

POLICY STATEMENT  
CITY OF POST FALLS  
VERTICAL CONTROL

prepared by: RSP  
date:  
modified: listed at end

Goal: To provide a common vertical control network to efficiently manage existing and future public infrastructure within the City of Post Falls.

Policy: All projects shall be designed on the horizontal and vertical datum's identified by the City of Post Falls. The City of Post Falls does not maintain or verify the coordinates or elevations of any of the control points referenced within this policy. Information provided within this policy is based upon the best available data that the City of Post Falls has on record. It shall be incumbent upon the design professional to verify the validity of any control point in a manner consistent with the accepted standard of professional care and the desired accuracy for the type of work being performed. NAVD 1988 Datum. Horizontal Control shall be on the Idaho State Plane Coordinate System NAD 1983 – 1992 adjustment.

Vertical Control Network: The City's vertical control network consists of three (3) types of benchmarks: Base Control, City Benchmarks and Project Benchmarks.

Horizontal Control Network: The City horizontal control network consists of the existing Section corners recognized and on file within the records of Kootenai County, Idaho (Base Control – Horizontal), Benchmarks installed with constructed City and private projects (Project Benchmarks – Horizontal) and property corners when such data is collected

***Vertical Control***

Vertical Control Network: Vertical control shall be on the NAVD 1988 Datum.

The City's vertical control network consists of three (3) types of benchmarks: Base Control, City Benchmarks and Project Benchmarks. Historically the City of Post Falls has utilized the NGVD 1929 Datum for vertical control with the installation of the original sewer system in the mid 1980's. A majority of projects between the 1980's and 2010 were completed using the referenced NGVD 1929 datum; however, some projects were designed on NAVD 1988 Datum with the 1992 adjustment and others on assumed datum's. Historical elevation data from as-built plans should be used with caution as not all plans indicate their elevation datum. As of 2015, the City of Post Falls is in the process of converting all electronic data for the water reclamation system to the datum of NAVD 1988 – 1992 adjustment

Base Control - Vertical: When a Base Control Point is located within 0.50 miles of a project, it may be utilized as part of a project in-lieu of a City Benchmark or

Project Benchmark. All Base Control shall be tied to or be a part of the National System, as maintained by the USGS (United States Geological Survey).

New Base Control points shall be located at roadway intersections, preferably with roadways classified as collectors or arterials, outside of the roadway prism and within the concrete sidewalk or asphalt trail.

New Base Control points when established on behalf of the City, non USGS points, shall consist of an aluminum or brass cap on a 1" x 30" galvanized pipe embedded within a concrete foundation. Concrete foundations for Base Control points shall be 8-inches in diameter and a minimum of 48-inches long. A standard monument casing (SD 2020) shall be provided and the cap shall be stamped "City of Post Falls" "Vertical Control". Elevations will meet 2<sup>nd</sup> order accuracy standards, as a minimum, when set.

City Benchmark - Vertical: City Benchmarks will be established in conjunction with local development. It is desired to obtain a network of City Benchmarks, at buildout, with coverage of one-mile coverage per benchmark; or no location within the City greater than 0.5 miles from a City Benchmark.

When a City Benchmark or Base Control point is not within 0.50 miles of a proposed project, or when deemed necessary by the City Engineer, a project shall provide a new City Benchmark as part of the project. New City Benchmarks shall meet or exceed third order accuracy standards when set.

New City Benchmarks shall be located at roadway intersections, preferably with roadways classified as collectors or arterials, outside of the roadway prism and within the concrete sidewalk or asphalt trail.

All new City Benchmarks shall consist of an aluminum or brass cap on a 1" x 30" galvanized pipe and located within a standard monument casing (SD 2020). The cap for the City Benchmark shall be stamped "City of Post Falls" "Vertical Control".

Where traffic signalization is being installed as part of a project, provisions shall be made at one (1) signal foundation to include a City Benchmark as part of the signal foundation.

Project Benchmark: Every project shall provide at least one (1) Project Benchmark. Project Benchmarks may be an established City Benchmark or Base Control point located within 0.50 miles of the project. When an established City Benchmark or Base Control point is not located within 0.50 miles of the project, a new Project Benchmark shall be established.

An existing project benchmark from another project may be utilized in-lieu of a City Benchmark or Base Control point, if an existing project benchmark exists

within 0.25 miles of a proposed project and the benchmark is considered to be reliable and in good condition.

