

**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 THE BLUFFS**

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: NA 1-2908-100-0001-012  
1-2930-400-0001-001; 1-2908-100-0002-003

**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 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 The Bluffs 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 The Bluffs 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 The Bluffs 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 The Bluffs 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 The Bluffs 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 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 generally lying along the southerly boundary of The Bluffs. The results of the geotechnical engineering study were reported in a document dated March 5, 2004, which is attached hereto as Exhibit B, hereinafter referred to as the "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 Report and consistent with the View Protection Covenants set forth below.

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 Report and consistent with the View Protection Covenants set forth below.

Section 3.4. 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. 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 xergation 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 drainage recommendations.

Section 3.6. The property lying generally south and west of Lots 22 through 44 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 3.7. None of the Lots situated within The Bluffs subdivision includes the bank of nor the bed of the Yakima River.

Section 3.8. None of the Lots situated within The Bluffs subdivision includes the adjoining streets, sidewalks, curbs, gutters and rights of way adjacent thereto.

#### 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 22 through 44, with the exception of Lot 24.

Section 4.2. A View Preservation Boundary is hereby established to exist and to remain on and across Lots 22 though 44, in the location and as depicted on the maps attached hereto as Exhibit "C".

Section 4.3. Except as provided below, no tree, shrub, bush, plant, landscaping element, Living Unit, building, accessory building, fence, wall, 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.

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. Except as authorized under Section 4.6, fences and hand railings erected south and west of the View Protection Boundary 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 4.6. Notwithstanding the foregoing, swimming pools, together with required fencing may be constructed and allowed to remain south and west of the View Protection Boundary, only if the fence design is as set forth in Section 4.5 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 4.7. 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 4.8. 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. To ensure compliance with the above mentioned rules, Owners may be fined up to \$100.00 per day for any violation of these covenants until the violation is cured, said fines to be assessed and the amount thereof established by the Horn Rapids Homeowners Association. Before the Association imposes monetary penalties hereunder, the Owner must be given 15 days prior written notice specifying the nature of the violation and stating the time, date and place that

the Owner will have an opportunity to be heard. The Owner will be given an opportunity to be heard, orally or in writing. The decision of the Association shall be final. Any fine shall become a lien in favor of the Association and against the Lot in question arising in the same manner as liens under Section 4.10 of the above referenced Declaration of Covenants, Conditions, Restrictions and Easements for Horn Rapids: A Master Planned Community. Fines will continue accrue during the pending of such hearing.

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 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 The Bluffs, 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 sixty-five (65) 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.

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.

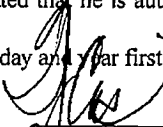
Section 7.7. Applicable Law. This Declaration shall be construed in all respects under the laws of the State of Washington.



COUNTY OF Marion

On this 7<sup>TH</sup> day of FEBRUARY, 2005, before me, the undersigned Notary Public in and for the State of OREGON 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 Oregon, residing at Stien  
My Commission Expires: 6-2-09

B05324/ Covenants 051208

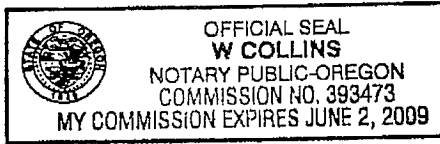




Exhibit "A"

THE BLUFFS PERIMETER LEGAL DESCRIPTION:

THAT PORTION OF THE SOUTHWEST QUARTER OF THE NORTHEAST QUARTER, THAT PORTION OF THE NORTH-HALF OF THE SOUTHEAST QUARTER, THAT PORTION OF THE NORTHEAST QUARTER OF THE SOUTHWEST QUARTER AND THAT PORTION OF THE SOUTHEAST QUARTER OF THE NORTHWEST QUARTER OF SECTION 29, TOWNSHIP 10 NORTH, RANGE 28 EAST, WILLAMETTE MERIDIAN, BENTON COUNTY, WASHINGTON, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST CORNER OF THE NORTHEAST QUARTER OF SAID SECTION 29; THENCE SOUTH 00°42'18" WEST ALONG THE WEST LINE OF THE NORTHEAST QUARTER OF SAID SECTION 29 FOR A DISTANCE OF 2143.41 FEET TO THE TRUE POINT OF BEGINING; THENCE NORTH 65°37'47" WEST, 279.39 FEET; THENCE NORTH 64°31'19" WEST, 108.60 FEET; THENCE SOUTH 44°40'21" WEST, 113.31 FEET; THENCE SOUTH 37°48'55" EAST, 56.59 FEET; THENCE SOUTH 33°22'58" EAST, 55.18 FEET; THENCE SOUTH 31°24'45" EAST, 58.89 FEET; THENCE SOUTH 29°47'34" EAST, 54.04 FEET; THENCE SOUTH 29°59'41" EAST, 24.64 FEET; THENCE SOUTH 26°11'27" EAST, 55.23 FEET; THENCE SOUTH 22°27'15" EAST, 51.70 FEET; THENCE SOUTH 22°31'26" EAST, 52.71 FEET; THENCE SOUTH 20°59'43" EAST, 57.99 FEET; THENCE SOUTH 20°49'07" EAST, 59.04 FEET; THENCE SOUTH 16°23'14" EAST, 55.71 FEET; THENCE SOUTH 13°34'53" EAST, 54.96 FEET; THENCE SOUTH 12°07'23" EAST, 51.29 FEET; THENCE SOUTH 12°38'57" EAST, 50.04 FEET; THENCE SOUTH 22°29'12" EAST, 50.32 FEET; THENCE SOUTH 27°19'35" EAST, 28.26 FEET; THENCE SOUTH 50°43'30" EAST, 17.90 FEET; THENCE SOUTH 54°01'17" EAST, 44.94 FEET; THENCE SOUTH 68°52'58" EAST, 47.06 FEET; THENCE SOUTH 69°01'15" EAST, 53.63 FEET; THENCE SOUTH 68°56'50" EAST, 57.94 FEET; THENCE SOUTH 66°43'09" EAST, 54.22 FEET; THENCE SOUTH 65°00'29" EAST, 71.03 FEET; THENCE SOUTH 65°26'01" EAST, 54.27 FEET; THENCE SOUTH 63°53'16" EAST, 55.81 FEET; THENCE SOUTH 62°26'57" EAST, 55.07 FEET; THENCE SOUTH 63°15'55" EAST, 51.97 FEET; THENCE SOUTH 62°15'39" EAST, 53.70 FEET; THENCE SOUTH 60°17'14" EAST, 54.29 FEET; THENCE SOUTH 59°44'32" EAST, 58.93 FEET; THENCE SOUTH 57°51'29" EAST, 57.66 FEET; THENCE SOUTH 59°08'21" EAST, 50.66 FEET; THENCE SOUTH 61°25'26" EAST, 50.88 FEET; THENCE SOUTH 65°31'11" EAST, 48.54 FEET; THENCE SOUTH 77°10'06" EAST, 47.73 FEET; THENCE SOUTH 79°04'27" EAST, 26.48 FEET; THENCE SOUTH 07°58'40" WEST, 100.13 FEET; THENCE NORTH 79°04'27" WEST, 33.29 FEET; THENCE NORTH 77°10'06" WEST, 59.60 FEET; THENCE NORTH 65°31'11" WEST, 62.32 FEET; THENCE NORTH 61°25'26" WEST, 56.45 FEET; THENCE NORTH 59°08'21" WEST, 53.77 FEET; THENCE NORTH 57°51'29" WEST, 57.14 FEET; THENCE NORTH 59°44'32" WEST, 56.81 FEET; THENCE NORTH 60°17'14" WEST, 52.09 FEET; THENCE NORTH 62°15'39" WEST, 51.10 FEET; THENCE NORTH 63°15'55" WEST, 51.80 FEET; THENCE NORTH 62°26'57" WEST, 54.53 FEET; THENCE NORTH 63°53'16" WEST, 53.20



