

# DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENT PERMIT

## ISSUED TO:

Montmorency Conservation District  
Attn: Donna Hardies  
P.O. Box 789  
Atlanta, MI 49709

Permit No.	10-69-0001-P
Issued	February 4, 2010
Revised	
Expires	February 4, 2015

This permit is being issued by the Michigan Department of Natural Resources and Environment (MDNRE) under the provisions of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA) and specifically:

- |                                                                        |                                                                        |
|------------------------------------------------------------------------|------------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Part 301 Inland Lakes and Streams  | <input type="checkbox"/> Part 315 Dam Safety                           |
| <input type="checkbox"/> Part 325 Great Lakes Submerged Lands          | <input type="checkbox"/> Part 323 Shorelands Protection and Management |
| <input type="checkbox"/> Part 303 Wetlands Protection                  | <input type="checkbox"/> Part 353 Sand Dune Protection and Management  |
| <input type="checkbox"/> Part 31 Floodplain/Water Resources Protection |                                                                        |

Permission is hereby granted, based on permittee assurance of adherence to State requirements and permit conditions to:

Place habitat structures in the Black River to increase habitat for fish and other aquatic life. The work will consist of the placement of woody debris at 48 sites extending over an estimated 10,310 feet of river (2.4 miles). Up to 205 habitat structures may be placed in the river. Woody debris shall not be taken within a 50 foot buffer of the stream; shall not be limbed; and shall not extend greater than 25% into the stream. All work shall be done in accordance with the following conditions and attached plans.

Water Course Affected: Black River  
Property Location: Otsego County, Corwith Township, Section 1  
Town/Range 32N, 1W

### Authority granted by this permit is subject to the following limitations:

- A. Initiation of any work on the permitted project confirms the permittee's acceptance and agreement to comply with all terms and conditions of this permit.
- B. The permittee in exercising the authority granted by this permit shall not cause unlawful pollution as defined by Part 31, Floodplain/Water Resources Protection of the NREPA.
- C. This permit shall be kept at the site of the work and available for inspection at all times during the duration of the project or until its date of expiration.
- D. All work shall be completed in accordance with the plans and the specifications submitted with the application and/or plans and specifications attached hereto.
- E. No attempt shall be made by the permittee to forbid the full and free use by the public of public waters at or adjacent to the structure or work approved herein.
- F. It is made a requirement of this permit that the permittee give notice to public utilities in accordance with Act 53 of the Public Act of 1974 and comply with each of the requirements of that act.
- G. This permit does not convey property rights in either real estate or material, nor does it authorize any injury to private property or invasion of public or private rights, nor does it waive the necessity of seeking federal assent, all local permits or complying with other state statutes.
- H. This permit does not prejudice or limit the right of a riparian owner or other person to institute proceedings in any circuit court of this state when necessary to protect his rights.
- I. Permittee shall notify the MDNRE within one week after the completion of the activity authorized by this permit, by completing and forwarding the attached, preaddressed post card to the office addressed thereon.
- J. This permit shall not be assigned or transferred without the written approval of the MDNRE.
- K. Failure to comply with conditions of this permit may subject the permittee to revocation of permit and criminal and/or civil action as cited by the specific State Act, Federal Act and/or Rule under which this permit is granted.
- L. Work to be done under authority of this permit is further subject to the following special instructions and specifications:

1. Prior to initiating construction, authorized by this permit, the permittee is required to provide a copy of the permit to the contractor(s) for his/her review.
2. The property owner and any contractor(s) involved in obtaining or exercising this permit, are held responsible to ensure the project is constructed in accordance with all drawings and specifications contained in this permit. The contractor is required to provide a copy of the permit to any and all subcontractors doing work authorized by this permit.
3. The authority to conduct the activity as authorized by this permit is granted solely under the provisions of the governing act as identified above. This permit does not convey, provide, or otherwise imply approval of any other governing act, ordinance, or regulation, nor does it waive the permittee's obligation to acquire any local, county, state or federal approval, or authorizations necessary to conduct the activity.
4. Authority granted by this permit does not waive permit requirements under Part 91, Soil Erosion and Sedimentation Control, of the NREPA, or the need to acquire applicable permits from Montmorency County. Please contact Mr. Joe Stone at 989-785-8006.
5. No construction pads, haul roads, temporary structures, or other structural appurtenances are to be placed in a wetland or on bottomland of the waterbody are not authorized and shall not be constructed unless authorized by a separate permit or permit revision granted in accordance with the applicable law.
6. Dredging is not authorized by this permit.
7. No work shall be done in the stream during periods of above-normal flows except as necessary to prevent erosion.
8. Live or felled trees used for woody debris shall not be taken from a 50 foot riparian zone along either side of Black River.
9. Live or felled trees used for woody debris shall be manually cut by hand or chainsaws and moved with a wench; no logging or other heavy equipment/machinery shall be used to cut or move trees.
10. Trees used for woody debris shall not be stripped of limbs and foliage.
11. Woody debris shall not extend from the river bank greater than 25% of the river width of the stream, as measured perpendicular to the bank, and shall not redirect stream current into the opposing stream bank. Any erosion on the opposite bank caused by such a structure is required by this permit to be repaired and armored against further erosion, and the structure itself shall be modified to prevent further erosion. Woody debris shall be anchored with duck bills. Solid structures that form a wall to the stream bottom, such as log deflector, shall be limited in deflection angle to 25 degrees or less.
12. In issuing this permit, the MDNRE has relied on the information and data which the permittee has provided in connection with the permit application. If, subsequent to the issuance of this permit, such information and data prove to be false, incomplete, or inaccurate, the MDNRE may modify, revoke, or suspend the permit, in whole or in part, in accordance with the new information.
13. The permittee shall indemnify and hold harmless the State of Michigan and its departments, agencies, officials, employees, agents and representatives for any and all claims or causes of action arising from acts or omissions of the permittee, or employees, agents, or representatives of the permittee, undertaken in connection with this permit. This permit shall not be construed as an indemnity by the State of Michigan for the benefit of the permittee or any other person.

14. If any change or deviation from the permitted activity becomes necessary, the permittee shall request, in writing, a revision of the permitted activity and/or mitigation plan from the MDNRE. Such revision requests shall include complete documentation supporting the modification and revised plans detailing the proposed modification. Proposed modifications must be approved, in writing, by the MDNRE prior to being implemented.
15. This permit may be transferred to another person upon written approval of the MDNRE. The permittee must submit a written request to the MDNRE to transfer the permit to the new owner. The new owner must also submit a written request to accept transfer of the permit. The new owner must agree, in writing, to accept all conditions of the permit. A single letter signed by both parties which includes all the above information may be provided to the MDNRE. The MDNRE will review the request and if approved, will provide written notification to the new owner.
16. This permit is being issued for the maximum time allowed under Part 301, Inland Lakes and Streams, of the Natural Resources and Environmental Protection Act, PA 451 of 1994, as amended, including all permit extensions allowed under the administrative rule R 281.813. Therefore, no extensions of this permit will be granted. Initiation of the construction work authorized by this permit indicates the permittee's acceptance of this condition. The permit, when signed by the MDNRE, will be for a five-year period beginning at the date of issuance.
17. This permit placard shall be kept posted at the work site, in a prominent location or with the fore-person at all times for the duration of the project, or until permit expiration.

Rebecca A. Humphries, Director  
Michigan Department of Natural Resources and Environment

By Roxanne Merrick  
Roxanne Merrick  
District Representative  
Land and Water Management Division

cc: Mr. Tim Cwalinski, MDNRE

Black River		Beaver Dam Club to Trail 94		Otsego County		T32N RIW Sections 26, 35 & 36 and T31N RIW Section 1	
Area Covered: Beaver Dam Club off Chandler Dam Rd downstream to about 1/8 mile below Trail 94 cul-de-sac; situated in the special regulations fishing reach							
Taken July 30 2009 by Tim Cwainiski, Nico Tucker, Richard Bruot							
Waypoint	Latitude Longitude	Number of Structures	Length of Streambank Enhanced (ft)	Sheet Number	Notes		
001	N45.12796 W84.39286			1	- Beaver Dam Club property - No work at this waypoint	DEQ/LWMD Permitted Plan	
002	N45.12762 W84.39263	2	170	1	- add to natural fallen trees on R bank just down from waypoint	FEB 04 2010	File No. 1069-1P Page No. 4864
003	N45.12735 W84.39210	5	225	2	- add 3-4 LWD structures, alternating fashion, beginning with the first one at head of riffle on L bank, second downstream on R bank - fill in behind large logs most downstream		
004	N45.12726 W84.39132	2	155	2	- add 1 long LWD structure on L bank around silt bed - then add 1 more LWD structure downstream ~ 40' on same side (at the field parking area)		
005	N45.12685 W84.39122	4	155	3	- alternate 4 structures of LWD and SWD over 150' reach		
006	N45.12629 W84.39080		340	4 & 5	- straight flat reach with an old dock underwater in river - alternate 6 or more bigger LWD structures downstream - 2 standing dead cedars on R bank		
007	N45.12540 W84.39057		175	6	- old beaver dam - add 3 structures of LWD alternating sides		
008	N45.12508 W84.39030	7	375	7 & 8	- long straight reach currently lightly impounded - add 6-7 LWD and SWD structures in alternating fashion		
009	N45.12400 W84.39017	-	-	9	- fresh beaver dam - No work at this waypoint		
010	N45.12358 W84.38989	4	250	10	- add 3-4 structures of LWD in alternating fashion		
011	N45.12306 W84.38903	5	340	11	- add LWD to natural structures on both banks, adding about 4-5 structures - dead birch on R - dead balsam in river angled which should be used as last downstream structure		

012	N45.12302 W84.38831	4	255	12	- add 3-4 alternating structures including SWD and LWD for younger fish
013	N45.12226 W84.38772	8	470	13 & 14	- riffle-tag alder reach which should have 7-8 alternating structures throughout
014	N45.12135 W84.38767	5	275	15	- feeder tributary on R bank, wide spot - fill both sides upstream of mid-stream boulder - then 2-3 LWD and SWD structures downstream
015	N45.12107 W84.38690	4	230	16	- road parallels river - add 3-4 structures starting at silt bed on L bank about 100' upstream from road/bend
016	N45.12065 W84.38650	3	200	17	- shallow reach downstream of where the road and river parallel one another - add 5-6 structures extending downstream for ~ 200' in alternating fashion
017	N45.12001 W84.38678	3	200	18	- add to right bank structure and put large root wad on R bank in river if possible - put another structure downstream on L before private property white sign
018	N45.11568 W84.38655	2	90	25	- upstream of riffles approximately 100-200' add 2 alternating LWD structures
019	N45.11554 W84.38641	5	150	25	- R big cedars alternate or build onto with about 4-5 structures downstream of where the riffle begins
020	N45.11520 W84.38597	7	250	26	- alternate or build onto with about 5-7 structures downstream
021	N45.11486 W84.38542	7	330	27 & 28	- add behind current natural structure - add 1 small structure on L grassy bank, downstream - then add 4 alternating structures downstream in straight reach ~300'
022	N45.11404 W84.38556	5	240	28 & 29	- root wad on L side of channel; add structure behind, below, and above, anchor root wad too - alternate 3-4 structures downstream to pipeline
023	N45.11316 W84.38489	4	265	30	- L side island, fill woody debris at the head of it to concentrate flow - then alternate 2 structures on right with 1 structure on left down to the hanging birch tree ~100'
024	N45.11270 W84.38433	2	165	31	- add 1 structure on R bank, constricted to bank - lots of dead timber

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025	N45.11238 W84.38399	5	280	31 & 32	- downstream ~ 50' is beaver/log jam narrowing; cut off L side of jam ~ 6-8' and fill in behind the dam structure on R bank with additional materials - add to natural fallen materials on R bank - then add 2-3 structures on L bank downstream for 100-150' - use silt bank for a structure on L side downstream behind 2 large spruce trees
026	N45.11173 W84.38355	4	130	33	- add 2-3 structures in alternating fashion but mainly R bank, include natural structures along bank on R, and use plenty of wood - can see Waypoint 27 from this location
027	N45.11165 W84.38298	-	-	33	- campsite in bend of Chandler Dam Rd, pool and bend in river - No work at this waypoint
028	N45.11119 W84.38318	14	705	34, 35 & 36	- For 600' downstream, alternate various sized structures (many), adding to the existing natural structures - include 1-2 in middle (smaller) that do not restrict flow or navigation - the downstream end of this reach should be the High Country Pathway bridge and include the 2 small beaver structures directly below it
029	N45.10958 W84.38193	2	130	37	- add structure on L to few natural trees, fill in hole - add structure on R to established beaver wood pile
030	N45.10948 W84.38152	3	120	37	- grassy island - add a small structure around the island but do not block off smaller L channel - add 1-2 structures downstream to beaver dam remnants
031	N45.10944 W84.38108	7	300	38	- riffle/run reach for ~ 250' - alternate many structures downstream through flat reach, including ample SWD, about 6-7 structures total
032	N45.10930 W84.37993	4	80	39	- head of riffle - add 2 structures opposite of each other at head, then some SWD structures on R bank
033	N45.10930 W84.37966	1	70	39	- add 1 large structure with SWD to natural debris on L bank
034	N45.10928 W84.37944	4	260	39 & 40	- add lunger structure (long and narrow) extending from L bend/bank for length of it, which is ~ 60-70' long - then add 1-3 structures alternating downstream to and around small grassy island on R bank

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035	N45.10860 W84.37885	1	100	41	<ul style="list-style-type: none"> <li>- shallow left channel</li> <li>- add large structure on L bank to narrow it down for young fish cover</li> <li>- channels come together</li> <li>- add long structure on R bank and another structure on L bank by grass area</li> <li>- then add 2 more structures downstream on R bank</li> </ul>
036	N45.10835 W84.37892	4	155	41	<ul style="list-style-type: none"> <li>- long narrow Lunker structure length of L grassy bank; structure ~ 80' long</li> <li>- then alternate 2 structures downstream, R, then L by spruce trees</li> <li>- alternate 4 structures including 2 across from each other at riffle head, put throughout riffle area and include SWD</li> </ul>
037	N45.10825 W84.37855	3	135	42	<ul style="list-style-type: none"> <li>- private cabin on L hill</li> <li>- add to artificially anchored log in front of cabin, but only small amount, some behind structure</li> </ul>
038	N45.10805 W84.37809	4	130	42	<ul style="list-style-type: none"> <li>- downstream starting at 50' below log sill, add good amount of SWD to natural wood on R bank</li> <li>- then add small lunker structure along left grassy bank using arced natural log for ~ 30'</li> </ul>
039	N45.10774 W84.37760	1	110	43	<ul style="list-style-type: none"> <li>- bend on R, fill with LWD for the entire bend length ~ 80-90'</li> <li>- at tail end is L side silt bed pocket, add 1 structure at this spot</li> <li>- then for ~ 150' downstream alternate structures</li> <li>- starting at mid-river boulders</li> <li>- put 2 structures opposite of each other</li> <li>- then alternate 2 structures on L, then R bank before grassy bank</li> </ul>
040	N45.10719 W84.37782	2	180	44	<ul style="list-style-type: none"> <li>- grass bend on left</li> <li>- wood structure starting at tag alder clump and extending to and just beyond natural debris pile to ending pile clump</li> <li>- then add 1 structure at bend ~ 50' downstream on R</li> <li>- start on R bank and alternate ~ 8 structures as far as you can see downstream</li> <li>- start on L bank and alternate ~ 8 structures as far as you can see downstream</li> </ul>
041	N45.10660 W84.37797	6	195	45	<ul style="list-style-type: none"> <li>- trail/small walk site comes down to river in flat shallow reach on R bank</li> <li>- alternate structures but add to natural debris on R bank, while adding</li> </ul>
042	N45.10629 W84.37708	4	100	46	
043	N45.10601 W84.37725	2	145	46	
044	N45.10590 W84.37763	8	270	46 & 47	
045	N45.10520 W84.37727	9	425	48 & 49	
046	N45.10428 W84.37633	7	410	50 & 51	

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					at least 3 structures to L bank for ~ 400' downstream or to grassy island with debris around it
047	N45.10410 W84.37479	1	110	51	- Trail 94 culdesac and trail (in grass meadow) on L by islands - add structure on L bank in silt beds for ~ 50'
048	N45.10388 W84.37446	8	335	52	- flat wide reach - add 6-8 alternating structures downstream as far as can be seen
<b>Total Number of Structures &amp; Length of Streambank Enhanced</b>		205	10,310		- The total stream thread length from waypoint 1 to waypoint 48 is 12,545 feet (2.4 miles).

LWD = Large Woody Debris - larger diameter trees anchored together with various wood accumulation  
 SWD = Small Woody Debris - smaller diameter trees and brush  
 R= Right bank while facing downstream  
 L= Left bank while facing downstream  
 Bundles = LWD or SWD  
 LUNKER = luncker style structures using larger logs and debris-anchored to bank to simulate overhanging bank.

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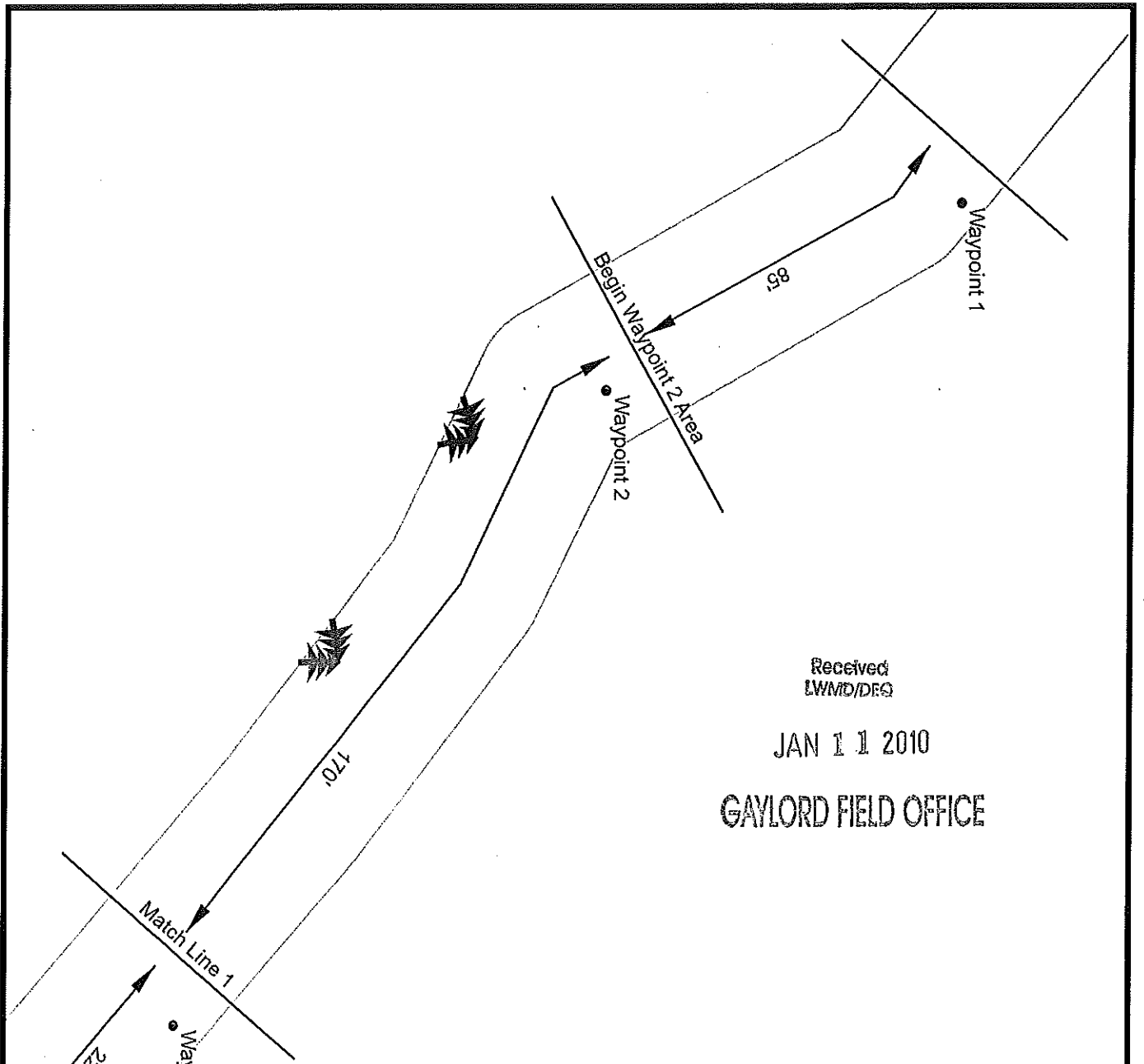
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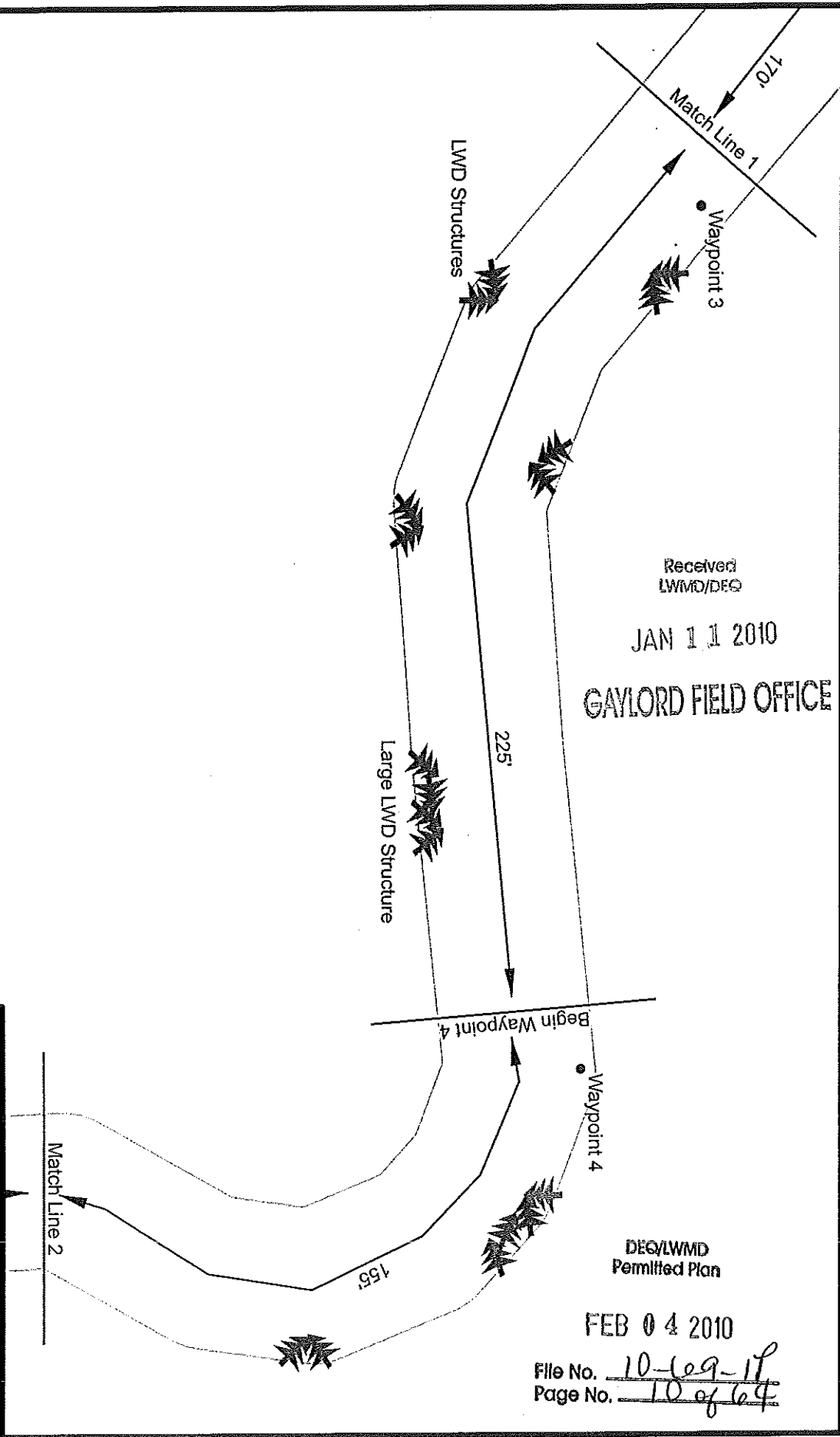
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 26
Waypoint 2 Site Plan	10/18/09
Attachment 4 - Sheet 1 of 52	
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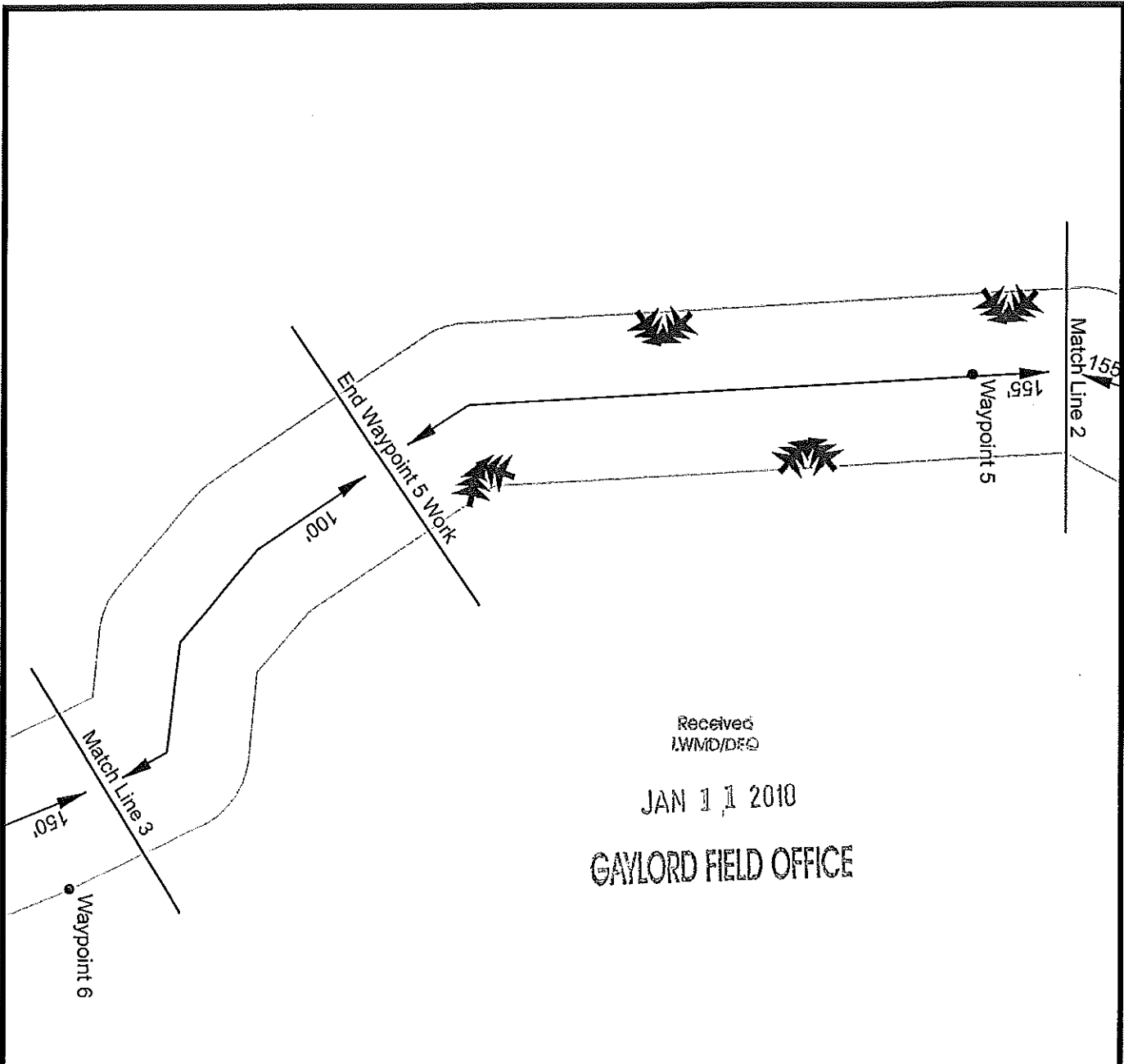
Upper Black River Watershed  
Large Woody Debris Enhancement

