The attached document was prepared by Budinger & Associates for Wandermere Estates Homeowners Association. You are being permitted to view a copy of it as a courtesy, for general informational purposes only. No party other than Wandermere Estates Homeowners Association may rely on the document for any purpose.

In particular, homeowners with property in the vicinity of the area described in the document should not rely on the document to evaluate any risk of damage to their property, but should retain the services of their own independent consultants.

Budinger & Associates
Proudly serving the Inland Northwest for over 40 years

1101 North Fancher Rd.
Spokane Valley, WA 99212
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Wandermere Estates Home Owners Association
C/O Web Properties
522 W. Riverside Avenue, Suite 600
Spokane, Washington 99201

February 21, 2017

Project: S-16050A1

Attention: Mr. Eric Lundin

PROJECT: Spring, N. Wandermere Estates Lane, Spokane, Washington
SUBJECT: Construction Documents

Mr. Lundin:

Thank you for the opportunity to continue offering our services to assist the Wandermere Home Owners Association (HOA) with the mitigation of the spring that has developed along N. Wandermere Estates Lane. We have prepared construction documents in accordance with our proposal S-16050A1 of July 18, 2016.

Project:
Shallow groundwater has surfaced on the east side of N. Wandermere Estates Lane on the west side of the property located at 13801 N. Copper Canyon Lane. This condition is commonly referred to as a spring. The south end of a concrete modular unit (CMU) retaining wall is located approximately ten feet north of, and down grade from the spring. The spring is also located across the street and approximately 150 feet south of 13803 N. Wandermere Estates Lane.

The spring was observed to well-up within a grassy swale east of the street as well as through the asphalt street pavement and concrete curb and gutter joint. After surfacing, the water flows north, overland across the swale and in the gutter. This surface water flow was observed to disappear to subsurface flow at a point directly across the street from 13811 N. Wandermere Estates Lane which is located directly to the north of 13803 N. Wandermere Estates Lane.

Some concerns has been expressed by some members of the HOA regarding the conditions describe above. These concerns consist of the stability of the CMU wall and the overall stability of the soils across the street from where the surface water flow seeps back into the ground to continue as subsurface flow.

Based on a review of the information reviewed during the preliminary evaluation, it appears that the spring can be contained at the location of upwelling and conveyed via a tight-line pipe to the north along the east edge of N. Wandermere Estates Lane to Ponds A2 and B. Prior to installing pipe down to Ponds A2 and B, an evaluation of the drain system associated with the CMU wall to the north should be should be performed. The wall drain system should have a point of positive discharge that drains away from the wall. None could be seen at the time of the site visit. The spring may be collected into the wall drain system at the downstream end of the wall if one is in place. It is also possible that the wall drain system is clogged. If this is the case, the clogged drain may also be a source of the spring.

We understand that the HOA is interested in hiring a construction firm to implement the recommendation of collecting the spring water and conveying it via pipe to the stormwater facility approximately 1,130 feet to the north.

Scope:
We have prepared construction documents suitable for bidding and construction purposes. These documents are not meant to be an all inclusive set of specifications and quality control/assurance manuals. These documents will be suitable to describe the proposed scope of work. These documents include the

following:

Construction Documents

Description of Work – Description of the required work as follows:

- Exploration of potential CMU wall drain;
- Extension of CMU wall drain to point of positive discharge if required;
- Installation of spring collection box; and,
- Construction of pipeline from spring box and/or CMU wall drain to Ponds A2 and B.

General Specifications – Preparation of short, generalized specifications as follows:

- Spring box materials and installation; and,
- Trenching, backfill, and piping.

Typical Drawing Details – Preparation of the following typical drawing details:

- Spring box; and,
- Trench, pipe, bedding, and backfill.

Thank you for the opportunity to offer these services, we look forward to assisting you in completing a successful project.

Prepared by:
BUDINGER & ASSOCIATES

John Finnegan, Principal, PE, GE, LHG
Senior Geotechnical Engineer, Principal

2-21-17

John (Hank) Swift, PE, GE
Senior Geotechnical Engineer

Attachments

- *Wandermere Home Owners Association, Scope of Work and Technical Specifications, Project: Groundwater Seepage Control*
- *Sheet 1- Cover Sheet*
- *Sheet 2 - Plan View*
- *Sheet 3 - Details*

WANDERMERE HOME OWNERS ASSOCIATION
SCOPE OF WORK AND TECHNICAL SPECIFICATIONS
PROJECT: GROUNDWATER SEEPAGE CONTROL

Owner's Representative: Mr. Eric Lundin
WEB Properties
522 W. Riverside Avenue, Suite 600
Spokane, Washington 99201
Telephone: 509.533.0995
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Engineer: Budinger & Associates, Inc.
1101 N. Fancher Road
Spokane Valley, Washington 99212
Telephone: 509.535.8841
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SCOPE OF WORK

Shallow groundwater has surfaced on the east side of N. Wandermere Estates Lane on the west side of the property located at 13801 N. Copper Canyon Lane. This condition is commonly referred to as a spring. The south end of a concrete modular unit (CMU) retaining wall is located approximately ten feet north of, and down grade from the spring.

The spring is welling-up within a grassy swale on the east side of the street as well as through the asphalt street pavement and concrete curb and gutter joint. After surfacing, the water flows north, overland across the swale and in the gutter. This surface water flow then disappears to subsurface flow at a point directly across the street from 13811 N. Wandermere Estates Lane, which is located directly to the north of 13803 N. Wandermere Estates Lane.

The Home Owner's Association (HOA) has performed a utility survey to determine that leaking utilities are not the source of the spring. Discounting damaged or malfunctioning utility infrastructure within the area, the source of the spring can be assumed to be of natural groundwater flow or possibly a clogged drain associated with the nearby CMU retaining wall.

Some concerns have been expressed by some members of the HOA regarding the conditions described above. These concerns consist of the stability of the CMU wall and the overall stability of the soils across the street from where the surface water flow seeps back into the ground to continue as subsurface flow.

The purpose of the work specified herein is to provide the following services:

1. Exploration of existing CMU wall drain;
2. Extension of CMU wall drain to point of positive discharge (if required);
3. Installation of spring collection system; and,
4. Construction of a pipeline from the spring collection system and/or CMU wall drains to stormwater drainage facility to the north.

Exploration of Existing CMU Wall Drain
The work shall consist of excavating small test pits behind the CMU wall at the south and north ends. The test pits will be for the purpose of locating the wall foundation drain. The test pits shall be as minimal in size as required to locate the drain and perform the work described in this specification.

The following work will be performed after the north and south ends of the drain has been located:

- Determine that the drain behind the wall is free flowing by video monitoring or flushing; and,
- Determine the point of discharge of the drain.

Extension of CMU Wall Drain to Positive Discharge
If the CMU wall drain is located and a point of discharge is found, the following work items will be required:

- Determine if the current point of discharge is adequate to minimize erosion or shallow groundwater seeps (inform Engineer of findings);
- Install tight-line pipe from CMU wall drain to the stormwater facility approximately 1,130 feet north of the seepage area if the current point of discharge is determined to be inadequate by the Engineer; and,
- Install spring collection system if required after above items are completed (see below).

Installation of Spring Collection System
The wet area (spring) at the south end of the CMU wall may be due to a nonfunctioning wall drain. The previously described work may be adequate to dry the area. A spring collection system will be required if the previously described work does not dry the area. Construction of the spring collection system will require the following:

- Installation of lateral drains in areas of concentrated subsurface flow;
    - 4-inch perforated ADS pipe;
    - Install ADS pipe in gravel pack; and,
    - Wrap gravel and pipe in non-woven geotextile.
- Installation of spring box;
    - Excavate into soil layer below saturated zone to at least 4 feet in depth from ground surface;
    - Line excavation with non-woven geotextile;
    - Backfill with a minimum 12-inch thick zone of gravel around the spring box; and,
    - Extend lateral drains into the gravel around the spring box.
- Install tight-line pipe from spring box to the CMU wall drain tight-line or install a dedicated tight-line pipe from the spring box to the stormwater facility to the north if no wall drain is in place, the wall drain tight-line is not in place or is inadequate to convey the flow from the spring; and
- Install low permeability soil plug around the tight-line pipe to prevent subsurface flow along the pipe and force it into the spring box.

Project Kickoff Meeting
Prior to the start of work, The Contractor's office/project manager and foreman are required to attend the project kickoff meeting which will be held at the site. The meeting (which will last approximately one hour) will discuss the following:

- An overview of project objectives;
- The safety and environmental precautions and actions necessary for managing safety hazards and environmental conditions including reviewing the daily tailgate safety meeting and the Contractor's pollution control plan as specified in Section 3.2;
- Reviewing details and methodologies needed for construction;
- Reviewing traffic control needs and access points for equipment to and from the gated community; and,
- Reviewing project scheduling.

Access to Site
Access to the site will be from the Copper Canyon Lane Entrance via N. Perry Street. This entrance is gated. The HOA will provide an access code for the gate lock.

Traffic Control
The Contractor will provide traffic control for shoulder or lane closures if needed to access the site. Traffic control shall be incidental to the construction operations.

Utility Locate
The Contractor shall call for and have underground utilities located and marked before any work at the site begins. Some overhead utilities may be present. The Contractor shall not excavate within five feet of any marked/identified utility. Utility locate activities shall be incidental to the construction operations.

TECHNICAL SPECIFICATIONS

1.0 SCHEDULE

The work shall begin within 30 calendar days of the issuance of the Notice to Proceed. Once the Contractor mobilizes equipment and personnel to the work site, work shall progress continuously until all work is completed, subject to the requirements of Section 2.8. Work shall be completed no later than 60 calendar days after the start date. No work will be performed on Holidays or on weekends.

2.0 MINIMUM REQUIREMENTS FOR ALL OPERATIONS

2.1 Control of Work

The Contractor shall have an on-site responsible supervisor on the job at all times while work is in progress, capable of and with authority to make job site decisions as an official Contractor's representative.

This work shall consist of the activities described in the Scope of Work. Adequate equipment and materials should be maintained on location to complete the work.

2.2 Condition of equipment and tools

All equipment and tools shall have been maintained in good operating condition prior to being mobilized to the site and shall continue to be maintained in good condition for the duration of the project. Frequent or extended breakdowns shall be cause for rejection of equipment and replaced at no cost to the HOA.

2.3 Property Damage

Property damage and/or contamination of waterways shall not be permitted. When (or if) track-mounted equipment are operated on paved surfaces, steps to protect the paved surfaces from any damage shall be used during unloading or loading, mobilizing to and from sites or during construction and excavation activities. When track-mounted or wheeled equipment is operated on open or private property, steps to protect against excessive ground damage, such as ruts and torn sod etc., shall be used during unloading or loading, mobilizing to and from sites or during excavation and construction activities.

Any damage to HOA or private property caused by the Contractor shall be repaired at the Contractor's expense within 15 days of such damage by an HOA approved method. Measures shall be taken to prevent construction water or spoils discharge to any local drainages, streams or wetland areas.

2.4 Not Used

2.5 Safety

Safety is of primary concern on this project, for the public, Contractor's crew, and HOA members and employees. In the event the HOA determines there are concerns regarding safety, the HOA shall have the authority to suspend work until such time those concerns are resolved to the satisfaction of the HOA. The Contractor shall take every precaution necessary to ensure the safety of all parties and the protection of all property associated with this project.

The Contractor shall complete daily tailgate meetings to discuss and document a review the previous day's safety concerns or hazards and a review of upcoming tasks and actions that will be

taken to properly manage safety risks for the current day's tasks. This tailgate meeting will be documented in the form of tailgate meeting notes and will be kept on file and provided to the HOA on request.

All persons on the job site shall wear approved hard hats at all times and reflective safety vests. During equipment operations, hearing protection, eye protection, and gloves (when deemed necessary) shall be worn by all personnel.

The Contractor shall submit a health and safety (H&S) plan prior to start of work. The H&S plan shall identify safety procedures as applied to work activities as well as environmental factors associated with the work. The H&S plan shall identify site and corporate health and safety supervisors and describe their responsibilities and provide information for these supervisors.

2.6 Equipment
The type of equipment supplied by the Contractor shall be suitable for the terrain and the work required as described in the Scope of Work. Equipment shall have all tools, supplies and spare parts necessary in sufficient quantities to complete the work and avoid unnecessary delays.

The HOA shall have the authority to suspend work and require the replacement of, or additional, equipment at the Contractor's expense if the Contractor undergoes unnecessary delays brought about by equipment breakdowns, shortages or inadequacies.

2.7 Not Used

2.8 Days and Hours of Operation
All construction operations shall be limited to Monday through Friday, daylight hours. Work shall not be conducted on Federal and State holidays including.

2.9 Erosion and Sediment Control
It shall be the Contractor's responsibility to control any occurrence of erosion or sediment laden fluids created as a result of the construction operations. Any erosional material or sediment laden fluids created as a result of the construction operations will not be allowed to run off site into any roadside ditch, any storm water system, or any waterway without proper treatment to remove sediments. The Contractor shall seed and mulch the sites, access roads and other disturbed areas. All erosion control, sediment removal measures taken, and reseeding shall be approved by the HOA and shall be incidental to the construction operations.

2.14 Hazardous Materials
The Contractor shall notify the HOA of any hazardous materials to be used on the job and shall have Material Safety Data Sheets (MSDS) for those materials, available.

2.15 Work Zone Traffic Control
Required Work Zone Traffic Control shall be provided by the Contractor as deemed necessary by either the HOA or the Contractor personnel for the safety of workers and general traffic.

3.0 ENVIRONMENTAL PROTECTION MINIMUM REQUIRED MEASURES

3.1 General

3.1.1 Do not discharge contaminated or sediment-laden water, directly into any waters of the State until it has been satisfactorily treated (e.g., by bioswale, filter, settlement pond,

pumping to a vegetated upland location, bio-bag, dirt-bag or collected and transported to an approved off site location).

3.1.2 The HOA retains the authority to temporarily halt or modify the Project in case of excessive turbidity or damage to natural resources.

3.1.3 Maintain hazardous material spill containment booms and absorbent materials on-site to facilitate the cleanup of hazardous material spills. Install hazardous material spill containment booms or absorbent materials in instances where there is a potential for release of petroleum or other toxicants.

3.1.4 Do not place any material or waste on any public or private wetland, or in and adjacent to any waterway.

3.1.5 If flooding of the project site is expected to occur within 24 hours, evacuate areas used for staging, access roads, or storage and remove materials, equipment, and fuel.

4.0 MATERIALS

4.1 Not Used

4.2 Materials Supplied By the Contractor

The Contractor shall supply all equipment and necessary supplies needed to complete the work, repair any property damage, backfilling of holes and disposal of spoils.

4.3 Pipe and Tubing

This item shall be considered payment in full for all materials, equipment, labor, and incidentals necessary to supply, layout and join the drain line and lateral drain lines as shown on the project drawings. A minimum pipe bedding and backfill cover of two feet (total) shall be maintained over the drain pipe.

4.3.1 The material used in the manufacture of the pipe shall consist of six-inch, schedule 40, rigid polyvinyl chloride (PVC) pipe, Schedule 40 high density polyethylene (HDPE) pipe, or equivalent. PVC Pipe shall conform to ASTM D1784. HDPE pipe shall conform to ASTM D3350 standards. All pipe and fittings shall be joined as follows:

4.3.1.1 PVC pipe and fittings shall be joined with solvent cement as specified by the pipe manufacturer. All solvent cements used, to conform to ASTM D-2564.

4.3.1.2 HDPE pipe and fittings shall be joined by heat butt fusion or electrofusion welding as specified by the pipe manufacturer. Welding shall be performed as specified by ASTM D3261 and ASTM F2620. HDPE pipe and fittings shall be welded by personnel experienced in such operations and shall be certified by the manufacturer of the welding equipment.

4.3.2 Perforated ADS Lateral Drain Pipe shall be installed to the lines and grade shown on the project drawings. Perforated ADS Lateral Drain Pipe shall conform to AASHTO M252, AASTO M294, ASTM F405, and ASTM F606 standards. End caps shall be installed on all open ends not ending in the gravel pack around the seepage collection structure. If required, ADS lateral drain pipe shall be joined with cleated bell, split, internal and snap couplers.

4.4 Seepage Collection Structure

The seepage collection structure shall be constructed with concrete drywell rings, spacer rings, and lid as shown on the project drawings. The minimum compressive strength of the concrete shall be 3,000 psi. The drywell rings shall be perforated as shown on the project drawings. An exit hole shall be located as shown on the project drawings that will accept the 6-inch drain line. The structure shall be set directly on drain gravel as shown on the project drawings. A concrete base shall not be used. The bottom of the structure shall be set at an elevation at or below the bottom of the shallow, saturated, highly permeable soil or at a point that will adequately drain the area as determined by the Engineer.

4.5 Geotextile Fabric

Geotextile fabric shall be non-woven needle-punched fabric meeting the specifications of Section 9-33 of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction for Class A, Moderate Survivability materials. Geotextile fabric shall be protected from mud, dirt, dust, sunlight, and debris during transport and storage. Material shall be inert to commonly encountered chemicals; resistant to mildew, rot, insects, and rodents; and biologically and thermally stable. Geotextile fabric for subsurface installation shall not be exposed to direct sunlight for more than 24 hours before or during installation.

5.0 EARTHWORK

5.1 Drainage Gravel

Drainage gravel shall be placed to the lines and grades shown on the project drawings. It shall consist of well graded, gravel free of organics, trash, debris, or other deleterious material and meet the requirements of Section 9-03.12(4) of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction.

5.2 Pipe Bedding

Pipe bedding shall be placed to the lines and grades shown on the project drawings. It shall consist of well graded, gravel free of organics, trash, debris, or other deleterious material and meet the requirements of Section 9-03.12(3) of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction.

Whenever a trench is excavated in sidewalk areas, driveway areas, within 10 feet of a retaining wall, or other areas where settlement would be detrimental, the entire trench shall be backfilled with imported gravel and compacted to 95 percent of the maximum dry density as determined by modified Proctor (ASTM D1557).

5.3 Trench Backfill

Trench Backfill shall be placed to the lines and grades shown on the project drawings. It shall consist of well graded, gravel free of organics, trash, debris, or other deleterious material meeting the gradation requirements of Bank Run Gravel Backfill – Class B, Section 9-03.17(1)B of the WSDOT Standard Specifications for Road, Bridge, and Municipal Construction.

Whenever a trench is excavated in sidewalk areas, driveway areas, within 10 feet of a retaining wall, or other areas where settlement would be detrimental, the entire trench shall be backfilled with imported gravel and compacted to 95 percent of the maximum dry density as determined by modified Proctor (ASTM D1557).

5.4 Trenching (General)

The trench for drain pipe shall be excavated by the open cut method to the depth and grade shown on drawings and as necessary to accommodate work. Except when located directly below and within 10 feet of a retaining wall, the contractor shall only open as much ditch as he can completely install pipe, backfill, compact, and cleanup within that working day. Do not open a greater length of trench than can be effectively utilized and maintained under existing conditions and with the forces at hand. In areas below and within 10 feet of a retaining wall, the contractor shall only open as much ditch as he can completely install one section of pipe or 20 feet, whichever is greater.

Once the trench is opened, proceed immediately to place specified materials in trench. Schedule work and order materials so that trenches are not left open for a longer period than is reasonably necessary.

The contractor shall at all times so conduct his work to ensure that all solids and mud are contained within the trench.

A Certified Competent Person designated by the Contractor shall be on-site at all times excavation or pipe installation is being conducted. OSHA and WISHA standards must be adhered to.

The bottom of the trench for the drain pipe shall be excavated to a minimum over depth as shown on the construction drawings to provide for pipe bedding for the entire length of the gravity pipeline. Bell holes and depressions as required of the joint shall be dug after the bedding has been graded and shaped, and shall be only of such length, depth, and width as required for properly making the particular type of joint.

Rock larger than 3 inches shall be removed from the trench bottom and any voids filled with compacted. The trench for the drain shall then be backfilled and compacted in no more than 8-inch lifts with the fill brought up evenly on both sides of the pipe at the same time to avoid unbalanced pressures.

Notify the Engineer when unstable materials are encountered and define by drawing locations and limits when encountered.

Unauthorized over-excavation consists of removal of material beyond indicated subgrade elevations or side dimensions, without specific approval of the Engineer. Exercise care to avoid excavations below established grade where firm earth conditions exist. Where unauthorized excavations have been carried beyond points required, restore these areas to the elevations and dimensions shown on the drawings with approved fill material and compact as specified. In no case shall the pipe be brought to grade by blocking under the barrel of the pipe. A uniform support shall be provided for the entire length of the pipe. Unauthorized excavation shall be replaced at the Contractor’s expense.

5.5 Trench Plug

The trench plug shall be constructed to the lines and grades shown on the drawings. The trench plug shall consist of 300 psi controlled density fill as specified in the WSDOT Specifications for Road, Bridge, and Municipal Construction (2016).

6.0 MEASUREMENT AND PAYMENT

6.1 Administration
This item shall be considered incidental to the completion of the project and is not a payment item.

6.2 Mobilization
This item shall be considered payment in full for all materials, equipment, labor, mileage and incidentals necessary to mobilize and demobilize all equipment and supplies to and from and within the project site. This item includes labor for seeding and mulching for erosional control and includes payment for any and all special equipment and labor necessary to accomplish the job. This item also includes any safety related items such as hand rails and fall protection rails. Payment shall be lump sum.

6.3 Retaining Wall Investigation
This item shall be considered payment in full for all materials, equipment, labor, and incidentals necessary to excavate shallow test pits at each end of the CMU retaining wall in search of any drain pipe associated with the wall.

6.4 Drain Line Installation
This item shall be considered payment in full for all materials, equipment, labor, and incidentals necessary to install the drain line. This item includes the following activities:

- Clearing and Grubbing;
- Trench Excavation;
- Pipe bedding Installation;
- Pipe installation, including Joining; and,
- Trench Backfill Placement and Compaction.

The contractor will be responsible for determining the length of the drain line on the ground as shown on the project drawings.

6.5 Seepage Collection Structure
This item shall be considered payment in full for all materials, equipment, labor, and incidentals necessary to install the seepage collection structure, drainage gravel, geotextile, seepage collection pipe, trench plug, and connection to the wall drain (if applicable) or the drain line. For the purpose of bidding, assume a depth of five feet for the structure and 100 feet of seepage collection pipe. Adjustments to the price based on a cost per foot of structure depth and collection pipe length (including gravel) will be made if the specified depth or lengths are different than stated in this paragraph.

Bid Sheet

Contractor:	
Address:	
City:	
State:	
Zip Code:	
Telephone:	
Fax:	
Web Site:	
Contractor Contact:	

Line Item	Bid Type	Price
6.1 Administration	Lump Sum	
6.2 Mobilization	Lump Sum	
6.3 Retaining Wall Investigation	Lump Sum	
6.4 Drain Line Installation	Lump Sum	
6.5 Seepage Collection Structure	Lump Sum	
Structure Depth Adjustment	Per Linear Foot	
Collection Pipe Adjustment	Per Linear Foot	

Submitted on behalf of _____
(Contact information above). The prices in this bid are guaranteed for a minimum of 60 days from the date of signature.

Authorized Representative_____, _____
(Print or Type) (Sign)

Date of Bid:_____

GROUND WATER SEEPAGE MITIGATION

NORTH WANDERMERE ESTATES LANE
WANDERMERE ESTATES, SPOKANE, WASHINGTON

PREPARED FOR

WANDERMERE ESTATES HOME OWNERS ASSOCIATION

BY

BUDINGER & ASSOCIATES, INC.

CONTENTS

JOHN R. SWIFT JR. STATE OF WASHINGTON 33255 REGISTERED PROFESSIONAL ENGINEER

PROJECT# S16050A1
DRAWN BY: SWFT
REVIEWED BY: FINNEGAN
REVISION: 0, 2/17/17
DATE: 2/17/2017
SHEET 1

COVER SHEET

SEEPAGE MITIGATION
WANDERMERE ESTATES HOME
OWNER'S ASSOCIATION

Budinger & Associates

NOTES:
1. DRAIN LINE TRENCH EXCAVATED ALONG EAST SIDE OF CURB.
2. EXCAVATION OF DRAIN LINE TRENCH IN MAXIMUM 20' SEGMENTS BELOW RETAINING WALLS.
3. LOCATIONOF SEEPAGE COLLECTION BOX AND TRENCH PLUG TO BE DETERMINED AT TIME OF EXCAVATION.
4. MAINTAIN MINIMUM DRAIN LINE GRADE OF 2 PERCENT.
5. GRADE OF DRAIN LINE SHOULD BE SUCH THAT POOLING OF WATER DOES NOT OCCUR IN THE PIPE.
6. MAINTAIN A MINIMUM COVER OF 24" OVER THE PIPE.
7. ALL WORK SHALL CONFORM TO WSDOT STANDARD SPECIFICATIONS FOR ROAD, BRIDGE, AND MUNICIPAL CONSTRUCTION (2016)

0 50 100
1" = 100' FOR 11X17 SHEET

JOHN R. SWIFT JR.
STATE OF WASHINGTON
33255
REGISTERED
PROFESSIONAL ENGINEER

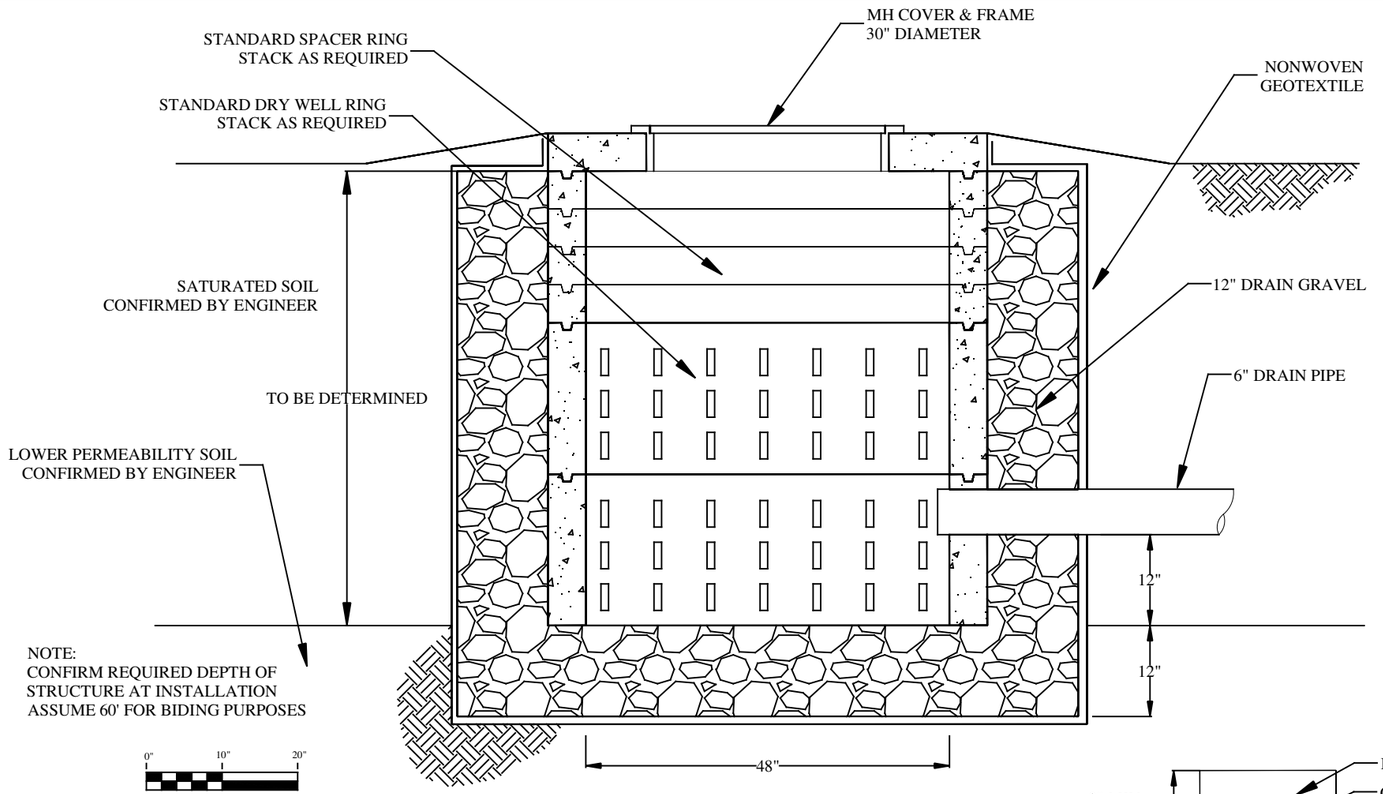
PROJECT# S16050A1
DRAWN BY: SWIFT
REVIEWED BY: FINNEGAN
REVISION: 0 2/17/17
DATE: 2/17/2017
SHEET 2

PLAN VIEW

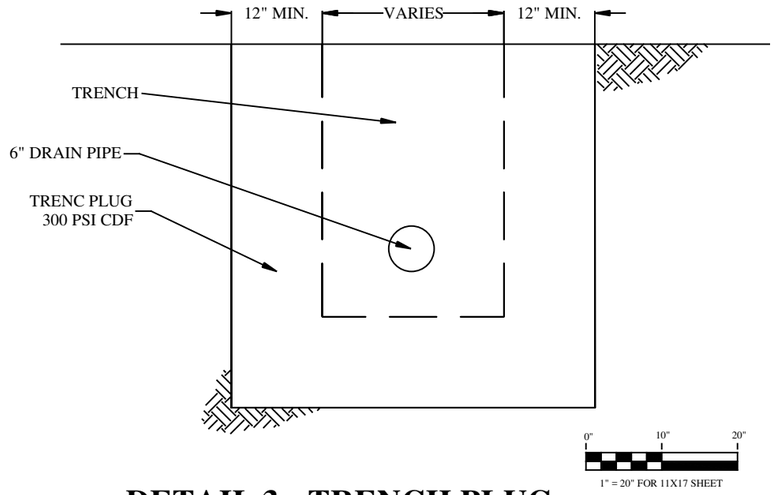
SEEPAGE MITIGATION
WANDEREMERE ESTATES HOME
OWNER'S ASSOCIATION

Budinger & Associates

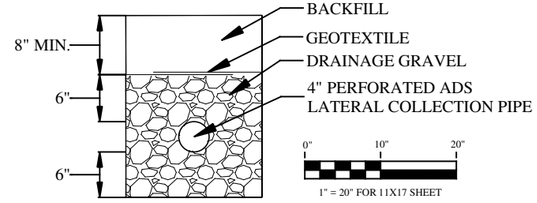
60



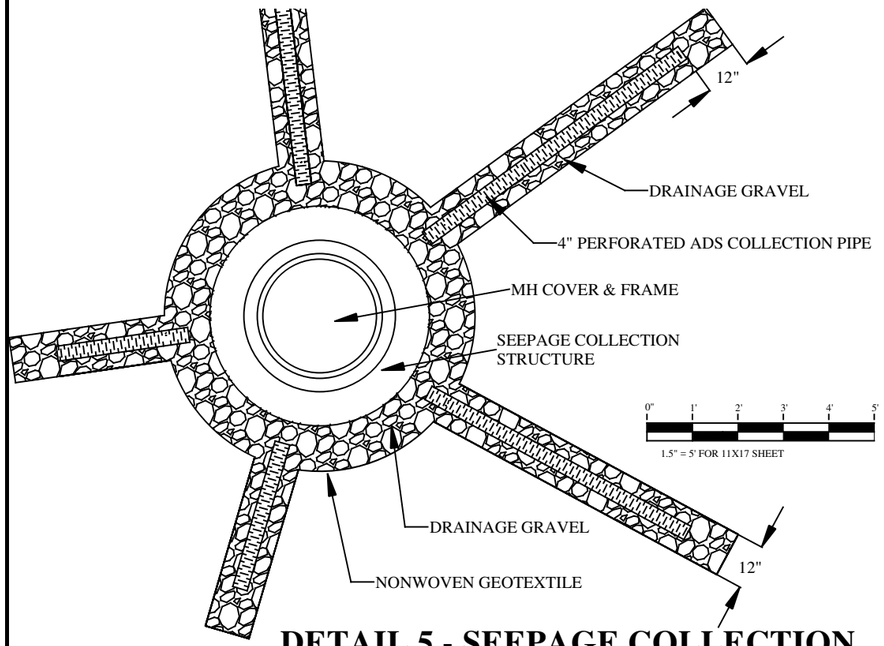
DETAIL 1 - SEEPAGE COLLECTION STRUCTURE



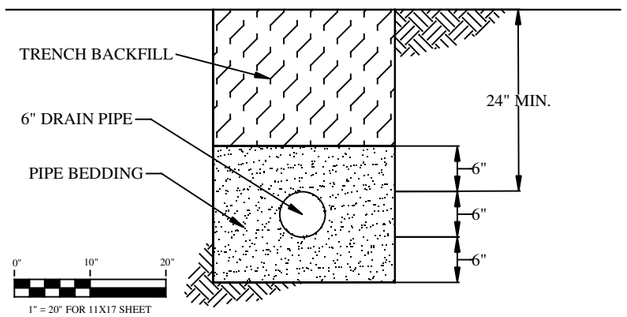
DETAIL 3 - TRENCH PLUG



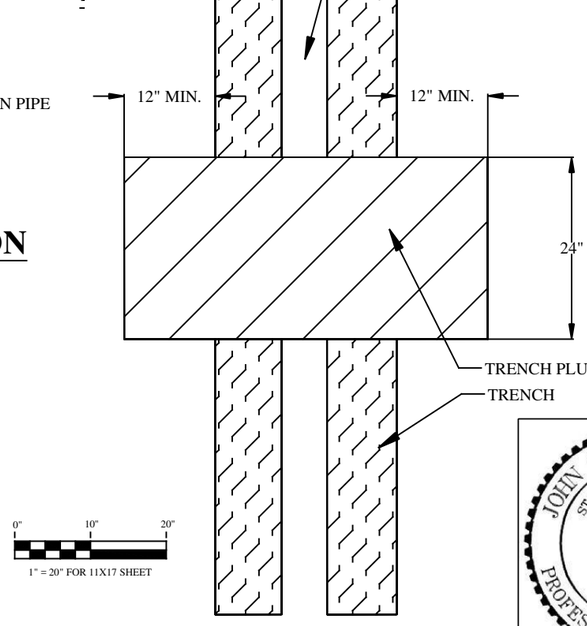
DETAIL 6 - LATERAL COLLECTION



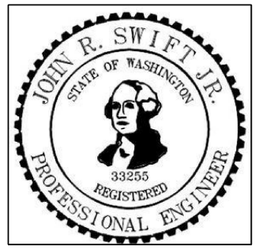
DETAIL 5 - SEEPAGE COLLECTION



DETAIL 2 - DRAIN LINE & TRENCH



DETAIL 4 - TRENCH & TRENCH PLUG



PROJECT# S16050A1
DRAWN BY: SWIFT
REVIEWED BY: FINNEGAN
REVISION: 0, 2/17/17
DATE: 2/17/2017
SHEET 3

DETAILS

SEEPAGE MITIGATION
WANDERMERE ESTATES HOME
OWNER'S ASSOCIATION

Budinger & Associates