

Exhibit A
Scope of Work
City of Oregon City
On-call Services Agreement
Trillium Park Drive Landslide Mitigation Alternatives Analysis
December 2017

Background

Trillium Park Drive, a two-lane local street, has been experiencing a slow-moving landslide since its construction in 1998. In 2006, the City of Oregon City (City) contracted with Geotechnical Resources, Inc., (GRI) and Compass Land Surveyors (Compass) to monitor the slide and measure its movement. GRI installed monitoring wells with inclinometers at multiple locations, and Compass surveyed the movement of Trillium Park Drive relative to fixed monuments. In February 2017, following a period of heavy rainfall, Trillium Park Drive experienced significant earth movement that lead to a waterline separation, and movement and deformation of a sewer line. The waterline within the slide zone was abandoned, but the sewer remains in service. Other utilities within the slide zone, including power and gas, have been rerouted, and the street has been closed to vehicular traffic.

The City has requested that RH2 Engineering, Inc., (RH2), with assistance from GRI and Compass, develop and evaluate alternatives and conceptual designs for stabilizing the landslide and restoring or permanently abandoning the road and utilities in Trillium Park Drive. This Scope of Work has been prepared based on preliminary discussions with the City, GRI, and Compass regarding the anticipated scope and a brief field visit to review the project site.

Project Understanding and Assumptions

The following outlines RH2's understanding of the City's responsibilities and the overall project goals and requirements. Assumptions used in preparing this Scope of Work are also identified.

The City will be responsible for the following.

- Provide a project manager who is responsible for overall project management and will provide coordination between RH2 and the City.
- Provide RH2 copies of all available, relevant City utility as-built plans, topographical maps, geologic and geotechnical reports, and studies pertinent to the project area.
- Provide timely review and comment on all deliverables submitted by RH2 to the City for review and approval.
- Maintain records and process consultant invoices.
- Provide legal review of all contracts, bid forms, and real property.

In preparing this Scope of Work, the following assumptions were made.

- *GRI will further evaluate slope stability and mitigation alternatives for the landslide area as described in its **4450-B Preliminary Geotechnical Memorandum**. The landslide mitigation options that will be considered as part of the alternatives analysis are expected to include:*

1) abandoning the road and monitoring the landslide; 2) constructing a tied-back soldier-pile retaining wall; 3) regrading the slope; and 4) improving drainage.

- Additional topographic survey of the landslide area will be performed to further support the geotechnical work and alternatives development. The survey extents will include Trillium Park Drive from Canyon Court on the northside to just south of 17346 Trillium Park Drive on the southside and from the top of the existing slope on the westside to approximately 20 feet east of the drainage convergence on the eastside.*
- RH2 will evaluate and develop conceptual level design alternatives for restoring or abandoning the road and utilities based on the landslide mitigation options developed by GRI. Alternatives may include: 1) road stabilization with road and utility replacement; 2) road abandonment with utility rerouting; 3) road removal and regrading with utility rerouting and pedestrian access improvements; 4) drainage improvements; or 5) combinations thereof.*
- Alternatives will be developed within the hours provided within the Fee Estimate. In general, it is assumed that the conceptual level design alternatives will provide the basis for future preliminary and final design work, and a framework for planning and budgeting of the proposed improvements.*
- Pending the results of this analysis, a future amendment to this Scope of Work may be provided to perform preliminary and final design, including surveying, permitting, geotechnical engineering, and services during bidding/construction of the Trillium Park Drive landslide improvements to meet the City's needs.*
- RH2 will rely on the accuracy and completeness of any data, information, or materials provided by the City or others in relation to the work.*

Task 1 – Data Collection and Conceptual Design

Objective: Review background information, evaluate and document existing site and utility condition, perform topographical survey, perform geotechnical evaluation, and develop conceptual designs of preliminary alternatives. Meet with GRI and the City to discuss preliminary alternatives and develop selection criteria for the alternatives analysis.

