ENVIRONMENTAL ASSESSMENT

On an Application for an

OPENCUT MINING PERMIT

This Environmental Assessment (EA) is required under the Montana Environmental Policy Act (MEPA). An EA functions to identify, disclose, and analyze the impacts of a proposed action. This document may disclose impacts that have no legislatively required mitigation measures, or over which there is no regulatory authority.

The state law that regulates gravel mining operations in Montana is the Opencut Mining Act. This law and the rules adopted hereunder place operational guidance and limitations on a project during its lifetime, and provide for the reclamation of land affected by opencut mining operations.

Local governments and other state agencies may have authority over different resources and activities under their regulations. Approval or denial of this Opencut Application will be based on a determination of whether or not the proposed operation complies with the Opencut Mining Act and the rules adopted there under.

APPLICANT: White Rock Aggregate, LLC **SITE NAME:** Homann

LOCATION: Section 2, T29N, R21W **COUNTY:** Flathead

DATE: January 2010

PROPOSAL: The applicant proposes to permit a new, long-term gravel pit to mine, crush, wash, stockpile and transport 1,089,700 cubic yards of sand and gravel from a 60-acre site located 9 miles north of Kalispell (see FIGURE 1 – Area Map and FIGURE 2 – Area Photo). The site is currently a wheat field located approximately 0.9 mile east on Pioneer Road from Highway 2. The site elevation is approximately 2960 feet MSL. There is one small wooden shed located on the north end of the proposed location that would be transported to a new location per the landowner's request. A natural gas pipeline transects the northwestern corner and mining would avoid this area. No other existing manmade features are to be affected by this operation. If any fence replacement is required, it would be immediately addressed by the operator. La Salle Gravel Pit is located adjacent to and north of the proposed site. The applicant would reclaim the site to residential parcels with a 30-acre fish pond. The pond portion of the site would be excavated approximately 35 feet deep and would be reclaimed according to the DEQ pond guidelines for a fishery. The remainder of the site would be reclaimed by contouring and grading the slopes to no steeper than 3:1, re-soiling and re-seeding to grass (see FIGURE 3 – Site Map). The initial operation would disturb approximately 17 acres on the north end and would continue to expand southward over the 20-year life of the mine. A performance bond would be held by DEQ to ensure that the final reclamation use of residential parcels with a fish pond would be completed by December 31, 2027.

This application contains all items required by the Opencut Act and Rules. Proponent commits to properly conducting opencut operations and would be legally bound by the permit.

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
1. TOPOGRAPHY, GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE:	The proposed mine is located in flat terrain formed by an old river terrace above the Flathead River. The deposit consists of alluvial and re-worked glacial outwash deposits that are mapped as Quaternary alluvium (Smith, 2004). These deposits overlie till or glacial lakebed sediments. Quaternary alluvium. *Impacts:* An irreversible and irretrievable removal of gravel from the site would occur. A small impact to the quantity and quality of soils

IMPACTS ON THE PHYSICAL ENVIRONMENT	
RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
	from salvaging, stockpiling, and resoiling activities also would occur, but this would not impair the capacity of the soils to support full reclamation. The topographic character of the land would change from a flat agricultural field to a 30-acre pond. There are no unusual topographic, geologic, soils, or special reclamation considerations that would lead to reclamation failure.
2. WATER QUALITY, QUANTITY AND DISTRIBUTION	The Evergreen aquifer occupies approximately 40 square miles between the Whitefish and Flathead Rivers (LaFave, 2004). The aquifer is very productive with reported well yields of up to 1,500 gallons per minute (gpm), although the median well yield is 30 gpm. The median reported static water level is 12 feet below the land surface, and approximately 11.5 feet in the area of the proposed gravel pit. Long-term water-level measurements in the Evergreen aquifer show that water levels rise annually 1 to 1.5 feet during the spring and early summer months, peaking in May or June in response to recharge from runoff, snowmelt, and rainfall (LaFave, 2004). Water levels decline during the late summer when river flows decline and evapotranspiration and groundwater use are highest. According to GWIC records, there are 20 water wells located in Sections 1 and 2, Township 29 North, Range 21 West in Flathead County, with an average depth of 23 feet. The wells in this area are a mix of domestic, irrigation and stock water wells. These wells are relatively shallow, and they have high yields. This operation would intercept groundwater in order to create a pond, and would have no discharge into flowing surface water. Special precautions would be taken to prevent contamination of the groundwater. No bulk fuel would be stored onsite. Vehicles and equipment would be refueled with a fuel truck in accordance with the DEQ Fuel Storage Guidelines. Three dedicated monitoring wells would be constructed and utilized to observe and record any changes in water level and water quality at the site. Water quality would be monitored for volatile petroleum hydrocarbon (VPH), extractable petroleum hydrocarbon (EPH), static water level, temperature, pH, and specific conductivity quarterly for the first year and semi-annually thereafter. Any accidental spills or leaks from equipment would be excavated and contaminated materials would be properly disposed of. No waste or trash would be disposed of at the site. *Impacts:* The proposed activities would have a minimal effect on the quantity and quality of the surface and groundwater resources. **Cumulative***:* Six gravel mining operations, including the proposed Homann operation, occupy a permitted or proposed permitted area of slightly more than 2/3 of a square mile within Section 36, Township 30 North and Section 2, Township 29 North, Range 21 West in Flathead County. All of these gravel operations have post-mining pond areas

