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SMS Environmental

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AUG 15 2002
DEPT. OF ENVIRONMENTAL CONSERVATION

TO: Mark Peterburs
Project Manager
Alaska Railroad Corporation

FROM: Susan M. Schrader
SMS Environmental

DATE: August 15, 2002

RE: Summit Siding Field Observations and Sampling
ARRC MP 312.5

I conducted an inspection and limited investigation of the referenced site on Thursday, August 8, 2002, accompanied by Marc Peterson of ARRC's EHS Department. As you may recall, Marc had during the previous week observed fuel odors and what appeared to be a water seep with a sheen in the vicinity where an old concrete foundation and soil had been moved to groom the drainage ditch and prepare for the planned siding extension and access road. An ARRC operator with an excavator assisted us during the inspection.

The objectives of the site inspection were:

1. Determine the source and extent of fuel residue.
2. Evaluate the potential impact on the planned siding extension and access road.

Site Background and Description

Based on discussions with ARRC personnel and representatives from the FAA and the Alaska DOT-PF, the past railroad operations at Summit were conducted by the federal railroad from the early 1940's through approximately 1963, when the Parks Highway was laid between Summit siding and the Summit airstrip. Most of the Summit airstrip property was transferred to the State of Alaska on May 27, 1966. Railroad support during the operational period consisted of spotting tanker cars on the siding. Fuel was unloaded from the tanker into an enclosed pump situated on a concrete foundation about 8 ft by 8 ft in size. The fuel was pumped through a 3 in or 4 in pipe above ground to a storage tank at the airstrip. An aerial photograph taken in 1989 still shows the remnant of a road connecting the airstrip property directly to the fuel pump house. There were two small sheds at the north end of the siding that were reportedly removed sometime during the 1970's when the pump house and pump were probably removed at the same time. The ARRC has not conducted any operations at Summit except for occasional use of the siding, and no section houses or other operational facilities were ever built or operated at Summit by the ARRC.

Figure 1 presents a layout of the site, and Figure 2 provides a sketch of the cross section shown on Figure 1. The cross section goes through the former location of the concrete foundation that supported the fuel pump house and represents the area where the fuel odors were originally observed. Other than a short 3-inch section of rusty pipe, there was no evidence of the above ground piping system that used to carry fuel to the airstrip from the fuel pump.

The immediate vicinity of Summit siding is covered by a thick organic mat of peat and decaying flora. Beneath the 3 inch to 6 inch organic mat lie gray and green layers of clay, with little sand or gravel, and few cobbles. The depth of the clay is unknown, but extends to at least 6 ft below ground surface (bgs) on the slope directly above and below the former location of the concrete foundation. Stormwater flows down the slope east of the siding to a drainage ditch. The drainage ditch, which flows northward along the siding, consists of clay at the base with a thin layer of silt on top of the clay below the water. At the north end of the siding, water collected in the drainage ditch is diverted through CMP beneath the siding and the main to the west side of the track where it eventually joins area stormwater drainage to a surface water body approximately 1,800 ft southeast of the CMP outfall.

Site Observations

1. The fuel residue is confined to an area topographically downgradient of the former location of the fuel pump house. Pits were excavated upgradient and cross gradient of this area and no evidence of fuel residue was observed. The fuel residue appears to be from surface spills that occurred during fuel pumping operations over 35 years ago. The fuel spills were apparently absorbed by the thick organic mat and were prevented from entering the subsurface by the underlying clay. The fuel odor noted during and after grooming of the ditch resulted after the organic mat was disturbed by the excavating equipment, releasing the more volatile fuel fraction into the air and the less volatile fuel fraction into the water that seeped out of the disturbed peat.

2. The drainage ditch that receives stormwater from the affected slope was checked for the presence of fuel residue. There was no observable sheen on the water in the drainage ditch, except when the base of the ditch was disturbed directly downgradient of the former location of the concrete foundation. This effect is probably because heavy fuel residue remains entrained in the thin silt layer lining the clay ditch. The ditch was checked at intervals between the affected slope area and the CMP and no sheen was observed when the ditch was disturbed beyond the immediate vicinity of the affected slope area. The outfall of the CMP on the west side of the track was also checked for fuel sheen and none was observed.

3. The fuel residue is believed to be significantly weathered from being exposed for an estimated 37 to 62 years, depending on when the release(s) occurred during the operational life of the pump system. Samples were collected from the peat upgradient of the former location of the concrete foundation location, and from a downgradient location where the odor of fuel was discernible. A sample was also collected from a small surface lens of gravel that had a fuel odor; the gravel appeared to be fill material used as a base for the concrete foundation. The gravel sample result will be critical to evaluating the fuel residue concentration, as the DRO fraction within the peat may interfere with observation and quantitation of fuel residue on the sample chromatograms.

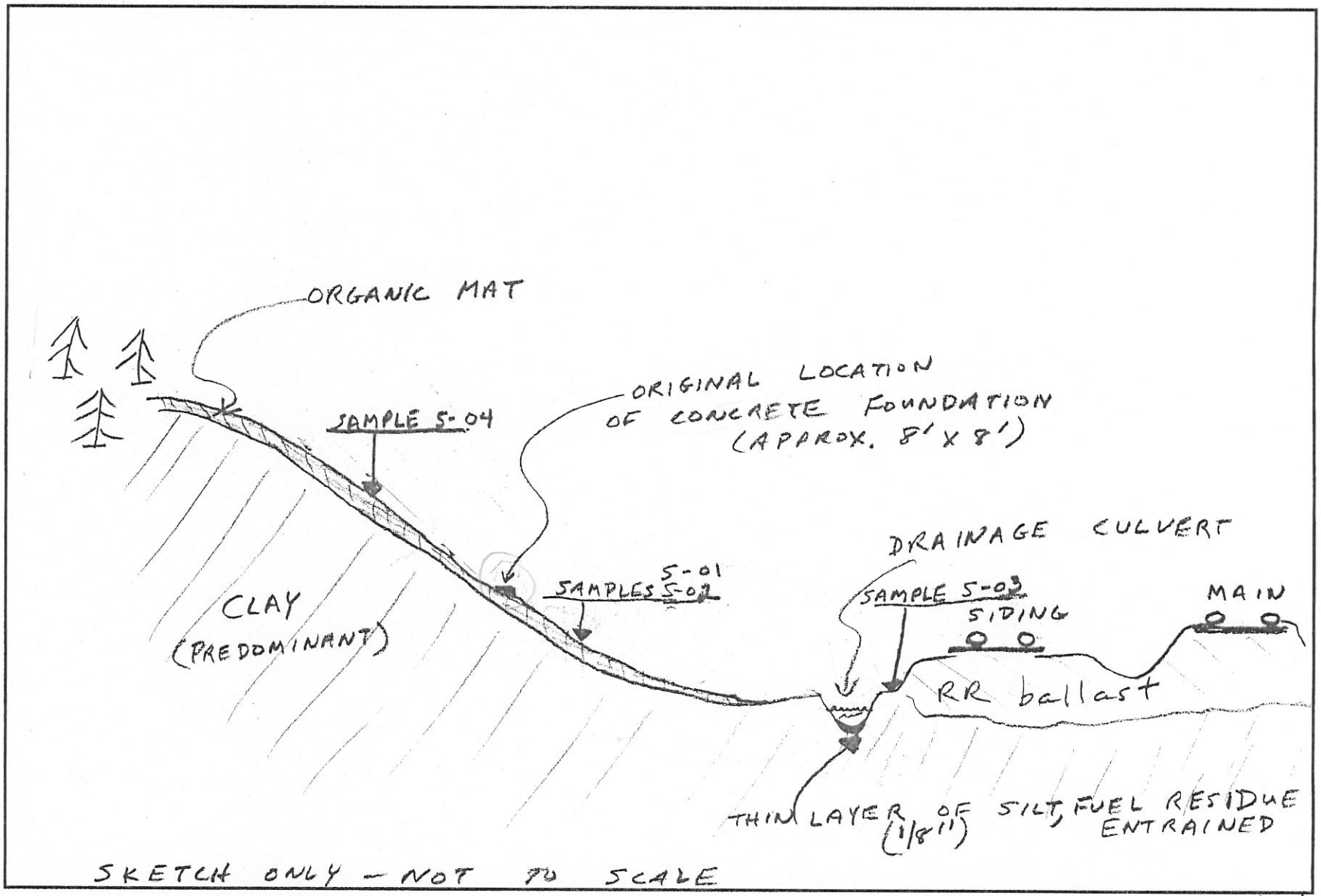
Sample results will be available on approximately August 23, and I will forward them to you when they are received.

Conclusions and Recommendations

The area of fuel residue is not significant (approximately 20 ft X 30 ft) and is confined to locations topographically downgradient of the former location of the concrete foundation. Operations by the FAA and the federal railroad were reportedly conducted between 1940 and the mid-1960's, and the residue is apparently the result of surface spills during that operational period. The drainage ditch along the siding at the CMP outfall west of the track are free of fuel residue, based on field observation. Fuel odor and sheen were released when the organic mat was disturbed on the day of the inspection, but were not otherwise observable. Fuel residue concentrations are not anticipated to be high, but this can not be verified until the sample results are in.

I understand that the staging of materials for the track extension is planned for this week (August 15-16), and that the work required for the siding extension is largely done by on-track equipment. I recommend that the organic mat in the entire area be disturbed as little as possible to minimize the clay silt accumulation in the drainage ditch and to prevent further release of fuel residue from the affected area below the former concrete foundation location.

If the access road is constructed, the organic material may require special management, depending on the concentration of fuel residue in the samples. If the access road is paved, and the concentrations are high, it is possible that ADEC will allow it to be placed beneath the surface of the road. Alternatively, if the sample results indicate a fairly low concentration of residue, it is possible that no additional soil management procedures will be required, particularly given the thick clay that underlies the area.



8/12/02

Figure 2.
Cross Section
Summit Siding

CONTROL POINTS

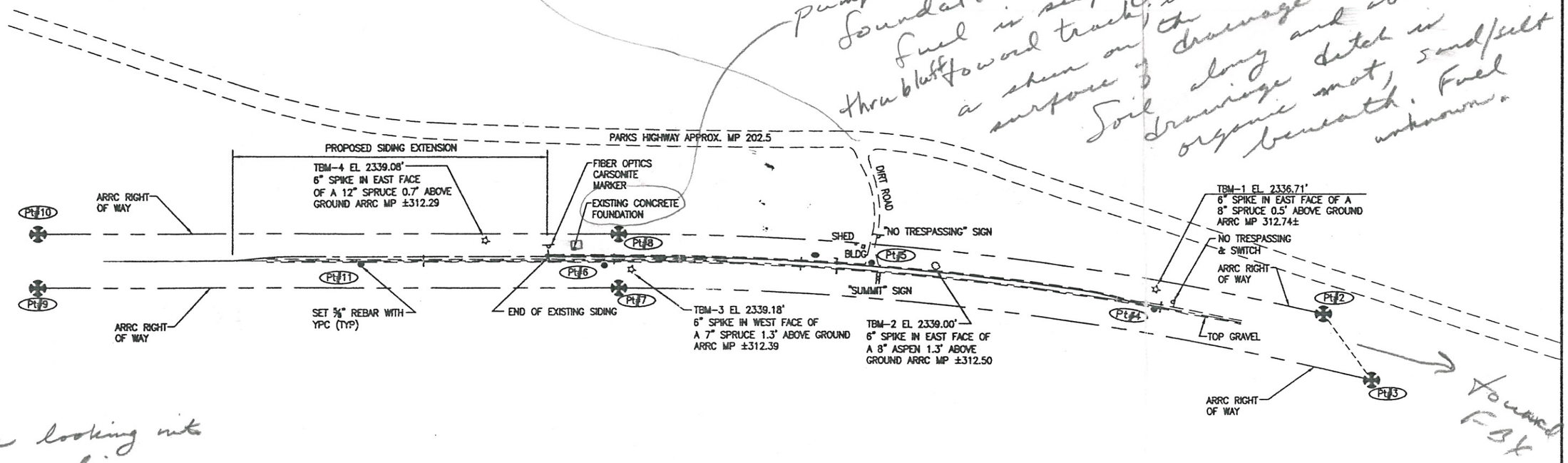
Pnt. #	Northing	Easting	Elev.	Description
2	12077.8909	6565.3518	–	A.C. MON.
3	12078.9093	6867.8605	–	A.C. MON.
4	11571.7232	6191.1716	2335.49	SET REBAR
5	10818.1653	5457.8148	2338.89	SET REBAR
6	10003.8354	4900.1688	2337.22	SET REBAR
7	9999.9800	4999.9900	–	A.C. MON.
8	10114.2157	4836.0130	–	A.C. MON.
9	8251.8776	3781.2527	–	A.C. MON.
10	8366.4693	3617.4120	–	A.C. MON.
11	9270.9275	4383.9453	2339.74	SET REBAR

Airstrip

turn off MP 202.5
ARRC MP 312.5

8/2/02

Pump house foundation – fuel is seeping downgradient thru bluff toward track, it is a sheen on the surface & drainage ditch. Soil along and above drainage ditch is organic mat, sand/silt beneath. Fuel unknown.



SCALE

400 0 200 400 800

(IN FEET)

1 INCH = 400 FEET

8/2/02

Jim –
We are looking into property ownership, easements, permits etc for the pump and line. We'll keep you advised as we go along.

Thanks
265-2429

REV.	DATE	BY	REVISION

ALASKA RAILROAD CORPORATION
OFFICE OF THE CHIEF ENGINEER
P.O.BOX 107500, ANCHORAGE, ALASKA 99510-7500 (907) 265-2456

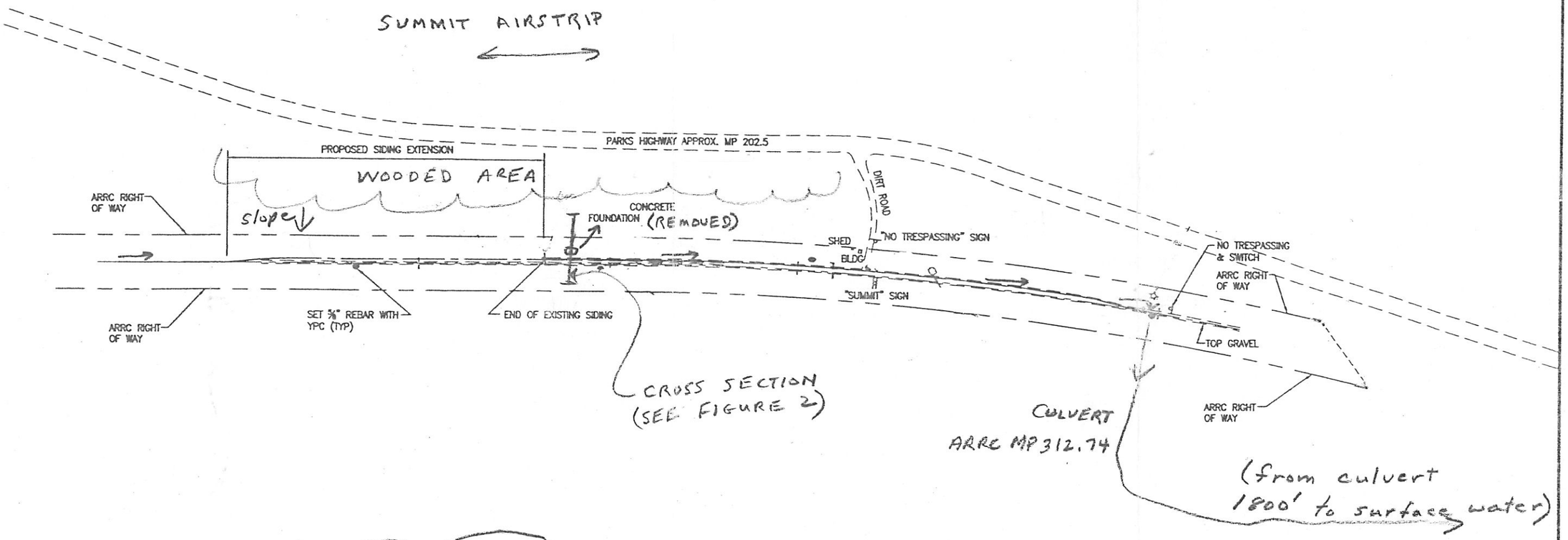
PROJECT: **SUMMIT SIDING EXTENSION**

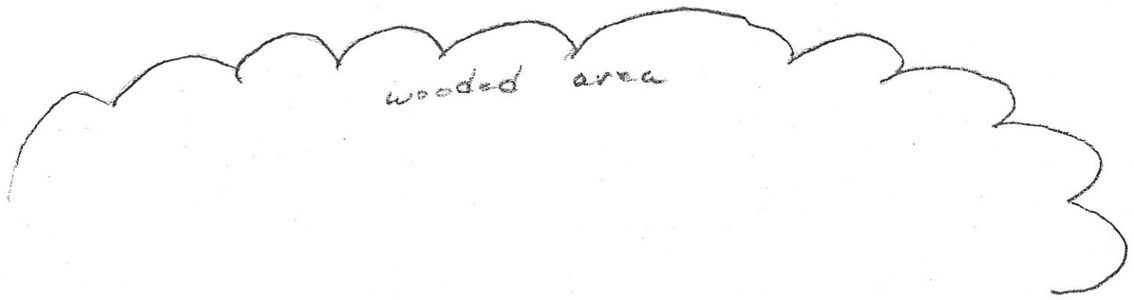
TITLE: **SURVEY CONTROL**

DESIGNED BY: R.E.H.
DRAWN BY: P.C.L.
APPROVED BY: T.E.B.

SCALE : AS SHOWN
DATE : JAN. 24, 2002

FILE: PRO-SUMMIT-SIDING.DWG
DWG NO. 1 OF 5





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PROJECT: **SUMMIT SIDING EXTENSION**

TITLE:

REV.	DATE	BY	REVISION

DESIGNED BY:
DRAWN BY:
APPROVED BY:

SCALE : AS SHOWN
DATE : JAN. 24, 2002

FILE: PRO-SUMMIT-SIDING.DWG
DWG NO. 1 OF 2

8/14/02