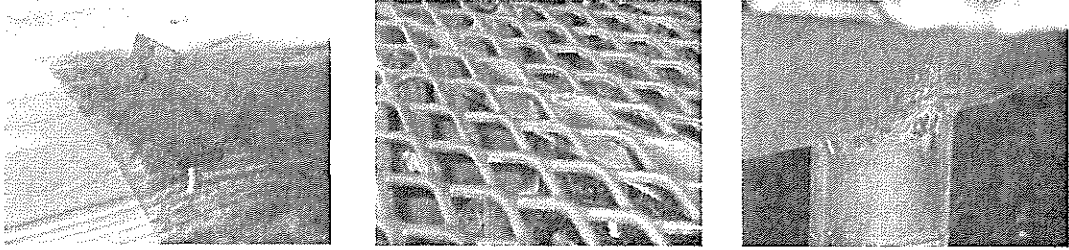


Tot Lot Replacement Option Two  
Landscape Structures #3728  
Unit Price - \$30,500  
Installation - \$9,150  
Rubberized Safety Surface - \$3,750  
Total Replacement Budget - \$43,400



Tot Lot Replacement Option Three  
Landscape Structures #3663  
Unit Price - \$50,000  
Installation - \$15,000  
Rubberized Safety Surface - \$3,750  
Total Replacement Budget - \$68,750

The site furniture within the tot lot is showing enough wear and tear to warrant replacement (see photos below).



**Figure 2-3 Existing Benches**

**Table 2-1 Existing Trash Receptacle**

*Proposed Amenity Budget: \$33,000 to \$68,750 (Tot Lot Range, see above) + \$1,500(2 benches @ \$750) + \$750(1 trash receptacle @ \$750) = \$35,250.00 to \$71,000.00*

## 3 Cost Estimate

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### 3.1 Cost Estimating Procedure

All cost estimate budgets have been provided in the report body above as proposed budgets. The prices contained in this report have been gathered through speaking to industry partners, as well as through experiential knowledge. The numbers presented herein are meant for budgeting purposes only. All items will require a formal bidding process to verify pricing and the numbers could vary significantly based on the time frame's market condition.

The total budget ranges from \$146,775.00 to \$185,525.00.

## 4 Phasing Plan

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The Phasing Plan has been prepared based upon the expenditure schedule prepared by the HOA Board during a work session in January of 2014, as well as Cardno's professional opinion of which areas are a higher priority based on the most positive impact to the entire community. The approximate expenditures budget is \$148,893.00 over five years which falls within the total budget range of \$146,775.00 to \$185,525.00. These numbers are provided for budgeting purposes only. Again, the numbers presented herein are meant for budgeting purposes only. All items will require a formal bidding process to verify pricing and the numbers could vary significantly based on the time frame's market condition.

The expenditure schedule provided by the HOA Board has been updated based on Cardno's recommendations of which updates should be done in which year. Refer to Appendix C – PROPOSED PLANTING DESIGN for designations of which planting, rock mulch, and rip rap areas shall be done in which year. Refer to Appendix E – POSSIBLE TURF REMOVAL AREAS for designations of which turf areas shall be removed in which year. Refer to Appendix F for the updated EXPENDITURE SCHEDULE AND BUDGET.

- 4.1.1 **Year One Estimated Budget - \$21,200.00**
- 4.1.2 **Year Two Estimated Budget - \$30,738.00**
- 4.1.3 **Year Three Estimated Budget - \$36,648.00**
- 4.1.4 **Year Four Estimated Budget – \$16,631.00**
- 4.1.5 **Year Five Estimated Budget - \$43,882.25**

The Groves

APPENDIX

A

ORIGINAL LANDSCAPE  
CONSTRUCTION DOCUMENTS



# LANDSCAPE AND IRRIGATION PLANS

# THE GROVES @ SOUTH MOUNTAIN

S.W.C OF 28TH STREET AND BASELINE ROAD

PREPARED FOR:  
RICHMOND AMERICAN HOMES

## IRRIGATION SCHEDULE

| ITEM | DESCRIPTION   | QUANTITY | UNIT        |
|------|---|----------|-------------|
| 1    | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 2    | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |
| 3    | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 4    | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |
| 5    | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 6    | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |
| 7    | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 8    | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |
| 9    | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 10   | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |

## BOB SMITH EMITTER NOTES

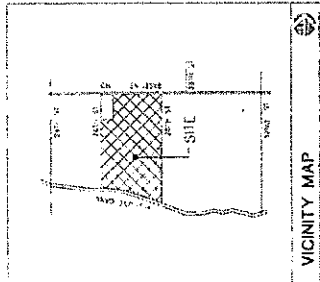
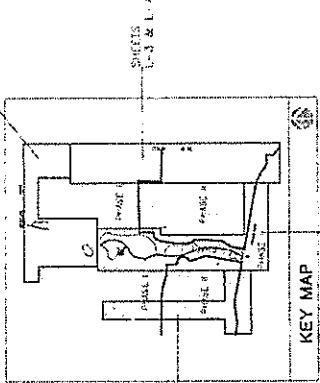
1. ALL EMITTERS SHALL BE INSTALLED AT THE SPACING AND DEPTH INDICATED ON THE PLANS.
2. EMITTERS SHALL BE TESTED AND ADJUSTED TO THE FLOW RATE INDICATED ON THE PLANS.
3. EMITTERS SHALL BE PROTECTED FROM DAMAGE BY TRAFFIC AND OTHER OBSTRUCTIONS.
4. EMITTERS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
5. EMITTERS SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF PHOENIX STANDARDS.

## PIPE SIZING SCHEDULE

| PIPE SIZE | LENGTH | QUANTITY | UNIT        |
|-----------|--------|----------|-------------|
| 1/2"      | 15.00' | 15.00    | LINEAL FEET |
| 3/4"      | 15.00' | 15.00    | LINEAL FEET |
| 1"        | 15.00' | 15.00    | LINEAL FEET |

## IRRIGATION NOTES

1. IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF PHOENIX STANDARDS.
2. IRRIGATION SYSTEM SHALL BE TESTED AND ADJUSTED TO THE FLOW RATE INDICATED ON THE PLANS.
3. IRRIGATION SYSTEM SHALL BE PROTECTED FROM DAMAGE BY TRAFFIC AND OTHER OBSTRUCTIONS.
4. IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
5. IRRIGATION SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF PHOENIX STANDARDS.



## PLANT SCHEDULE

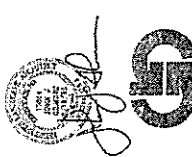
| SYMBOL | PLANT NAME  | QUANTITY | UNIT        |
|--------|---|----------|-------------|
| 1      | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 2      | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |
| 3      | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 4      | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |
| 5      | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 6      | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |
| 7      | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 8      | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |
| 9      | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (PERMANENT) | 15.00    | LINEAL FEET |
| 10     | 1/2" POLYETHYLENE GLASS FIBER REINFORCED PIPE (TEMPORARY) | 15.00    | LINEAL FEET |

## LANDSCAPE NOTES

1. LANDSCAPE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF PHOENIX STANDARDS.
2. LANDSCAPE SYSTEM SHALL BE TESTED AND ADJUSTED TO THE FLOW RATE INDICATED ON THE PLANS.
3. LANDSCAPE SYSTEM SHALL BE PROTECTED FROM DAMAGE BY TRAFFIC AND OTHER OBSTRUCTIONS.
4. LANDSCAPE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS.
5. LANDSCAPE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH THE CITY OF PHOENIX STANDARDS.

## CITY OF PHOENIX NOTES

1. THE CITY OF PHOENIX STANDARDS SHALL BE APPLIED TO ALL LANDSCAPE SYSTEMS.
2. THE CITY OF PHOENIX STANDARDS SHALL BE APPLIED TO ALL IRRIGATION SYSTEMS.
3. THE CITY OF PHOENIX STANDARDS SHALL BE APPLIED TO ALL PIPE SIZING SYSTEMS.
4. THE CITY OF PHOENIX STANDARDS SHALL BE APPLIED TO ALL EMITTER SYSTEMS.
5. THE CITY OF PHOENIX STANDARDS SHALL BE APPLIED TO ALL PLANT SYSTEMS.



CHUCK GARDNER INC.  
LANDSCAPE ARCHITECTS  
1000 N. CENTRAL AVENUE  
SUITE 100  
PHOENIX, AZ 85004  
TEL: 602.955.1234  
FAX: 602.955.1235  
WWW.CHUCKGARDNER.COM

APPROVED BY: *Michael C. Gardner* DATE: 8-11-23  
ESTIMATED PROJECT COST: \$1,200,000.00  
TOTAL AREA LANDSCAPED: 100,000 SQ. FT.  
FOLDER NO. 48863 PLAN NO. P8802 L-1  
L-1 OF 1







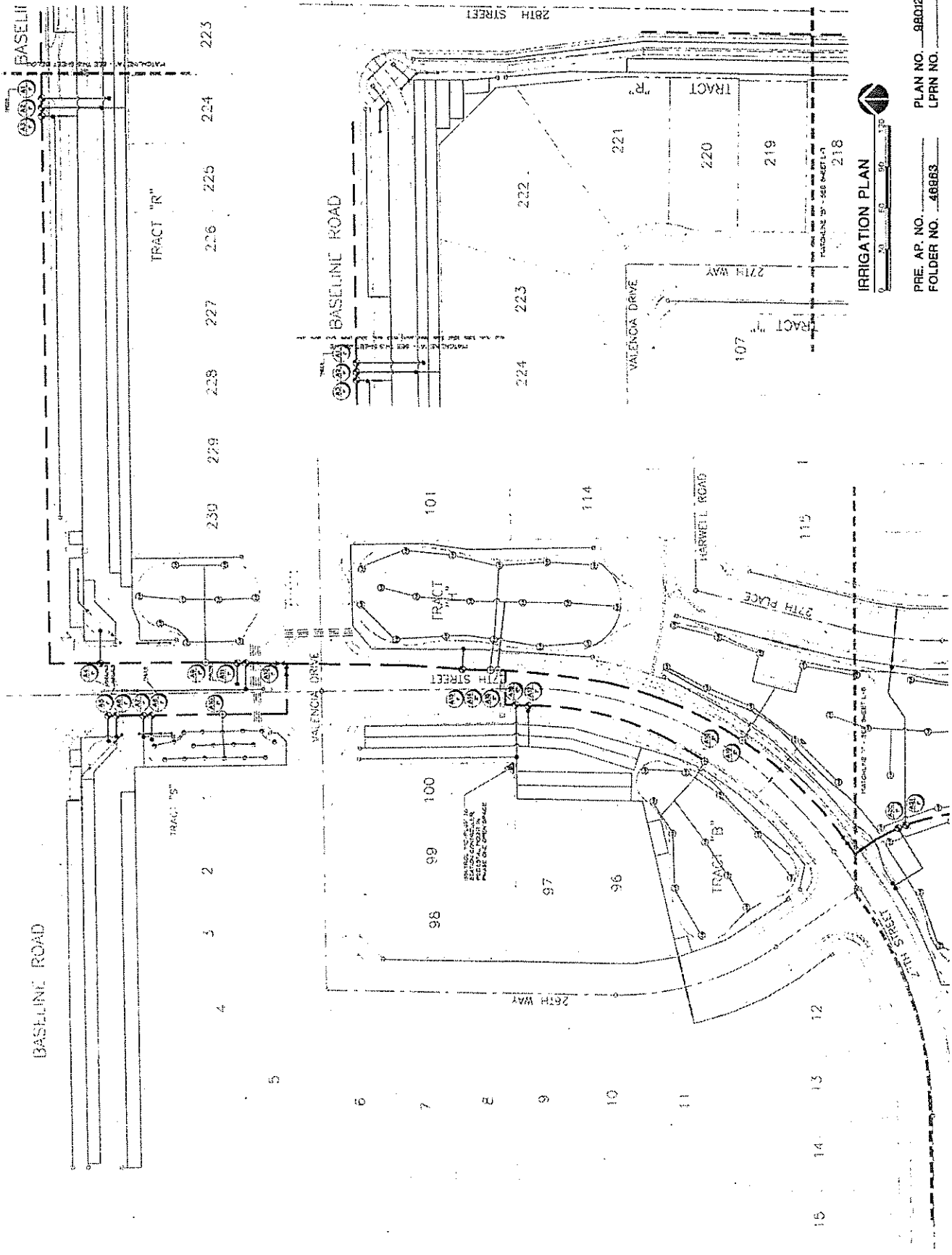




GEORGE GRIFFIN INC.  
 1000 N. CENTRAL AVENUE  
 SUITE 100  
 PHOENIX, ARIZONA 85004  
 PHONE: 602-258-1234  
 FAX: 602-258-5678

**THE GROVES AT SOUTH MOUNTAIN**  
**RICHMOND AMERICAN HOMES**  
 S.W.C. OF 28TH STREET AND BASELINE ROAD - PHOENIX, ARIZONA

|            |                      |
|------------|----------------------|
| DATE       | DESCRIPTION          |
| 12/31/2024 | ISSUED FOR PERMIT    |
| 12/15/2024 | REVISED PER COMMENTS |
| 12/01/2024 | PREPARED             |



**IRRIGATION PLAN**  
 0 20 40 60 80 100

PRE. AP. NO. \_\_\_\_\_ PLAN NO. 88012  
 FOLDER NO. 46863 LPRN NO. \_\_\_\_\_

SHEET  
**L-6**  
 OF 6

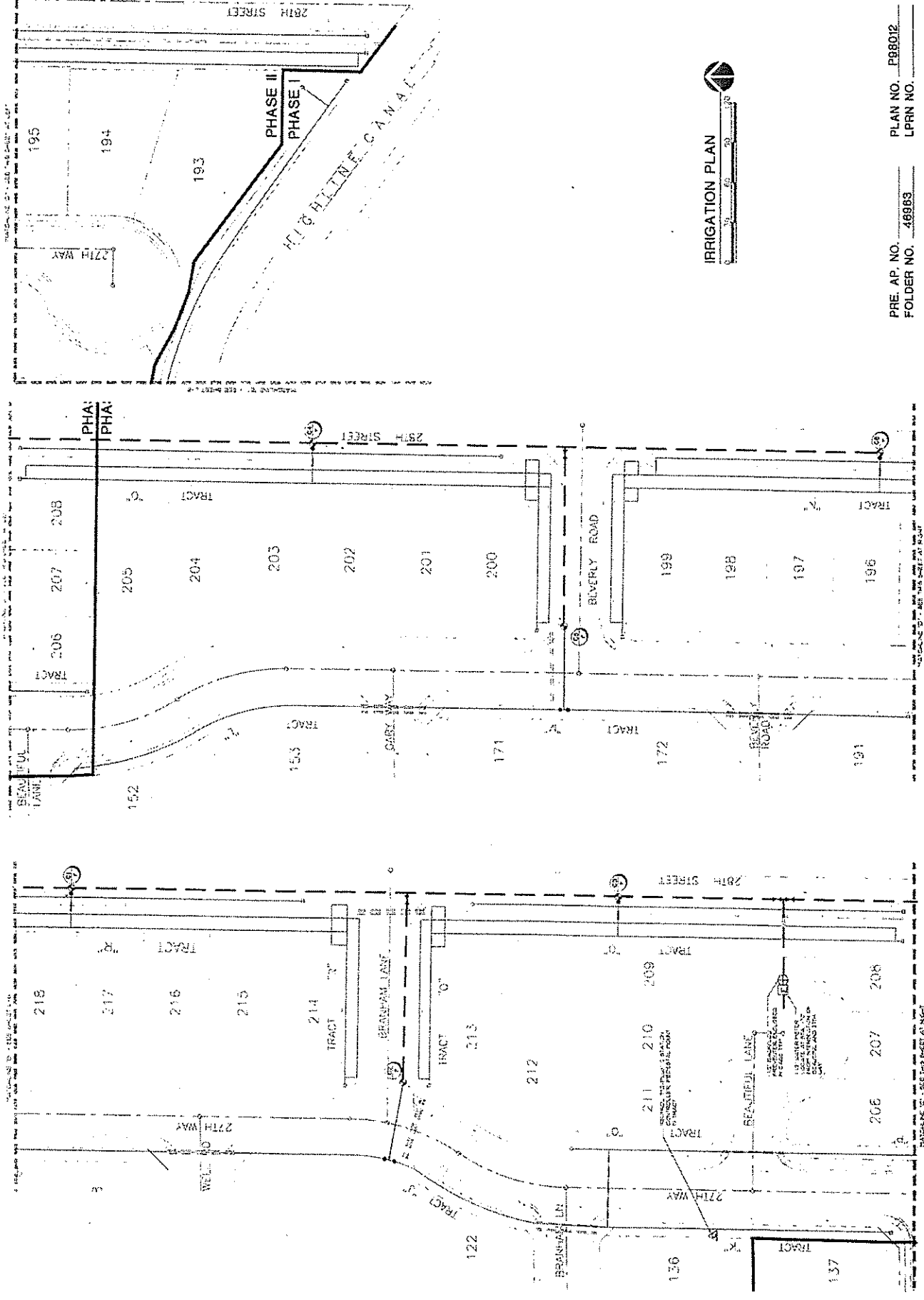


LANDSCAPE ARCHITECTURE  
 LAND USE PLANNING  
 GOLF COURSE DESIGN  
 300 N. CLAYTON AVE.  
 SUITE 200  
 PHOENIX, ARIZONA 85008  
 602-998-8888  
 GUY GRAY & ASSOCIATES, P.C.  
 1000 W. WASHINGTON AVE.  
 SUITE 1000  
 PHOENIX, ARIZONA 85001  
 602-998-8888

**THE GROVES AT SOUTH MOUNTAIN**  
 RICHMOND AMERICAN HOMES  
 S.W.C. OF 28TH STREET AND BASELINE ROAD - PHOENIX, ARIZONA

|           |            |
|-----------|------------|
| JOB NO.   | 8881       |
| DRAWN BY  | ROP        |
| APPROVED  | JJD        |
| DATE      | 08/18/2024 |
| REVISIONS |            |

SHEET: **L-7** OF 7



IRRIGATION PLAN

PRE. AP. NO. 46983  
 FOLDER NO. 46983  
 PLAN NO. P88012  
 LPRN NO.

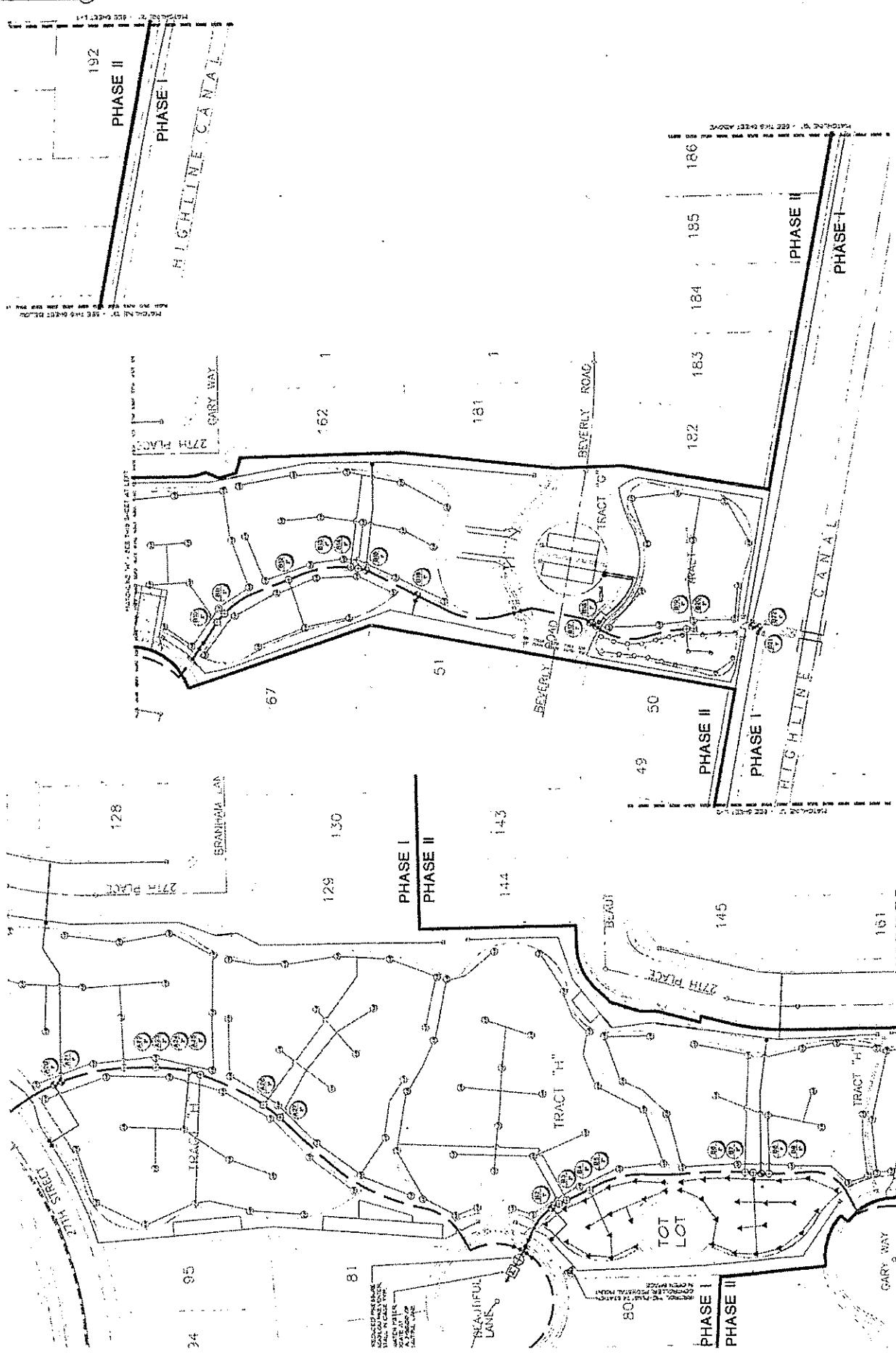


DEVELOPER'S RESPONSIBILITY  
 LANDSCAPE ARCHITECTURE  
 GOLF COURSE DESIGN  
 LAND USE PLANNING  
 300 W. CLAYTON AVE.  
 PHOENIX, ARIZONA 85012  
 PHONE 602-252-7877  
 FAX 602-252-7877  
**GRACE GAMES, INC.**  
 1000 N. CENTRAL AVENUE  
 PHOENIX, ARIZONA 85004  
 PHONE 602-252-7877  
 FAX 602-252-7877

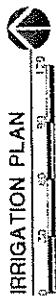
**THE GROVES AT SOUTH MOUNTAIN**  
 RICHMOND AMERICAN HOMES  
 S.W.C. OF 20TH STREET AND BASLER ROAD - PHOENIX, ARIZONA

|          |         |
|----------|---------|
| JOB NO.  | 0403    |
| DRAWN BY | CCP     |
| APPROVED | JAE     |
| DATE     | 4/18/04 |
| PERSONS  |         |

SHEET  
**L-8**  
 OF 8



IRRIGATION PLAN  
 PRE. AP. NO. 48983  
 FOLDER NO. 48983  
 PLAN NO. 88012  
 LPRN NO.