Black River T32N R1W Section 26, 35

Waypoint 3 & 4 Site Plan 10/18/09

Attachment 4 - Sheet 2 of 52

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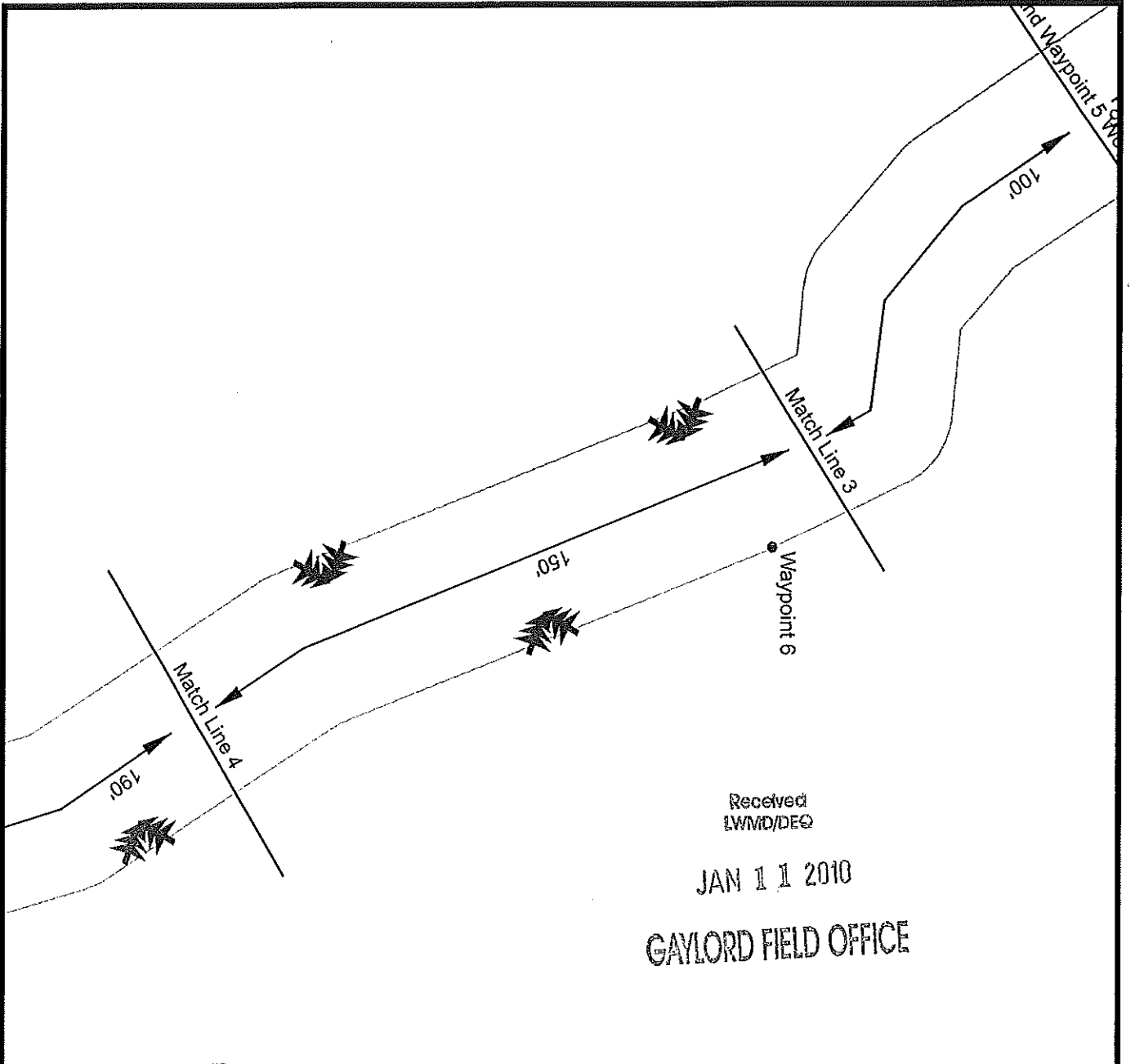
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35
Waypoint 5 Site Plan	10/18/09
Attachment 4 - Sheet 3 of 52	
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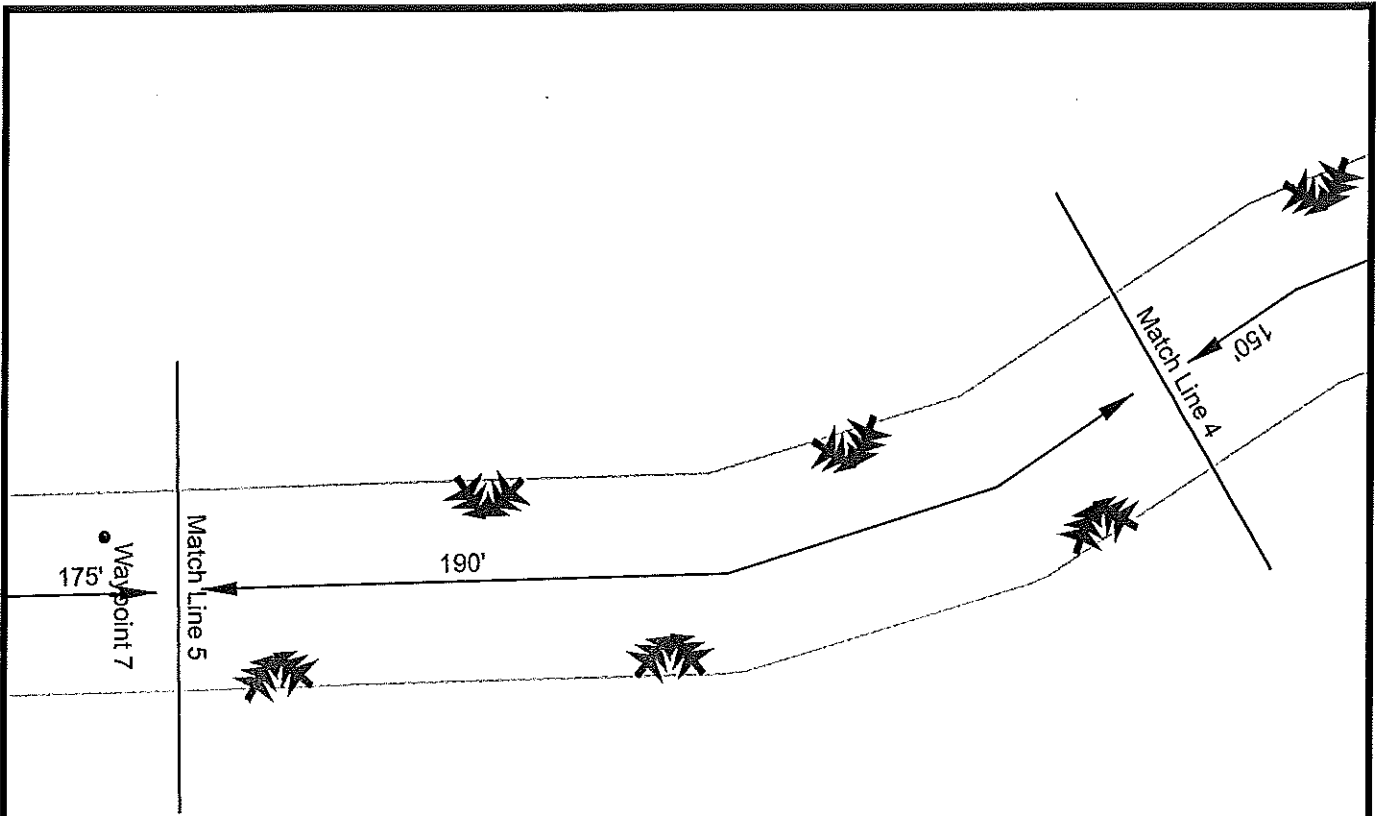
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35
Waypoint 6 Site Plan	10/18/09
Attachment 4 - Sheet 4 of 52	
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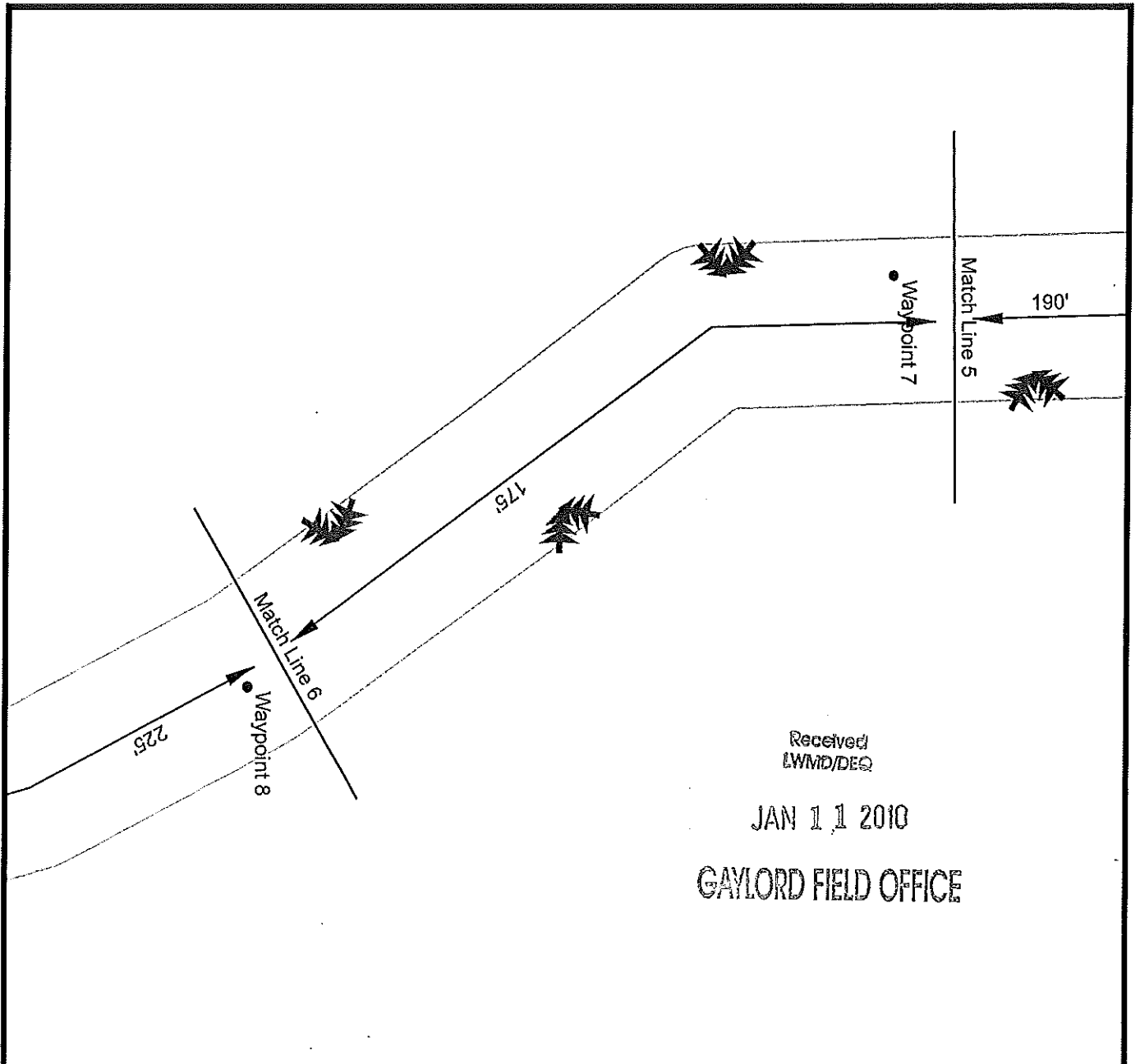
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35
Waypoint 6 Site Plan (Continued) 10/18/09	
Attachment 4 - Sheet 5 of 52	
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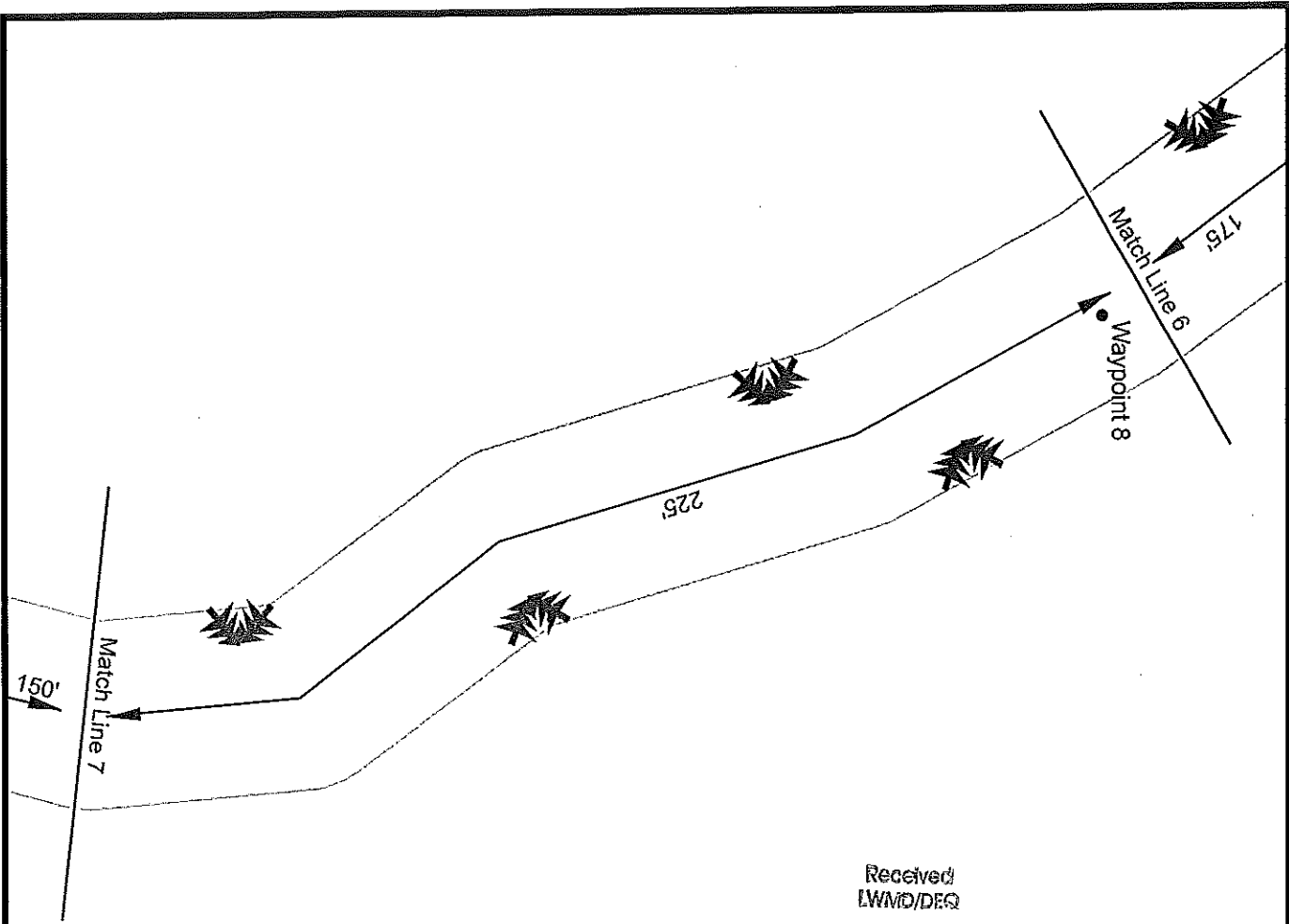
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35
Waypoint 7 Site Plan	10/19/09
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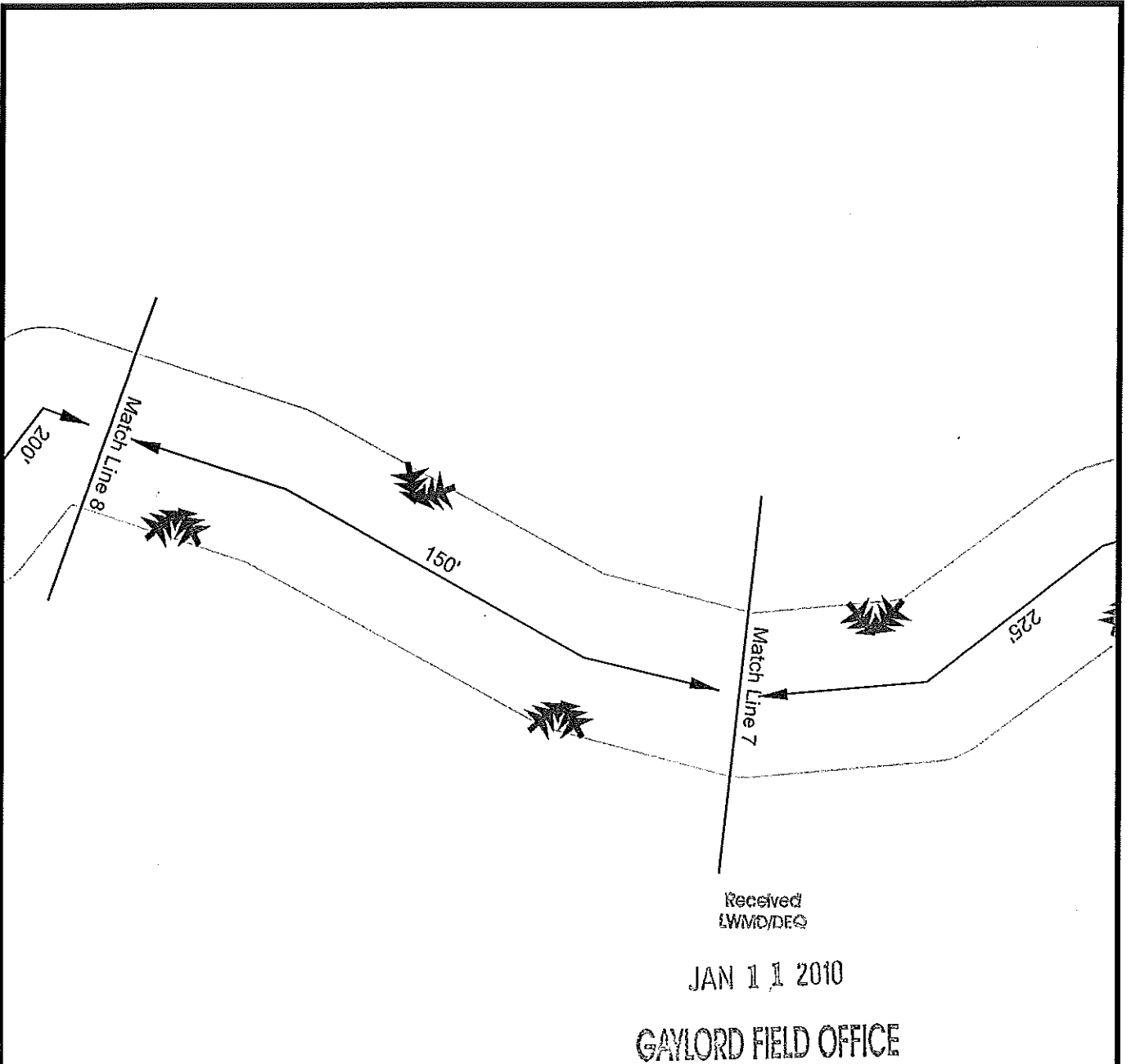
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35
Waypoint 8 Site Plan	10/19/09
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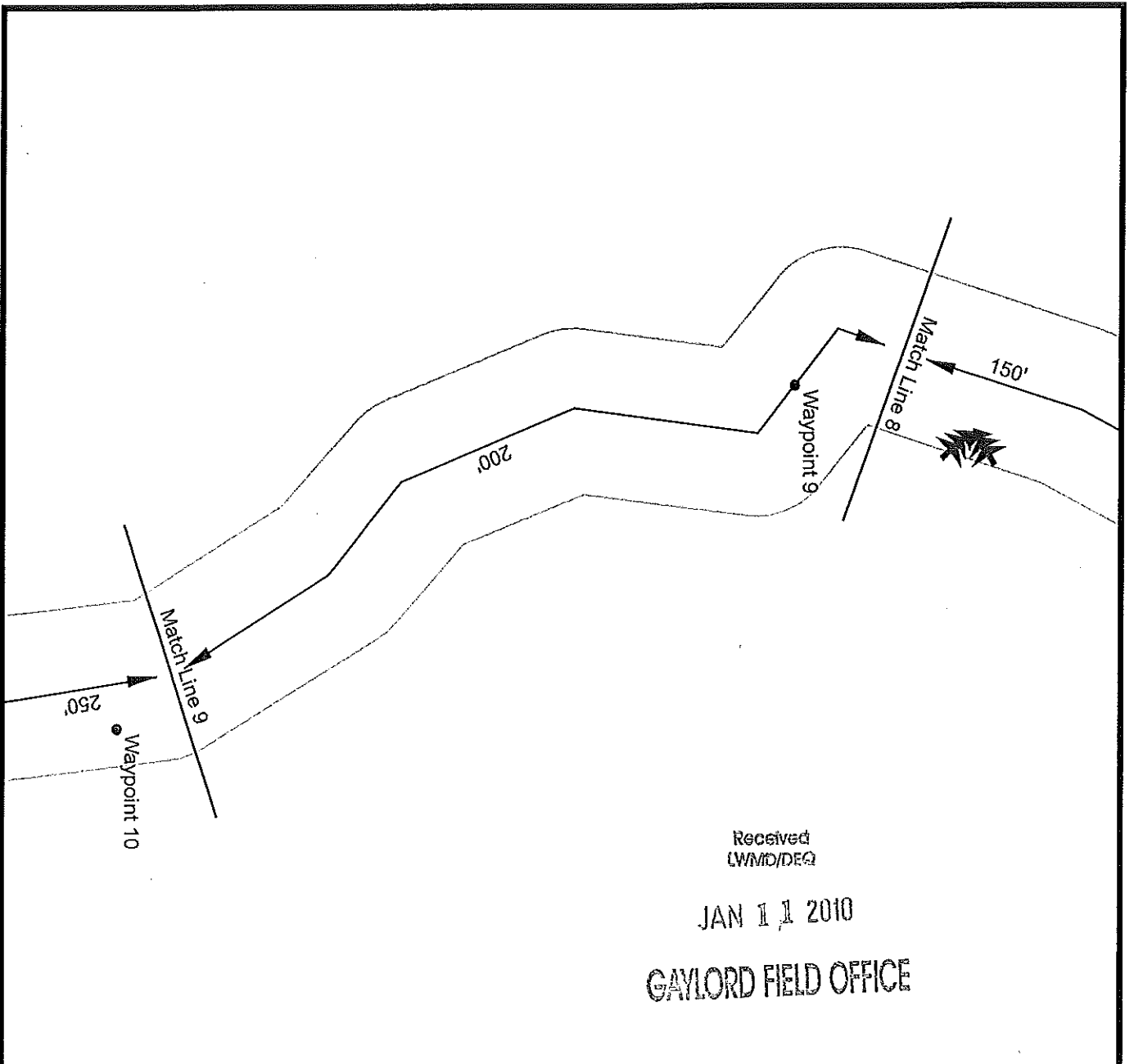
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35
Waypoint 8 Site Plan Continued	10/19/09
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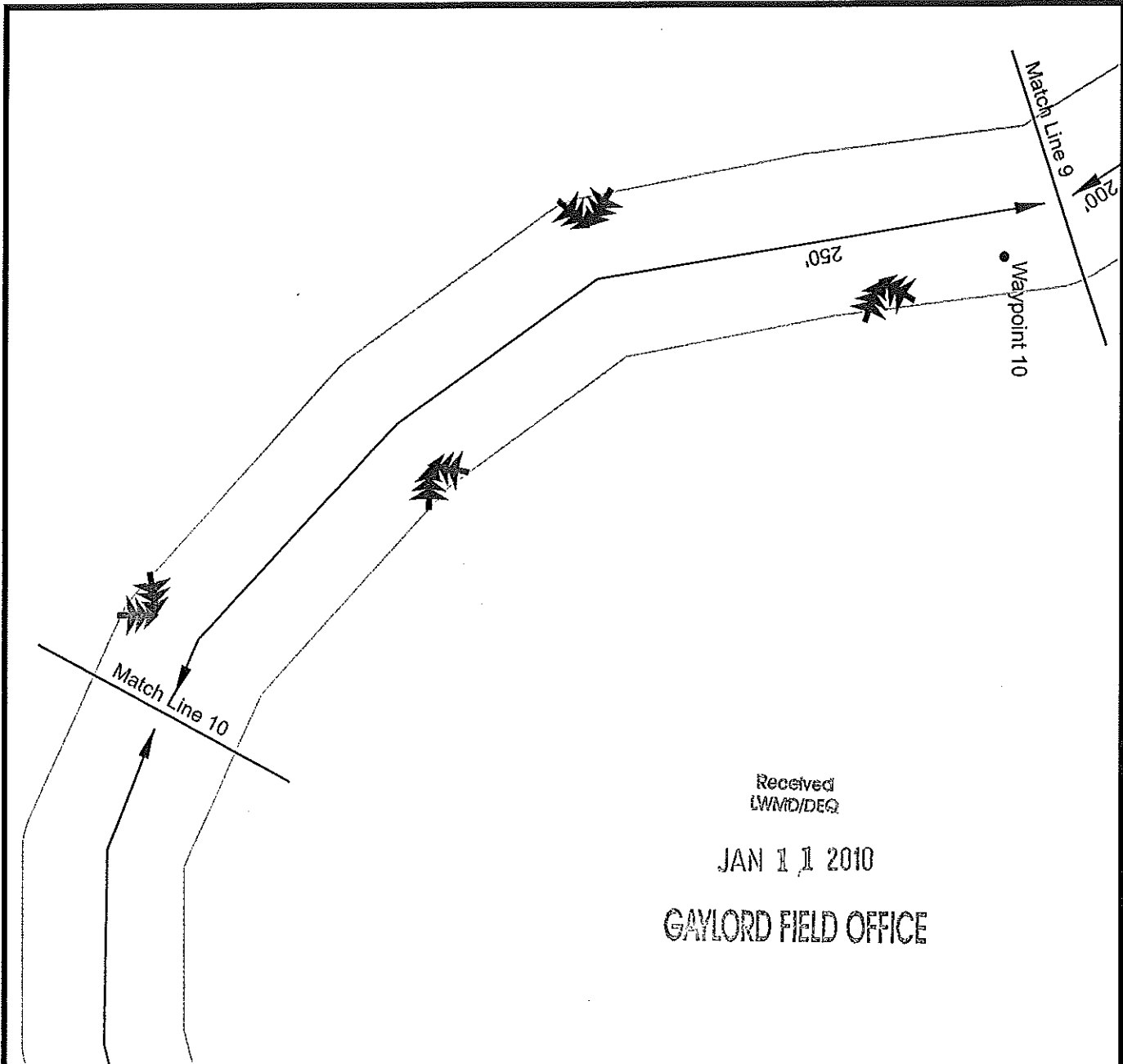
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35
Waypoint 9 Site Plan	10/22/09
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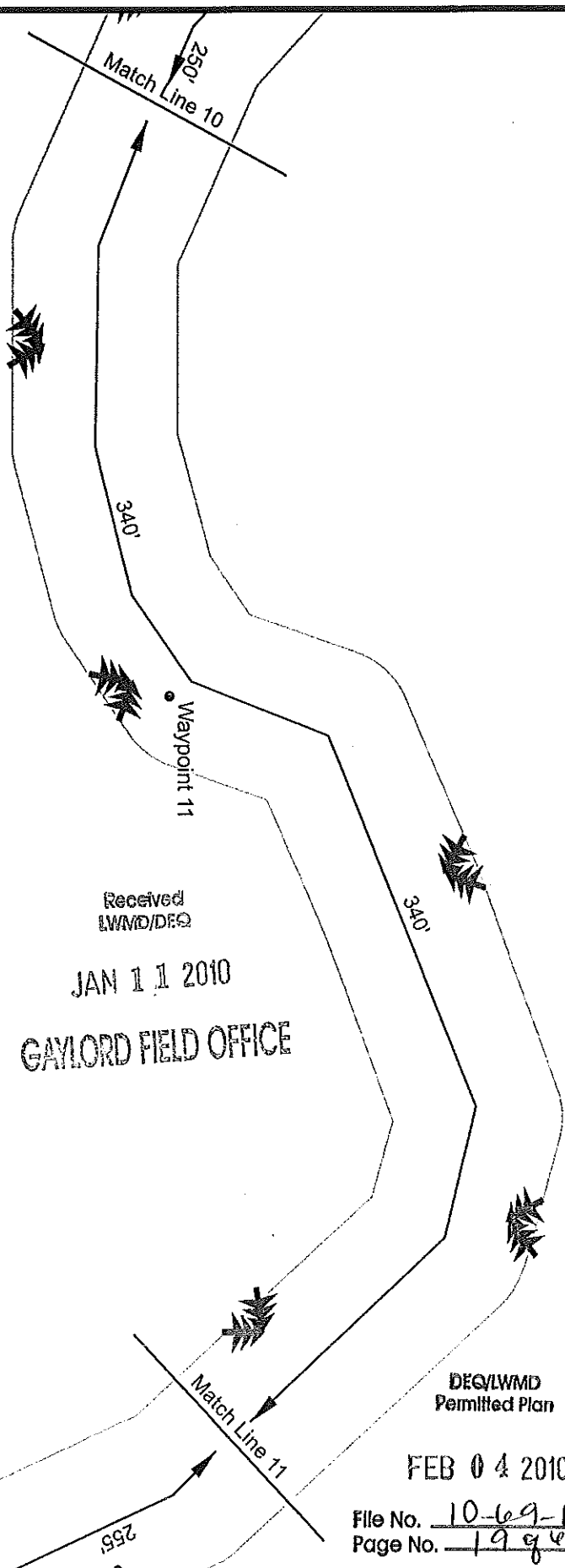
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35
Waypoint 10 Site Plan	10/22/09
Attachment 4 - Sheet 10 of 52	
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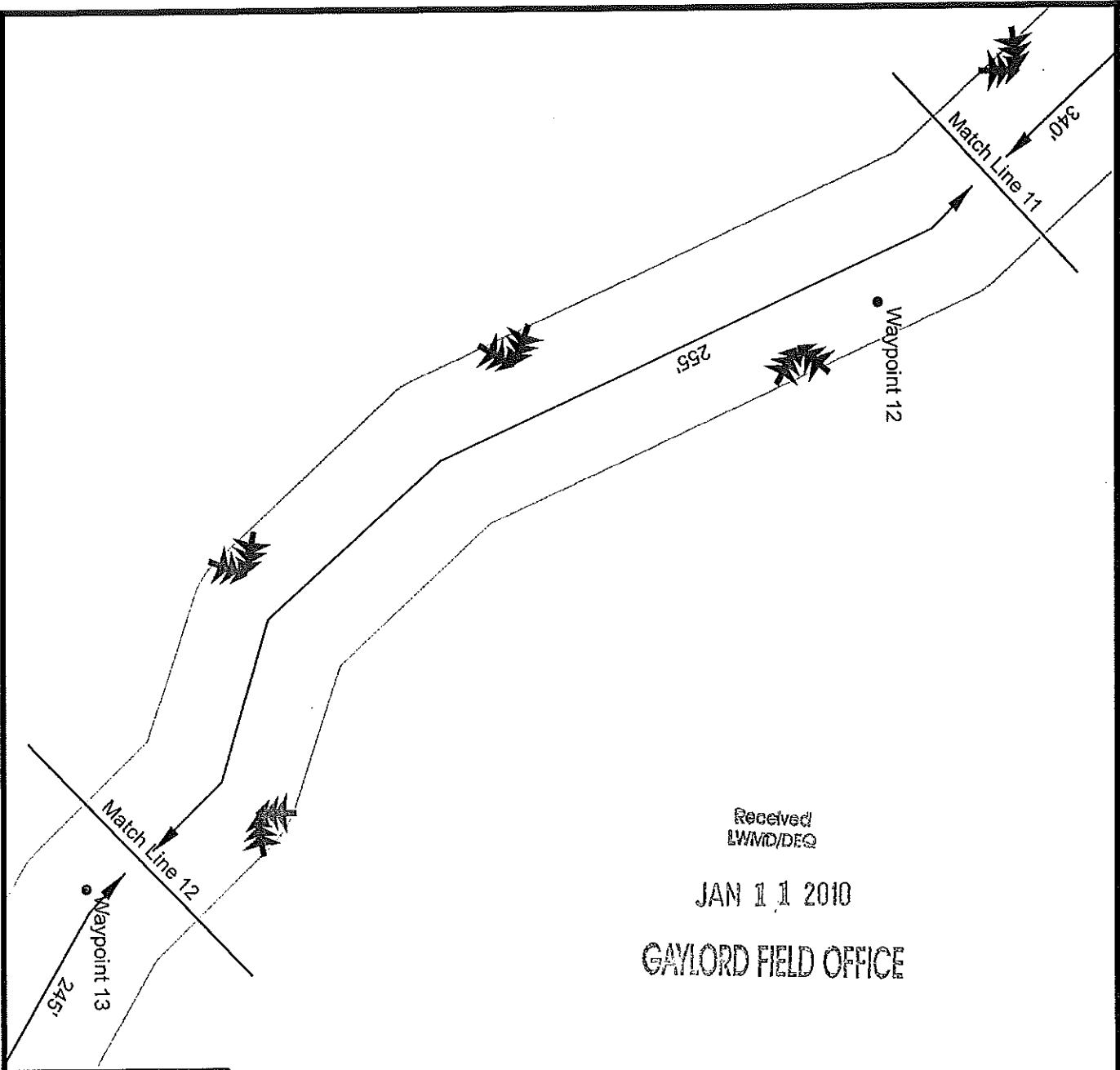
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35
Waypoint 11 Site Plan	10/22/09
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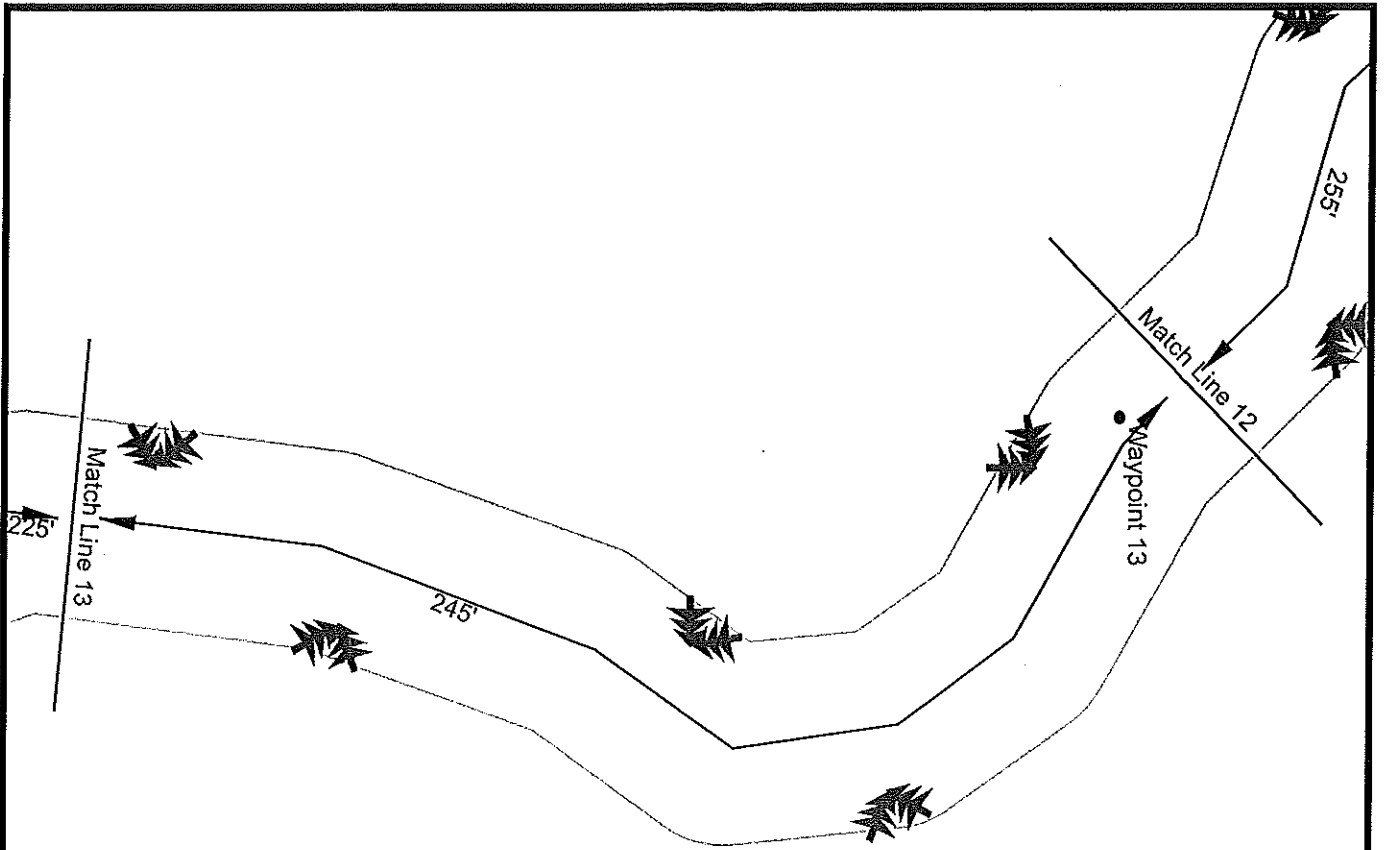
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 35 & 36
Waypoint 12 Site Plan	10/25/09
Attachment 4 - Sheet 12 of 52	
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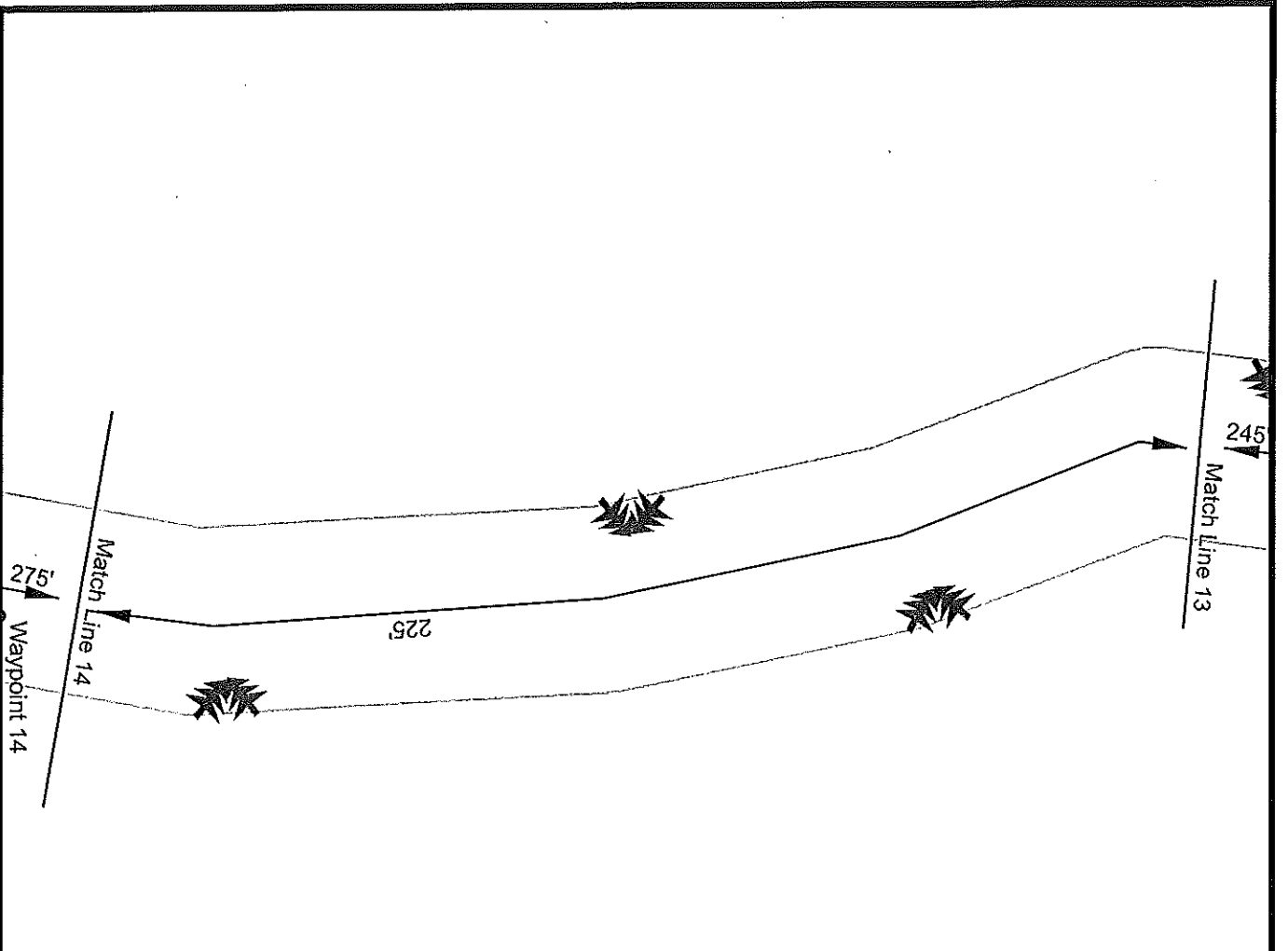
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 36
Waypoint 13 Site Plan	10/25/09
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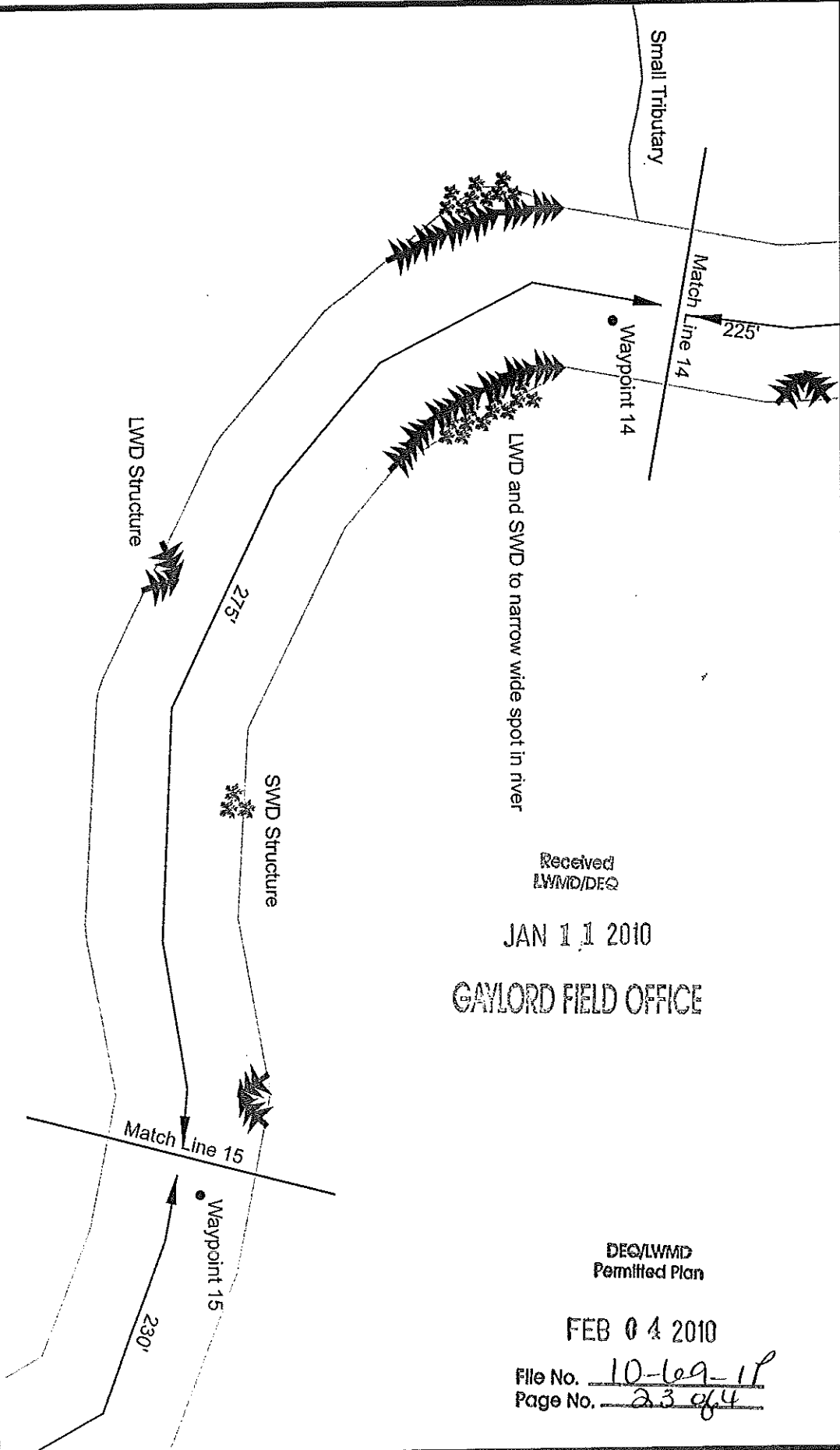
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 36
Waypoint 13 Site Plan Continued	10/25/09
Attachment 4 - Sheet 14 of 52	
Not to Scale	Drawn By: NJT



