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SUPERIOR COURT OF CALIFORNIA
COUNTY OF HUMBOLDT

11 Attorneys for Plaintiff the City of Rio Dell, California

12 SUPERIOR COURT OF CALIFORNIA
13 COUNTY OF HUMBOLDT

14 CITY OF RIO DELL,
15 Plaintiff,

16 vs.

17 SHN CONSULTING ENGINEERS &
18 GEOLOGISTS, INC., a California
19 corporation, and DOES 1-20, inclusive,
20 Defendants.

CASE NO.: DR130745

COMPLAINT FOR NEGLIGENT
DESIGN; BREACH OF CONTRACT
and NEGLIGENT SUPERVISION

The Parties

Plaintiff the CITY OF RIO DELL (hereinafter "City" or "plaintiff"), alleges as follows:

1. Defendant SHN CONSULTING ENGINEERS & GEOLOGISTS, INC. ("SHN"), is, and at all times mentioned herein was, a corporation organized under the laws of the State of California, doing business in the County of Humboldt, California.

2. Plaintiff CITY OF RIO DELL is, and at all times mentioned herein was, a municipal entity located in the County of Humboldt, State of California.

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1 3. Plaintiff does not presently know the true names and capacities of the
2 defendants sued herein as Does 1 through 20, inclusive. Plaintiff will seek leave of court
3 to amend this complaint to allege said defendants' true names and capacities as soon as
4 plaintiffs ascertain them.

5 4. At all times mentioned herein, each defendant was the agent and employee
6 of each and all of the other defendants and was acting in the course of such agency and
7 employment.

8 **Jurisdiction and Venue**

9 5. Plaintiff, in its capacity as a municipal entity, provides water and waste
10 water services to the citizens of the City of Rio Dell. In connection with providing said
11 services, the City owns and operates the water treatment plant and facility at/near the Eel
12 River, located at 475 Hilltop Drive, Rio Dell, California (the "Water Treatment Plant").
13 The City also owns and operates all infrastructure connected to the Water Treatment
14 Plant, expressly including, without limitation, the water infiltration gallery located at/near
15 the bed of the Eel River, south of the City of Rio Dell (the "Infiltration Gallery").

16 6. On or about calendar year 2004 and continuing thereafter, SHN was
17 engaged in its capacity as a licensed California engineer to design and supervise all
18 aspects related to the design, permitting and construction of the Infiltration Gallery and
19 works of improvement and structures associated with the Infiltration Gallery, including,
20 without limitation, appurtenant structures commonly referred to as the "aerator system"
21 and the "wet well" designed by SHN to clean, maintain and flush sediment from the
22 Infiltration Gallery. SHN and the City entered and executed that certain written Service
23 Agreement dated May 19, 2004, a true and correct copy of which is attached hereto as
24 "**Exhibit 1**" (the "Services Agreement"). Appended as "Exhibit A" to the Services
25 Agreement is a recital of the scope of work SHN contracted to provide to the City relative
26 to the design and construction of the Infiltration Gallery.

1 7. Between calendar years 2004 and 2006, SHN issued charges to the City for
2 engineering design and related services pertaining to the Infiltration Gallery and project
3 in excess of \$202,000. The total costs and expenses for the design, permitting and
4 construction of the gallery and project exceeded \$3,720,000.

5 8. All work performed by defendant SHN was both commissioned and
6 performed in Humboldt County, California, related to the Infiltration Gallery at/near Rio
7 Dell, California. Additionally, Section 4.K. of the Services Agreement states that all
8 litigation shall be venued in the County of Humboldt, State of California.

9 9. Defendant SHN made all substantive decisions related to the Infiltration
10 Gallery, including ascertaining, planning and supervising all aspects of design and
11 placement of the improvements in the bed of the Eel River. Plaintiff is informed and
12 believes, and based thereon alleges, that SHN was instrumental in designing, directing,
13 identifying and planning all work to be performed relative to the design and construction
14 of the Infiltration Gallery, and all attendant defects in the Infiltration Gallery, as herein
15 alleged, derive from the design.

16 **Summary of Defective Design and Negligence**

17 10. Commencing on or about May of 2004 and continuing through calendar
18 years 2005 and 2006, SHN planned, designed and performed numerous tasks related to
19 the Infiltration Gallery. Among them, and without limitation, SHN performed the
20 following tasks and services: (a) prepared preliminary Infiltration Gallery designs; (b)
21 controlled and prepared topographical surveys of the Eel River and surrounding areas to
22 ascertain riverbed conditions and river channel flows to site the system; (c) performed
23 geotechnical and fieldwork investigations to evaluate subsurface conditions in the
24 vicinity of the wet well and river channel characteristics; (d) prepared design memoranda
25 for the Infiltration Gallery and associated structures; (e); performed design calculations
26 and layouts of the Infiltration Gallery for incorporation into the bid documents; (f)

1 prepared hydraulic calculations to identify suitable sediment flushing discharge
2 equipment and components; (g) performed CAD drafting for the Infiltration Gallery
3 system; (h) supervised and provided requisite documentation for Infiltration Gallery
4 permitting, including preparation of the mitigation and monitoring plan for system
5 operation; (i) financing and grant funding assistance; and (j) internal quality assurance
6 during the Design phase of the Infiltration Gallery.

7 11. As designed and constructed, the Infiltration Gallery includes the placement
8 of four perforated intake pipes, each approximately 80 feet in length, laid in trenches
9 running parallel to the Eel River, backfilled with rock and a "filter pack" developed
10 pursuant to SHN specifications. The intake gallery was designed to provide 1,200
11 gallons of water per minute (gpm) to accommodate future water demands within the City.
12 Water from the river is supposed to enter the gallery and flow by gravity to the wet well
13 (designed by SHN) where it is lifted by turbine pumps to the City's water treatment plant.
14 The pumps attendant to the system were sized to provide up to 600 gpm to the treatment
15 plant. SHN made all substantive decisions regarding the placement of the Infiltration
16 Gallery, its design and specifications.

17 12. Plaintiff is informed and believes, and based thereon alleges, that SHN
18 performed (or attempted to perform) the services recited in Paragraph 10 of this
19 Complaint, and the Infiltration Gallery was constructed and placed into service on or
20 about September 2006.

21 13. On or about July 29, 2012, the City began to notice that the Infiltration
22 Gallery was straining to recruit and intake water from the Eel River. At this time, the
23 City also noticed that the pumps in the wet well could not be used without pump
24 cavitation when the water plant was functioning and the pumps were in service and
25 drawing water. These declines in water supply returned in June and July of 2013.
26 Additionally, during the winter of 2012 the turbidity in the Eel River was higher than in

1 prior years since the gallery was constructed, and at that time and again in the winter of
2 2013, the system has not been able to meet the water demands of the community because
3 the back flushing system does not remove the sediment build-up in the gallery, thereby
4 resulting in a substantially diminished capacity to produce water.

5 14. In response to the water supply shortage and inability of the Infiltration
6 Gallery to sufficiently intake water of sufficient quantity, City of Rio Dell commissioned
7 an engineering review and inspection of the Infiltration Gallery to determine the cause of
8 the failures.

9 15. Following the engineering assessment and inspection, numerous defects in
10 the Infiltration Gallery design and wet well and aerator systems were identified, all of
11 which were previously latent and not subject to detection by the City until the system
12 failures commenced in the summer of 2012 and 2013, and the nature of the defects were
13 identified by a licensed engineer. The latent defects in the engineering design and
14 structure of the Infiltration Gallery and wet well and aerator systems include, without
15 limitation, the following defects, generally described:

- 16 (a) The Infiltration Gallery can not be effectively backwashed with water as
17 designed and constructed because the backfilled trench above the collector
18 pipes is outside of the river flow channel, there is no sweeping velocity to
19 carry away sediment, and much of the sediment falls back into the trench
20 when the backwash cycle ends;
- 21 (b) When the river covers the infiltration gallery during the high river flows
22 and provides sweeping velocity, the high river level reduces the available
23 head between the wetwell and the collector trenches, resulting in inadequate
24 cleaning flows and direction;

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- (c) The Infiltration Gallery configuration, having collector pipes parallel to the river with the top of the back filled trenches at an elevation above typical summer river levels renders backwashing ineffective;
- (d) The Infiltration Gallery is not properly placed with the collector pipes isolated from the river flow during low summer river levels;
- (e) The Infiltration Gallery was placed in riverbed substrate with low permeability based on the design and direction provide by SHN;
- (f) The wet well backwashing system lacks the capability and capacity, as designed, to backwash the system;
- (g) The air scouring system, as designed, is completely ineffective in that the air scour slots are too large compared to the 375 cubic feet per minute air flow rate (as recommended by the SHN Operations and Maintenance Manual);
- (h) The maintenance protocol and system design prepared by SHN are incapable of effectively maintaining with Water Infiltration Gallery system; and
- (i) The permitting protocol and maintenance procedures established by SHN and included in the permits obtained for the City by SHN during the permitting process interfere with Infiltration Gallery maintenance.

16. As a result of these design failures inherent in the Infiltration Gallery and associated wet well and aerator maintenance systems, the City has had to take emergency measures to render the system functional, as the City's cost and expense, commencing in September of 2013. These measures include obtaining emergency permits to excavate and reconfigure portions of the riverbed to draw water flows to the Infiltration Gallery. The City is informed and believes, and based thereon alleges, that these emergency

1 measures would not be necessary if SHN had properly designed the system prior to
2 construction.

3 **FIRST CAUSE OF ACTION:**

4 **Negligent Design**

5 **(Against Defendant SHN and Does 1 through 20)**

6 17. Plaintiff hereby incorporates by reference the allegations appearing in
7 paragraphs 1 through 16, above.

8 18. Defendant SHN entered into the engineering Services Agreement with the
9 City for the purpose of designing the Infiltration Gallery and associated maintenance
10 structures. In its capacity as a professional engineer, SHN was obligated to perform these
11 services in a manner compliant with professional engineering principals, practices and
12 standards. Further, SHN was obligated to competently inspect and assess key aspects of
13 Eel River geology and hydrology, including but not limited to subgrade soil and bedrock
14 conditions prior to placing the Infiltration Gallery and associated structures.

15 19. In performing engineering services for the City, SHN negligently designed
16 the Infiltration Gallery and the wet well and aerator maintenance structures, and breached
17 their obligation to provide competent and adequate design services in multiple respects,
18 including all of the design defects and failures recited in Paragraph 15 of this Complaint,
19 above.

20 20. The defects inherent in SHN's design remained latent and unknown to
21 plaintiff until the July, 2012, partial failure and recurrent failure of the Infiltration Gallery
22 in July and August of 2013. Thereafter, upon retention of an engineer and review of the
23 design and associated documents (including the Operations Manual and maintenance
24 system), the cause of the damage became known to plaintiff as well as the scope and
25 extent of SHN's defective construction designs.

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1 21. As a direct result of the failures recited herein, the Infiltration Gallery and
2 associated maintenance structures constructed pursuant to SHN's design are structurally
3 inadequate and ultimately failed on or about September of 2013, resulting in damages to
4 the City in the form of emergency permitting, excavation and repair costs for the system.

5 22. Additionally, as a result of the design defects alleged herein, the City is
6 informed and believes, and based thereon alleges, that the Infiltration Gallery has been
7 damaged by excess sediment accumulation and blockage, which can not be effectively
8 backflushed and removed from the system, causing failures to occur and limiting the
9 capacity of the system to intake water. Future permitting and repair costs and expenses
10 will be incurred to repair the system and render it functional.

SECOND CAUSE OF ACTION:

Breach of Contract

(Against SHN and Does 1 through 20)

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14 23. Plaintiff hereby incorporates by reference the allegations appearing in
15 paragraphs 1 through 22, above.

16 24. Defendant SHN entered into the engineering Services Agreement with the
17 City for the purpose of designing the Infiltration Gallery and associated maintenance
18 structures. Pursuant to Section 4.F. of the Services Agreement, SHN was obligated to
19 perform these services in a manner compliant with professional engineering principals,
20 practices and standards. Further, SHN was obligated to competently inspect and assess
21 key aspects of Eel River geology and hydrology, including but not limited to subgrade
22 soil and bedrock conditions prior to placing the Infiltration Gallery and associated
23 structures.

24 25. In performing engineering services for the City, SHN failed to adequately
25 design the Infiltration Gallery and the wet well and aerator maintenance structures, and
26 breached their contractual obligation to provide adequate design services in multiple

1 respects, including all of the design defects and failures recited in Paragraph 15 of this
2 Complaint, above.

3 26. The defects inherent in SHN's design remained latent and unknown to
4 plaintiff until the July, 2012, partial failure and recurrent failure of the Infiltration Gallery
5 in July and August of 2013. Thereafter, upon retention of an engineer and review of the
6 design and associated documents (including the Operations Manual and maintenance
7 system), the cause of the damage became known to plaintiff as well as the scope and
8 extent of SHN's defective construction designs.

9 27. As a direct result of the failures recited herein, the Infiltration Gallery and
10 associated maintenance structures constructed pursuant to SHN's design are structurally
11 inadequate and ultimately failed on or about September of 2013, resulting in damages to
12 the City in the form of emergency permitting, excavation and repair costs for the system.

13 28. Additionally, as a result of the design defects alleged herein, the City is
14 informed and believes, and based thereon alleges, that the Infiltration Gallery has been
15 damaged by excess sediment accumulation and blockage, which can not be effectively
16 backflushed and removed from the system, causing failures to occur and limiting the
17 capacity of the system to intake water. Future permitting and repair costs and expenses
18 will be incurred to repair the system and render it functional.

19 29. Section 4.F. of the Services Agreement allows the prevailing party in any
20 litigation involving the Agreement recover reasonable attorneys fees, costs and expenses
21 associate with the litigation.

22 **THIRD CAUSE OF ACTION:**

23 **Negligent Supervision**

24 **(Against Defendants SHN and Does 1 through 20)**

25 30. Plaintiff hereby incorporates by reference the allegations appearing in
26 paragraphs 1 through 28 above.

1 31. Pursuant to the Services Agreement, defendant SHN was obligated to,
2 among other items, supervise and prepare appropriate permit applications for the
3 construction and operation of the Infiltration Gallery and associated maintenance
4 structures (i.e., the wet well and aerator) and prepare mitigation and monitoring programs
5 relative to maintenance and operation of the system for inclusion in the permits.

6 32. Additionally, SHN had the obligation (and during the course of
7 construction did) supervise and monitor construction of the Infiltration Gallery to insure
8 it was constructed in accordance with SHN's design specifications.

9 33. During the course of providing these services, SHN was negligent in
10 numerous material respects involving the supervision and construction of the Infiltration
11 Gallery and associated structures, including: (a) negligently supervising permit
12 preparation resulting in the issuance of permits with operating constraints rendering
13 Infiltration Gallery maintenance operations ineffective; (b) inclusion of permitting
14 criteria in conflict with proper Infiltration Gallery maintenance; (c) construction of the
15 Infiltration Gallery in a location on/in the riverbed where water recruitment is ineffective
16 and compromised by sediment accumulation.

17 34. SHN's negligent supervision and the resultant design defects in the
18 Infiltration Gallery system remained latent and unknown to plaintiff until the July, 2012,
19 partial failure and recurrent failure of the Infiltration Gallery in July and August of 2013.
20 Thereafter, upon retention of an engineer and review of the design and associated
21 documents (including the Operations Manual and maintenance system), the cause of the
22 damage became known to plaintiff as well as the scope and extent of SHN's defective
23 construction designs and negligence and negligent supervision during the design,
24 permitting and construction process.

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26 ///

1 **PRAYER**

2 WHEREFORE, Plaintiffs pray for judgment as follows:

3 **First Cause of Action:**

- 4 1. For the damages, together with interest on that amount as provided by law;
- 5 2. For reasonable attorney's fees;
- 6 3. For costs of suit; and
- 7 4. For such other and further relief that the court considers proper.

8 **Second Cause of Action:**

- 9 1. For the damages, together with interest on that amount as provided by law;
- 10 2. For reasonable attorney's fees;
- 11 3. For costs of suit; and
- 12 4. For such other and further relief that the court considers proper.

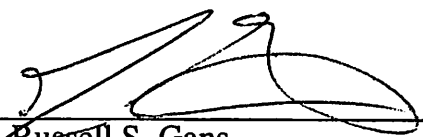
13 **Third Cause of Action:**

- 14 1. For the damages, together with interest on that amount as provided by law;
- 15 2. For reasonable attorney's fees;
- 16 3. For costs of suit; and
- 17 4. For such other and further relief that the court considers proper.

18 Dated: December 11, 2013

MITCHELL, BRISSO, DELANEY & VRIEZE, LLP

19

20 By: 

21 Russell S. Gans
Attorneys for Plaintiff