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RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
	either approved or proposed as part of their reclamation process. The final total pond area among these six operations would likely increase to between 120 and 180 acres by the time mining is complete, under the long-term plans of these operations. Potential cumulative impacts from post-mine ponds are discussed below. **Water levels:** Given the high yield of the shallow Evergreen aquifer, water level or flow rate is not likely to be significantly affected by the post-mine ponds. Increasing pond surface area would increase evaporation but would not measurably affect water levels. Domestic well supply in the vicinity of the ponds would not be diminished. Well hydrographs do not show long-term water level declines or increases, suggesting the Evergreen aquifer is in hydraulic equilibrium: the amount of water entering and leaving the aquifer on an annual basis is consistent (LaFave, 2004). **Springs:** there are no springs or springbrooks within the proposed mine area or immediate area. Groundwater should not be disrupted by the presence of the reclamation pond. Groundwater levels would not be affected as previously discussed. **Heating:** Increased pond surface area may affect ground water temperature due to heating in the pond from exposure to sun and ambient air temperatures. The high transmissivity of the Evergreen aquifer, moderate ambient air temperatures in the Kalispell Valley, depth of the ponds and mixing with down gradient ground water make significant heating of the aquifer or river unlikely. Studies indicate that pit ponds have minimal impacts on ground water temperatures and that these minor effects are dissipated within tens to hundreds of meters of the pit (Ostrander et al, 1998). **Aquatic life:** Removal of gravel also removes interstitial fauna within the floodplain gravels. Study shows that distribution and abundance of these interstitial animals is determined by habitat variables within the aquifer (Ward et al, 1994). Studies regarding changes in faunal distribution patterns, abundance and changes in habitat caused by open pit mining and potential effects to Flathead River biota have not been undertaken and therefore, the cumulative impacts are difficult to predict. Given the size of the Evergreen aquifer (approximately 40 square miles) and the wide distribution of interstitial fauna within the aquifer, removal of 120 to 180 acres of the aquifer would be expected to affect only a small portion of the population. **Water quality:** The greatest potential for contamination during mining is associated with the use of petroleum products for fuels. Measures are taken at each mine site to prevent the introduction of petroleum products to ground water (See discussion above in this section). Upon completion of mining, land surrounding post-mining ponds would be soiled and seeded to stabilize areas adjacent to the

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	pond and decrease the likelihood of soil-borne surface contaminants (e.g. nutrients) washing into the pond. Post-mining ponds are anticipated to be in low-intensity agricultural and residential settings and would provide recreational opportunities to local residents. Although the presence of natural or constructed ponds may increase the vulnerability of shallow groundwater to surface contamination, the setting of these ponds should decrease the likelihood of significant surface contamination from land uses. **Summary:** Based on the aforementioned analysis, the operation of Homann gravel pit would not result in a significant effect on the water quality or water quantity in the Evergreen Aquifer. This analysis coincides with the results of a previous study which demonstrated that gravel mining does not cause a significant change in surface water or groundwater hydrology (Peckenham and Thornton, June 2006).
3. AIR QUALITY	Air quality standards are based upon the Clean Air Act of Montana and pursuant rules and are administered by the DEQ Air Resources Management Bureau (ARMB). Its program is approved by the Environmental Protection Agency (EPA). These rules and standards are designed to be protective of human health and the environment. Air quality permits would be required on the processing equipment before installment. Machinery, such as generators, crushers and asphalt plants, are individually permitted for allowable emissions. Best Available Control Technology (BACT) is the usual standard applied. Fugitive dust is that which blows off the pit floor, stockpiles, gravel roads, farm fields, etc. It is considered to be a nuisance but not harmful to health. *Impacts:* Air quality standards as set by the federal government and enforced by the ARMB would allow minimal detrimental air impacts.
4. VEGETATION COVER, QUANTITY AND QUALITY	There are no known rare or sensitive plants or cover types present in the site area. Vegetation consists of wheat. It would be removed as soil is stripped and the site would be replanted with plant species compatible with the proposed reclaimed use. *Impacts:* No long term detrimental impacts to the vegetation would occur.
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS:	The land has been cultivated for wheat production and provides very limited habitat. Occasional deer, rodents, song birds, coyotes, raptors, and other animal species may frequent the site. Population numbers for these species are not known. *Impacts:* These animals would be displaced on a small scale as mining progresses, but some would re-inhabit the area as reclamation follows behind mining. Permanent impacts on wildlife are considered to be minimal. Fish and waterfowl would replace some of the exiting dry