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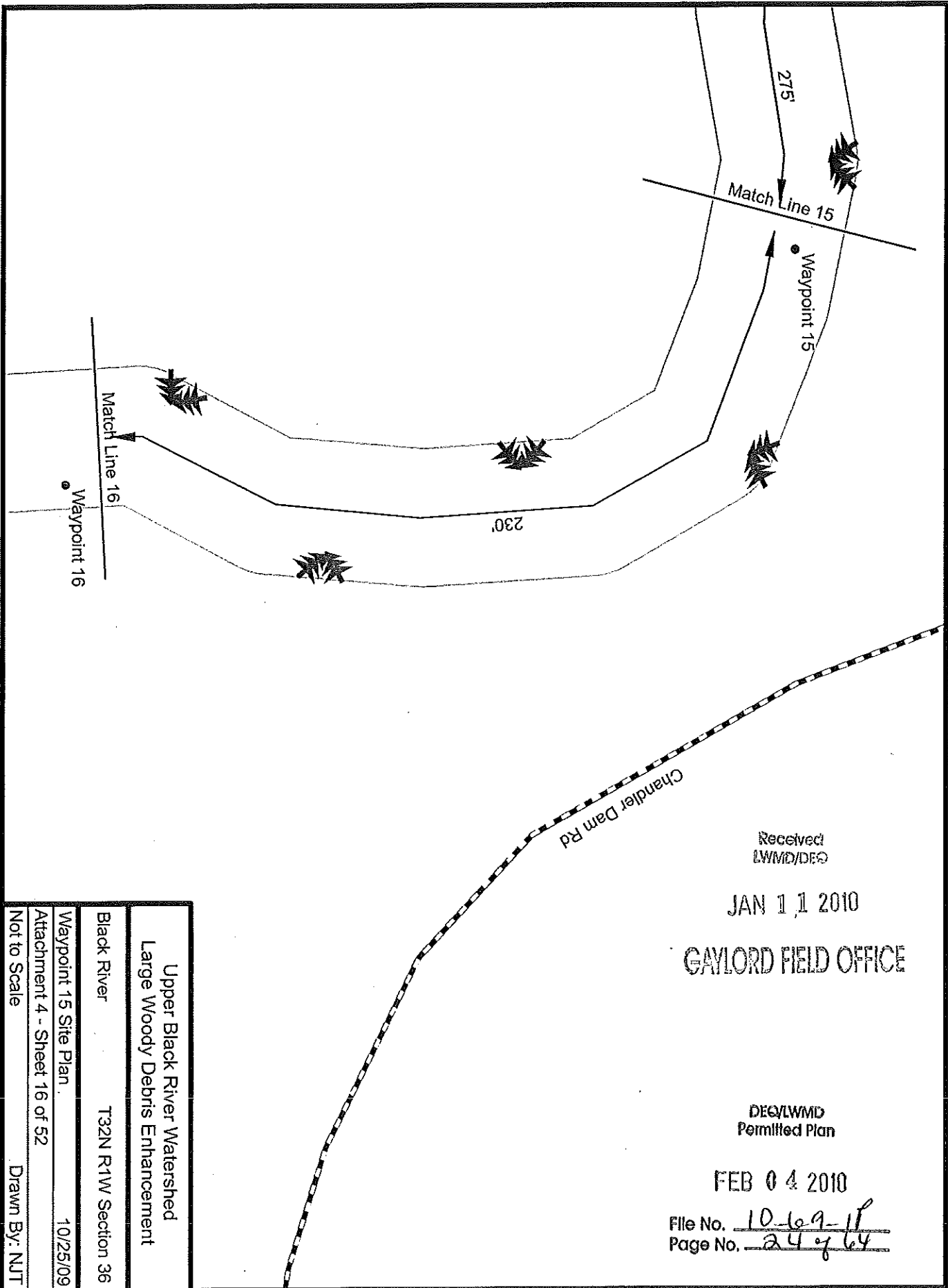
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Waypoint 14 Site Plan	10/25/09
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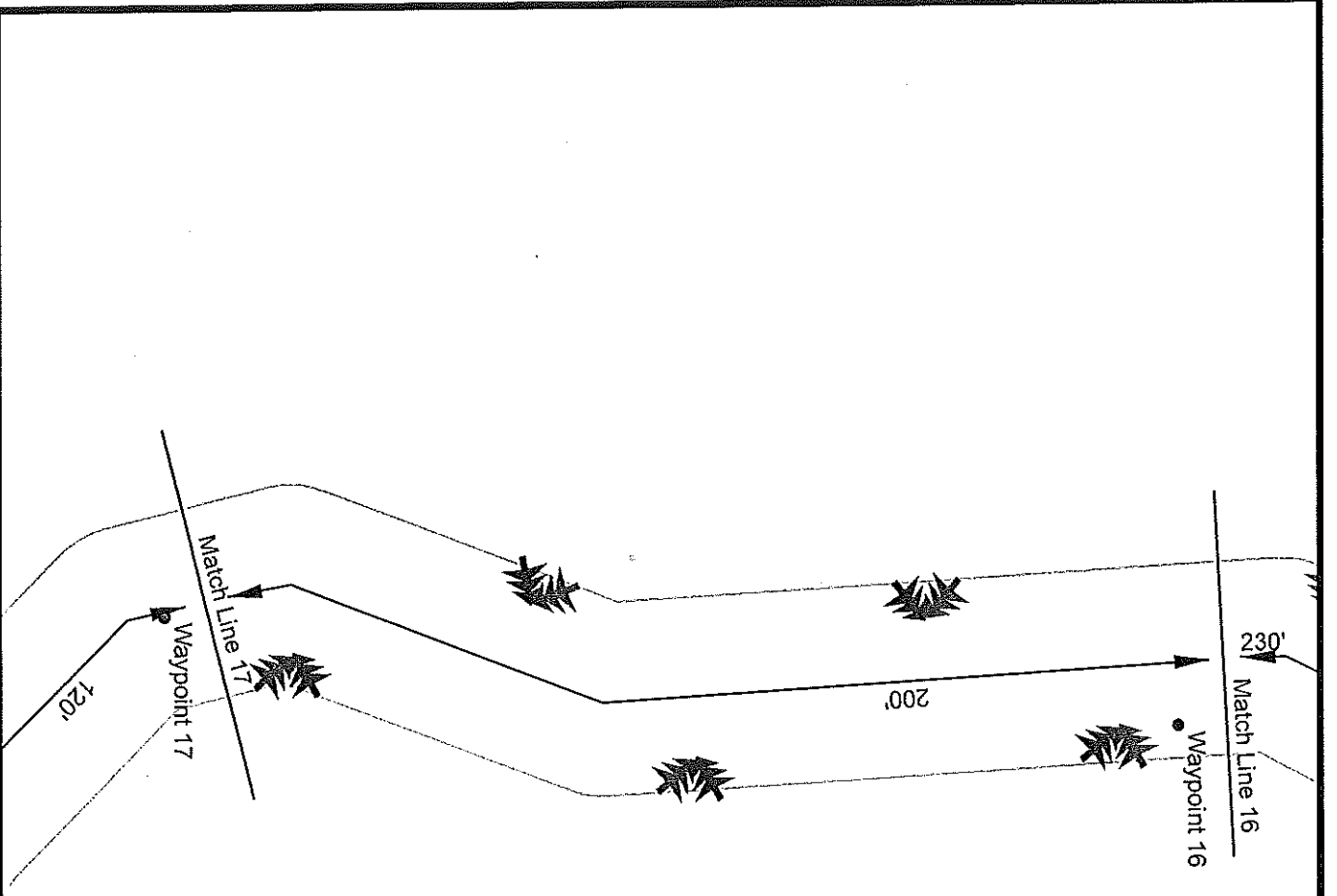
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Not to Scale	Drawn By: NJT





