

ATTACHMENT G

SURVEY INFORMATION

Christopher M. Hannett

From: Rick Brooks <RBrooks@bnbpc.biz>
Sent: Wednesday, August 08, 2018 11:23 AM
To: Christopher M. Hannett
Cc: Gio Gagliardi; David Duffy
Subject: RE: Ashokan Rail Trail, Ulster County (8193)
Attachments: LocalCoordinates GPS control.txt; Station Sketches.pdf; Station StatePlaneCoords.pdf; COVER_SHEET.pdf

Good morning Chris,

I had to wait for the managers to get back from Vacations so I could check that I'm sending you the current info.

I am sending you four documents: The cover sheet with the 10 GPS static stations noted, The 10 Station tie sheets, the station State Plane Coordinates, the Station project datum coordinates. The individual traverse stations are embedded in the CAD .dwg on the V-SURVCTRL-TRV layer were along the railbed and are probably mostly wiped out.

The project datum is Grid North, the project coordinates are with horizontal ground distances (not Grid distances). We held station 2 as the insertion point, into the State Plane Coordinate system and station two for the rotation into Grid North. The elevations are derived from the static observations and were not tied to a NGS benchmark. An applied a project wide scale factor of 0.99988795375 to move the State Plane Coordinates into the project datum. There should be ample information for the surveyor to do a site calibration to work off of the project plans.

If any questions please feel free to contact us.