New Project Benchmarks shall be tied to at least one (1) Base Control – Vertical or City Benchmark if located within 0.50 miles of the new project benchmark. Alternately, New Project Benchmarks may be tied to at least two (2) existing Project Benchmarks located within 0.25 miles of the New Project Benchmark. New Project Benchmarks shall meet or exceed third order accuracy standards when set.

RECOGNIZED  
BASE CONTROL - VERTICAL

Designation	NGS Data Sheet	NGVD 29 (archive)	NAVD 88	LOCATION
R 352	YES	2138.36	2142.19	Grand Junction, Poleline Ave. at B.N.R.R. and U.P.R.R. intersection.
A 3405	YES	2127.12	2130.94	Ross Point Baptist Camp, near River at the end of Ross Point Camp Lane.
M 352	YES	2153.07	2156.88	At Post Falls Highway District Shop, on Seltice Way.

CITY BENCH MARKS – VERTICAL

(Calculated values are based on a City average adjustment factor of +3.82 feet from NGVD 29 to NAVD 88)

Designation / Name	NGVD 29 (archive)	NAVD 88	Year Established / By	Location
VC1 / IDA 90-64	2135.59	2139.41 (calculated)		T 50 N R 05 W Sec. 06 NE ¼
VC2 / Ferry & Bremington	2199.53	2203.35	2004 / Lake City Engineering	T 51 N R 05 W Sec. 36 SW ¼
VC3 / Mullan & Chase	2178.77	2182.59 (calculated)		T 51 N R 05 W Sec. 33 SE Corner

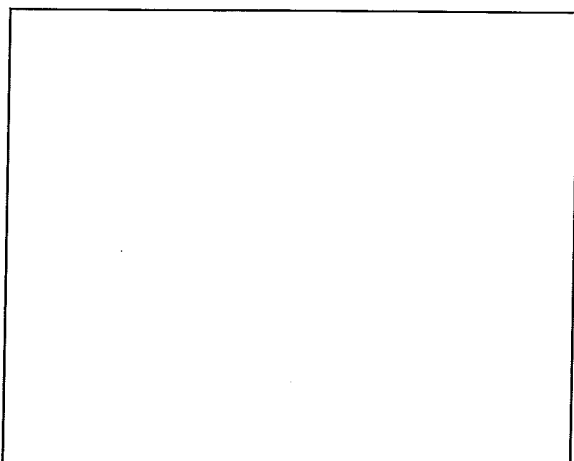
Designation / Name	NGVD 29 (archive)	NAVD 88	Year Established / By	Location
VC4 / Falls Park	2131.24	2135.06 (calculated)	2003 / JR Bonnett Engineering	T 50 N R 05 W Sec. 03 NW ¼
VC5 / Bay St. Apts.	2174.46	21748.28 (calculated)	2004 / Tate Engineering	T 50 N R 05 W Sec. 02 Cent. Sec.
VC6 / 1 <sup>st</sup> Ave & Bay	2178.51	2182.33 (calculated)	2004 / Tate Engineering	T 50 N R 05 W Sec. 02 SW ¼
VC7 / Bogie & Dandelion	2227.95	2231.76	2005 / I.N.C.	T 51 N R 05 W Sec. 26 SW ¼

#### PROJECT BENCHMARKS – VERTICAL

(Calculated values are based on a City average adjustment factor of +3.82 feet from NGVD 29 to NAVD 88)

Designation / Name	NGVD 29 (archive)	NAVD 88	Year Established / By	Location
OBSIDIAN		2206.95	2014 / WCE	T 51 N R 05 W Sec. 36 SE 1/4
RESERVE		2219.23	2014 / TRI-STATE	T 51 N R 05 W Sec. 26 SE 1/4
SE Corner Sec. 33	2178.77	2182.60 (calculated)		T 51 N R 05 W Sec 33 SE 1/4
16 <sup>TH</sup> / GREENSFERRY	2209.18	2213.00 (calculated)		T 51 N R 05 W Sec 36 SW / NW
16 <sup>th</sup> / SYRINGA	2194.29	2198.11 (calculated)		T 51 N R 05 W Sec 35 Center

Poleline / SH41	2211.39	2215.21 (calculated)		T 51 N R 05 W Sec 25 SE corner
Poleline / Cecil	2224.48	2228.30 (calculated)		T 51 N R 05 W Sec 25 SE corner
Poleline / Greensferry	2209.75	2213.57 (calculated)		T 51 N R 05 W Sec 35
Idaho / Teton	2220.50	2224.32		T 51 N R 05 W Sec 35



