

**AFTER RECORDING MAIL TO:  
RECORDED AT THE REQUEST OF:**

Bruce A. Spanner  
MILLER, MERTENS & SPANNER, PLLC  
1020 N. Center Parkway, Suite B  
Kennewick, WA 99336

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**DECLARATION OF COVENANTS, CONDITIONS,  
RESTRICTIONS AND EASEMENTS FOR PRESERVATION  
OF VIEWS AND SLOPES AND USE RESTRICTIONS  
FOR DESERT SUMMIT  
AND LANDSCAPING MAINTENANCE EASEMENT**

Reference numbers of related documents: 94-18376, 2001-021610, 2003-061197 and 2005-026398

Grantor: North Stone Richland, LLC

Grantee: North Stone Richland, LLC

Abbreviated Legal Description: Portions of Section 29, Township 10 North, Range 28 East, W.M., Benton county, Washington.

Additional legal description: See Exhibit "A"

Assessor's Tax Parcel ID Number:       N/A      

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**WHEREAS**, Columbia Triangle Venture, L.P., as Declarant, created the Horn Rapids Master Planned Community, and in connection therewith caused to be recorded with the office of the auditor of Benton County, Washington, on May 27, 1994 under Recording No. 94-18376, a Declaration of Covenants, Conditions, Restrictions and Easements for Horn Rapids: A Master Planned Community; and

**WHEREAS**, Columbia Triangle Venture, L.P. assigned its interest as Declarant under the aforesaid Declaration of Covenants, Conditions, Restrictions and Easements for Horn Rapids: A Master Planned Community to North Stone Richland, LLC, by Assignment of Interest of Declarant

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of Horn Rapids Master Planned Community dated the 19<sup>th</sup> day of August, 2005 and recorded with the office of the auditor of Benton County, Washington, on the 9<sup>th</sup> day of September, 2005, under Recording No. 2005-026398

**WHEREAS**, North Stone Richland, LLC desires to create restrictive covenants applicable to a portion of Horn Rapids, known as Desert Summit subdivision in order to preserve slopes and views and to place use restrictions upon the subject property.

**NOW, THEREFORE**, North Stone Richland, LLC hereby covenants, agrees, and declares that all of Desert Summit subdivision, as defined herein, and the structures, buildings and improvements hereafter constructed thereon are, and will be, held, sold, and conveyed subject to and burdened by the following covenants, conditions, restrictions, and easements, all of which are for the purpose of enhancing and protecting the value, desirability, and attractiveness of the Lots within Desert Summit and for the benefit of the Owners thereof, their heirs, successors, grantees and assigns. All provisions of this Declaration shall be binding upon all parties having or acquiring any right, title, or interest in Desert Summit subdivision or any part thereof, and shall inure to the benefit of the Owners thereof and are intended to be and shall be in all respects be regarded as covenants running with the land.

## **ARTICLE 1**

### **DEFINITIONS**

Section 1.1. Except as stated in Section 1.2, the Definitions set forth in Article 1 of the Declaration of Covenants, Conditions, Restrictions and Easements for Horn Rapids: A Master Planned Community, recorded with the office of the auditor of Benton County, Washington, on May 27, 1994 under recording No. 94-18376, are hereby incorporated herein by reference.

Section 1.2. The Property shall mean Desert Summit subdivision, being that certain real property described on Exhibit A attached hereto, and such additions thereto as may hereafter be brought within the terms and conditions hereof in accordance with Article 2 of the aforementioned Declaration of Covenants, Conditions, Restrictions and Easements for Horn Rapids: A Master Planned Community.

Section 1.3. Back Yard shall mean that portion of the property that lies between the exterior wall of the Living Unit that is located on the opposite side of the Living Unit from street adjoining the Lot and the boundary opposite of the street side of the Lot.

## **ARTICLE 2**

### **EXTERIOR CONSTRUCTION MATERIALS**

Section 2.1. Restrictions as to Materials for Exterior Construction. Exteriors of all buildings

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and structures shall be constructed exclusively of stucco, masonry, rock, stone or a combination thereof. The Initial Construction Committee and the Architectural Control Committee shall not approve the design of any building or structure that does not comply with this restriction.

### ARTICLE 3

#### SLOPE PRESERVATION

Section 3.1. Soil Report. Shannon and Wilson, Inc., Geotechnical and Environmental Consultants, performed a geotechnical engineering study of the Property, the purpose of which was to develop set back recommendations from the steep slopes lying along the southerly boundaries of Lots 2 through 12 and lying along the southerly boundaries of Lots 13 through 25. The results of the geotechnical engineering study were reported in a document dated June 29, 2007, which is attached hereto as Exhibit B, hereinafter referred to as the "Updated Report".

Section 3.2. Development Restrictions. No Living Unit, building, accessory building, fence, wall, stairway, railing, path, ramp, improvement or other structure may be placed, located, constructed, erected or allowed to remain on any Lot or portion thereof unless the same is consistent with the recommendations set forth in the Updated Report and consistent with this Declaration Of Covenants, Conditions, Restrictions and Easements For Preservation of Views and Slopes and Use Restrictions for Desert Summit and Landscaping Maintenance Easement.

Section 3.3. Use Restrictions. No use may be made of any Lot or portion thereof unless the same is consistent with the recommendations set forth in the Updated Report and consistent with the View Protection Covenants set forth below.

Section 3.4. Debris. No dumping of dirt, mulch, landscaping clippings, debris, trash, solid waste, or other material may be dumped, disposed of or stored on the portion of any Lot lying south or west of the View Preservation Boundary.

Section 3.5. Irrigation Practices. No irrigation of trees, shrubs, outdoor plants, flowerbeds or non-lawn areas may be accomplished on any portion of the yard areas except by use of xerigation drip irrigation with outlet pressure range not to exceed 30 PSI and drip emitters not to exceed 5 GPH. Such drip system shall not run more than (1) one hour per 24 hour period.

All lawn areas or grass areas shall use low volume heads that do not exceed a flow rate of 2.5 GPM. Such irrigation system shall not exceed a run time of 30 minutes every 12 hours.

All systems shall have a master valve at the point of connection that will eliminate downstream pressure after the master valve to prevent accidental flooding.

Review Section 5.4 of Shannon-Wilson Geotech Study (Attached Exhibit "B") for additional

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drainage recommendations.

Section 3.6. Setback. No Living Unit, may be placed, located, constructed, erected or allowed to remain on Lots 9 through 12 less than 30 feet from the slope crest, as depicted on the Slope Crest Map, Exhibit "C", unless the Owner first obtains a report acceptable to the Horn Rapids Homeowners Association substantiating the suitability of the design from Shannon & Wilson or other person or firm experienced in matters of geotechnical engineering. This provision shall not be construed so as to authorize design or construction that is not consistent with the View Protection provisions stated below.

Section 3.7. Bordering Property. The property lying generally south and west of Lots 1 through 12 is owned by the City of Richland or a non-profit entity as open space, and the access to and conditions of its use shall be determined by the City of Richland, its successors and assigns.

Section 3.8. Yakima River. None of the Lots situated within Desert Summit subdivision includes the bank of nor the bed of the Yakima River.

Section 3.9. Rights of Way. None of the Lots situated within Desert Summit subdivision includes the adjoining streets, sidewalks, curbs, gutters and rights of way adjacent thereto.