FEET;THENCE NORTH 65°26'01" WEST, 53.29 FEET;THENCE NORTH 65°00'29" WEST, 69.91 FEET;THENCE NORTH 66°43'09" WEST, 50.79 FEET;THENCE NORTH 68°56'50" WEST, 55.94 FEET;THENCE NORTH 69°01'15" WEST, 53.69 FEET;THENCE NORTH 68°52'58" WEST, 60.23 FEET;THENCE NORTH 54°01'17" WEST, 60.86 FEET; THENCE NORTH 50°43'30" WEST, 24.59 FEET;THENCE NORTH 52°04'18" WEST, 16.02 FEET; THENCE NORTH 27°19'35" WEST, 54.14 FEET;THENCE NORTH 22°29'12" WEST, 63.15 FEET;THENCE NORTH 12°38'57" WEST, 59.10 FEET;THENCE NORTH 12°07'23" WEST, 50.48 FEET;THENCE NORTH 13°34'53" WEST, 51.24 FEET;THENCE NORTH 16°23'14" WEST, 49.39 FEET;THENCE NORTH 20°49'07" WEST, 55.02 FEET;THENCE NORTH 20°59'43" WEST, 56.50 FEET;THENCE NORTH 22°31'26" WEST, 51.44 FEET; THENCE NORTH 22°27'15" WEST, 48.49 FEET;THENCE NORTH 26°11'27" WEST, 48.65 FEET;THENCE NORTH 29°59'41" WEST, 21.50 FEET;THENCE NORTH 29°47'34" WEST, 52.81 FEET;THENCE NORTH 31°24'45" WEST, 55.76 FEET;THENCE NORTH 33°22'58" WEST, 49.59 FEET;THENCE NORTH 37°48'55" WEST, 50.70 FEET;THENCE NORTH 40°07'37" WEST, 51.49 FEET;THENCE NORTH 43°25'00" WEST, 38.66 FEET;THENCE NORTH 46°50'14" WEST, 109.93 FEET;THENCE NORTH 49°10'37" WEST, 14.29 FEET; THENCE SOUTH 00°45'27" WEST, 37.58 FEET;THENCE SOUTH 45°28'04" EAST, 34.28 FEET;THENCE SOUTH 43°35'38" EAST, 61.39 FEET;THENCE SOUTH 38°15'11" EAST, 44.21 FEET;THENCE SOUTH 37°45'16" EAST, 54.40 FEET;THENCE SOUTH 35°31'42" EAST, 69.41 FEET;THENCE SOUTH 32°24'54" EAST, 65.13 FEET;THENCE SOUTH 31°51'48" EAST, 56.83 FEET;THENCE SOUTH 33°01'14" EAST, 52.35 FEET;THENCE SOUTH 21°42'53" EAST, 42.32 FEET; THENCE SOUTH 12°16'43" EAST, 49.94 FEET; THENCE SOUTH 05°32'05" EAST, 57.75 FEET;THENCE SOUTH 16°34'11" EAST, 31.96 FEET;THENCE SOUTH 17°32'15" EAST, 50.46 FEET;THENCE SOUTH 14°26'23" EAST, 54.05 FEET;THENCE SOUTH 22°09'46" EAST, 42.02 FEET;THENCE SOUTH 17°20'47" EAST, 54.58 FEET;THENCE SOUTH 10°56'09" EAST, 48.50 FEET;THENCE SOUTH 13°53'41" EAST, 37.53 FEET;THENCE SOUTH 15°42'01" EAST, 47.95 FEET;THENCE SOUTH 17°11'46" EAST, 55.79 FEET; THENCE SOUTH 20°01'11" EAST, 29.39 FEET; THENCE SOUTH 30°26'41" EAST, 21.12 FEET;THENCE SOUTH 43°48'57" EAST, 37.62 FEET;THENCE SOUTH 40°31'42" EAST, 41.74 FEET;THENCE SOUTH 14°11'37" EAST, 17.57 FEET;THENCE SOUTH 64°07'04" EAST, 8.00 FEET;THENCE SOUTH 64°07'04" EAST, 476.57 FEET;THENCE SOUTH 55°24'00" EAST, 360.61 FEET;THENCE SOUTH 87°07'05" EAST, 144.51 FEET;THENCE SOUTH 73°02'56" EAST, 286.30 FEET;THENCE NORTH 82°57'17" EAST, 609.11 FEET;THENCE NORTH 17°20'11" EAST, 153.72 FEET;THENCE NORTH 84°53'17" WEST, 48.27 FEET;THENCE NORTH 26°04'06" WEST, 107.14 FEET; THENCE NORTH 35°52'04" EAST, 242.34 FEET;THENCE NORTH 64°32'16" EAST, 5.51 FEET;THENCE NORTHWESTERLY ALONG THE ARC OF A 273.00-FOOT RADIUS TANGENT CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 10°30'44" FOR AN ARC LENGTH OF 50.09 FEET;THENCE NORTHEASTERLY ALONG THE ARC OF A 25.00-FOOT RADIUS TANGENT CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 107°56'35" FOR AN ARC LENGTH OF 47.10 FEET;THENCE NORTH 34°47'55" WEST, 50.01 FEET;THENCE NORTHWESTERLY ALONG THE ARC OF A 25.00-FOOT RADIUS, NON TANGENT CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 95°44'19" (THE