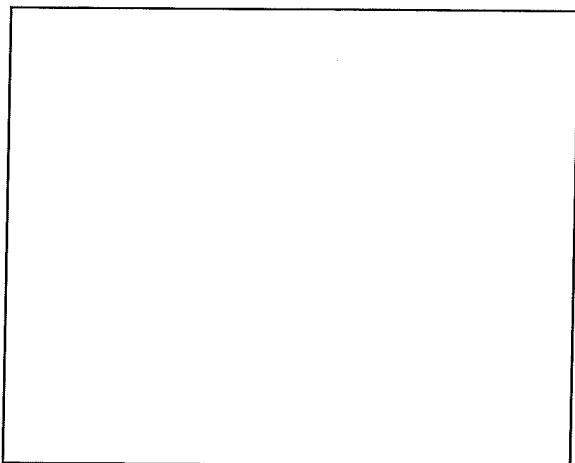
**City Benchmark: VC1**

Location: Township: 50 N  
Range: 05 W  
Section: 06  
Quarter: NE  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Located along the South right-of-way line for Seltice Way. Approximately 0.25 miles West of Pleasantview Rd. Benchmark is a 3-1/4" Brass cap stamped IDA 90-64

Elevation: NAVD 1988 2139.41 (calculated)  
NGVD 1929 2135.59 (archive)

Established By:



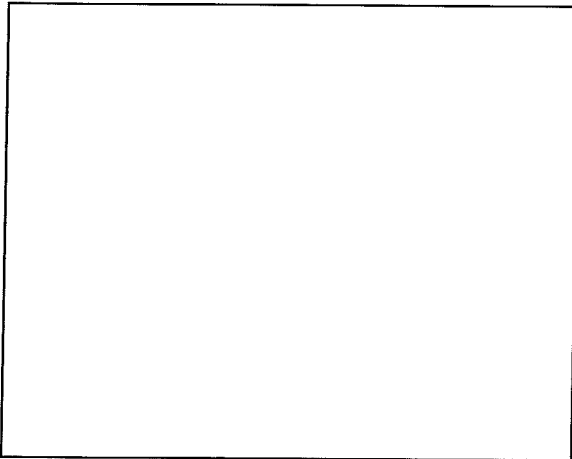
**City Benchmark: VC2**

Location: Township: 51 N  
Range: 05 W  
Section: 36  
Quarter: SW  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Fire Hydrant, located in the NW Corner of the intersection of Ferry Landing and Brenington Dr. Benchmark is the NW bolt on the top flange.

Elevation: NAVD 1988 2203.35  
NGVD 1929 2199.53 (archive)

Established By: Lake City Engineering / 2004



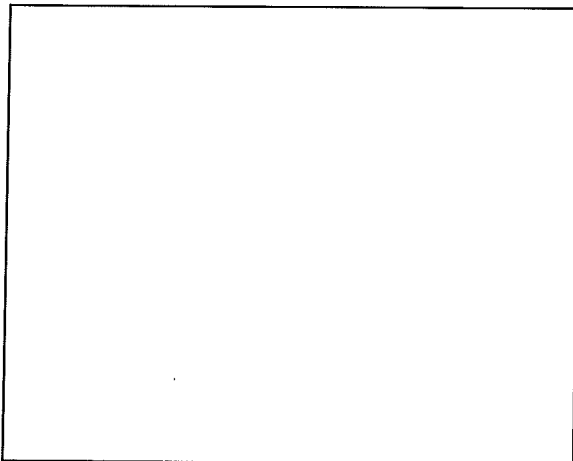
**City Benchmark: VC3**

Location: Township: 51 N  
Range: 05 W  
Section: 33  
Quarter: SE  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Located in the intersection of Mullan Ave. and Chase Rd. Benchmark is a 3/4" Bolt being the SE Corner of Said Section 33.