Section 3.10 Landscaping Maintenance Easement. An easement is hereby conveyed to the Horn Rapids Homeowners Association for the maintenance of those portions of Lots 13 through 26 lying between the crest of slope and River Valley Drive, as depicted on Exhibit "C". This easement shall be for the purpose of maintaining, repairing, replacing, improving, and otherwise managing the landscaping now or hereafter situated on the Easement as a Common Area as defined in the Declaration of Covenants, Conditions, Restrictions, and Easements for Horn Rapids: a Master Planned Community, filed under Benton County Auditor's Number 94-18376. Horn Rapids Homeowners Association shall be entitled to reasonable access on and across the Easement for doing the proper acts of maintaining, repairing, replacing, improving, and otherwise managing the landscaping now or hereafter situated on the Easement.

## ARTICLE 4

### VIEW PROTECTION

Section 4.1. The purpose of the view protection covenants are to protect views of the Yakima River, Horse Heaven Hills, Badger Mountain and Rattlesnake Mountain for the benefit of the owners of Lots 2 through 25.

Section 4.2. A View Preservation Boundary is hereby established to exist and to remain on and across Lots 2 though 25, in the location and as generally depicted on the map attached hereto as Exhibit "D". The View Preservation Boundary for Lots 2 through 12 is situated 90 feet south of the

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north boundary of the Lots. The View Preservation Boundary for Lots 13 through 22 is situated 90 feet south of the north boundary of the Lots. The View Preservation Boundary for Lot 23 is situated 95 feet south of the north boundary of said Lot. The View Preservation Boundary for Lots 24 and 25 is situated 100 feet south of the north boundary of the Lots.

Section 4.3. Except as provided below, no tree, shrub, bush, plant, landscaping element, Living Unit, building, accessory building, fence, stairway, railing, path, ramp, improvement, swimming pool, structure, or other improvement may be placed, constructed, located, grown, cultivated or allowed to remain south or west of a View Preservation Boundary wherein the height of the tree, shrub, bush, plant, landscaping element, Living Unit, building, accessory building, fence, wall, stairway, railing, path, ramp, improvement, swimming pool, structure, or other improvement is greater than 48 inches above the highest elevation of the curb adjacent to each respective Lot. No retaining walls, decorative masonry or concrete walls or similar structures may be placed, constructed, located or allowed to remain south or west of a View Preservation Boundary wherein the height of the wall is greater than 6 inches above the highest elevation of the curb adjacent to each respective Lot.

Section 4.4. Notwithstanding the foregoing, trees may be kept and maintained south or west of a View Preservation Boundary if the trees have no limbs, branches, leaves or other part thereof (except the roots and trunk) that are less than ten feet above the highest elevation of the curb of adjacent to each respective Lot. Provided, however, trees may be planted that do not comply with this restriction so long as the trees are pruned or cultivated so as to comply within 3 years after the date planted.

Section 4.5. Trees may not be kept and maintained on Lots 2 through 12 if the trees have an overall height greater than the height of the roofline of the Living Unit situated on the particular Lot.

Section 4.6. Fences and hand railings erected south or west of the View Protection Boundary shall comply with the provisions of this Section and shall not be constructed or altered unless the design thereof has been approved by the Initial Construction Controls Committee, or the Architectural Controls Committees, as appropriate. Except as authorized under Section 4.7, fences and hand railings may not exceed 48 inches in height above the highest elevation of the curb adjacent to each respective Lot. Fences and hand railings must be black in color. Fences and hand railings may only be an open design, without any of wood, stone, masonry, stucco or any other material covering the tubular frame and pickets. Fences and hand railings shall have no more than two horizontal rails, and the same shall be made of tubular material with a maximum outer diameter of one inch. Posts shall be made of tubular material with a maximum outer diameter of four inches. Posts shall be generally spaced eight feet apart, but may be spaced closer in corners, so long as no posts are less than four feet apart.

Section 4.7. Notwithstanding the foregoing, swimming pools, together with required fencing, may be constructed and allowed to remain south and west of the View Protection Boundary

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only if the fence design is as set forth in Section 4.6 and the height of the fence is the minimum height necessary to comply with applicable statute, rule or ordinance, as now in effect or hereafter amended.

Section 4.8. Fences and hand railings erected north or east of the View Protection Boundary shall not be constructed or altered unless the design thereof has been approved by the Initial Construction Controls Committee, or the Architectural Controls Committees, as appropriate. Fences and hand railings erected north or east of the View Protection Boundary may be up to six feet in height and may obscure views from adjoining Lots and properties. Provided, however, no fence that is not consistent with the standards set forth in Section 4.6 may be situated any closer to the View Protection Boundary than that portion of the exterior wall of the residential structure that is closest to the View Protection Boundary.

Section 4.9. Notwithstanding the foregoing, awnings and deck roofs that are permanently attached to Living Units and the columns supporting the same may be constructed south and west of the View Protection Boundary only if: (1) largest cross-sectional dimension of the column is less than twelve inches; and (2) the roof and all other structural members and other elements affixed thereto are at a height greater than nine feet above the highest elevation of the curb of adjacent to each respective Lot.

Section 4.10. In addition to the restrictions stated above, no continuous or solid hedge shall be grown, cultivated, allowed or maintained south or west of the View Protection Boundary with a height in excess of 24 inches above the highest elevation of the curb adjacent to each respective Lot.

## **ARTICLE 5**

### **ENFORCEMENT**

Section 5.1. Right to Enforce. The Horn Rapids Homeowners Association, Board, Declarant, irrigation source entity, or any two (2) Owners acting in concert, shall have the right to enforce, by any appropriate proceeding at law or in equity, all covenants, conditions, restrictions, reservations, liens, and charges now or hereafter imposed by the provisions of this Declaration. Failure or forbearance by any person or entity so entitled to enforce the provisions of this Declaration to pursue enforcement shall in no event be deemed a waiver of the right to do so thereafter.

Section 5.2. These covenants may be enforced as set forth in the in accordance with the Declaration of Covenants, Conditions, Restrictions and Easements for Horn Rapids: A Master Planned Community, and the rules and regulations promulgated pursuant thereto.

Section 5.3. Remedies Cumulative. Remedies provided by this Declaration are in addition to, cumulative with, and are not in lieu of, other remedies provided by law. There shall be, and there is hereby created and declared to be, a conclusive presumption that any violation or breach or attempted violation or breach of the covenants, conditions, and restrictions herein

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cannot be adequately remedied by an action at law or exclusively by recovery of damages.

Section 5.4. Covenants Running with the Land. The covenants, conditions, restrictions, liens, easements, enjoyment rights, and other provisions contained herein are intended to and shall run with the land and shall be binding upon all persons purchasing, leasing, subleasing or otherwise occupying any portion of Desert Summit, their heirs, executors, administrators, successors, grantees, and assigns. All instruments granting or conveying any interest in any Lot and all leases or subleases shall refer to this Declaration and shall recite that it is subject to the terms hereof as if fully set forth therein. However, all terms and provisions of this Declaration are binding upon all successors in interest despite an absence of reference thereto in the instrument of conveyance, lease, or sublease.

## ARTICLE 6

### AMENDMENT AND REVOCATION

Section 6.1. Amendment by Declarant. Declarant may, during the Development Period, amend this Declaration on its sole signature. This Declaration may also be amended by an instrument executed by the Horn Rapids Homeowners Association for and on behalf of the Owners, provided, however, that such amendments shall have received the prior approval of a the Owners (except Declarant) having seventy-one (71) percent of the Lots identified in Sections 4.1 and 4.2; and provided, further, that no such amendment shall be valid during the Development Period without the prior written consent of the Declarant.

Section 6.2. Effective Date. Amendments shall take effect only upon recording with the Office of the Benton County Auditor or any successor recording office.

## ARTICLE 7

### GENERAL PROVISIONS

Section 7.1. Non-Waiver. No waiver of any breach of this Declaration shall constitute a waiver of any other breach, whether the same or any other covenant, condition or restriction.

Section 7.2. Attorney's fees. In the event of a suit or action to enforce any provision of this Declaration, the unsuccessful party in such suit or action shall pay to the prevailing party all costs and expenses, including title reports, and all attorney's fees that the prevailing party has incurred in connection with the suite or action, in such amounts as the court may deem to be reasonable therein, and also including all costs, expenses, and attorney's fees incurred in connection with any appeal from the decision of a trial court or any appellate court.

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Section 7.3. No Abandonment of Obligation. No Owner, through his nonuse of any Common Area, or by abandonment of his Lot or Living Unit, may avoid or diminish the burdens or obligations imposed by this Declaration.

Section 7.4. Interpretation. The captions of the various articles, sections and paragraphs of this Declaration are for convenience of use and reference only and do not define, limit, augment, or describe the scope, content or intent of this Declaration or any parts of this Declaration. The neuter gender includes the feminine and masculine, the masculine includes the feminine and neuter, and the feminine includes the masculine and neuter, and each includes a legal entity when the context so requires. The single number includes the plural whenever the context so requires.

Section 7.5. Severability. Invalidation of any one of these covenants, conditions, restrictions, easements, or provisions by judgment or court order shall in no way affect any other of the same, all of which shall remain in full force and effect.

Section 7.6. Notices. All notices, demands, or other communications ("Notices") permitted or required to be given by this Declaration shall be in writing and, if mailed postage prepaid by certified or registered mail, return receipt requested (if a Notice to Declarant, the Horn Rapids Homeowners Association, or to fewer than all Owners), or if mailed first-class postage prepaid (if a Notice to all Owners), shall be deemed given three days after the date of mailing thereof, or on the date of actual receipt, if sooner; otherwise, Notices shall be deemed given on the date of actual receipt. Notices to Owners and the Horn Rapids Homeowners Association shall be addressed to the last known address of the addressee. Notice to any Owner may be given at any Lot or Living Unit owned by such Owner; provided, however, that an Owner may from time to time by Notice to the Horn Rapids Homeowners Association designate such other place or places or individuals for the receipt of future Notices. If there is more than one Owner of a Lot, Notice to any one such Owner shall be sufficient. Notice to the Declarant shall be sent to the Horn Rapids Homeowners Association.

Section 7.7. Applicable Law. This Declaration shall be construed in all respects under the laws of the State of Washington.

IN WITNESS WHEREOF, THE UNDERSIGNED DECLARANT HAS EXECUTED THIS DECLARATION THE DAY AND YEAR FIRST ABOVE WRITTEN.

NORTH STONE RICHLAND, LLC

By: \_\_\_\_\_  
Stew Stone, Member

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By: \_\_\_\_\_  
Paul Beals, Managing Member of  
Santiam Development Company, LLC

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) §

On this \_\_\_\_\_ day of \_\_\_\_\_, 2005, before me, the undersigned Notary Public in and for the State of \_\_\_\_\_ duly commissioned and sworn, personally appeared STEW STONE, to me known to a Member of NORTH STONE RICHLAND, LLC, the limited liability company that executed the foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said limited liability company, for the uses and purposes therein mentioned and on oath stated that he is authorized to execute the said instrument on behalf of said limited liability company.

Witness my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
NOTARY PUBLIC in and for the State of \_\_\_\_\_, residing at \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

STATE OF \_\_\_\_\_ )  
COUNTY OF \_\_\_\_\_ ) §

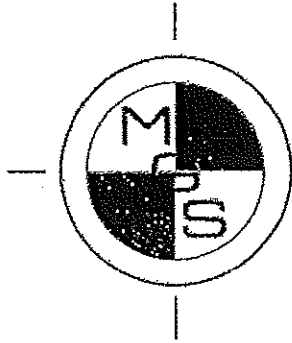
On this \_\_\_\_\_ day of \_\_\_\_\_, 2005, before me, the undersigned Notary Public in and for the State of \_\_\_\_\_ duly commissioned and sworn, personally appeared PAUL BEALS, to me known to Managing Member of Santiam Development Company, LLC, the limited liability company that executed the foregoing instrument and acknowledged said instrument to be the free and voluntary act and deed of said limited liability company, for the uses and purposes therein mentioned and on oath stated that he is authorized to execute the said instrument on behalf of said limited liability company.

Witness my hand and official seal hereto affixed the day and year first above written.

\_\_\_\_\_  
NOTARY PUBLIC in and for the State of \_\_\_\_\_, residing at \_\_\_\_\_  
My Commission Expires: \_\_\_\_\_

B05324/Desert Summit/Covenants 070706

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## MINISTER-GLAESER SURVEYING INC.

*Vancouver Office – 2200 E. Evergreen Blvd., Vancouver, Washington 98661  
(360) 694-3313 (360) 694-8410 FAX  
Pasco Office – 6303 Burden Blvd. Suite E, Pasco, Washington 99301  
(509) 544-7802 (509) 544-7862 FAX*

June 25, 2007

### **EXHIBIT A**

#### **DESERT SUMMIT PERIMETER DESCRIPTION**

That portion of the West-half of Section 28 and that portion of the East-half of Section 29, Township 10 North, Range 28 East, Willamette Meridian, Benton County, Washington described as follows:

Beginning at the Northwest corner of the Southwest corner of said Section 28;

Thence South  $00^{\circ}30'06''$  West along the West line of the Southwest quarter of said Section 28 for a distance of 780.77 feet to the **TRUE POINT OF BEGINNING**;

Thence North  $60^{\circ}20'53''$  West, 70.42 feet;

Thence North  $53^{\circ}34'19''$  West, 685.06 feet;

Thence North  $74^{\circ}58'21''$  West, 531.27 feet to the Easterly right-of-way line of River Valley Drive, said point being 42.00 feet Easterly of the centerline of said River Valley Drive when measured at right angles or radial;

Thence along the Easterly right-of-way line of said River Valley Drive the following courses:

Thence Southeasterly along the arc of 378.00-foot radius non-tangent curve to the left through a central angle of  $23^{\circ}39'06''$  (the radius of which bears South  $85^{\circ}31'56''$  East) for an arc length of 156.04 feet;

Thence South  $19^{\circ}11'01''$  East, 15.00 feet;

Thence Southeasterly along the arc of a 261.00-foot radius tangent curve to the left through a central angle of  $11^{\circ}09'37''$  (the radius of which bears North  $70^{\circ}48'59''$  East) for an arc length of 50.84 feet;

Thence Southeasterly along the arc of a 25.00-foot radius tangent curve to the left through a central angle of  $95^{\circ}44'19''$  (the radius of which bears North  $59^{\circ}39'22''$  East) for an arc length of 41.77 feet;

Thence South  $34^{\circ}47'55''$  East, 50.01 feet;

Thence Southeasterly along the arc of a 25.00-foot radius non-tangent curve to the left through a central angle of  $107^{\circ}56'35''$  (the radius of which bears South  $36^{\circ}04'58''$  East) for an arc length of 47.10 feet;

Thence Southeasterly along the arc of a 273.00-foot radius tangent curve to the left through a central angle of  $10^{\circ}30'44''$  (the radius of which bears North  $35^{\circ}58'27''$  East) for an arc length of 50.09 feet;

Thence South  $64^{\circ}32'16''$  East, 5.51 feet;

Thence leaving the Easterly right-of-way line of said River Valley Drive, South  $35^{\circ}52'04''$  West, 60.96 feet to Westerly right-of-way line of said River Valley Drive, said point being 42.00 feet Westerly of the centerline of said River Valley Drive when measured at right angles or radial, said point also being the Northeast corner of LOT 44, "THE BLUFFS" according to the Plat thereof recorded in Volume 15 of Plats, page 298, Records of Benton County, Washington;

Thence leaving the Westerly right-of-way line of said River Valley Drive and following the Plat boundary of "THE BLUFFS" (Vol. 15, PG. 298) the following courses;

Thence continuing South  $35^{\circ}52'04''$  West, 181.38 feet;

Thence South  $26^{\circ}04'06''$  East, 107.14 feet;

Thence South  $84^{\circ}53'17''$  East, 48.27 feet;

Thence South  $17^{\circ}20'11''$  West, 153.72 feet;

Thence South  $82^{\circ}57'17''$  West, 99.27 feet;

Thence leaving the Plat boundary of "THE BLUFFS" (Vol. 15, PG. 298), South  $80^{\circ}30'52''$  East, 276.71 feet;

Thence South  $64^{\circ}37'50''$  East, 216.16 feet;

Thence South 49°27'10" East, 185.58 feet;

Thence South 36°32'17" East, 204.00 feet;

Thence North 88°51'13" East, 236.05 feet;

Thence North 02°53'59" West, 66.59 feet;

Thence North 88°48'06" East, 189.30 feet;

Thence South 87°53'25" East, 55.46 feet;

Thence South 74°44'06" East, 110.00 feet;

Thence North 15°15'54" East, 108.89 feet;

Thence Southeasterly along the arc of a 942.00-foot radius non-tangent curve to the left through a central angle of 01°18'12" (the radius of which bears North 07°31'00" East) for an arc length of 21.43 feet;

Thence North 06°12'48" East, 238.83 feet;

Thence North 24°17'27" East, 99.35 feet;

Thence North 60°20'53" West, 314.20 feet to the **TRUE POINT OF BEGINNING**.

CONTAINING: 21.77 acres of land, more or less.

**TOGETHER WITH AND SUBJECT TO** easements, reservations, covenants and restrictions apparent or of record.

June 29 2007

**EXHIBIT**  
**"B"**

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North Stone Richland, LLC  
P.O. Box 516  
Stayton, Oregon 97383

Attn: Mr. Stew Stone

**RE: UPDATED GEOTECHNICAL ENGINEERING STUDY; DESERT SUMMIT  
RESIDENTIAL DEVELOPMENT AT HORN RAPIDS; RICHLAND,  
WASHINGTON**

This updated report presents the results of the geotechnical engineering study performed by Shannon & Wilson, Inc., at the proposed Desert Summit (formerly the Bluffs II) residential development in Horn Rapids area of Richland, Washington. Our original report was dated June 4, 2004. This updated report reflects the new subdivision name and the current lot numbering.

The purpose of the study was to investigate the subsurface conditions along the bluff and steeper slope areas, and develop building setbacks and grading recommendations.

We appreciate the opportunity to work with you on this project. Should you have comments or questions regarding this report, please contact us.

Sincerely,

**SHANNON & WILSON, INC.**



Dee J. Burrie, P.E.  
Branch Manager

LJR:DJB/cvm

06-29-2007/22-1-02072-003 Desert summit Gtr/cvm

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**UPDATED GEOTECHNICAL ENGINEERING STUDY  
DESERT SUMMIT RESIDENTIAL DEVELOPMENT  
RICHLAND, WASHINGTON**

**1.0 INTRODUCTION AND SCOPE OF SERVICES**

Shannon & Wilson, Inc. is pleased to present the results of our geotechnical engineering study at the proposed Desert Summit (formerly the Bluffs II) residential development in Richland, Washington. Our original report was dated June 4, 2004. This updated report reflects the new subdivision name and the current lot numbering. We completed a geotechnical study dated May 10, 2004 for the Bluffs I subdivision, located just west of the current site. Our scope of work for this study included excavating six test pits and preparing this report. This report discusses our field exploration, subsurface conditions, and recommendations for site grading and building setbacks.

**2.0 SITE DESCRIPTION AND PROPOSED CONSTRUCTION**

The proposed 30-acre, residential development is located on the north bank of the Yakima River floodplain in the Horn Rapids area of Richland (Figure 1). The surface of the irregularly shaped property generally consists of sand dunes vegetated with grasses and sagebrush. An abandoned irrigation canal crosses the southern end of the site along the floodplain. An approximately 15 to 30-foot high, 2 horizontal to 1 vertical 2 Horizontal to 1 Vertical (2H:1V) to 2.5H:1V slope separates the canal from the sand dune area. Near the southeast property corner, the canal turns northeast and crosses the property. Slopes greater than 15 percent occur along the canal and near the center of the site. We did not observe any indications of significant slope stability.

A fill soil berm lies at the southeast corner of the property, near the abandoned canal. We anticipate that the berm was created using excavated material from the canal.

The development consists of 41 residential lots with associated streets and utility easements.

### 3.0 FIELD INVESTIGATION

The field exploration consisted of six test pits, TP-7 through TP-12, excavated on May 26, 2004. Test pits TP-1 through TP-6 were excavated for the geotechnical study of Bluffs I. Ray Poland and Sons, Inc. excavated the test pits, under subcontract with Shannon & Wilson, Inc., using a CAT excavator. The approximate test pits locations are shown on the Site and Exploration Plan (Figure 2). Our engineer observed each test pit, obtained representative soil samples, and logged the excavations. The soil samples were sealed in plastic bags and returned to our office. The updated test pit logs are presented in Appendix A.

We evaluated the relative soil strength in the test pits using a dynamic, mini-cone penetrometer. The mini-cone uses a slide hammer to drive a conical tip into the soil. The number of hammer blows required to drive the cone 1¼-inch increments is roughly equivalent to a Standard Penetration Test (SPT) blow count. The blows per increment provides an indication of the relative soil density. The blow counts are recorded on the logs.

### 4.0 SUBSURFACE CONDITIONS

#### 4.1 Geologic Maps

The Geologic Map of the Richland 1:100,000 Quadrangle (DGER OF 94-8) maps three soil types near the site. The soils along the floodplain are mapped as alluvium (Qa), the slope is mapped as gravel outburst flood deposits (Qfg3), and the rest of the site is mapped as stabilized dune sand (Qds).

#### 4.2 Explorations

The test pits generally encountered 2 inches of organic topsoil overlying loose to medium-dense, tan sand. Test pits TP-1 through TP-3 exposed medium-dense to dense, black sand at depths of 5 to 8 feet. Test pit TP-5, located near the southeast corner of the site encountered approximately 6 feet of loose to medium-dense fill overlying the native soils. We anticipate that this fill resulted from the canal construction. The approximate fill area is shown on the Site and Exploration Plan (Figure 2).

We did not observe groundwater in the excavations. We anticipate that groundwater occurs near the Yakima River level.



## 5.0 CONCLUSIONS AND RECOMMENDATIONS

### 5.1 General

Based on our site observations, it is our opinion that the site slopes are relatively stable. There is some evidence of wind erosion. Whenever constructing on or near slopes, the owners must accept a risk that slope movement can occur. Proper construction, building setbacks, and proper drainage will reduce these risks. Placing fill or a load on a slope, cutting away the slope toe, or introducing water onto a slope are primary causes of slope movement or landslides. The building setbacks, earthwork, and drainage recommendations presented in the following sections are intended to reduce the potential risks at this site.