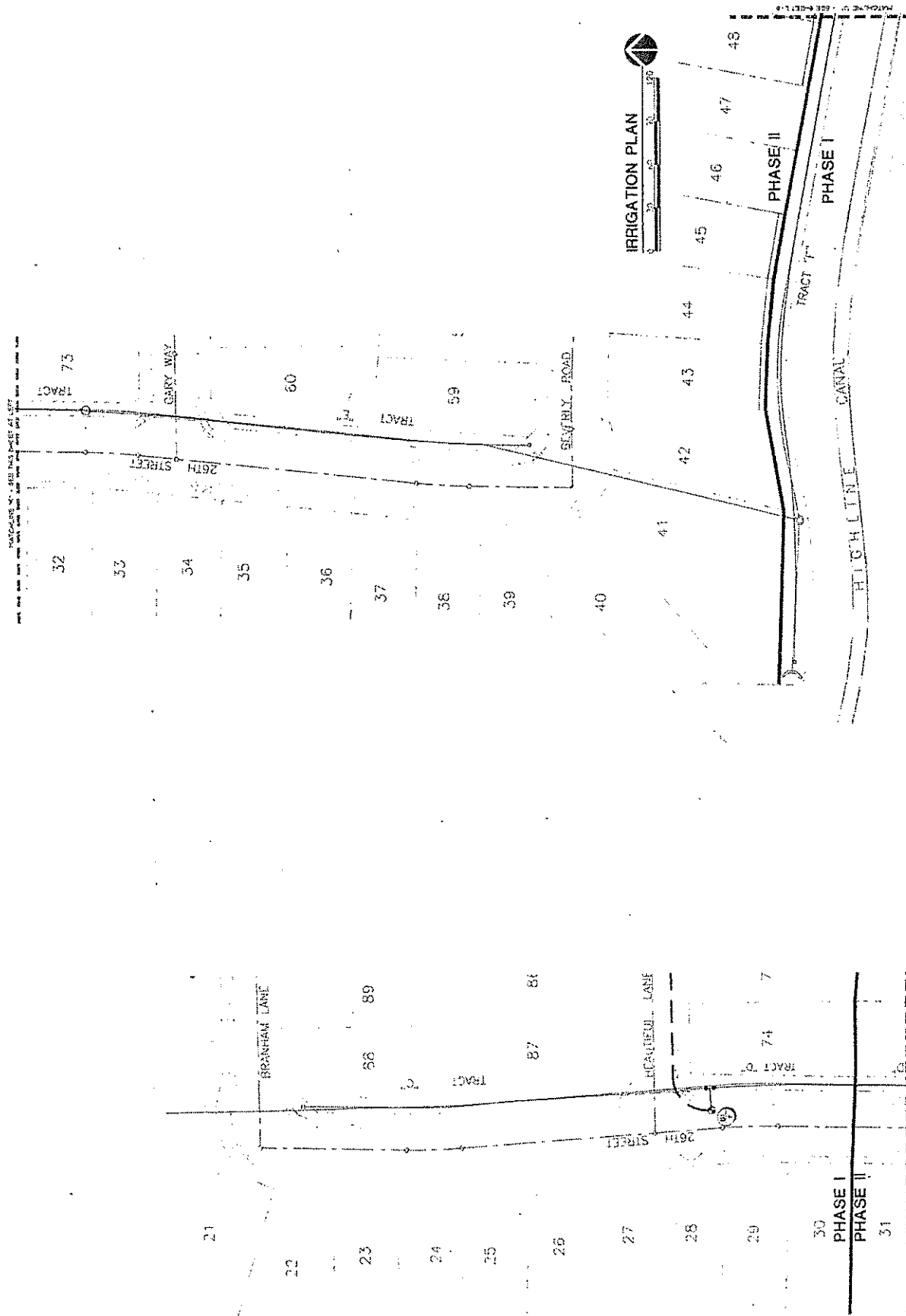
DEVELOPER: RICHMOND AMERICAN HOMES  
 LAND USE PLANNING  
 GARY W. CLENDON, A.P.  
 300 W. CLAYTON AVENUE  
 PHOENIX, ARIZONA 85008  
 TEL: 602-250-2800  
 FAX: 602-250-2707



THE GROVES AT SOUTH MOUNTAIN  
 RICHMOND AMERICAN HOMES  
 5 W.C. OF 26TH STREET AND BASELINE ROAD - PHOENIX, ARIZONA



|           |         |
|-----------|---------|
| JOB NO.   | 68813   |
| DRAWN BY  | ADP     |
| APPROVED  | JAC     |
| DATE      | 6/15/12 |
| REVISIONS |         |

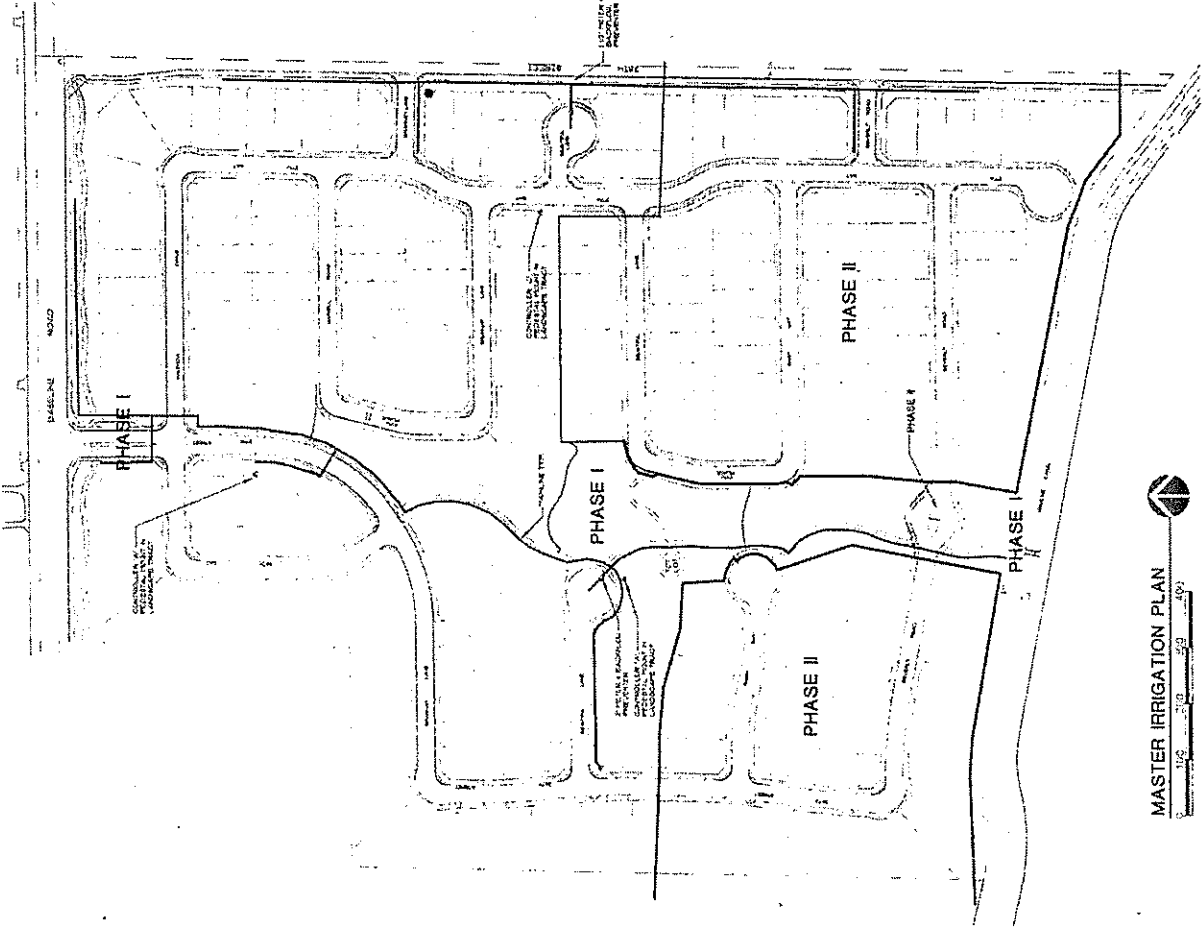
SHEET: **L-9**  
 OF 10



PRE. AP. NO. 48863 PLAN NO. P88012  
 FOLDER NO. 48863 LPRN NO.



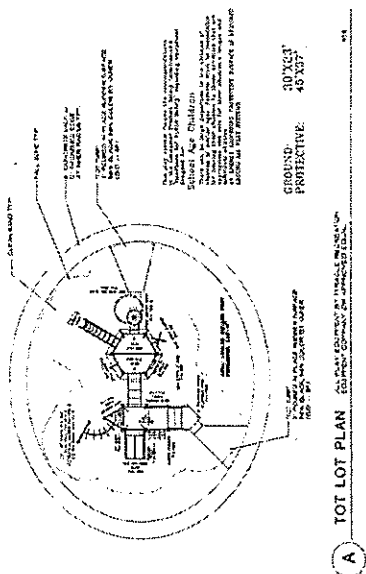
|   |  |  |   |                                |
|---|--|--|---|--------------------------------|
|  | <b>DEVELOPER: FIDELITY INVESTMENT SERVICES</b><br>LAND USE PLANNING<br>LANDSCAPE ARCHITECTURE<br>GOLF COURSE DESIGN<br>300 N. CLAYTON AVENUE<br>SUITE 500<br>PHOENIX, ARIZONA 85028<br>P.O. BOX 2008 - 2012<br>F.A.C. 201 - 206 - 2012 |  <b>CHUCK GIBBS, INC.</b><br>1000 W. WILSON ROAD<br>PHOENIX, ARIZONA 85028<br>P.O. BOX 2008 - 2012<br>F.A.C. 201 - 206 - 2012 | <b>THE GROVES AT SOUTH MOUNTAIN</b><br>S.W.C. OF 28TH STREET AND BASELINE ROAD - PHOENIX, ARIZONA |                                |
|   |  |  | JOB NO. 8804<br>DRAWN BY: RGP<br>APPROVED: JJS<br>DATE: 04/18/12<br>REVISIONS:                    | SHEET:<br><b>L-11</b><br>OF 12 |



MASTER IRRIGATION PLAN




PRE. AP. NO. \_\_\_\_\_  
 FOLDER NO. 46963  
 PLAN NO. P98012  
 LPRN NO. \_\_\_\_\_

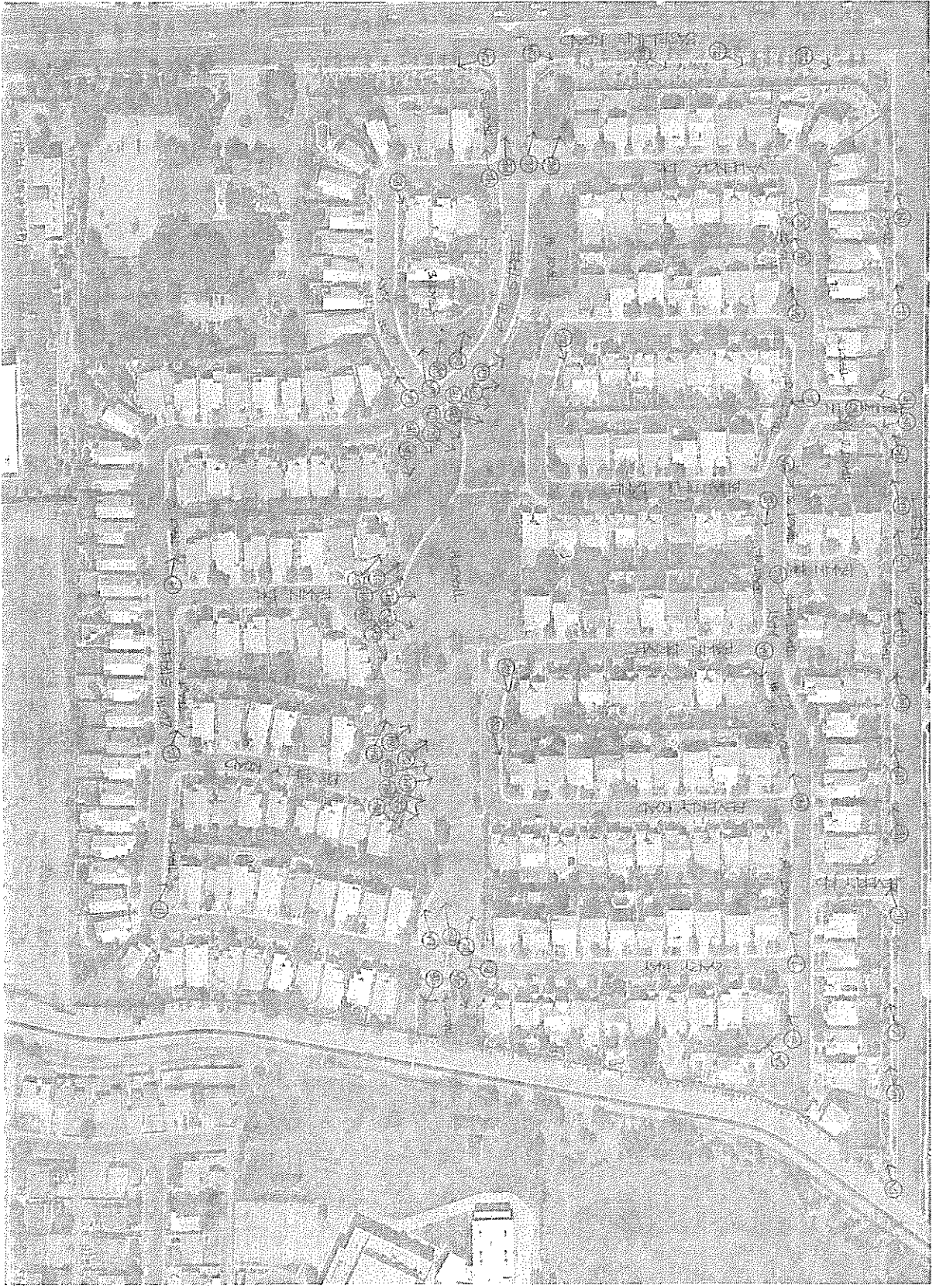


The Groves

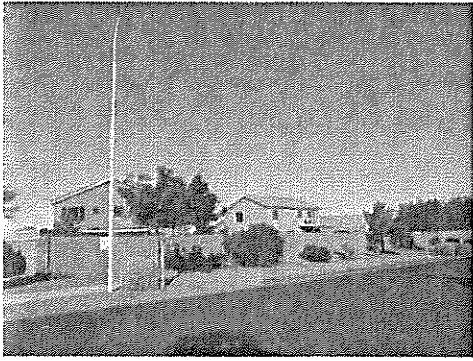
APPENDIX

B

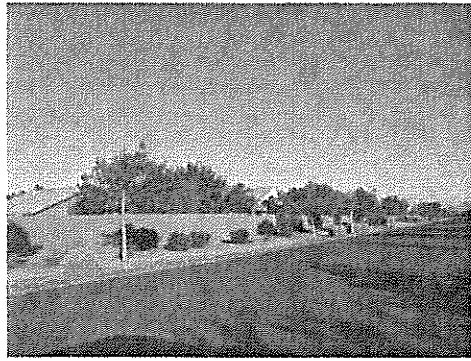
PROJECT PHOTOS AND LOCATION  
MAP



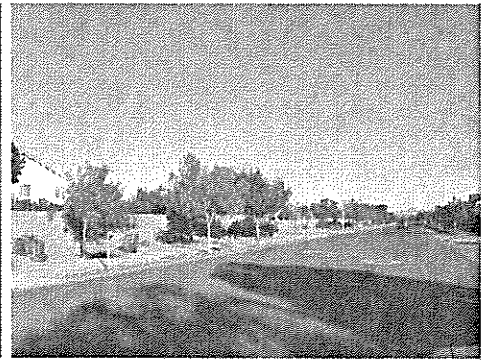
APPENDIX B - PROJECT PHOTO LOCATION MAP



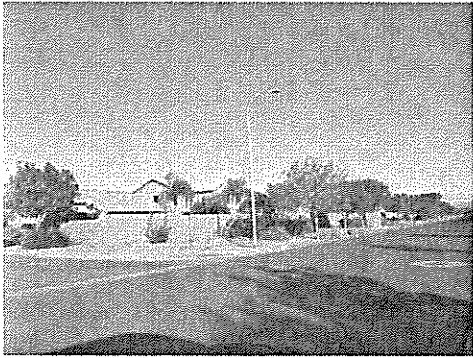
01A-28th Street and Highline Canal looking south.JPG