Elevation: NAVD 1988 2182.59 (calculated)  
NGVD 1929 2178.77 (archive)

Established By:



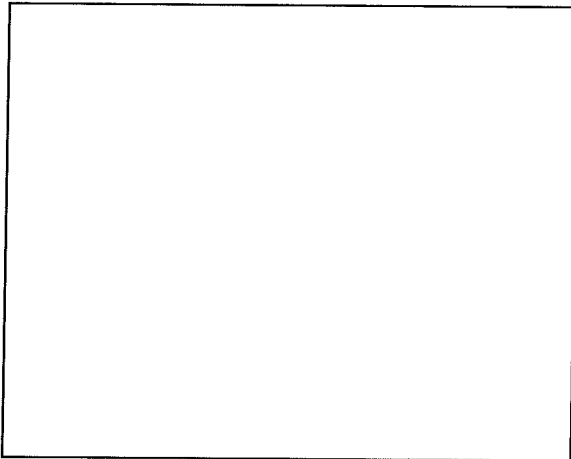
**City Benchmark: VC4**

Location: Township: 50 N  
Range: 05 W  
Section: 03  
Quarter: NW  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Located in Falls Park on an old concrete foundation. Benchmark is a 3/4" Bolt being in the SW corner of said foundation.

Elevation: NAVD 1988 2135.06 (calculated)  
NGVD 1929 2131.24 (archive)

Established By: JR Bonette Engr. / 2003



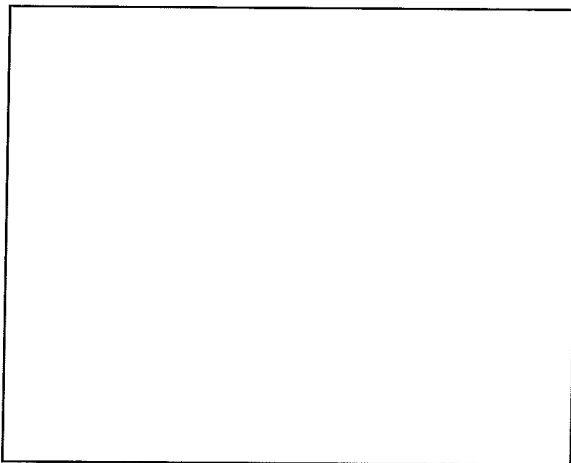
**City Benchmark: VC5**

Location: Township: 50 N  
Range: 05 W  
Section: 02  
Quarter:  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Located in the center of said section 02, along the East side of Bay St. between 3<sup>rd</sup> Ave. and the B.N.R.R. spur line.

Elevation: NAVD 1988 2178.28 (calculated)  
NGVD 1929 2174.46 (archive)

Set By: Tate Engr. / 2005



**City Benchmark: VC6**

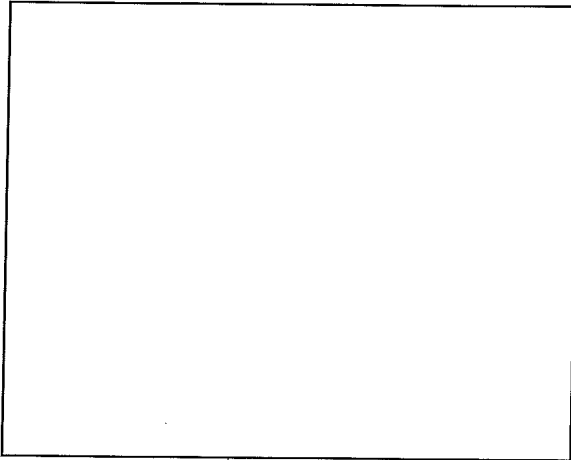
Location: Township: 50 N  
Range: 05 W  
Section: 02  
Quarter: SW  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Fire Hydrant, located in the NE Corner of the intersection of 1<sup>st</sup> Ave. and Bay St. Benchmark is the SW bolt on the top flange, with a chiseled "X".

Elevation: NAVD 1988 2182.33 (calculated)  
NGVD 1929 2178.51 (archive)

Established By: Tate Engr. / 2005





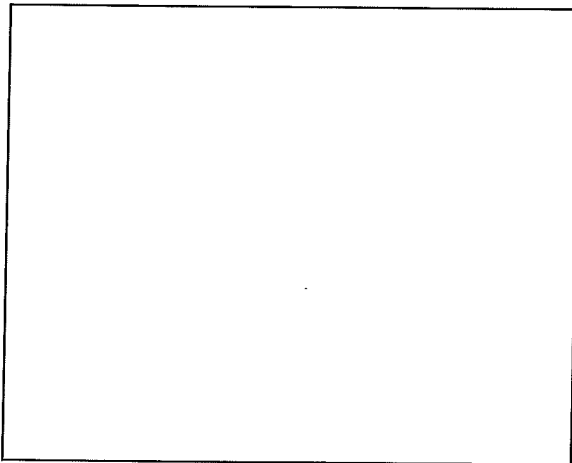
**City Benchmark: VC7**

Location: Township: 51 N  
Range: 05 W  
Section: 26  
Quarter: SW  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Located in the NW corner of the intersection of Bogie Dr. and Dandelion St., in the pedestrian ramp. Benchmark is a chiseled "X" in the concrete.

