SITE NUMBER: H-R6-04
LOCAL NAME: Anderson Ponds
WRIA: 20.0440B

NORTH COAST OFF CHANNEL SITE INVENTORY DATA

RIVER SYSTEM: Hoh River **DATE:** 8/11/87 **OBSERVER:** Young/Nettnin

CHANNEL TYPE: Valley Wall Tributary

TRIBUTARY TO: Hoh River

SITE LOCATION: RB @ River Mile - 12.3

LEGAL DESCRIPTION:

	UPPER END	LOWER END
WATER TEMP.:	Channel was dry.	

SITE SIZE: **Length-** 1200 m from mouth to Oil city road.
Width- 10-15 ft
Depth- Dry

WATER SOURCE: N/A

DIRECTIONS TO SITE: West on Oil city road for approx. 1.3 miles. The trib. crosses Oil city road just west of the access road to the Anderson farm.

FISH ACCESS AND CURRENT USE: Access appears good when water is flowing.

FLOODING POTENTIAL: Appears to carry large flows in winter.

LANDOWNER: Formerly Ron Anderson. Sold in 1989 to ?.

COMMENTS & RECOMMENDATIONS: This trib. flows into a marsh area 400-450 m below the Oil city road. This marsh may become a fair sized pond in the winter. There are three egress channels out of the marsh. The egress to the west connects with **H-R6-01**. The egress to the east connects with **H-R6-08**. The egress to the south is a continuation of **H-R6-04** and flows directly to the Hoh river. It passes between two shallow gravel pits which both hold water at higher flows. The pit to the west was holding a small pool of water on both this survey date and on 9/3/87. The pits currently do not have well defined egress channels.

GPS: (decimal degrees, Datum WGS84): 11/27/02
upper project - N47.79041, W124.27672
egress - N47.78910, W124.27588

DATE: 11/20/87 **OBSERVER:** Young/Nettnin
Main channel was still dry. The west pit had water covering the entire bottom. The east pit was still dry.

DATE: 12/3/87 **OBSERVER:** Young/Nettnin
The small gravel pit ponds near the lower end of this channel are now full of water. The west pond has an estimated depth of 6-8 ft. The east pond ranges from 2-3 ft deep. Both pond areas have very shallow egress channels at this time. (see photos taken on this date)

The southern egress from the large swamp of H-R6-04 (which runs between the two gravel pit ponds) is carrying 3-5 cfs. This channel appears to provide the best fish access for the entire H-R6 area.

The channel on the west end of the swamp (which flows through the small culvert under the gravel pit access road and connects H-R6-04 with tributary H-R6-01) acts as an egress from the swamp. At present water levels it may also provide fish access to the greater H-R6 area.

The egress channel to the east of the swamp (which enters the river just below the confluence with channel H-R6-08) has a 3 foot falls near its mouth. Even at present high flows the water surface of the river is 4-5 ft lower than the brink of the falls. This outlet therefore appears to provide an exit, but no access into the H-R6 area.

DATE: 12/10/87 **OBSERVER:**
Entrance at river looks good. Highest flows of this fall occurred 2 days ago. River had almost topped the stream bank which separates the river from the outlet channel of H-R6-04. West pits did not have an egress. All water in this area was clear.

DATE: 1/6/88 **OBSERVER:**
There is currently no running water in the egress channel which runs through the gravel pit area near the lower end of channel H-R6-04. Several pre-smolts were seen trapped in a small pool at the outlet of the large culvert. There still appears to be plenty of standing water in the marsh area. Fish that moved into the marsh area, however, fish could easily have become stranded in the shallows as the water receded. There is still a lot of pooled, standing water in the deeply cut channel of H-R6-04 just upstream of the marsh. Channel H-R6-08, a small amount of water was seen running over the small falls and directly into the river at the lower end of H-R6-08. Note: A previously undescribed channel, which appears to carry water from the marsh directly to the river during times of extremely high runoff, is located between the southern egress of H-R6-04 and lower end of H-R6-08.

DATE: 1/13/88 **OBSERVER:** Young/Nettnin
No fish were found by electroshocking at the culvert crossing under the Oil city road. Lots of coho and trout were found in the pools of the lower channel which are now isolated due to low flows.

DATE: 1/19/88 **OBSERVER:** Nettnin
These observations were made in the gravel pit area near the lower end of channel H-R6-04. Presently, water to a depth of five inches is running through the culvert between the two pits. The is no drop at the outlet of the culvert. A small jam at the inlet of the culvert seems to help reduce water velocity and does not appear to greatly hinder fish passage, and so was left in place. Water was seen running across the road from the middle pond to the egress channel. The trib to the west of the access road (H-R6-01) was dry. The following bench mark measurements were also made: TBM to w.s. at southern outlet to marsh - 4.8 ft; TBM top of d.s. end of culvert to w.s. - 2.5 ft

Time 1600
Air Temp. 43F
Water Temp. 42F
Dissolved Oxygen (mg/l) 10.0

DATE: 2/18/88 **OBSERVER:** Young/Nettnin
No fish were found by electroshocking in upper swamp area. Fish are still located in the swamp area below main culvert.