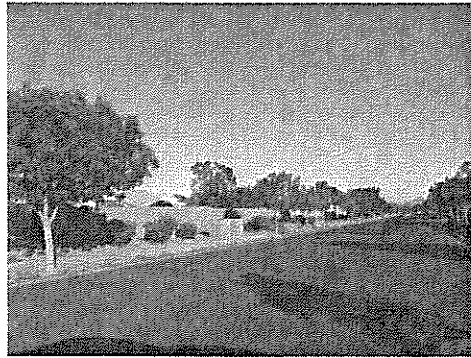
01B-28th Street looking south.JPG



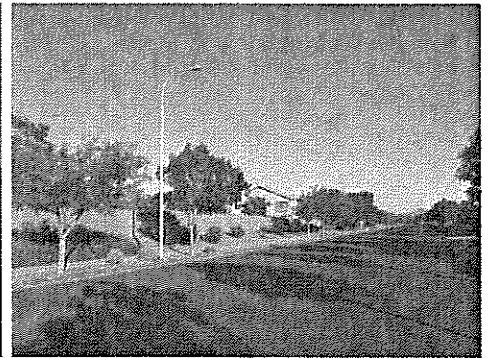
01C-28th Street looking south.JPG



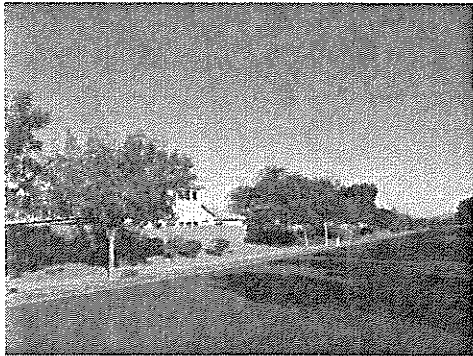
01D-28th Street looking south.JPG



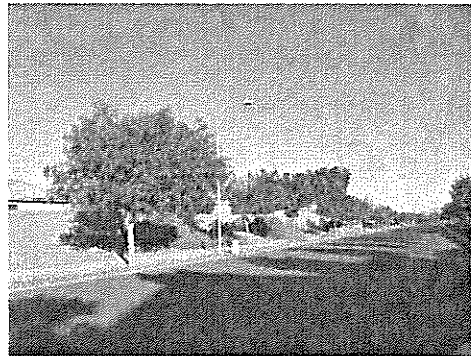
01E-28th Street looking south.JPG



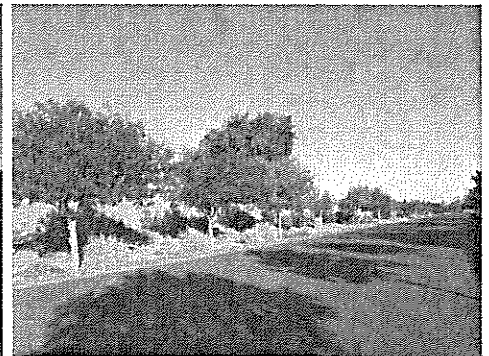
01F-28th Street looking south.JPG



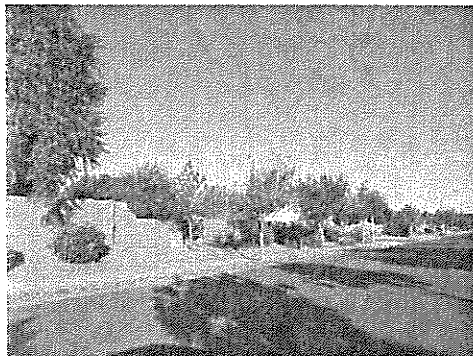
01G-28th Street looking south.JPG



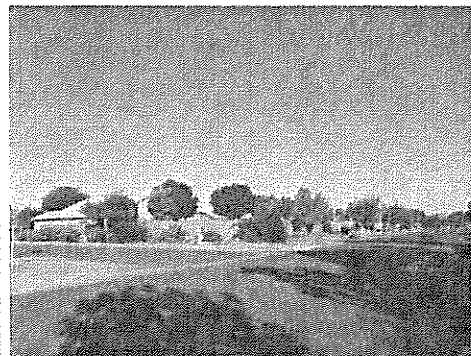
01H-28th Street looking south.JPG



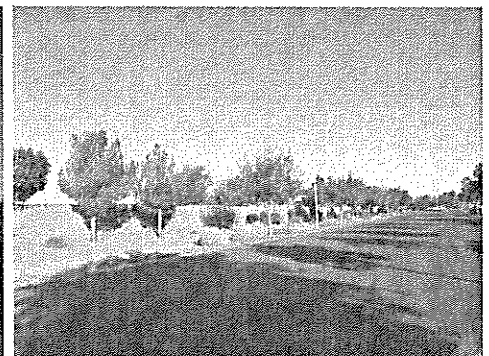
01I-28th Street looking south.JPG



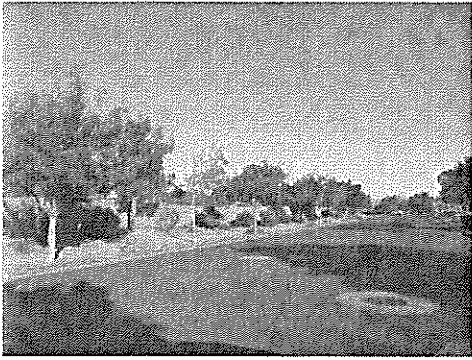
01J-28th Street looking south.JPG



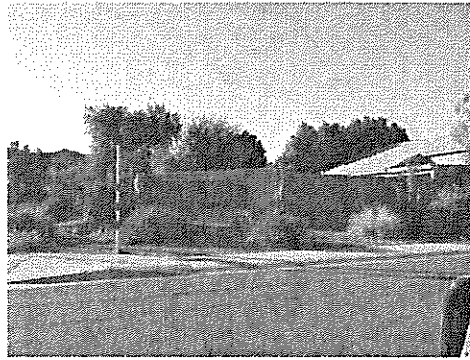
01K-28th Street looking south.JPG



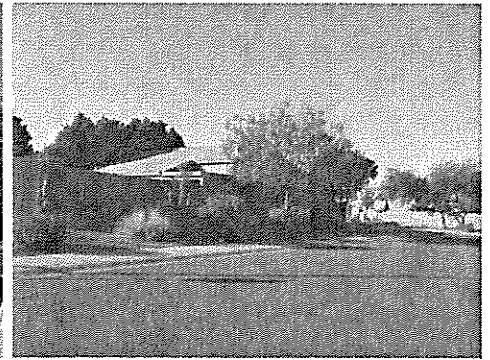
01L-28th Street looking south.JPG



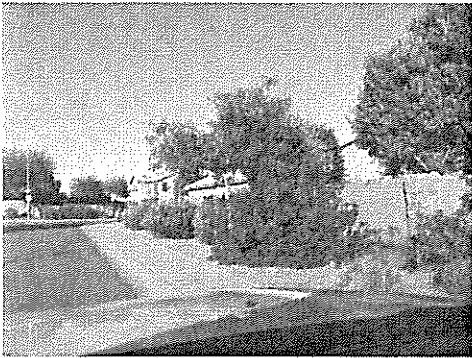
01M-28th Street looking south.JPG



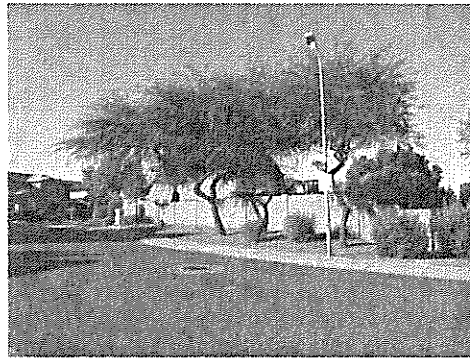
01N-28th Street & Branham Ln looking north.JPG



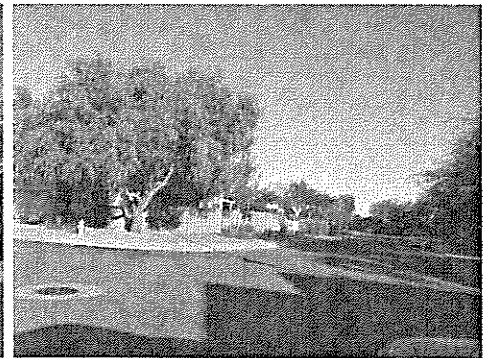
01O-Beverly Road-north side.JPG



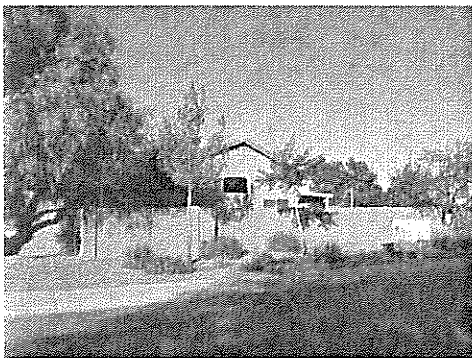
01P-Beverly Road-south side.JPG



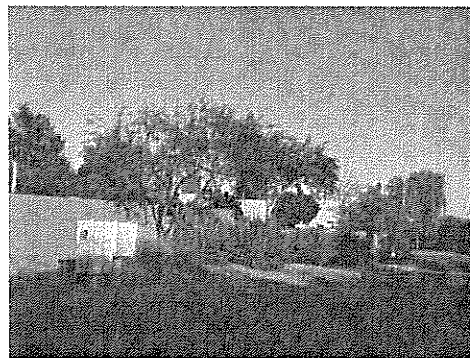
02-Tract J-27th Way between Beautiful Lane Loop.JPG



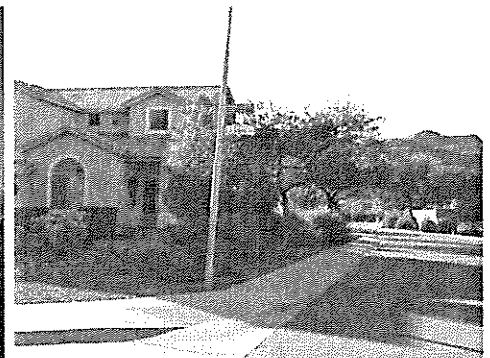
03A-Tract I-between Beautiful Lane and Valencia Dr.JPG



03B-Tract I-between Beautiful Lane and Valencia Dr.JPG



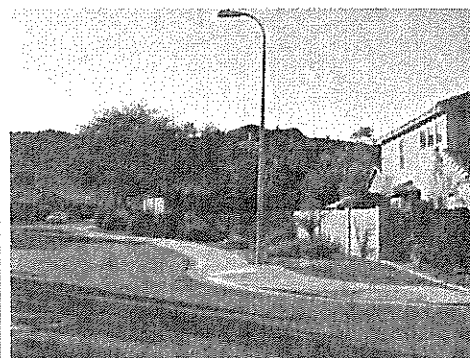
03C-Tract I-between Beautiful Lane and Valencia Dr.JPG



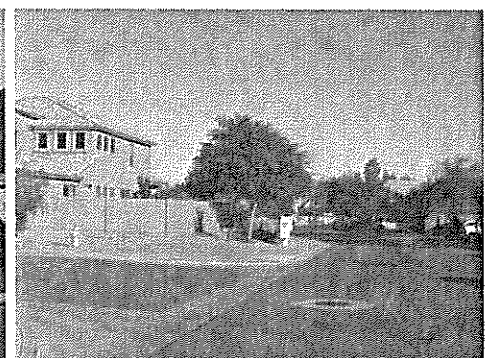
04A-Tract Q- Fawn and 27th looking north.JPG



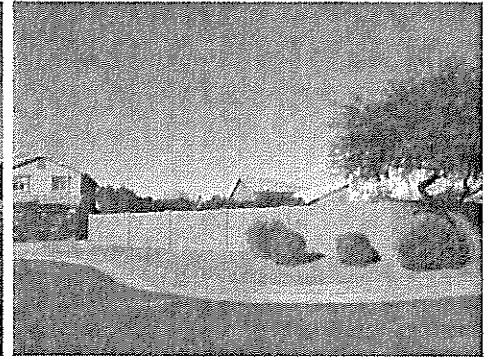
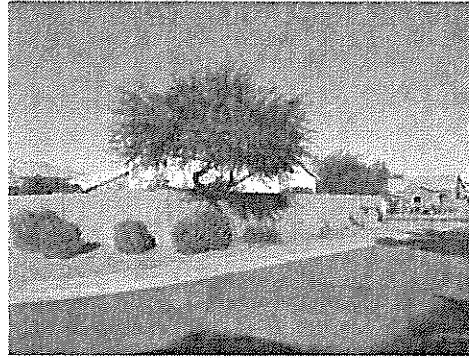
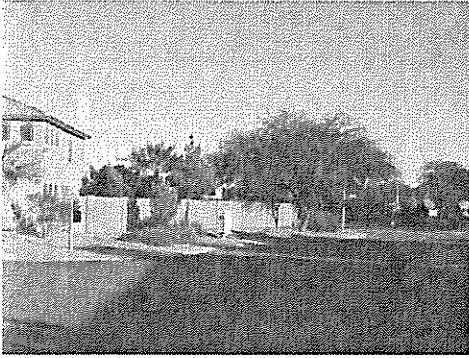
04B-tract K-Fawn and 27th looking south.JPG



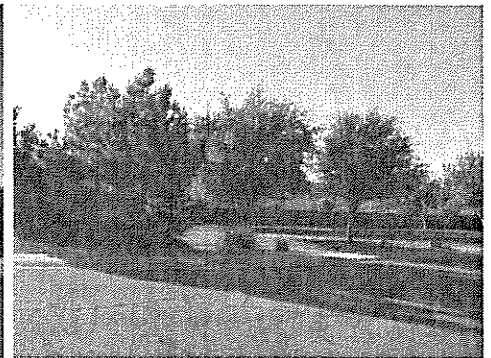
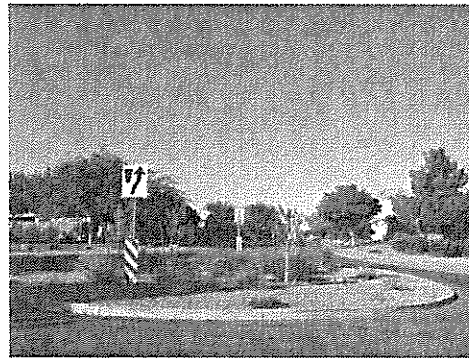
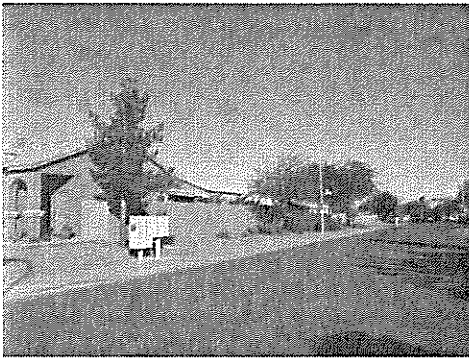
05A-Tract L-Fawn Dr N 27th Way looking north .JPG



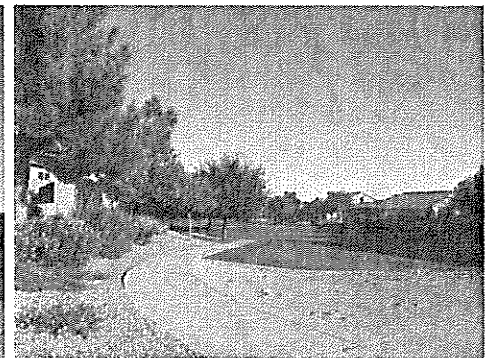
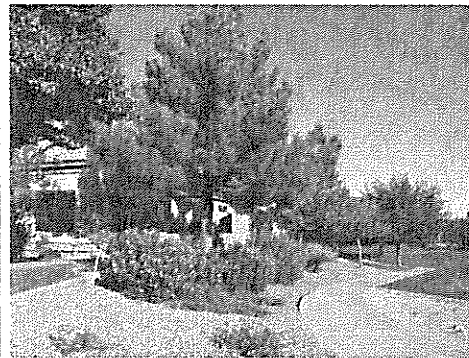
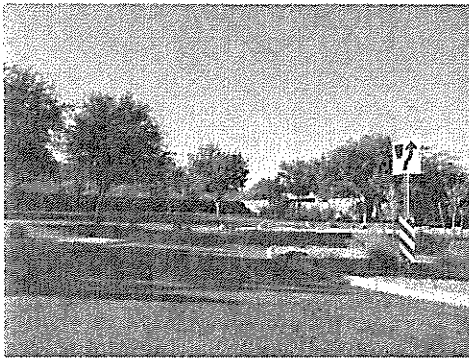
05B-Tract L- 27th Way sbetween Beverly and Fawn l...



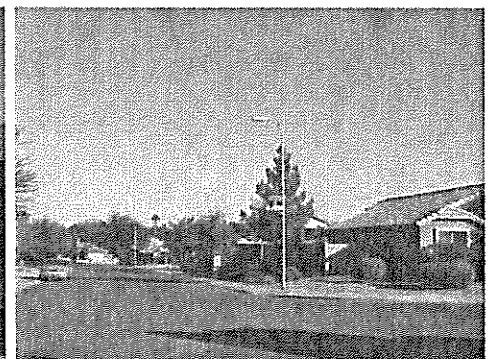
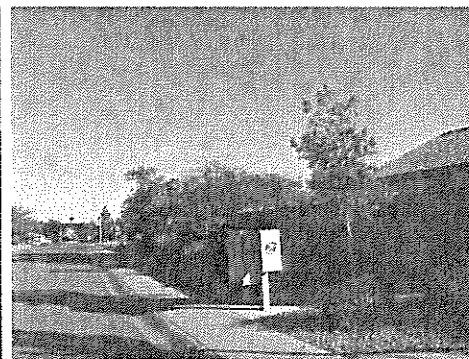
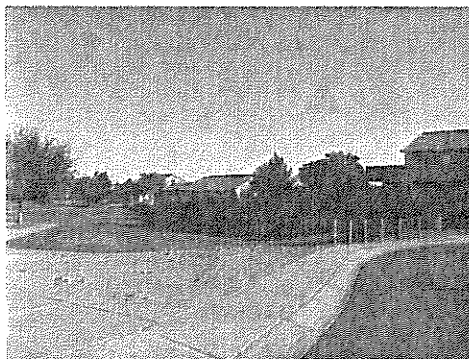
05C-Tract P -27th Lane looking north.JPG 06-27th Way south of cul de sac looking south.JPG 06A-27th Way cul de sac -west side.JPG



07-Tract M-27th Avenue between Gary and Beverly lo... 08-Gary Way at roundabout looking west.JPG 09A-Tract F Park- looking north .JPG

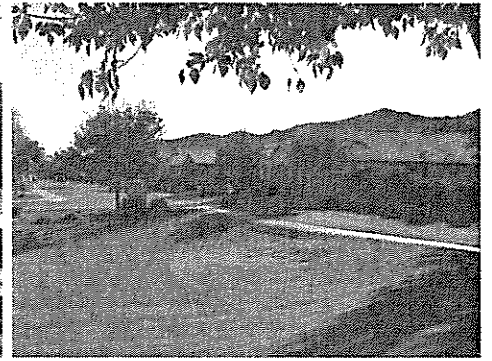
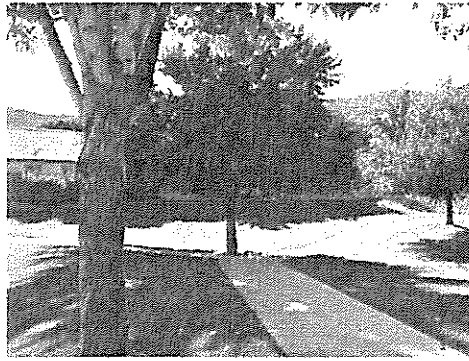
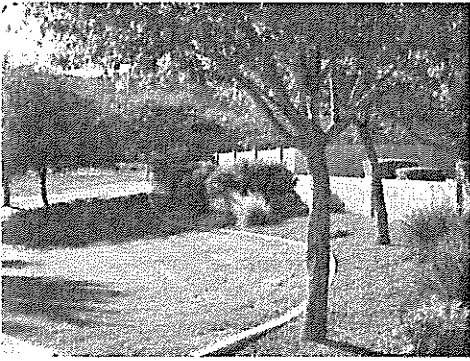


09B-Tract F Park-looking northwest.JPG 10A-Tract H looking south.JPG 10B-Tract H looking south.JPG

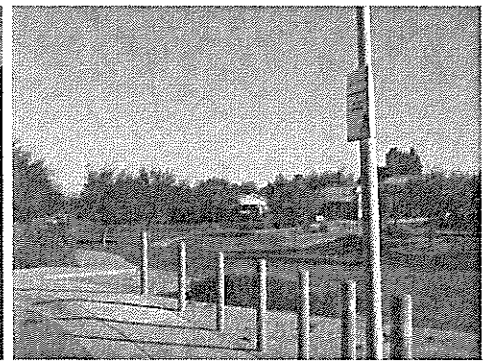
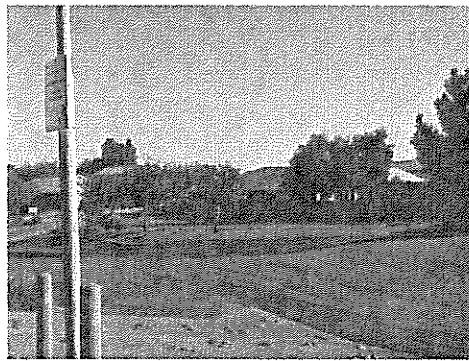
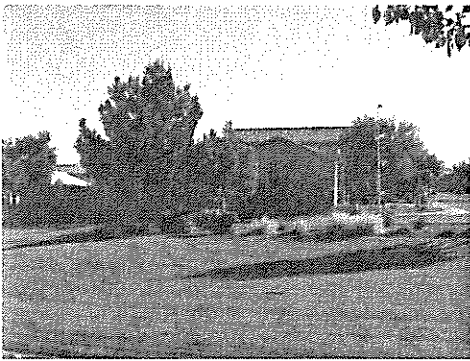


10C-Tract H looking south.JPG 11-Tract D-26th Street between Gary and Beverly lo... 12-Tract C-26th Street between Beverly and Fawn lo...

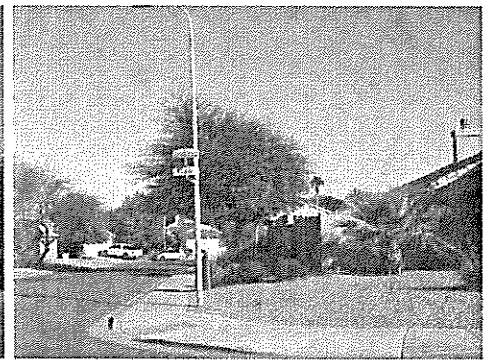
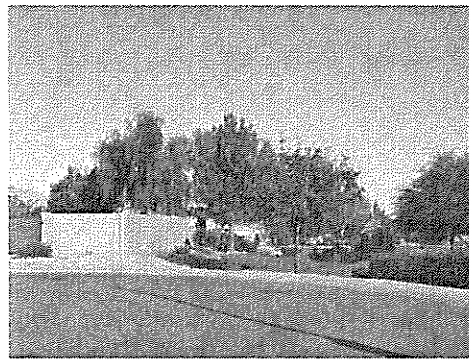
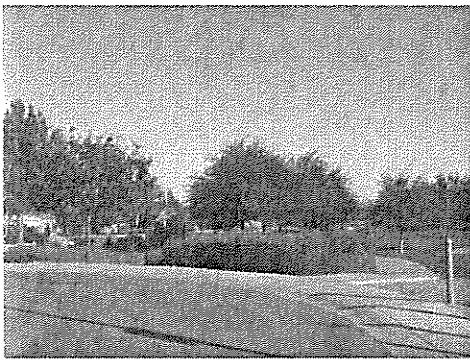




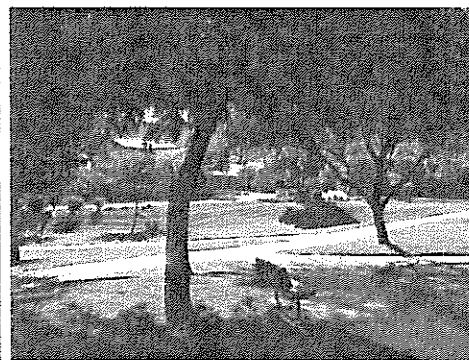
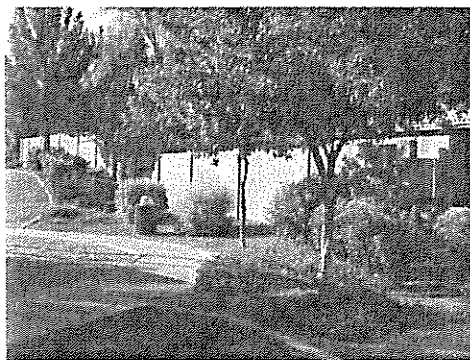
13A- Tract H-Beverly Rd cul de sac looking north.JPG 13B- Tract H-Beverly Rd cul de sac looking northeast.JPG 13C- Tract H-Beverly Rd cul de sac looking east.JPG



13D- Tract H-Beverly Rd cul de sac looking west.JPG 13E- Tract H-Beverly Rd cul de sac looking west.JPG 13F- Tract H-Beverly Rd cul de sac looking south.JPG