Fill has been placed near the southeast corner of the property, near the abandoned canal. We anticipate that this fill results from the canal construction. The fill material is loose, and should be regraded and compacted.

### 5.2 Setback Considerations

In order to evaluate building setback recommendations, we developed a slope profile of the taller, steeper slope along Lots 10 through 12. We evaluated the slope stability at the cross-section using an infinite slope analysis. We selected soil strength parameter based on correlations with dynamic mini-cone blow counts. The analysis indicates that the slope is relatively stable at its present inclinations. However, we recommend placing any structure at least 30 feet from the slope crest on these lots (Lots 10 through 12).

If space limitations require, the recommended 30-foot building setbacks can be achieved by deepening the building foundations so that the footings are 30 feet from the slope face.

### 5.3 Grading Considerations

Fill should not be placed on the steep slopes along the canal unless it is a structural fill or retained by an engineered structure. We anticipate that some site grading will be required to create level building lots. We recommend stripping all surface vegetation and all topsoil beneath areas to receive structural fill. In addition, we recommend regrading and compacting the fill at the southeast corner of the site (Figure 2). The topsoil may be stockpiled and used in future landscape areas, if desired, but should not be used for structural fill.

Slopes steeper than 5H:1V should be terraced or benched prior to placing fill. Bench the slopes per Washington State Department of Transportation (WSDOT) Standard Specifications 2-03.3(14) Embankment Construction for Hillside Terraces. Each terrace should be less than five feet high and penetrate a minimum five feet into the slope.

Once the surface is stripped, the top 12 inches of the exposed subgrade beneath structural fill or buildings areas must be compacted. The subgrade should be compacted to a minimum 92 percent in-place dry density determined by the American Society for Testing and Materials (ASTM) Designation: D 1557, Laboratory Compaction Characteristics of Soil Using Modified Effort. Structural fill and all backfill should be placed in maximum 8-inch loose lift thickness and compacted to 95 percent of the ASTM D 1557 maximum laboratory dry density. The structural fill or backfill should consist of the on-site soils or a well-graded, 2-inch-minus, pit run sand and gravel with less than 5 percent fines.

Permanent cut and fill slopes should be constructed with inclinations no steeper than 2.5H:1V and must be protected from both wind and water erosion. Erosion protection may consist of a vegetative cover or a minimum 3 inches of coarse concrete aggregate conforming to the requirements of WSDOT Specification 9-03.1(4) c, "Concrete Aggregate AASHTO Grading No. 57."

#### 5.4 Drainage

Site development plans should attempt to minimize introducing water onto the site slopes. This includes stormwater and irrigation. All surface runoff should be directed away from the foundation areas and the site slopes by grading. Water should not be allowed to flow uncontrolled onto the slopes. Roof downspouts should be tightlined to a storm drain or to the slope base.

We recommend the use of low volume irrigation systems adjacent to building foundations. Lawn areas should be irrigated for only short time periods to reduce the potential for excessive water infiltration into the subsurface soils. In addition, we recommend installing individual water meters on the irrigation system, if the irrigation water supply is separate from the potable water system. Residents should be encouraged to consult with an irrigation professional to establish an appropriate watering schedule for the applicable landscaping.

## 6.0 LIMITATIONS

The analyses, conclusions, and recommendations contained in this report are based upon site conditions as they presently exist. We further assume that the explorations are representative of the subsurface conditions under all portions of the site; i.e., the subsurface conditions are not significantly different from those disclosed by the field explorations and observations.

If subsurface conditions different from those encountered in the field explorations are observed or appear to be present beneath the excavations during construction, we should be advised at once so that we can review these conditions and reconsider our recommendations, where necessary. If there is a substantial lapse of time between the submission of this report and the start of construction at the site, if conditions have changed because of natural forces or construction at the site, or if the design or loading configurations change, we recommend that we review this report to determine the applicability of the conclusions and recommendations concerning the time lapse or changed conditions contained in this report.

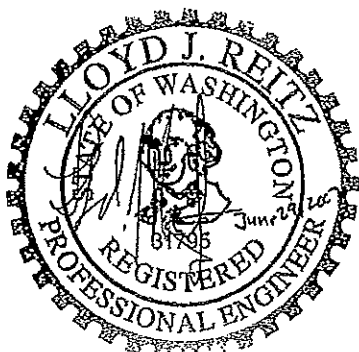
The geotechnical engineering scope of services did not include any environmental assessment or evaluation regarding the presence or absence of wetlands or hazardous or toxic materials in the soil, surface water, groundwater, or air, on or below the site, or for the evaluation or disposal of contaminated soils or groundwater, should any be encountered.

Our report was prepared for the exclusive use of North Stone Richland, L.L.C. and their design team, in the design and construction of the proposed Desert Summit Development in Richland, Washington. This report should be made available to prospective contractors for information on factual data only, and not as a warranty of subsurface conditions such as those interpreted from the test pit logs and discussions of subsurface conditions included in this report.

SHANNON & WILSON, INC.

As an integral part of this report, we have prepared the attachment "Important Information About Your Geotechnical Engineering Report," (Appendix B) to help you more clearly understand its use and limitations.

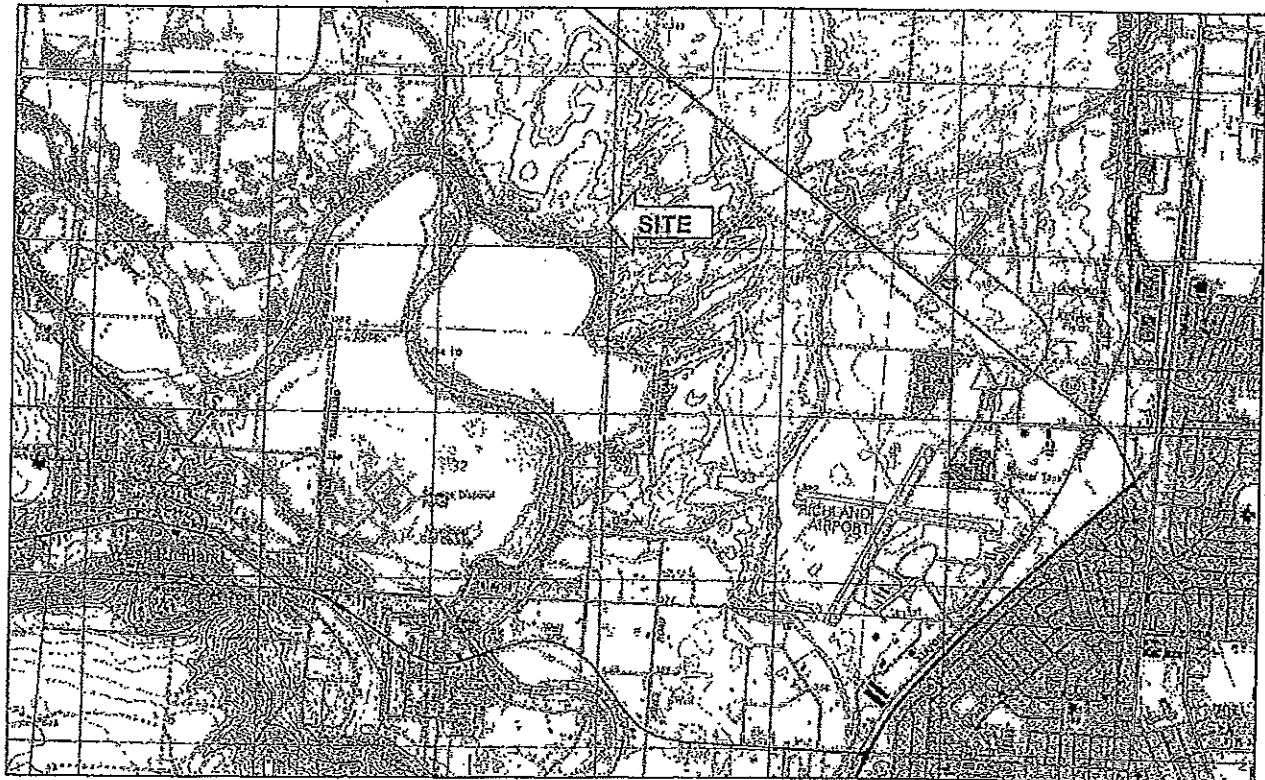
SHANNON & WILSON, INC.