Elevation: NAVD 1988 2231.76  
NGVD 1929 2227.95 (archive)

Established By: I.N.C. / 2005



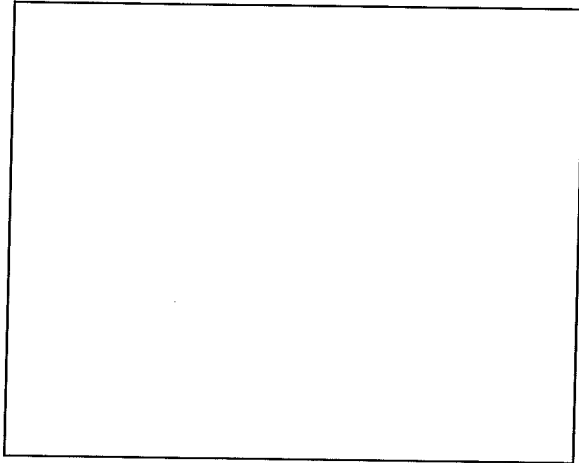
**City Benchmark: (future)**

Location: Township:  
Range:  
Section:  
Quarter:  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description:

Elevation: NAVD 1988

Established By:



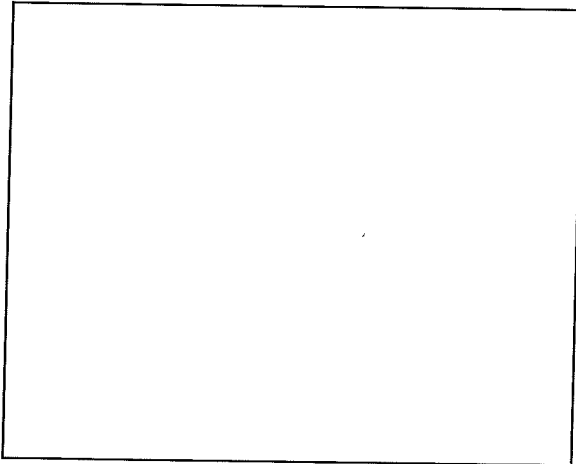
**Project Benchmark: Obsidian**

Location: Township: T 51 N  
Range: R 05 W  
Section: 36  
Quarter: SE  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Southeast lot corner of Lot 7 Block 3 in the plat of Obsidian Acres. Being a 5/8" rebar

Elevation: NAVD 1988 2206.95

Established By: Whipple Consulting Engineers - 2014



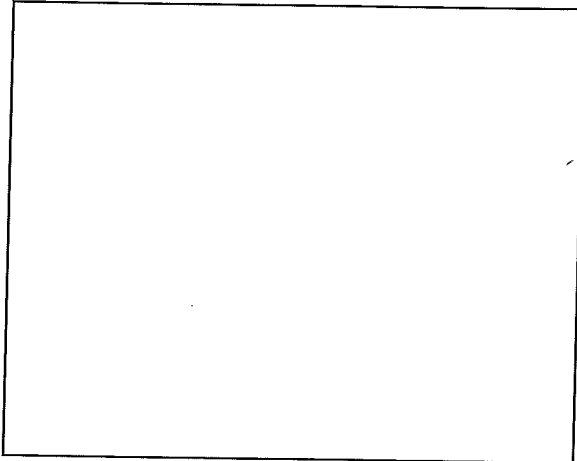
**Project Benchmark: Reserve**

Location: Township: T 51 N  
Range: R 05 W  
Section: 26  
Quarter:  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: 5/8" Rebar with plastic cap (6602). Approximately 100 feet northwest of the Bogie Ave. / Greensferry Rd. intersection.