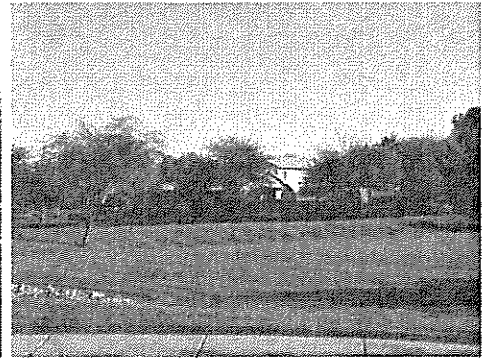
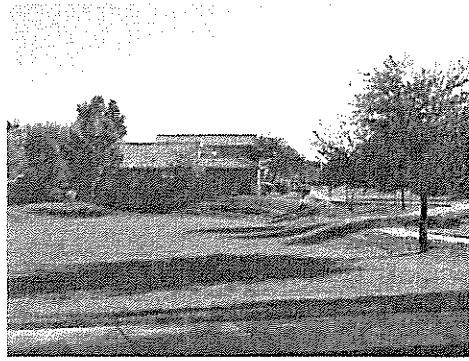
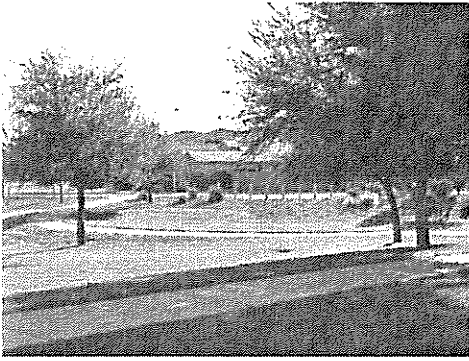


13G- Tract H-Beverly Rd cul de sac looking south.JPG 13H- Tract H-Beverly Rd cul de sac looking south.JPG 14-26th street south of Fawn Dr looking south.JPG

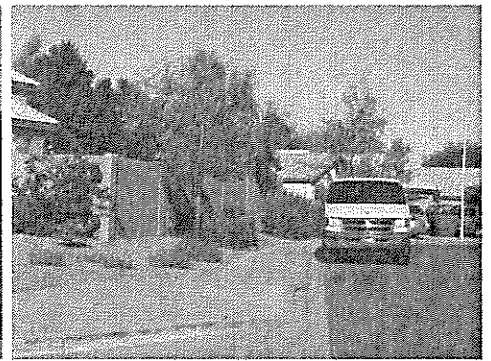
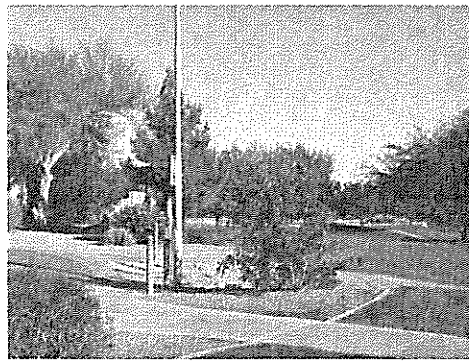


15A-Fawn Dr cul de sac looking east.JPG 15B-Fawn Dr cul de sac looking east (2).JPG 15b-Fawn Dr cul de sac looking east.JPG

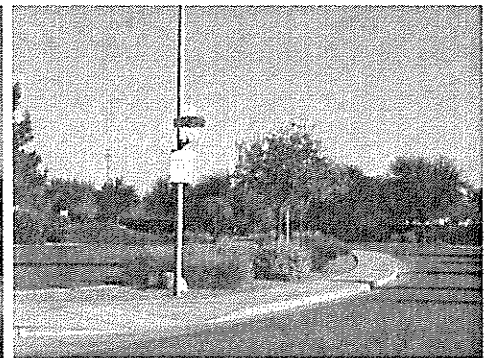
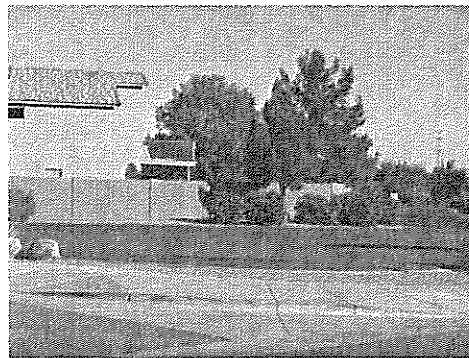
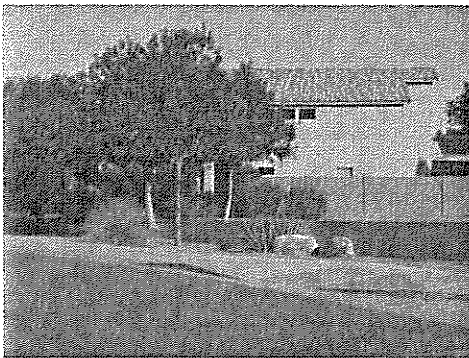
# PROJECT PHOTOS - SHEET 4 OF 7



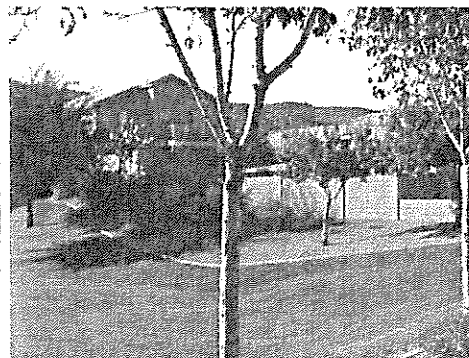
15C-Fawn Dr cul de sac looking east.JPG 15D-Fawn Dr cul de sac looking east.JPG 15E-Fawn Dr cul de sac looking southeast.JPG



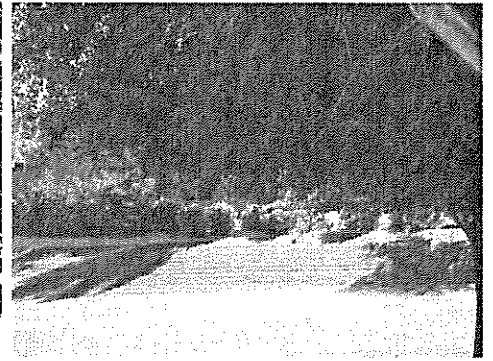
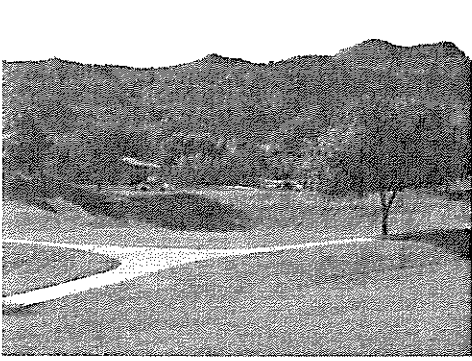
15F-Fawn Dr cul de sac looking southeast.JPG 15G-Fawn Dr cul de sac looking south.JPG 16A-lot 12 sideyard looking south.JPG



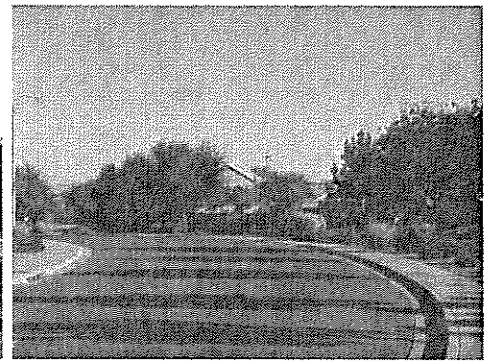
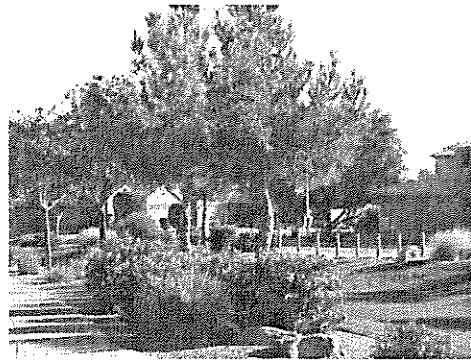
16A-Tract B-26th Way and 27th St looking south.JPG 16B-Tract B-26th Way and 27th St looking southeast.JPG 16C-Tract B-26th Way and 27th St looking east.JPG



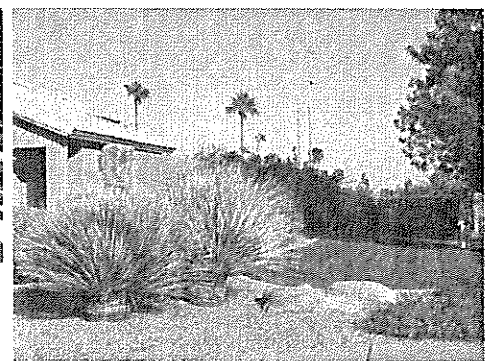
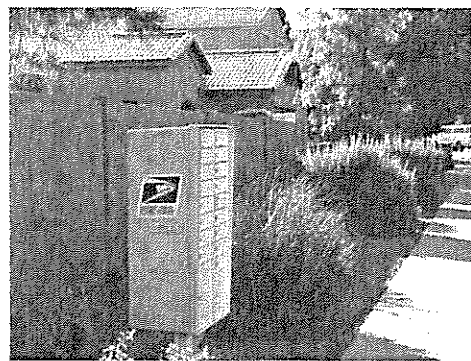
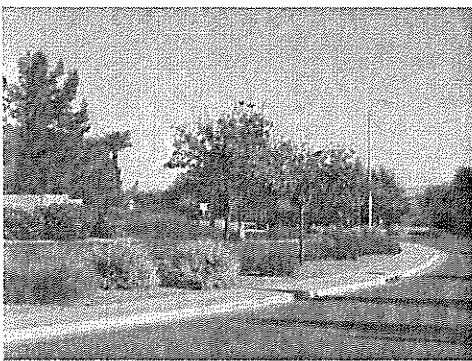
17A-Tract H-27th Street looking west.JPG 17B-Tract H-27th Street looking west.JPG 17C-Tract H-27th Street looking north.JPG



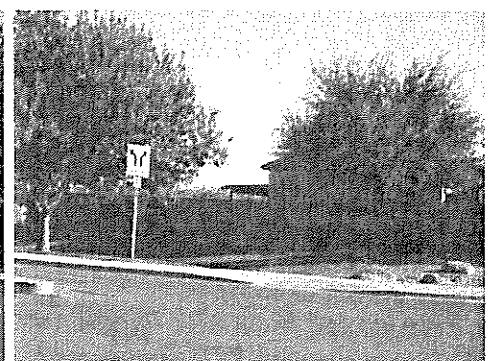
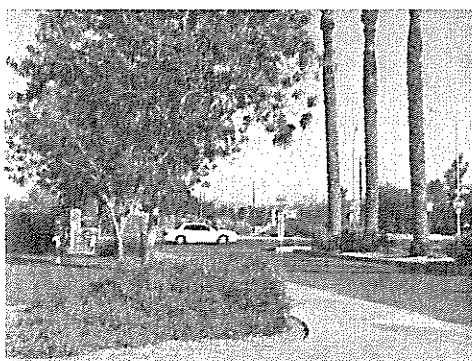
17D-Tract H-27th Street looking west.JPG 17E-Tract H-27th Street looking northeast.JPG 17F-Tract H-27th Street looking northeast.JPG



17G-Tract H-27th Street looking east.JPG 17h-Tract H-27th Street looking west.JPG 17I-Tract H-27th Street looking southeast.JPG



17j-Tract B-27th Street looking south.JPG 18-Lot 98 side yard looking north.JPG 19A-Tract S-27th St and Valencia dr looking south.JPG



19B-Tract S-27th St and Valencia dr looking south.JPG 19C-Tract S-27th St and Valencia dr looking southeas... 19D-Tract S-27th St and Valencia dr looking east.JPG

The Groves

APPENDIX

C

PROPOSED PLANTING DESIGN











The Groves

APPENDIX

D

CONTROLLER ZONE EXHIBIT



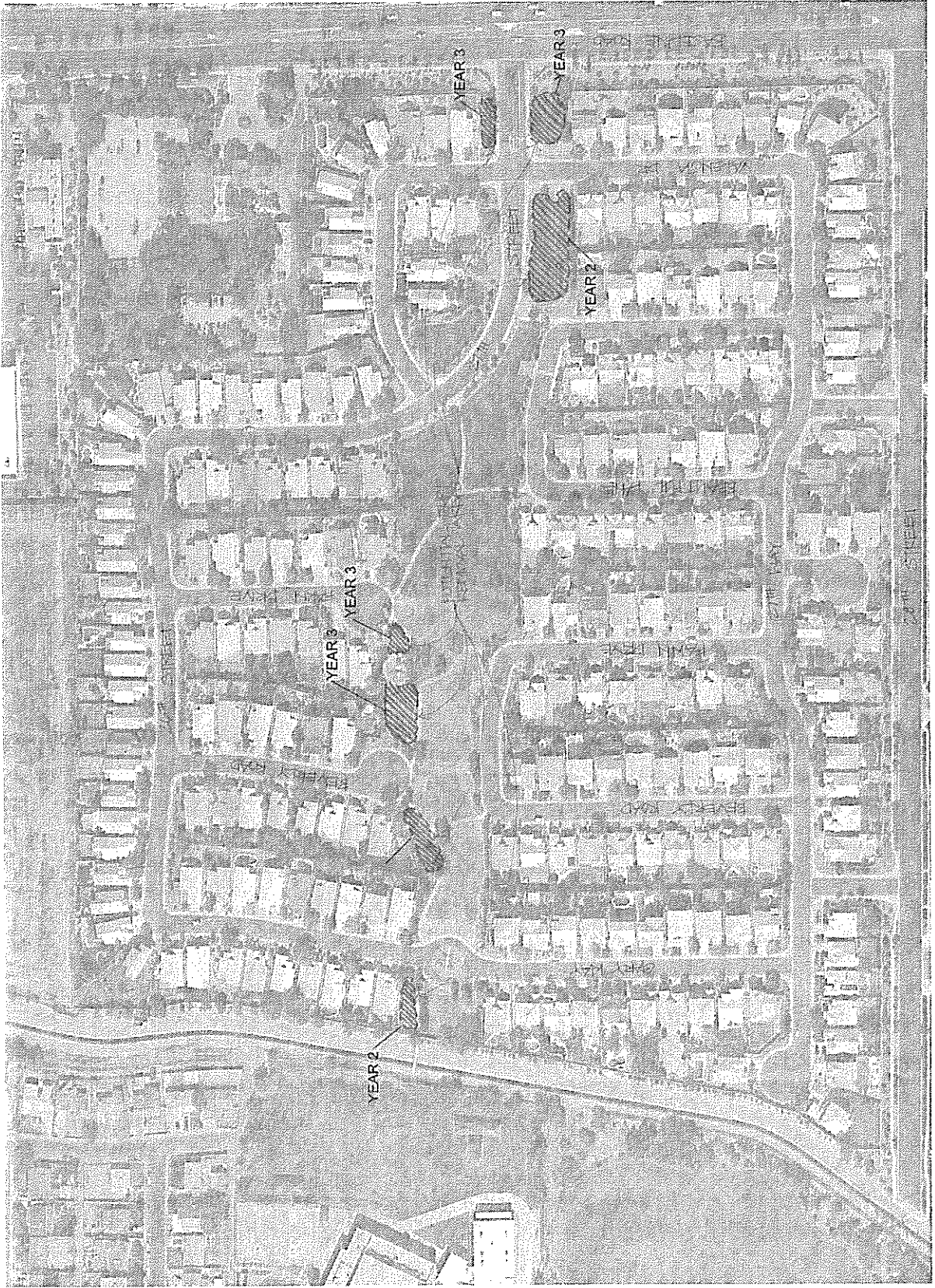
APPENDIX D - CONTROLLER ZONE EXHIBIT

The Groves

APPENDIX

E

POSSIBLE TURF REMOVAL



APPENDIX E - POSSIBLE TURF REMOVAL AREAS

The Groves

APPENDIX

F

EXPENDITURE SCHEDULE AND  
RUDGFT

| The Groves - Expenditure Schedule and Budget          |         |      |           |                      |  |  | YEAR 1              | YEAR 2              | YEAR 3              | YEAR 4              | YEAR 5              |
|---|---------|------|-----------|----------------------|--|--|---------------------|---------------------|---------------------|---------------------|---------------------|
|   | Qty     | Unit | U/P       | Total                |  |  |                     |                     |                     |                     |                     |
| Trees [24" box] - in three phases                     | 42      | each | 175.00    | 7,350.00             |  |  |                     | 2,450.00            | 2,450.00            | 2,450.00            | 2,450.00            |
| Shrubs [5 gal]  | 160     | each | 10.00     | 1,600.00             |  |  |                     | 1,600.00            |                     |                     |                     |
| Shrubs [1 gal]  | 358     | each | 6.00      | 2,148.00             |  |  |                     | 2,148.00            |                     |                     |                     |
| Rock Mulch [1/2' or 3/4" minus]                       | 183,288 | SF   | 0.25      | 45,822.00            |  |  | 11,771.00           | 11,437.75           | 14,181.00           |                     | 8,432.25            |
| Rip Rap [4"]  | 14,500  | SF   | 0.50      | 7,250.00             |  |  | 7,250.00            |                     |                     |                     |                     |
| Irrigation  |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Replace Sprinkler Nozzels                             | 1       | LS   | 1,500.00  | 1,500.00             |  |  | 1,500.00            |                     |                     |                     |                     |
| Additional backflow preventer:                        | 1       | LS   | 2,500.00  | 2,500.00             |  |  | 2,500.00            |                     |                     |                     |                     |
| Mainline re-size                                      | 1       | LS   | 1,500.00  | 1,500.00             |  |  | 1,500.00            |                     |                     |                     |                     |
| Replace PGMs with high efficiency MP Rotators         | 1       | LS   | 1,200.00  | 1,200.00             |  |  | 1,200.00            |                     |                     |                     |                     |
| Update to smart controllers                           | 1       | LS   | 5,000.00  | 5,000.00             |  |  | 5,000.00            |                     |                     |                     |                     |
| Water Conservation                                    |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Evaluate each Summer - Implement in Phases            |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Existing Turf Area 163,760 sf - Potential Removal 20% |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Turf Demolition                                       | 31,800  |      | 0.38      | 12,084.00            |  |  | 6,699.40            | 5,384.60            |                     |                     |                     |
| New Rock Mulch  | 31,800  |      | 0.37      | 11,766.00            |  |  | 5,883.00            | 5,242.90            |                     |                     |                     |
| New Shrubs [one 5 gal shrub per 250sf]                | 127     | each | 10.00     | 1,270.00             |  |  | 635.00              | 635.00              |                     |                     |                     |
| New Drip Irrigation                                   | 1       | LS   | 11,500.00 | 11,500.00            |  |  | 5,750.00            | 5,750.00            |                     |                     |                     |
| Hardscape and Amenities                               |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Tot Lot Replacement Options                           |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Option 1  | 1       | LS   | 33,000.00 | 33,000.00            |  |  |                     |                     |                     |                     | 33,000.00           |
| Option 2  | 1       | LS   | 43,400.00 | 43,400.00            |  |  |                     |                     |                     |                     |                     |
| Option 3  | 1       | LS   | 68,750.00 | 68,750.00            |  |  |                     |                     |                     |                     |                     |
| Benches   | 2       | each | 750.00    | 1,500.00             |  |  | 1,500.00            |                     |                     |                     |                     |
| Trash receptacles                                     | 1       | each | 750.00    | 750.00               |  |  | 750.00              |                     |                     |                     |                     |
| <b>Total</b>  |         |      |           | <b>\$ 147,740.00</b> |  |  | <b>\$ 21,200.00</b> | <b>\$ 30,738.40</b> | <b>\$ 34,648.25</b> | <b>\$ 16,631.00</b> | <b>\$ 43,882.25</b> |

The Groves

APPENDIX

A

ORIGINAL LANDSCAPE  
CONSTRUCTION DOCUMENTS











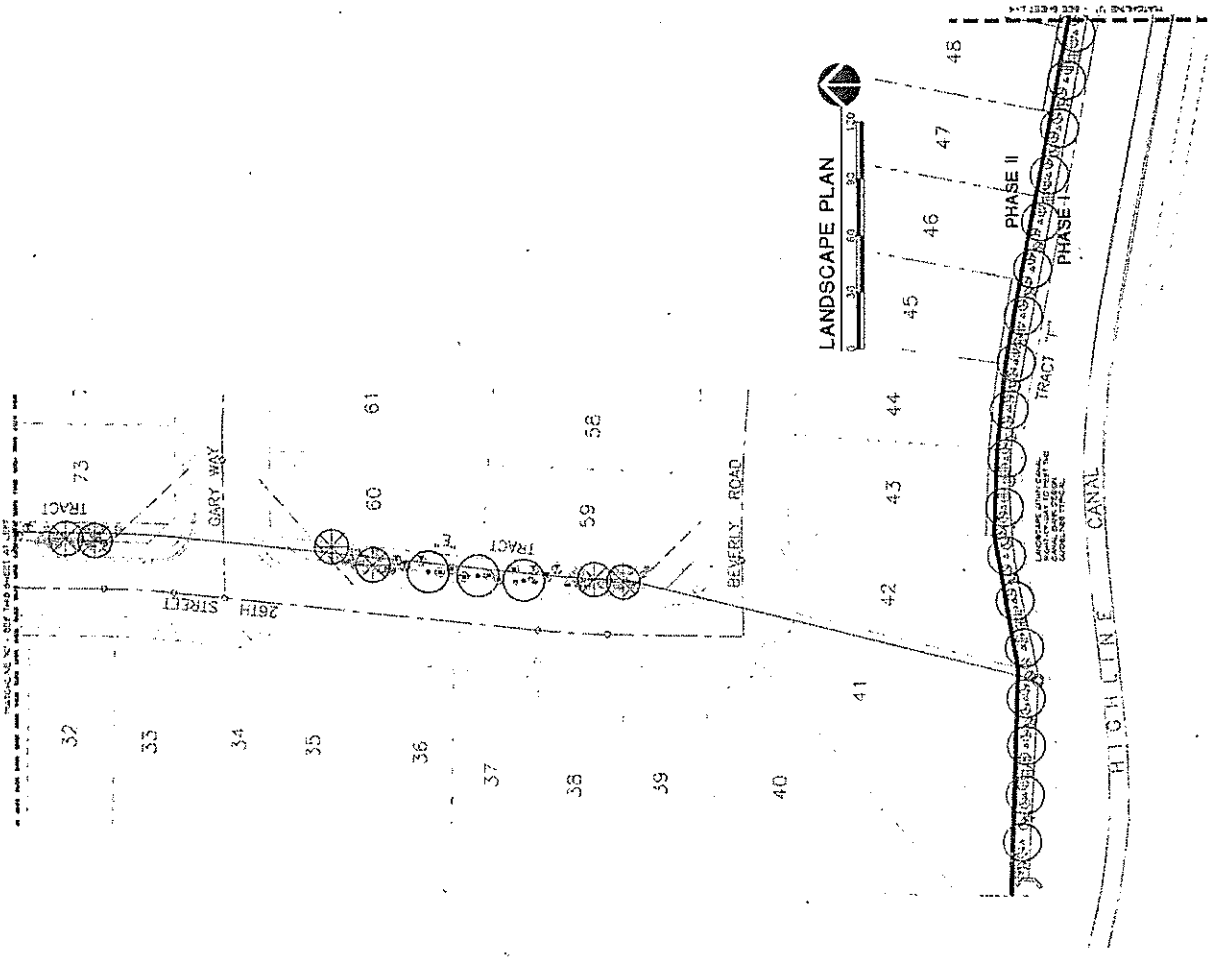


DEVELOPMENT FEASIBILITY  
 LANDSCAPE ARCHITECTURE  
 GOLF COURSE DESIGN  
 300 W. GARDEN AVE.  
 SUITE 200  
 PHOENIX, ARIZONA 85001  
 FAX 602 - 258 - 8777  
 GEOGRAPHIC INFORMATION SYSTEMS  
 GEAR GROUP, INC.

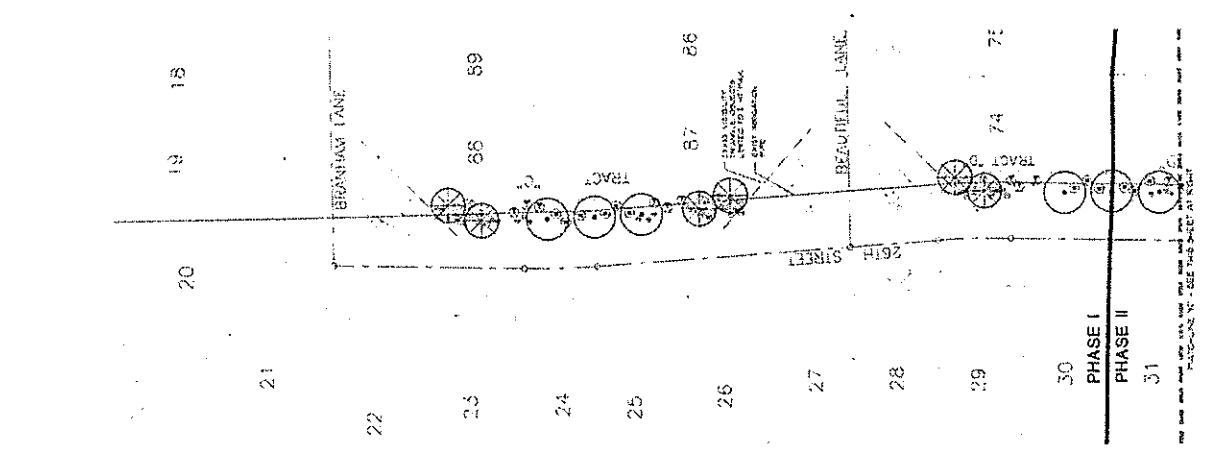
**THE GROVES AT SOUTH MOUNTAIN**  
 RICHMOND AMERICAN HOMES  
 S.W.C. OF 28TH STREET AND BASELINE ROAD - PHOENIX, ARIZONA

|           |         |
|-----------|---------|
| JOB NO.   | 98013   |
| DRAWN BY  | BOB     |
| APPROVED  | LAS     |
| DATE      | 8/18/03 |
| REVISIONS |         |

SHEET  
**L-5**  
 OF 11



PRE. AP. NO. 48883  
 FOLDER NO. 48883  
 PLAN NO. 98012  
 LPRN NO.





STATE OF ARIZONA  
 PROFESSIONAL ENGINEER  
 NO. 12345  
 EXPIRES 12/31/2025

DEVELOPMENT FEASIBILITY  
 1. LOCATION AND SETTING  
 2. LAND USE PLANNING  
 3. SITE DESIGN  
 4. CONSTRUCTION AND  
 5. OPERATIONAL ASPECTS  
 6. ENVIRONMENTAL ASPECTS  
 7. ECONOMIC ASPECTS  
 8. SOCIAL ASPECTS  
 9. CULTURAL ASPECTS  
 10. HISTORIC ASPECTS  
 11. VISUAL ASPECTS  
 12. AIR QUALITY ASPECTS  
 13. NOISE ASPECTS  
 14. VIBRATION ASPECTS  
 15. OTHER ASPECTS

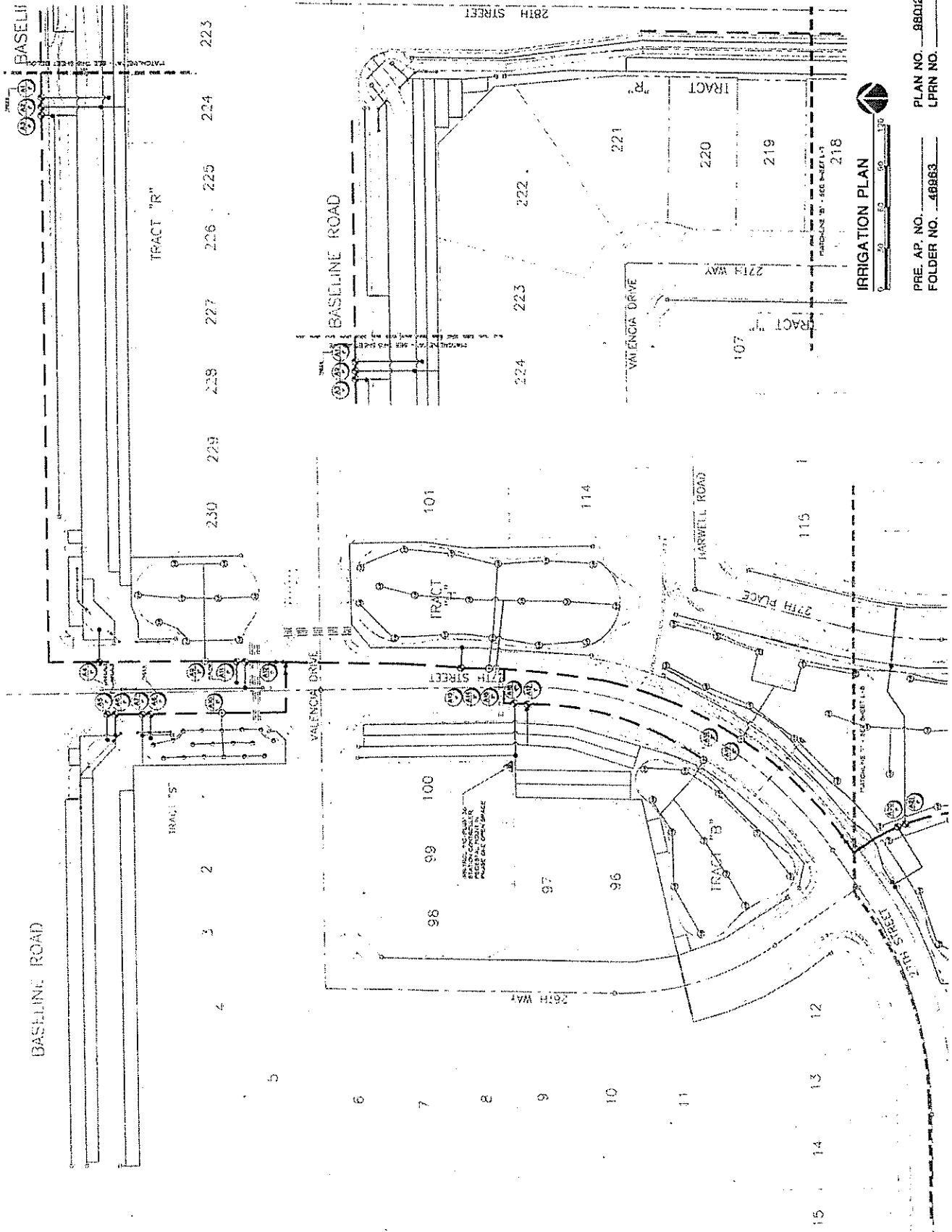


GWS ENGINEERS, INC.  
 1000 N. CENTRAL AVENUE  
 PHOENIX, ARIZONA 85004  
 TEL: 602-254-1234  
 FAX: 602-254-5678  
 WWW.GWS-INC.COM

THE GROVES AT SOUTH MOUNTAIN  
 RICHMOND AMERICAN HOMES  
 S.W.C. OF 28TH STREET AND BASELINE ROAD - PHOENIX, ARIZONA

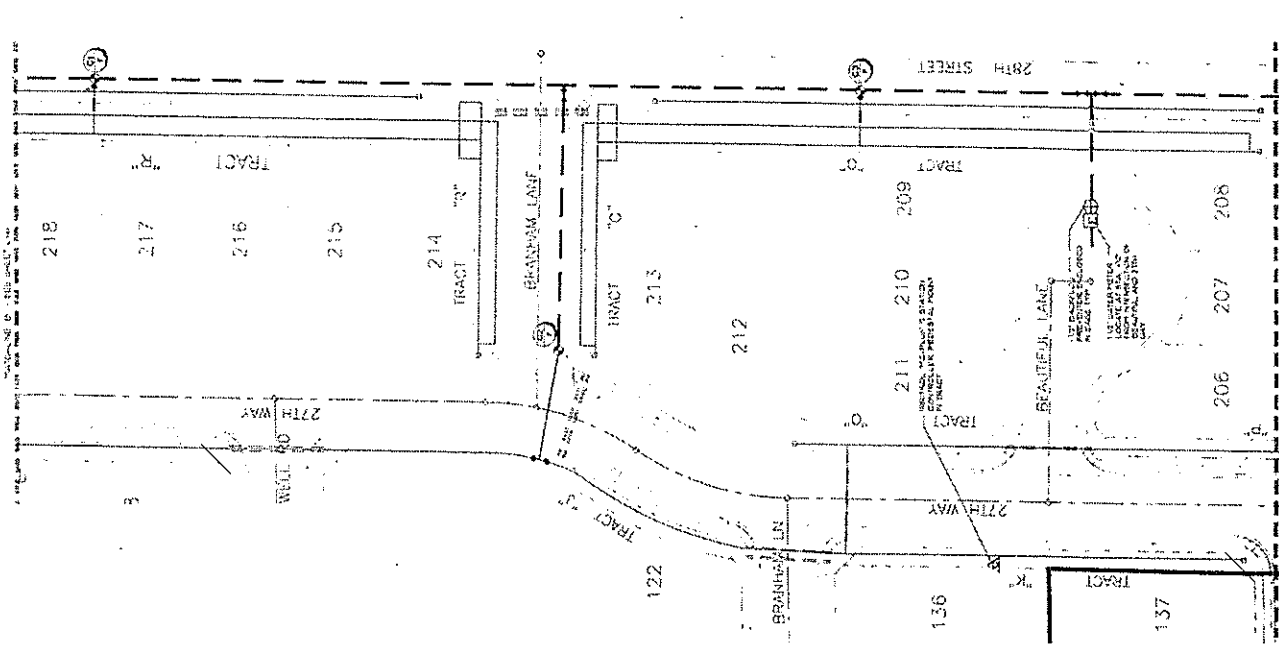
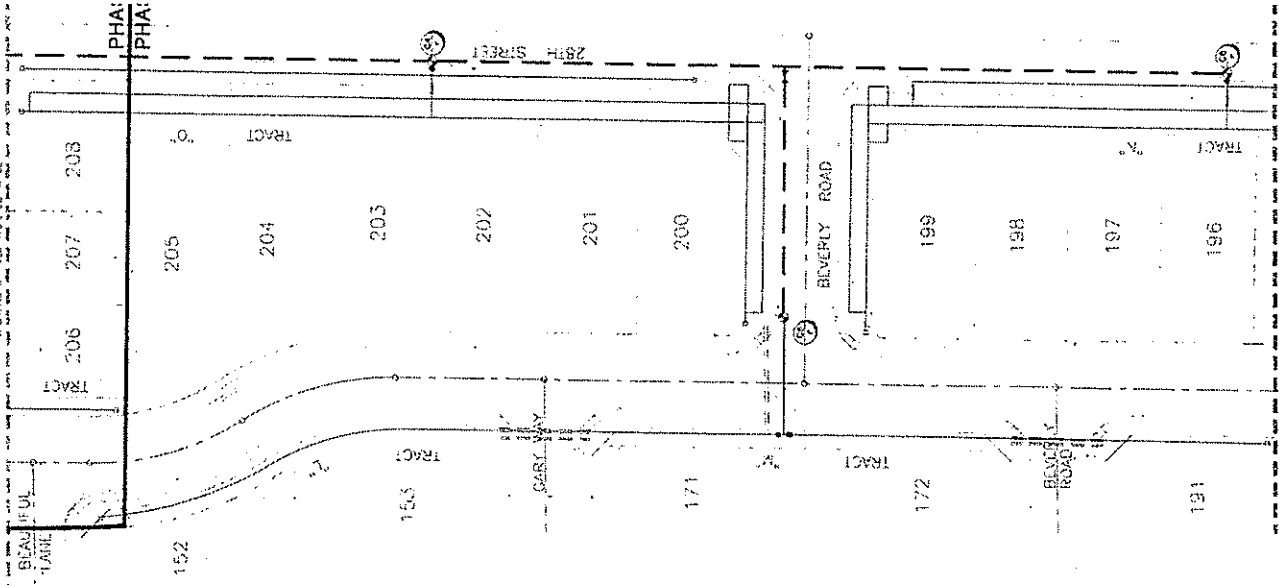
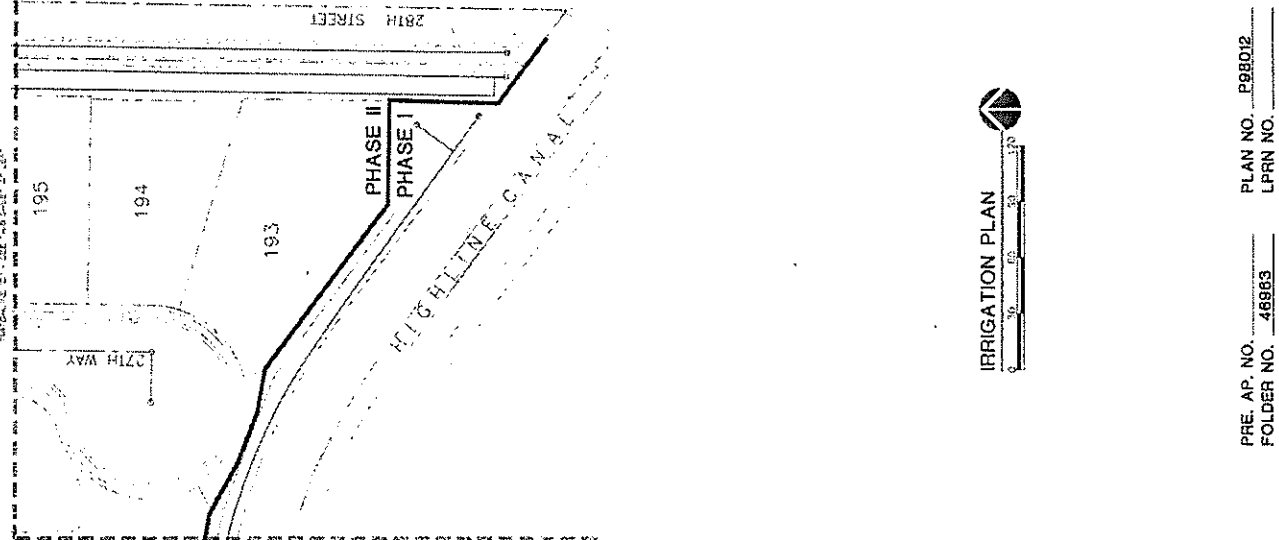
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| JOB NO.  | 88012                        |
| DATE     | 08/15/2024                   |
| PROJECT  | THE GROVES AT SOUTH MOUNTAIN |
| DATE     | 08/15/2024                   |
| REVISION |                              |

SHEET  
 L-6  
 6 OF 11



IRRIGATION PLAN

PRE. AP. NO. \_\_\_\_\_ PLAN NO. 88012  
 FOLDER NO. 48863 LPPN NO. \_\_\_\_\_



PRE. AP. NO. 48983  
 FOLDER NO. 48983  
 PLAN NO. P98D12  
 LPRN NO.

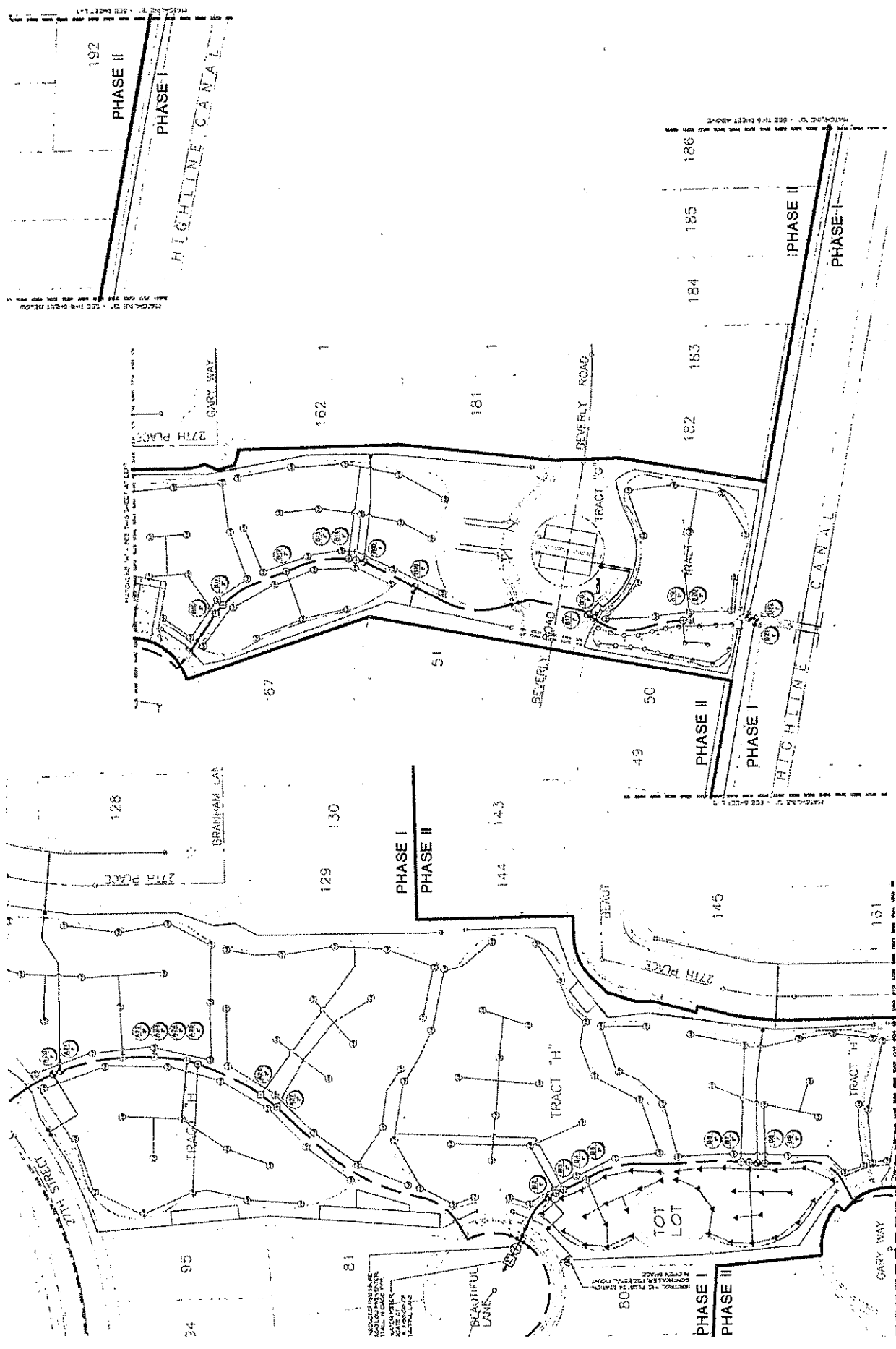


**GLUCK GARDNER, INC.**  
 300 N. GILSON AVE.  
 PHOENIX, ARIZONA 85012  
 TEL: 602-258-9722  
 FAX: 602-258-9722

**LAND USE PLANNING**  
 LANDSCAPE ARCHITECTURE  
 GOLF COURSE DESIGN

**THE GROVES AT SOUTH MOUNTAIN**  
 RICHMOND AMERICAN HOMES  
 S.W.C. OF 28TH STREET AND BASELINE ROAD - PHOENIX, ARIZONA

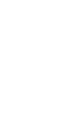
|             |         |
|-------------|---------|
| JOB NO.     | 5800    |
| DESIGNED BY | CCP     |
| APPROVED BY | JAG     |
| DATE        | 5/18/14 |
| REVISIONS   |         |



**IRRIGATION PLAN**

PRE. AP. NO. 48863  
 FOLDER NO. 48863

PLAN NO. 88012  
 LPPN NO.



1" = 40'



STATE OF ARIZONA  
 PROFESSIONAL ENGINEER  
 No. 12345  
 EXPIRES 12/31/2024

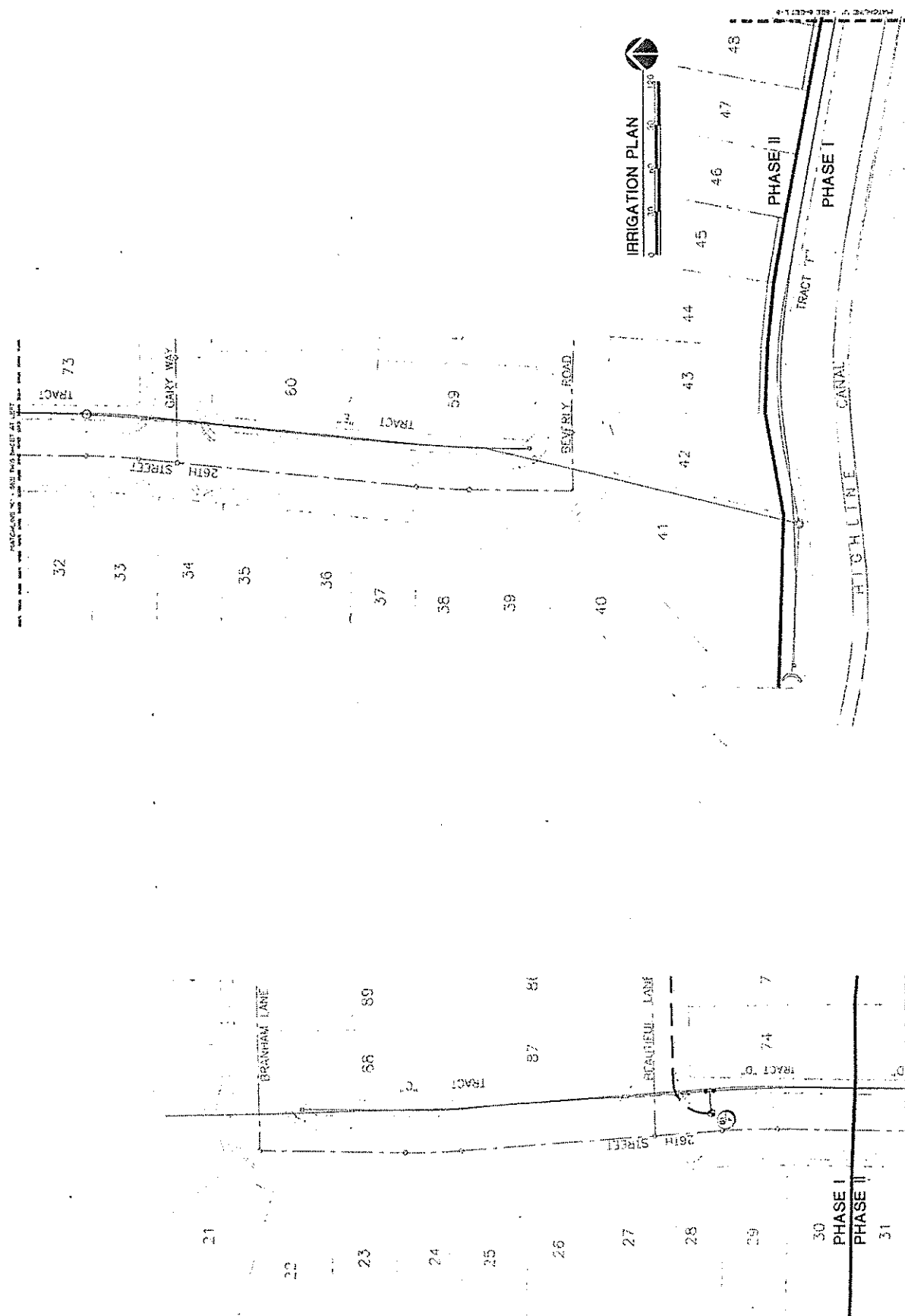
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 APPROVED: JAD  
 DRAWN BY: REP  
 JOB NO.: 8888



THE GROVES AT SOUTH MOUNTAIN  
 RICHMOND AMERICAN HOMES  
 3 W.C. OF 28TH STREET AND BASLINE ROAD - PHOENIX, ARIZONA

DATE: 01/15/2024  
 APPROVED: JAD  
 DRAWN BY: REP  
 JOB NO.: 8888

SHEET: L-9  
 OF 30



PRE AP. NO. 48963  
 FOLDER NO. 48963  
 PLAN NO. P88012  
 LPRN NO.



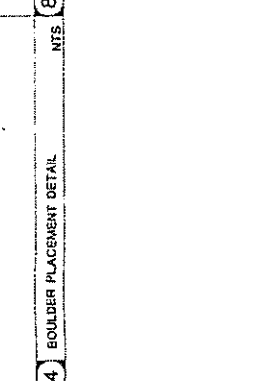
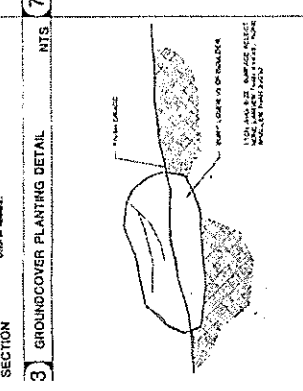
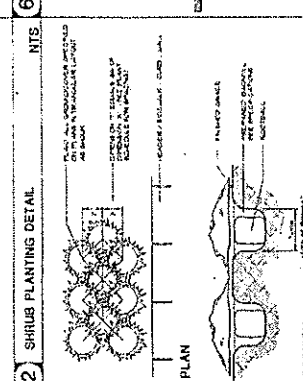
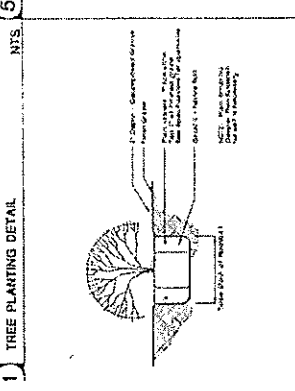
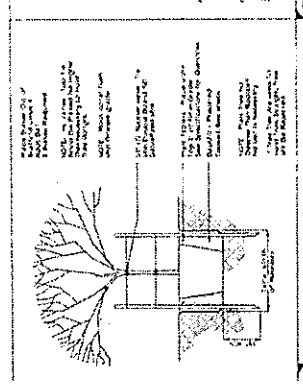
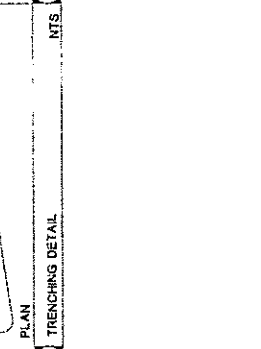
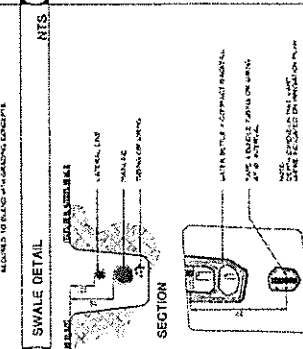
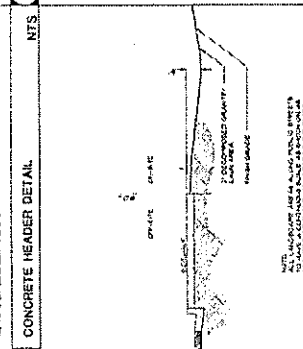
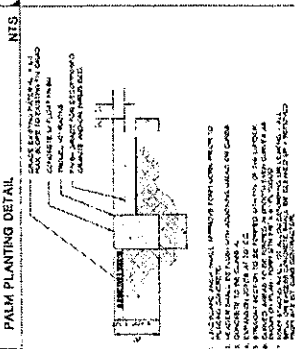
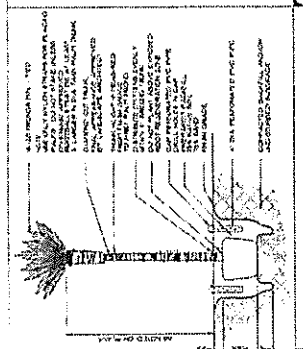
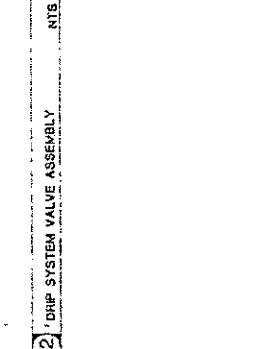
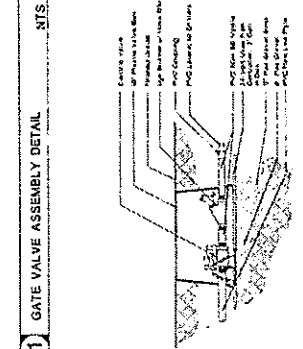
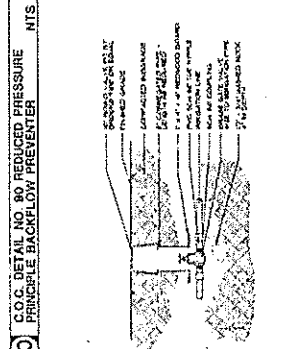
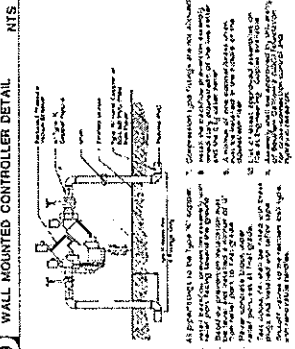
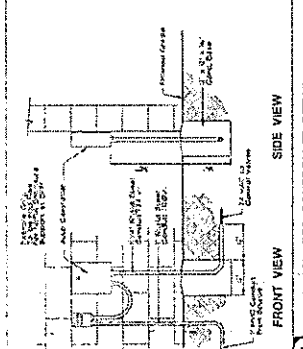
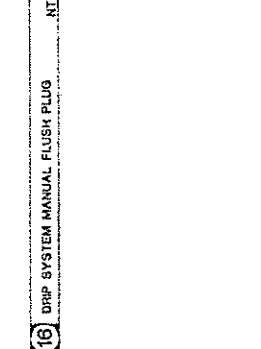
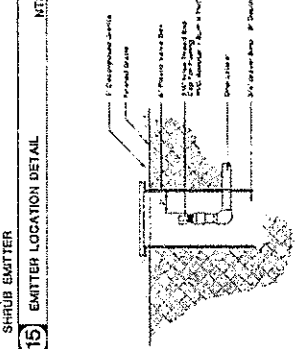
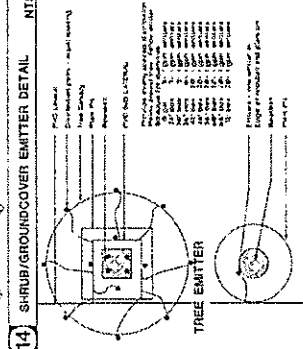
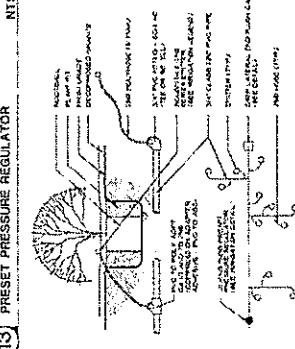
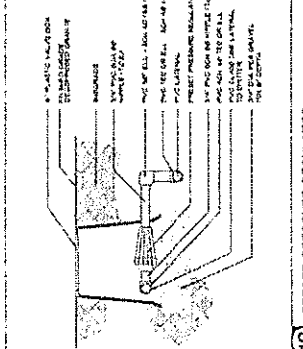
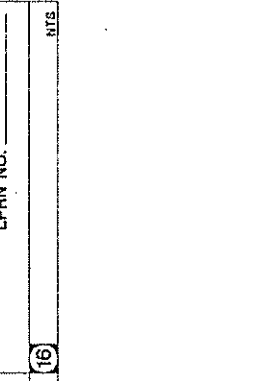
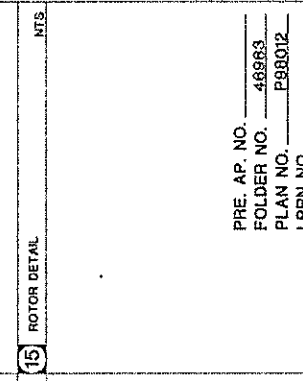
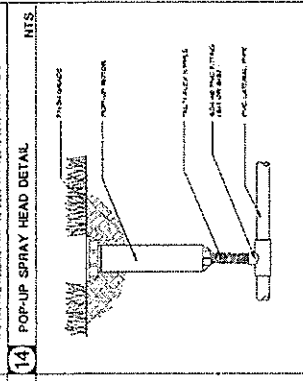
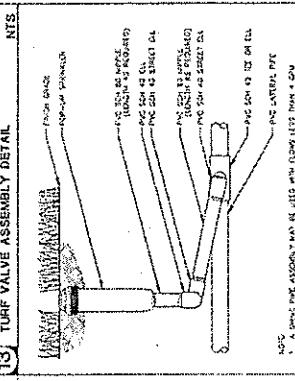
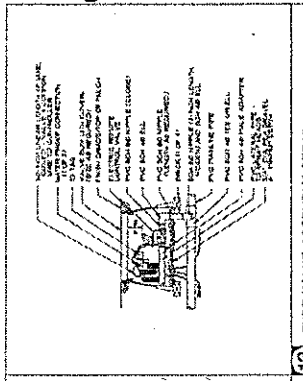


**THE GROVES AT SOUTH MOUNTAIN**  
 RICHMOND AMERICAN HOMES  
 S.W.C. OF 28TH STREET AND BASELINE ROAD - PHOENIX, ARIZONA

DATE: 04/14/14  
 APPROVED: JAD  
 DRAWN BY: BOP  
 JOB NO.: 08043

PREPARED BY: JAD  
 DATE: 04/14/14  
 JOB NO.: 08043  
 DRAWN BY: BOP  
 APPROVED: JAD

DATE: 04/14/14  
 APPROVED: JAD  
 DRAWN BY: BOP  
 JOB NO.: 08043



PRE. AP. NO. 46863  
 FOLDER NO. P88012  
 PLAN NO. LPRN NO.



The Groves

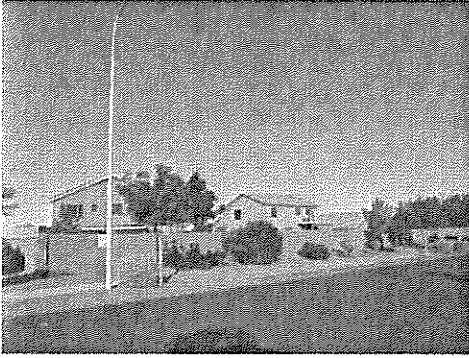
APPENDIX

B

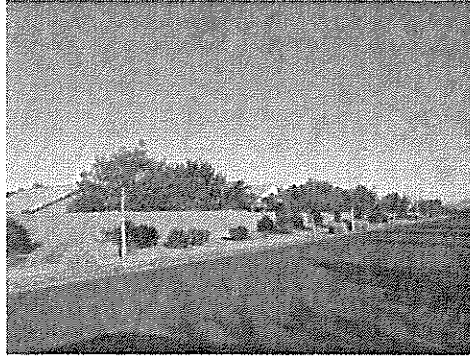
PROJECT PHOTOS AND LOCATION  
MAP



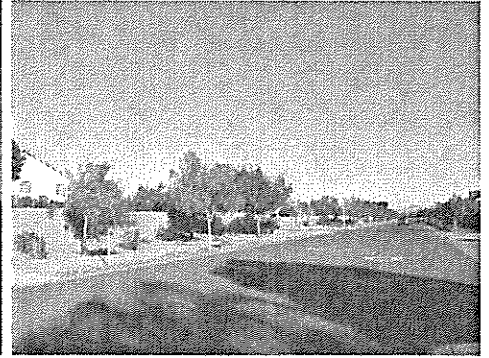
APPENDIX B - PROJECT PHOTO LOCATION MAP



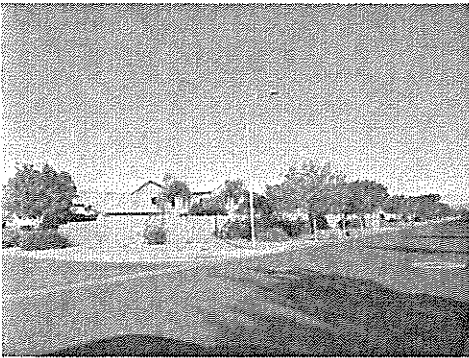
01A-28th Street and Highline Canal looking south.JPG



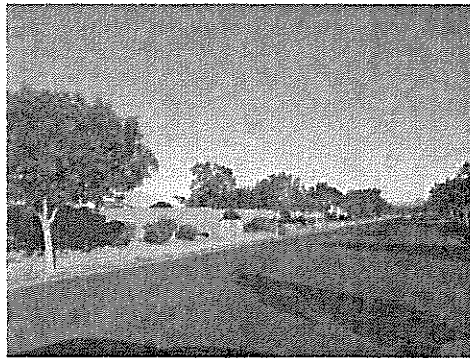
01B-28th Street looking south.JPG



01C-28th Street looking south.JPG



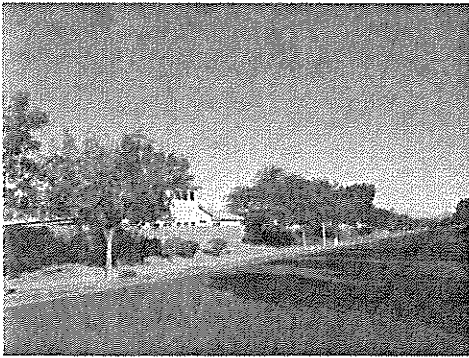
01D-28th Street looking south.JPG



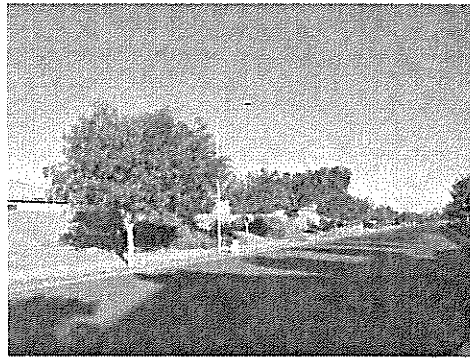
01E-28th Street looking south.JPG



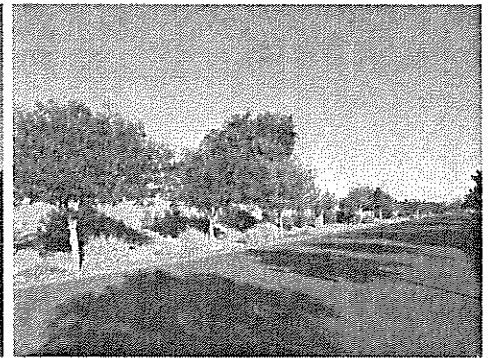
01F-28th Street looking south.JPG



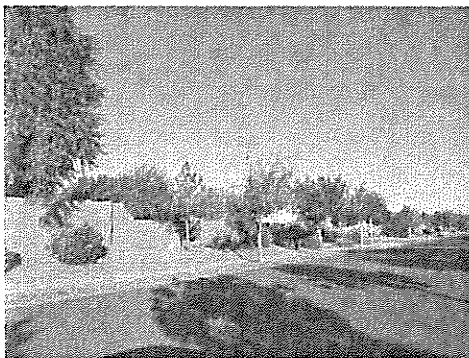
01G-28th Street looking south.JPG



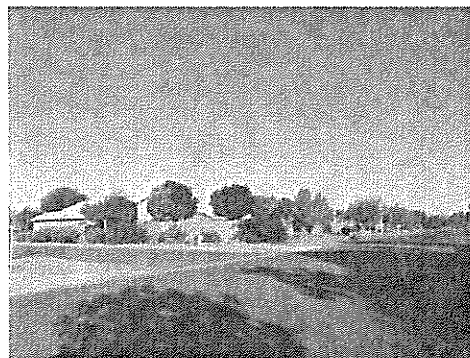
01H-28th Street looking south.JPG



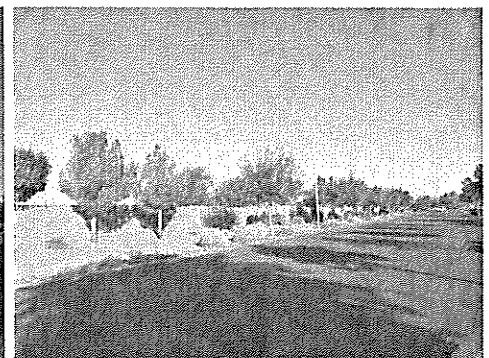
01I-28th Street looking south.JPG



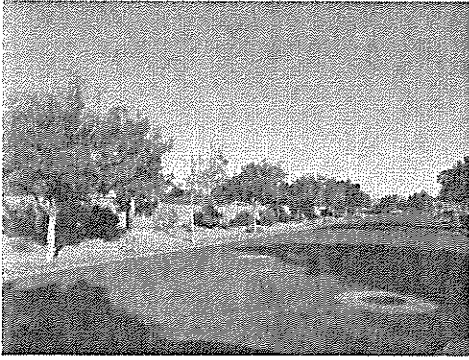
01J-28th Street looking south.JPG



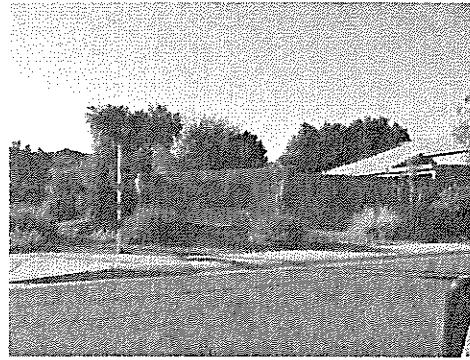
01K-28th Street looking south.JPG



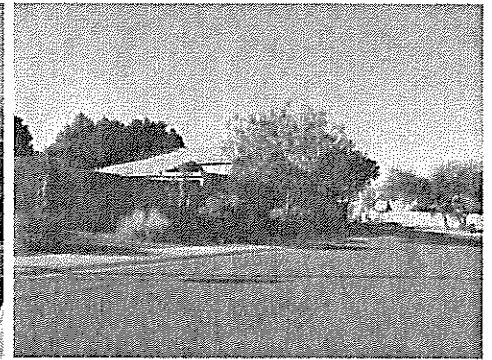
01L-28th Street looking south.JPG



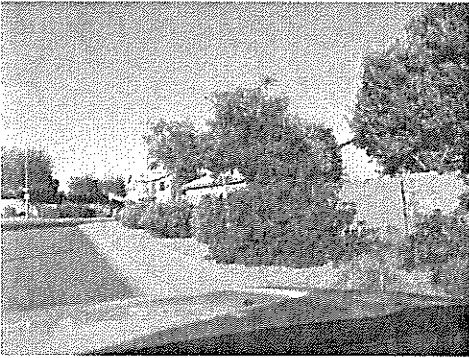
01M-28th Street looking south.JPG



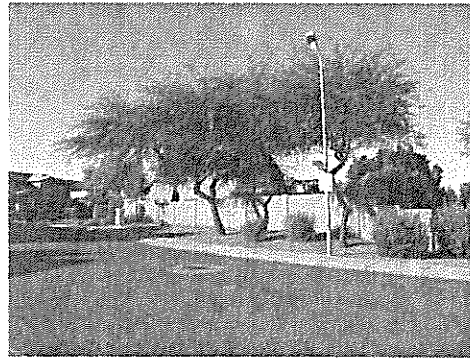
01N-28th Street & Branham Ln looking north.JPG



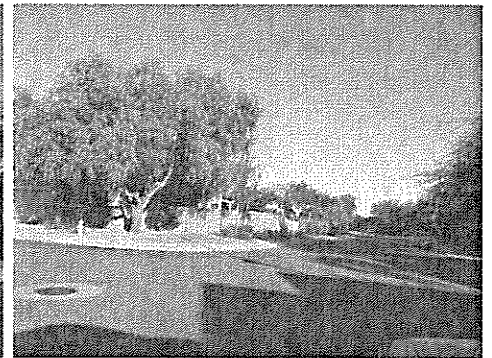
01O-Beverly Road-north side.JPG



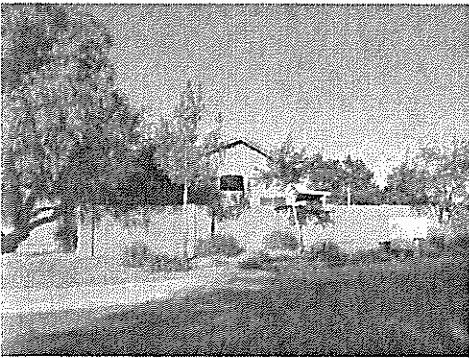
01P-Beverly Road-south side.JPG



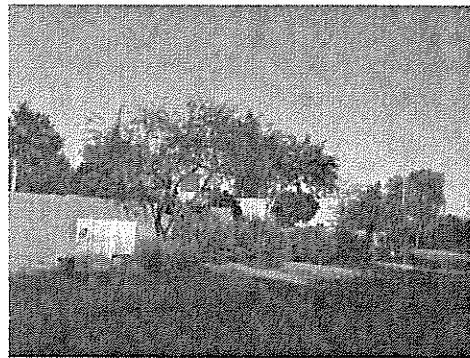
02-Tract J-27th Way between Beautiful Lane Loop.JPG



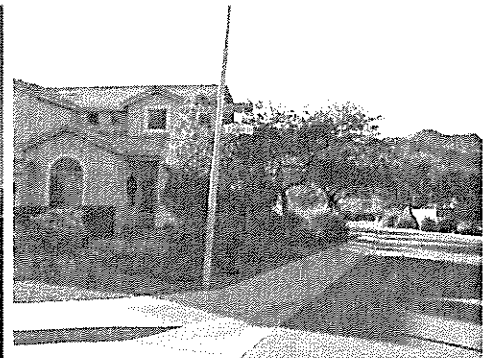
03A-Tract I-between Beautiful Lane and Valencia Dr.JPG



03B-Tract I-between Beautiful Lane and Valencia Dr.JPG



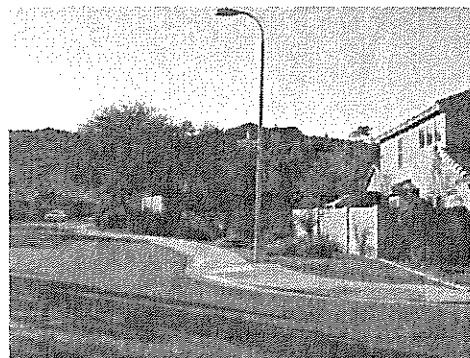
03C-Tract I-between Beautiful Lane and Valencia Dr.JPG



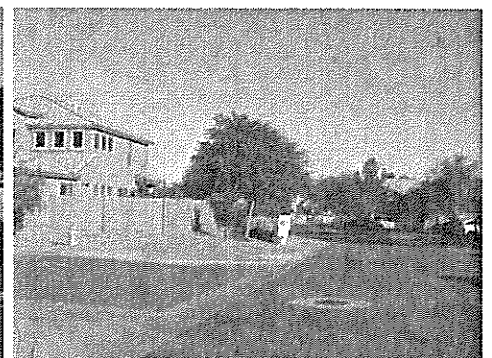
04A-Tract Q- Fawn and 27th looking north.JPG



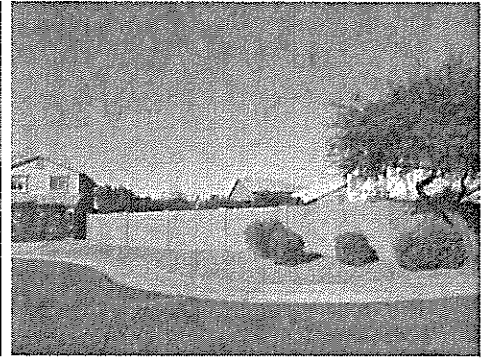
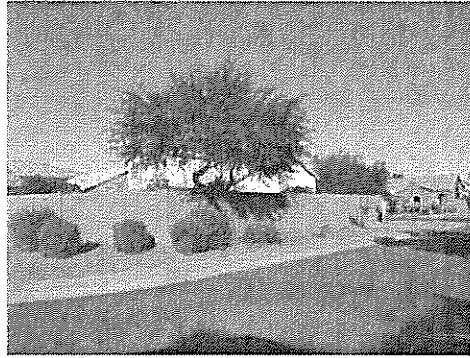
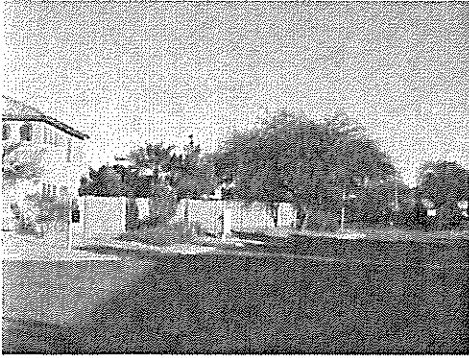
04B-tract K-Fawn and 27th looking south.JPG



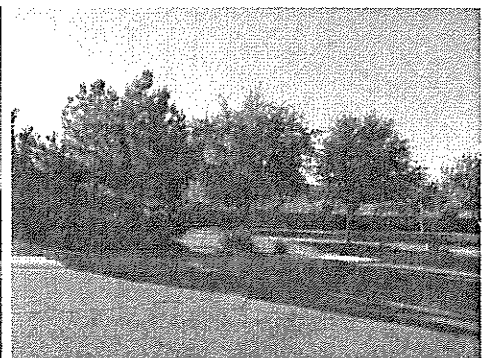
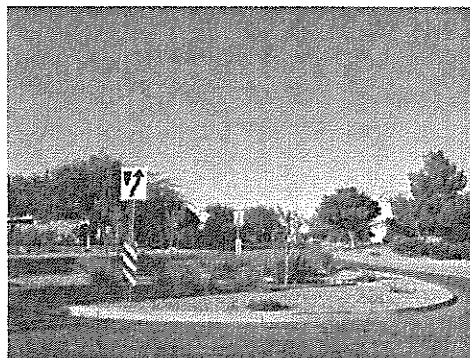
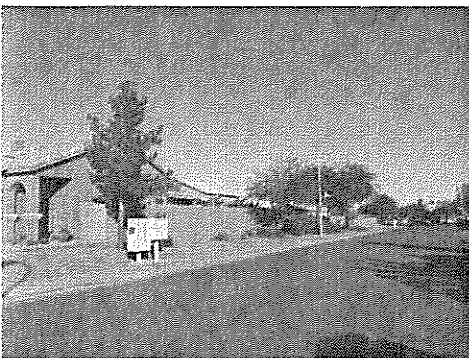
05A-Tract L-Fawn Dr N 27th Way looking north .JPG



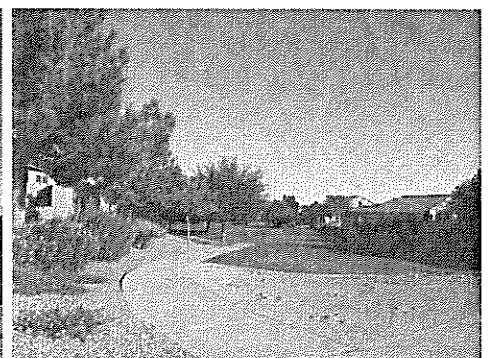
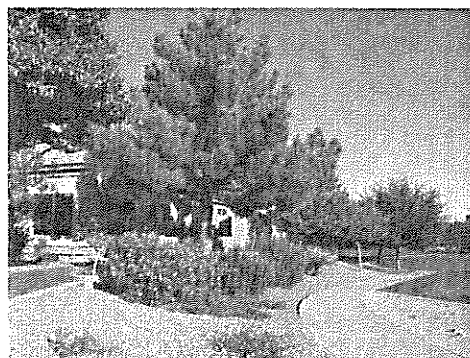
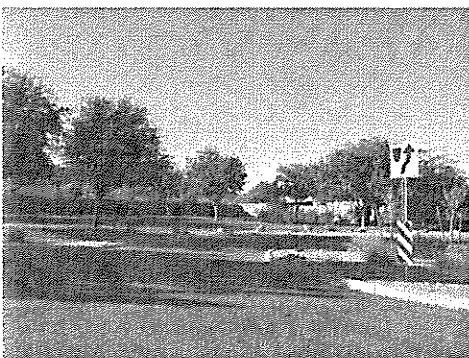
05B-Tract L- 27th Way sbetween Beverly and Fawn l...



05C-Tract P -27th Lane looking north.JPG 06-27th Way south of cul de sac looking south.JPG 06A-27th Way cul de sac -west side.JPG



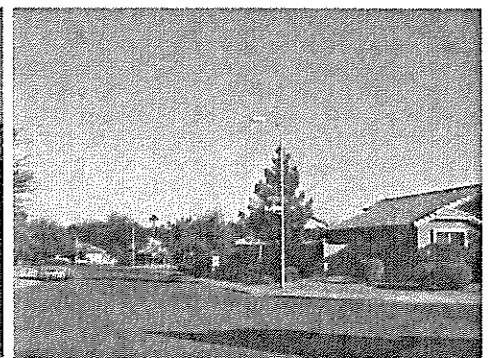
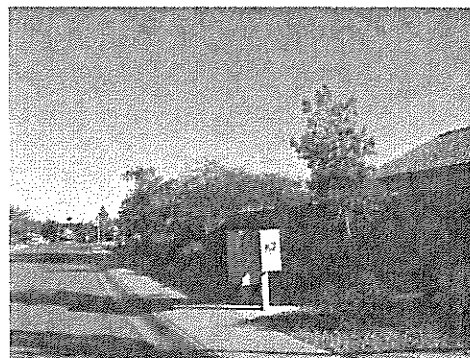
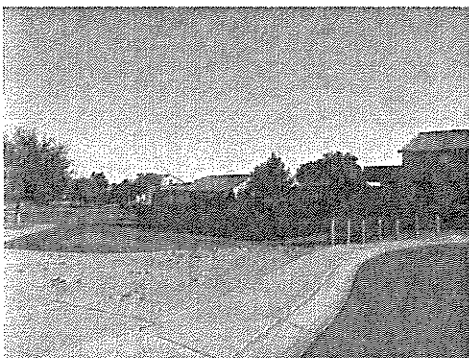
07-Tract M-27th Avenue between Gary and Beverly lo... 08-Gary Way at roundabout looking west.JPG 09A-Tract F Park- looking north .JPG



09B-Tract F Park-looking northwest.JPG

10A-Tract H looking south.JPG

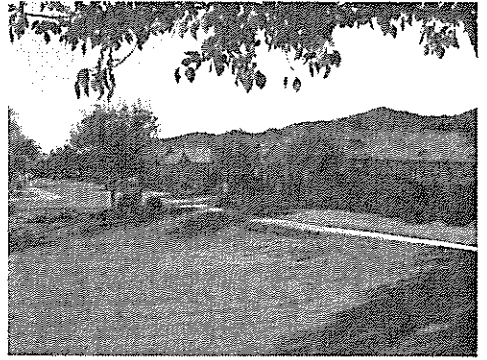
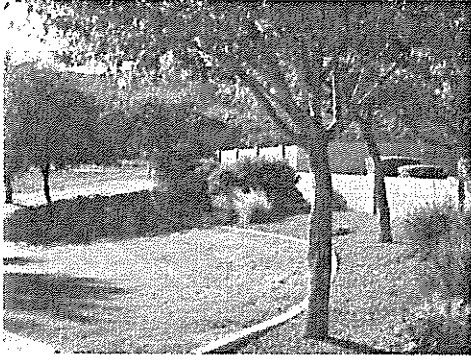
10B-Tract H looking south.JPG



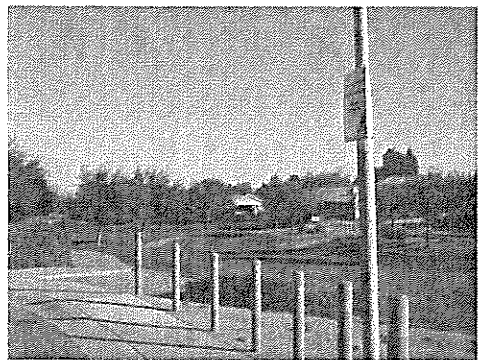
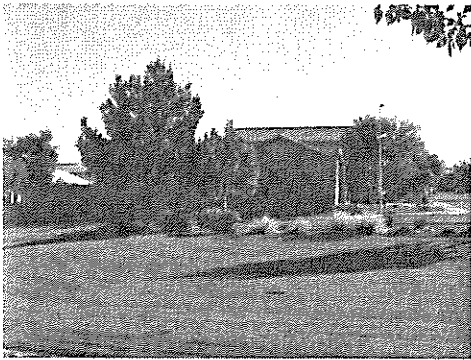
10C-Tract H looking south.JPG

11-Tract D-26th Street between Gary and Beverly loo...

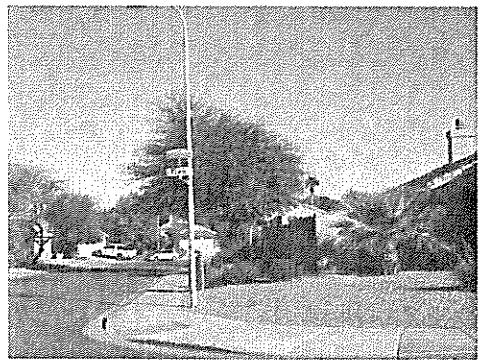
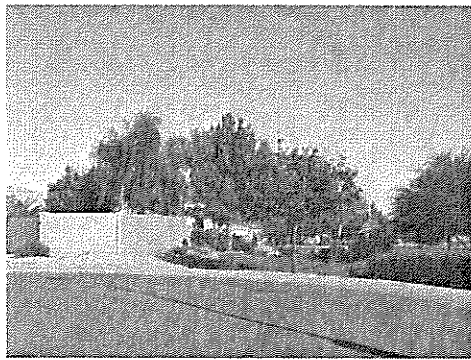
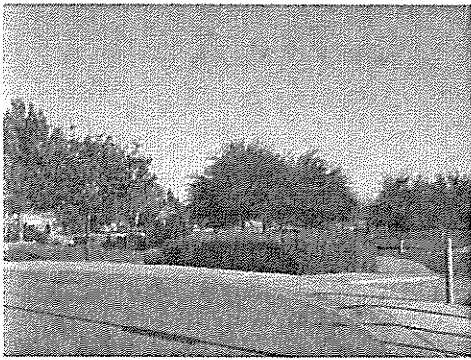
12-Tract C-26th Street between Beverly and Fawn loo...



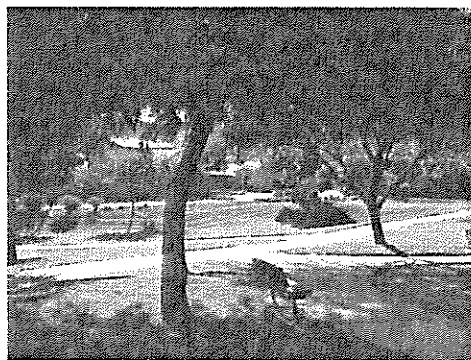
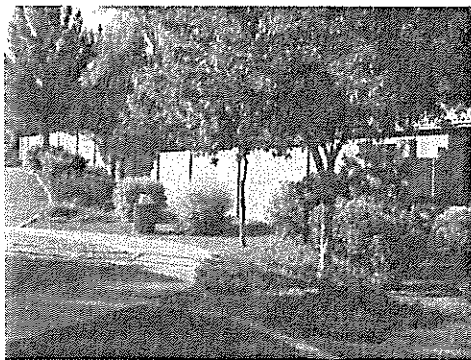
13A- Tract H-Beverly Rd cul de sac looking north.JPG 13B- Tract H-Beverly Rd cul de sac looking northeast.JPG 13C- Tract H-Beverly Rd cul de sac looking east.JPG



13D- Tract H-Beverly Rd cul de sac looking west.JPG 13E- Tract H-Beverly Rd cul de sac looking west.JPG 13F- Tract H-Beverly Rd cul de sac looking south.JPG

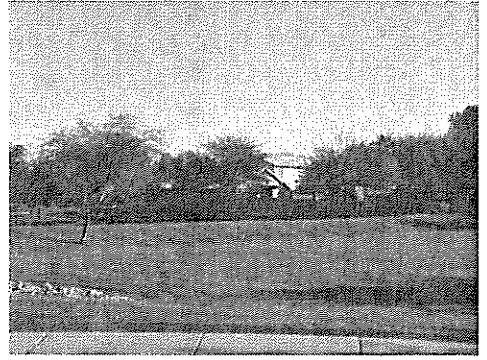
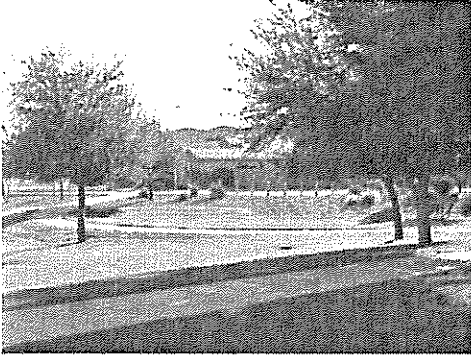


13G- Tract H-Beverly Rd cul de sac looking south.JPG 13H- Tract H-Beverly Rd cul de sac looking south.JPG 14-26th street south of Fawn Dr looking south.JPG

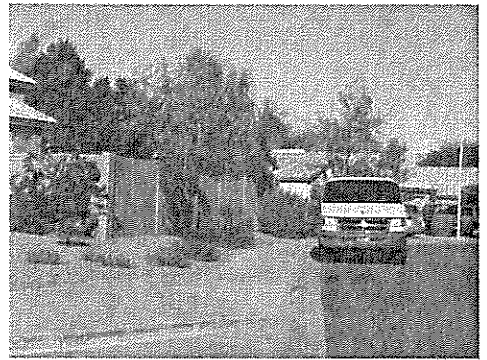
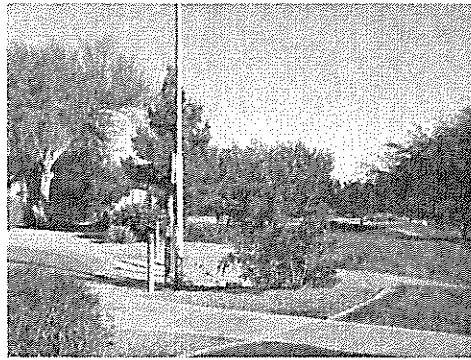
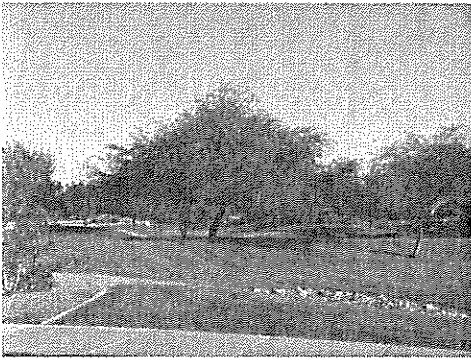


15A-Fawn Dr cul de sac looking east.JPG 15B-Fawn Dr cul de sac looking east (2).JPG 15b-Fawn Dr cul de sac looking east.JPG

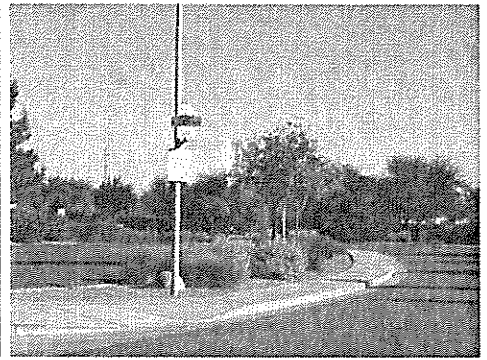
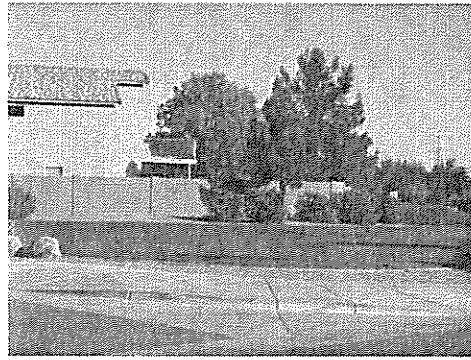
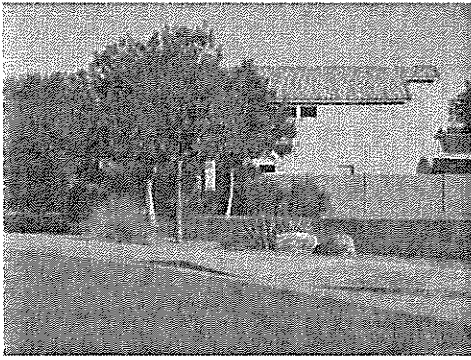




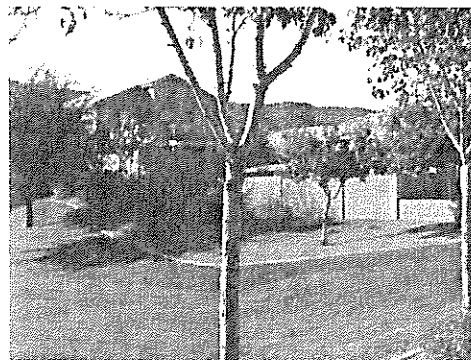
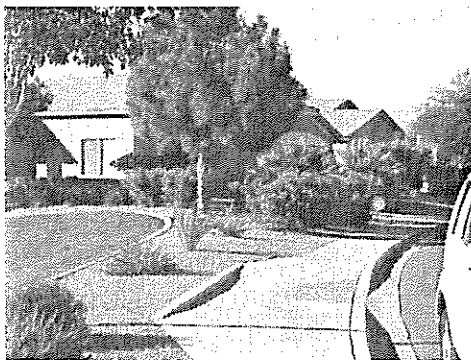
15C-Fawn Dr cul de sac looking east.JPG 15D-Fawn Dr cul de sac looking east.JPG 15E-Fawn Dr cul de sac looking southeast.JPG



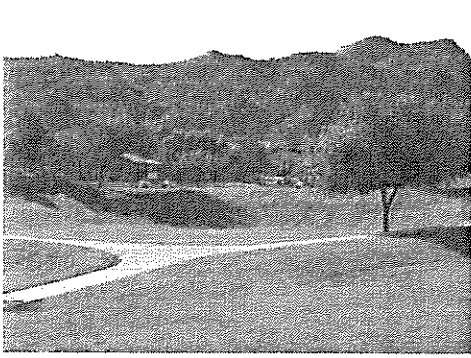
15F-Fawn Dr cul de sac looking southeast.JPG 15G-Fawn Dr cul de sac looking south.JPG 16A-lot 12 sideyard looking south.JPG



16A-Tract B-26th Way and 27th St looking south.JPG 16B-Tract B-26th Way and 27th St looking southeast.JPG 16C-Tract B-26th Way and 27th St looking east.JPG



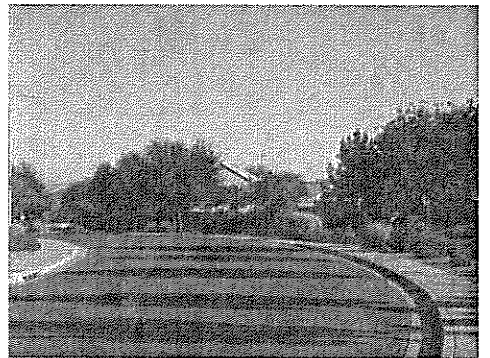
17A-Tract H-27th Street looking west.JPG 17B-Tract H-27th Street looking west.JPG 17C-Tract H-27th Street looking north.JPG



17D-Tract H-27th Street looking west.JPG

17E-Tract H-27th Street looking northeast.JPG

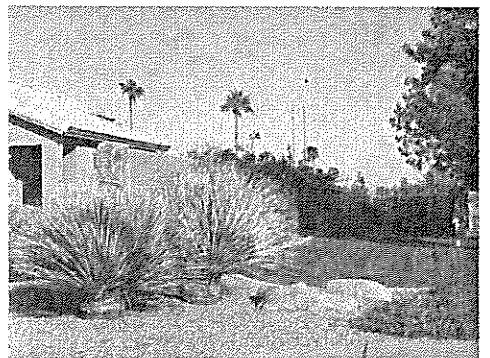
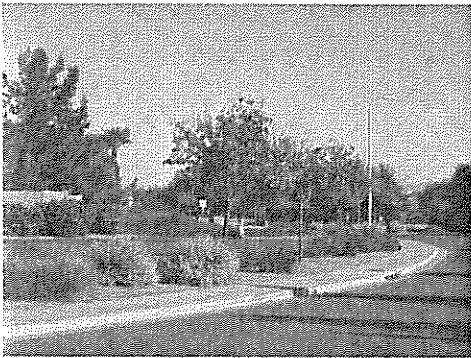
17F-Tract H-27th Street looking northeast.JPG



17G-Tract H-27th Street looking east.JPG

17h-Tract H-27th Street looking west.JPG

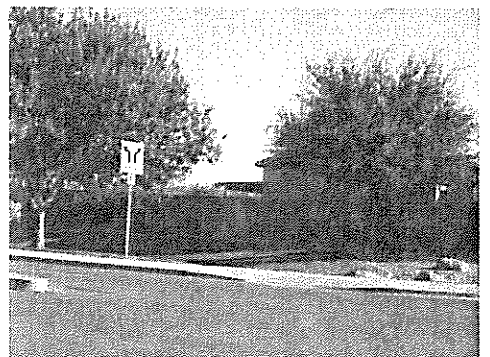
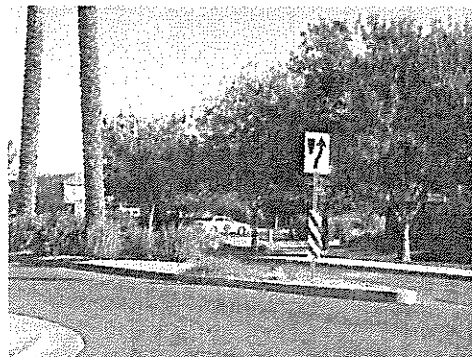
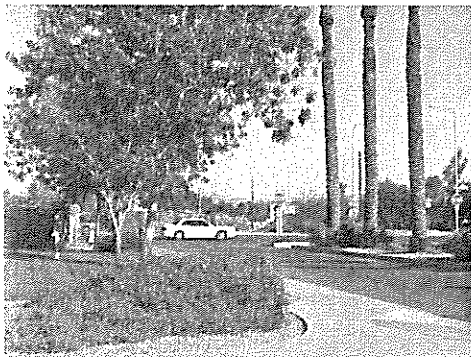
17I-Tract H-27th Street looking southeast.JPG



17j-Tract B-27th Street looking south.JPG

18-Lot 98 side yard looking north.JPG

19A-Tract S-27th St and Valencia dr looking south.JPG



19B-Tract S-27th St and Valencia dr looking south.JPG

19C-Tract S-27th St and Valencia dr looking southeas...

19D-Tract S-27th St and Valencia dr looking east.JPG

The Groves

APPENDIX

C

PROPOSED PLANTING DESIGN

**LANDSCAPE MATERIAL SCHEDULE**

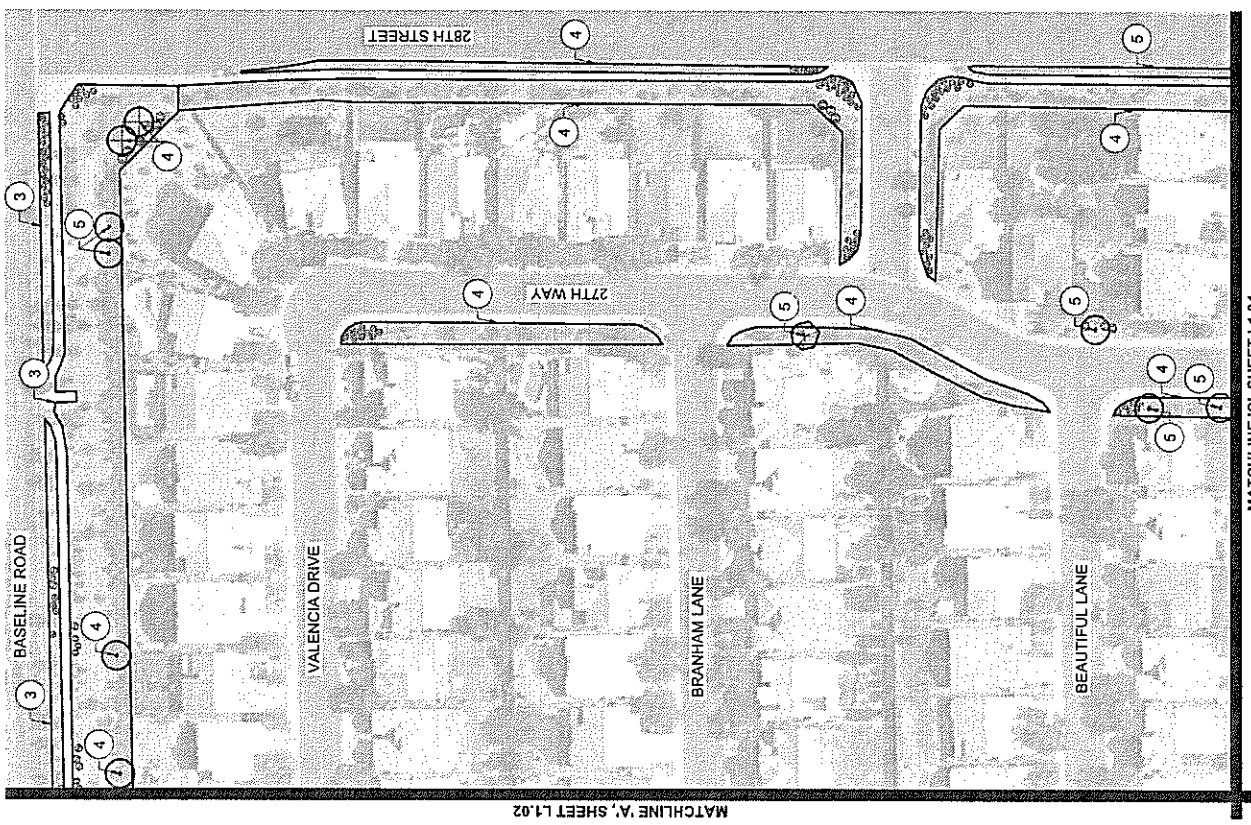
| ITEM                       | SIZE         | QTY   | COMMENTS                         |
|----------------------------|--------------|-------|----------------------------------|
| 1                          | 3" ROSE      | 28    |                                  |
| 2                          | 3" ROSE      | 3     |                                  |
| 3                          | 3" ROSE      | 9     |                                  |
| 4                          | 3" ROSE      | 2     |                                  |
| <b>TREES &amp; ACCENTS</b> |              |       |                                  |
| 5                          | 5 GAL        | 7     |                                  |
| 6                          | 5 GAL        | 5     |                                  |
| 7                          | 5 GAL        | 24    |                                  |
| 8                          | 5 GAL        | 24    |                                  |
| 9                          | 5 GAL        | 24    |                                  |
| 10                         | 5 GAL        | 47    |                                  |
| 11                         | 5 GAL        | 14    |                                  |
| 12                         | 5 GAL        | 34    |                                  |
| <b>GROUNDCOVERS</b>        |              |       |                                  |
| 13                         | 1 GAL        | 44    |                                  |
| 14                         | 1 GAL        | 34    |                                  |
| 15                         | 1 GAL        | 214   |                                  |
| <b>MISCELLANEOUS</b>       |              |       |                                  |
| 16                         | SIZE         | QTY   | COMMENTS                         |
| 17                         | 1" x 1" x 1" | 14400 | SINGLE LAYER 2" MAX DEPTH        |
| 18                         | 1" x 1" x 1" | 14400 | SUPPLEMENTAL COURSE 2" MAX DEPTH |



**LANDSCAPE KEYNOTES**

- 1 YEAR 1 PHASE
- 2 YEAR 2 PHASE
- 3 YEAR 3 PHASE
- 4 YEAR 4 PHASE
- 5 YEAR 5 PHASE

NOTE:  
All plants to be added Year 2 Plant



MATCHLINE 'A', SHEET L1.02

MATCHLINE 'C', SHEET L1.04

**LANDSCAPE ENHANCEMENT PLANS**  
**THE GROVES HOA**  
PHOENIX, ARIZONA

DATE: 10/10/2014  
DRAWN: HMD  
DESIGNED: HMD  
CHECKED: HMD  
PROJECT: 142031000

SHEET TITLE: **PLANTING PLAN**  
SHEET NUMBER: **L1.01**

1ST SUBMITTAL

PHOENIX  
Simplifying the Plan

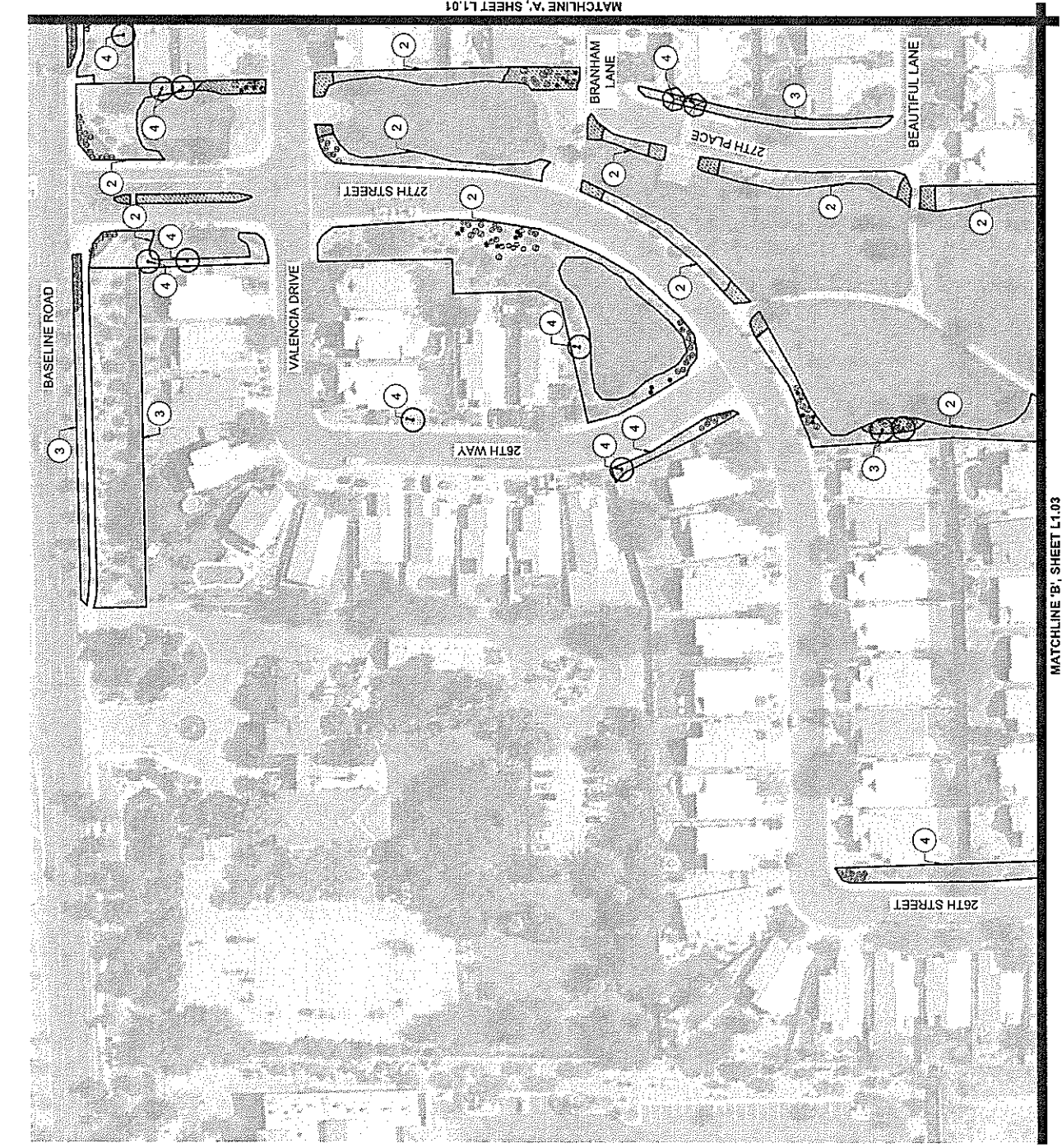
**Cardno**

PHOENIX  
2877 W. ROSS ST. SUITE 200, SCOTTSDALE, AZ 85258  
TEL: (602) 977-8000 FAX: (602) 977-8030

|   |   |   |   |   |   |   |   |   |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|

**LANDSCAPE PALETTE**

**LANDSCAPE KEYNOTES**  
 ② YEAR 2 PHASE  
 ③ YEAR 3 PHASE  
 ④ YEAR 4 PHASE  
 ⑤ YEAR 5 PHASE  
 NOTE: All notes to be added Year 2 Phase







The Groves

APPENDIX

D

CONTROLLER ZONE EXHIBIT





APPENDIX D - CONTROLLER ZONE EXHIBIT

The Groves

APPENDIX

E

POSSIBLE TURF REMOVAL



The Groves

APPENDIX

F

EXPENDITURE SCHEDULE AND  
BUDGET

| The Groves - Expenditure Schedule and Budget          |         |      |           |                      |  |  | YEAR 1              | YEAR 2              | YEAR 3              | YEAR 4              | YEAR 5              |
|---|---------|------|-----------|----------------------|--|--|---------------------|---------------------|---------------------|---------------------|---------------------|
|   | Qty     | Unit | U/P       | Total                |  |  |                     |                     |                     |                     |                     |
| Trees [24" box] - in three phases                     | 42      | each | 175.00    | 7,350.00             |  |  |                     | 2,450.00            | 2,450.00            | 2,450.00            |                     |
| Shrubs [5 gal]  | 160     | each | 10.00     | 1,600.00             |  |  |                     | 1,600.00            |                     |                     |                     |
| Shrubs [1 gal]  | 358     | each | 6.00      | 2,148.00             |  |  |                     | 2,148.00            |                     |                     |                     |
| Rock Mulch [1/2' or 3/4" minus]                       | 183,288 | SF   | 0.25      | 45,822.00            |  |  | 11,771.00           | 11,437.75           | 14,181.00           | 8,432.25            |                     |
| Rip Rap [4"]  | 14,500  | SF   | 0.50      | 7,250.00             |  |  | 7,250.00            |                     |                     |                     |                     |
| Irrigation  |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Replace Sprinkler Nozzels                             | 1       | LS   | 1,500.00  | 1,500.00             |  |  | 1,500.00            |                     |                     |                     |                     |
| Additional backflow preventer:                        | 1       | LS   | 2,500.00  | 2,500.00             |  |  | 2,500.00            |                     |                     |                     |                     |
| Mainline re-size                                      | 1       | LS   | 1,500.00  | 1,500.00             |  |  | 1,500.00            |                     |                     |                     |                     |
| Replace PGMs with high efficiency MP Rotators         | 1       | LS   | 1,200.00  | 1,200.00             |  |  | 1,200.00            |                     |                     |                     |                     |
| Update to smart controllers                           | 1       | LS   | 5,000.00  | 5,000.00             |  |  | 5,000.00            |                     |                     |                     |                     |
| Water Conservation                                    |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Evaluate each Summer - Implement in Phases            |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Existing Turf Area 163,760 sf - Potential Removal 20% |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Turf Demolition                                       | 31,800  |      | 0.38      | 12,084.00            |  |  | 6,699.40            | 5,384.60            |                     |                     |                     |
| New Rock Mulch  | 31,800  |      | 0.37      | 11,766.00            |  |  | 5,883.00            | 5,242.90            |                     |                     |                     |
| New Shrubs [one 5 gal shrub per 250sf]                | 127     | each | 10.00     | 1,270.00             |  |  | 635.00              | 635.00              |                     |                     |                     |
| New Drip Irrigation                                   | 1       | LS   | 11,500.00 | 11,500.00            |  |  | 5,750.00            | 5,750.00            |                     |                     |                     |
| Hardscape and Amenities                               |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Tot Lot Replacement Options                           |         |      |           |                      |  |  |                     |                     |                     |                     |                     |
| Option 1  | 1       | LS   | 33,000.00 | 33,000.00            |  |  |                     |                     |                     | 33,000.00           |                     |
| Option 2  | 1       | LS   | 43,400.00 | 43,400.00            |  |  |                     |                     |                     |                     |                     |
| Option 3  | 1       | LS   | 68,750.00 | 68,750.00            |  |  |                     |                     |                     |                     |                     |
| Benches   | 2       | each | 750.00    | 1,500.00             |  |  | 1,500.00            |                     |                     |                     |                     |
| Trash receptacles                                     | 1       | each | 750.00    | 750.00               |  |  | 750.00              |                     |                     |                     |                     |
| <b>Total</b>  |         |      |           | <b>\$ 147,740.00</b> |  |  | <b>\$ 21,200.00</b> | <b>\$ 30,738.40</b> | <b>\$ 34,648.25</b> | <b>\$ 16,631.00</b> | <b>\$ 43,882.25</b> |