July 21, 2009

Lloyd J. Reitz, P.E.  
Principal Engineer

LJR:DJB/cvm



**Desert Summit Residential Development  
Richland, Washington**

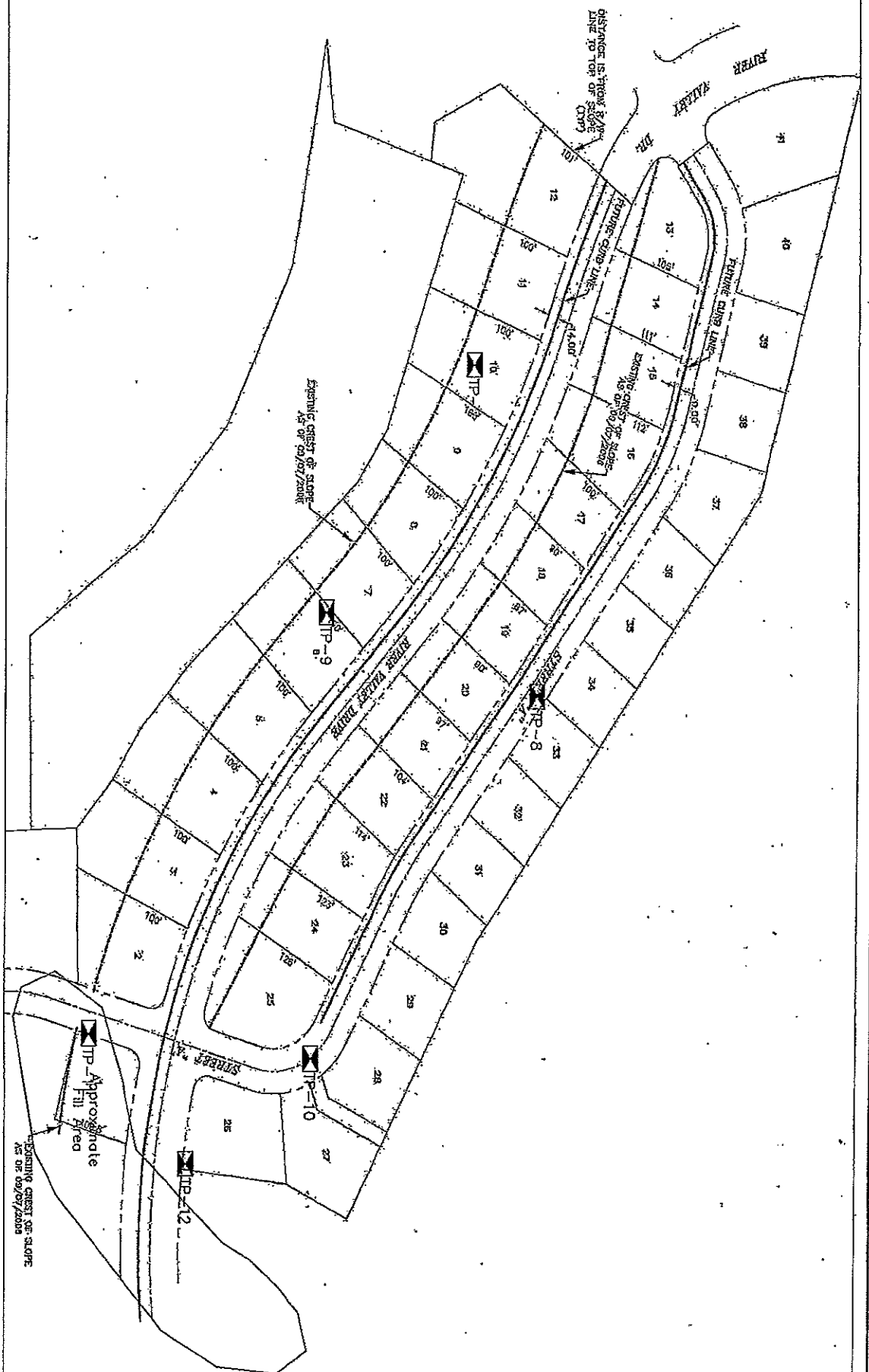
**VICINITY MAP**

Updated June

22-1-02072-003

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Geotechnical and Environmental Consultants