Elevation: NAVD 1988 2219.23

Established By: Tri-State Consultants - 2014



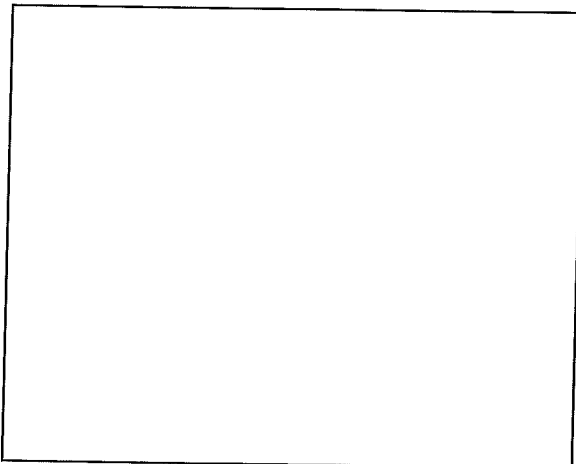
**Project Benchmark:**

Location: Township: T 51 N  
Range: R 05 W  
Section: 26  
Quarter: SE  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Bolt located at the Section Corner for the southeast quarter of Section 33.

Elevation: NAVD 1988 2182.60 (calculated)  
NGVD 1929 2178.77 (archive)

Established By:



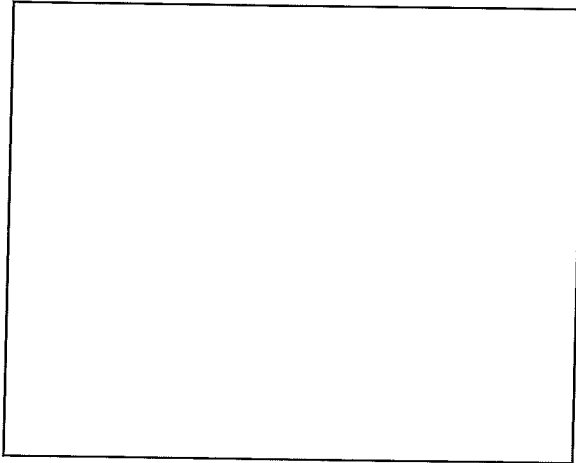
**Project Benchmark: 16<sup>th</sup> / Greensferry**

Location: Township: T 51 N  
Range: R 05 W  
Section: 36  
Quarter: W corner  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: West corner of section 36. 1/2" rod in monument case.

Elevation: NAVD 1988 2213.00 (calculated)  
NGVD 1929 2209.18 (archive)

Established By:



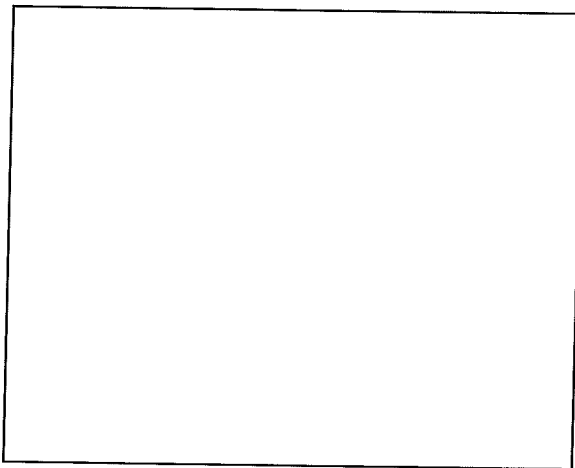
**Project Benchmark: 16<sup>th</sup> / Syringa**

Location: Township: T 51 N  
Range: R 05 W  
Section: 35  
Quarter: center of sec  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: Section corner for the center of Section 35. Intersection of 16<sup>th</sup> Ave. / Syringa St.

Elevation: NAVD 1988 2198.11 (calculated)  
NGVD 1929 2194.29 (archive)

Established By:



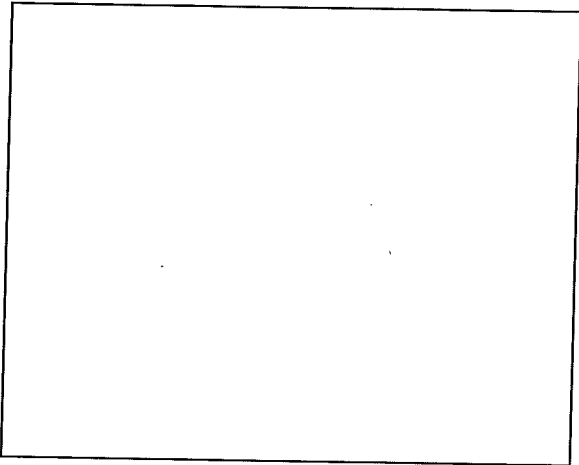
**Project Benchmark: Poleline / SH41**

Location: Township: T 51 N  
Range: R 05 W  
Section: 25  
Quarter: SE 1/4  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: 2" aluminum cap being the southeast corner of section 25.