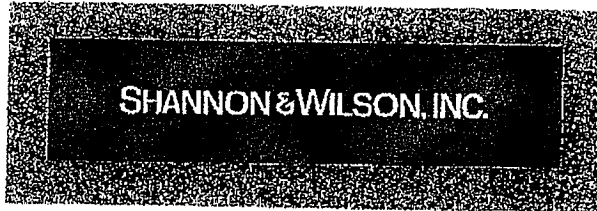
RADIUS OF WHICH BEARS NORTH 36°04'58" WEST) FOR AN ARC LENGTH OF 41.77 FEET;THENCE CONTINUING NORTHWESTERLY ALONG THE ARC OF A 261.00-FOOT RADIUS TANGENT CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 11°09'37" FOR AN ARC LENGTH OF 50.84 FEET;THENCE NORTH 19°11'01" WEST, 15.00 FEET; THENCE NORTHWESTERLY ALONG THE ARC OF 378.00-FOOT RADIUS TANGENT CURVE TO THE RIGHT THROUGH A CENTRAL ANGLE OF 28°40'09" FOR AN ARC LENGTH OF 189.14 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 LEAVING THE EASTERLY RIGHT-OF-WAY LINE OF SAID RIVER VALLEY DRIVE, NORTH 72°39'49" WEST, 84.65 FEET TO THE 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;THENCE LEAVING THE WESTERLY RIGHT-OF-WAY LINE OF SAID RIVER VALLEY DRIVE, SOUTHEASTERLY ALONG THE ARC OF A 462.00-FOOT RADIUS, NON TANGENT CURVE TO THE LEFT THROUGH A CENTRAL ANGLE OF 30°06'11" (THE RADIUS OF WHICH BEARS SOUTH 79°04'50" EAST) FOR AN ARC LENGTH OF 242.37 FEET;THENCE SOUTH 19°11'01" EAST, 5.66 FEET;THENCE SOUTH 63°08'05" WEST, 109.79 FEET;THENCE NORTH 73°03'39" WEST, 177.92 FEET;THENCE NORTH 36°43'28" WEST, 440.10 FEET;THENCE NORTH 46°16'39" WEST, 99.56 FEET;THENCE NORTH 77°09'32" WEST, 21.94 FEET;THENCE NORTH 43°45'59" WEST, 9.94 FEET;THENCE NORTH 74°03'57" WEST, 475.60 FEET;THENCE NORTH 65°37'47" WEST, 406.72 FEET TO THE TRUE POINT OF BEGINNING CONTAINING 27.98 ACRES



2006-006312  
Pg: 13 of 23  
03/01/2006 10:11A  
Benton County

Geotechnical Engineering Studies  
Bluffs 1 Residential Development  
Richland, Washington

March 2004



*At Shannon & Wilson, our mission is to be a progressive, well-managed professional consulting firm in the fields of engineering and applied earth sciences. Our goal is to perform our services with the highest degree of professionalism with due consideration to the best interests of the public, our clients, and our employees.*

Submitted To:

Attn: Mr. Paul Beals  
North Stone Richland, LLC  
P.O. Box 516  
Stayton, Oregon 97383

By:

Shannon & Wilson, Inc.  
303 Wellsian Way  
Richland, Washington 99352

22-1-02072-001



SEATTLE  
RICHLAND  
PORTLAND  
FAIRBANKS  
ANCHORAGE  
DENVER  
SAINT LOUIS

March 5, 2004

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

Attn: Mr. Paul Beals, Manager

**RE: GEOTECHNICAL ENGINEERING STUDY; BLUFFS 1 RESIDENTIAL  
DEVELOPMENT AT HORN RAPIDS; RICHLAND, WASHINGTON**

This report presents the results of the geotechnical engineering study performed by Shannon & Wilson, Inc., at the proposed Bluffs 1 residential development in Horn Rapids area of Richland, Washington. We conducted our work in accordance with our proposal dated December 29, 2003.

The study purpose was to investigate the subsurface conditions along the bluff and develop building setbacks from the crest.

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

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GEOTECHNICAL ENGINEERING STUDY  
BLUFFS 1 RESIDENTIAL DEVELOPMENT  
RICHLAND, WASHINGTON

1.0 INTRODUCTION AND SCOPE OF SERVICES

This report presents the results of the geotechnical engineering study at the proposed Bluffs 1 residential development in Richland, Washington. The study purpose was to develop setback recommendations from the steep slopes. The scope of work included excavating 6 tests along the slope (3 test pits along the crest and 3 test pits along the slope toe), and evaluating the site slope stability to develop setback recommendations.

2.0 SITE DESCRIPTION AND PROPOSED CONSTRUCTION

The proposed residential development is located on the north bank of the Yakima River floodplain in the Horn Rapids area of Richland (Figure 1). The 43-acre development will consist of 70 residential lots with associated streets and utility easements. The current layout indicates that Lots 3 through 48 will be constructed at the crest of an approximately 50-foot high bluff above the Yakima River. The western end of floodplain consists of an outside bend in active river channel. The eastern end of the floodplain is farmland.

For description purposes, the slope can be divided into two segments separated by an old, abandoned irrigation canal. The concrete lined canal has an access road on the south (downslope) side. The road lies an estimated 20 to 25 feet above the Yakima River floodplain. We estimate the slope below the road is approximately 1.5H:1V inclination.

We estimate that the slope above the canal is approximately 30 to 40 feet high with inclinations ranging from approximately 3H:1V to 1.5H:1V. This slope is vegetated with scattered grasses and sagebrush. There is evidence of wind erosion and dunes forming around the sparse vegetation near the center of the site. Besides the wind erosion, the only significant indication of slope instability occurs on the western end of the site. Several sections of the irrigation canal have failed, sliding down to the Yakima River. These canal failures occur at the outside bend of the river. We assume that the slope failures resulted from the river cutting away the slope toe, creating an overly steep slope between the river and canal.



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**3.0 FIELD INVESTIGATION**

The field exploration consisted of a site reconnaissance and excavating six test pits. Our geotechnical engineer performed a site reconnaissance on January 19, 2004, noting the slope conditions and selecting the test pit locations. The test pits were excavated on January 27, 2004. Wubben Brothers Inc. excavated the test pits, under subcontract with Shannon & Wilson, Inc., using a 300 series CAT track-type hydraulic excavator. The approximate test pits locations are shown on the site and exploration plan, Figure 1. 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 test pit logs are presented on Figures A-1 through A-6 in Appendix A.

Our engineer conducted hand-level surveys at three locations on the slope to determine the slope inclinations. The average slope inclination at these three locations were 19.9, 26.7, and 28.5 degrees. There is some variance in the terrain where the slope is flatter or steeper than the average. We anticipate that the steeper slope inclinations are near the natural angle of repose for the site soils.

**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 bluff. The soils along the floodplain are mapped as alluvium (Qa), the slope is mapped as gravel outburst flood deposits (Qfg3), and the top of the slope is mapped as stabilized dune sand (Qds).

**4.2 Explorations**

Three areas at the site were explored with excavations. The eastern end of the bluff was investigated with test pits TP-1 and TP-6. Test Pit 1, located near the slope crest, generally encountered fine to medium-grained sand to the maximum 20-foot exploration depth. TP-6, near the canal, encountered 16 feet of medium-grained sand with a thin gravel layer at 3 to 4 feet below the ground surface.

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Test pits TP-2 and TP-3 were located near the center of the bluff. TP-2, near the slope crest, encountered approximately 5 feet of medium-grained sand overlying a 1-foot thick gravel zone. Fine to medium-grained sand underlies the gravel to the maximum exploration depth, 13 feet. TP-3, adjacent to the canal, exposed 4.5 feet of medium-grained sand overlying a sandy silt layer to 7 feet below the ground surface. The silt layer was a distinct, 1.5 to 3-foot thick layer, dipping slightly downhill. It was well consolidated and difficult to excavate. Gravelly, fine sand and silty fine sand underlies the silt layer.