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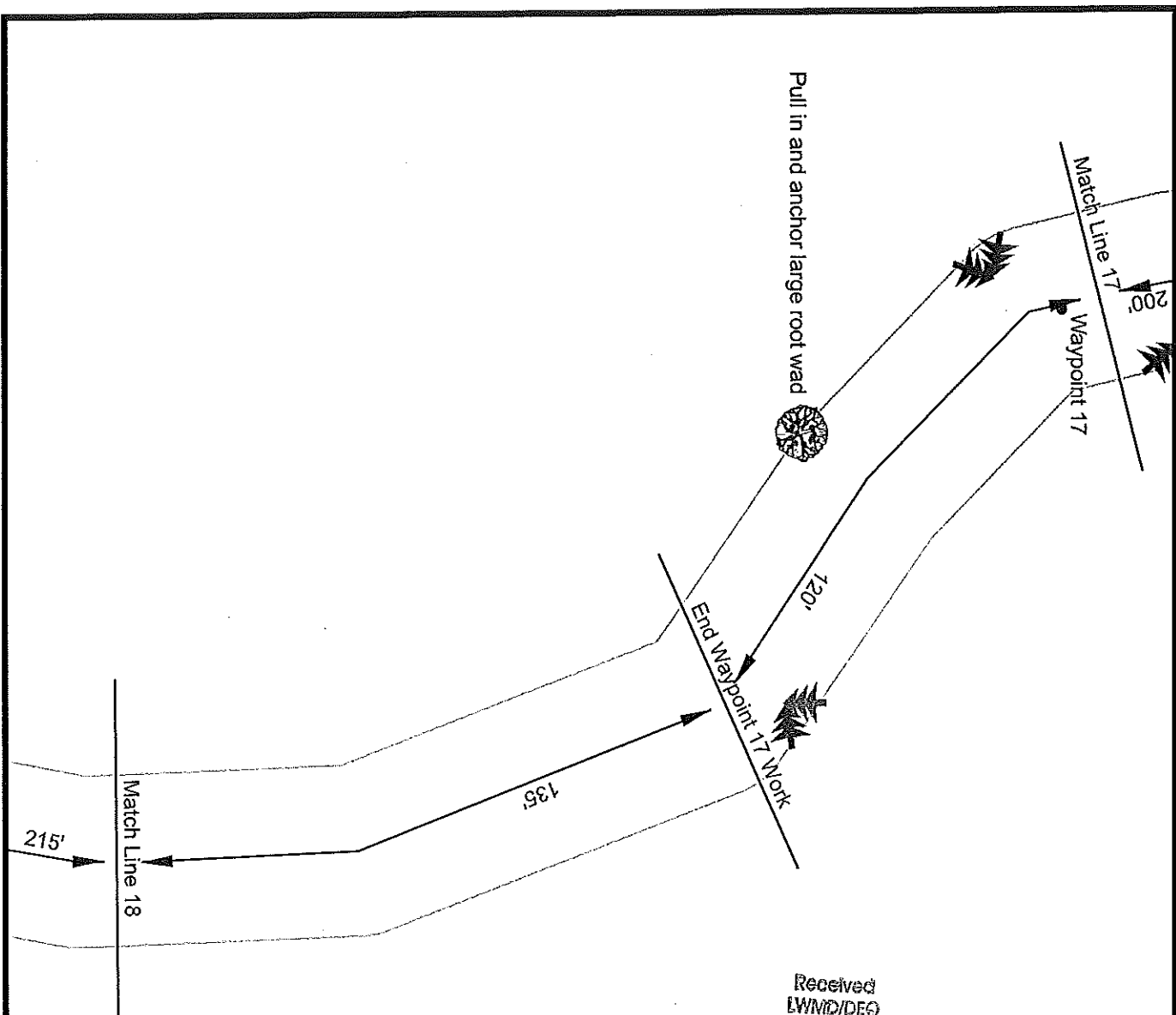
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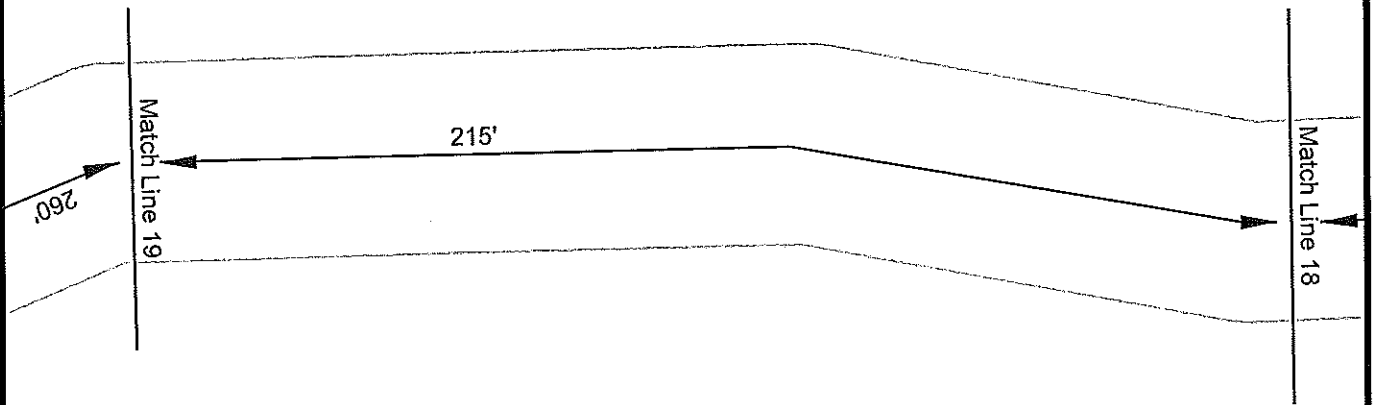
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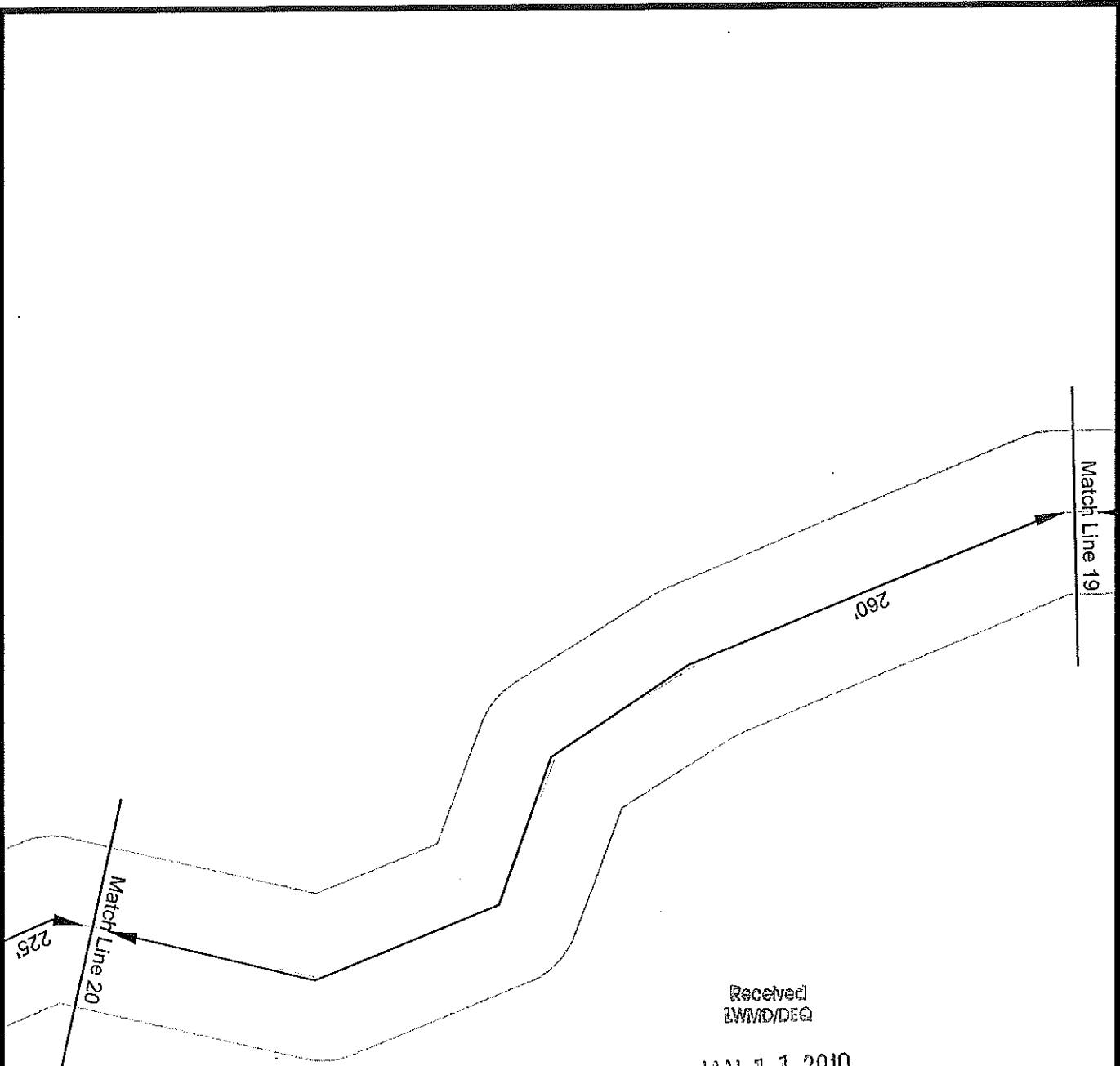
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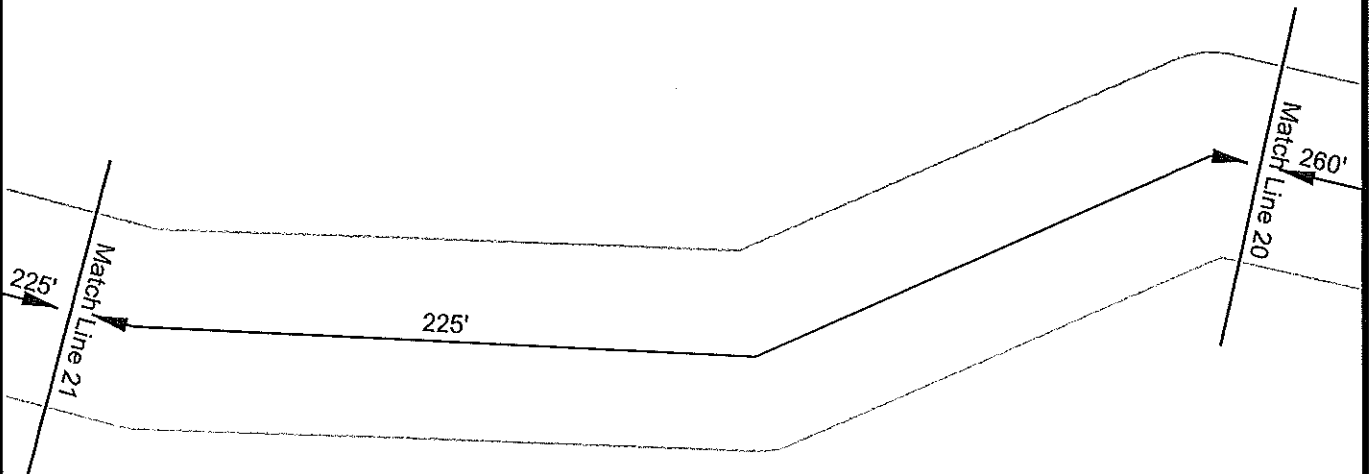
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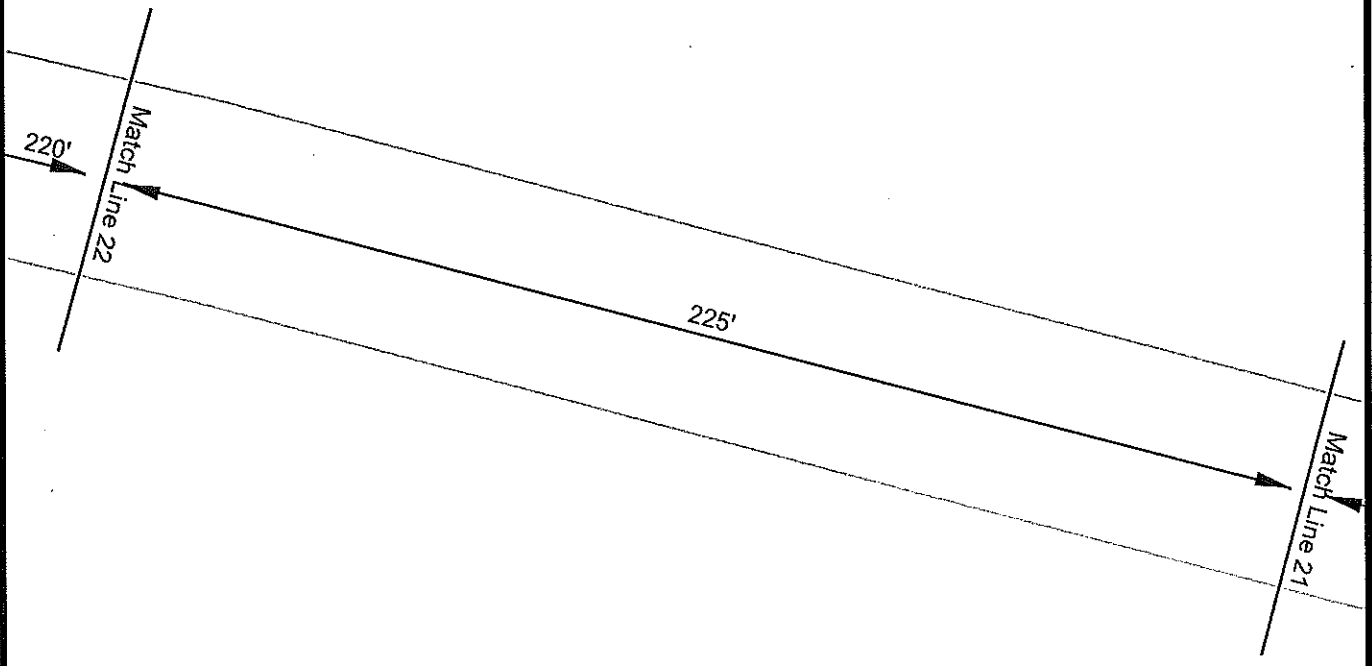
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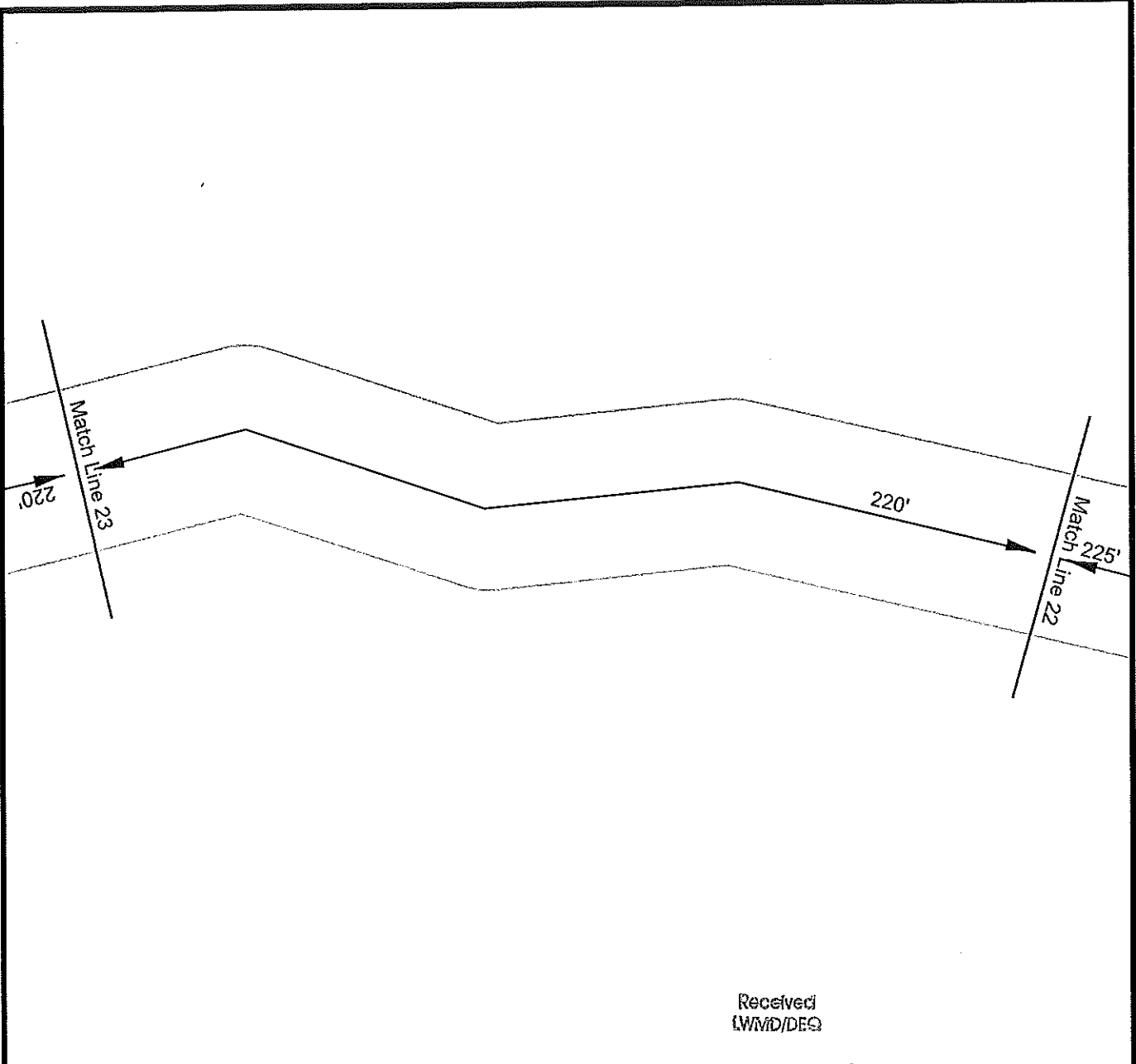
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10/27/09	
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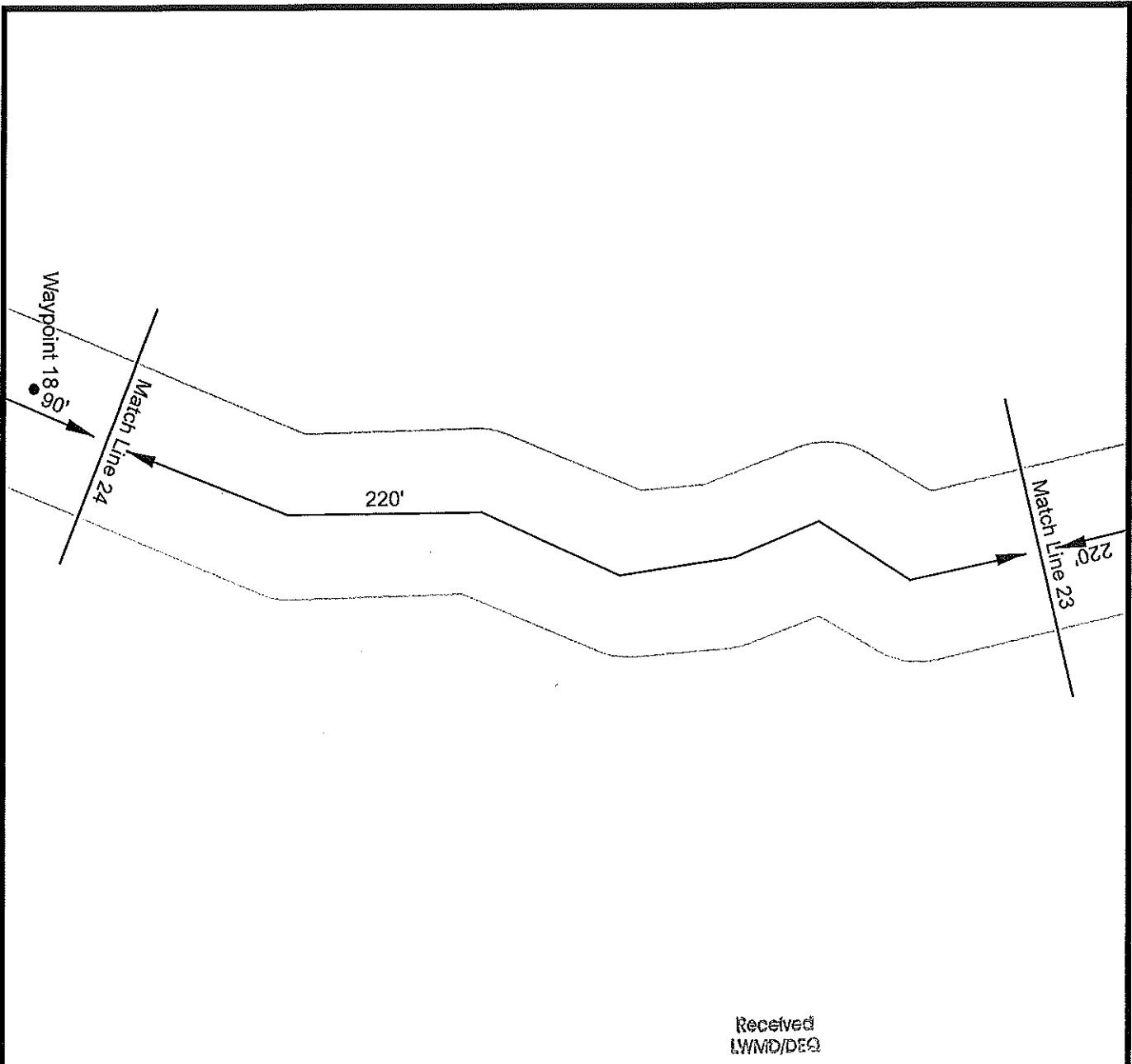
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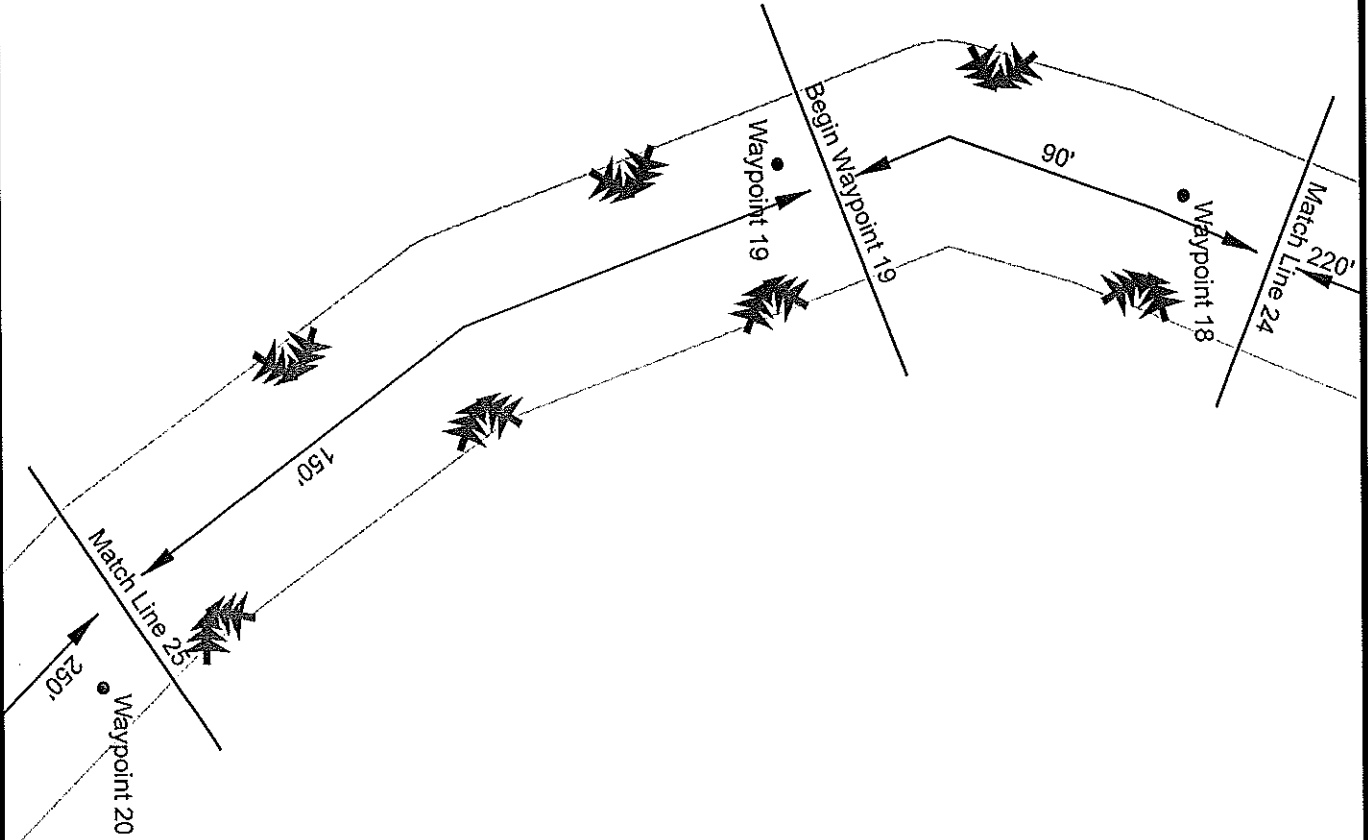
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10/27/09	
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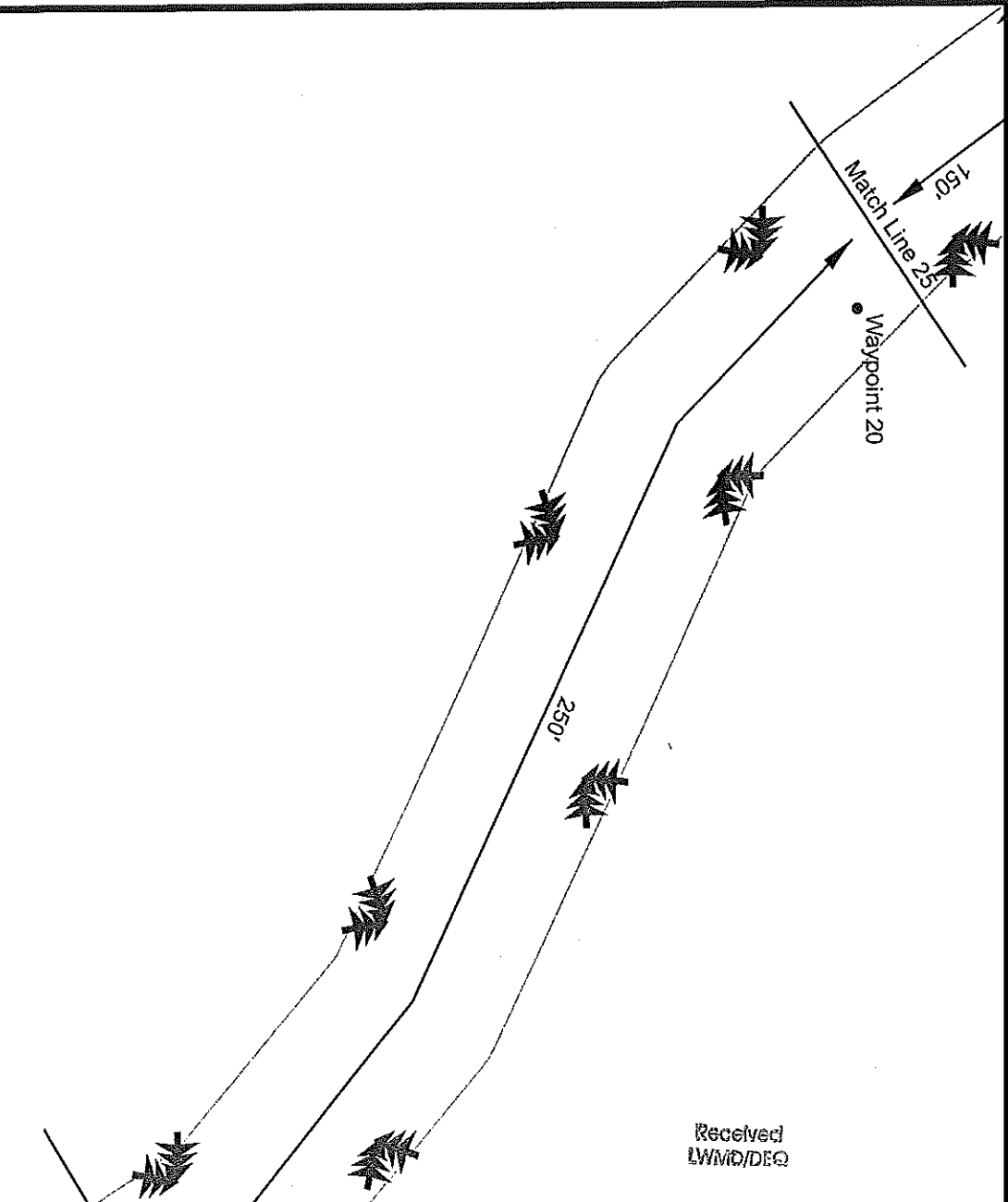
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T32N R1W Section 36
Waypoint 18 & 19 Site Plan	10/29/09
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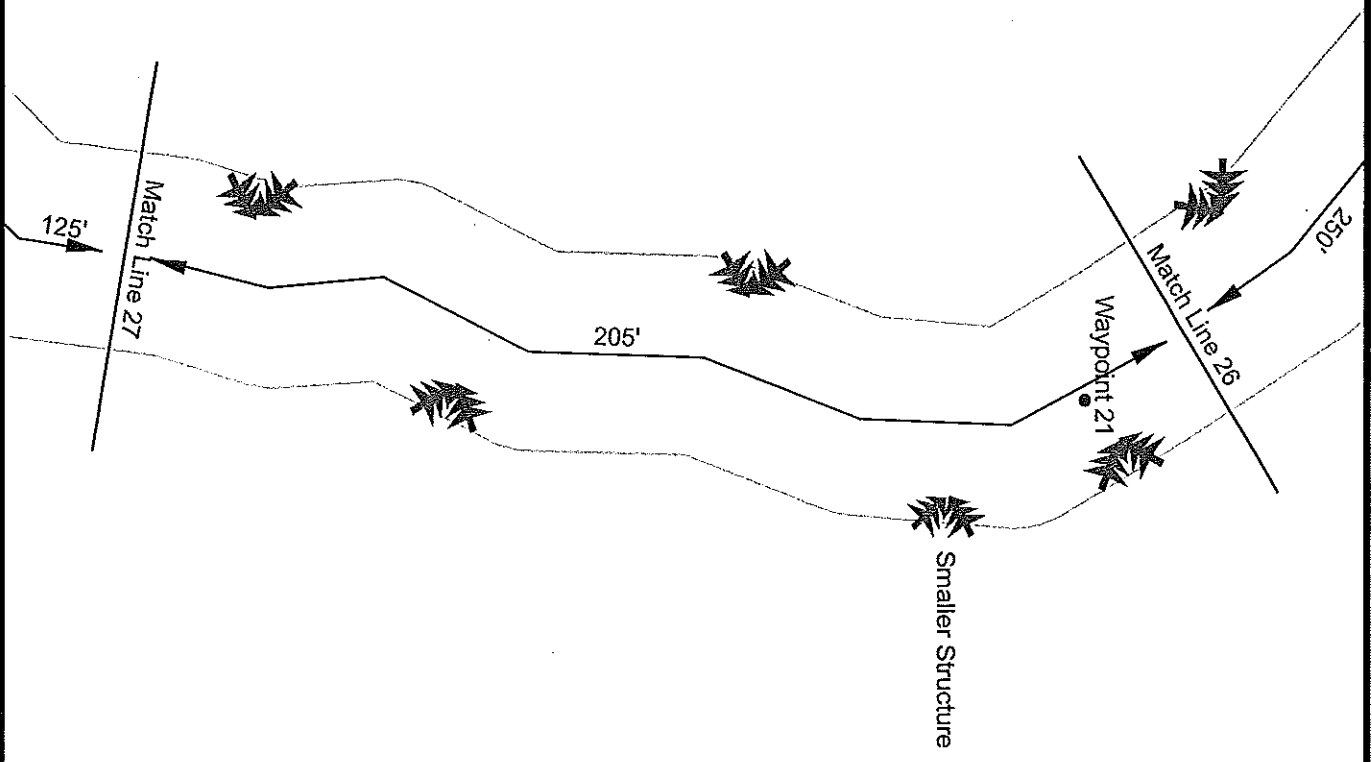
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Black River T32N R1W Section 36