DATE: Summer 1988 **OBSERVER:** Young/Nettnin
Three gravel pit ponds were excavated and an egress dug to connect the ponds to the lower end of HR-6-4. The ponds total approximately 0.8 acres in surface area.

Date: Summer 1989 **OBSERVER:** Young/Nettnin
A gravel pit pond was excavated and an egress dug to connect the pond to the lower end of HR-6-4. Channel HR-6-4 was diverted into this pond just below where water flows out of the marsh area of HR-6-4. Shallow depressions in the marsh area were deepened and better defined. The access road to the area was built up to keep a nearby tributary from overflowing into the 3 west ponds and the streambed in this tributary was excavated down 3 feet to help prevent the overflowing problem. A control log was installed in the lower end of HR-6-4 and two rock controls were installed in the outlet of the 3 west ponds. The lowermost of the 3 west ponds was deepened by about 2 feet.
New pond size is about 1.5 acres. Total rearing area including ponds and connecting channels that were excavated is about 2.5 acres.

DATE: 9/26/89 **OBSERVER:**
Very little water remains in any of the 4 ponds.
Landowner installed a small culvert in the outlet of pond 4 to gain access to the property behind the pond. WDF replaced that culvert with a 4 ft culvert.

DATE: 10/23/89 **OBSERVER:**
Pond 4 was full with good inflow, but water had not reached culvert in outlet channel. Ponds 1-3 have filled and all are flowing. Marsh channels were flowing with very little flow coming from the spring channel at east end of marsh (H-R6-08). Most of the water entering the marsh is coming from the tributary. Trib. (H-R6-01) located on the west side of access road was flowing.

DATE: 10/26/89 **OBSERVER:** Young
There has been between 0.75 and 1.0 inch of rain in the last 24 hrs. Flow in the Anderson # 1 channel (near the smolt trap site) was estimated at 4-5 cfs. The water temp here was 11 C. There is water flowing over the entire length of the new control log. Looks like notching of the log may be necessary in order to accommodate passage of juvenile coho.

Flow in the Anderson # 2 channel (near the smolt trap site) was estimated at 2 to 4 cfs. The water temp 50 ft up from the mouth was 12 C. There appears to be good numbers of fish moving in to the # 2 channel. Spooked 6 or 8 juvenile coho just downstream of the new rock control. Saw several fish hitting the surface in the ponds.

The creek to the west of the Anderson Ponds (H-R6-01) is flowing at a rate of 2 to 4 cfs.

DATE: 11/7/89 **OBSERVER:** Young
It has rained 2 to 3 inches in the last few days. Flow in the Anderson # 1 channel (at the new culvert) was est. at 9 cfs. No fish activity was seen in the large pond (i.e. no surface activity). Water is perking out of the large pond and has completely covered (to a depth of 3 to 6 inches) the recently cleared "camping site" located between the pond and the river.
Flow in the Anderson # 2 channel was estimated at 2 to 4 cfs. A lot of water was seen perking in along the north east bank of the lower pond. A few fish were seen hitting the surface in the middle pond.

DATE: 11/8/89: **OBSERVER:**
Heavy rains have filled pond 4 to overflowing due to the constriction of the culvert in the outlet channel. Culvert was partially plugged be woody debris. Debris was removed but pond level remained at near overflow stage. Heavy flow over log control is eroding stream bank on the ends of the logs. Marsh area is level full. Later site visit showed that water had topped the berm between pond 4 and its outlet channel and had washed gravel into the channel.

DATE: 11/89 **OBSERVER:**
Outlet of pond 4 dried up from the culvert downstream.

DATE: 12/3/89 **OBSERVER:**
Heavy rains over a 3 day period combined with snow melt in the mountains brought the Hoh River to its highest level in 3 years. Very little effect from this high water was evident in the pond area.

DATE: 12/18/89 **OBSERVER:**
Has not rained for 2 weeks. Outlet of pond 4 has dried up from the culvert down to the confluence with the outlet of ponds 1-3. Only a small pool remains below the control log with a dozen juvenile coho. There is still a good flow into pond 4 and a good flow out of ponds 1-3.

DATE: 11/14/89 to 1/25/90 **OBSERVER:** Young, Nettnin
The low flow notch in the control log was modified to help upstream fry passage.
After the high flows of early Nov. and Dec. the Anderson #1 channel showed signs of erosion. The culvert at the outlet of the new pond was too small to handle peak flows. The excess water had flowed across the area of land between the pond and outlet channel. Water had also flowed around the control log causing a good deal of erosion. One set of shear logs (in the channel above the marsh) was also washed away. Successive freshets have continued to eroded around the ends of the control log but have caused little additional damage.