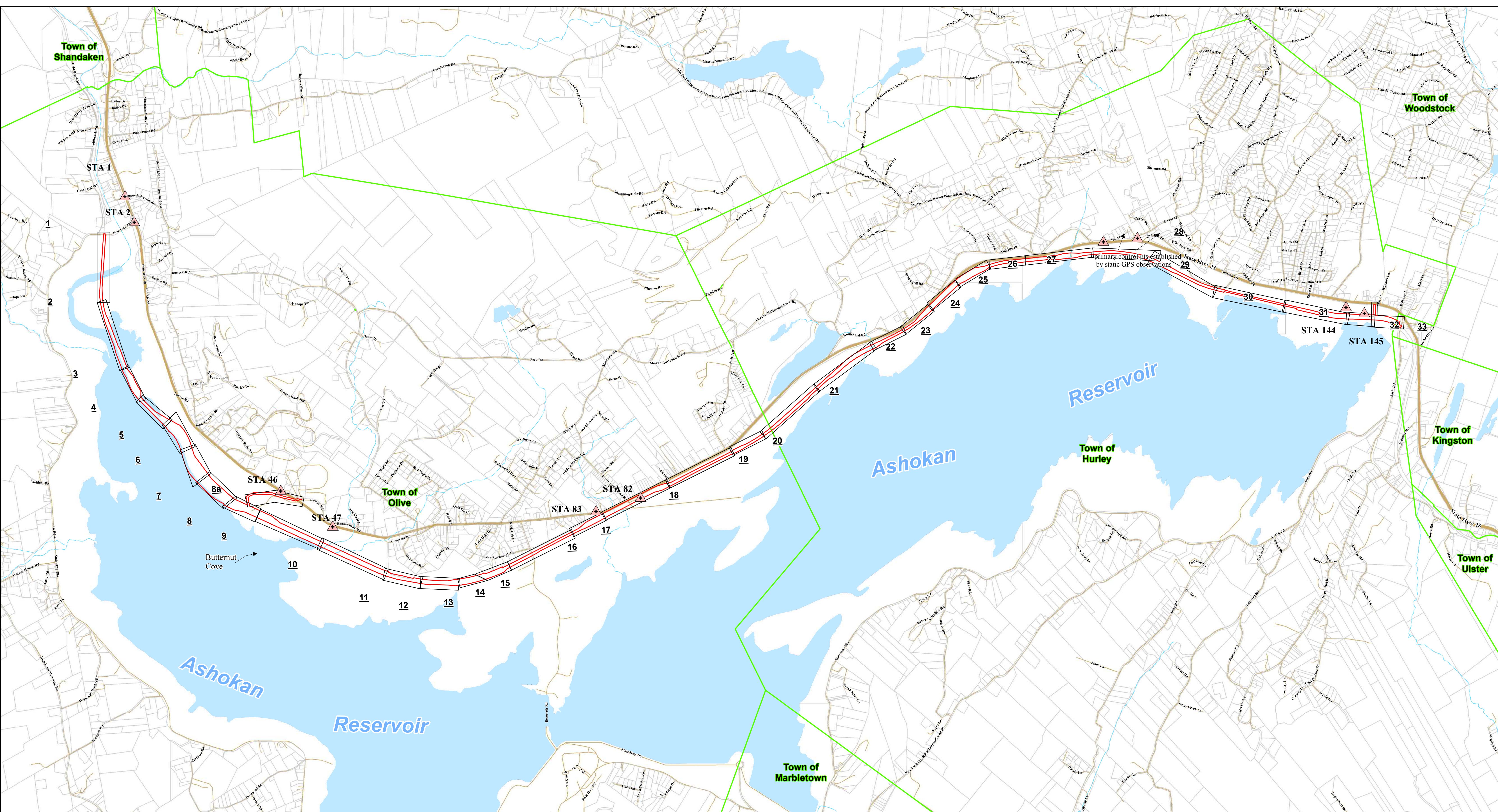
rick

Richard C. Brooks, LS
Vice President
Brooks & Brooks Land Surveyors
11 Main St.
Highland NY 12528
845.691.7339
Rbrooks@bnbpc.biz

From: Christopher M. Hannett
Sent: Friday, August 03, 2018 2:28 PM
To: Rick Brooks
Subject: RE: Ashokan Rail Trail, Ulster County (8193)

Thank you Rick. What the surveyor is looking for is baseline tie / control point tie details so he has some hard field points to tie into. It looks like your survey crews had a few points along Route 28 where they tied into specific locations so if there are any details of these locations showing mag nails, utility poles, fire hydrants, etc. that would be great.

Chris



BROOKS & BROOKS, PC
SURVEYING, PLANNING, GIS
11 MAIN STREET HIGHLAND, NY 12528 845-691-7339
Patricia Pauli Brooks, L.S. Richard C. Brooks, L.S.
Registration No. 49795 Registration No. 49600
I HEREBY CERTIFY that this map is a true representation of a survey performed by this office in the field in June and July of 2014 and updated 05 April, 2017 in accordance with the existing codes of practice as adopted by the New York State Association of Professional Land Surveyors.
Map last revised 06 June, 2017
BY: _____
Richard C. Brooks, L.S.
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1 July, 2014 JOB #8193 S\PROJECTS\8193\GIS\COVER_SHEET

MAP REVISIONS:	
date	comment
8/27/14	revised index and client name
9/8/14	revised index and client name
10/7/14	revised acreage
2/28/17	easement details
3/21/17	Title, area
4/05/17	Easement details
8/07/18	Number GPS Stations
SHEET VERIFICATION:	
field check	N/A
closure check	N/A
map check	2-28-17

GRID NORTH
The meridian distances and coordinate values shown hereon, refer to the New York State Coordinate System, East Zone (NAD-83/2011-12A) expressed in feet, except where noted. To obtain grid distances, multiply the distance shown by scale factor of 0.9998795375

The following "Continuously Operating Reference Stations" (CORS) were used for this control:
CORS Mon NYKT: N= 1,130,911.204FT
E= 619,674.824FT
CORS Mon NYHS: N= 1,246,359.084FT
E= 693,120.114FT

primary control pts established by static GPS observations

3 sheet number

SHEET VERIFICATION:	
field check	N/A
closure check	N/A
map check	2-28-17

PREPARED FOR
ULSTER COUNTY

TOTAL EASEMENT AREA: 230.41 ACRES

**BOUNDARY SURVEY
AND EXISTING CONDITIONS OF THE
ASHOKAN TRAIL EASEMENT**
TOWN OF OLIVE - TOWN OF HURLEY - TOWN OF WOODSTOCK
ULSTER COUNTY, NEW YORK

0 1,625 3,250 6,500 9,750 13,000 Feet
1 inch = 1,598 feet

COVER SHEET
35 SHEETS TOTAL

GPS OBSERVATION LOG

JOB #: 8193

DEP PROP ID:

DATE: 05/22/2014

FIELD CREW: BN & EA

COUNTY: Ulster

CONDITIONS:

TOWN: Olive

STATION #: 1

VIEW NORTH



VIEW SOUTH



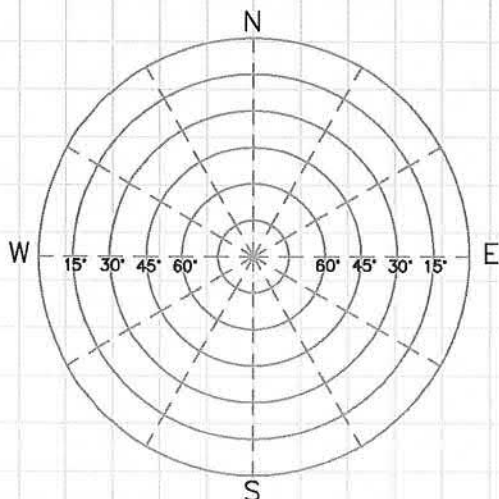
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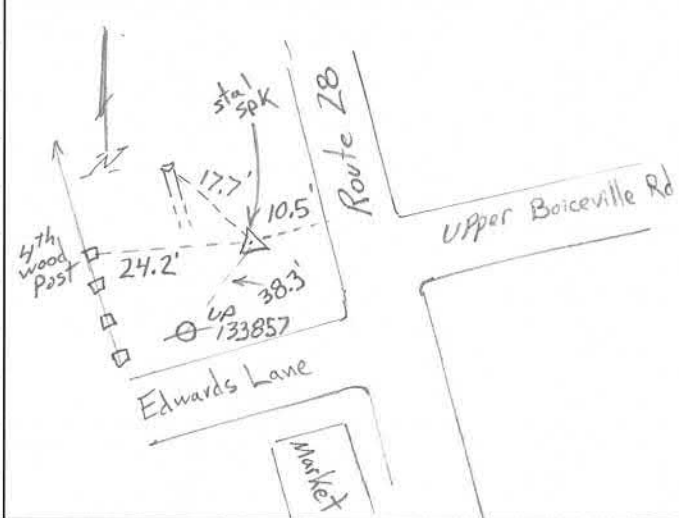
VIEW EAST



VISIBILITY OBSTRUCTION DIAGRAM



STATION TIES DIAGRAM



GPS OBSERVATION LOG

JOB #: 8193

DEP PROP ID:

DATE: 05/22/2014

FIELD CREW: BN & EA

COUNTY: Ulster

CONDITIONS:

TOWN: Olive

STATION #: 2

VIEW NORTH



VIEW SOUTH



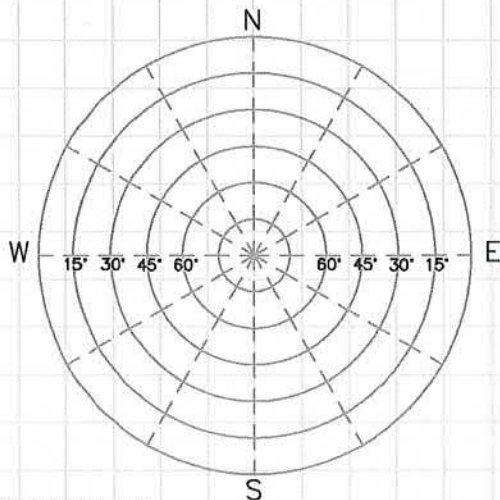
VIEW WEST



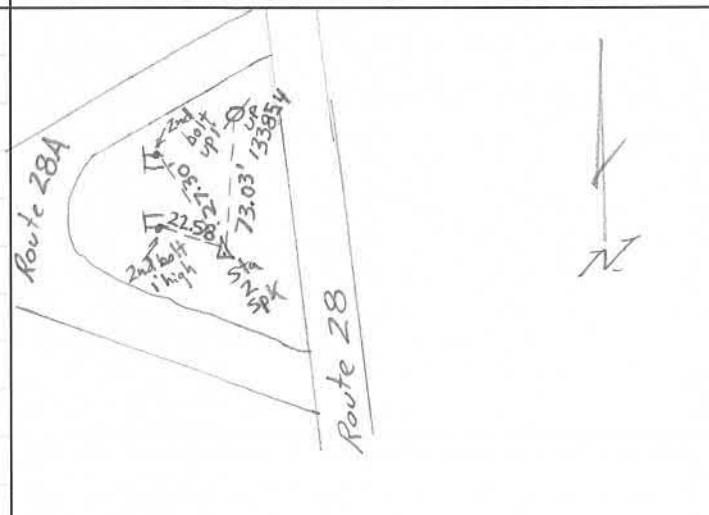
VIEW EAST



VISIBILITY OBSTRUCTION DIAGRAM



STATION TIES DIAGRAM



GPS OBSERVATION LOG

JOB #: 8193

DEP PROP ID:

DATE: 05/22/2014

FIELD CREW: BN, EA

COUNTY: Vester

CONDITIONS:

TOWN: Olive

STATION #: 46

VIEW NORTH



VIEW SOUTH



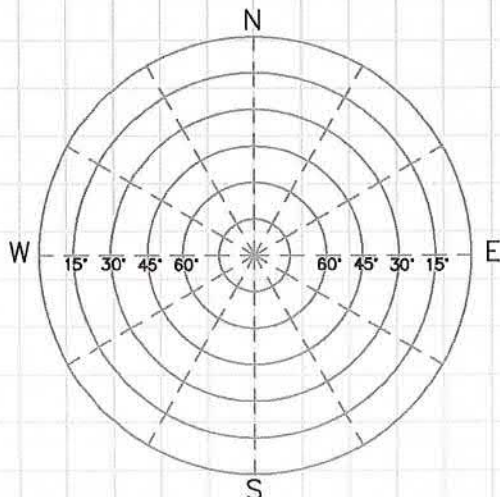
VIEW WEST



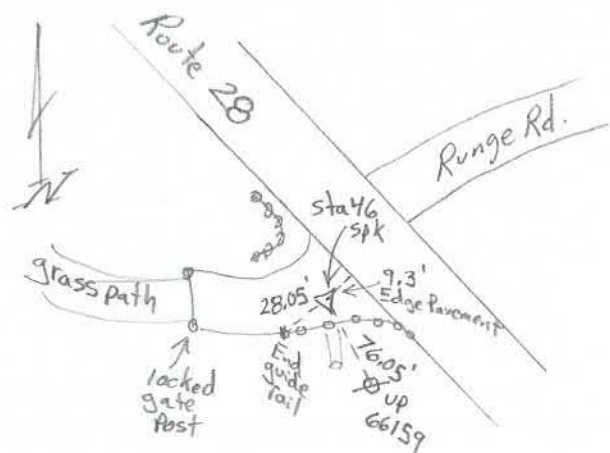
VIEW EAST



VISIBILITY OBSTRUCTION DIAGRAM



STATION TIES DIAGRAM



GPS OBSERVATION LOG

JOB #: 8193

DEP PROP ID:

DATE: 05/22/2014

FIELD CREW: BN, EA

COUNTY: Ulster

CONDITIONS:

TOWN: Olive

STATION #: 47

VIEW NORTH



VIEW SOUTH



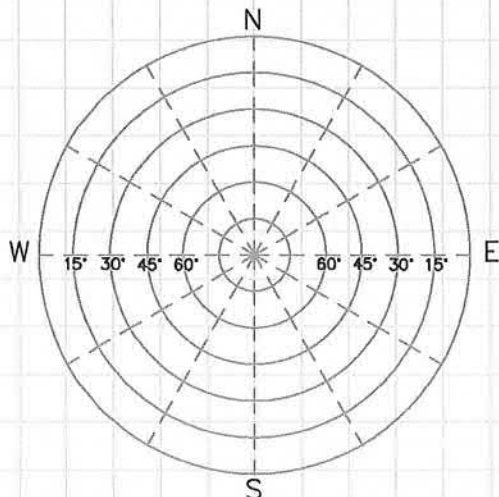
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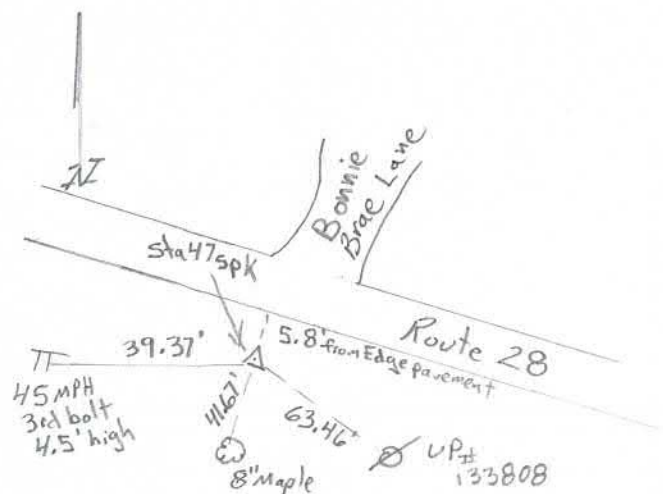
VIEW EAST



VISIBILITY OBSTRUCTION DIAGRAM



STATION TIES DIAGRAM



GPS OBSERVATION LOG

JOB #: 8193

DEP PROP ID:

DATE: 06-20-14

FIELD CREW: CG, JV

COUNTY: Ulster

CONDITIONS:

TOWN: Olive

STATION #: 82

VIEW NORTH

VIEW SOUTH

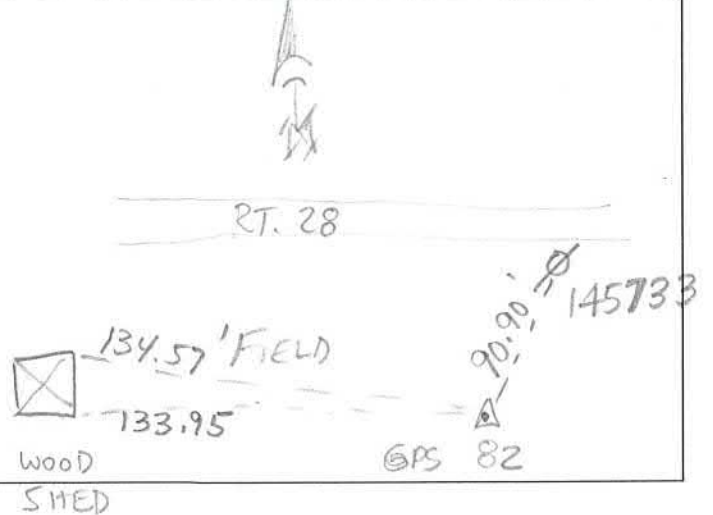
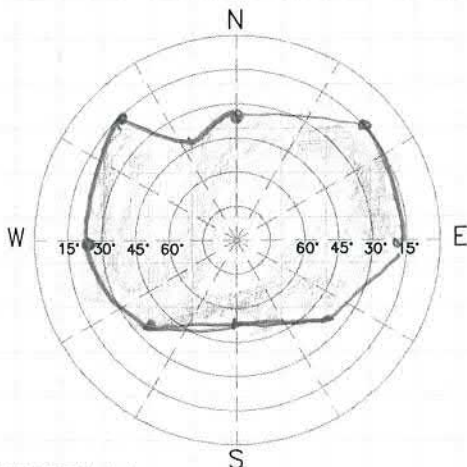
VIEW WEST

VIEW EAST

NO
photos

VISIBILITY OBSTRUCTION DIAGRAM

STATION TIES DIAGRAM



GPS OBSERVATION LOG

JOB #: 8193	DEP PROP ID:
DATE: 06-20-14	FIELD CREW: JV, CG
COUNTY: U/Sfel	CONDITIONS:
TOWN: Olive	STATION #: 83

VIEW NORTH

VIEW SOUTH

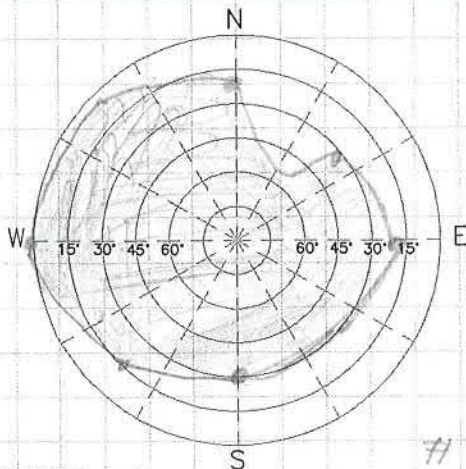
VIEW WEST

VIEW EAST

No Photos

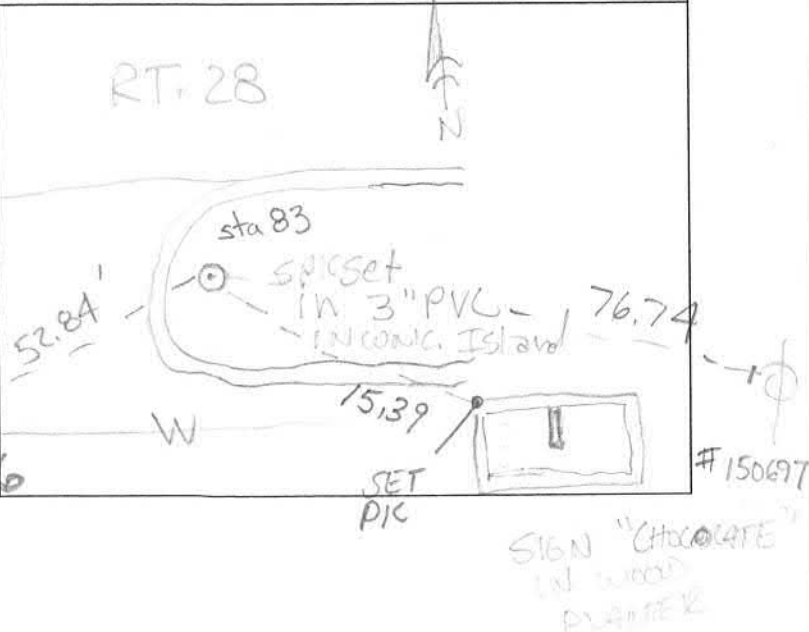
VISIBILITY OBSTRUCTION DIAGRAM

STATION TIES DIAGRAM



S/GPSprojects/FORMS/B&Bsitechart

#150696



#150697

GPS OBSERVATION LOG

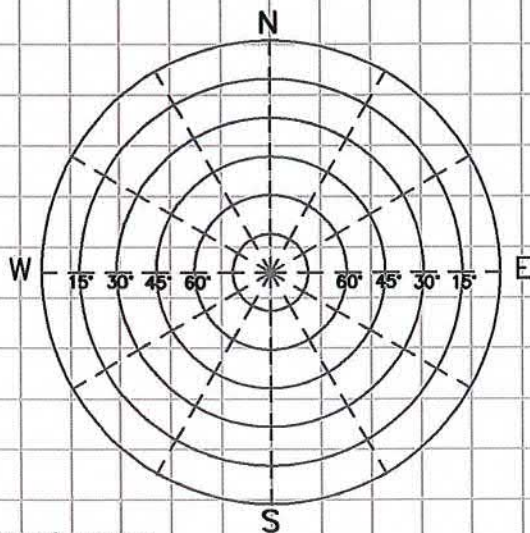
JOB #: 8193	DEP PROP ID:
DATE:	FIELD CREW:
COUNTY: V/ster	CONDITIONS:
TOWN: west Huiley	STATION #: 144
VIEW NORTH	
VIEW SOUTH	

VIEW WEST

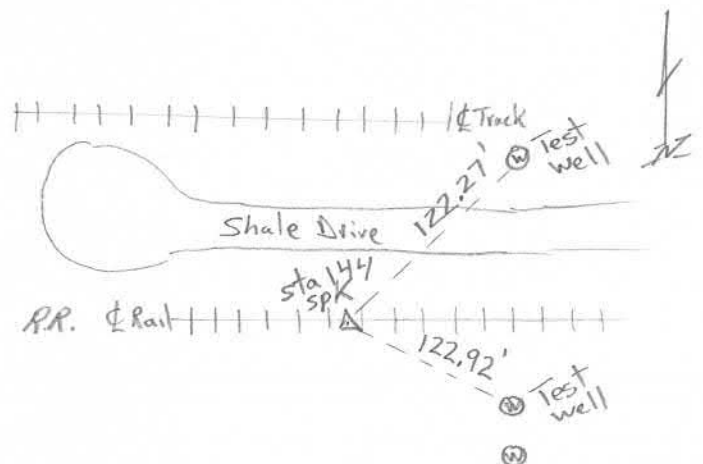
VIEW EAST

No Photos

VISIBILITY OBSTRUCTION DIAGRAM



STATION TIES DIAGRAM



GPS OBSERVATION LOG

JOB #: 8193

DEP PROP ID:

DATE:

FIELD CREW:

COUNTY: Ulster

CONDITIONS:

TOWN: West Hurley

STATION #: 145

VIEW NORTH

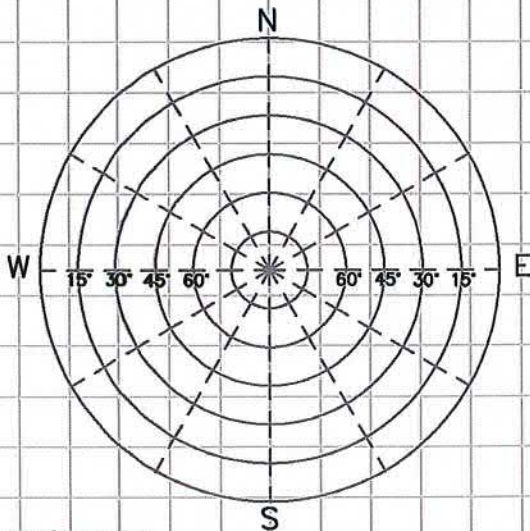
VIEW SOUTH

VIEW WEST

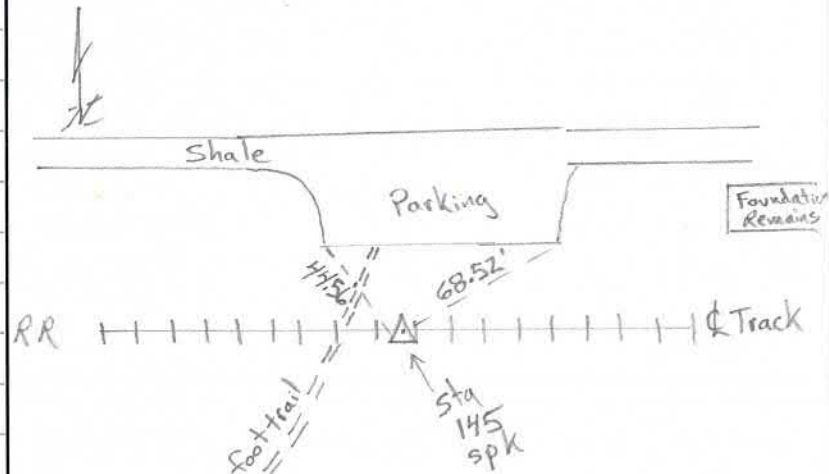
VIEW EAST

No photos

VISIBILITY OBSTRUCTION DIAGRAM



STATION TIES DIAGRAM



BROOKS AND BROOKS		Phone: 845 691 7339	
11 MAIN STEET		Fax:	
HIGHLAND NY 12528			
Project file data		Coordinate System	
Name:	S:\PROJECTS\8193\GPS\8193.vce	Name:	US State Plane 1983
Size:	329 KB	Datum:	NAD 1983 (Conus)
Modified:	6/10/2014 10:09:01 AM (UTC:-4)	Zone:	New York East 3101
Time zone:	Eastern Standard Time	Geoid:	GEOID12A (Conus)
Reference number:		Vertical datum:	
Description:		Calibrated site:	
Comment 1:			
Comment 2:			
Comment 3:			

Point List

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
Sta 1	1156336.3149	555370.6249	629.107	
Sta 2	1155283.4462	555718.2419	634.875	
Sta 46	1144688.9520	561986.8519	711.495	
Sta 47	1143761.1024	563307.0169	682.311	

3/13/2018 10:25:12 AM	S:\PROJECTS\8193\GPS\8193.vce	Trimble Business Center
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Project file data		Coordinate System	
Name:	S:\PROJECTS\8193\GPS\6-23-14.vce	Name:	US State Plane 1983
Size:	332 KB	Datum:	NAD 1983 (Conus)
Modified:	6/23/2014 10:30:56 AM (UTC:-4)	Zone:	New York East 3101
Time zone:	Eastern Standard Time	Geoid:	GEOID12A (Conus)
Reference number:	8193	Vertical datum:	
Description:	Calibrated site:		
Comment 1:			
Comment 2:			
Comment 3:			

Point List

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
82	1144516.2790	574286.1582	661.035	
83	1144242.9962	573209.3151	663.471	
121	1154539.2919	592504.3658	646.248	
122	1154670.5386	593722.8912	659.410	

3/13/2018 10:29:28 AM	S:\PROJECTS\8193\GPS\6-23-14.vce	Trimble Business Center
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BROOKS AND BROOKS		Phone: 845 691 7339	
11 MAIN STEET		Fax:	
HIGHLAND NY 12528			
Project file data		Coordinate System	
Name:	S:\PROJECTS\8193\GPS\7-22-14.vce	Name:	US State Plane 1983
Size:	249 KB	Datum:	NAD 1983 (Conus)
Modified:	7/31/2014 2:57:18 PM (UTC:-4)	Zone:	New York East 3101
Time zone:	Eastern Standard Time	Geoid:	GEOID12A (Conus)
Reference number:			
Description:			
Comment 1:			
Comment 2:			
Comment 3:			

Point List

ID	Northing (US survey foot)	Easting (US survey foot)	Elevation (US survey foot)	Feature Code
STA144	1151638.3741	602089.8121	595.190	
STA145	1151626.6577	602714.7591	591.274	

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Local Coordinates GPS control.txt

1, 1156336. 40675, 555370. 59740, 629. 04000, STA 1 SET SPKGPS
2, 1155283. 44600, 555718. 24200, 634. 88000, STA 2SPKSET
46, 1144687. 65213, 561987. 54631, 711. 56000, STA 46 SETSPKGPS
4782, 1153008. 10939, 587021. 95411, 658. 44000, TOB3 END CUT
83, 1144242. 94193, 573210. 67555, 663. 47000, STA 83 SETSPKGPS
121, 1154540. 39600, 592508. 00411, 646. 22000, STA 121 SETSPKGP
122, 1154671. 70294, 593726. 65013, 659. 41000, STA 122 SETSPKGP
144, 1151639. 53763, 602093. 56157, 595. 12000, STA 144GPSSPK
145, 1151627. 82190, 602718. 51810, 591. 27000, STA 145 GPS

Christopher M. Hannett

From: Rick Brooks <RBrooks@bnbpc.biz>
Sent: Friday, August 17, 2018 11:07 AM
To: cconstantine@sykimls.com
Cc: tom@asibacc.com; Christopher M. Hannett
Subject: Ashokan Rail Trail

Ok, sorry for delay, it is a four year old survey, it had to be restored, re analyzed etc.

As explained, to reproduce our 2014 boundary line/ topographic coordinate system a site calibration needs to be performed to establish the relationship between the RTK derived GNSS coordinate and the local project datum. We have had good success with site calibrations on shorter corridor sites, but we are not sure how well it will work with such a long linear (13 miles) application with limited recoverable control.

Our final work product was generated using ground distances, therefore RTK State Plane Coordinates will only be common for the GNSS hold point (station 2) referenced below. Our work product was for design purposes and not intended to be utilized for RTK construction stakeout purposes, with that said we think we can get you through the immediate problem. And as offered we can meet on site to assist.

During the 2014 survey we established off site GPS control Points due to dense tree cover and desire to create a more permanent control network. listed in the below table are the network adjusted State Plane Coordinates for the offsite control stations and their associated project datum horizontal ground coordinate. From what I understand, the below stations are the surviving control stations

The GNSS point(Hold point) is station 2 and those Static XYZ coordinates are the hold for the project

Station	SPC North	SPC East	Project North	Project East	Elevation
2	1155283.446	555718.242	1155283.446	555718.242	634.88
1	1156336.315	555370.625	1156336.407	555370.5974	629.04
46	1144687.952	561986.852	1144687.652	561987.546	711.56
47	1143761.102	563307.017	1143759.694	563307.9442	682.31
82	1144516.279	574286.158	1144516.263	574286.700	660.95
83	1144242.996	573209.315	1144242.942	573210.676	663.47
121	1154539.292	592504.366	1154540.400	592508.004	646.22
122	1154670.539	593722.891	1154671.703	593726.650	659.41

Rickashokan

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