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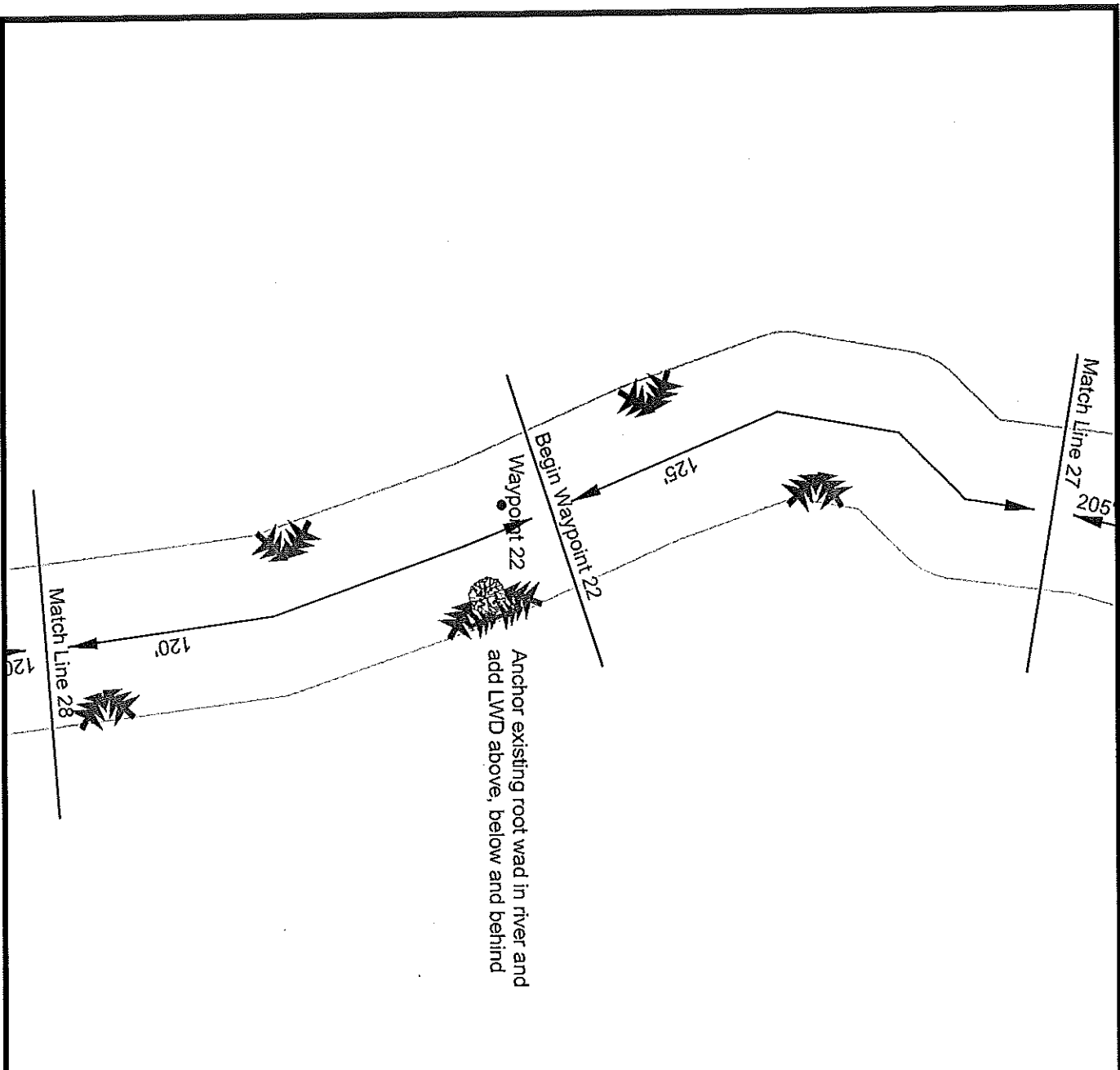
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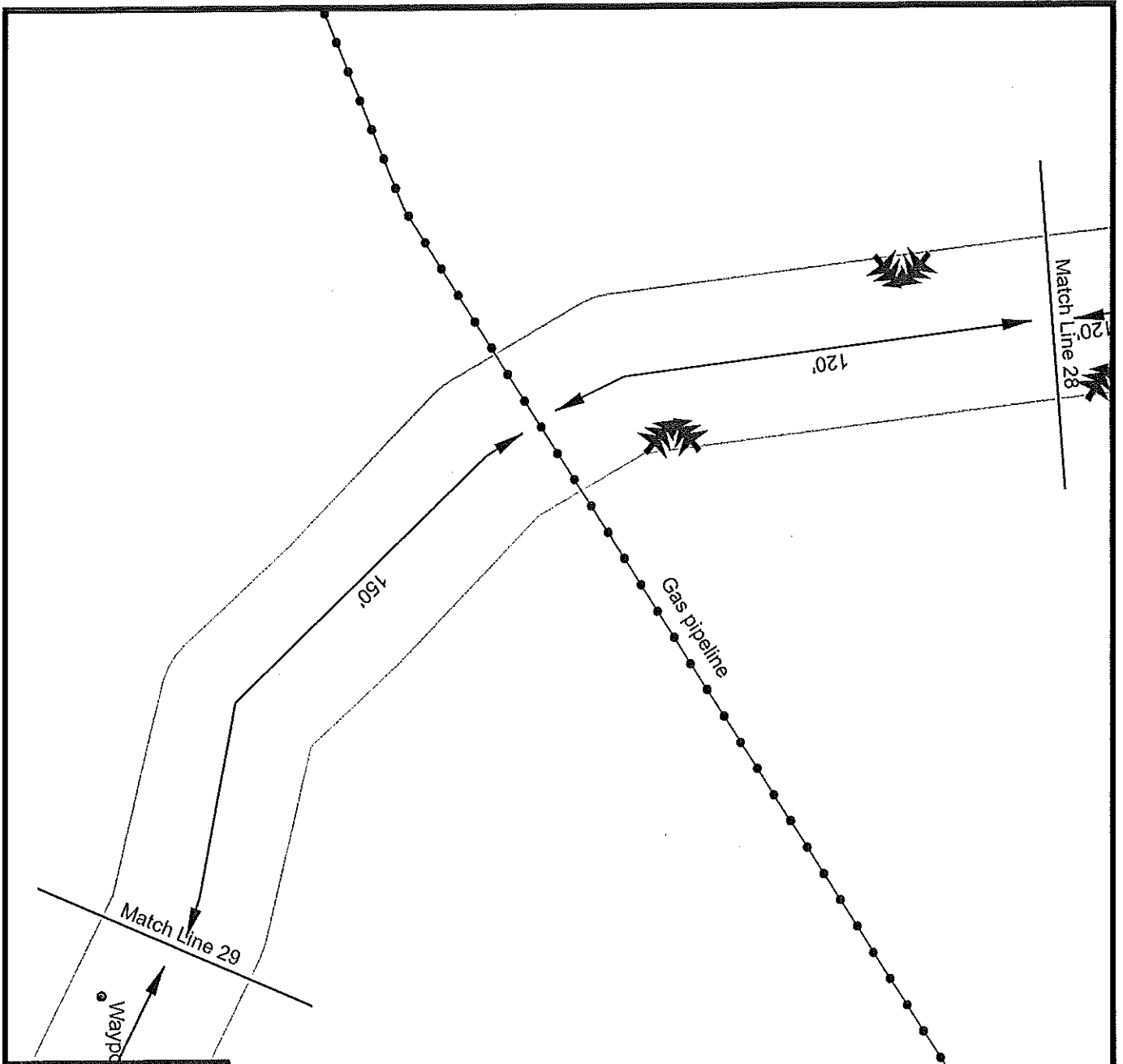
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Black River	T32N R1W Section 36
Waypoint 21 (Cont.) & 22 Site Plan	10/29/09
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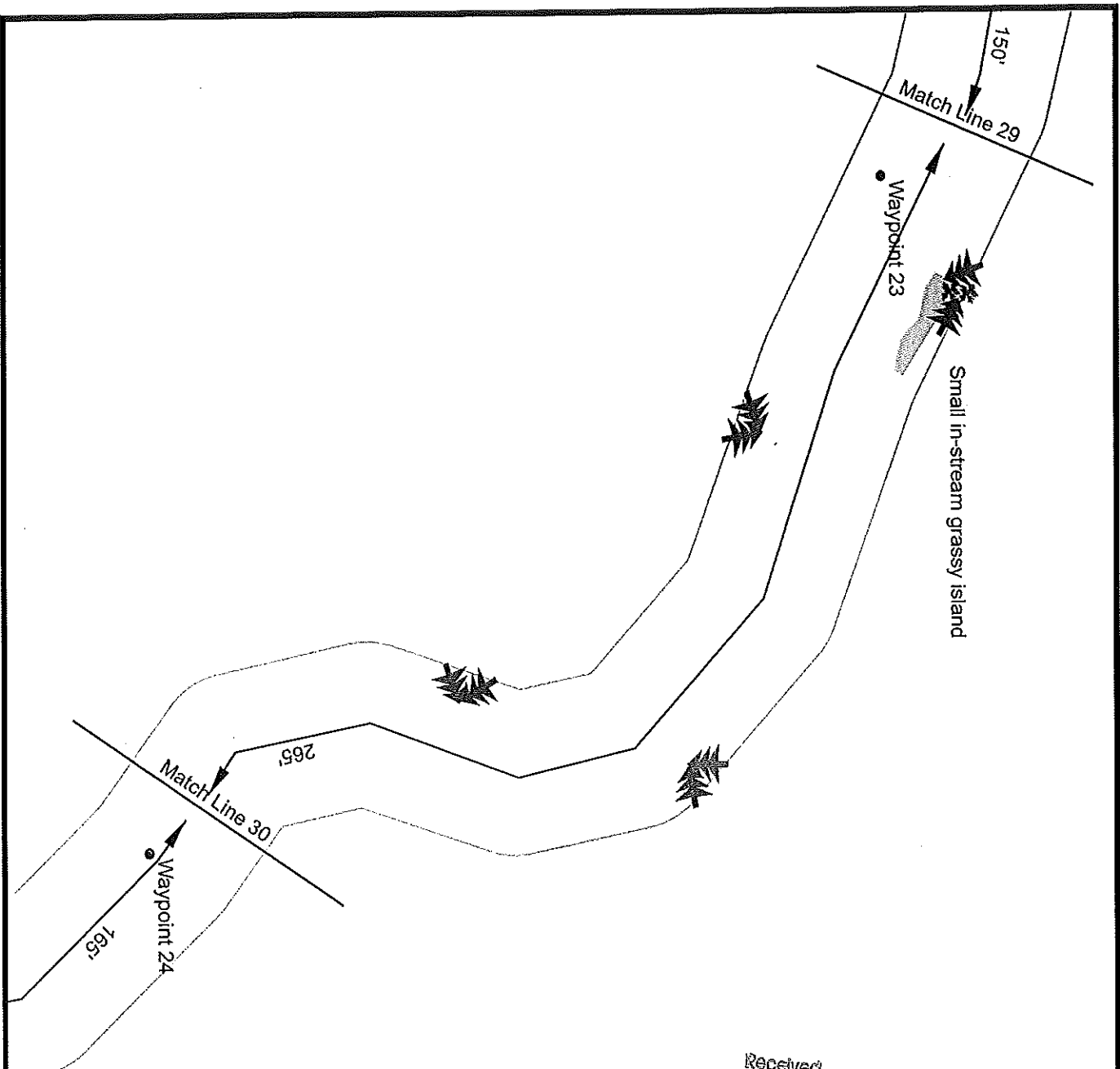
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Black River T32N R1W Section 36
Waypoint 22 Site Plan (Continued) 10/29/09
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Drawn By: NJT



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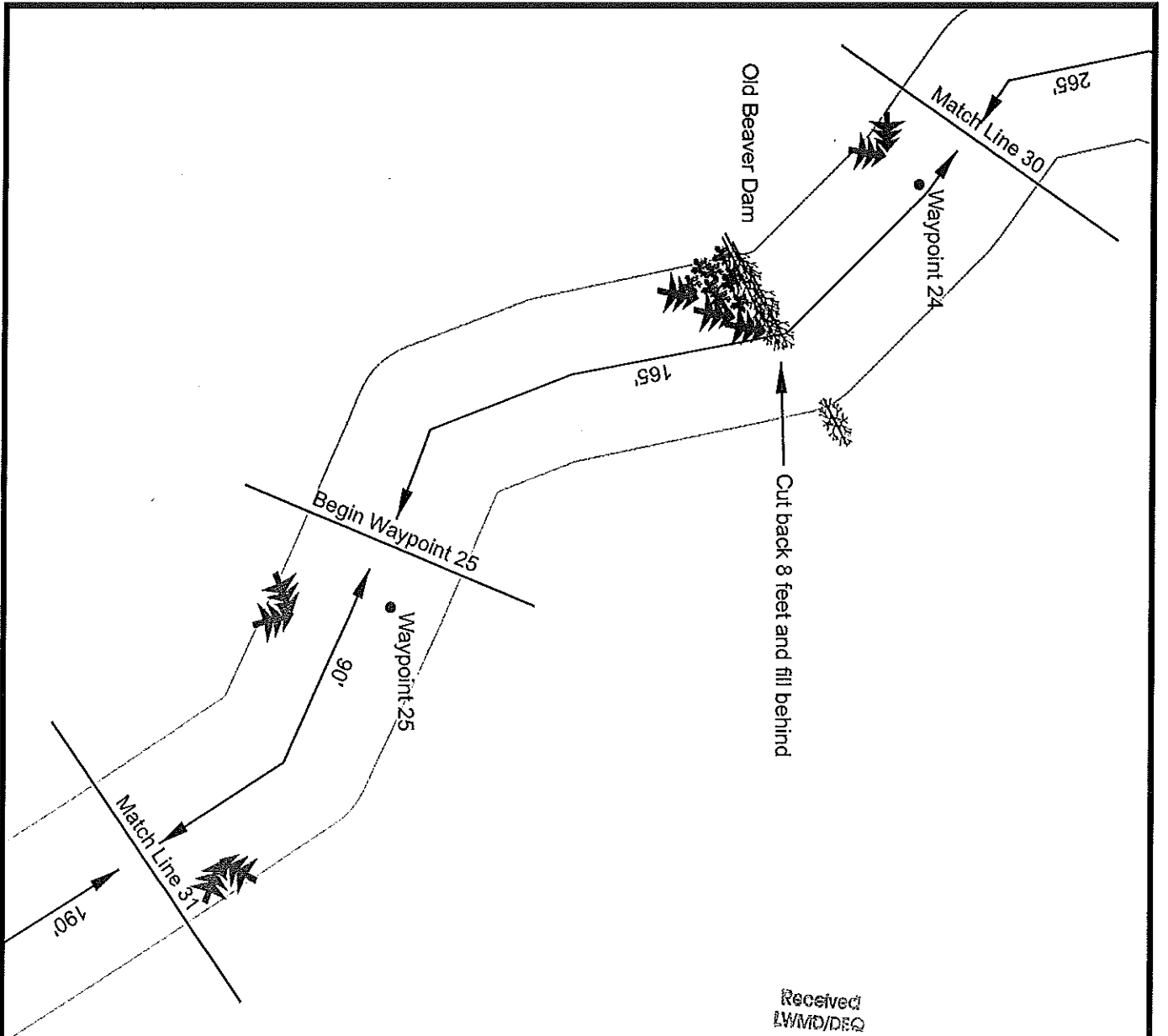
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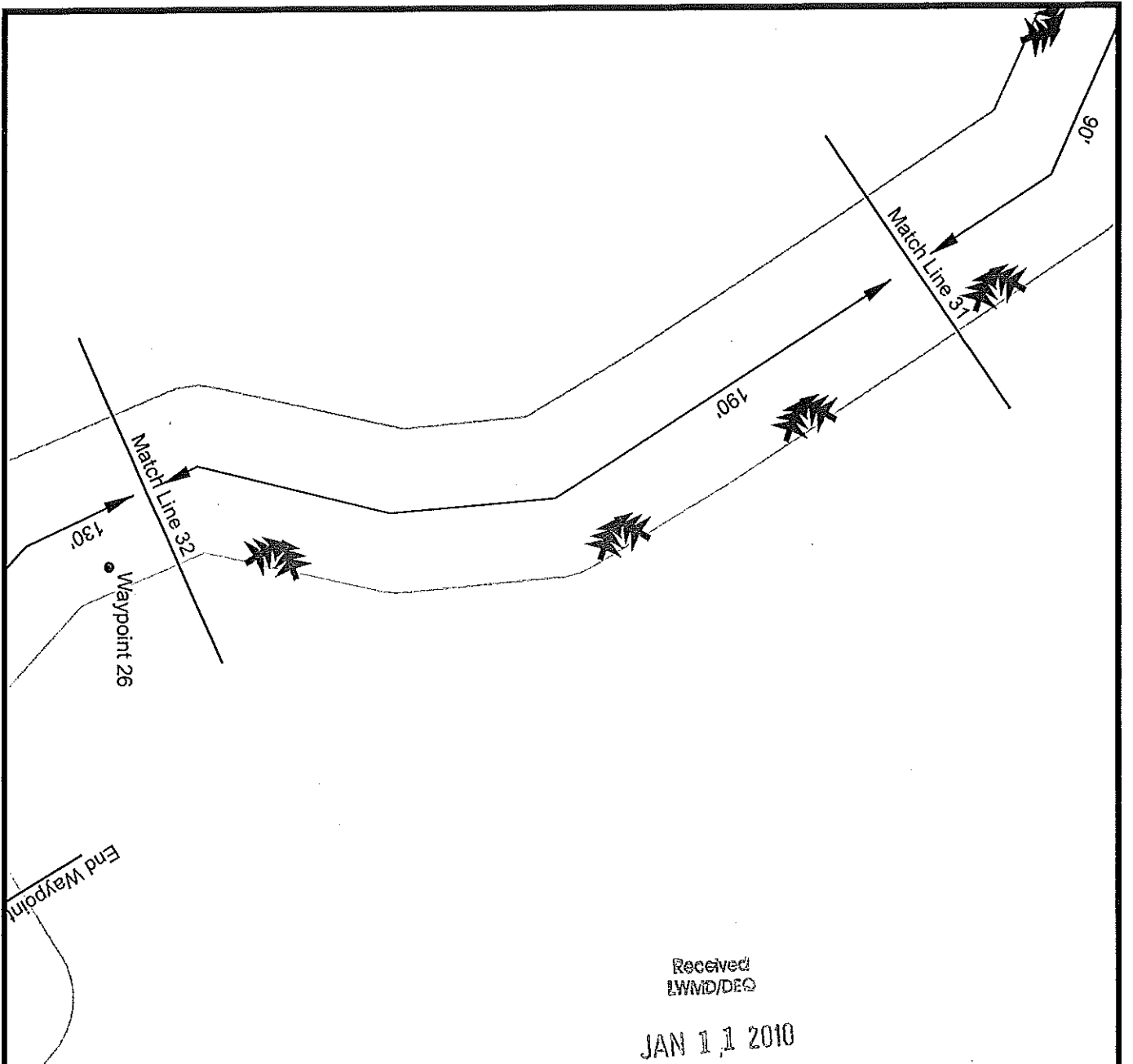
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Black River	T32N R1W Section 36 T31N R1W Section 1
Waypoint 24 & 25 Site Plan	11/5/09
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Chandler Dam Rd