Anderson Ponds

		Pond #1		Pond #2		Pond #3		Pond #4		
	Date	Upper	Lower	Upper	Lower	Upper	Lower	Up	Mid	Low
Pre-Proj.	1-19-88	---	---	---	---	---	---	42°	---	---
" "	3-8-88	---	---	---	---	---	---	---	---	45°
Post-Proj.	12-17-88	---	---	---	---	---	45°	---	---	---
" "	3-4-89	---	---	---	---	---	37°	---	---	34°
" "	7-25-89	---	74°	---	72°	---	74°	---	---	---
" "	8-3-89	---	---	---	---	---	---	69°	66°	65°
" "	8-7-89	70°	74°	72°	71°	70°	70°	76°	73°	70°

DATE: 11/21/94 **OBSERVER:** Nettnin/Darrow
Anderson II - root wad has floated down to double culverts during some past high flow. It is not causing any serious blockage problems at present time.
There is a scour hole (14'x7'x3') in lower channel of Anderson II, above old trap site. It was observed last year, that during low flows, coho can be stranded here.
No fish were seen around project.

DATE: 3/22/95 **OBSERVER:** Darrow
Anderson II - root wad that has floated down to double culverts is not causing any passage problems at present flow.
Scour hole in lower channel of Anderson II, above old trap site still exist and may become a fish trap under low conditions. Anderson I is well vegetated.
Observed surface feeding at both ponds.

DATE: 11/2/95 **OBSERVER:** Powell/Darrow
The double culverts at Anderson II, had root wad cut apart so there is no threat of blockage. There was some recent beaver activity where the beaver has started to place sticks in front of the culverts. We removed all the sticks except for some larger debris inside both of the culverts; it may float out during high flows. One of the double log controls from Anderson Cr. Channel was also in the culvert and was removed. It was placed on the bank but may float down during high water.
Anderson I looked fine and was well watered. No fish were observed at either location.

DATE: 4/1/96 **OBSERVER:** Darrow
All channels and feeders (including the intermittent creek along the road into the project) were flowing. Double culverts at outlet of Anderson II were free of debris. There were two small, low beaver dams at bottom portion of Anderson I but they were fish passable; debris was removed. Three to four coho fry were observed at the confluence of the channels.

DATE: 10/28/96 **OBSERVER:** Darrow
Good strong flows (2.5 - 3 CFS) in and out of pond. Double culverts were clear of debris. Outflow to river was unrestricted. Anderson I had a small, partial beaved dam at outlet of lowest pond. There was still very good fish access. Both sites looked good!

DATE: 3/22/97 **OBSERVER:** Darrow
Baffles in Anderson II channel are more firmly in place/stable with the increased growth of vegetation. Lower section of channel has some nice spawning gravel. Estimated flow through culverts is 2.5-3.5 CFS.
Anderson I - all 3 ponds have well established submerged vegetation, and alder/willow growing around east side of the lower two ponds is getting dense. There was a small beaver dam at the outlet of the bottom pond. High river flows have whittled protective peninsula along egress channel down - it is only 25-30 feet from Anderson I egress to river.

DATE: 10/1/97 **OBSERVER:** Nettnin
- Project looks good. Culvert clear, channels unrestricted.
- Rising fish observed. One otter, one heron, two deer also observed.
- A pole structure, equipment trailer and pieces of equipment on LB between ponds one and two.

DATE: 3/14/98 **OBSERVER:** Darrow
Both channel flowing ~1/2 - 1/3 CFS from Anderson I and 1 1/2 - 1 3/4 CFS from Anderson II. Anderson I had thick aquatic growth and moderate growth in Anderson II. Numerous ducks were observed and a small herd of elk. No fish barriers were encountered. Salmonids were observed rising in Anderson II.

DATE: 10/29/98 **OBSERVER:** Darrow
Both ponded systems I and II are very low, despite 6+ inches of rain over the past 3 weeks. Inlet water to pond II goes subsurface approximately 20 meters upstream of the pond. Small beaver dam below double culverts was cleared. Water needs to rise 50+ cm to flow. Pond I needs at least 30 cm to flow. Two log revetments placed along the right bank leading into inlet channel at pond II have washed out, 6 are still in place but several of these have sagged due to undermining. Narrow isthmus peninsula protecting the lower channel confluence from the river is still there although the tip has eroded some. No fish were observed.

DATE: Fall-winter/98 **OBSERVER:** Mosley
Forty-four coho redds and 7 chinook redds were observed during the survey season.

DATE: 3/29/99 **OBSERVER:** Darrow
Unrestricted flows at both ponds. Anderson I has a small, old beaver dam at the rockery. Double culverts had some drift material but flow was not impeded. Area below the culverts to the confluence is well graveled. Observed rises on both ponds. Present property owners are now not allowing us access to this site.

DATE: 11/15/99 **OBSERVER:** King
Everything looked good except more woody debris is needed throughout. Saw one female chinook digging a redd 200 feet downstream from the Oil City Road.

DATE: 11/5/00 **OBSERVER:** Darrow
Ponds look really good. A few non blocking stick dams were encountered. Lots of wildlife observed and few rises in the both systems.

DATE: 3/27/01 **OBSERVER:** Darrow
Lower than normal precipitation this winter and early spring. Both pond systems were flowing well. Everything looked good. Numerous rises were observed at Anderson II. Anderson I has prolific aquatic vegetative growth. Heavy elk usage is evident due to horn scrapes on the trees.

DATE: 12/12/01 **OBSERVER:** Darrow
System looked great. No blocking or barrier dams. Presently, lots of spawning activity taking place in Anderson II channel downstream of the double culverts and some in the channel upstream of the pond. Ten redds were observed and eight coho.

DATE: 3/30/02 **OBSERVER:** Darrow
Both systems doing well. Extensive signs of coho spawning activity in Anderson II channel, the most I ever observed. Anderson I pond has a healthy aquatic plant variety for cover and forage. No fish barriers or block dams were encountered. River erosion has narrowed and shortened the little peninsula separating the egress from the river. Fry were observed downstream of the culverts.

DATE: 11/27/02 **OBSERVER:** Nettnin
Looks good. Good flow out of system. Project has seasoned well. Need to remove stump from upstream end of the culvert. Observed one dead adult coho. Did not observe any chinook.
GPS: (decimal degrees, Datum WGS84):
upper project - N47.79041, W124.27672
egress - N47.78910, W124.27588

DATE: 12/12/02 **OBSERVER:** Nettnin
Pulled a stump out of the culvert and tied it to the bank.

STREAM PHYSICAL SURVEY DATA

WRIA #: Unnumbered **STREAM NAME:** Unnamed **SITE #:** H-R6-04

TRIBUTARY TO: Hoh River **OBSERVER:** Young **DATE:** 8-11-87

ENTERING IN: RB at RM 12.3

SECTION OF STREAM SURVEYED: RM 0.0 - 0.4 (Mouth to Oil City Rd.)

ESTIMATED FLOW (CFS):---------- Dry throughout

AVG.CHANNEL WIDTH AT TIME OF SURVEY:-- Dry (streambed width 10-15 ft)

AVG. DEPTH AT TIME OF SURVEY:--------- Dry

POOL:RIFFLE:RAPID RATIO:---------- Dry

BOTTOM COMPOSITION (B:R:G:S):--------- 0:10:40:50

GRADIENT:---------- Moderate to gentle

CANOPY COMPOSITION:---------- 60% shaded by deciduous trees.

INSTREAM COVER:---------- Some small to medium woody debris. Very little L.O.D. or other good cover.

LAND USE:---------- Timber, pasture and gravel pits.

OTHER WATER USES:---------- None.

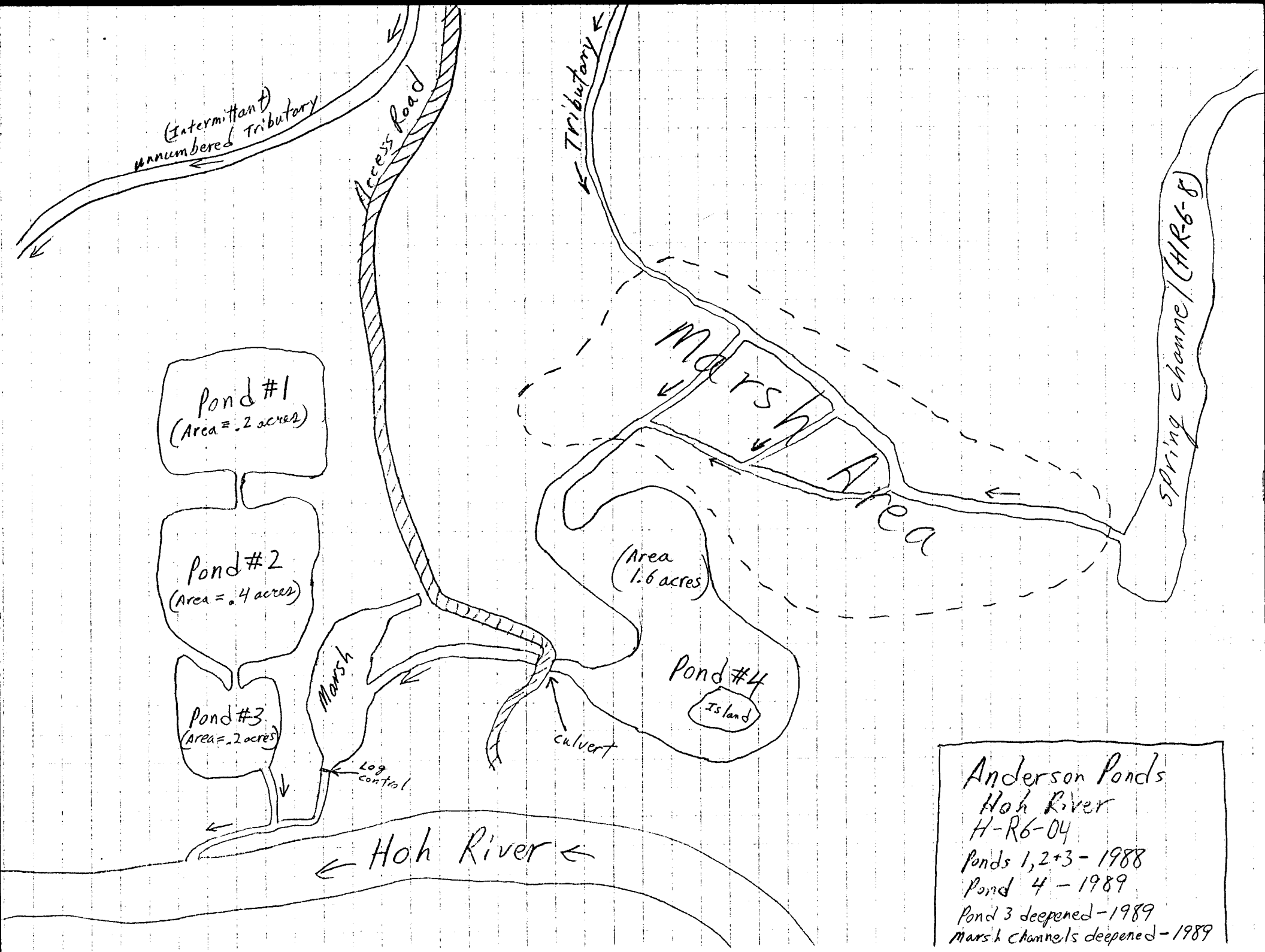
SPAWNING AREA QUALITY:---------- Very good. 30%

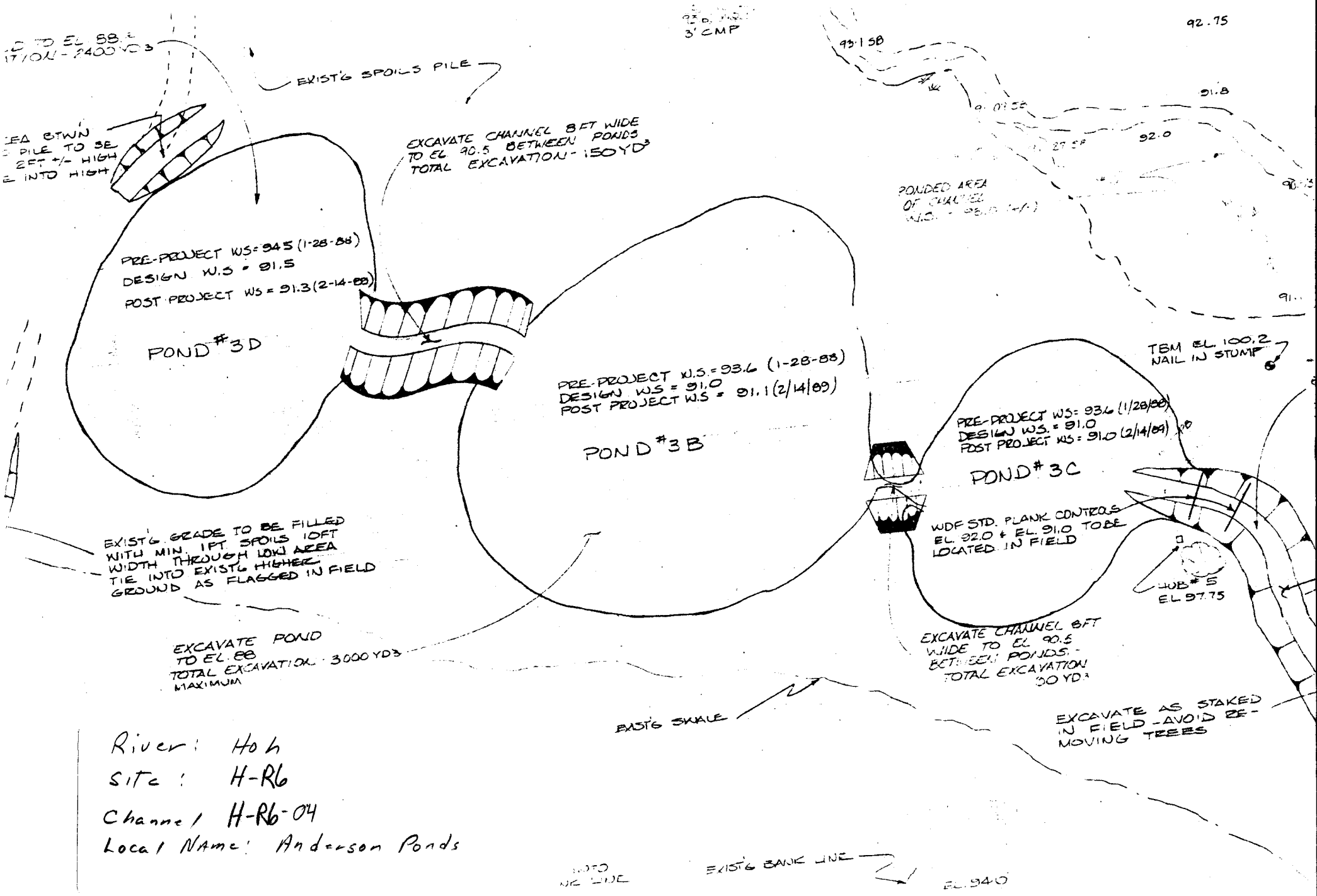
REARING AREA QUALITY: No summer rearing area due to lack of water. Probably excellent winter rearing when water is present.

JUVENILE ABUNDANCE:---------- None.

LIMITING FACTORS: ---------- Lack of water in summer.

GENERAL COMMENTS & RECOMMENDATIONS: This trib flows in a well-defined channel from Oil City Rd to a point approximately 400 m downstream. It then enters a large marshy area where there is no defined channel. Three separate channels leave the marsh. The southern most egress appears to carry the most water and leads directly to the Hoh River. The egress on the west side of the marsh connects this trib with
another unnumbered trib.(H-R6-01). The egress to the east side of the marsh ties into a long channel (H-R6-08) which holds ponded water in the winter.


(Intermittant) unnumbered Tributary
Access Road
Tributary
Marsh Area
Spring channel (H-R6-8)
Pond #1
(Area = .2 acres)
Pond #2
(Area = .4 acres)
Pond #3
(Area = .2 acres)
Marsh
Log control
(Area 1.6 acres)
Pond #4
Island
culvert
Hoh River
Anderson Ponds
Hoh River
H-R6-04
Ponds 1, 2+3 - 1988
Pond 4 - 1989
Pond 3 deepened - 1989
Marsh channels deepened - 1989



River: Hoh
Site: H-R6
Channel: H-R6-04
Local Name: Anderson Ponds

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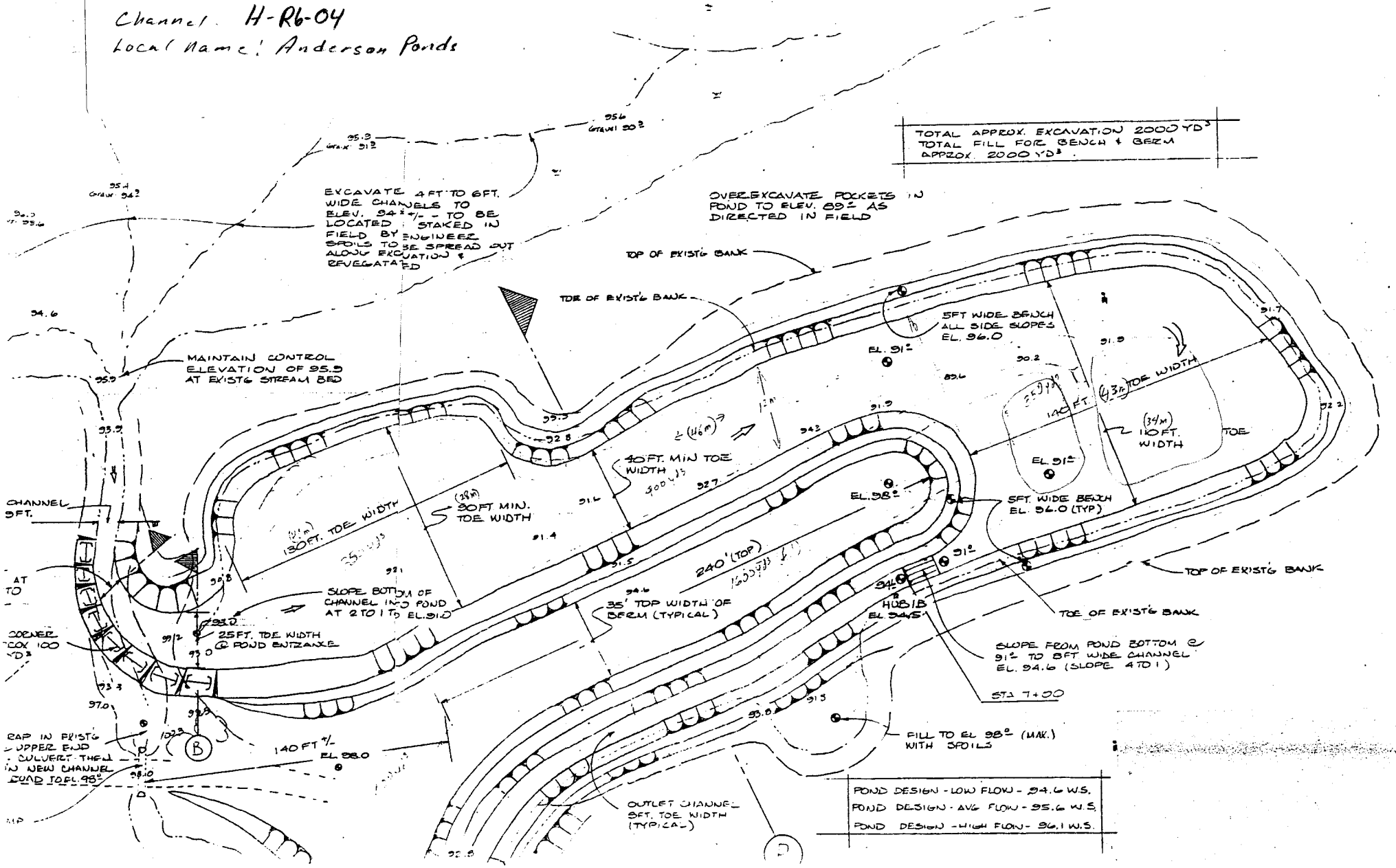
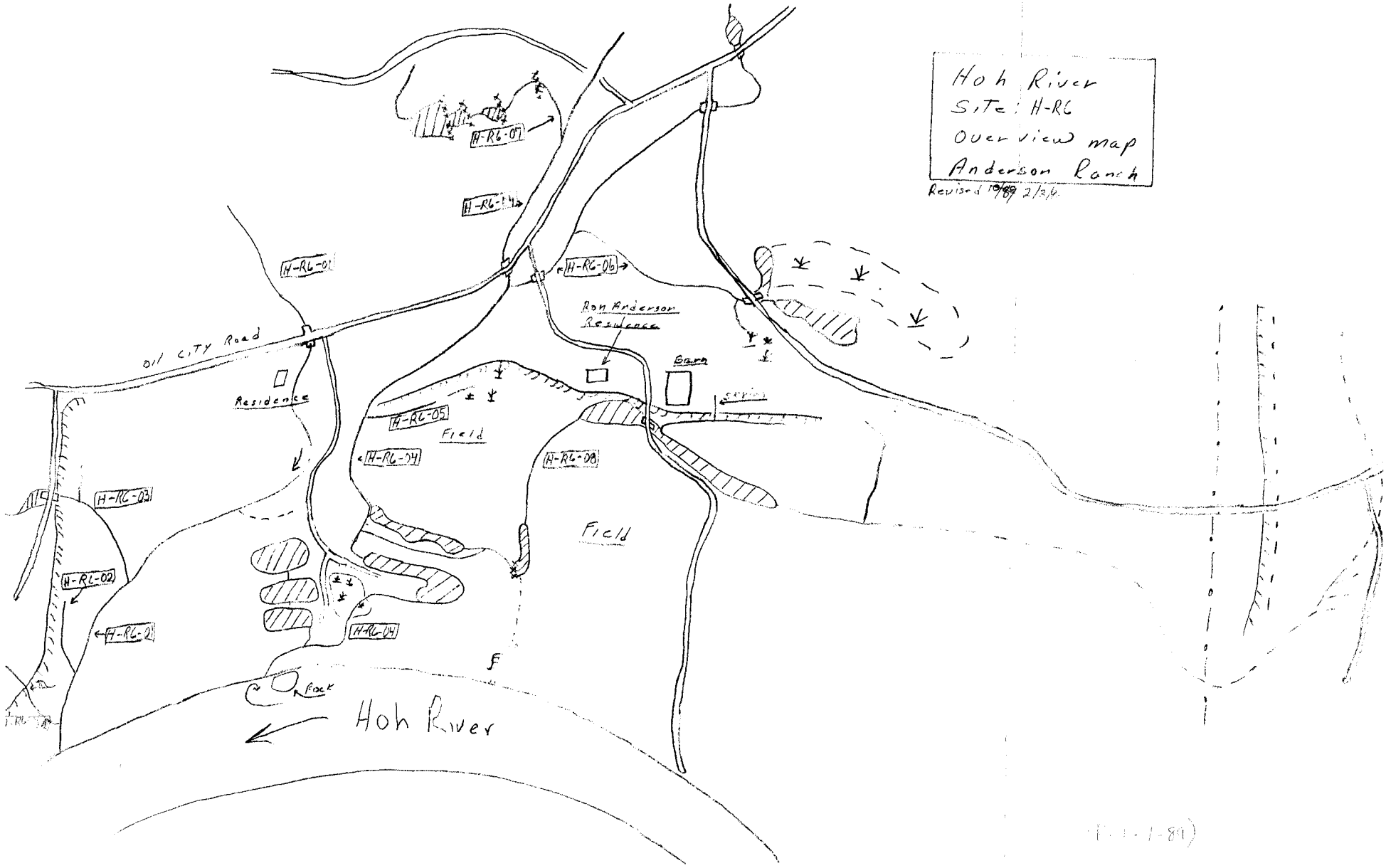
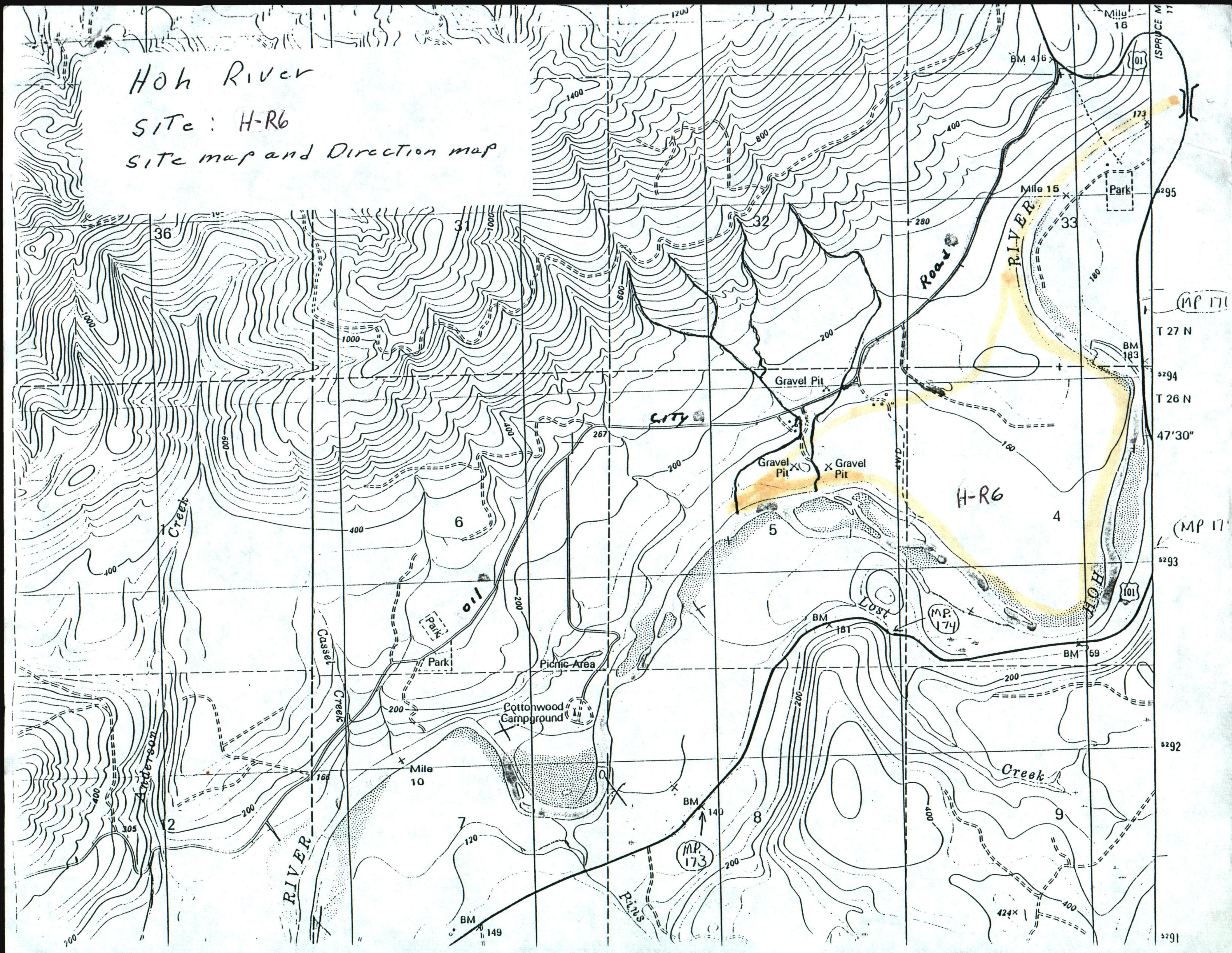



Hoh River
SITE: H-RG
Overview map
Anderson Ranch
Revised 10/89 2/3/b.
H-RG-07
H-RG-04
H-RG-01
H-RG-06
Ron Anderson Residence
Barn
Oil City Road
Residence
H-RG-05
Field
H-RG-04
H-RG-08
Field
H-RG-03
H-RG-02
H-RG-2
H-RG-04
Rock
Hoh River


Hoh River
SITe : H-R6
SITe map and Direction map
H-R6
HOH
RIVER
Road
City
oil
Gravel Pit
Gravel Pit
Gravel Pit
Lost
M.P. 174
M.P. 173
MP 171
Park
Park
Park
Picnic Area
Cottonwood Campground
Mile 15
Mile 16
Mile 10
Cassel Creek
Anderson Creek
Creek
BM 416
BM 183
BM 159
BM 181
BM 140
BM 149
T 27 N
T 26 N
47'30"
101