- 1.1 Subcontract and coordinate with Compass to perform topographical survey work of the project area to support the development of conceptual level design alternatives. The survey will be used to document conditions and further refine geotechnical analysis and alternatives for slope stabilization, as well as obtain utility information for conceptual design.
- 1.2 Review as-built drawings and document conditions onsite, including digital photographs and measurements of readily available information. Perform one (1) site visit with GRI and City staff to review field conditions and discuss/refine available mitigation options for slope stabilization and utility rerouting.
- 1.3 Develop up to five (5) alternatives to a conceptual design level for the restoration or abandonment of Trillium Park Drive and affected City utilities. Subcontract and coordinate with GRI regarding development of conceptual designs for slope stabilization. Develop narrative and conceptual level estimate of probable construction costs for each alternative.

- 1.4 Meet with City staff to present and discuss preliminary findings and alternatives at the conceptual level. Discuss City preferences and develop selection criteria for use in evaluating alternatives and phasing of improvements. Prepare meeting minutes.

Provided by City:

- Participation in meeting and development of alternatives and selection criteria.
- Selection of conceptual designs that will be further considered in alternatives analysis.

RH2 Deliverables:

- Topographical survey.
- Site meeting with RH2 and GRI staff.
- Conceptual design figures, narratives, and cost estimates in PDF format.
- Office meeting with RH2 and GRI at City Hall.
- Meeting minutes summarizing discussion with City and criteria that will be applied to alternatives analysis in PDF format.

Task 2 – Alternatives Analysis and Letter Report

Objective: Evaluate conceptual design alternatives based on City selection criteria and prepare a letter report summarizing the existing conditions, alternatives analysis, and selection of preferred alternative.

- 2.1 Incorporate City comments and refine development of conceptual designs selected for further evaluation. Perform alternatives analysis in conjunction with GRI and develop recommendation for preferred alternative.
- 2.2 Prepare draft letter report summarizing the existing conditions, conceptual designs, alternatives analysis, engineer's estimates, and recommendations. Coordinate with GRI to summarize geotechnical evaluation and recommendations for slope stabilization and incorporate into draft letter report.
- 2.3 Perform internal quality control review of the letter report and incorporate comments into letter report.
- 2.4 Submit the draft letter report to the City for review and comment. Meet with the City staff to discuss comments and respond to questions.
- 2.5 Incorporate comments from City into letter report and finalize. Deliver final report to City in PDF format.

Provided by City:

- Review and comments on draft letter report.
- Participation in meeting to discuss comments.

RH2 Deliverables:

- Draft and final letter report including RH2 and GRI analysis and recommendations in electronic (PDF) format.
- Office meeting with RH2 and GRI at City Hall.
- Meeting minutes summarizing discussion with City and selection of preferred alternative in electronic PDF.

EXHIBIT B
City of Oregon City
On-call Services Agreement
Trillium Park Drive Landslide Mitigation Alternatives Analysis
Fee Estimate

Description		Staff Engineer	Project Manager	Engr. Geologist	Principal	Administrative Support	Total Hours	Total Labor	Subconsultant Services (GRI)	Subconsultant Services (Compass)	Total Subconsultant	Total Expense	Total Cost
Classification		Professional II	Professional VII	Professional VII	Professional VIII	Administrative II			Cost + 15% GRI	Cost + 15% Compass			
Task 1	Data Collection and Conceptual Design	75	15	4	12	4	110	\$ 18,162	\$ 9,200	\$ 19,343	\$ 28,543	\$ 2,007	\$ 48,712
1.1	Coordinate with Compass to Perform Topographical Survey	4		-	1	1	6	\$ 898		\$ 19,343	\$ 19,343	\$ 110	\$ 20,351
1.2	Document Existing Conditions and Perform Site Visit	8	2	-	2	-	12	\$ 2,054	\$ 2,300		\$ 2,300	\$ 235	\$ 4,589
1.3	Develop Up to Five (5) Conceptual Level Alternatives	60	10	4	6	-	80	\$ 13,254	\$ 6,900		\$ 6,900	\$ 1,594	\$ 21,748
1.4	Meet with City to Discuss Findings and Review Conceptual Designs	3	3	-	3	3	12	\$ 1,956			\$ -	\$ 68	\$ 2,024
Task 2	Alternatives Analysis and Letter Report	53	22	3	14	22	114	\$ 17,918	\$ 10,350	\$ -	\$ 10,350	\$ 1,591	\$ 29,859
2.1	Incorporate City Comments and Perform Alternatives Analysis	12	3	-	1	-	16	\$ 2,649	\$ 2,300		\$ 2,300	\$ 326	\$ 5,275
2.2	Prepare Draft Letter Report	32	8	-	2	16	58	\$ 8,168	\$ 3,450		\$ 3,450	\$ 866	\$ 12,484
2.3	Perform Internal Review of Draft Letter Report	-	4	-	8	2	14	\$ 2,712			\$ -	\$ 82	\$ 2,794
2.4	Submit Draft Letter to City and Conduct Review Meeting with City	3	3	3	3	-	12	\$ 2,343	\$ 3,450		\$ 3,450	\$ 128	\$ 5,921
2.5	Incorporate Comments and Finalize Letter Report	6	4	-	-	4	14	\$ 2,046	\$ 1,150		\$ 1,150	\$ 189	\$ 3,385
Trillium Park Drive Landslide Mitigation Alternatives Analysis		128	37	7	26	26	224	\$ 36,080	\$ 19,550	\$ 19,343	\$ 38,893	\$ 3,598	\$ 78,571

EXHIBIT C
RH2 ENGINEERING, INC.
2017 SCHEDULE OF RATES AND CHARGES

RATE LIST	RATE	UNIT
Professional I	\$139	\$/hr
Professional II	\$151	\$/hr
Professional III	\$162	\$/hr
Professional IV	\$172	\$/hr
Professional V	\$182	\$/hr
Professional VI	\$191	\$/hr
Professional VII	\$207	\$/hr
Professional VIII	\$216	\$/hr
Professional IX	\$216	\$/hr
Technician I	\$93	\$/hr
Technician II	\$98	\$/hr
Technician III	\$131	\$/hr
Technician IV	\$139	\$/hr
Administrative I	\$65	\$/hr
Administrative II	\$78	\$/hr
Administrative III	\$94	\$/hr
Administrative IV	\$109	\$/hr
Administrative V	\$130	\$/hr
CAD/GIS System	\$27.50	\$/hr
CAD Plots - Half Size	\$2.50	price per plot
CAD Plots - Full Size	\$10.00	price per plot
CAD Plots - Large	\$25.00	price per plot
Copies (bw) 8.5" X 11"	\$0.09	price per copy
Copies (bw) 8.5" X 14"	\$0.14	price per copy
Copies (bw) 11" X 17"	\$0.20	price per copy
Copies (color) 8.5" X 11"	\$0.90	price per copy
Copies (color) 8.5" X 14"	\$1.20	price per copy
Copies (color) 11" X 17"	\$2.00	price per copy
Technology Charge	2.50%	% of Direct Labor
Mileage	\$0.575	price per mile (or Current IRS Rate)
Subconsultants	15%	Cost +
Outside Services	at cost	

Rates listed are adjusted annually.



9750 SW Nimbus Avenue
Beaverton, OR 97008-7172
p | 503-641-3478 f | 503-644-8034

October 11, 2017

PRO RH2 TRILLIUM PARK DRIVE LANDSLIDE

RH2 Engineering
6500 SW Macadam Avenue
Portland, OR 97239

Attention: Kyle Pettibone

**SUBJECT: Proposal for Geotechnical Services
Trillium Park Drive Landslide
Oregon City, Oregon**

At the request of RH2 Engineering (RH2) and the City of Oregon City (City), GRI has prepared this proposal to provide geotechnical services for the proposed repair at the Trillium Park Drive landslide in Oregon City, Oregon. The landslide has been active since original construction of the roadway in 1999. Additional movements were observed in February 2017 and the roadway has been closed since that time. A summary of the landslide history, area geology, and subsurface conditions is provided in the preliminary geotechnical memorandum prepared by GRI for the City (GRI, 2017).

On September 25, 2017, GRI met with RH2 and the City to discuss a plan to address the continued slope instability. We understand the City will contract with RH2 to provide remedial options for the roadway and City storm and sanitary sewer utilities. GRI will contract with RH2 and assist the team with geotechnical and slope stability input considerations and preliminary design for the various remedial options.

Scope of Work

Our proposed scope of work is based on our understanding of geologic conditions at the site, the preliminary results of our initial geotechnical work for the project site, and conversations with you and the City. Our proposed scope will include the following items of work:

- 1) An Oregon Certified Engineering Geologist and Licensed Geotechnical Engineer will complete a field visit to the landslide area with the team. The site visit will include street area and undeveloped ground to the east.
- 2) After the site visit, we recommend the team meet to discuss and refine the available mitigation options.
- 3) Engineering studies and analyses will be accomplished to further evaluate slope stability considerations and feasible mitigation options for the existing landslide area. Based on preliminary work, we anticipate the options will include a soldier pile retaining wall, a grading option to lower street grade, trench drains, horizontal drains, or combinations thereof. A buttress-type fill option will not be evaluated. GRI will provide lateral earth pressure parameters for the retaining wall option; recommended

drain locations, depths, and lengths; and area/depth schedule of concept remedial grading. A plan view and typical section for the recommended alternative will be provided.

- 4) GRI will attend up to two, two-hour meetings to discuss and present findings.
- 5) The results of our additional services will be provided in a draft report for the team. A final report will be prepared following review and incorporation of comments.

Schedule, Terms, and Fee

We can initiate work within one week of Notice to Proceed. We anticipate our analysis work and draft report can be completed within six weeks of the initial team site visit and meeting. Information can be submitted to the project team informally as soon as it becomes available.

The services will be provided in accordance with the attached General Conditions of the Proposal. The fee for the above-described work will be computed on a time-and-expenses basis in accordance with the attached Fee Schedule. Our estimated costs for the above scope of work are summarized below:

Site Visit and Initial Team Meeting	\$ 2,000
Engineering and Analysis.....	8,000
Draft and Final Report	4,000
Meetings and Post-Report Consultation	<u>3,000</u>
Recommended Budget: \$ 17,000	

We appreciate the opportunity to be of continued service to the City, and to work with RH2 on this important project.

Submitted for GRI,



George A. Freitag, CEG
Principal

Enclosed: General Conditions of the Proposal
Fee Schedule

Reference

GRI, September 18, 2017, "Preliminary Geotechnical Memorandum, Trillium Park Drive Landslide, Oregon City, Oregon." Report prepared for City of Oregon City.



GENERAL CONDITIONS OF THE PROPOSAL

GRI
9750 SW Nimbus Avenue
Beaverton, Oregon 97008
(503) 641-3478

Attachment to Proposal Dated: October 11, 2017

To: RH2 Engineering / Portland, Oregon

For: Geotechnical Services
Trillium Park Drive Landslide
Oregon City, Oregon

PROFESSIONAL SERVICES

Fees for services by GRI's professional, technical, and clerical personnel will be charged according to time expended on the project at rates shown on the attached schedule.

SERVICES, SUPPLIES PROVIDED BY OTHERS, AND REIMBURSABLE EXPENSES

Charges for services, equipment, and supplies not provided directly by GRI will be computed at cost plus 10%. This includes surveying services, land subsurface explorations, construction equipment, testing laboratories, contract labor, shipping charges, living expenses, printing and reproduction, communication and miscellaneous supplies and rentals.

EQUIPMENT CHARGES

Charges for equipment furnished by GRI will be computed in accordance with the unit rates shown on the attached Fee Schedule.

RIGHT-OF-ENTRY

Unless otherwise agreed, you will furnish right-of-entry to the land or structures for us to make planned borings, surveys, and other explorations. We will take reasonable precautions to minimize damage to the land or structures from use of equipment, but have not included in our fee the cost for restoration of damage, which may result from our operation. If you desire us to restore the land or the structures to their former condition, we will accomplish this and add the cost to our fee.

UTILITIES

In the performance of our work, we will take all reasonable precautions to avoid damage or injury to subsurface structures or utilities. The Client/Owner agrees to hold us harmless for any damages to subsurface structures or utilities, which are not called to our attention and correctly shown on the plans furnished.

SAMPLES

All samples will be discarded thirty (30) days after submission of our report, unless you advise us otherwise. Further storage or transfer of samples can be made at your expense upon written request.

INVOICING OF PAYMENT

Invoices will be submitted once a month for services performed during the prior month. Payment will be due within thirty (30) days of receipt of invoice. Interest will be added to overdue accounts at the rate of 1.5% for each month of delinquency.

INSURANCE AND INDEMNITY

Our firm represents and warrants that it and its agents, staff, and consultants employed by it, is and are protected by worker's compensation insurance and that we have such coverage under public liability and property damage insurance policies which we deem to be adequate. Certificates for all such policies of insurance shall be provided to the Client/Owner upon request in writing. Within the limits and conditions of such insurance, and subject to the Limitation of Remedies clause below, we agree to indemnify and save Client/Owner harmless from and against any loss, damage, or liability to the extent caused by any negligent acts by us, our agents, staff, and any consultants employed by us. We shall not be responsible for any loss, damage, or liability beyond the amounts, limits, and conditions of such insurance. We shall not be responsible for any loss, damage, or liability arising from any acts by Client/Owner, its agents, staff, and other consultants or contractors employed by it. Our defense obligation under this indemnity paragraph includes only the reimbursement of reasonable defense costs to the extent of our actual indemnity obligation hereunder.

GENERAL CONDITIONS OF THE PROPOSAL (continued)

GRI
9750 SW Nimbus Avenue
Beaverton, Oregon 97008
(503) 641-3478

Attachment to Proposal Dated: October 11, 2017

To: RH2 Engineering / Portland, Oregon

For: Geotechnical Services
Trillium Park Drive Landslide
Oregon City, Oregon

CONSEQUENTIAL DAMAGES

Neither Client/Owner nor Engineer will be liable to the other for any special, consequential, incidental or penal losses or damages including but not limited to losses, damages or claims related to the unavailability of property or facilities, shutdowns or service interruptions, loss of use, profits, revenue, or inventory, or for use charges, cost of capital, or claims of the other party or its customers.

OWNERSHIP AND USE OF DOCUMENTS

Client Documents. All documents provided by Client will remain the property of Client. Engineer will return all such documents to Client upon request, but may retain file copies of such documents.

Engineer's Documents. Unless otherwise agreed in writing, all documents and information prepared by Engineer or obtained by Engineer from any third party in connection with the performance of Services, including, but not limited to, Engineer's reports, boring logs, maps, field data, field notes, drawings and specifications, laboratory test data and other similar documents (collectively "Documents") are the property of Engineer. Engineer has the right, in its sole discretion, to dispose of or retain the Documents.

Use of Documents. All Documents prepared by Engineer are solely for use by Client and will not be provided by either party to any other person or entity without Engineer's prior written consent.

Use by Client. Client has the right to reuse the Documents for purposes reasonably connected with the Project for which the Services are provided, including without limitation design and licensing requirements of the Project.

Use by Engineer. Engineer retains the right of ownership with respect to any patentable concepts or copyrightable materials arising from its Services and the right to use the Documents for any purpose.

Electronic Media. Engineer may agree at Client's request to provide Documents and information in an electronic format. Client recognizes that Documents or other information recorded on or transmitted as electronic media are subject to undetectable alteration due to (among other causes) transmission, conversion, media degradation, software error, or human alteration. Accordingly, all Documents and information provided by Engineer in electronic media are for informational purposes only and not as final documentation. Unless otherwise defined in the Scope of Services, Engineer's electronic Documents and media will conform to Engineer's standards. Engineer will provide any requested electronic Documents for a 30-day acceptance period, and Engineer will correct any defects reported by Client to Engineer during this period. Engineer makes no warranties, either express or implied, regarding the fitness or suitability of any electronic Documents or media.

Unauthorized Reuse. No party other than Client may rely, and Client will not represent to any other party that it may rely on Documents without Engineer's express prior written consent and receipt of additional compensation. Client will not permit disclosure, mention, or communication of, or reference to the Documents in any offering circular, securities offering, loan application, real estate sales documentation, or similar promotional material without Engineer's express prior written consent. Client waives any and all claims against Engineer resulting in any way from the unauthorized reuse or alteration of Documents by itself or anyone obtaining them through Client. Client will defend, indemnify and hold harmless Engineer from and against any claim, action or proceeding brought by any party claiming to rely upon information or opinions contained Documents provided to such person or entity, published, disclosed or referred to without Engineer's prior written consent.

STANDARD OF CARE

Service performed by GRI under this Agreement will be conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions under similar circumstances on similar projects. No warranty, expressed or implied, is made.

GENERAL CONDITIONS OF THE PROPOSAL (continued)

GRI
9750 SW Nimbus Avenue
Beaverton, Oregon 97008
(503) 641-3478

Attachment to Proposal Dated: October 11, 2017

To: RH2 Engineering / Portland, Oregon

For: Geotechnical Services
Trillium Park Drive Landslide
Oregon City, Oregon

STANDARD OF CARE (continued)

Client/Owner recognizes that subsurface conditions may vary from those encountered at the location where borings, surveys, or explorations are made by GRI and that the data, interpretations and recommendations of GRI are based solely on the information available to us. GRI will be responsible for those data, interpretations, and recommendations, but shall not be responsible for the interpretation by others of the information developed.

TERMINATION

In the event of termination, or suspension of work for more than three (3) months prior to completion of all reports contemplated by this Agreement, we may complete such analyses and records as are necessary to complete our files and may also complete a report on the services performed to the date of notice of termination or suspension. The expenses of termination or suspension shall include all direct costs of completing such analyses, records, and reports.

ASSIGNS

During the term of this Agreement and following its interpretation for any reason, neither the Client/Owner nor GRI may delegate, assign, sublet, or transfer their duties or interest in this Agreement without the written consent of the other party.

PROTECTION FROM THIRD-PARTY SUITS

Should GRI be named as a third-party defendant in any litigation brought against the Client/Owner or contractors, the Client/Owner agrees to provide counsel for GRI's defense or to reimburse the reasonable costs thereof. Further, Client/Owner shall defend, indemnify and hold GRI harmless from any and all suits, claims, damages, expenses, losses, or injuries arising out of or in any way related to this Agreement or this project, except to the extent caused by GRI's negligence.

SCOPE OF AGREEMENT

The agreement between the two parties, i.e., GRI and the Client/Owner, consists of the specific items of work outlined in the attached proposal and the general conditions outlined in this document.

LIMITATION OF REMEDIES

It is understood and agreed that the Client/Owner recognizes GRI has neither created nor contributed to the creation, existence, or exacerbation of any hazardous, radioactive, toxic, irritant, pollutant, or otherwise dangerous substance or condition at the site. The Client/Owner agrees that, to the fullest extent permitted by law, GRI's total liability to the Client/Owner is limited to 50,000 for any and all of the Client/Owner's injuries, damages, claims, losses, expenses, or claim expenses arising out of this Agreement from any cause or causes, including any indemnity obligation under this Agreement. Such causes include, but are not limited to, GRI's negligence, errors, omissions, breach of contract, breach of warranty, strict liability, negligent misrepresentation, statutory liability, or other acts giving rise to liability based upon contract, tort, or statute. This provision takes precedence over any conflicting provisions of this Agreement.

Client/Owner

Representative (Print Name)

Signature

Date

Consultant **GRI**

Principal or Associate

Date

October 11, 2017

Return one signed original to GRI

GRI
Beaverton, Oregon

2017 FEE SCHEDULE

Personnel	Rate/Hour
Principal	\$ 215
Associate	\$ 190
Senior Engineer/Geologist	\$ 160
Project Engineer/Geologist	\$ 140
Staff Engineer/Scientist	\$ 115
Engineering Assistant	\$ 90
Contract Administrator	\$ 125
Technical Editor	\$ 120
Drafter	\$ 100
Secretarial Services	\$ 65

Other Charges

Vehicle:	Vehicles will be billed at the current IRS business mileage reimbursement rate.
Fill Control Equipment:	Nuclear Density Gage rental will be billed at \$5 per hour, with a maximum charge of \$25 per day or \$125 per week.
Reproduction:	In-house reproduction, \$0.10 per sheet.
Field Instrumentation and Monitoring Equipment:	Due to varied conditions, equipment requirements, location, and use, rates for field instrumentation, monitoring, and other specialized equipment will be provided as required.
Subcontractor Services:	Charges for subcontractor services will be computed at cost plus 10%.
Travel and Subsistence:	All charges related to travel and subsistence will be computed at cost.

(LAST REVISED 5/1/2016)

From: Don Devlaeminck
To: [Justin Barrow](#)
Subject: RE: Trillium Park Drive Survey Proposal and Fee
Date: Tuesday, October 24, 2017 1:49:45 PM
Attachments: [Exhibit A.pdf](#)

Justin:

As requested, we present the following as our scope and fee to provide the requested services for this project.

SCOPE:

Professional surveying services for field and office work to prepare a topographic site map, in AutoCAD format, showing the features described below. The coordinate base for the survey data will be the same system as the earlier site monitoring work performed by Compass in February 2017 (Oregon Coordinate Reference System, Portland Zone, for horizontal positioning and NAVD'88 for vertical positioning). The project limits will be the Red Zone and Black Zone as shown on the attached Exhibit "A".

Mapping in the Red Zone will show the following features:

- 2 foot contours
- Storm and sanitary sewer line locations and with rim and flowline elevations
- Lot lines and Right of way lines for Trillium Park Drive and Canyon Court
- Houses and driveways
- Existing street improvements
- Public underground dry utilities (based upon tone marks)
- Centerline of creeks and drainage ways
- Public waterlines (based upon tone marks)

Mapping the Black Zone will show the following features:

- Public storm sewer manholes, catch basins and storm pipe outfalls (rims, invert elevations and horizontal locations)
- Public sanitary sewer manholes (rims, invert elevations and horizontal locations)

FEE ESTIMATE: \$16,820.00

Public Notification:

Prior to performing any field work, we will discuss with the City of Oregon City the appropriate procedure to follow with regards to notification of adjoining property owners of the upcoming survey work to be performed on their property. Although our standard procedure is to send out letters by

first class mail and then follow up with an attempt to personally contact each resident, it is possible that this procedure may need to be modified for this work.

Let me know if you have any questions.

Thanks Justin.

Don Devlaeminck, PLS

Compass Land Surveyors

4107 SE International Way, Suite 705

Milwaukie, Oregon 97222

(P) 503.653.9093 (F) 503.653.9095 (C) 503.939.5191

dond@compass-landsurveyors.com

From: Justin Barrow [mailto:jbarrow@rh2.com]

Sent: Thursday, October 12, 2017 4:01 PM

To: Don Devlaeminck <dond@compass-landsurveyors.com>

Cc: Kyle Pettibone <kpettibone@rh2.com>; Rick Ballard <rballard@rh2.com>; George Freitag <GFreitag@gri.com>; Michael Zimmerman <MZimmerman@gri.com>

Subject: Trillium Park Drive Survey Proposal and Fee

Don,

Could you provide me a proposal and fee for the survey based on the attached map of the Trillium Park Drive landslide area? As shown on the map, we would like a topographical survey, including 2-foot contours, within the landslide area indicated in red. Also, we would like sewer and storm utility information as noted for the area indicated in black. Please let me know if you have any questions regarding the limits and/or the scope of the work.

Thanks,

Justin Barrow | **RH2 Engineering**

Staff Engineer

6500 SW Macadam Avenue, Suite 125

Portland, OR 97239

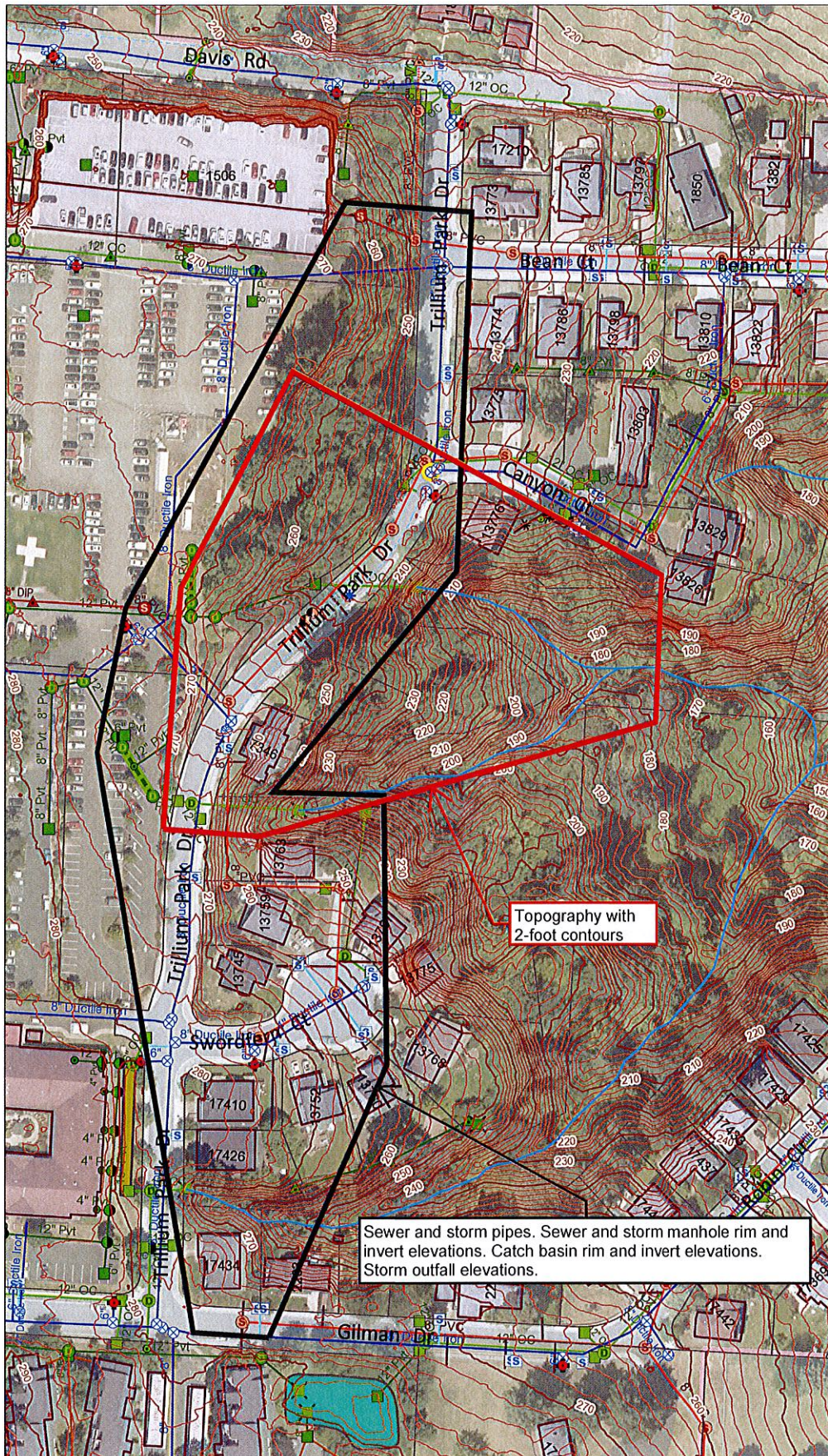
P: 503.246.0881 x5430

P: 800.720.8052

jbarrow@rh2.com

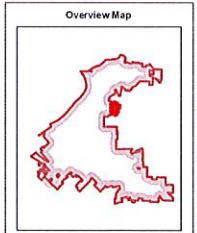
www.rh2.com

Oregon City GIS Map



- ### Legend
- Streams**
 - Above Ground
 - Below Ground
 - Contours (2ft) - 1,3,600 and c/c**
 - 10 foot
 - 2 foot
 - Building Outlines - 1,3,600 and c/c**
 - Taxlots**
 - Taxlots (Outside UGB)
 - Unimproved ROW
 - Water Hydrants**
 - (Other owner)
 - OC
 - CRWD
 - Private
 - Water Service Meters**
 - (Other owner or Type not def)
 - OC
 - CRWD
 - Water Master Meters**
 - (Other owner)
 - OC
 - Water Irrigation Meters**
 - (Other owner)
 - OC
 - CRWD
 - Water Valves (non PRV)**
 - (Other owner)
 - OC - Open
 - OC - Closed
 - OC - Abandoned
 - CRWD - Open
 - CRWD - Closed
 - CRWD - Abandoned
 - Private - Open
 - Private - Closed
 - Private - Abandoned
 - South Fork - Open
 - South Fork - Closed
 - South Fork - Abandoned
 - Water Pressure Reducing Valv**
 - (Other owner)
 - OC
 - Water Sampling Stations**
 - (Other owner)
 - OC
 - Water Vaults**
 - Water Pipe Breaks**
 - CRW Water Pipe Breaks**
 - 0 - 5 gpm
 - 5 - 10 gpm
 - 10 - 20 gpm
 - ...

Notes



The City of Oregon City makes no representations, express or implied, as to the accuracy, completeness and timeliness of the information displayed. This map is not suitable for legal, engineering, surveying or navigation purposes. Notification of any errors is appreciated.



0 100 200 300 Feet

1: 1,200

EXHIBIT "A"

Map created 10/12/2017

City of Oregon City
PO Box 3040
625 Center St
Oregon City
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