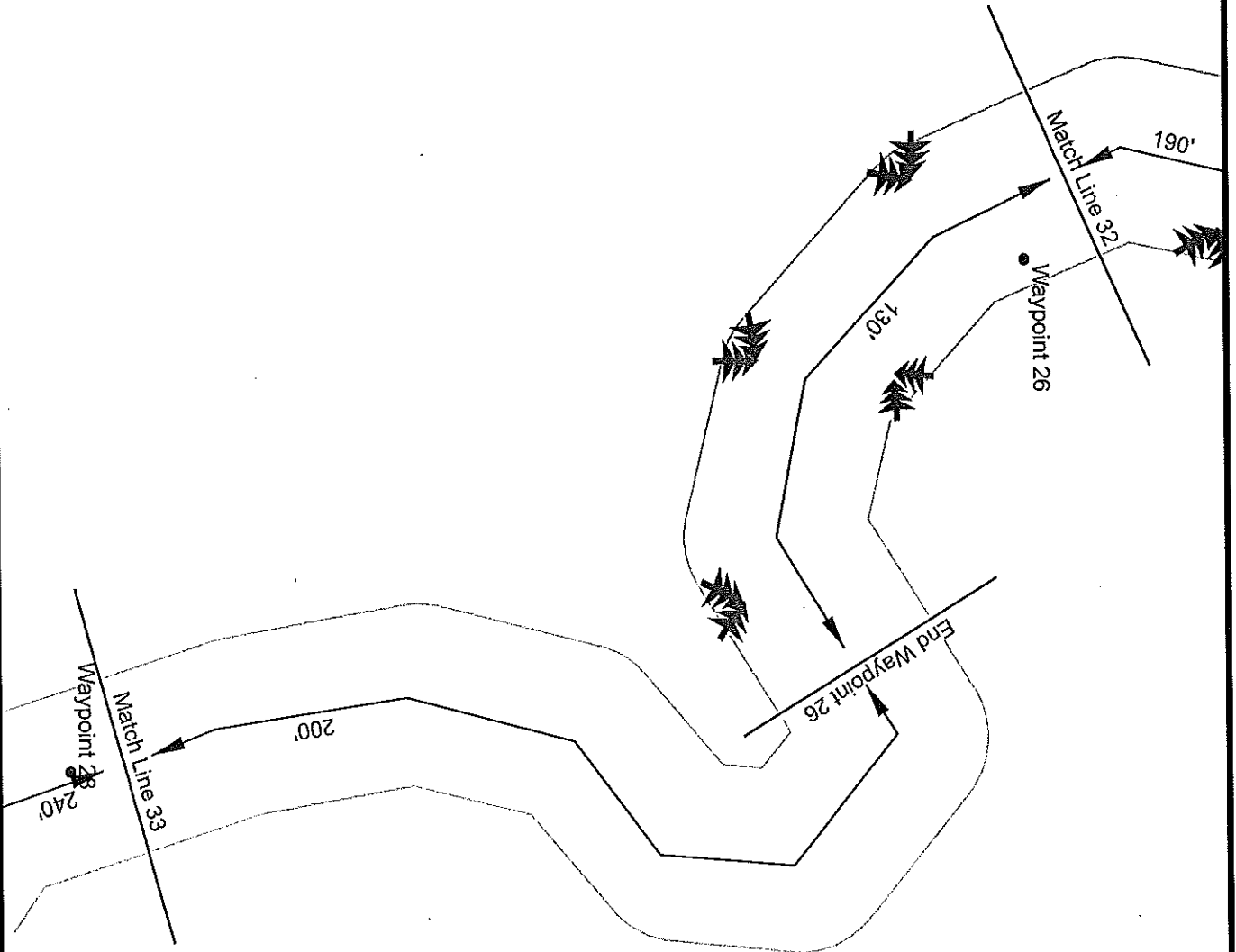
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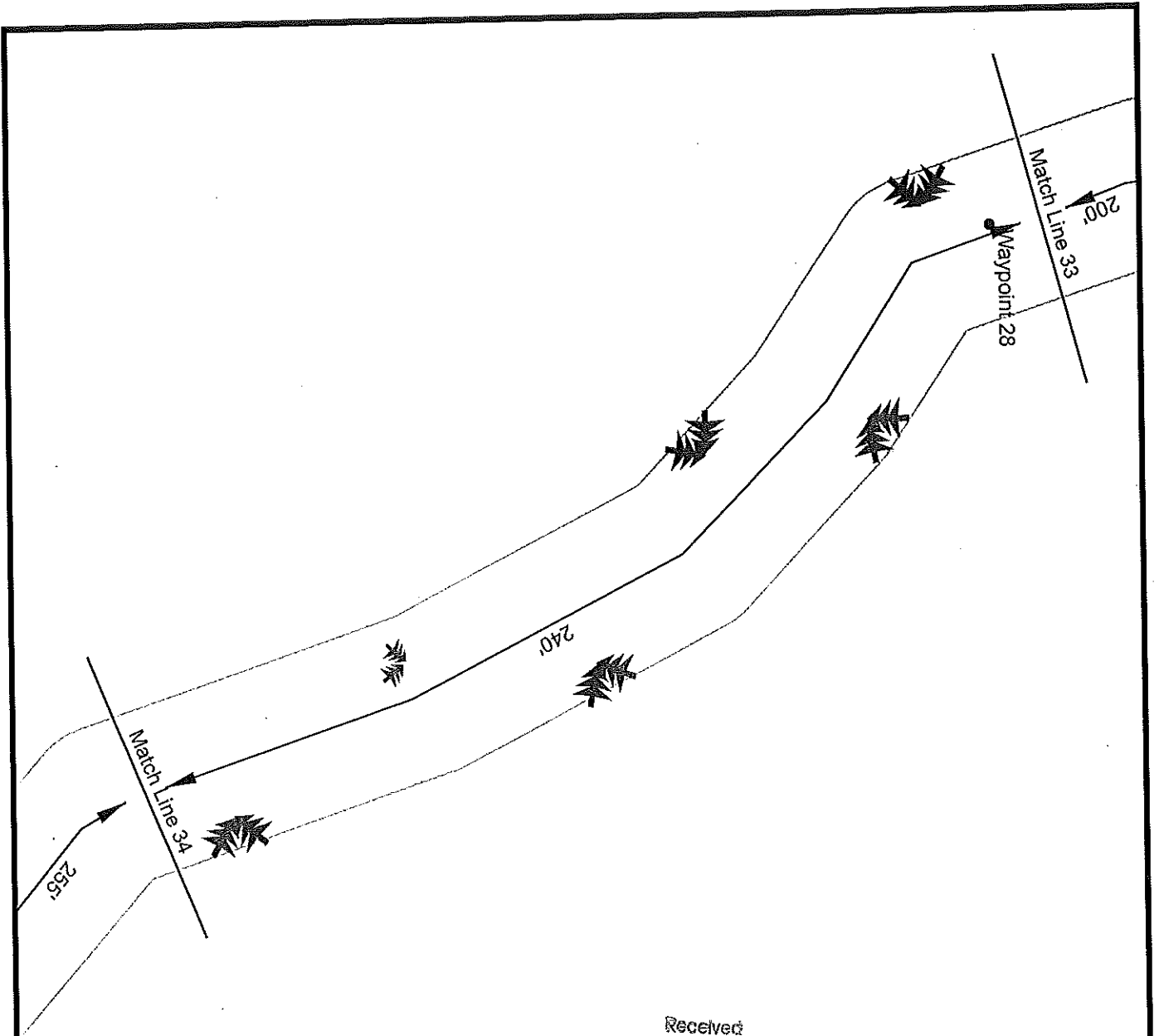
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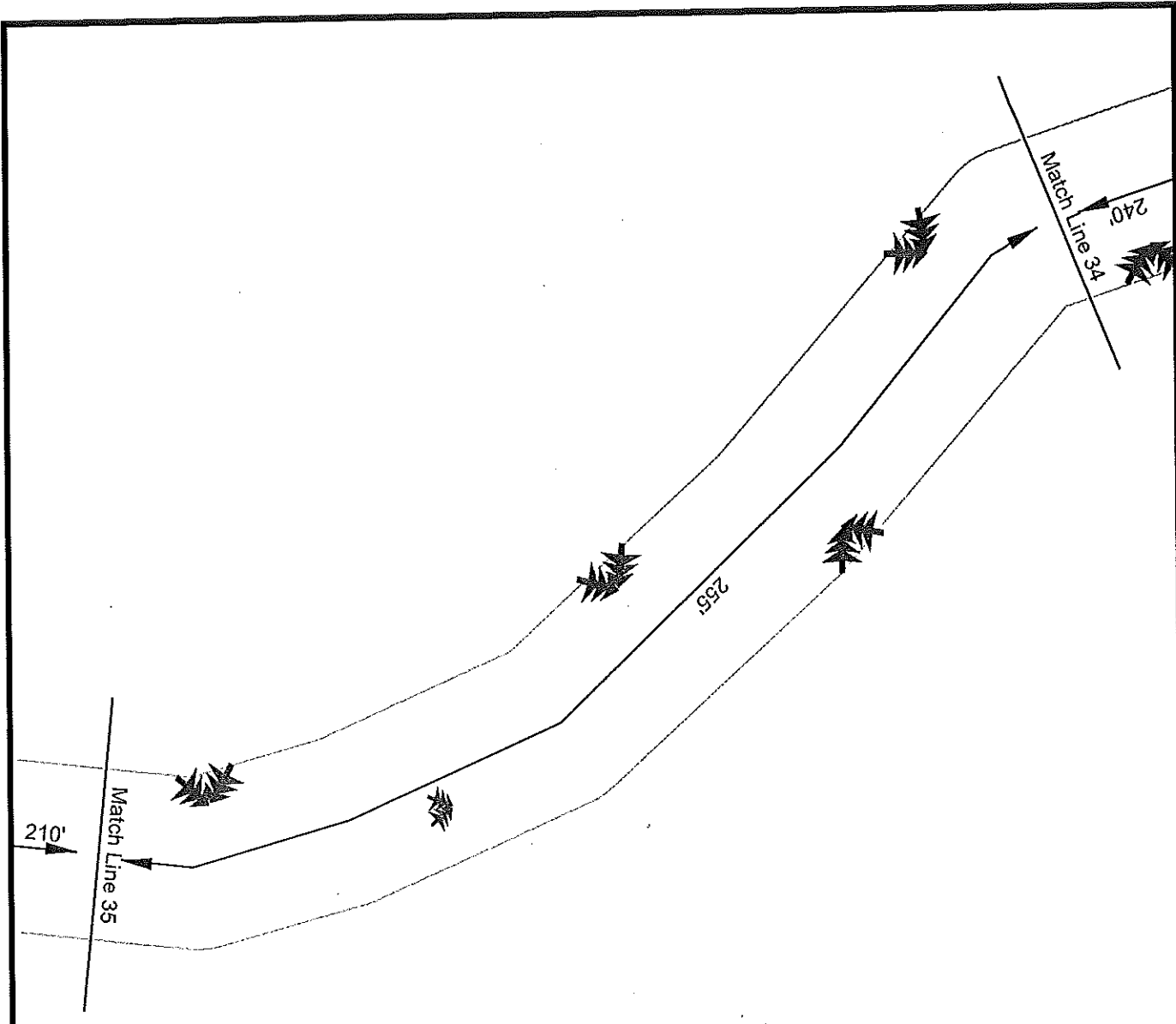
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Waypoint 28 Site Plan	11/5/09
Attachment 4 - Sheet 34 of 52	
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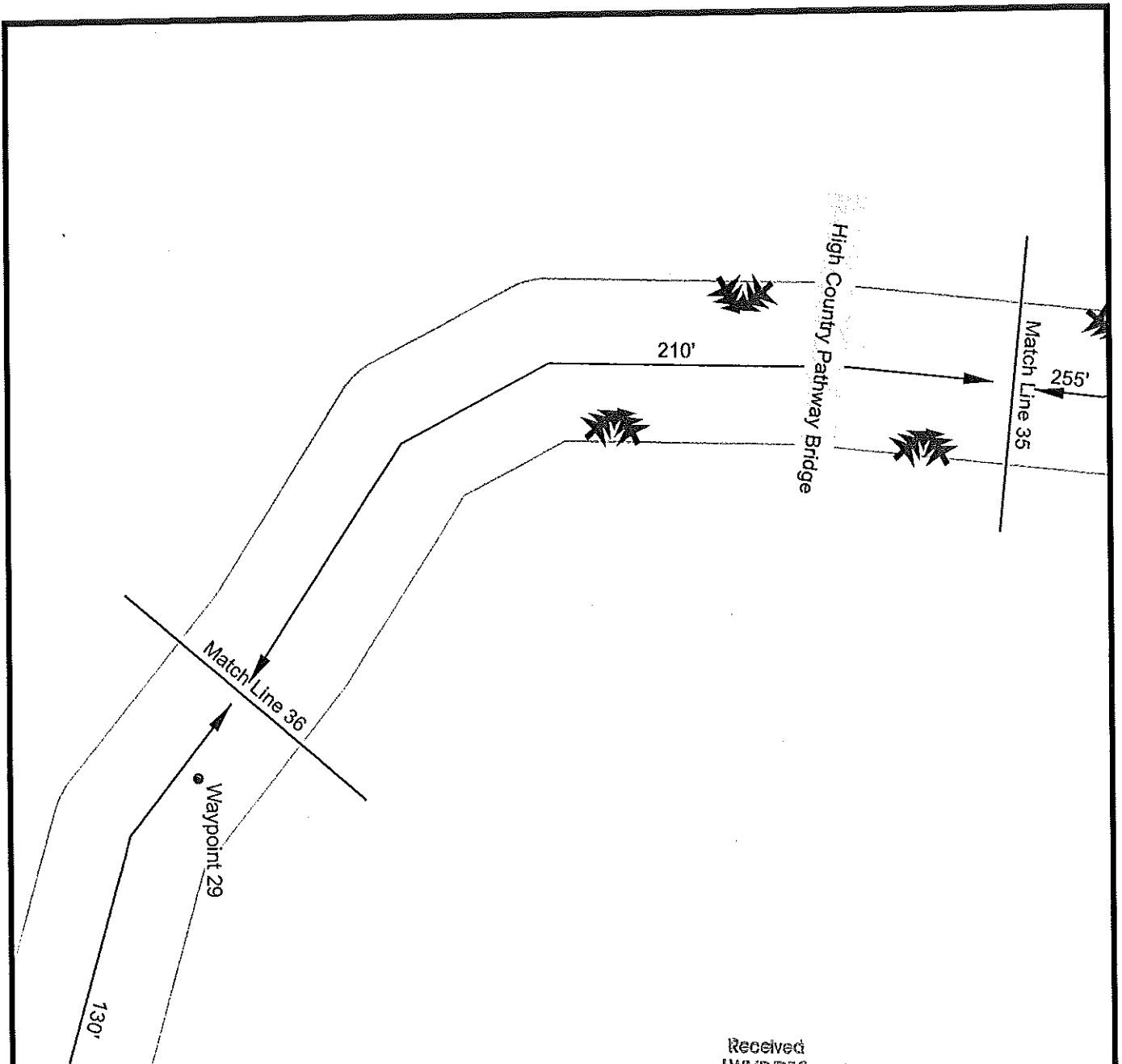
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T31N R1W Section 1
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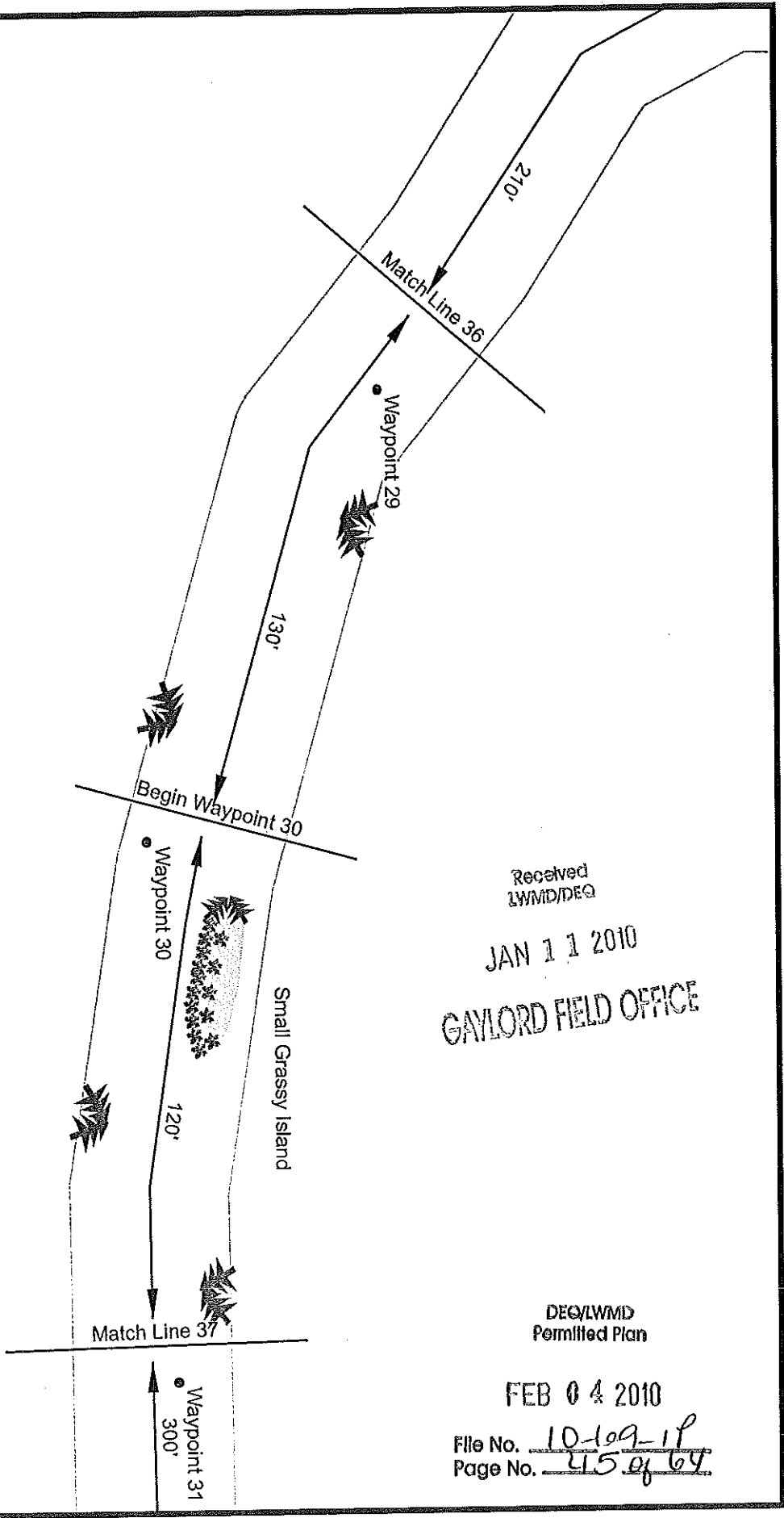
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Black River	
Waypoint 28 Site Plan (Continued)	11/5/09
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Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T31N R1W Section 1
Waypoint 29 & 30 Site Plan	11/9/09
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Match Line 37

120'

Waypoint 31

300'

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Match Line 38

80'

Waypoint 32

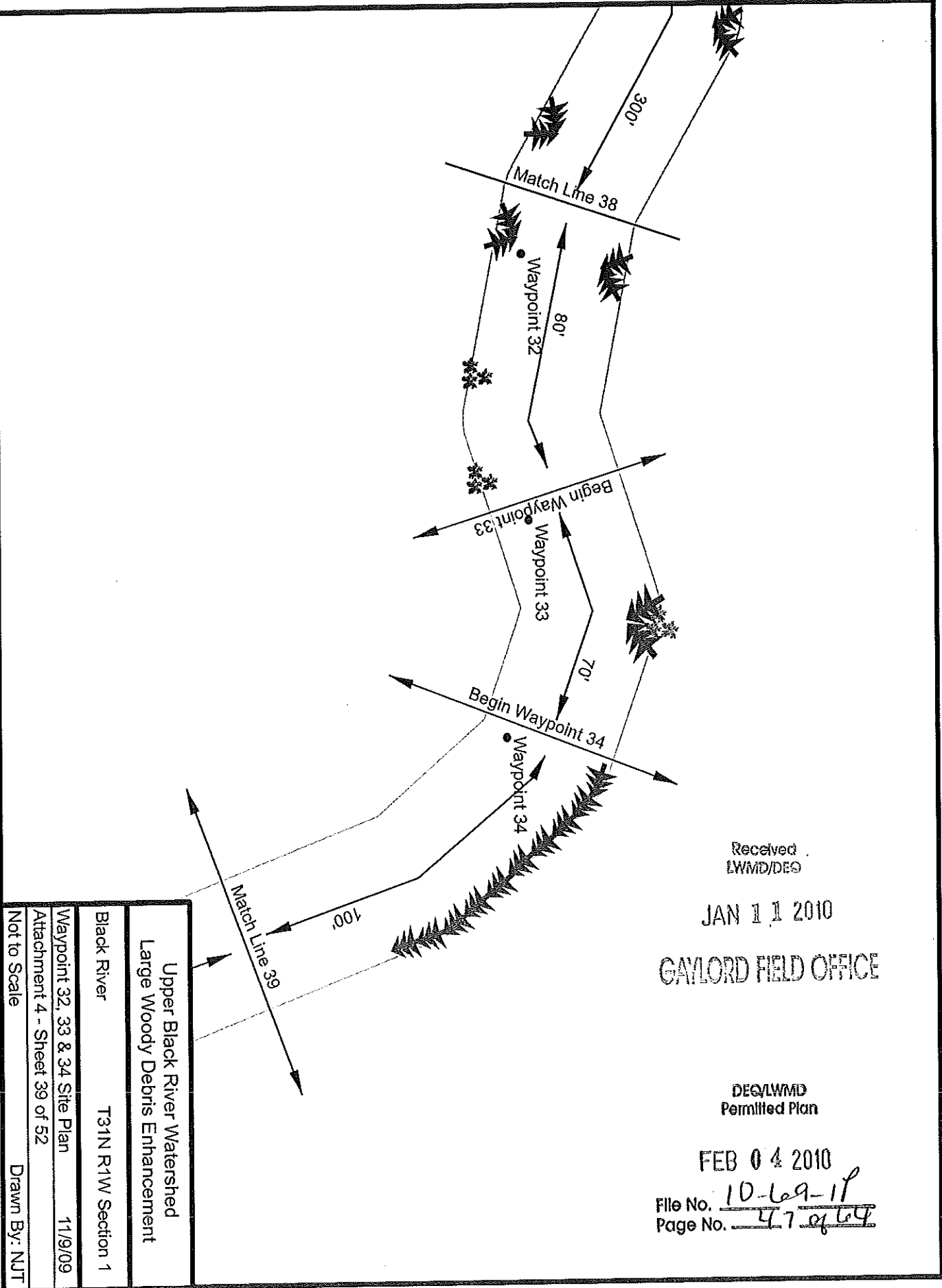
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Large Woody Debris Enhancement