Elevation: NAVD 1988 2215.21 (calculated)  
NGVD 1929 2211.39 (archive)

Established By:



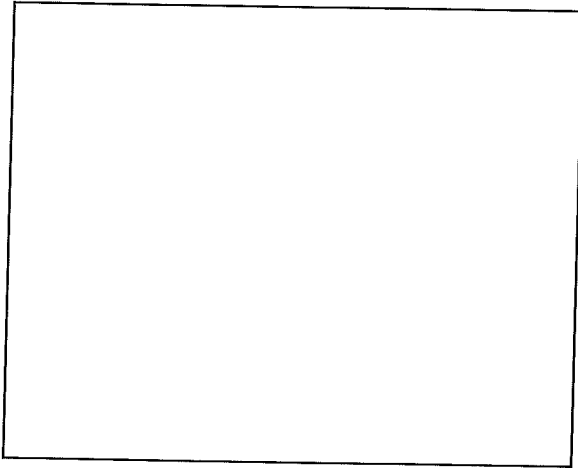
**Project Benchmark: Poleline / Cecil**

Location: Township: T 51 N  
Range: R 05 W  
Section: 25  
Quarter: SE  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: 2" Aluminum cap being the south corner of section 25

Elevation: NAVD 1988 2228.30 (calculated)  
NGVD 1929 2224.48 (archive)

Established By:



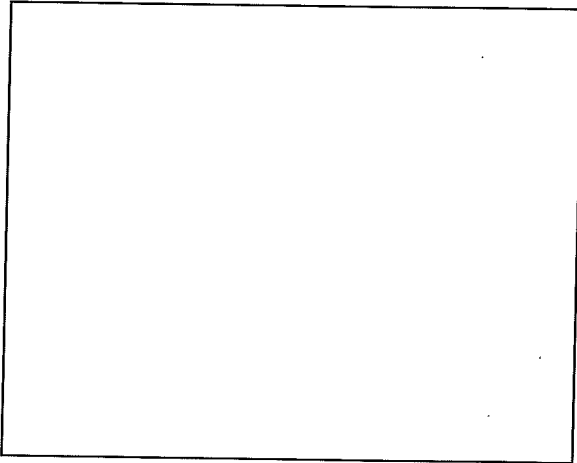
**Project Benchmark: Poleline / Greensferry**

Location: Township: T 51 N  
Range: R 05 W  
Section: 26  
Quarter: SE 1/4  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: rebar in the southwest corner of the intersection

Elevation: NAVD 1988 2213.57 (calculated)  
NGVD 1929 2209.75 (archive)

Established By: JUB Engineers 2012



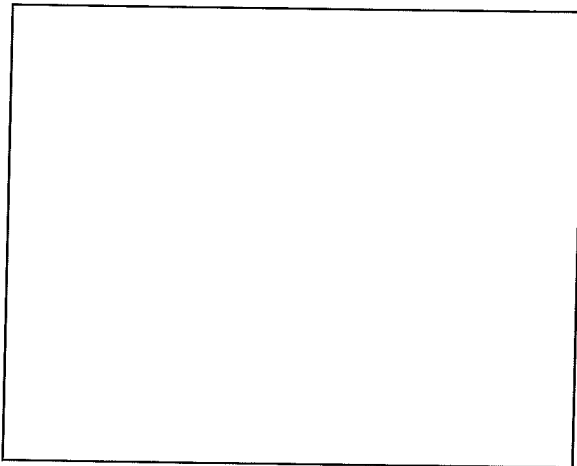
**Project Benchmark: Teton / Idaho**

Location: Township: T 51 N  
Range: R 05 W  
Section: 35  
Quarter:  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description: City Fire Hydrant #836. Southwest bolt with "X". Approximately 175 feet east of the intersection of Idaho / Teton

Elevation: NAVD 1988 2224.32  
NGVD 1929 2220.50 (archive)

Established By:



**Project Benchmark: (future)**

Location: Township: T XX N  
Range: R 0X  
Section:  
Quarter:  
N. LAT:  
W. LONG:  
(Coordinates are for reference only)

Description:

Elevation: NAVD 1988 XXXX.XX

Established By: