

Cleanup Action Completion Report Hamilton Street Bridge Site Spokane, Washington

February 2, 2006

Prepared for

Washington State Department of Ecology

On Behalf of:

**Avista Corporation and
The Burlington Northern Santa Fe Railway Company**



10 North Post Street, Suite 218
Spokane, WA 99201
(509) 327-9737

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1.0 INTRODUCTION

1.1 BACKGROUND

This cleanup action completion report documents the successful implementation of the cleanup action conducted by Avista Corporation (Avista) at the Hamilton Street Bridge Site (Site), located at 111 North Erie Street in Spokane, Washington (see Figure 1). The site includes the Burlington Northern Santa Fe Railroad (BNSF) Company property, the former American Tar Company (ATC) property, the former Spokane Manufactured Gas Plant (SGP) property, and the former Chicago Milwaukee and St. Paul Railroad (CM&SPR) property. The site area is outlined on Figure 2.

The cleanup action was conducted to satisfy the requirements set forth in Consent Decree No. 02205445-0 (Ecology 2002) between Avista and BNSF, and the Washington State Department of Ecology (Ecology). Cleanup activities were conducted in accordance with criteria outlined in the Engineering Design Report (EDR) (Landau Associates 2003b) and the methods and procedures specified in the Plans and Specifications (Landau Associates 2004) for the Site. The EDR was approved in May 2003 following a 30-day public comment period. The final Plans and Specifications were submitted on January 8, 2004 following comments from Ecology. A copy of the Ecology approval letter for the EDR is included in Appendix A.

The primary objective of the cleanup action was to contain impacted soils and implement stormwater management and shoreline stabilization measures. The purpose of the cleanup action was to limit stormwater infiltration through contaminated soil and prevent further shoreline erosion, which could result in the exposure of the contaminated soils. Specific elements of the cleanup action included the following:

- Placement of a soil cap over the contaminated soil exposed on the ATC area to prevent direct contact with the materials.
- Decommissioning of dry wells on the Site to reduce potential water infiltration and contaminant leaching.
- Grading the Site to channel surface water away from known areas of contamination to reduce infiltration and contaminant leaching.
- Utilization of bioengineering along the Spokane River to stabilize the riverbank so that erosion or flooding would not cut back and expose contaminated soil; and providing additional vegetation along the shoreline to establish riparian corridor enhancement and water filtration.
- Implementation of physical and institutional controls to prevent human contact with soil and groundwater media exceeding human health cleanup levels
- Implementation of a compliance monitoring program to monitor performance of the cleanup action.

This report has been prepared to document the satisfactory completion of the cleanup action at the Site and meet the MTCA requirements for a cleanup action completion report. The overall objective of this report is to document that the construction activities were completed in overall conformance with the Cleanup Action Work Plan (Ecology 2001) and the associated construction drawings and specifications.

1.2 REPORT ORGANIZATION

Section 2.0 of this report presents a summary of Site conditions, and Section 3.0 presents a summary of the cleanup action construction activities. Section 4.0 presents the Professional Engineer's statement regarding implementation of the cleanup action, and Section 5.0 presents the references for this document.

2.0 SITE CONDITIONS

This section presents a brief summary of site conditions relevant to the cleanup project. Additional details are included in the Final Cleanup Action Plan (Ecology 2001) and the Engineering Design Report (Landau Associates 2003b).

2.1 SITE LOCATION

The Site is located in Section 17, Township 25 North, Range 43 East (Latitude 48° 39'N, Longitude 117° 23'W) in Spokane, Washington (see Figures 1 and 2). Several monitoring wells are located on the north side of the Spokane River on the BNSF Taylor Edwards property and, although outside the Site boundary, were considered part of the Site study area during the Remedial Investigation (RI).

Property in the vicinity of the study area is zoned light and heavy industrial. The closest residential properties are located south of Sprague Avenue (approximately 1,200 feet from the Site) or north of Trent Avenue (over 2,000 feet from the Site).

2.2 SITE FEATURES

The Site is located along the southern shoreline of the Spokane River, approximately 1½ miles upstream of the Upper Falls Dam. The Site is bounded on the north by the Spokane River, on the south by a steep hillside that contains an active BNSF railroad spur, and on the east and west by commercial and industrial property. The Site is transected, roughly north-south, by the James Keefe (Hamilton Street) Bridge, which is elevated high above ground surface by columns supported on spread footings. A 60-inch diameter sanitary sewer line crosses beneath the Site in a southwest-northeast alignment

2.3 SITE HISTORY

Between approximately 1905 and 1948, manufactured coal gas and carburetted water gas was produced on the former SGP property. On June 3, 1958, Avista (formerly The Washington Water Power Company) merged with the Spokane Natural Gas Company (formerly the Spokane Gas & Fuel Company) and dispensed natural gas from the Site until 1962 or 1963. Mr. Richard Brown established Brown Building Materials on the Site, leasing the former SGP property from Avista Corp from 1963 until March 1978, when he purchased the property. Mr. Brown conveyed the property to Spokane River Properties (SRP), of which Mr. Brown is a general partner, in January 1982. Brown Building Materials operated their building materials salvage and sales operation on the Site until May 2000, when a fire destroyed the

main office building. The concrete foundation pad of the building and the surrounding asphalt surfaces were all that remained. A new office building was subsequently constructed east of the Site across Erie Street. In 2004, Avista entered into a Site Preparation Agreement with the owners and operators of the Site property. The Site was cleared and prepared for the cleanup action construction activities on or before July 1, 2005.

2.4 ENVIRONMENTAL SITE CONDITIONS

The primary conclusions regarding Site environmental conditions prior to the cleanup action are summarized as follows (Landau Associates 2001):

- Constituents typically associated with manufactured gas plant processes and coal tar processing were detected in Site soil samples. The analytical data indicate that soils within the Site boundaries are impacted with SVOCs, PAHs, VOCs, and inorganic compounds.
- Based on visual observations, surface soil contamination is only present on the western portion of the ATC property and consists of tar and cinder. The remaining soil contamination is covered by at least 2 feet of imported soil and gravel.
- Constituents associated with the former manufactured gas processes and coal tar processing were not detected in the soil off of the Site.
- Indicator hazardous substances (IHSs) developed by Ecology for soil consist of six PAHs, total cPAHs, TPH, carbazole, cyanide, arsenic, barium, lead, mercury, and selenium.
- Natural attenuation parameters in groundwater indicated a rapid decrease in carbon dioxide, sulfate, and methane concentrations, and an increase in nitrogen concentrations, with distance from the source. These trends support the conclusion that natural attenuation processes such as aerobic biodegradation and oxidation are occurring at the Site, which results in rapid destruction or transformation of IHSs present in Site groundwater.
- The limited extent of groundwater contamination detected outside of the impacted soil areas indicate that the source material has a low solubility, and any constituents that may be partitioning into groundwater are rapidly attenuating through natural physical, chemical, and biological processes (i.e., natural attenuation).
- No indicator constituents above cleanup levels were identified in sediment. Sediment is not an affected media for the Site.
- No indicator constituents above cleanup levels were identified in surface water. Surface water is not an affected media for the Site.

3.0 SUMMARY OF CLEANUP ACTION CONSTRUCTION ACTIVITIES

This section presents a summary of the cleanup action activities performed by the selected contractor, Woodard Construction of Spokane, Washington, as well as a summary of construction monitoring and oversight activities conducted by Avista and Landau Associates.

Onsite construction activities were conducted between July 5 and October 25, 2005. Completed cleanup action activities generally included the following:

- Abandonment of existing drywells.
- Removal of the concrete pad and asphalt pavement.
- Removal of old fences and the installation of a new fence along Erie Street.
- Placement of a soil cap over the exposed contaminated soils at the ATC property.
- Stormwater management, including site regrading to direct stormwater away from known areas of the contamination to stormwater detention basins.
- Construction of stormwater detention basins in accordance with the plans and specifications.
- Streambank bioengineering, including placement of a riprap cover on the shoreline so that erosion or flooding does not cut back into the contaminated soil; and planting of additional vegetation along the shoreline to provide riparian corridor enhancement and some level of filtration between surface water and groundwater. Installation of an irrigation system was also completed.
- Monitoring well modifications, including well abandonment and raising or lowering of the well heads as required by site grading.

A set of the original design drawings is included in Appendix B for reference. Field reports, submittals and notes documenting the work are being maintained by Avista and Landau Associates.

3.1 CONSTRUCTION SUMMARY

The cleanup action construction activities were implemented as a conventional earthwork project because the work was limited to surficial improvements across the site, and construction did not result in the penetration of or exposure to any known contaminated materials. In addition, the shoreline construction activities, which included placement of riprap and associated bioengineering materials designed to prevent bank erosion, were conducted above the ordinary high water (OHW) elevation, and did not result in impacts to the Spokane River. Additional details regarding completion of the cleanup action are presented below.

3.1.1 SITE PREPARATION

Prior to the initiation of earthwork, eighteen monitoring wells (including two product monitoring wells) that were not included in the groundwater monitoring program were abandoned by a licensed drilling contractor in accordance with chapter 173-160 WAC. Also included in the site preparation was the abandonment of the six dry wells and removal of the concrete pad of the burned structure and adjacent asphalt surfaces. The fence separating the Site property from Erie Street was replaced with a new chain link fence.

The dry wells were abandoned by filling each structure with granular soil or gravel to the top of the sidewall perforations, and capping the granular material with a minimum 6-inch layer of bentonite followed by a layer of surface gravel. Copies of the monitoring well abandonment forms are included in Appendix C.

3.1.2 SOIL CAP OVER THE ATC PROPERTY

A soil cap was placed over the exposed contaminated soils on the ATC property to prevent direct contact with the contaminated soil. The area that was capped included approximately 8,500 square feet (sf) of the western portion of the ATC property. This area was covered with a minimum of 2 feet of soil fill, plus a minimum of 6 inches of top coarse fill. This area was also graded to provide a drainage grade of 0.5 to 0.7 percent to promote runoff away from the area of contamination toward a new detention basin at the east end of the property.

The base coarse material consisted, in part, of soil removed during excavation of the stormwater detention basins. The material gradation was selected on the basis of structural stability, erodibility, availability, and cost. Imported base coarse material consisted of a naturally-occurring or crushed sand and gravel mixture meeting the general requirements for “ballast,” as defined in the WSDOT Standard Specifications [Section 9-03.9(1)]. Provisions were incorporated into the standard specification to allow a greater maximum particle size (i.e. greater than 2½-inch) and greater fines content (i.e. greater than 9 percent passing the No. 200 sieve). The soil cover material was placed in approximately 8-inch lifts and compacted with a smooth drum vibratory roller to at least 95 percent of its maximum dry density.

Approximately 6 inches of surfacing material was placed over the base course material to promote surface water runoff and to serve as a running course for light traffic use. The surfacing material was comprised of approximately 1¼-inch minus crushed rock, meeting the general requirements for “crushed surfacing,” as defined in the WSDOT Standard Specifications [Section 9-03.9(3)]. The crushed surfacing material was placed in a single lift and compacted with a smooth drum roller to at least 95 percent of its maximum dry density.

3.1.3 SOIL CAP OVER THE SGP PROPERTY

Stormwater management required directing surface runoff away from the contaminated soil areas to detention basins located outside of the areas of contamination on the SGP property. The base course and surfacing material was added to the former SGP area to provide a drainage grade of approximately 0.5 to 0.75 percent away from the impacted area in accordance with the project plans and specifications (Landau Associates 2004). The grading design did not involve disturbance of either the existing soil cover over the impacted area or the impacted soil. There were provisions included in the design allowing for the reuse of soils generated from the detention basin excavations for grading fill material. This soil was not impacted by site contamination, and was incorporated into the lower portion of the grading fill.

The gradation and placement requirements for the grading fill were the same as described for the ATC soil cover material. Upon completion of grading the base course, approximately 6 inches of top course material was placed over the base course to promote surface water runoff and to serve as a running course for light traffic use. The top course was comprised of approximately 1¼-inch minus crushed rock meeting the general requirements for “crushed surfacing,” as defined in the WSDOT Standard Specifications [Section 9-03.9(3)]. The crushed surfacing was placed in a single lift and compacted with a smooth drum roller to at least 95 percent of its maximum dry density. The as-built drawing showing the finished surface grades at the Site is included in Appendix D. Final site grades promoted stormwater runoff to the new onsite detention basins located at the northeast and west central areas of the SRP property and outside of the contaminated soil boundary.

3.1.4 STREAMBANK BIOENGINEERING

There were two elements of streambank bioengineering that were implemented during cleanup action construction activities at the Site. The first and most important aspect to preventing migration of the contaminated materials was the long-term stabilization of the Spokane River shoreline so that erosion or flooding would not cut back into the contaminated soil. The second element consisted of establishing additional vegetation along the shoreline to provide a riparian corridor enhancement and some level of filtration between surface water and groundwater.

Restoration of the shoreline was accomplished by reconstructing the riprap slope and planting selected willow, service berry, and several black cottonwood trees along the riverbank to the east and west of the Hamilton Street Bridge piers. An irrigation system was installed along the top of the shoreline and will be utilized for one year to establish the plantings.

The bulk of the riprap was placed to reconstruct the portion of the slope above the OHW elevation, estimated to be at approximately 1,875 feet mean sea level (MSL). However, some riprap was also placed further down the slope in some locations in order to achieve a stable key into the existing slope. Prior to placing the riprap, the existing loose sand and gravel material, which appeared to have eroded down from the upper portion of the bank, was excavated from the slope as necessary to allow a positive key into the existing underlying riprap. In addition, the 2- to 3-foot-thick crushed gravel surfacing layer at the top of the bank was excavated down to the underlying rock fill/riprap to allow construction of an erosion-resistant transition at the top of the bank.

The slope was reconstructed using riprap comprised of angular basalt and granite stone fragments obtained during excavation of the Site's stormwater detention basins. The riprap gradation was comprised of approximately 1.5-foot median stone size, with a maximum size of approximately 3 feet. During placement, impacts to water quality were monitored by visually observing turbidity upstream and downstream of the construction area. Because minimal work was conducted within the water, impacts to turbidity were not observed.

A transition zone was constructed at the top of the bank to reduce the potential for erosion of the sand and gravel layer which serves as the surfacing material for the upland portion of the Site. The transition zone was comprised of a thick non-woven geotextile separation layer placed up against the riprap, and a well-graded sand/gravel/cobble zone placed to serve as a filter between the finer crushed surfacing and the large riprap material.

Existing willow and black cottonwood saplings were pruned back for construction, leaving their root systems intact. The vegetation in this area was augmented by driving live stakes of willow and black cottonwood at a spacing of approximately 3 to 6 feet on center, where possible, between approximately Elevation 1,874 feet and 1,880 feet MSL. Service berry was planted at the top of the bank between Elevation 1,877 feet and 1,880 feet MSL at a spacing of 3 to 5 feet on center. The stakes were driven into the voids between the new and existing riprap where soil had been added after placement of the riprap. No vegetation was planted beneath or within 20 feet of the bridge piers, as requested by WSDOT. The location and extent of the shoreline restoration, as well as details showing the irrigation system and plantings are included in the as-built drawing in Appendix D.

3.2 CONSTRUCTION QUALITY ASSURANCE/QUALITY CONTROL

Day-to-day construction quality control (CQC) was performed by the contractor, consistent with the requirements of the construction contract specifications for the cleanup action. A quality assurance (QA) representative from Avista was also onsite during construction to confirm that the work was performed in accordance with the intent of the project plans and specifications. In accordance with

WAC 173-340-400(7)(b), the cleanup action construction activities were performed under the supervision of a professional engineer registered in the State of Washington or a qualified technician under the direct supervision of the engineer.

Construction QA, conducted in conjunction with the project plans and specifications, included the following monitoring parameters:

- Adequacy of construction submittals
- General construction methods and equipment
- Field engineering and survey methods
- Fill gradation, quality, and consistency
- Fill placement and compaction
- Suitability, quality, and installation of structural elements
- Plant species quality and installation procedures
- Stormwater runoff and erosion control measures
- Contractor quality control methods and documentation
- As-built dimensions of completed work

Specific quantitative measures and performance requirements were established for each of the above CQC/QA parameters during final design and were incorporated into the construction specifications and the quality assurance plan for the cleanup action.

3.3 COMPLIANCE MONITORING

The MTCA requires compliance monitoring for all cleanup actions, as described in WAC 173-340-410, and periodic reviews under WAC 173-340-420 to ensure the long-term integrity of the containment system. Compliance monitoring is typically conducted for the following three purposes:

- Protection monitoring, to confirm that human health and the environment are adequately protected during construction and the operation and maintenance of the cleanup action.
- Performance monitoring, to confirm that the cleanup action has attained cleanup standards and any other performance standards.
- Confirmational monitoring, to confirm the long term effectiveness of the cleanup action once the cleanup standards and other performance standards have been attained.

3.3.1 PROTECTION MONITORING

Monitoring for protection of human health addresses worker safety for activities related to construction, operation, and maintenance of the cleanup action. This was addressed by the project and contractor health and safety plans (HSPs). The project HSPs addressed potential physical and chemical

hazards associated with Site activities, consistent with the requirements of WAC 173-340-810. Anticipated potential physical hazards included working in proximity to heavy equipment and water. Potential exposure to Site contaminants, although not anticipated during construction activities, included various exposure pathways (i.e., direct contact, ingestion, and inhalation) through contact with potentially contaminated soil or groundwater.

Monitoring for protection of the environment addresses environmental receptors that may be exposed to physical or chemical hazards at levels that may cause adverse effects. For this project, the potential physical adverse impacts are limited to the exposure of aquatic organisms to excessive turbidity resulting from work in or near the Spokane River. Chemical hazards from impacted soils were not encountered during the cleanup action. The shoreline work was conducted from the upland area above the bank, and did not result in observable impacts to the river.

3.3.2 PERFORMANCE MONITORING

Performance monitoring will be conducted by monitoring groundwater as near as possible to the contaminant source. Performance monitoring will be conducted in accordance with the Site Groundwater Monitoring Plan (Landau Associates 2003a). Specific procedures, monitoring parameters, and sampling frequency for the performance monitoring program are presented in the groundwater monitoring plan.

3.3.3 CONFIRMATIONAL MONITORING

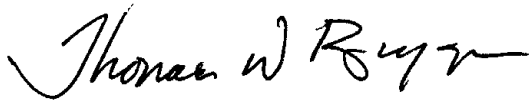
In accordance with the Site Compliance Monitoring Plan, a performance monitoring report will be prepared in 2008 after two years of performance monitoring. The report will include recommendations for either continuing the performance monitoring program or initiating confirmational monitoring. Avista and BNSF representatives will meet with Ecology at that time to discuss these recommendations and establish the type of monitoring program to be continued in the future.

4.0 PROFESSIONAL ENGINEER'S STATEMENT

Landau Associates was retained by Avista and BNSF to complete the design and planning for the Hamilton Street Bridge Site Cleanup Action in Spokane, Washington. Avista, as the owner, completed contractor selection and provided construction QA monitoring and documentation of remedial construction activities.

As Landau Associates' and Avista's representatives, we hereby conclude that, to the best of our knowledge, the cleanup action construction activities summarized in this report have been satisfactorily completed in substantial compliance with the Ecology-approved Plans and Specifications for the Hamilton Street Bridge Site Cleanup Action, and other related project documents.

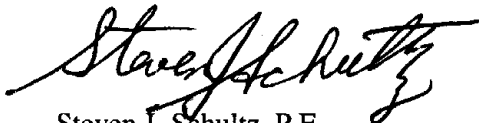
LANDAU ASSOCIATES, INC.



Thomas D. Briggs, P.E.
Senior Engineer
Washington P.E. Certificate/License No. 37981

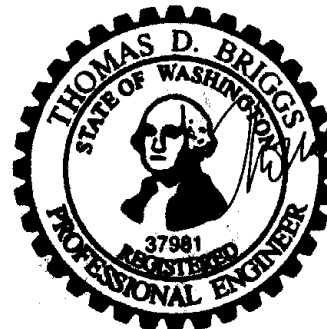
and

AVISTA CORPORATION



Steven J. Schultz, P.E.
Project Engineer

TDB/DAP/SS/RRR/pcs



EXPIRES 7/24/06

Handwritten: Thomas D. Briggs
2/6/06

5.0 REFERENCES

Ecology. 2002. Consent Decree No. 02202445-0. State of Washington Department of Ecology v. Avista Corporation and The Burlington Northern Santa Fe Railway Company. Spokane, Washington. Filed September 12.

Ecology. 2001. *Final Cleanup Action Plan, Hamilton Street Bridge Site, Spokane Washington*. Washington State Department of Ecology. August 10.

Landau Associates. 2004. *Plans and Specifications for the Hamilton Street Bridge Site Cleanup Action, Spokane, Washington*. Prepared for the State of Washington Department of Ecology on behalf of Avista Corporation and The Burlington Northern Santa Fe Railway Company by Landau Associates, Inc. January 8.

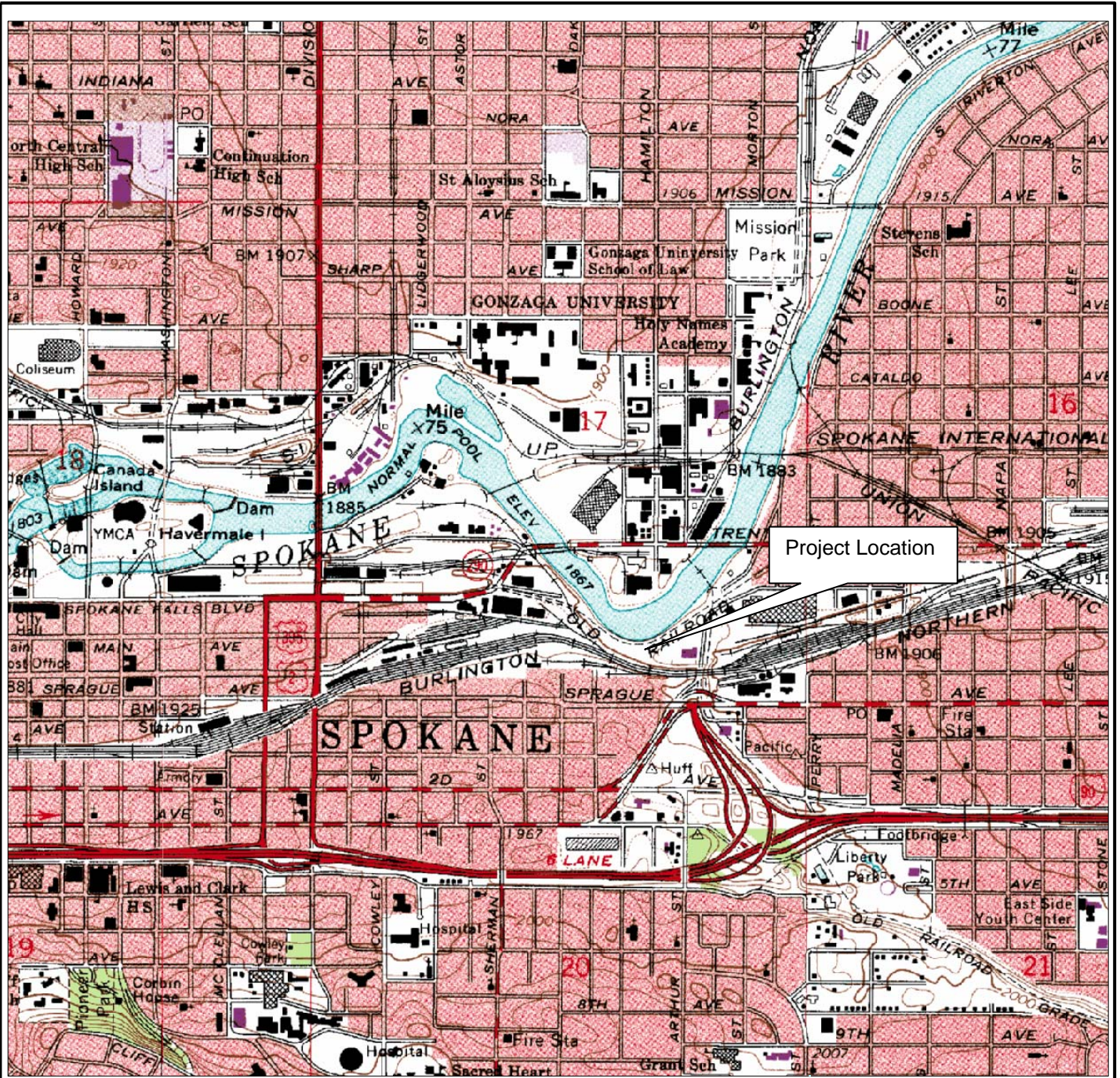
Landau Associates. 2003a. *Compliance Monitoring Plan, Hamilton Street Bridge Site, Spokane Washington*. Prepared for Avista Corporation and Burlington Northern and Santa Fe Railway by Landau Associates, Inc., Spokane, WA. May 28.

Landau Associates. 2003b. *Engineering Design Report, Hamilton Street Bridge Site, Spokane, WA*. Prepared for Avista Corporation and Burlington Northern and Santa Fe Railway by Landau Associates, Inc., Spokane, WA. May 28.

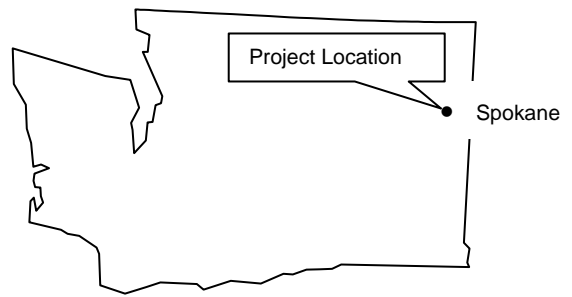
Landau Associates. 2003c. *Health and Safety Plan for Cleanup Action, Hamilton Street Bridge Site, Spokane Washington*. Prepared for Avista Corporation and Burlington Northern and Santa Fe Railway by Landau Associates, Inc., Spokane, WA. May 28.

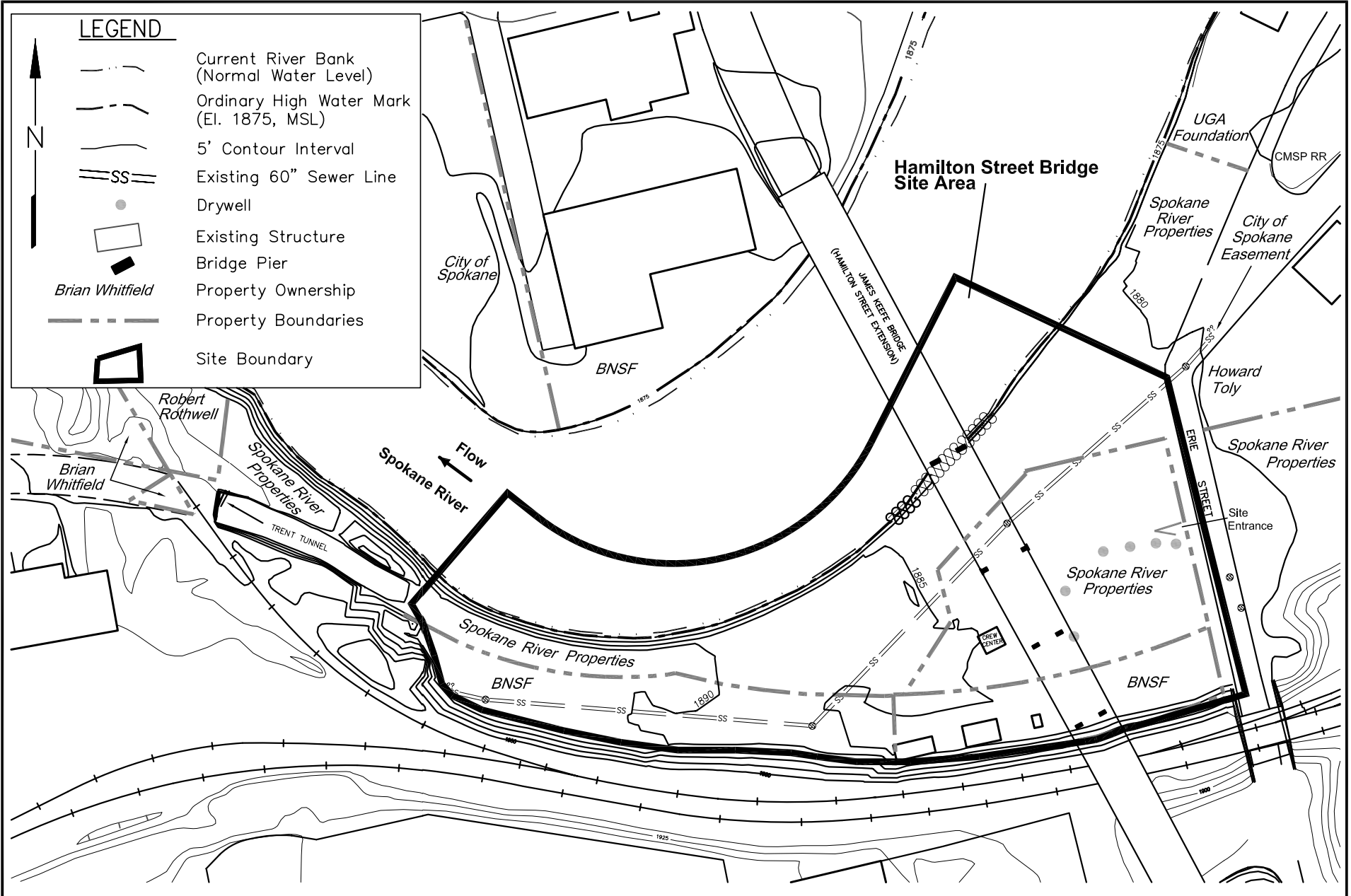
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Landau Associates. 2001. *Second Supplemental and Remedial Investigation Report, Hamilton Street Bridge Site, Spokane Washington*. Prepared for Avista Corporation and Burlington Northern and Santa Fe Railway by Landau Associates, Inc., Spokane, WA. February 9.



SCALE 1:24 000





LEGEND

- Current River Bank (Normal Water Level)
- Ordinary High Water Mark (El. 1875, MSL)
- 5' Contour Interval
- Existing 60" Sewer Line
- Drywell
- Existing Structure
- Bridge Pier
- Property Ownership
- Property Boundaries
- Site Boundary



Hamilton St. Bridge Site
Spokane, Washington

Site Map

Figure
2

**Washington State Department of Ecology
Approval Letter**



STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY

4601 N. Monroe Street • Spokane, Washington 99205-1295 • (509) 456-2926

May 12, 2003

Mr. Steven J. Schultz
Avista Corporation
1411 E. Mission
P.O. Box 3727
Spokane, WA 99220-3727

Dear Steve:

RE: Hamilton Street Bridge Site: Public Comment Period – Draft Engineering Design Report and Draft Substantive Permit Requirements

The public comment period for the Draft Engineering Design Report and the Draft Substantive Permit Requirements was conducted from April 7 through May 6, 2003. No written comments were received by Ecology during this period. The Engineering Design Report is therefore approved and is final. Please submit three (3) copies of the final Engineering Design Report.

In accordance with the schedule in the Engineering Design Report, the draft Construction Plans and Specifications Report shall be submitted no later than 90 days after the Engineering Design Report is approved. The Institutional Controls Plan, included in the Engineering Design Report, is also approved. Restrictive Covenants for the Spokane River Properties and for the Department of Transportation properties must be recorded within 120 days after the approval of the Institutional Controls Plan.

The Substantive Permit Requirements is also final. Enclosed is a copy of this final document.

If you have any questions, please feel free to call me at (509) 329-3543.

Sincerely,

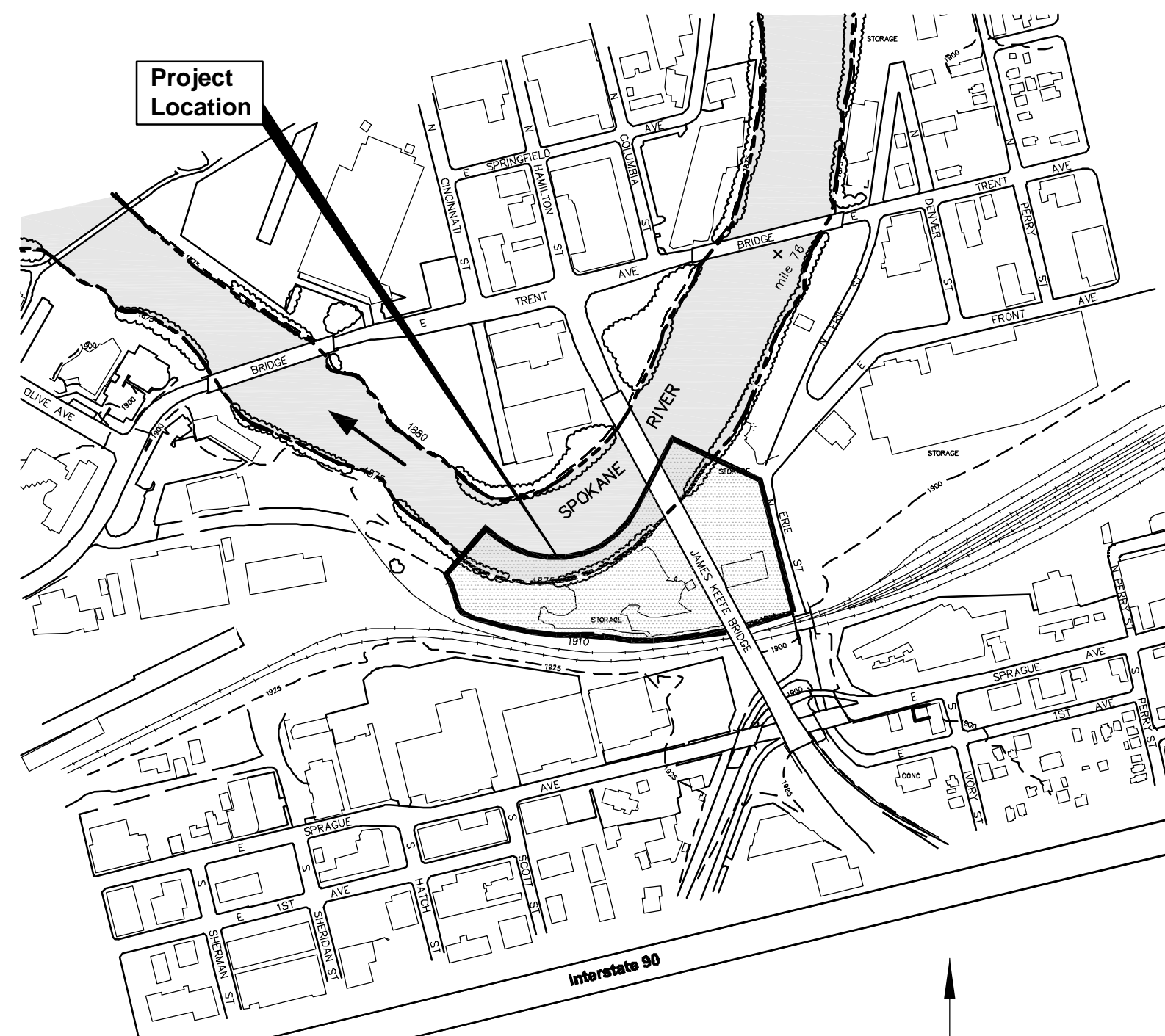
Teresita F. Bala
Teresita F. Bala
Toxics Cleanup Program

cc: Bruce Sheppard, BNSF
Colleen Warren, AAG/Olympia



Design Drawings

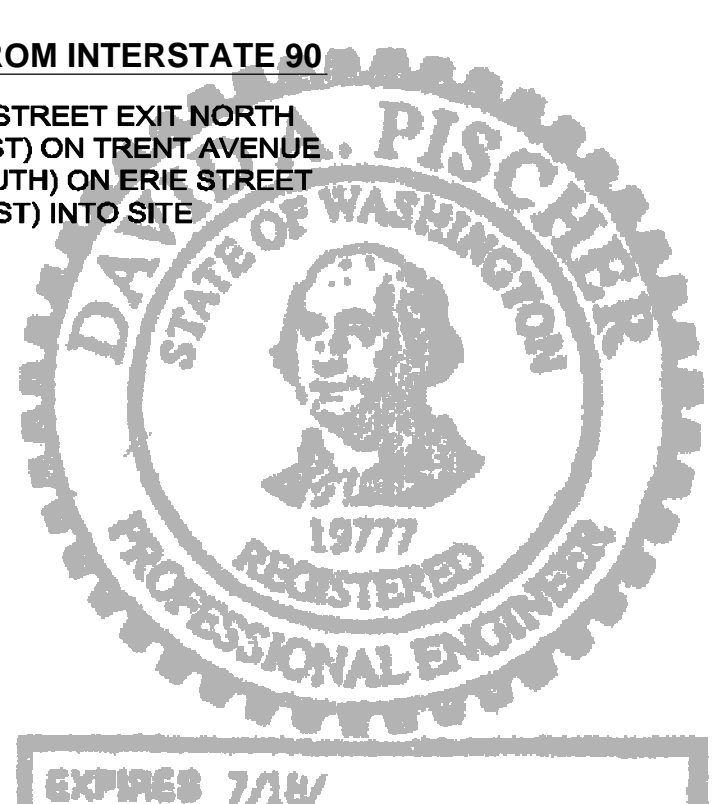
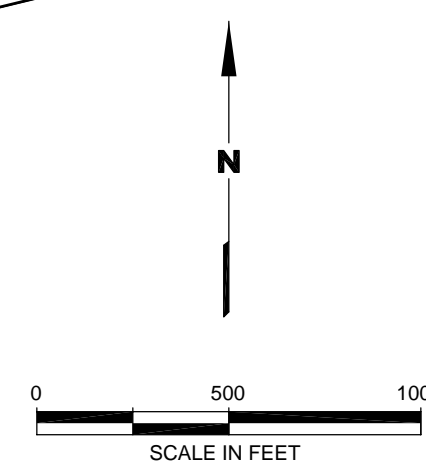
HAMILTON STREET BRIDGE SITE CLEANUP ACTION PROJECT SPOKANE, WASHINGTON



VICINITY MAP

DIRECTIONS FROM INTERSTATE 90

TAKE HAMILTON STREET EXIT NORTH
TURN RIGHT (EAST) ON TRENT AVENUE
TURN RIGHT (SOUTH) ON ERIE STREET
TURN RIGHT (WEST) INTO SITE



PROJECT SPONSOR

AVISTA CORPORATION
STEVE SCHULTZ, PROJECT ENGINEER
PO BOX 3727
SPOKANE, WA 99220-3727
TELEPHONE (509) 495-4008
FAX (509) 495-4796

DRAWING LIST	
G-1	TITLE SHEET
C-1	EXISTING SITE CONDITIONS
C-2	REMEDIATION PLAN
C-3	SHORELINE MITIGATION PLAN

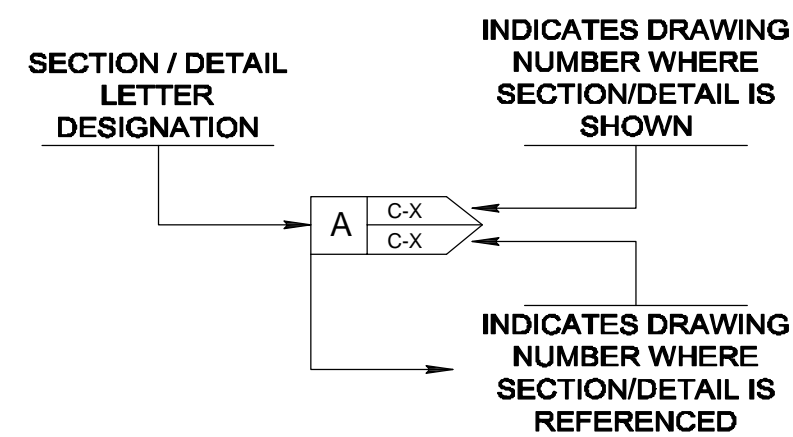
DATUM

ELEVATIONS BASED ON NGS STATION U-25 AT USC&GS BRASS CAP BENCH MARK LOCATED ON HELENA NEAR RR CROSSING, NAVD 88 DATUM, EL. 1809.5 FT MSL.

HORIZONTAL COORDINATES BASED ON WSDOT TEMPORARY BM.
LOCATION NORTHING EASTING RIM ELEVATION
MW8-20 99,701.71 100,798.68 1891.90 (STEEL RIM WITH LID OPEN)
MW9-20 100,001.39 101,560.06 1886.36 (TOP OF STEEL LID)

SURVEY BY USKH INC., SPOKANE, WA

SECTION AND DETAIL DESIGNATION



LEGEND

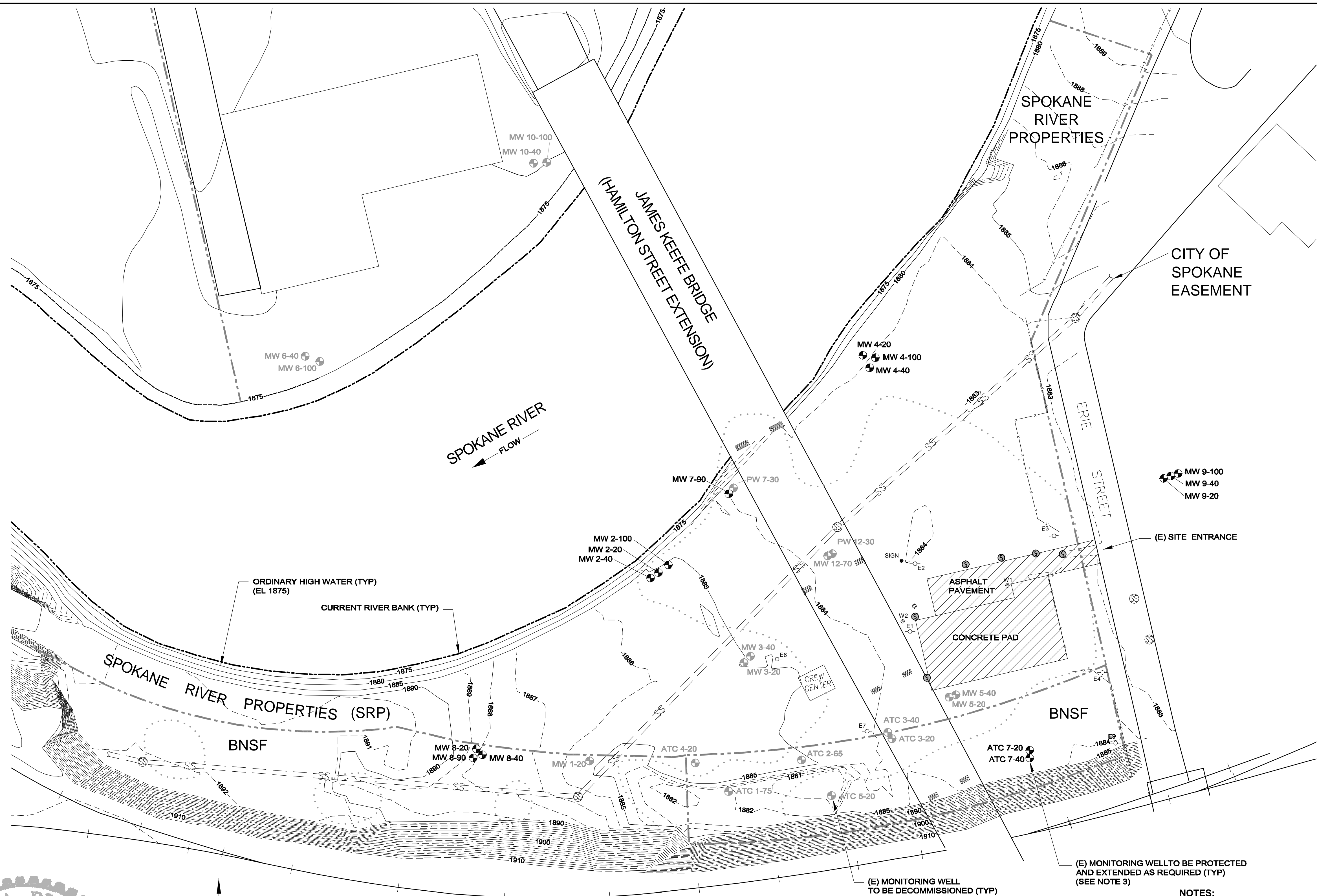
- CURRENT RIVER BANK
- - - 1' CONTOUR INTERVAL
- - - 5' CONTOUR INTERVAL
- 1885 — FINAL GRADE CONTOUR AND ELEVATION
- ⊙ DRY WELL (TO BE ABANDONED)
- ▶ DRAINAGE SLOPE
- ⊙ APPROXIMATE PLAN VIEW OF PAH AFFECTED SOIL (0-80'), BASED ON TOTAL CPAH CONC. >1.0 MG/KG IN ONE OR MORE SAMPLES, OR VISUAL OBSERVATION. AREA BOUNDARY DOES NOT IMPLY THAT ALL SOIL BETWEEN 0-80' IS AFFECTED.
- ⊗ NEW RIPRAP SLOPE PROTECTION
- ⊗ EXISTING 60" SEWER LINE AND MANHOLE
- ▬ BRIDGE PIER
- - - PROPERTY BOUNDARY LINE
- ⊕ MONITORING WELL TO BE MAINTAINED
- ⊕ MONITORING WELL TO BE DECOMMISSIONED
- ▨ CONCRETE PAD OR ASPHALT PAVEMENT
- FENCE LINE
- - - IRRIGATION LINE
- E2 POWER POLE
- W2 WATER SPIGOT
- ELECTRICAL SIGN POLE
- (E) EXISTING
- (N) NEW
- EL ELEVATION
- DWG DRAWING

GENERAL NOTES

1. CALL 48 HOURS BEFORE YOU DIG: 1-509-456-8000
2. LOCATE AND PROTECT ALL UTILITIES AND MONITORING WELLS DURING CONSTRUCTION.
3. CONTRACTOR SHALL COORDINATE ALL UTILITY INTERRUPTIONS WITH UTILITY OWNER(S), THE PROJECT SPONSOR, AND BROWN BUILDING MATERIALS.
4. CONTRACTOR SHALL INSPECT THE SITE AND REVIEW EXISTING DATA AND PROJECT REPORTS REFERENCED IN THE CONTRACT DOCUMENTS, AS IT PERTAINS TO THE PERFORMANCE OF WORK.
5. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND CONDITIONS AT THE JOB SITE AND SHALL REPORT ANY DISCREPANCIES TO THE PROJECT SPONSOR BEFORE COMMENCING WORK. CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO STRICTLY CONTAIN CONSTRUCTION ACTIVITIES TO THE LIMITS OF THE CONTRACTOR WORK AREA AND AVOID DAMAGE TO ADJACENT STRUCTURES AND PROPERTY.
6. ANY DAMAGE INCURRED IN EXECUTION OF THE CONTRACT TO ANY PART OF THE PROPERTY/STRUCTURES NOT SPECIFICALLY DESIGNATED IN THE PLANS AND/OR SPECIFICATIONS TO BE ALTERED OR DESTROYED SHALL BE REPAIRED, REPLACED, AND/OR RECONSTRUCTED BY CONTRACTOR AT CONTRACTOR'S EXPENSE, TO ITS ORIGINAL CONDITION AS DIRECTED BY THE PROJECT SPONSOR.
7. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARD SPECIFICATIONS PUBLISHED BY THE WASHINGTON STATE DEPARTMENT OF TRANSPORTATION (WSDOT), CITY OF SPOKANE, SPOKANE COUNTY, OR THE AMERICAN PUBLIC WORKS ASSOCIATION (APWA).
8. CONTRACTOR IS RESPONSIBLE FOR SUPPRESSION OF DUST IN CONFORMANCE WITH SCAPCA REGULATIONS.
9. CONTRACTOR TO TAKE MEASURES TO CONTROL SITE EROSION AND SEDIMENTATION OF EXISTING SURFACES, LANDSCAPED AREAS, SURFACE WATER, SWALE AREAS, AND STRUCTURES DURING CONSTRUCTION. CONTRACTOR SHALL INSPECT AND MAINTAIN EROSION MEASURES AFTER EACH SIGNIFICANT RAINFALL EVENT.
10. CONTRACTOR TO TAKE MEASURES TO AVOID TRACKING SEDIMENT OFF THE SITE. ALL DEBRIS AND SEDIMENT TRACKED OFF THE SITE SHALL BE CLEANED UP BY CONTRACTOR.
11. CONSTRUCTION STAGING SHALL NOT OCCUR IN THE DETENTION BASIN AREAS. CONTRACTOR SHALL EXERCISE CAUTION SO AS NOT TO OVER COMPACT THE BASIN BOTTOMS.

NOTE: IF "L" DOES NOT MEASURE 1", ADJUST SCALES ACCORDINGLY

				DRAFTED BY: CRAIG G. BATCHELOR DESIGNED BY: CRAIG C. SCHWYN REVIEWED BY: DAVID A. FISCHER APPROVED BY: STEVEN J. SCHULTZ			LANDAU ASSOCIATES 10 NORTH POST ST, SUITE 218 SPOKANE, WA. 99201 (509) 327-9737, FAX (509) 327-9691		HAMILTON ST. BRIDGE SITE CLEANUP ACTION PROJECT SPOKANE, WASHINGTON		PROJECT NO. 236042.021 DATE 1/8/2004 SHEET 1 OF 4 DRAWING NO. G-1	
NO.	DATE	REVISIONS	DESIGNED	REVIEWED	APPROVED	STATUS: ECOLOGY APPROVED	INITIAL	DATE	TITLE SHEET			



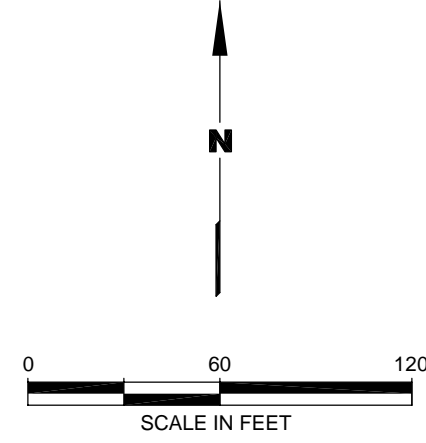
MW 9-100
MW 9-40
MW 9-20

(E) SITE ENTRANCE

(E) MONITORING WELL TO BE DECOMMISSIONED (TYP) (SEE NOTE 2)

(E) MONITORING WELL TO BE PROTECTED AND EXTENDED AS REQUIRED (TYP) (SEE NOTE 3)

- NOTES:**
1. SEE DWG G-1 FOR GENERAL NOTES AND SYMBOLS.
 2. EXISTING GROUNDWATER MONITORING WELLS SCHEDULED TO BE ABANDONED SHALL BE DECOMMISSIONED IN ACCORDANCE WITH SPECIFICATION SECTION 02563.
 3. EXISTING GROUNDWATER MONITORING WELLS SCHEDULED TO REMAIN SHALL BE PROTECTED, AND EXTENDED ABOVE GRADE AS REQUIRED, IN ACCORDANCE WITH SPECIFICATION SECTION 02563.



NOTE: IF "L" DOES NOT MEASURE 1", ADJUST SCALES ACCORDINGLY

EXPIRES 7/14

NO.	DATE	REVISIONS	DESIGNED	REVIEWED	APPROVED

DRAFTED BY:	CRAIG G. BATCHELOR
DESIGNED BY:	CRAIG C. SCHWYN
REVIEWED BY:	DAVID A. FISCHER
APPROVED BY:	STEVEN J. SCHULTZ
STATUS:	ECOLOGY APPROVED
INITIAL	
DATE	

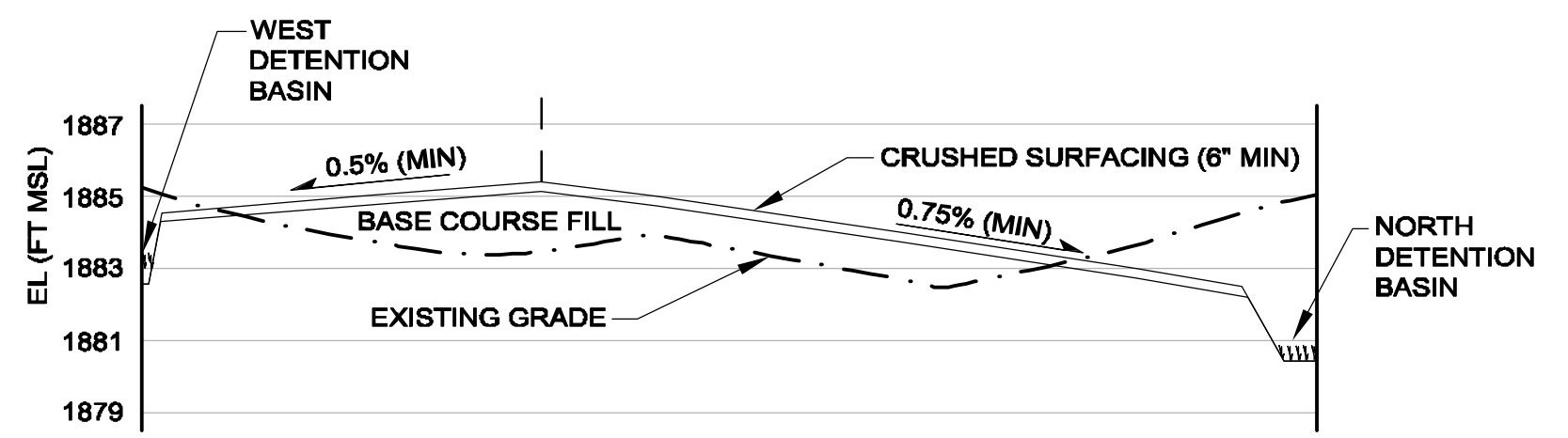
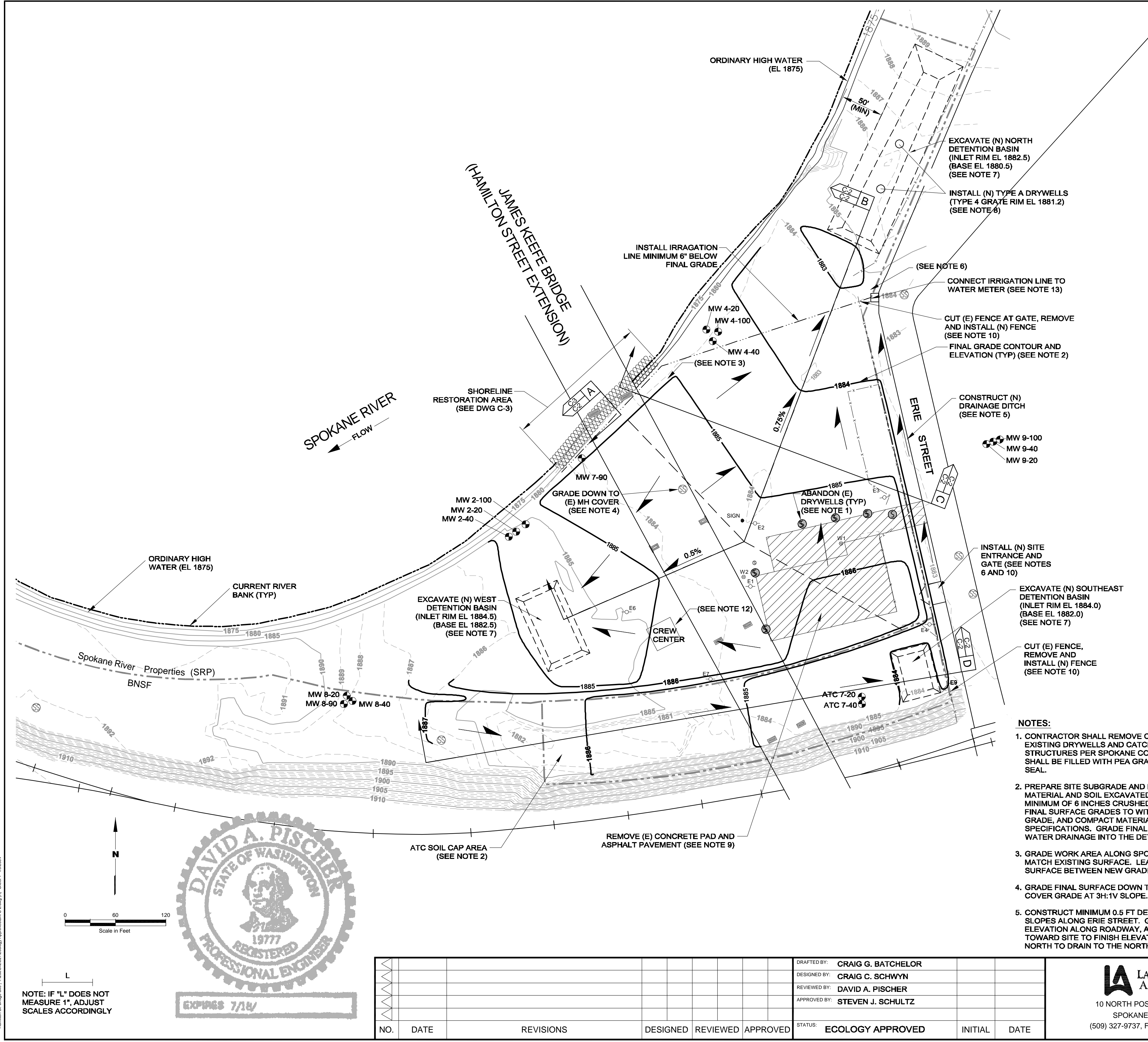
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10 NORTH POST ST, SUITE 218
SPOKANE, WA. 99201
(509) 327-9737, FAX (509) 327-9691

**HAMILTON ST BRIDGE SITE
CLEANUP ACTION PROJECT
SPOKANE, WASHINGTON**

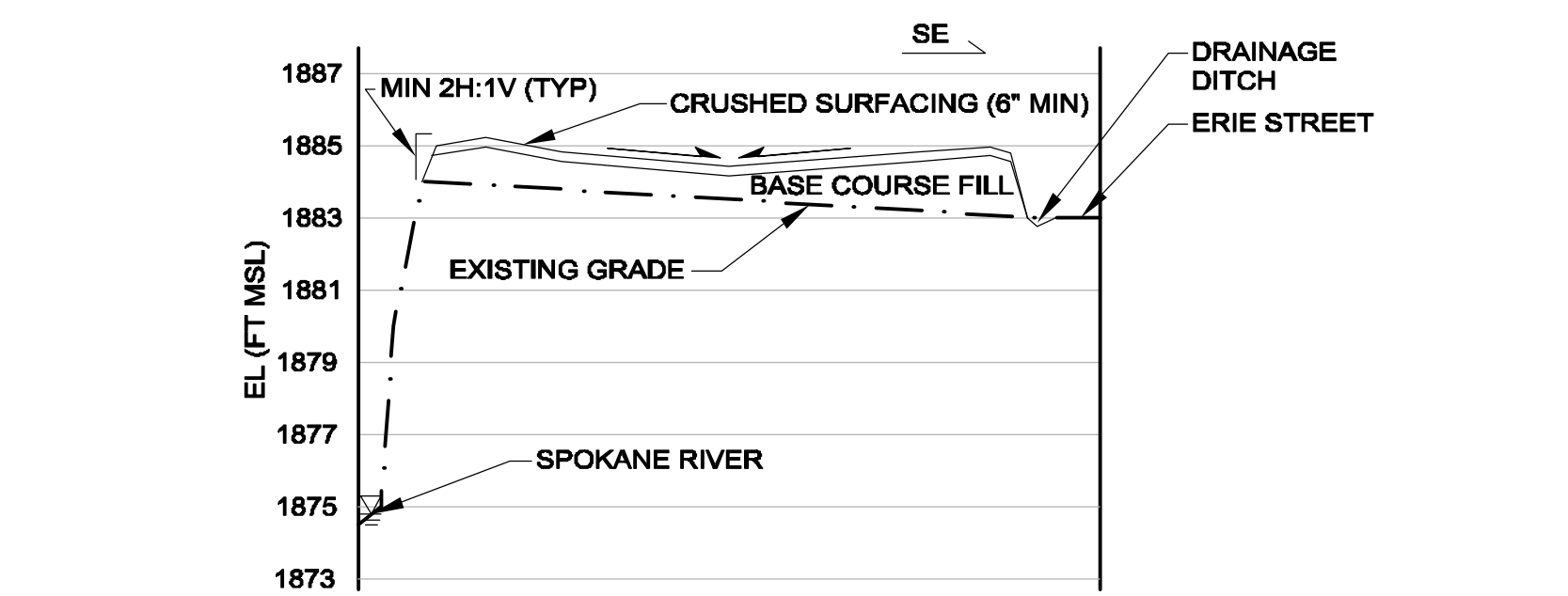
EXISTING SITE CONDITIONS

PROJECT NO.	236042.021
DATE	1/8/2004
SHEET	2 OF 4
DRAWING NO.	C-1

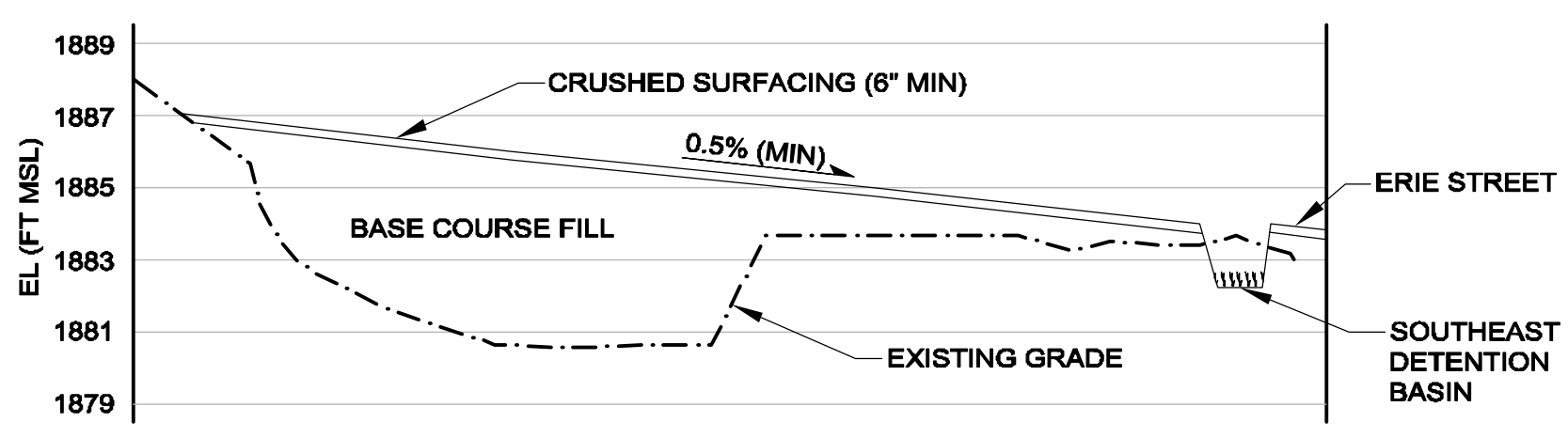
Hamilton St. Bridge Site T:\2004\236042\1\Ecology Approval\SRP_C-1_G-1.dwg (A) Sheet 1 of 4 1/8/2004



CROSS SECTION B
SCALE IN FEET
VERTICAL EXAGGERATION 20X



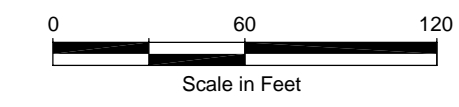
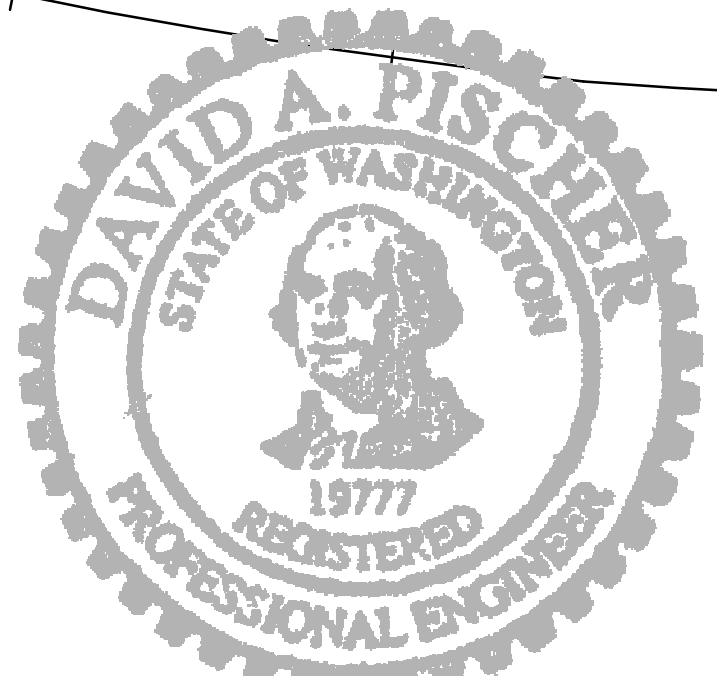
CROSS SECTION C
SCALE IN FEET
VERTICAL EXAGGERATION 20X



CROSS SECTION D
SCALE IN FEET
VERTICAL EXAGGERATION 20X

NOTES:

- CONTRACTOR SHALL REMOVE CONE, FRAME AND GRATE OF THE SIX EXISTING DRYWELLS AND CATCH BASINS AND ABANDON EXISTING STRUCTURES PER SPOKANE COUNTY STANDARDS. DRYWELLS SHALL BE FILLED WITH PEA GRAVEL AND MINIMUM 6" BENTONITE SEAL.
- PREPARE SITE SUBGRADE AND BACK FILL WITH BASE COARSE MATERIAL AND SOIL EXCAVATED FROM DETENTION BASINS. PLACE MINIMUM OF 6 INCHES CRUSHED SURFACING MATERIAL TO ACHIEVE FINAL SURFACE GRADES TO WITHIN +/- 0.1 FT. SUPPLY, PLACE, GRADE, AND COMPACT MATERIALS AS DEFINED IN THE SPECIFICATIONS. GRADE FINAL SURFACES TO PROMOTE STORM WATER DRAINAGE INTO THE DETENTION BASINS.
- GRADE WORK AREA ALONG SPOKANE RIVER AT 2H:1V SLOPE TO MATCH EXISTING SURFACE. LEAVE 1 FT WIDE TERRACE OF EXISTING SURFACE BETWEEN NEW GRADE AND SHORELINE GRADE.
- GRADE FINAL SURFACE DOWN TO EXISTING SEWER MANHOLE COVER GRADE AT 3H:1V SLOPE.
- CONSTRUCT MINIMUM 0.5 FT DEEP DRAINAGE DITCH WITH 2H:1V SIDE SLOPES ALONG ERIE STREET. GRADE TO MATCH EXISTING ELEVATION ALONG ROADWAY, AND GRADE INSIDE EDGE OF DITCH TOWARD SITE TO FINISH ELEVATIONS SHOWN. SLOPE DITCH TO NORTH TO DRAIN TO THE NORTH DETENTION BASIN.
- AT GATES, CONSTRUCT DRIVEWAY FROM EDGE OF ROAD GRADING SMOOTHLY TO FINISHED SITE ELEVATION.
- FIELD ENGINEER AND EXCAVATE THE THREE NEW DETENTION BASINS TO THE BASE ELEVATIONS SHOWN +/- 0.1 FT AND WITH 3H:1V SIDE SLOPES TO ACHIEVE THE FOLLOWING MINIMUM BASE AREAS:
 * NORTH DETENTION BASIN: 6,150 SF
 * WEST DETENTION BASIN: 3,250 SF
 * SOUTHEAST DETENTION BASIN: 1,500 SF
 GRADE FINAL SURFACES TO PROMOTE STORM WATER DRAINAGE INTO THE DETENTION BASINS.
- TYPE A DRYWELLS SHALL BE INSTALLED WITH TYPE 4 GRATE SET 8 INCHES ABOVE DETENTION BASIN BOTTOM ELEVATION.
- EXISTING CONCRETE PAD AND ASPHALT PAVEMENT TO BE REMOVED. CONCRETE PAD AND ASPHALT PAVEMENT DIMENSIONS SHOWN ARE APPROXIMATE.
- REMOVE EXISTING FENCING AND GATES BETWEEN POINTS SHOWN ON DRAWING. INSTALL ENTRANCE GATE AT NEW SITE ENTRANCE OFF ERIE STREET. INSTALL NEW FENCING ALONG PROPERTY LINE AS SHOWN.
- EXISTING GROUNDWATER MONITORING WELLS SCHEDULED TO REMAIN SHALL BE PROTECTED AND EXTENDED ABOVE GRADE AS REQUIRED IN ACCORDANCE WITH SPECIFICATION SECTION 02563. WELLS TO BE ABANDONED ARE SHOWN ON DWG C-1.
- REMOVE CREW CENTER AND CONCRETE PAD.
- COORDINATE WATER METER INSTALLATION WITH CITY UTILITY. CONNECT IRRIGATION LINE TO METER AND INSTALL IRRIGATION SYSTEM IN ACCORDANCE WITH CONTRACTOR'S APPROVED DESIGN.



NOTE: IF "L" DOES NOT MEASURE 1", ADJUST SCALES ACCORDINGLY

NO.	DATE	REVISIONS	DESIGNED	REVIEWED	APPROVED

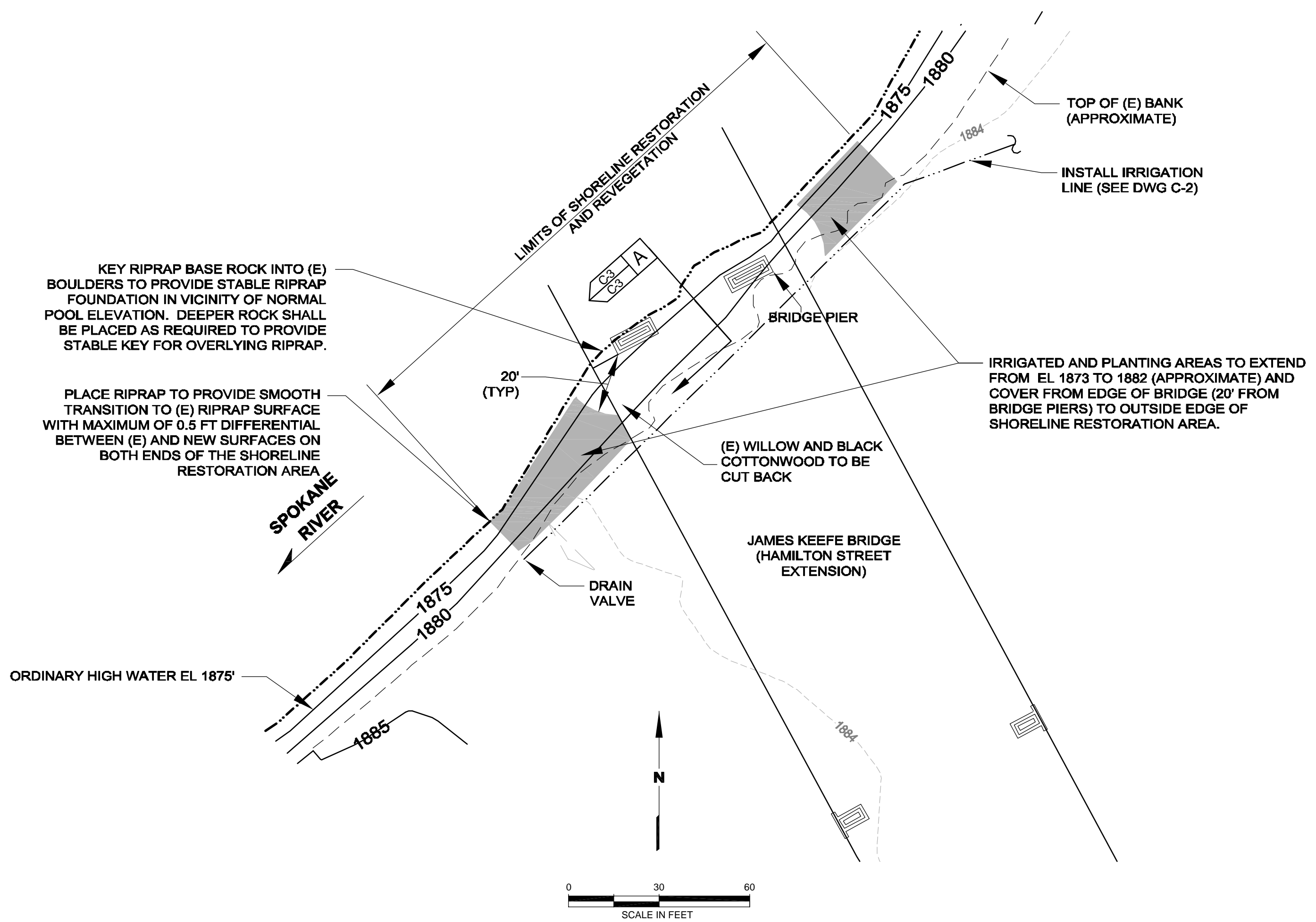
DRAFTED BY:	CRAIG G. BATCHELOR
DESIGNED BY:	CRAIG C. SCHWYN
REVIEWED BY:	DAVID A. FISCHER
APPROVED BY:	STEVEN J. SCHULTZ
STATUS:	ECOLOGY APPROVED
INITIAL	
DATE	

LANDAU ASSOCIATES
10 NORTH POST ST, SUITE 218
SPOKANE, WA. 99201
(509) 327-9737, FAX (509) 327-9691

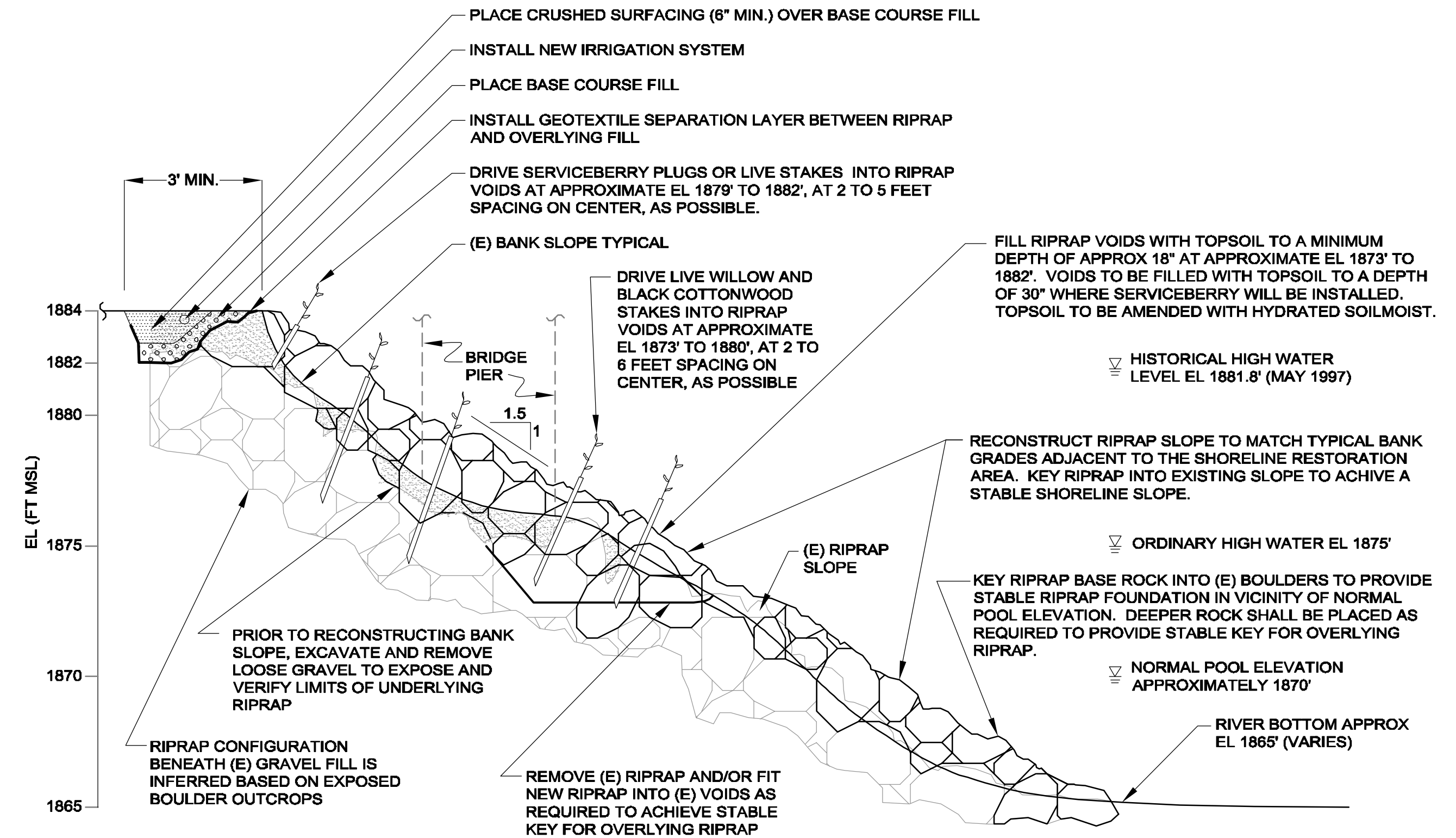
**HAMILTON ST. BRIDGE SITE
CLEANUP ACTION PROJECT
SPOKANE, WASHINGTON**

REMEDIATION PLAN

PROJECT NO.	236042.021
DATE	1/8/2004
SHEET	3 OF 4
DRAWING NO.	C-2



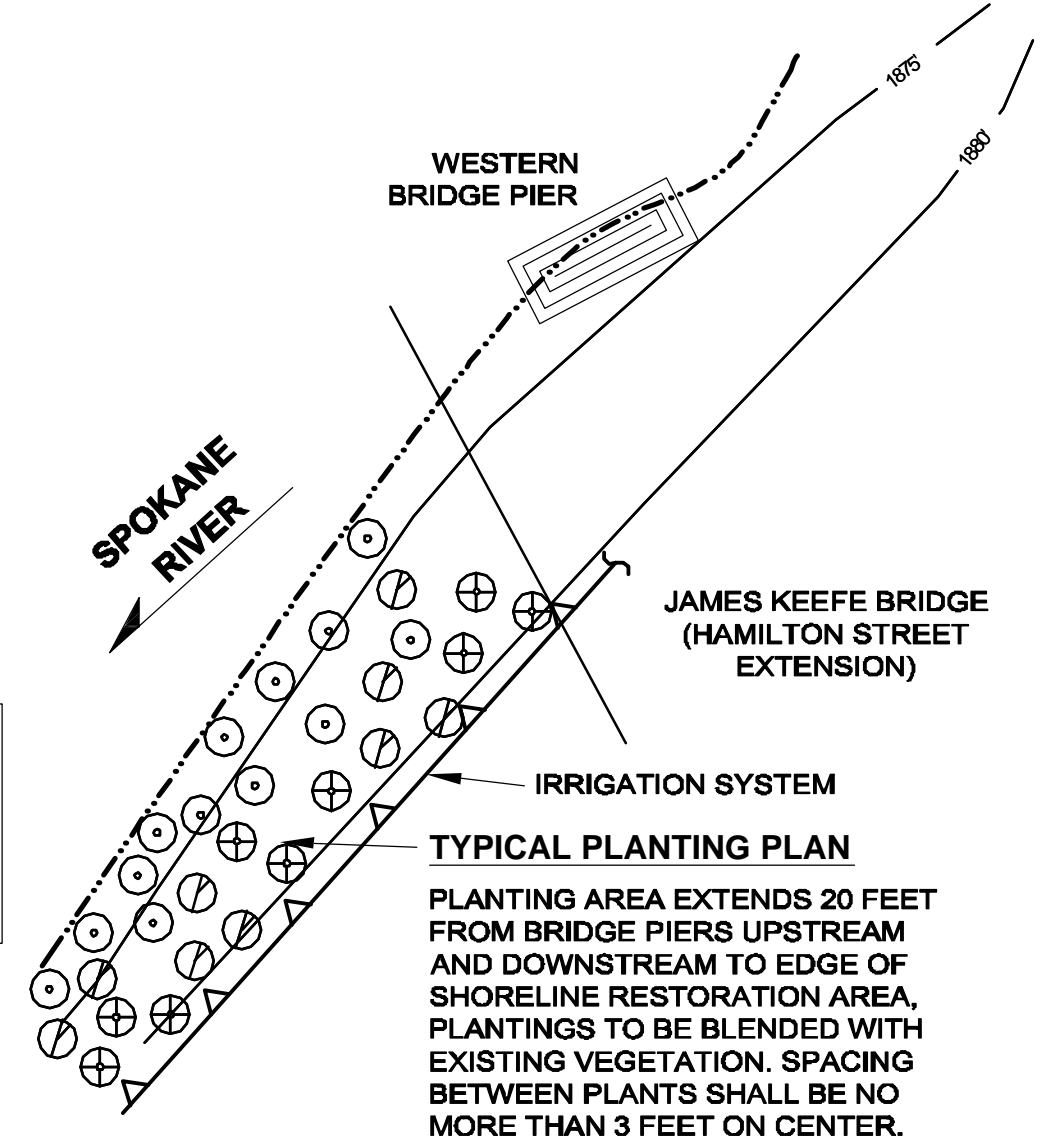
PLAN VIEW
SHORELINE RESTORATION AREA



CROSS SECTION
SHORELINE RESTORATION

PLANT SCHEDULE FOR HAMILTON STREET BRIDGE SITE

SCIENTIFIC NAME	COMMON NAME	SPECS	SPACING ON CENTER (FT)	NOTES
<i>SALIX EXIGUA</i> AND <i>SALIX DRUMMONDII</i>	COYOTE WILLOW AND DRUMMONDS WILLOW	LIVE STAKES	2 TO 4	PLANT BETWEEN EL 1873' TO 1879'. CUTTINGS TO BE TAKEN FROM ADJACENT VEGETATION.
<i>POPULUS BALSAMIFERA</i>	BLACK COTTONWOOD	LIVE STAKES	4 TO 6	PLANT BETWEEN EL 1877' TO 1880'. CUTTINGS TO BE TAKEN FROM ADJACENT VEGETATION.
<i>AMELANCHIER ALNIFOLIA</i>	WESTERN SERVICEBERRY	PLUGS	2 TO 5	PLANT BETWEEN EL 1879' TO 1882'. PLUGS SHALL BE NURSERY GROWN.



PLAN VIEW
SHORELINE REVEGETATION

LEGEND

⊙	WILLOW STAKES
⊗	BLACK COTTONWOOD STAKES
⊕	SERVICEBERRY PLUGS

CUTTING PLANTING DETAIL (TYP)

USE A 24" STEEL BAR OR MARLIN SPIKE AT 1" DIA. AS A PILOT WHEN PLANTING CUTTINGS IN DENSE OR GRAVELLY SOILS. INSERT SPIKE TO A MIN. OF 18" FOR LIVE STAKES AND A MIN. OF 8" FOR PLUGS, INSERT CUTTING AND TAMP SOIL AROUND BASE.

LIVE STAKES

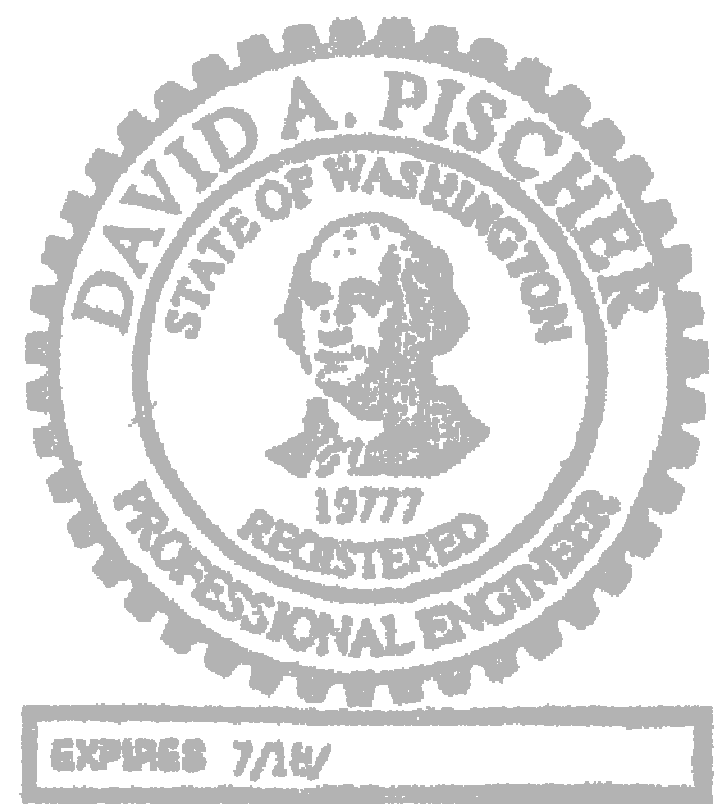
INSERT CUTTINGS MANUALLY INTO PILOT HOLE TO A DEPTH OF AT LEAST 18". LEAVE A MIN. OF 30" OF CUTTING ABOVE GROUND SURFACE TO ALLOW FOR SUCCESSFUL SPROUTING OF LEAVES.

PLUGS

INSERT PLUG INTO PILOT HOLE TO A DEPTH OF AT LEAST 8".

LIVE STAKES

- CUTTINGS SHALL BE SPECIES AS NOTED.
- CUTTINGS SHALL BE AT LEAST 1/2" DIA. AND 4' MIN. IN LENGTH.
- CUTTINGS MUST BE ALIVE WITH SIDE BRANCHES CLEANLY REMOVED AND BARK INTACT. CUTTINGS SHALL BE PLANTED WITHIN 24 HOURS OF CUTTING.
- THE BUTT ENDS SHOULD BE CLEANLY CUT AT AN ANGLE FOR EASY INSERTION INTO THE SOIL. THE TOP SHOULD BE CUT SQUARE OR BLUNT.
- CUTTINGS MUST BE FRESH AND KEPT MOIST AFTER CUTTING. THEY SHALL BE PRUNED AND INSTALLED THE SAME DAY.
- DIP BOTTOM OF CUTTING IN A PLANT ROOTING HORMONE PRIOR TO INSERTION INTO THE SOIL.



NOTE: IF "L" DOES NOT MEASURE 1", ADJUST SCALES ACCORDINGLY

NO.	DATE	REVISIONS	DESIGNED	REVIEWED	APPROVED

DRAFTED BY:	CRAIG G. BATCHELOR
DESIGNED BY:	CRAIG C. SCHWYN
REVIEWED BY:	DAVID A. FISCHER
APPROVED BY:	STEVEN J. SCHULTZ
STATUS:	ECOLOGY APPROVED
INITIAL	
DATE	

LANDAU ASSOCIATES
10 NORTH POST ST., SUITE 218
SPOKANE, WA. 99201
(509) 327-9737, FAX (509) 327-9691

**HAMILTON ST BRIDGE SITE
CLEANUP ACTION PROJECT
SPOKANE, WASHINGTON**

SHORELINE MITIGATION PLAN

PROJECT NO.	236042.021
DATE	1/8/2004
SHEET	4 OF 4
DRAWING NO.	C-3

Hamilton St. Bridge Site 1/23/04/2004 Ecology Approved/SHI C-3.dwg (A) Sheet 1 of 4/2004

Well Abandonment Forms

WATER WELL REPORT

State of Washington Date Printed: 10-Sep-2005 Log No. 36405
Construction / Decommission: Original Construction Notice

CURRENT
Notice of Intent No.: A082051
Unique Ecology Well I.D. No AEJ585
Water Right Permit Number:

OWNER: BROWNS, BUILDING MATERIALS
OWNER ADD WOODARD CONSTRUCTION PO BOX 228
CLAYTON, WA 99110

Well Add 111 N. ERIEST (SPK)
City: County: SPOKANE
Location: 1/4 SE 1/4 Sec 17 T 25 R 43E EW
Lat/Long: Lat Deg Lat Min/Sec
(s, t, r still) Long Deg Long Min/Sec
REQUIRED)
Tax Parcel No.:

PROPOSED USE: TEST WELL			
TYPE OF WORK: Owners's Well Number: (If more than one well)		MW6-100	
DECOMMISSIONED		Method:	
DIMENSIONS Diameter of well: inches		Drilled 0 ft. Depth of completed well ft.	
CONSTRUCTION DETAILS:		Casing installed	
Liner installed:		" Dia from ft. to ft.	
" Dia from ft. to ft.		" Dia from ft. to ft.	
" Dia from ft. to ft.		" Dia from ft. to ft.	
Perforations: No Used In:		Type of perforator used	
SIZE of perforations in. b in.		Perforation from ft. to ft.	
Perforation from ft. to ft.		Perforation from ft. to ft.	
Perforation from ft. to ft.		Screens: No K-Pac Location	
Manufacture's Name		Type: Model No	
Diam. slot size from ft. to ft.		Diam. slot size from ft. to ft.	
Gravel/Filter packed: No Size of Gravel		Material placed fro ft. to ft.	
Surface seal: No To what depth ft.		Seal method: Material used in seal	
Did any strata contain unusable water No		Type of water Depth of strata	
Method of sealing strata off		PUMP: Manufacture's name	
Type: H.P. 0		WATER LEVELS Land-surface elevation above mean sea level: 0 ft.	
Static level ft. below top of well Date		Artesian Pressure lbs per square inch Date	
Artesian water controlled by		WELL TESTS: Drawdown is amount water level is lowered below static level.	
Was a pump test made No If yes, by whom		Yield gal/min with ft drawdown after	
Yield gal/min with ft drawdown after		Yield gal/min with ft drawdown after	
Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)		Time: Water Level Time: Water Level Time: Water Level	
Date of test:		Bailer test gal/min ft drawdown after hrs.	
Air test gal/min w/ stem set at ft. for hours		Artesian flow gpm Date	
Temperature of water		Was a chemical analysis made No	


CONSTRUCTION OR DECOMMISSION PROCEDURE
Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material	From	To
----------	------	----

Notes:
WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starte 07/29/2005 Complete 07/29/2005

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee
Name: MARTY JENSEN License No.: 1933
Signature: 
If trainee, Licensed driller is: License No.:
Licensed Driller Signature

Drilling Company:
NAME: FOGLE PUMP & SUPPLY, INC. Shop: AIRWAY HEI
ADDRESS: PO BOX 1450
Airway Heights, WA 99001
Phone: (509) 244-0846 Toll Free: (888) 343-9355
E-Mail: akk@foglepump.com
FAX: (509) 244-2875 WEB Site: WWW.FOGLEPUMP.COM
Contractor's Registration No.: FOGLEPS095L4 Date Log Created: 08/30/200

WATER WELL REPORT

State of Washington Date Printed: **09-Sep-2005** Log No. **35605**
 Construction / Decommission: Original Construction Notice
Decommission

CURRENT

Notice of Intent No.: **A082051**
 Unique Ecology Well I.D. No **ATC-1**
 Water Right Permit Number:

OWNER: **BROWNS, BUILDING MATERIALS**
 OWNER ADD **WOODARD CONSTRUCTION PO BOX 228**
CLAYTON, WA 99110

Well Add **11 N. ERIEST**
 City: _____ County: **SPOKANE**
 Location: **1/4 SE 1/4 Sec 17 T 25 R 43E EW**
 Lat/Long: _____ Lat Deg _____ Lat Min/Sec _____
 (s, t, r still) _____ Long Deg _____ Long Min/Sec _____
 REQUIRED) _____
 Tax Parcel No.:

PROPOSED USE: **TEST WELL**

TYPE OF WORK: Owners's Well Number: (If more than one well)
ABANDONED Method:

DIMENSIONS Diameter of well: _____ inches
 Drilled **0** ft. Depth of completed well _____ ft.

CONSTRUCTION DETAILS:	Casing installed		
Liner installed:	" Dia from	ft. to	ft.
" Dia from	ft. to	ft.	ft.
	" Dia from	ft. to	ft.
	" Dia from	ft. to	ft.

Perforations: **No** Used In:
 Type of perforator used _____
 SIZE of perforations in. b in.
 Perforation from _____ ft. to _____ ft.
 Perforation from _____ ft. to _____ ft.
 Perforation from _____ ft. to _____ ft.

Screens: **No** K-Pac Location _____
 Manufacture's Name _____
 Type: _____ Model No _____
 Diam. slot size from _____ ft. to _____ ft.
 Diam. slot size from _____ ft. to _____ ft.

Gravel/Filter packed: **No** Size of Gravel _____
 Material placed fro _____ ft. to _____ ft.

Surface seal: **No** To what depth _____ ft.
 Seal method: _____ Material used in seal _____
 Did any strata contain unusable water **No**
 Type of water _____ Depth of strata _____
 Method of sealing strata off _____

PUMP: Manufacture's name _____
 Type: _____ H.P. **0**

WATER LEVELS Land-surface elevation above mean sea level: **0** ft.
 Static level _____ ft. below top of well Date _____
 Artesian Pressure _____ lbs per square inch Date _____
 Artesian water controlled by _____

WELL TESTS: Drawdown is amount water level is lowered below static level.
 Was a pump test made **No** If yes, by whom _____
 Yield _____ gal/min with _____ ft drawdown after _____
 Yield _____ gal/min with _____ ft drawdown after _____
 Yield _____ gal/min with _____ ft drawdown after _____
 Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)

Time:	Water Level	Time:	Water Level	Time:	Water Level
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____
_____	_____	_____	_____	_____	_____

 Date of test: _____
 Bailer test _____ gal/min _____ ft drawdown after _____ hrs.
 Air test _____ gal/min w/ stem set at _____ ft. for _____ hours
 Artesian flow _____ gpm Date _____
 Temperature of water _____ Was a chemical analysis made **No**

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material	From	To

Notes:

WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starte **07/29/2005** Complete **07/29/2005**

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee

Name: **MARTY JENSEN** License No.: **1933**

Signature: _____

If trainee, Licensed driller is: _____ License No.: _____

Licensed Driller Signature _____

Drilling Company:

NAME: **FOGLE PUMP & SUPPLY, INC.** Shop: **AIRWAY HEI**
 ADDRESS: **PO BOX 1450**
Airway Heights, WA 99001
 Phone: **(509) 244-0846** Toll Free: **(888) 343-9355**
 E-Mail: **akk@foglepump.com**
 FAX: **(509) 244-2875** WEB Site: **WWW.FOGLEPUMP.COM**

Contractor's Registration No.: **FOGLEPS095L4** Date Log Created: **08/30/200**

WATER WELL REPORT

State of Washington Date Printed: **09-Sep-2005** Log No. **35705**
 Construction / Decommission: Original Construction Notice
Decommission

CURRENT
 Notice of Intent No.: **A082051**
 Unique Ecology Well I.D. No **ATC-3** *3-20*
 Water Right Permit Number:

OWNER: BROWNS, BUILDING MATERIALS
OWNER ADD WOODARD CONSTRUCTION PO BOX 228
CLAYTON, WA 99110

Well Add
 City: _____ County: **SPOKANE**
 Location: **1/4 SE 1/4 Sec 17 T 25 R 43E EW**
 Lat/Long: _____ Lat Deg _____ Lat Min/Sec _____
 (s, t, r still _____ Long Deg _____ Long Min/Se _____
REQUIRED
 Tax Parcel No.:

PROPOSED USE: TEST WELL

TYPE OF WORK: Owners's Well Number: (If more than one well)
ABANDONED Method:

DIMENSIONS Diameter of well: _____ inches
 Drilled **0** ft. Depth of completed well _____ ft.

CONSTRUCTION DETAILS: Casing installed
 " Dia from _____ ft. to _____ ft.
 " Dia from _____ ft. to _____ ft.
 " Dia from _____ ft. to _____ ft.

Perforations: No Used In:
 Type of perforator used _____
 SIZE of perforations in. b in.
 Perforation from _____ ft. to _____ ft.
 Perforation from _____ ft. to _____ ft.
 Perforation from _____ ft. to _____ ft.

Screens: No K-Pac Location _____
 Manufacture's Name _____
 Type: _____ Model No _____
 Diam. slot size from _____ ft. to _____ ft.
 Diam. slot size from _____ ft. to _____ ft.

Gravel/Filter packed: No Size of Gravel _____
 Material placed fro _____ ft. to _____ ft.

Surface seal: No To what depth _____ ft.
 Seal method: _____ Material used in seal _____
 Did any strata contain unusable water **No**
 Type of water _____ Depth of strata _____
 Method of sealing strata off _____

PUMP: Manufacture's name _____
 Type: _____ H.P. **0**

WATER LEVELS Land-surface elevation above mean sea level: **0** ft.
 Static level _____ ft. below top of well Date _____
 Artesian Pressure _____ lbs per square inch Date _____
 Artesian water controlled by _____

WELL TESTS: Drawdown is amount water level is lowered below static level.
 Was a pump test made **No** If yes, by whom _____
 Yield _____ gal/min with _____ ft drawdown after _____
 Yield _____ gal/min with _____ ft drawdown after _____
 Yield _____ gal/min with _____ ft drawdown after _____
Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)

Time:	Water Level	Time:	Water Level	Time:	Water Level

 Date of test: _____
 Bailer test _____ gal/min _____ ft drawdown after _____ hrs.
 Air test _____ gal/min w/ stem set at _____ ft. for _____ hours
 Artesian flow _____ gpm Date _____
 Temperature of water _____ Was a chemical analysis made **No**

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material	From	To

Notes:
WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starte **07/29/2005** Complete **07/29/2005**

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee
 Name: **MARTY JENSEN** License No.: **1933**
 Signature: *Marty Jensen*

If trainee, Licensed driller is: _____ License No.: _____
 Licensed Driller Signature _____

Drilling Company:
 NAME: **FOGLE PUMP & SUPPLY, INC.** Shop: **AIRWAY HEI**
 ADDRESS: **PO BOX 1450**
Airway Heights, WA 99001
 Phone: **(509) 244-0846** Toll Free: **(888) 343-9355**
 E-Mail: **akk@foglepump.com**
 FAX: **(509) 244-2875** WEB Site: **WWW.FOGLEPUMP.COM**
 Contractor's Registration No.: **FOGLEPS095L4** Date Log Created: **08/30/200**

WATER WELL REPORT

State of Washington Date Printed: **09-Sep-2005** Log No. **0**
 Construction / Decommission: Original
 Decommission Construction Notice

CURRENT
 Notice of Intent No.: **A082051**
 Unique Ecology Well I.D. No **AEA922**
 Water Right Permit Number:

OWNER: BROWNS, BUILDING MATERIALS
OWNER ADD WOODARD CONSTRUCTION PO BOX 228
CLAYTON, WA 99110

PROPOSED USE: TEST WELL

TYPE OF WORK: Owners's Well Number: (If more than one well) **PW12-30**
ABANDONED Method:

DIMENSIONS Diameter of well: inches
 Drilled **0** ft. Depth of completed well ft.

CONSTRUCTION DETAILS:	Casing installed		
Liner installed:	" Dia from	ft. to	ft.
" Dia from	ft. to	ft.	ft.
	" Dia from	ft. to	ft.
	" Dia from	ft. to	ft.

Perforations: No Used In:
 Type of perforator used
 SIZE of perforations in. b in.
 Perforation from ft. to ft.
 Perforation from ft. to ft.
 Perforation from ft. to ft.

Screens: No K-Pac Location
 Manufacture's Name
 Type: Model No
 Diam. slot size from ft. to ft.
 Diam. slot size from ft. to ft.

Gravel/Filter packed: No Size of Gravel
 Material placed fro ft. to ft.

Surface seal: No To what depth ft.
 Seal method: Material used in seal
 Did any strata contain unusable water **No**
 Type of water Depth of strata
 Method of sealing strata off

PUMP: Manufacture's name
 Type: H.P. **0**

WATER LEVELS Land-surface elevation above mean sea level: **0** ft.
 Static level ft. below top of well Date
 Artesian Pressure lbs per square inch Date
 Artesian water controlled by

WELL TESTS: Drawdown is amount water level is lowered below static level.
 Was a pump test made **No** If yes, by whom
 Yield gal/min with ft drawdown after
 Yield gal/min with ft drawdown after
 Yield gal/min with ft drawdown after
Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)

Time:	Water Level	Time:	Water Level	Time:	Water Level
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

 Date of test:
 Bailer test gal/min ft drawdown after hrs.
 Air test gal/min w/ stem set at ft. for hours
 Artesian flow gpm Date
 Temperature of water Was a chemical analysis made **No**

Well Add **111 N. ERIEST**
 City: County:
 Location: 1/4 **SE** 1/4 Sec 17 T 25 R 43E EW
 Lat/Long: Lat Deg Lat Min/Sec
 (s, t, r still Long Deg Long Min/Se
REQUIRED)
 Tax Parcel No.:

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material	From	To

Notes:
WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starte **07/29/2005** Complete **07/29/2005**

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee

Name: **MARTY JENSEN** License No.: **1933**
 Signature:

If trainee, Licensed driller is: License No.:
 Licensed Driller Signature _____

Drilling Company:
 NAME: **FOGLE PUMP & SUPPLY, INC.** Shop: **AIRWAY HEI**
 ADDRESS: **PO BOX 1450**
 Airway Heights, WA 99001
 Phone: **(509) 244-0846** Toll Free: **(888) 343-9355**
 E-Mail: **akk@foglepump.com**
 FAX: **(509) 244-2875** WEB Site: **WWW.FOGLEPUMP.COM**
 Contractor's
 Registration No.: **FOGLEPS095L4** Date Log Created: **08/30/200**

WATER WELL REPORT

State of Washington Date Printed: **09-Sep-2005** Log No. **36005**
 Construction / Decommission: Original Construction Notice
Decommission

CURRENT
 Notice of Intent No.: **A082051**
 Unique Ecology Well I.D. No **AEA008**
 Water Right Permit Number:
OWNER: BROWNS, BUILDING MATERIALS
OWNER ADD WOODARD CONSTRUCTION PO BOX 228
CLAYTON, WA 99110

PROPOSED USE: TEST WELL			
TYPE OF WORK: Owners's Well Number: (If more than one well) MW-15¹⁵ ABANDONED Method: 1-20			
DIMENSIONS Diameter of well: inches Drilled 0 ft. Depth of completed well ft.			
CONSTRUCTION DETAILS:		Casing installed	
Liner installed: " Dia from ft. to ft.		" Dia from ft. to ft. " Dia from ft. to ft.	
Perforations: No Used In:			
Type of perforator used			
SIZE of perforations in. b in.			
Perforation from ft. to ft.			
Perforation from ft. to ft.			
Perforation from ft. to ft.			
Screens: No K-Pac Location			
Manufacture's Name			
Type: Model No			
Diam. slot size from ft. to ft.			
Diam. slot size from ft. to ft.			
Gravel/Filter packed: No Size of Gravel			
Material placed fro ft. to ft.			
Surface seal: No To what depth ft.			
Seal method: Material used in seal			
Did any strata contain unusable water No			
Type of water Depth of strata			
Method of sealing strata off			
PUMP: Manufacture's name			
Type: H.P. 0			
WATER LEVELS Land-surface elevation above mean sea level: 0 ft.			
Static level ft. below top of well Date			
Artesian Pressure lbs per square inch Date			
Artesian water controlled by			

Well Add **111 N. ERIEST**
 City: County: **SPOKANE**
 Location: **1/4 SE 1/4 Sec 17 T 25 R 43E EW**
 Lat/Long: Lat Deg Lat Min/Sec
 (s, t, r still) Long Deg Long Min/Se
REQUIRED)
 Tax Parcel No.:

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material	From	To

Notes:
WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work start **07/29/2005** Complete **07/29/2005**

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee
 Name: **MARTY JENSEN** License No.: **1933**
 Signature:

If trainee, Licensed driller is: _____ License No.: _____
 Licensed Driller Signature _____

Drilling Company:
 NAME: **FOGLE PUMP & SUPPLY, INC.** Shop: **AIRWAY HEI**
 ADDRESS: **PO BOX 1450**
Airway Heights, WA 99001
 Phone: **(509) 244-0846** Toll Free: **(888) 343-9355**
 E-Mail: **akk@foglepump.com**
 FAX: **(509) 244-2875** WEB Site: **WWW.FOGLEPUMP.COM**
 Contractor's
 Registration No.: **FOGLEPS095L4** Date Log Created: **08/30/200**

WELL TESTS: Drawdown is amount water level is lowered below static level.

Was a pump test made **No** If yes, by whom

Yield gal/min with ft drawdown after

Yield gal/min with ft drawdown after

Yield gal/min with ft drawdown after

Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level

Time:	Water Level	Time:	Water Level	Time:	Water Level
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

Date of test:

Bailer test gal/min ft drawdown after hrs.

Air test gal/min w/ stem set at ft. for hours

Artesian flow gpm Date

Temperature of water Was a chemical analysis made **No**

WATER WELL REPORT

State of Washington Date Printed: **09-Sep-2005** Log No. **37005**
Construction / Decommission: Original
Decommission Construction Notice **R043135**

CURRENT
Notice of Intent No.: **A082051**
Unique Ecology Well I.D. No **AEK264**
Water Right Permit Number:

OWNER: **BROWNS, BUILDING MATERIALS**
OWNER ADD **WOODARD CONSTRUCTION PO BOX 228**
CLAYTON, WA 99110

Well Add **111 N. ERIEST**
City: _____ County: **SPOKANE**
Location: **1/4 SE 1/4 Sec 17 T 25 R 43E EW**
Lat/Long: _____ Lat Deg _____ Lat Min/Sec _____
(s, t, r still) Long Deg _____ Long Min/Sec _____
REQUIRED) _____
Tax Parcel No.:

PROPOSED USE: **TEST WELL**

TYPE OF WORK: Owners's Well Number: (If more than one well) **MW10-40**
ABANDONED Method:

DIMENSIONS Diameter of well: _____ inches
Drilled **0** ft. Depth of completed well _____ ft.

CONSTRUCTION DETAILS: Casing installed
Liner installed: _____
" Dia from _____ ft. to _____ ft.

Perforations: **No** Used In:
Type of perforator used _____
SIZE of perforations in. b in. ft. to ft.
Perforation from _____ ft. to _____ ft.
Perforation from _____ ft. to _____ ft.
Perforation from _____ ft. to _____ ft.

Screens: **No** K-Pac Location _____
Manufacture's Name _____
Type: _____ Model No _____
Diam. slot size from _____ ft. to _____ ft.
Diam. slot size from _____ ft. to _____ ft.

Gravel/Filter packed: **No** Size of Gravel _____
Material placed fro _____ ft. to _____ ft.

Surface seal: **No** To what depth _____ ft.
Seal method: _____ Material used in seal _____
Did any strata contain unusable water **No**
Type of water _____ Depth of strata _____
Method of sealing strata off _____

PUMP: Manufacture's name _____
Type: _____ H.P. **0**

WATER LEVELS Land-surface elevation above mean sea level: **0** ft.
Static level _____ ft. below top of well Date _____
Artesian Pressure _____ lbs per square inch Date _____
Artesian water controlled by _____

WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made **No** If yes, by whom _____
Yield _____ gal/min with _____ ft drawdown after _____
Yield _____ gal/min with _____ ft drawdown after _____
Yield _____ gal/min with _____ ft drawdown after _____
Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)
Time: Water Level Time: Water Level Time: Water Level

Date of test: _____
Bailer test _____ gal/min _____ ft drawdown after _____ hrs.
Air test _____ gal/min w/ stem set at _____ ft. for _____ hours
Artesian flow _____ gpm Date _____
Temperature of water _____ Was a chemical analysis made **No**

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material _____ From _____ To _____

Notes:
WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starte **07/29/2005** Complete **07/29/2005**

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee

Name: **MARTY JENSEN** License No.: **1933**

Signature: _____

If trainee, Licensed driller is: _____ License No.: _____

Licensed Driller Signature _____

Drilling Company:

NAME: **FOGLE PUMP & SUPPLY, INC.** Shop: **AIRWAY HEI**
ADDRESS: **PO BOX 1450**
Airway Heights, WA 99001
Phone: **(509) 244-0846** Toll Free: **(888) 343-9355**
E-Mail: **akk@foglepump.com**
FAX: **(509) 244-2875** WEB Site: **WWW.FOGLEPUMP.COM**

Contractor's Registration No.: **FOGLEPS095L4** Date Log Created: **08/30/200**

WATER WELL REPORT

State of Washington Date Printed: **09-Sep-2005** Log No. **36705**
 Construction / Decommission: Original
Decommission Construction Notice **R25049**

CURRENT
 Notice of Intent No.: **A082051**
 Unique Ecology Well I.D. No **AEA919**
 Water Right Permit Number:

OWNER: BROWNS, BUILDING MATERIALS
OWNER ADD WOODARD CONSTRUCTION PO BOX 228
CLAYTON, WA 99110

PROPOSED USE: TEST WELL

TYPE OF WORK: Owners's Well Number: (If more than one well) **PW07-30**
ABANDONED Method:

DIMENSIONS Diameter of well: inches
 Drilled **0** ft. Depth of completed well ft.

CONSTRUCTION DETAILS: Casing installed
 Liner installed: " Dia from ft. to ft.
 " Dia from ft. to ft. " Dia from ft. to ft.
 " Dia from ft. to ft. " Dia from ft. to ft.

Perforations: No Used In:
 Type of perforator used
 SIZE of perforations in. b in.
 Perforation from ft. to ft.
 Perforation from ft. to ft.
 Perforation from ft. to ft.

Screens: No K-Pac Location
 Manufacture's Name
 Type: Model No
 Diam. slot size from ft. to ft.
 Diam. slot size from ft. to ft.

Gravel/Filter packed: No Size of Gravel
 Material placed fro ft. to ft.

Surface seal: No To what depth ft.
 Seal method: Material used in seal
 Did any strata contain unusable water **No**
 Type of water Depth of strata
 Method of sealing strata off

PUMP: Manufacture's name
 Type: H.P. **0**

WATER LEVELS Land-surface elevation above mean sea level: **0** ft.
 Static level ft. below top of well Date
 Artesian Pressure lbs per square inch Date
 Artesian water controlled by

WELL TESTS: Drawdown is amount water level is lowered below static level.
 Was a pump test made **No** If yes, by whom
 Yield gal/min with ft drawdown after
 Yield gal/min with ft drawdown after
 Yield gal/min with ft drawdown after
Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level

Time:	Water Level	Time:	Water Level	Time:	Water Level
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

 Date of test:
 Bailer test gal/min ft drawdown after hrs.
 Air test gal/min w/ stem set at ft. for hours
 Artesian flow gpm Date
 Temperature of water Was a chemical analysis made **No**

Well Add **111 N. ERIEST**
 City: County: **SPOKANE**
 Location: 1/4 **SE 1/4** Sec 17 T 25 R 43E EW
 Lat/Long: Lat Deg Lat Min/Sec
 (s, t, r still Long Deg Long Min/Se
REQUIRED)
 Tax Parcel No.:

CONSTRUCTION OR DECOMMISSION PROCEDURE
 Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material	From	To
----------	------	----

Notes:
WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starte **07/29/2005** Complete **07/29/2005**

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee

Name: **MARTY JENSEN** License No.: **1933**

Signature:

If trainee, Licensed driller is: _____ License No.: _____

Licensed Driller Signature _____

Drilling Company:

NAME: **FOGLE PUMP & SUPPLY, INC.** Shop: **AIRWAY HEI**

ADDRESS: **PO BOX 1450**

Airway Heights, WA 99001

Phone: **(509) 244-0846** Toll Free: **(888) 343-9355**

E-Mail: **akk@foglepump.com**

FAX: **(509) 244-2875** WEB Site: **WWW.FOGLEPUMP.COM**

Contractor's
 Registration No.: **FOGLEPS095L4** Date Log Created: **08/30/200**

WATER WELL REPORT

CURRENT

Notice of Intent No.: **A082051**

Unique Ecology Well I.D. No **AEA004**

Water Right Permit Number:

OWNER: **BROWNS, BUILDING MATERIALS**

OWNER ADD **WOODARD CONSTRUCTION PO BOX 228
CLAYTON, WA 99110**

Well Add **111 N. ERIEST**

City: _____ County: **SPOKANE**

Location: **1/4 SE 1/4 Sec 17 T 25 R 43E EW**

Lat/Long: _____ Lat Deg _____ Lat Min/Sec _____

(s, t, r still) _____ Long Deg _____ Long Min/Se _____

REQUIRED) _____ Tax Parcel No.: _____

State of Washington Date Printed: **09-Sep-2005** Log No. **36505**
Construction / Decommission: Original
Decommission Construction Notice **R17929**

PROPOSED USE: TEST WELL			
TYPE OF WORK: ABANDONED		Owners's Well Number: (If more than one well) MW-30 Method: 3D 3-40	
DIMENSIONS		Diameter of well: _____ inches	
Drilled 0	ft.	Depth of completed well	ft.
CONSTRUCTION DETAILS:		Casing installed	
Liner installed:		" Dia from	ft. to ft.
" Dia from	ft. to ft.	" Dia from	ft. to ft.
Perforations: No		Used In:	
Type of perforator used _____			
SIZE of perforations in. b in.			
Perforation	from	ft. to	ft.
Perforation	from	ft. to	ft.
Perforation	from	ft. to	ft.
Screens: No		K-Pac Location _____	
Manufacture's Name _____			
Type:		Model No _____	
Diam.	slot size	from	ft. to ft.
Diam.	slot size	from	ft. to ft.
Gravel/Filter packed: No		Size of Gravel _____	
Material placed fro _____ ft. to _____ ft.			
Surface seal: No		To what depth _____ ft.	
Seal method: _____ Material used in seal _____			
Did any strata contain unusable water No			
Type of water _____		Depth of strata _____	
Method of sealing strata off _____			
PUMP:		Manufacture's name _____	
Type:	H.P.	0	
WATER LEVELS Land-surface elevation above mean sea level: 0 ft.			
Static level _____ ft. below top of well Date _____			
Artesian Pressure _____ lbs per square inch Date _____			
Artesian water controlled by _____			
WELL TESTS: Drawdown is amount water level is lowered below static level.			
Was a pump test made No If yes, by whom _____			
Yield	_____ gal/min with	_____ ft drawdown after	_____
Yield	_____ gal/min with	_____ ft drawdown after	_____
Yield	_____ gal/min with	_____ ft drawdown after	_____
Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)			
Time:	Water Level	Time:	Water Level
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Date of test: _____			
Bailer test	gal/min	ft drawdown after	hrs.
Air test	gal/min w/ stem set at	ft. for	hours
Artesian flow	gpm	Date	_____
Temperature of water	Was a chemical analysis made No		

CONSTRUCTION OR DECOMMISSION PROCEDURE
Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material	From	To

Notes:
WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starte **07/29/2005** Complete **07/29/2005**

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee

Name: **MARTY JENSEN** License No.: **1933**

Signature: _____

If trainee, Licensed driller is: _____ License No.: _____

Licensed Driller Signature _____

Drilling Company:

NAME: **FOGLE PUMP & SUPPLY, INC.** Shop: **AIRWAY HEI**

ADDRESS: **PO BOX 1450**

Airway Heights, WA 99001

Phone: **(509) 244-0846** Toll Free: **(888) 343-9355**

E-Mail: **akk@foglepump.com**

FAX: **(509) 244-2875** WEB Site: **WWW.FOGLEPUMP.COM**

Contractor's Registration No.: **FOGLEPS095L4** Date Log Created: **08/30/200**

WATER WELL REPORT

State of Washington Date Printed: 09-Sep-2005 Log No. 36105
Construction / Decommission: Original
Decommission Construction Notice R17929

CURRENT
Notice of Intent No.: A082051
Unique Ecology Well I.D. No. AEA007
Water Right Permit Number:

OWNER: BROWNS, BUILDING MATERIALS
OWNER ADD WOODARD CONSTRUCTION PO BOX 228
CLAYTON, WA 99110

Well Add 111 N. ERIEST
City: Spokane County: SPOKANE
Location: 1/4 SE 1/4 Sec 17 T 25 R 43E EW
Lat/Long: Lat Deg Lat Min/Sec
(s, t, r still REQUIRED) Long Deg Long Min/Sec
Tax Parcel No.:

PROPOSED USE: TEST WELL

TYPE OF WORK: Owners's Well Number: (if more than one well) MW-55
ABANDONED Method: 55

DIMENSIONS Diameter of well: inches
Drilled 0 ft. Depth of completed well ft.

CONSTRUCTION DETAILS:
Liner installed: " Dia from ft. to ft.
" Dia from ft. to ft.
" Dia from ft. to ft.

Perforations: No Used In:
Type of perforator used
SIZE of perforations in. b in.
Perforation from ft. to ft.
Perforation from ft. to ft.
Perforation from ft. to ft.

Screens: No K-Pac Location
Manufacture's Name
Type: Model No
Diam. slot size from ft. to ft.
Diam. slot size from ft. to ft.

Gravel/Filter packed: No Size of Gravel
Material placed fro ft. to ft.

Surface seal: No To what depth ft.
Seal method: Material used in seal
Did any strata contain unusable water No
Type of water Depth of strata
Method of sealing strata off

PUMP: Manufacture's name
Type: H.P. 0

WATER LEVELS Land-surface elevation above mean sea level: 0 ft.
Static level ft. below top of well Date
Artesian Pressure lbs per square inch Date
Artesian water controlled by

WELL TESTS: Drawdown is amount water level is lowered below static level.
Was a pump test made No If yes, by whom
Yield gal/min with ft drawdown after
Yield gal/min with ft drawdown after
Yield gal/min with ft drawdown after
Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)
Time: Water Level Time: Water Level Time: Water Level
Date of test:
Bailer test gal/min ft drawdown after hrs.
Air test gal/min w/ stem set at ft. for hours
Artesian flow gpm Date
Temperature of water Was a chemical analysis made No

CONSTRUCTION OR DECOMMISSION PROCEDURE

Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material	From	To
----------	------	----

Notes:
WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starte 07/29/2005 Complete 07/29/2005

WELL CONSTRUCTION CERTIFICATION:

I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee

Name: MARTY JENSEN License No.: 1933

Signature: 

If trainee, Licensed driller is: License No.:

Licensed Driller Signature

Drilling Company:

NAME: FOGLE PUMP & SUPPLY, INC. Shop: AIRWAY HEI
ADDRESS: PO BOX 1450
Airway Heights, WA 99001
Phone: (509) 244-0846 Toll Free: (888) 343-9355
E-Mail: akk@foglepump.com
FAX: (509) 244-2875 WEB Site: WWW.FOGLEPUMP.COM

Contractor's
Registration No.: FOGLEPS095L4 Date Log Created: 08/30/200

WATER WELL REPORT

State of Washington Date Printed: 22-Dec-2005 Log No. 57305
 Construction / Decommission: Original Construction Notice

CURRENT
 Notice of Intent No.: A082051
 Unique Ecology Well I.D. No ATC-4
 Water Right Permit Number:
 OWNER: BROWNS, BUILDING MATERIALS
 OWNER ADD WOODARD CONSTRUCTION PO BOX 228
 CLAYTON, WA 99110
 Well Add 111 N. ERIE ST.
 City: County: SPOKANE
 Location: 1/4 SE 1/4 Sec 17 T 25 R 45E EW
 Lat/Long: (S, T, R, E, W) Lat Deg Lat Min/Sec
 REQUIRED) Long Deg Long Min/Sec
 Tax Parcel No.:

PROPOSED USE: TEST WELL

TYPE OF WORK: Owners's Well Number: (If more than one well)
DECOMMISSIONED Method:

DIMENSIONS Diameter of well: inches
 Drilled 0 ft. Depth of completed well ft.

CONSTRUCTION DETAILS:

Liner Installed:			Casing Installed		
" Dia from	ft. to	ft.	" Dia from	ft. to	ft.
" Dia from	ft. to	ft.	" Dia from	ft. to	ft.
" Dia from	ft. to	ft.	" Dia from	ft. to	ft.