Black River T31N R1W Section 1

Waypoint 31 Site Plan 11/9/09

Attachment 4 - Sheet 38 of 52

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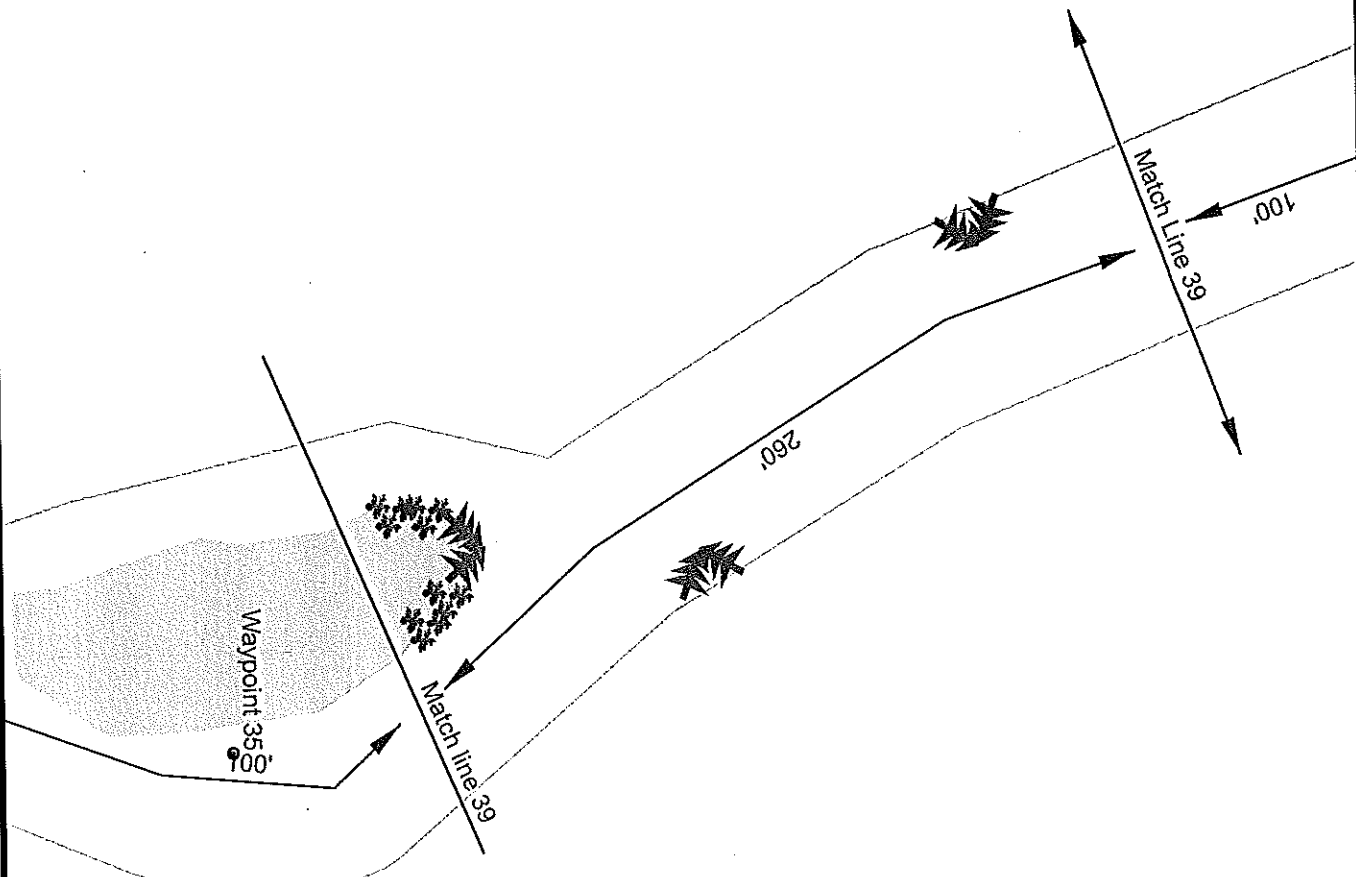
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Waypoint 32, 33 & 34 Site Plan	11/9/09
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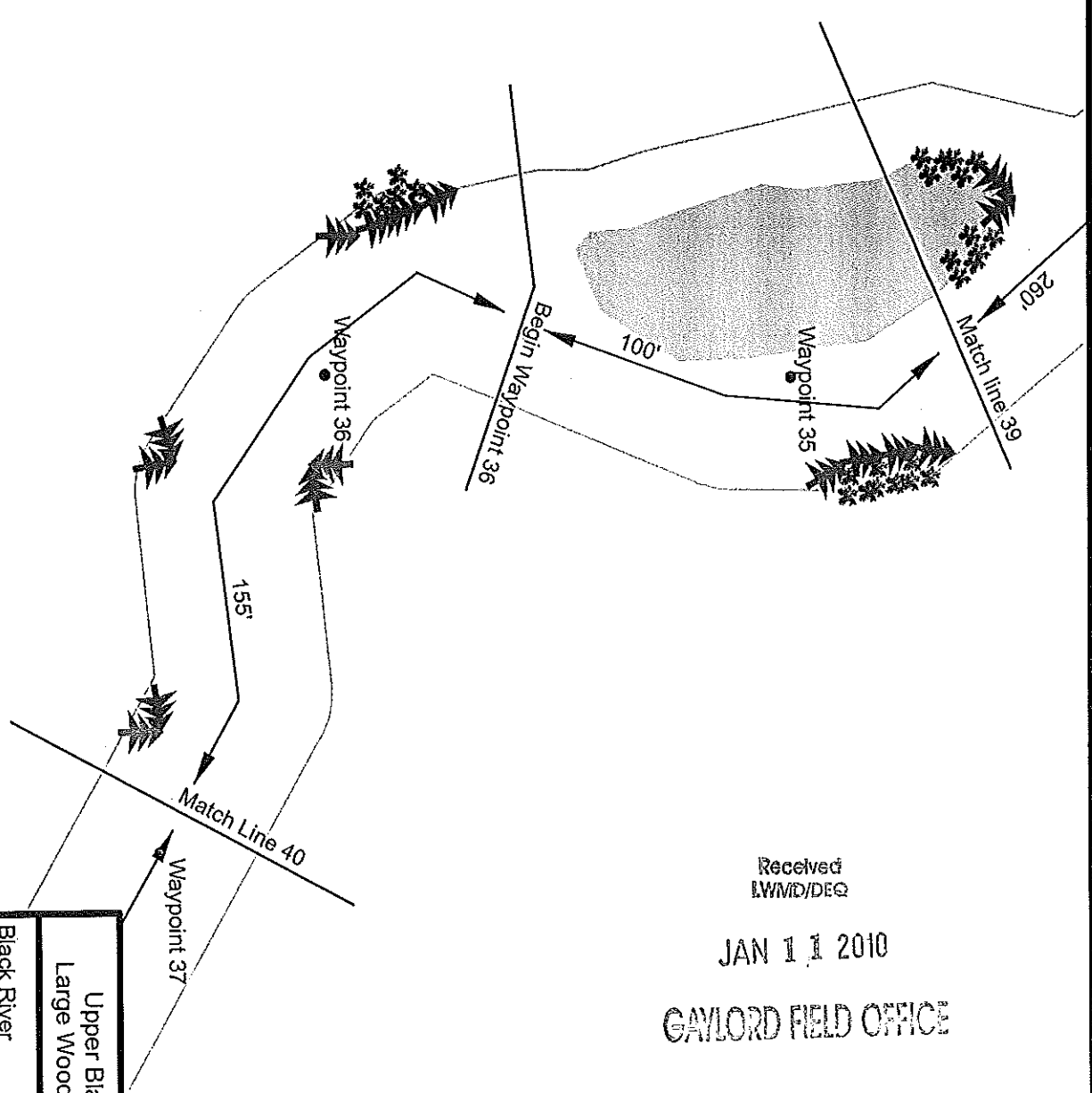
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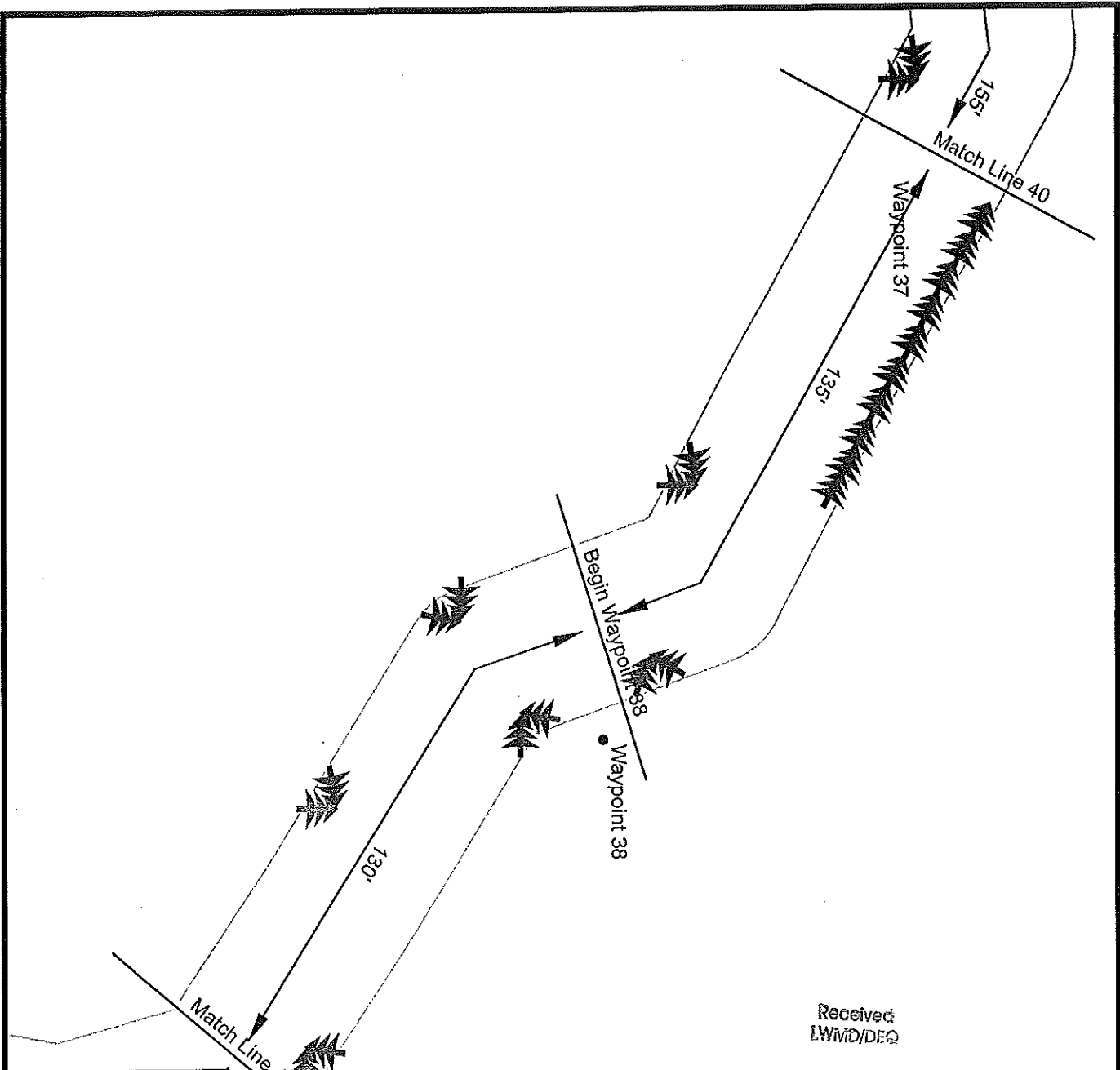
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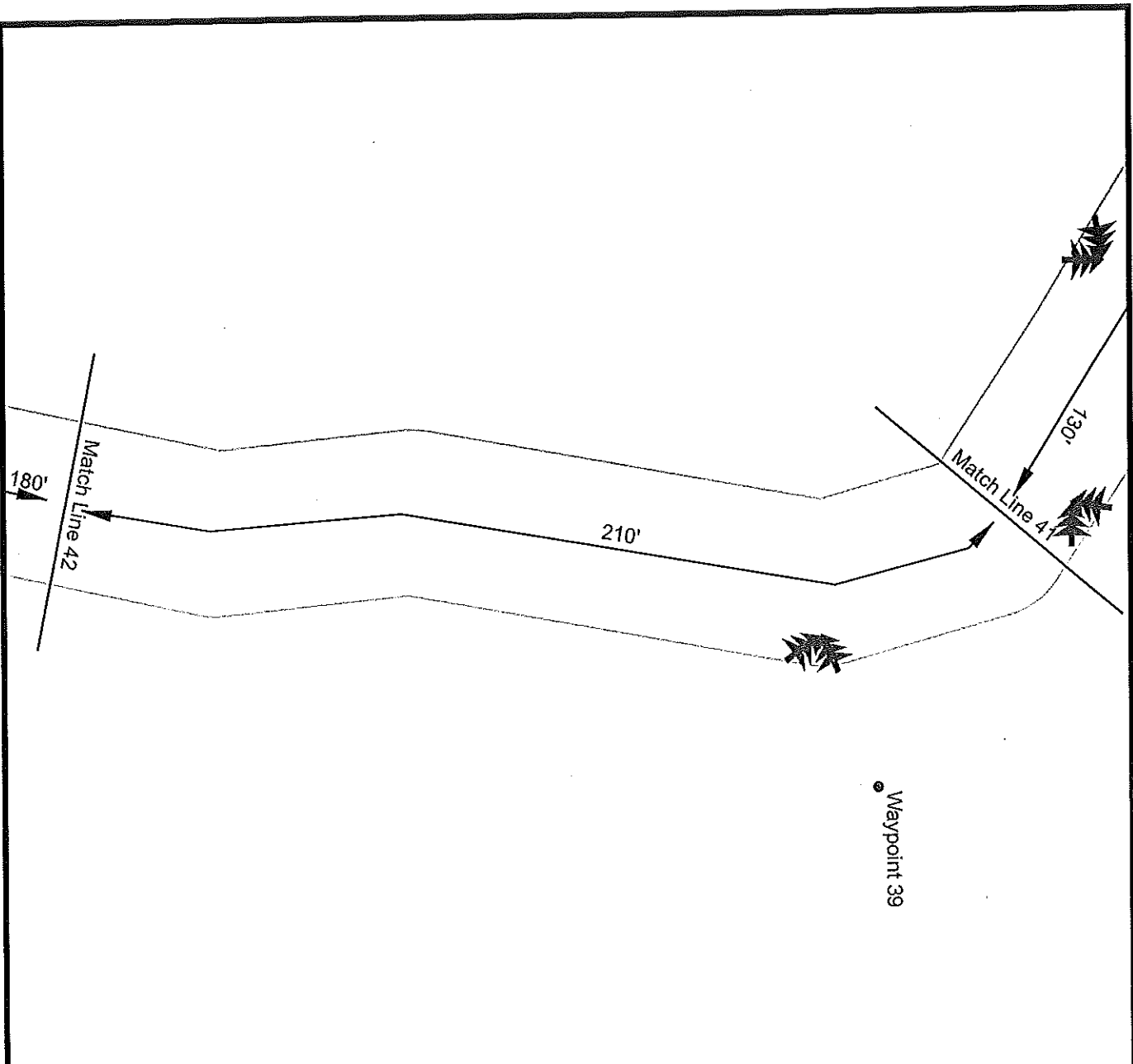
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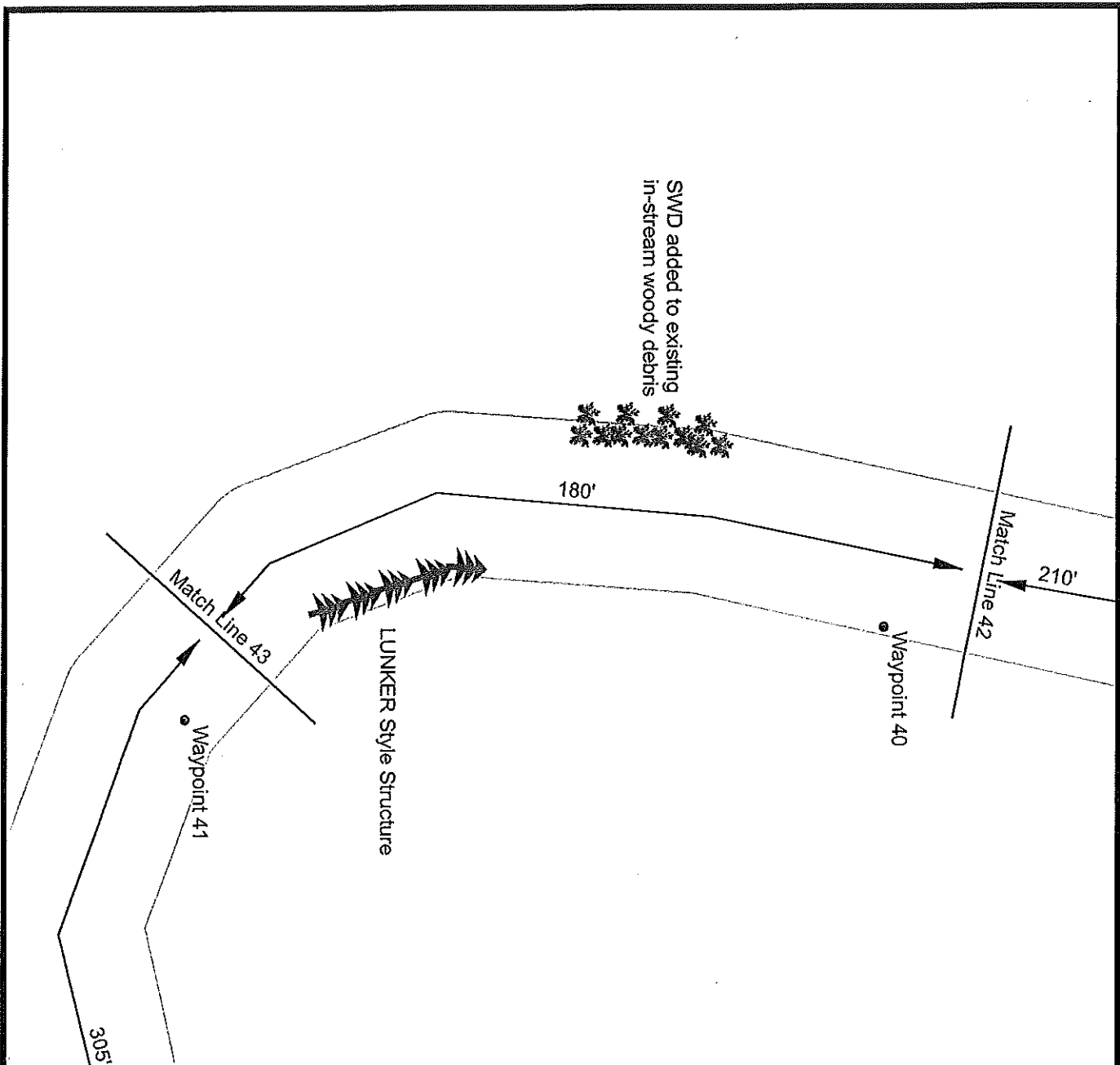
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Waypoint 39 Site Plan	11/9/09
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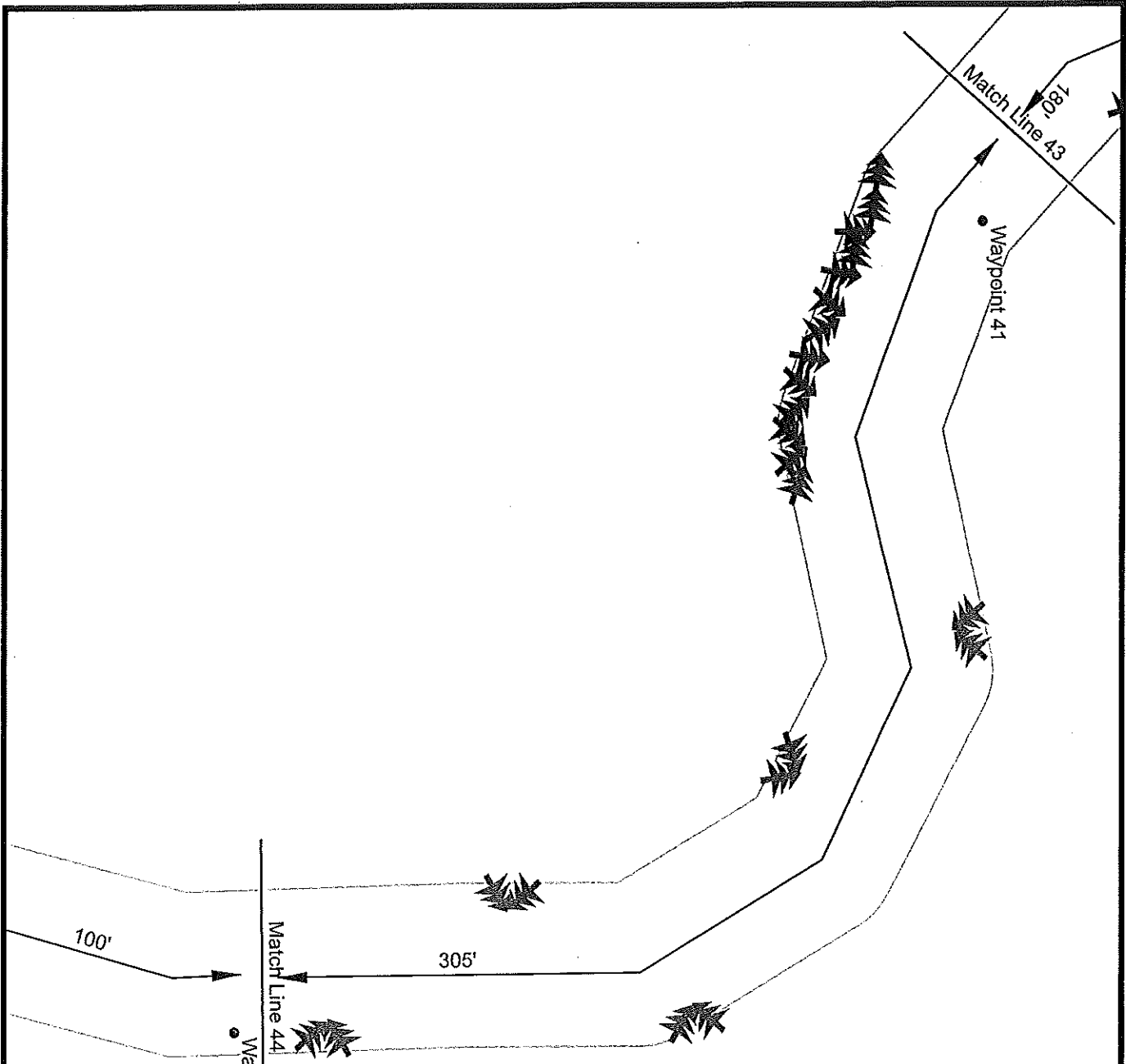
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Waypoint 40 Site Plan	11/10/09
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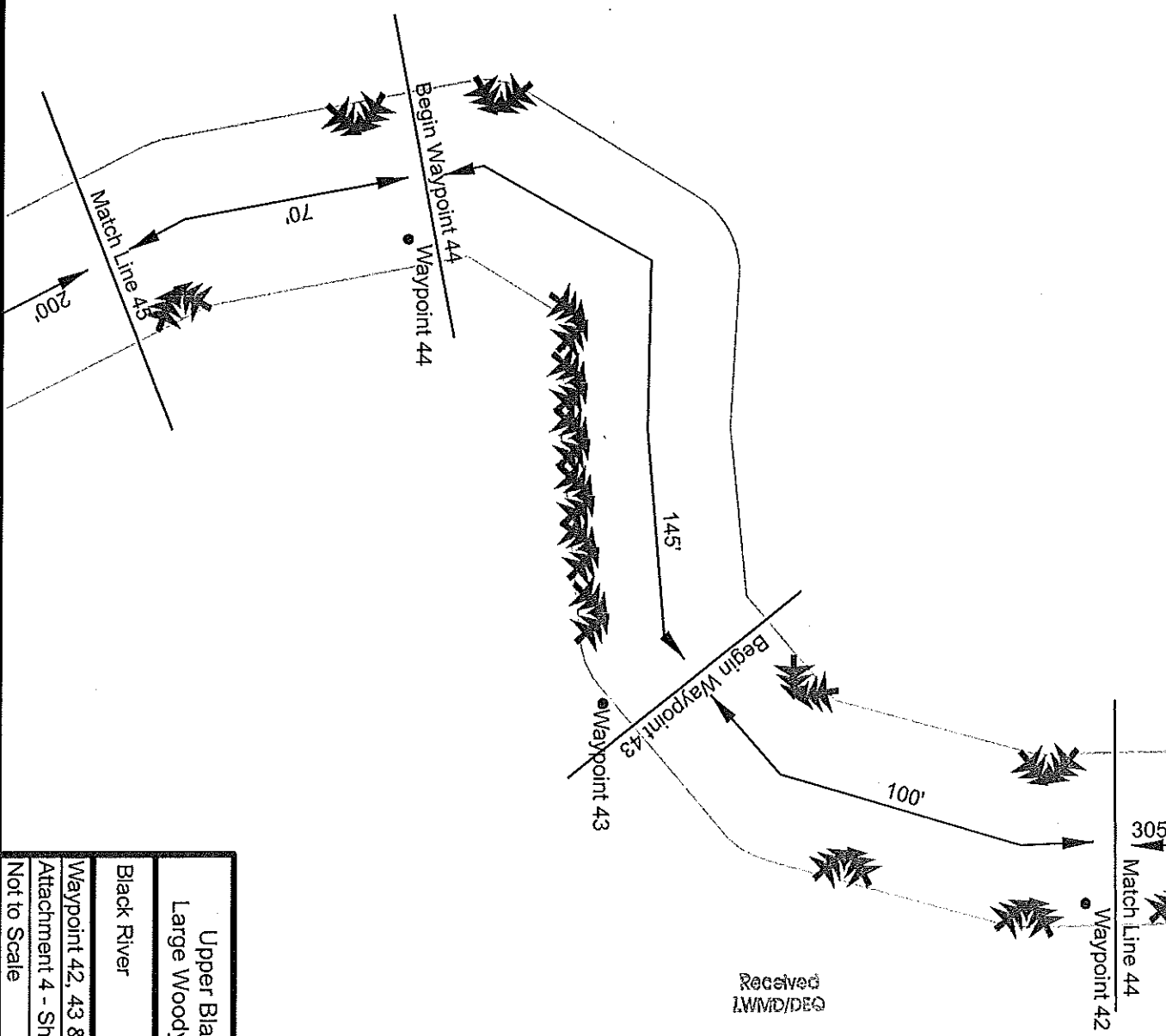
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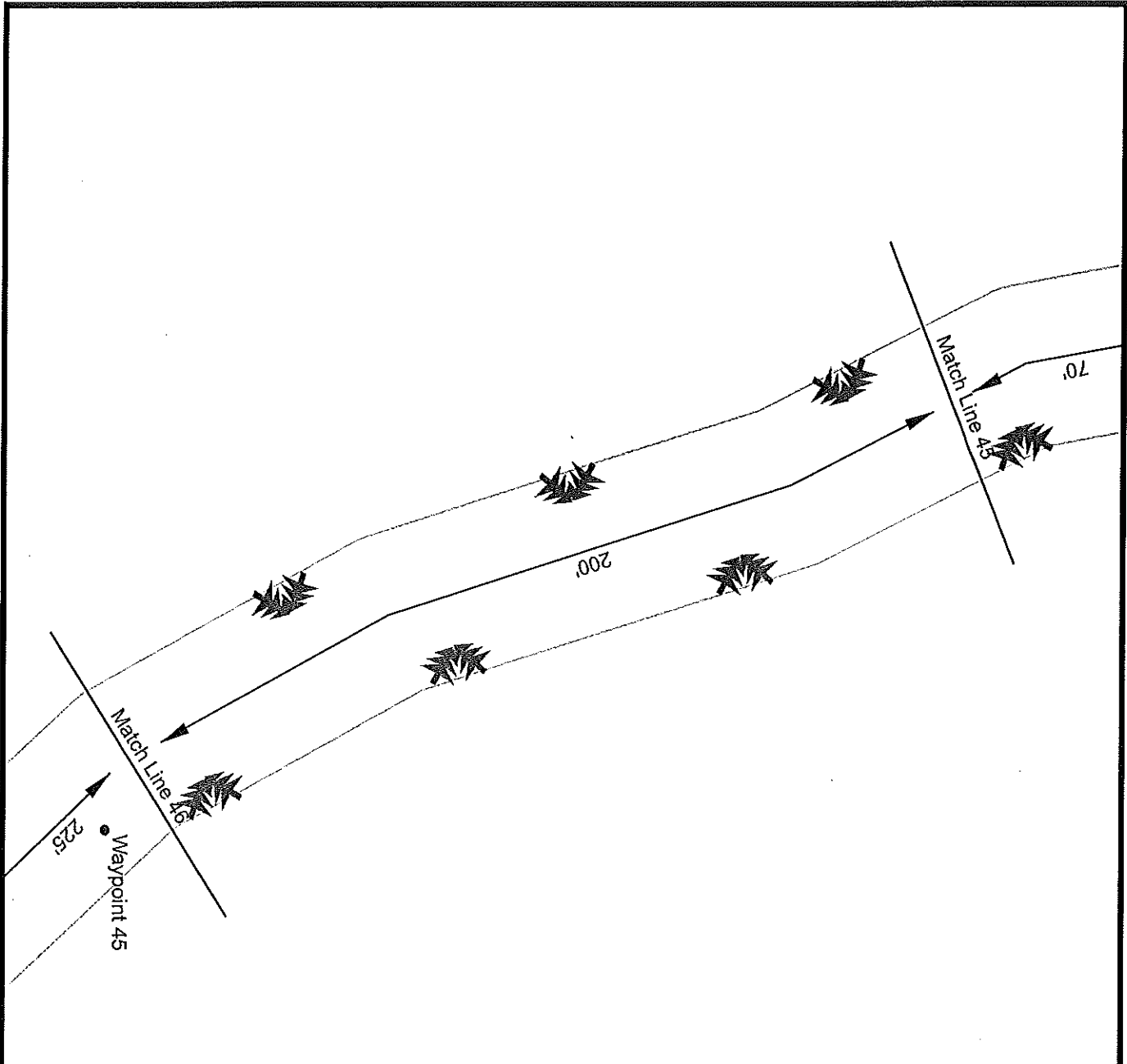
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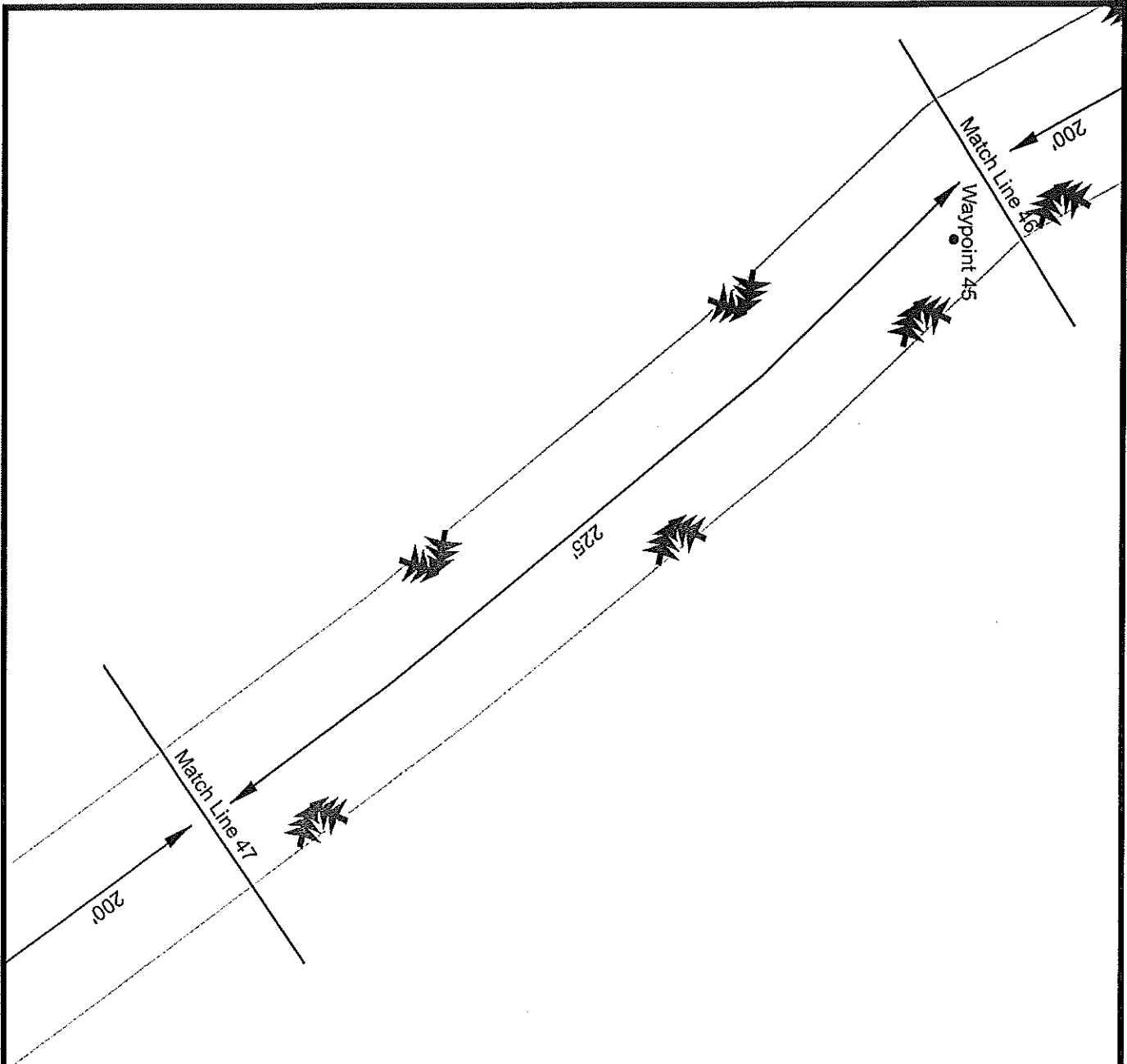
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Waypoint 44 Site Plan (Continued) 11/12/09	
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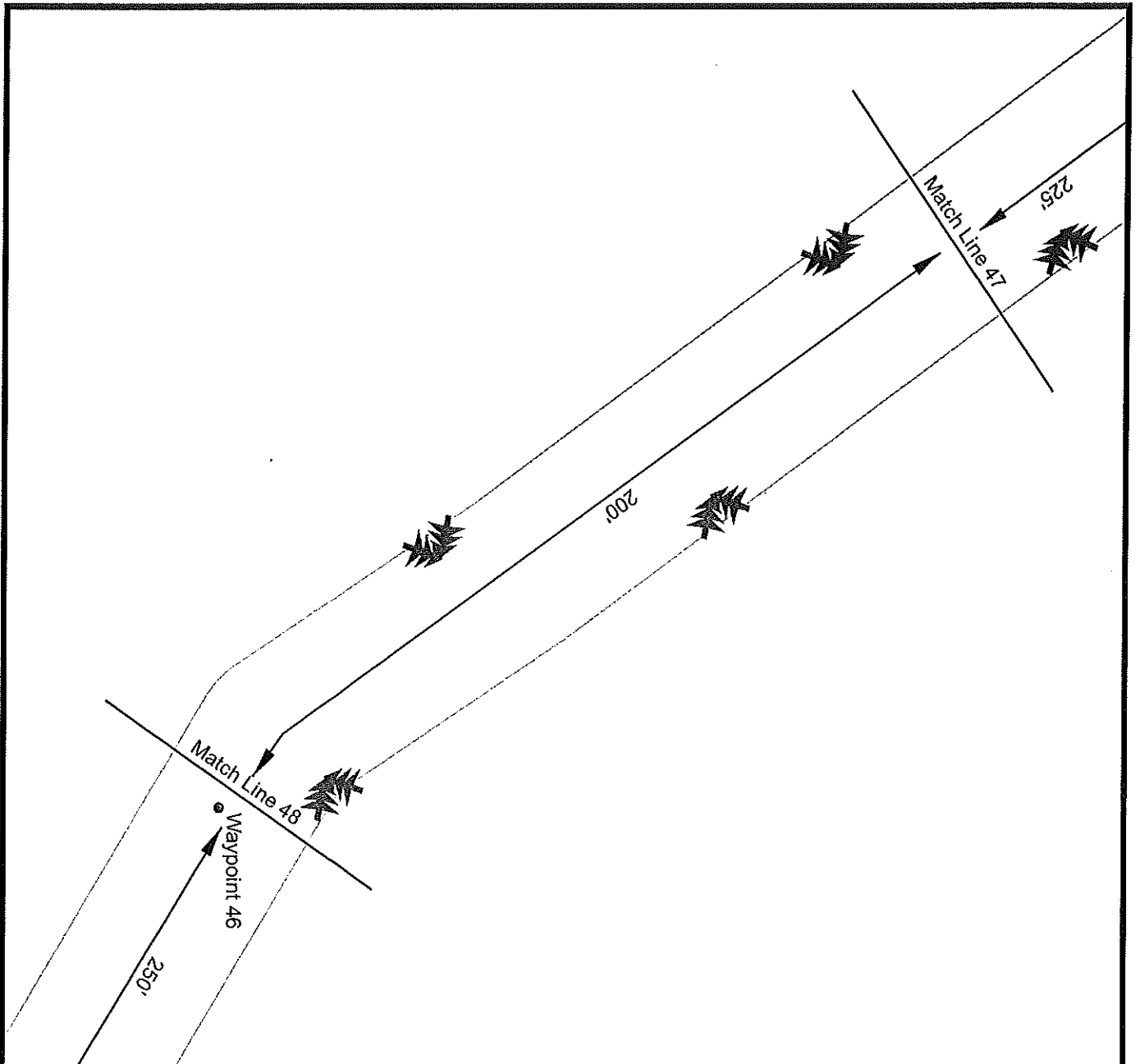
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Waypoint 45 Site Plan	11/17/09
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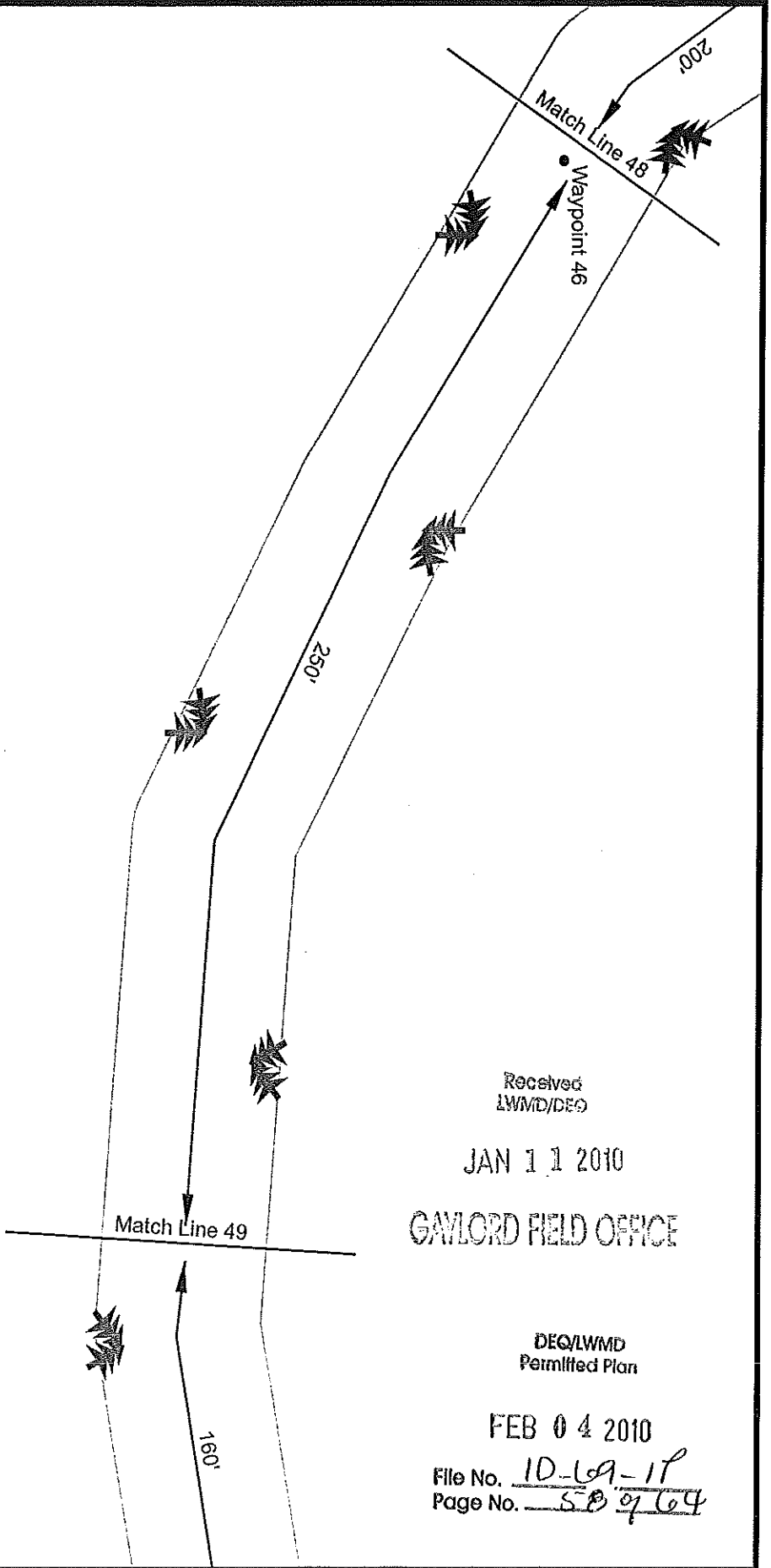
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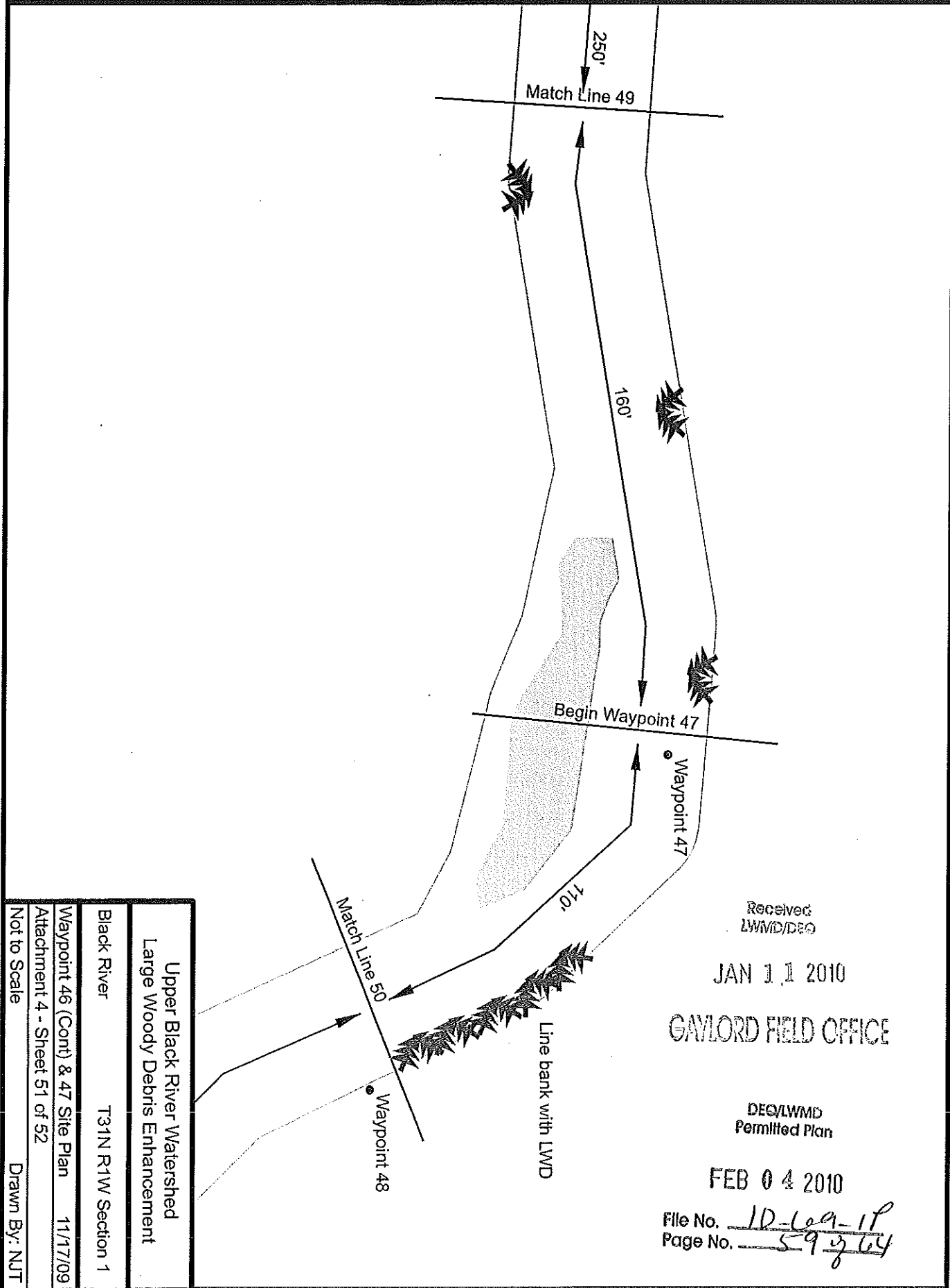
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Waypoint 46 Site Plan	11/17/09
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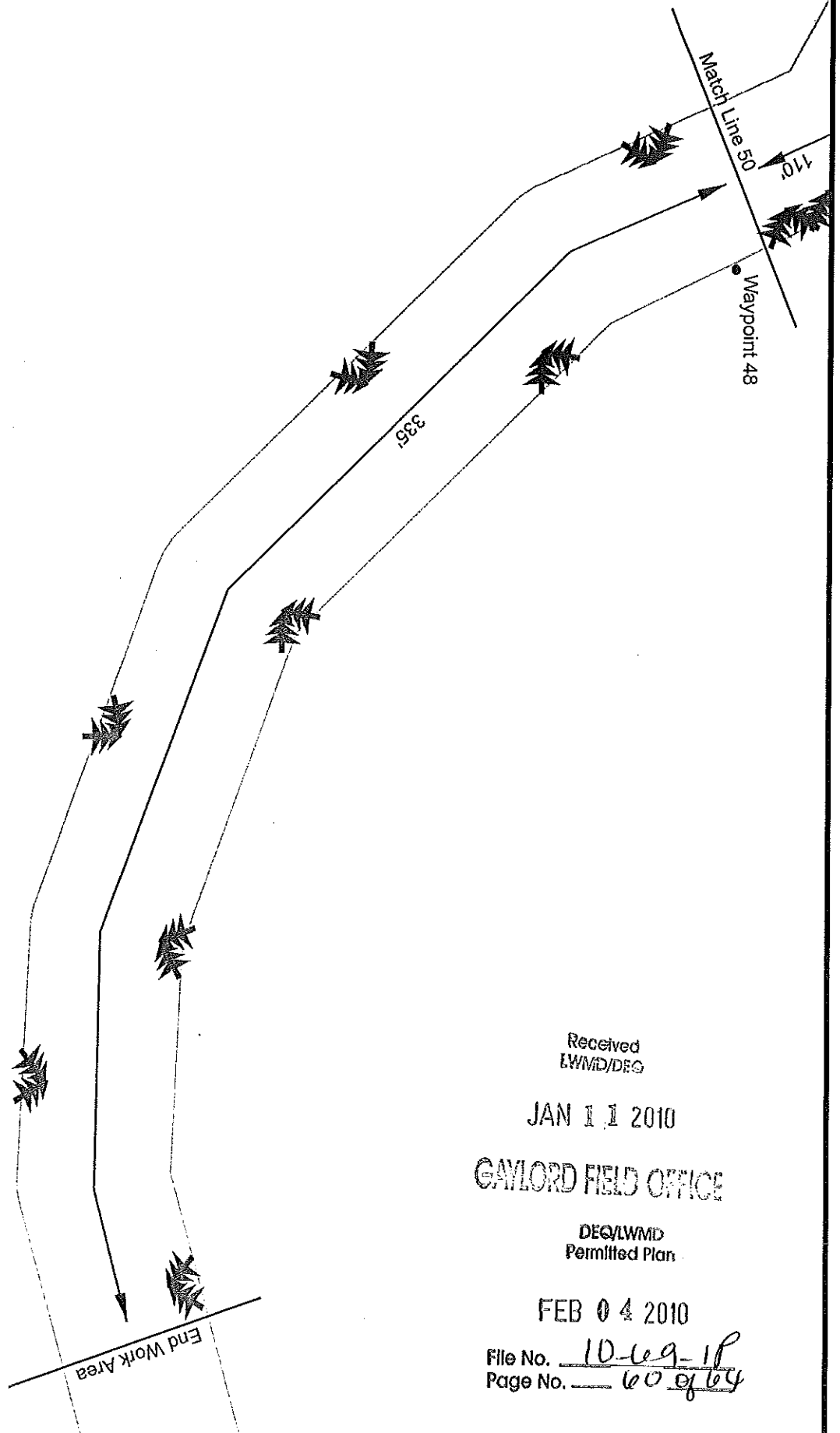
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Upper Black River Watershed Large Woody Debris Enhancement	
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Waypoint 46 (Cont) & 47 Site Plan	11/17/09
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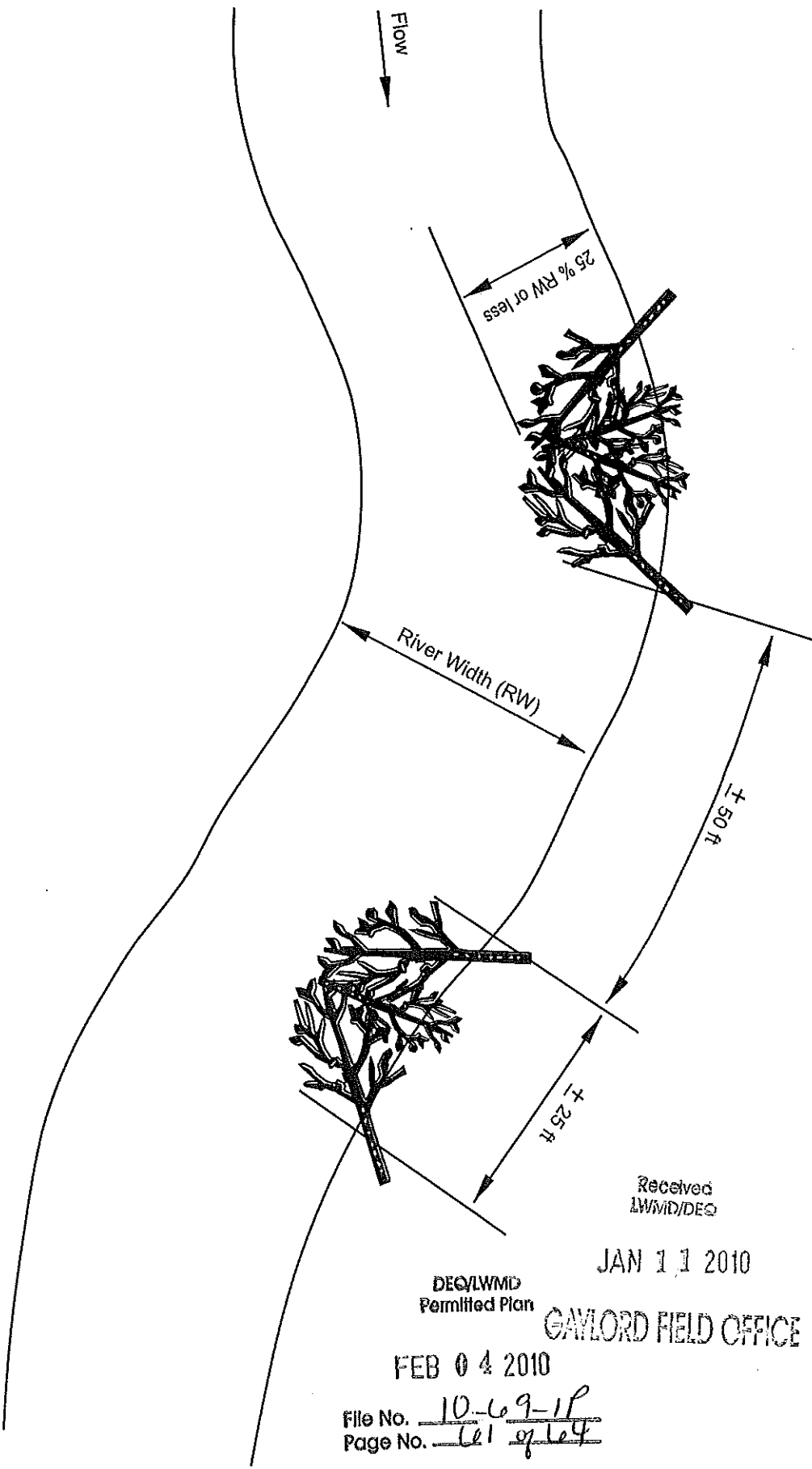
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Permitted Plan

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Page No. 60 of 64

Upper Black River Watershed Large Woody Debris Enhancement	
Black River	T31N R1W Section 1
Waypoint 48 Site Plan	11/17/09
Attachment 4 - Sheet 52 of 52	
Not to Scale	
Drawn By: NJT	



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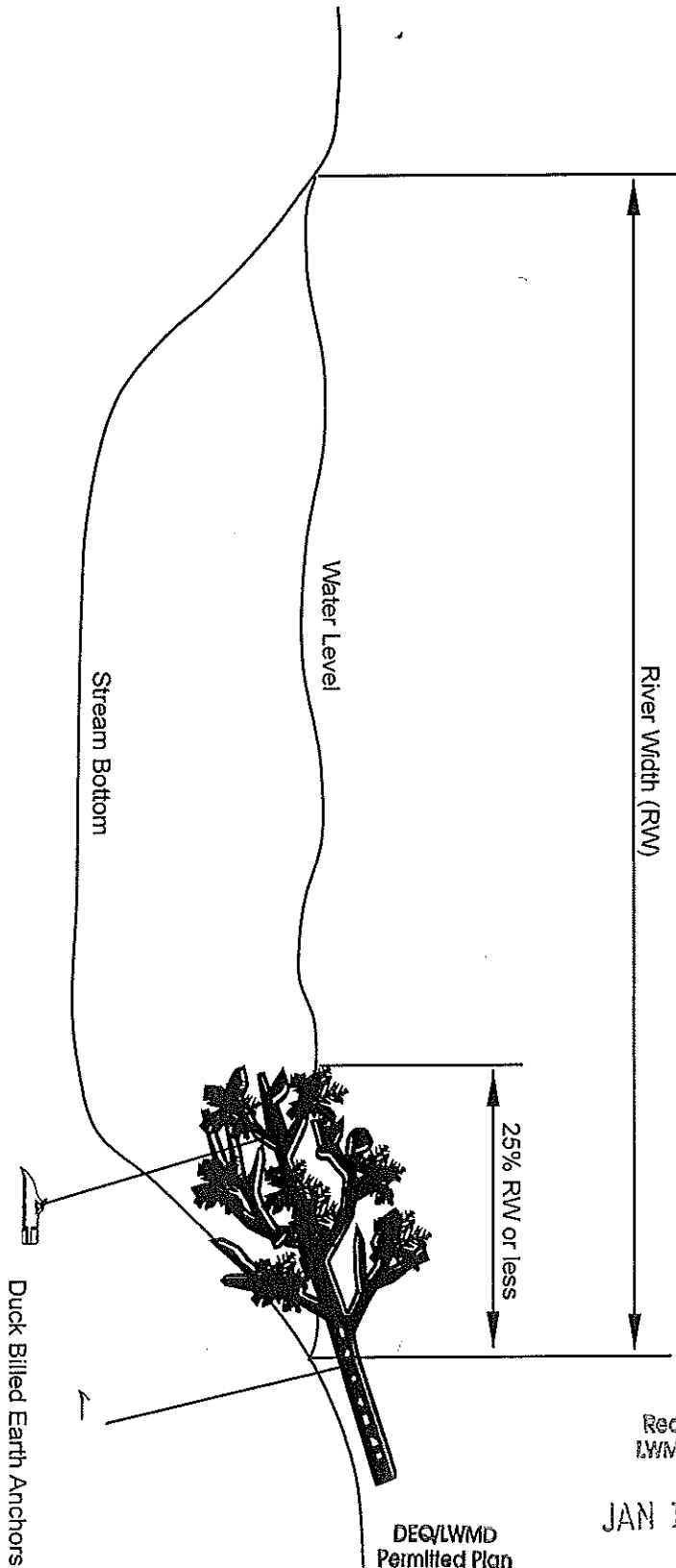
DEQ/LWWD  
Permitted Plan

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Upper Black River Watershed Large Woody Debris Enhancement
Typical LWD Structures
Attachment 5
Sheet 1 of 4
Not to Scale
10/11/09
Drawn By: NJT

Notes: - Structures will not extend from the bank (measured perpendicular) more than 25% of the stream width  
 - Duck Billed Earth Anchors will be driven manually to a depth of 3 ft minimum (actual depth is dependent upon substrate present)



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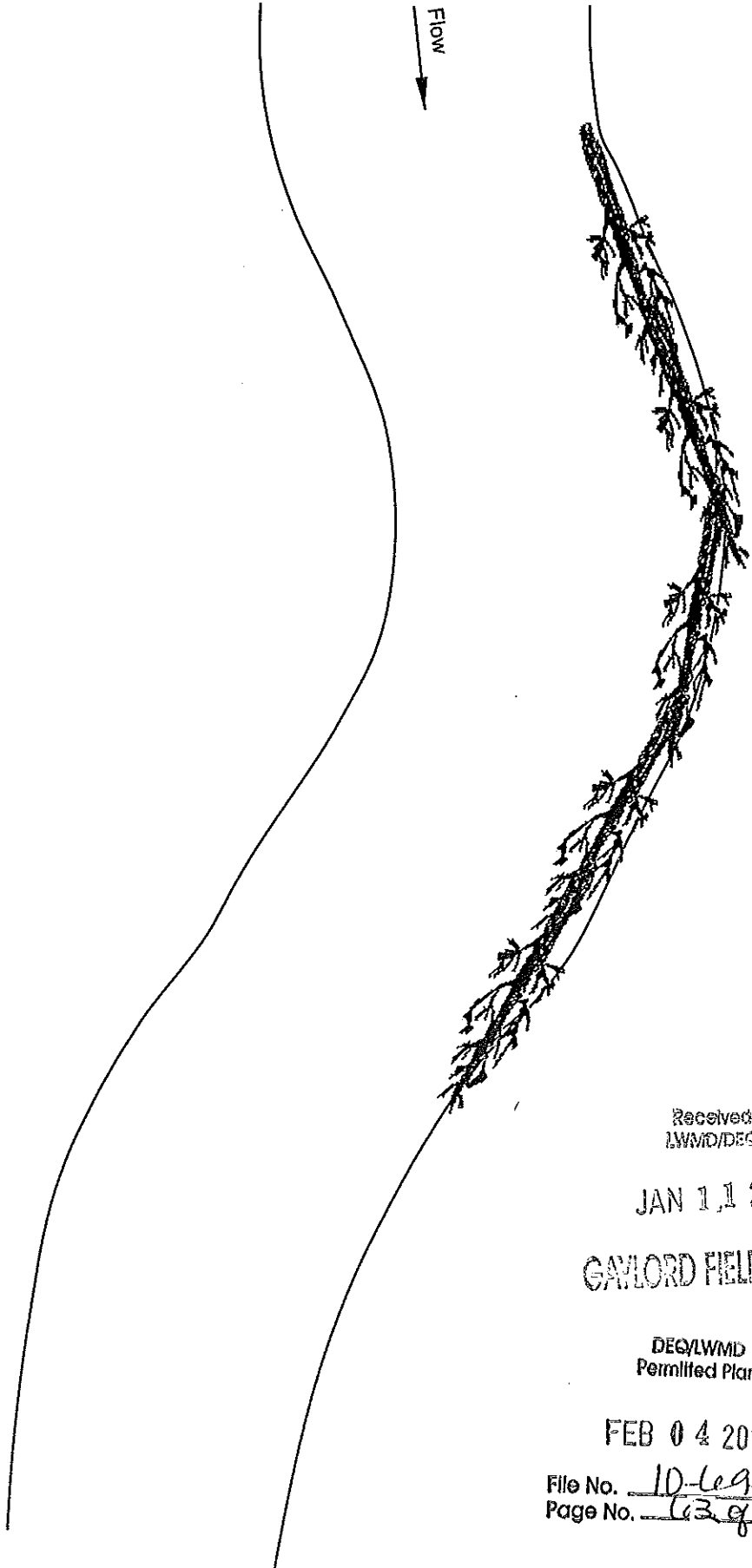
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 Page No. 62964

Upper Black River Watershed Large Woody Debris Enhancement	
Typical LWD Cross Section View	
Attachment 5	10/11/09
Sheet 2 of 4	
Not to Scale	Drawn By: NJT

Note: Length of structure will vary depending upon bank condition, water depth and flow



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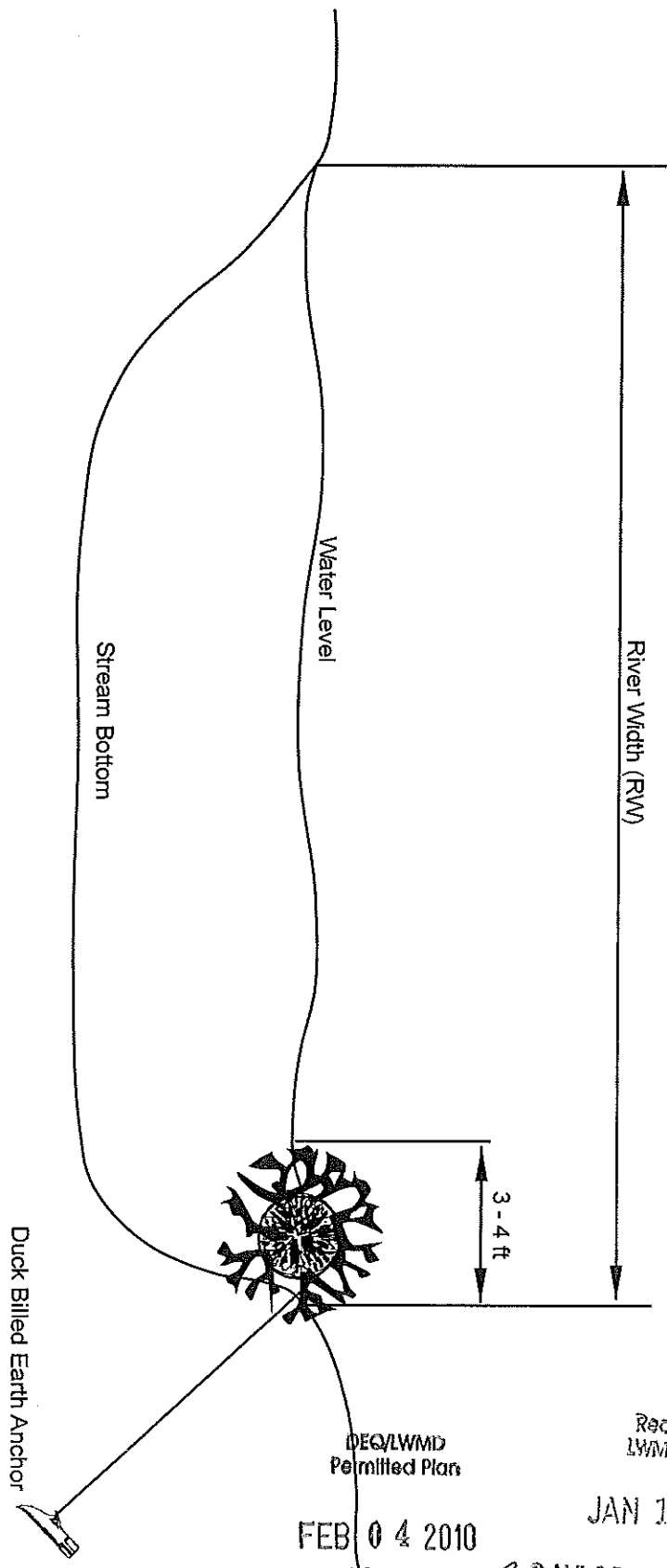
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Upper Black River Watershed Large Woody Debris Enhancement
Typical LUNKER Style LWD Structures
Attachment 5
Sheet 3 of 4
Not to Scale
10/11/09
Drawn By: NJT



Notes: - Typical structure will extend 3 -4 ft from bank  
 - Duck Billed Earth Anchors will be driven manually to a depth of 3 ft minimum (actual depth is dependent upon substrate present)

Upper Black River Watershed Large Woody Debris Enhancement
Typical LUNKER Style LWD Cross Section View
Attachment 5
Sheet 4 of 4
Not to Scale
10/11/09
Drawn By: NJT

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