Test pits TP-4 and TP-5 were excavated in the northwest area of the site. TP-4, located downhill, encountered fine to medium sand the entire test pit depth. It appears that this soil was deposited by erosion and nearby slope failure of the soils uphill. We observed no organics or natural bedding planes. Test Pit 5, near the slope crest, encountered 3½ feet of fine to medium sand with silt inclusions. A thin gravel layer underlies the near surface sands. Fine to medium-grained sand underlies the site from 4½ feet to 20 feet, the maximum explored depth.

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, the bluffs appear relatively stable, although some slope failures have occurred along the irrigation canal at the western end of the site. We anticipate that these slope failures resulted from the Yakima River eroding away the slope toe creating an overly steep slope.

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.

The western end of the site is located along an outside bend in the Yakima River. Therefore, the river will tend to erode the slope toe along this bend. Continued erosion will create overly steep slopes that could fail. The erosion rate is difficult to impossible to predict. We anticipate that the slope could erode approximately 10 to 20 more feet before negatively impacting the stability of



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proposed residences. If excessive erosion occurs in the future, it may be necessary to install bank protection along the Yakima River.

**5.2 Setback Considerations**

In order to evaluate building setback recommendations, we developed slope profile models at two locations along the bluff. We selected two of the steeper cross sections observed at the site and measured the inclinations using a hand-level survey. These cross-sections are presented on Figures 3 and 4.

We evaluated the slope stability at the cross-sections using an infinite slope analysis. We selected soil strength parameter based on back calculation the steepest existing slopes and typical soil strengths for similar soil types. The critical slope inclination to achieve a safety factor of 1.5 is presented on the cross-sections. A 1.5 safety factor is generally considered an acceptable level for long term stability. These critical slope inclinations generally intersect the ground surface approximately 30 feet away from the slope crest. Therefore, we recommend placing any structure at least 30 feet from the slope crest.

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 site slopes unless it is a structural fill or retained by an engineered structure. We understand that some site filling is planned near the slope crest in the vicinity of Lots 34 through 39. The purpose of the fill is to create relatively level building lots. The slope inclination in the area of these lots is approximately 2.5H:1V.

We recommend stripping all surface vegetation and all topsoil beneath areas to receive structural fill. 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.



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Once the surface is stripped, the top 12 inches of the exposed subgrade beneath structural fill 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, drip 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.

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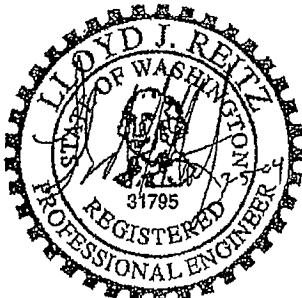
If subsurface conditions different from those encountered in the field explorations are observed or appear to be present beneath the excavations during construction, we should be advised at once so that we can review these conditions and reconsider our recommendations, where necessary. If there is a 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 Bluffs 1 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.

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.

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EXPIRES: 7-21-05

Lloyd J. Reitz, P.E.  
Principal Engineer

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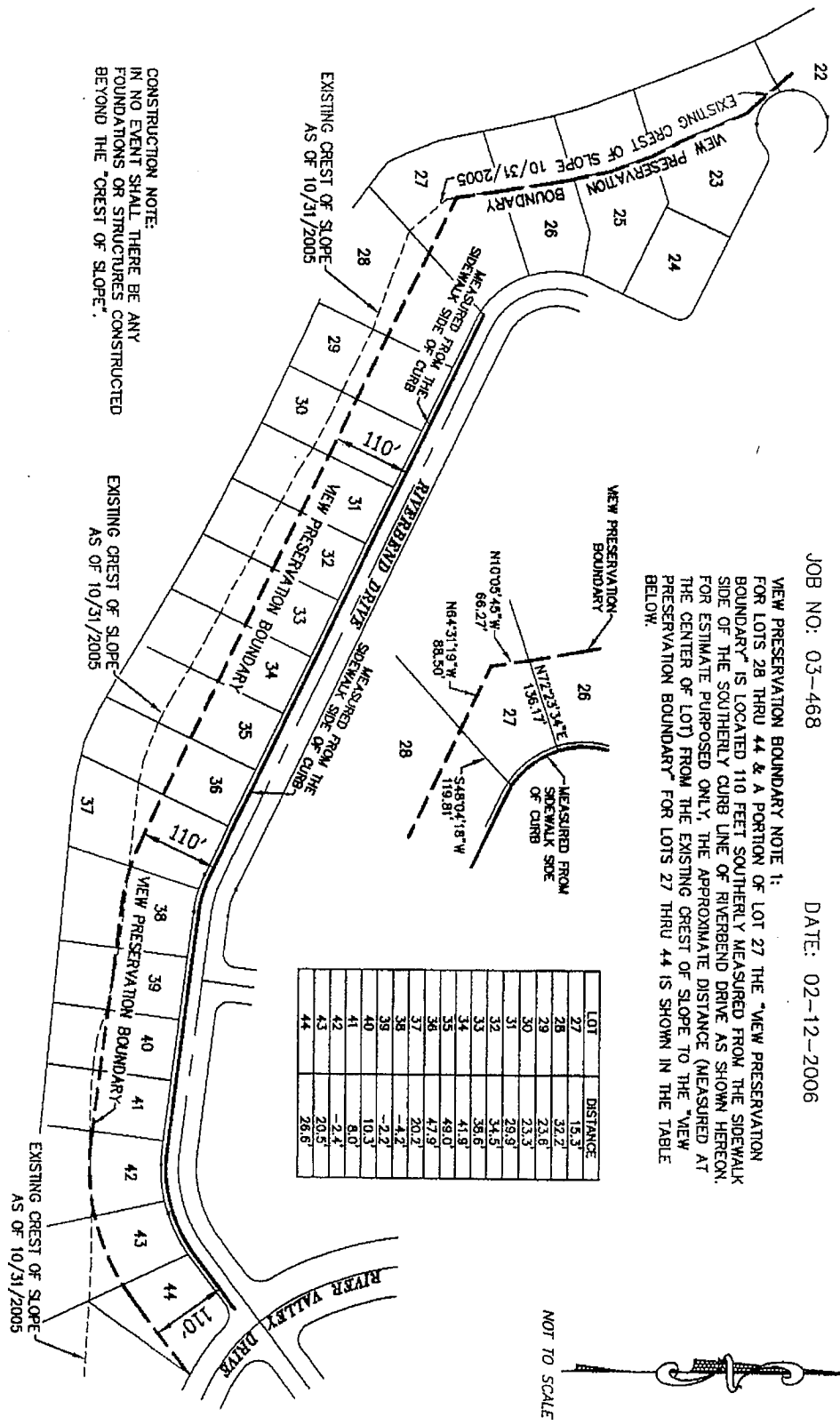


# EXHIBIT C PAGE 2 OF 2 THE BLUFFS "VIEW PRESERVATION BOUNDARY"

JOB NO: 03-468 DATE: 02-12-2006

VIEW PRESERVATION BOUNDARY NOTE 1:  
 FOR LOTS 28 THRU 44 & A PORTION OF LOT 27 THE "VIEW PRESERVATION BOUNDARY" IS LOCATED 110 FEET SOUTHERLY MEASURED FROM THE SIDEWALK SIDE OF THE SOUTHERLY CURB LINE OF RIVERBEND DRIVE AS SHOWN HEREON. FOR ESTIMATE PURPOSES ONLY, THE APPROXIMATE DISTANCE (MEASURED AT THE CENTER OF LOT) FROM THE EXISTING CREST OF SLOPE TO THE "VIEW PRESERVATION BOUNDARY" FOR LOTS 27 THRU 44 IS SHOWN IN THE TABLE BELOW.

LOT	DISTANCE
27	15.3
28	32.2
29	23.6
30	23.3
31	29.9
32	34.5
33	38.6
34	41.8
35	49.0
36	47.9
37	20.2
38	-4.2
39	-2.2
40	10.3
41	8.0
42	-2.4
43	20.5
44	26.6



CONSTRUCTION NOTE:  
 IN NO EVENT SHALL THERE BE ANY FOUNDATIONS OR STRUCTURES CONSTRUCTED BEYOND THE "CREST OF SLOPE".

EXISTING CREST OF SLOPE AS OF 10/31/2005

EXISTING CREST OF SLOPE AS OF 10/31/2005