Perforations: No Used In:
 Type of perforator used
 SIZE of perforations in. b in.

Perforation from	ft. to	ft.
Perforation from	ft. to	ft.
Perforation from	ft. to	ft.

Screens: No K-Pac Location
 Manufacture's Name
 Type: Model No
 Diam. slot size from ft. to ft.
 Diam. slot size from ft. to ft.

Gravel/Filter packed: No Size of Gravel
 Material placed fro ft. to ft.

Surface seal: No To what depth ft.
 Seal method: Material used in seal
 Did any strata contain unusable water No
 Type of water Depth of strata
 Method of sealing strata off

PUMP: Manufacture's name
 Type: H.P. 0

CONSTRUCTION OR DECOMMISSION PROCEDURE
 Formation: Describe by color, character, size of material and structure. Show thickness of aquifers and the kind and nature of the material in each stratum penetrated. Show at least one entry for each change in formation.

Material	From	To

Notes:
 WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starts 07/29/2008 Complete 07/29/2008

WELL CONSTRUCTION CERTIFICATION:
 I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee
 Name: MARTY JENSEN License No.: 1933
 Signature: *Marty Jensen*
 If trainee, Licensed driller is: License No.:
 Licensed Driller Signature

Drilling Company:
 NAME: FOGLE PUMP & SUPPLY, INC. Shop: AIRWAY HEIGHTS
 ADDRESS: PO BOX 1450
 Airway Heights, WA 99001
 Phone: (509) 244-0046 Toll Free: (888) 343-9355
 E-Mail: akk@foglepump.com
 FAX: (509) 244-2875 WEB Site: WWW.FOGLEPUMP.COM
 Contractor's Registration No.: FOGLEPS095L4 Date Log Created: 12/12/200

WATER LEVELS Land-surface elevation above mean sea level: 0 ft.
 Static level ft. below top of well Date
 Artesian Pressure lbs per square inch Date
 Artesian water controlled by

WELL TESTS: Drawdown is amount water level is lowered below static level.
 Was a pump test made No If yes, by whom
 Yield gal/min with ft drawdown after
 Yield gal/min with ft drawdown after
 Yield gal/min with ft drawdown after

Recovery data (time taken as zero when pump turned off)(water level measured from well top to water level)

Time:	Water Level	Time:	Water Level	Time:	Water Level

Date of test:
 Bailer test gal/min ft drawdown after hrs.
 Air test gal/min w/ stem set at ft. for hours
 Artesian flow gpm Date
 Temperature of water Was a chemical analysis made No

WELL REPORT

State of Washington Date Printed: 22-Dec-2005
Construction / Decommission: Original Construction Notice

Log No. 87205

CURRENT
Notice of Intent No.: A082051
Unique Ecology Well I.D. No ATC-3D
Water Right Permit Number:

OWNER: BROWNS, BUILDING MATERIALS
OWNER ADD WOODARD CONSTRUCTION PO BOX 228
CLAYTON, WA 99110

Well Add 111 N. ERIE ST
City: County: SPOKANE
Location: 1/4 SE 1/4 Sec 17 T 25 R 43E EW
Lat/Long: Lat Deg Lat Min/Sec
(\$, t, r still) Long Deg Long Min/Sec
REQUIRED)
Tax Parcel No.:

PROPOSED USE: TEST WELL

TYPE OF WORK: Owners's Well Number; (if more than one well)
DECOMISSIONED Method:

DIMENSIONS Diameter of well: inches
Drilled 0 ft. Depth of completed well ft.

CONSTRUCTION DETAILS: Casing installed
Liner installed: " Dia from ft. to ft.
" Dia from ft. to ft.
" Dia from ft. to ft.

Perforations: No Used In:
Type of perforator used
SIZE of perforation in. b in.
Perforation from ft. to ft.
Perforation from ft. to ft.
Perforation from ft. to ft.

Screens: No K-Pac Location
Manufacture's Name
Type: Model No
Diam. slot size from ft. to ft.
Diam. slot size from ft. to ft.

Gravel/Filter packed: No Size of Gravel
Material placed fro ft. to ft.

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Time: Water Level Time: Water Level Time: Water Level
Date of test:
Bailer test gal/min ft drawdown after hrs.
Air test gal/min w/ stem set at ft. for hours
Artesian flow gpm Date
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Material From To

Notes:
WELL WAS FILLED FROM BOTTOM UP WITH BENTONITE HOLE PLUG. MONUMENT AND BOLLARDS WERE REMOVED AND A CAP GLUED ON. THE SITE WAS THEN BACKFILLED.

Work starts 07/29/2005 Complete 07/29/2005

WELL CONSTRUCTION CERTIFICATION:
I constructed and/or accept responsibility for construction of this well and its compliance with all Washington well construction standards. Materials used and the information reported are true to my best knowledge and belief.

Driller Engineer Trainee

Name: MARTY JENSEN License No.: 1933

Signature: *Marty Jensen*

If trainee, Licensed driller is: License No.:

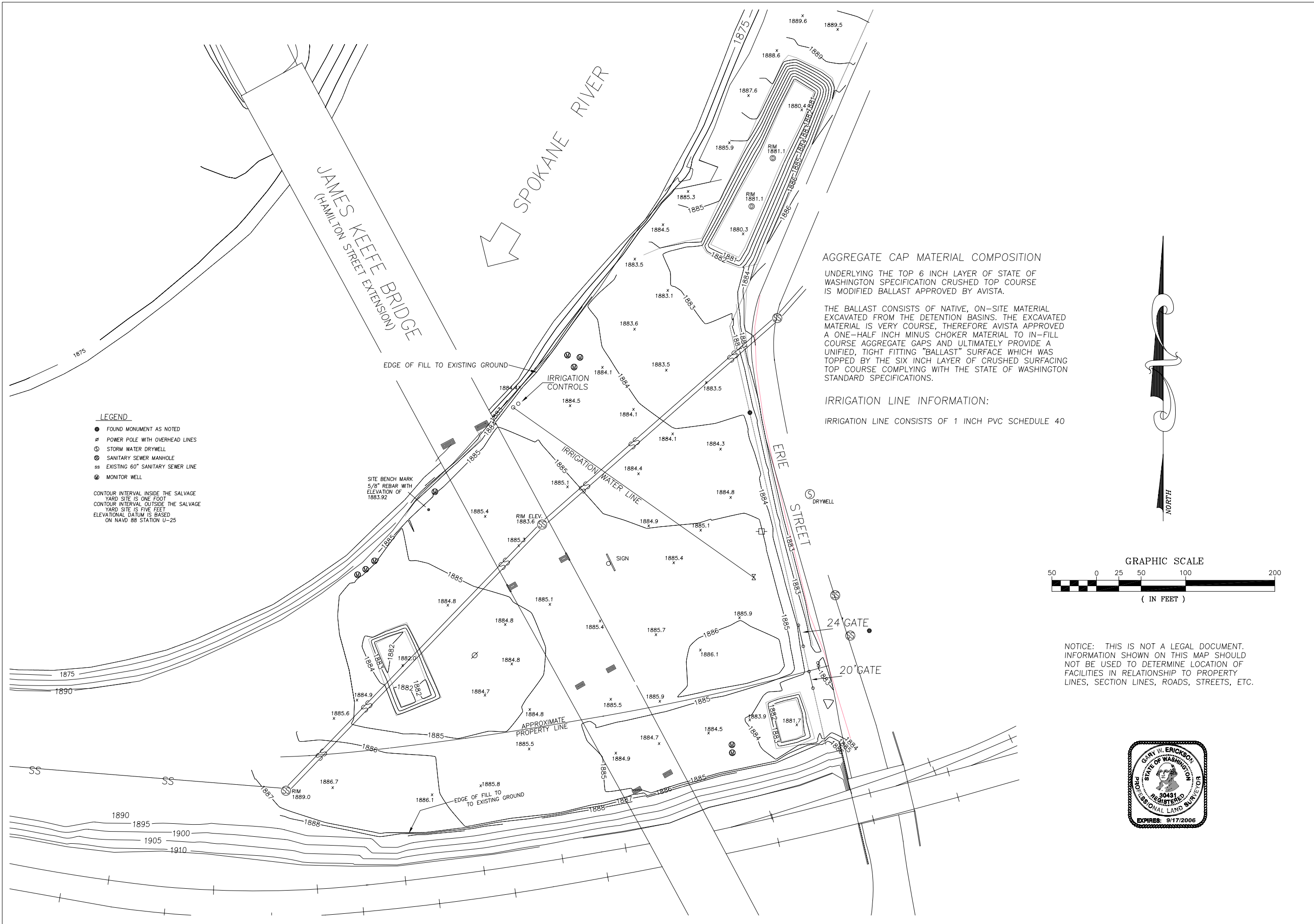
Licensed Driller Signature

Drilling Company:

NAME: FOGLE PUMP & SUPPLY, INC. Shop: AIRWAY HEIGHTS
ADDRESS: PO BOX 1450
Airway Heights, WA 99001
Phone: (509) 244-0846 Toll Free: (888) 343-9355
E-Mail: akk@foglepump.com
FAX: (509) 244-2875 WEB Site: WWW.FOGLEPUMP.COM

Contractor's
Registration No.: FOGLEP095L4 Date Log Created: 12/12/2005

Construction Record Drawings



LEGEND

- FOUND MONUMENT AS NOTED
- ⚡ POWER POLE WITH OVERHEAD LINES
- ⊙ STORM WATER DRYWELL
- ⊙ SANITARY SEWER MANHOLE
- SS EXISTING 60" SANITARY SEWER LINE
- ⊙ MONITOR WELL

CONTOUR INTERVAL INSIDE THE SALVAGE YARD SITE IS ONE FOOT
 CONTOUR INTERVAL OUTSIDE THE SALVAGE YARD SITE IS FIVE FEET
 ELEVATIONAL DATUM IS BASED ON NAVD 88 STATION U-25

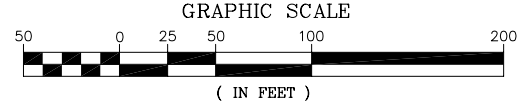
AGGREGATE CAP MATERIAL COMPOSITION

UNDERLYING THE TOP 6 INCH LAYER OF STATE OF WASHINGTON SPECIFICATION CRUSHED TOP COURSE IS MODIFIED BALLAST APPROVED BY AVISTA.

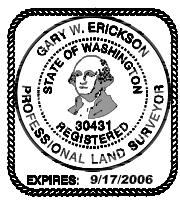
THE BALLAST CONSISTS OF NATIVE, ON-SITE MATERIAL EXCAVATED FROM THE DETENTION BASINS. THE EXCAVATED MATERIAL IS VERY COARSE, THEREFORE AVISTA APPROVED A ONE-HALF INCH MINUS CHOKER MATERIAL TO IN-FILL COURSE AGGREGATE GAPS AND ULTIMATELY PROVIDE A UNIFIED, TIGHT FITTING "BALLAST" SURFACE WHICH WAS TOPPED BY THE SIX INCH LAYER OF CRUSHED SURFACING TOP COURSE COMPLYING WITH THE STATE OF WASHINGTON STANDARD SPECIFICATIONS.

IRRIGATION LINE INFORMATION:

IRRIGATION LINE CONSISTS OF 1 INCH PVC SCHEDULE 40



NOTICE: THIS IS NOT A LEGAL DOCUMENT. INFORMATION SHOWN ON THIS MAP SHOULD NOT BE USED TO DETERMINE LOCATION OF FACILITIES IN RELATIONSHIP TO PROPERTY LINES, SECTION LINES, ROADS, STREETS, ETC.



Sheet Title	USKH W.O.	Sheet	1 of 1
Project	Date	Scale	Checked
Hamilton St. Bridge Cleanup	9/28/2005	1" = 50'	DJB/cul
Client	Rev:	Dwn:	GWE
Woodard Construction	12/09/2005	877600-TOPFO-WITH-XREF	GE
	CAD File	Checked	
	877600-TOPFO-WITH-XREF		



Engineering • Land Surveying
 Planning • Materials Testing

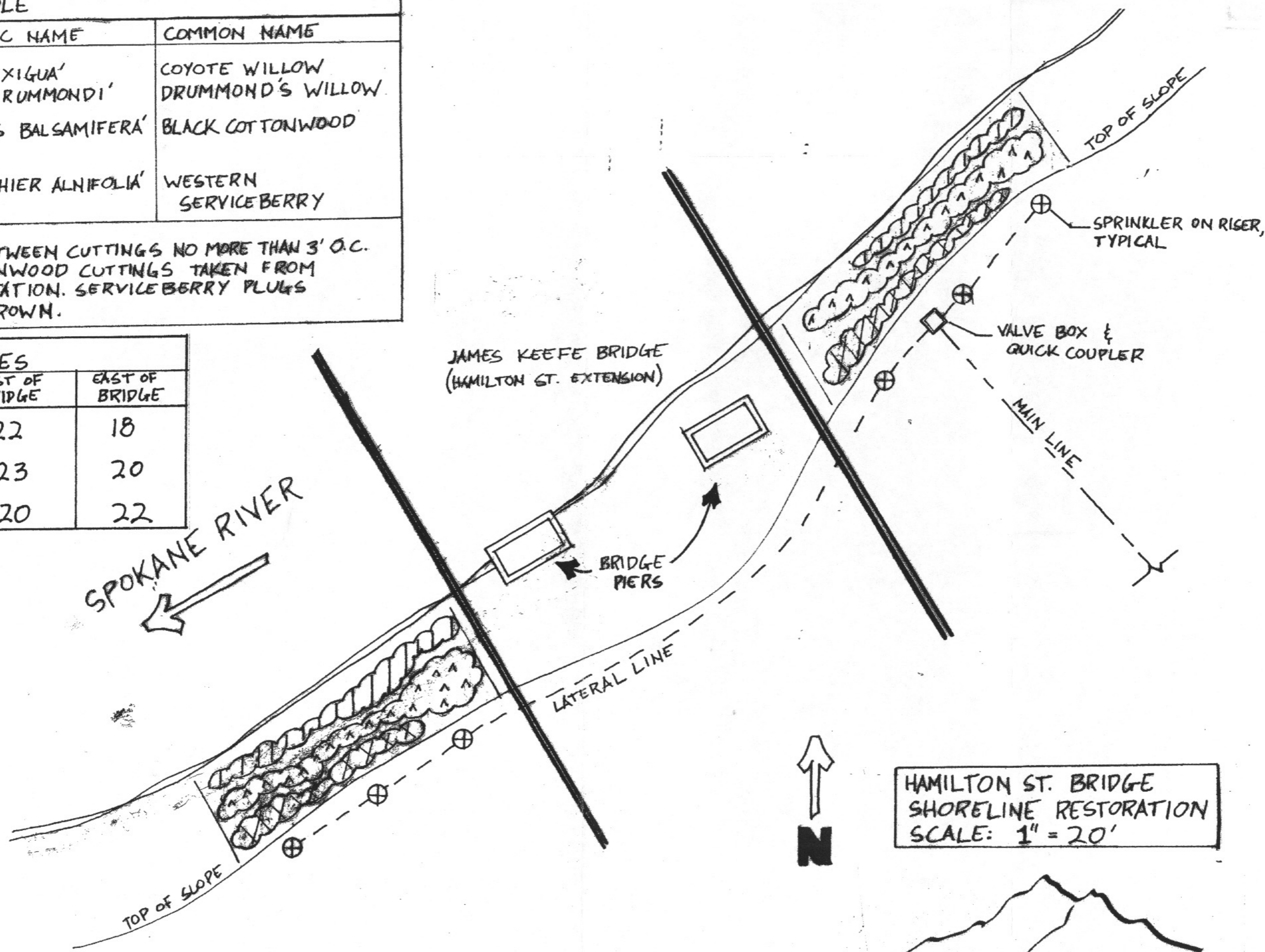
PLANT SCHEDULE

SYMBOL	SCIENTIFIC NAME	COMMON NAME
	'SALIX EXIGUA' 'SALIX DRUMMONDI'	COYOTE WILLOW DRUMMOND'S WILLOW
	'POPULUS BALSAMIFERA'	BLACK COTTONWOOD
	'AMELANCHIER ALNIFOLIA'	WESTERN SERVICEBERRY

#NOTE: SPACING BETWEEN CUTTINGS NO MORE THAN 3' O.C.
WILLOW + COTTONWOOD CUTTINGS TAKEN FROM
ADJACENT VEGETATION. SERVICEBERRY PLUGS
ARE NURSERY GROWN.

PLANT QUANTITIES

	WEST OF BRIDGE	EAST OF BRIDGE
WILLOW	22	18
COTTONWOOD	23	20
SERVICEBERRY	20	22



HAMILTON ST. BRIDGE
SHORELINE RESTORATION
SCALE: 1" = 20'

CLEARWATER SUMMIT GROUP INC.

(509) 482-2722
PREPARED BY: BRENDAN BEMIS
DATE: 11/14/05

Selected Construction Photographs



View of west detention basin (looking northwest).



View of north detention basin (looking north)



View of southeast detention basin and top course (looking west from Erie Street).



View of top course (looking north-northwest from under bridge).



View of new riprap on stabilized river bank (looking west under bridge).



View of north detention basin and new dry wells (looking south).



View of re-graded site looking west from Erie Street