**Fig. 1**



**LEGEND**

Approximate Test Pit Location

**SITE AND EXPLORATION PLAN**

Desert Summit Residential Development  
Richland, Washington

Updated June 2007 22-1-02072-00

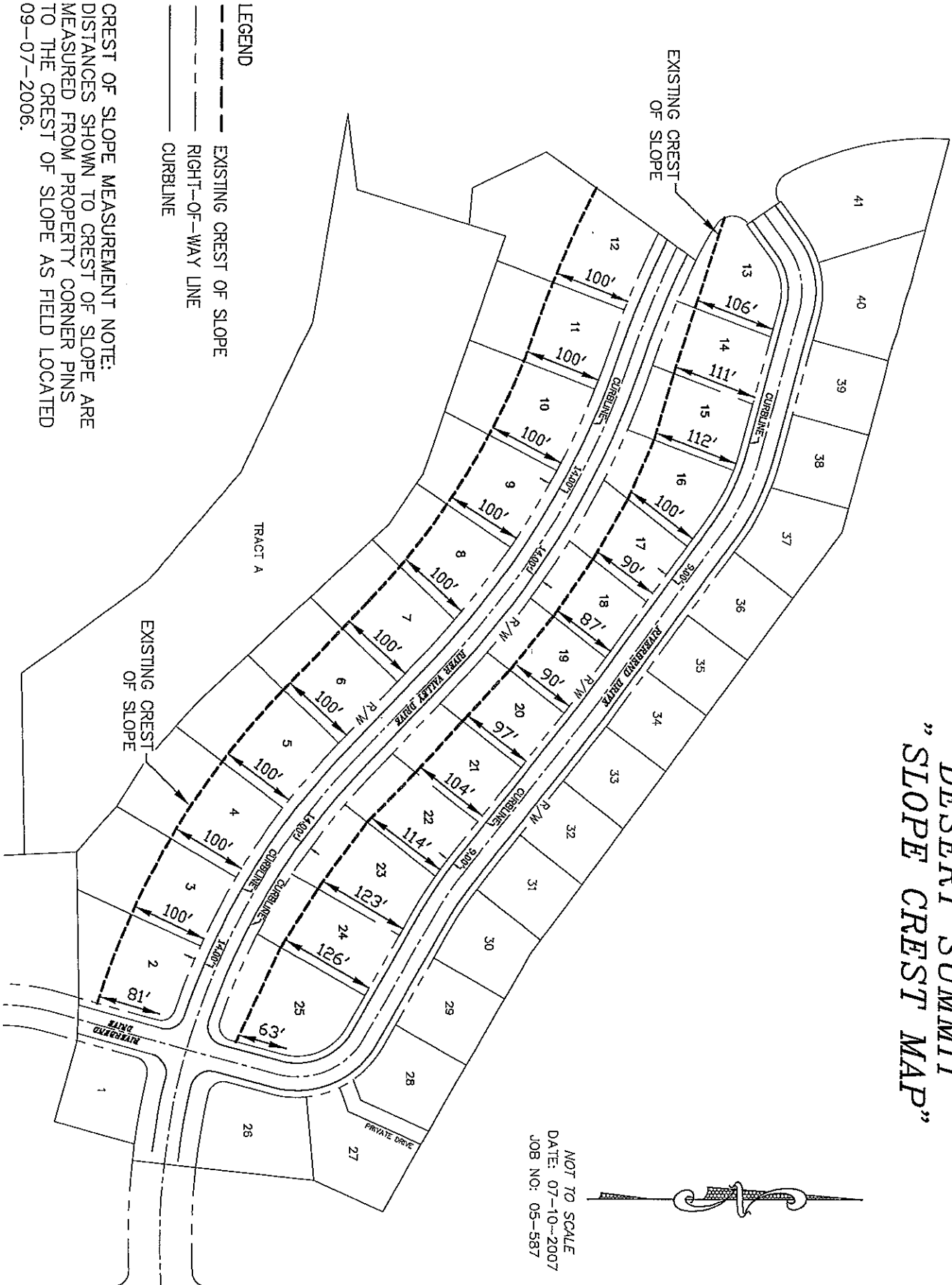
SHANNON & WILSON, INC.  
Subdivision and Environmental Consultants

FIG. 2

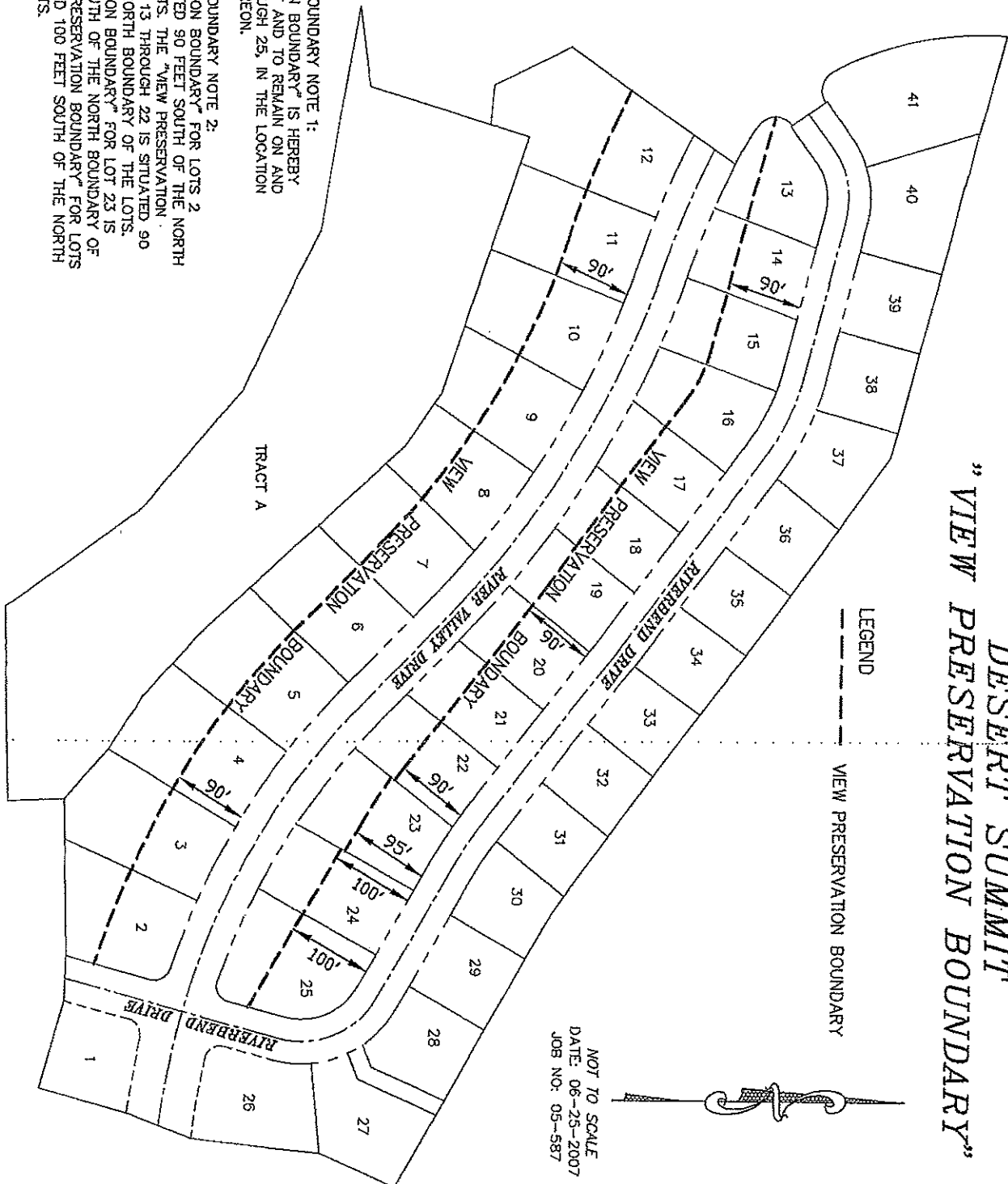
# EXHIBIT C DESERT SUMMIT "SLOPE CREST MAP"



NOT TO SCALE  
DATE: 07-10-2007  
JOB NO: 05-587



# EXHIBIT D DESERT SUMMIT "VIEW PRESERVATION BOUNDARY"



VIEW PRESERVATION BOUNDARY NOTE 1:  
A "VIEW PRESERVATION BOUNDARY" IS HEREBY  
ESTABLISHED TO EXIST AND TO REMAIN ON AND  
ACROSS LOTS 2 THROUGH 25, IN THE LOCATION  
AND AS DEPICTED HEREON.

VIEW PRESERVATION BOUNDARY NOTE 2:  
THE "VIEW PRESERVATION BOUNDARY" FOR LOTS 2  
THROUGH 12 IS SITUATED 90 FEET SOUTH OF THE NORTH  
BOUNDARY OF THE LOTS. THE "VIEW PRESERVATION  
BOUNDARY" FOR LOTS 13 THROUGH 22 IS SITUATED 90  
FEET SOUTH OF THE NORTH BOUNDARY OF THE LOTS.  
THE "VIEW PRESERVATION BOUNDARY" FOR LOT 23 IS  
SITUATED 95 FEET SOUTH OF THE NORTH BOUNDARY OF  
THE LOT. THE "VIEW PRESERVATION BOUNDARY" FOR LOTS  
24 AND 25 IS SITUATED 100 FEET SOUTH OF THE NORTH  
BOUNDARY OF THE LOTS.





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DATE: 07-10-2007  
JOB NO: 05-587

LEGEND  
--- EXISTING CREST OF SLOPE

CREST OF SLOPE MEASUREMENT NOTE:  
DISTANCES SHOWN TO CREST OF SLOPE ARE  
MEASURED FROM PROPERTY CORNER PINS TO  
THE CREST OF SLOPE AS FIELD LOCATED  
09-07-2006.

LANDSCAPE MAINTENANCE EASEMENT NOTE:  
AN EASEMENT IS HEREBY CONVEYED TO THE HORN RAPIDS HOMEOWNERS ASSOCIATION  
FOR THE MAINTENANCE OF THOSE PORTIONS OF LOTS 13 THROUGH 26 LYING BETWEEN  
THE CREST OF SLOPE AND RIVER VALLEY DRIVE, AS DEPICTED HEREON. THIS EASEMENT  
SHALL BE FOR THE PURPOSE OF MAINTAINING, REPAIRING, REPLACING, IMPROVING AND  
OTHERWISE MANAGING THE LANDSCAPE NOW OR HEREAFTER SITUATED ON THE EASEMENT  
AS A COMMON AREA AS DEFINED IN THE DECLARATION OF COVENANTS, CONDITIONS,  
RESTRICTIONS AND EASEMENTS FOR HORN RAPIDS: A MASTER PLANNED COMMUNITY,  
FILED UNDER BENTON COUNTY AUDITOR'S NUMBER 94-18376. HORN RAPIDS HOMEOWNERS  
ASSOCIATION SHALL BE ENTITLED TO REASONABLE ACCESS ON AND ACROSS THE EASEMENT  
FOR DOING THE PROPER ACTS OF MAINTAINING, REPAIRING, REPLACING, IMPROVING AND  
OTHERWISE MANAGING THE LANDSCAPE NOW OR HEREAFTER SITUATED ON THE EASEMENT.

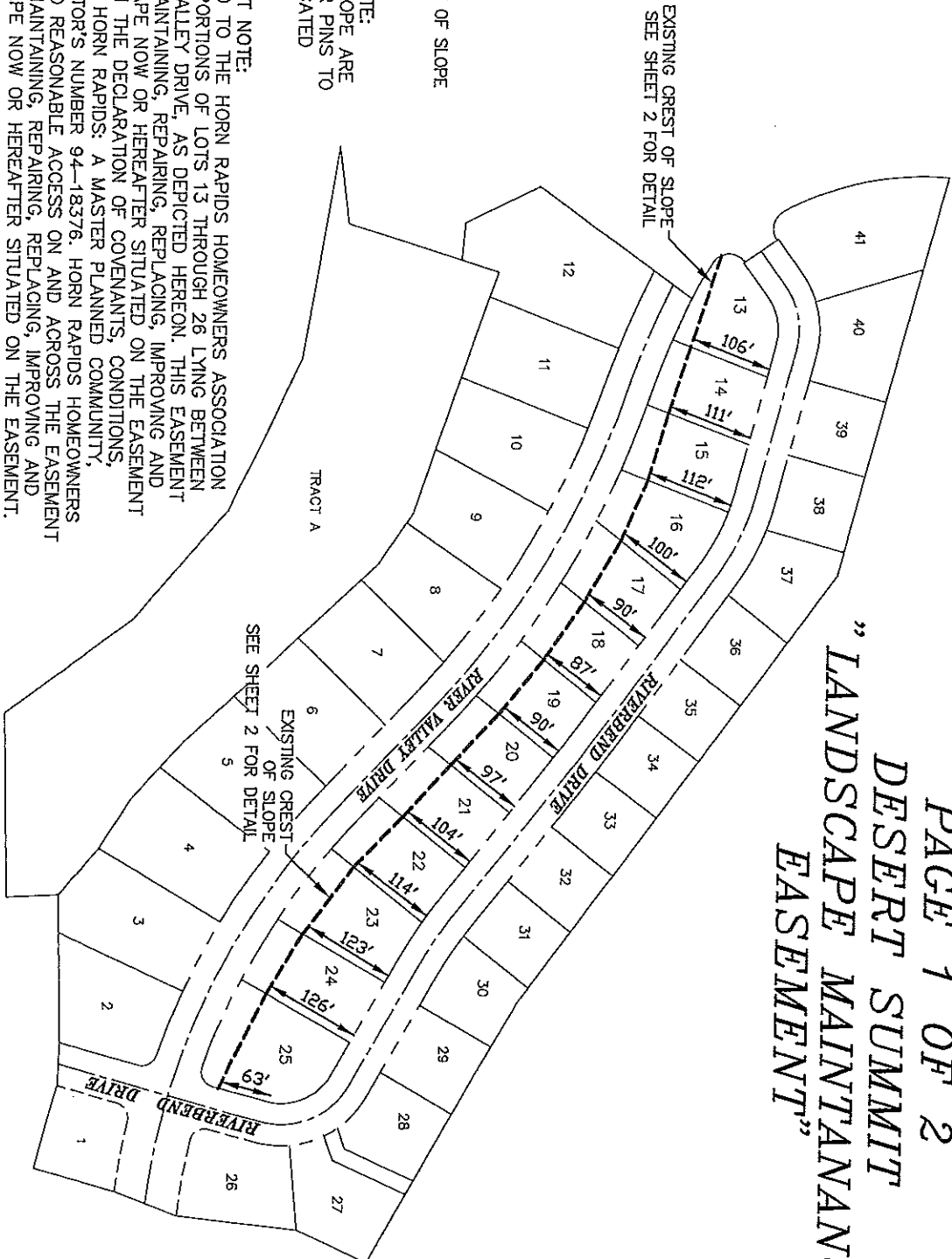
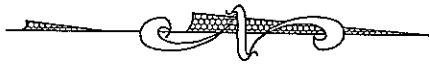


EXHIBIT E  
PAGE 1 OF 2  
DESERT SUMMIT  
"LANDSCAPE MAINTENANCE  
EASEMENT"

# EXHIBIT E PAGE 2 OF 2 DESERT SUMMIT "LANDSCAPE MAINTANANCE EASEMENT"

LANDSCAPE MAINTENANCE EASEMENT NOTE:  
AN EASEMENT IS HEREBY CONVEYED TO THE HORN RAPIDS HOMEOWNERS ASSOCIATION FOR THE MAINTENANCE OF THOSE PORTIONS OF LOTS 13 THROUGH 26 LYING BETWEEN THE CREST OF SLOPE AND RIVER VALLEY DRIVE, AS DEPICTED HEREON. THIS EASEMENT SHALL BE FOR THE PURPOSE OF MAINTAINING, REPAIRING, REPLACING, IMPROVING AND OTHERWISE MANAGING THE LANDSCAPE NOW OR HEREAFTER SITUATED ON THE EASEMENT AS A COMMON AREA AS DEFINED IN THE DECLARATION OF COVENANTS, CONDITIONS, RESTRICTIONS AND EASEMENTS FOR HORN RAPIDS: A MASTER PLANNED COMMUNITY, FILED UNDER BENTON COUNTY AUDITOR'S NUMBER 94-18376. HORN RAPIDS HOMEOWNERS ASSOCIATION SHALL BE ENTITLED TO REASONABLE ACCESS ON AND ACROSS THE EASEMENT FOR DOING THE PROPER ACTS OF MAINTAINING, REPAIRING, REPLACING, IMPROVING AND OTHERWISE MANAGING THE LANDSCAPE NOW OR HEREAFTER SITUATED ON THE EASEMENT.



NOT TO SCALE  
DATE: 07-10-2007  
JOB NO: 05-587