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	land species as habitat changes from dry land wheat to aquatic.
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES:	The Montana Natural Heritage Program (MNHP) lists 4 vertebrate animal species of concern including the Bald Eagle, Gray Wolf, Westslope Cutthroat Trout and the Bull Trout. There is also a Great Blue Heron rookery with 15 occupied nests in trees along the Flathead River approximately 1 mile south of this site. The Montana Natural Heritage Program (MNHP) lists 4 vascular and non-vascular plant species of concern including the Latah Tule Pea, Short-styled Thistle, Byrum Moss, Short-beaked Aloe-moss, Maidenhair Spleenwort, Spalding's campion, Red-root Flatsedge, Deer Indian Paintbrush, Amblyodon Moss, Small Yellow Lady's-slipper and Slender Cottongrass. *Impacts:* None of the listed species have been found on this site. Even if suitable habitat did exist on this site, the disturbance area would be small and large areas of similar or identical habitat surrounds the site. The possible impact to these species would be minimal.
7. HISTORICAL AND ARCHAEOLOGICAL SITES	Although there are cultural values in the general area, much of this site has been previously disturbed by logging and farming, thus altering the integrity of resources that may have existed. The Montana State Historic Preservation Office (SHPO) was notified of the application. It reported no sites have been discovered previously on this property. A pedestrian survey of the area by DEQ personnel did not reveal any artifacts or signs of occupation. *Impacts:* If during operations resources were to be discovered, activities would be temporarily moved to another area or halted until SHPO was contacted and the importance of the resources was determined.
8. DEMANDS ON ENVIRONMENTAL RESOURCES OF LAND, WATER, AIR OR ENERGY	There are no unusual demands on land, water, air or energy anticipated as a result of this project. *Impacts:* Negligible impacts to land, water, air, or energy would occur.

IMPACTS ON THE HUMAN POPULATION	
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9. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS	City/County zoning clearance has been obtained. The Flathead County Growth Policy and the Helena Flats Neighborhood Plan are both in effect and there are no subdivisions existing or planned at this location.
10. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING	As seen on the aerial photo of the surrounding area (see FIGURE 2), there are several residences in a small cluster on and near the site to the northeast, and a single residence to the west. *Impact:* This commercial pit is being sited in this area because of the

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RESOURCE	**POTENTIAL IMPACTS AND MITIGATION MEASURES**
	location of the resource, and to service the growing population in this area of the county. The project would not add to the population or require additional housing.
11. AESTHETICS	The site is located in a common agricultural area. There would be a temporary alteration of aesthetics while mining is under way. However, reclamation would return the area to a visually acceptable landscape. This project is considered to be long-term, i.e., planned to take 20 years to complete. *Impacts:* **Visual:** The site is visible from a limited number of homes and roads in the local area. Hours of operation for the site would be 7:00 am to 7:00 pm, Monday through Friday and 8:00 am to 5:00 pm on Saturdays as needed for special projects. Maximum vehicle speed within the pit would be restricted to 15 mph. Magnesium chloride may be applied to internal roads to suppress fugitive dust emissions. In addition, visual berms would be constructed along Pioneer Road and the northern half of the eastern property boundary that are at least 8 feet high to help mitigate noise and aesthetic impacts. **Noise:** Noise levels generated by a crusher, dozers, loaders and truck traffic hauling to off-site projects at the pit are generally within the range of 60 to 90 decibels measured on-site, decreasing with distance. As a comparison, sound levels for ordinary activities such as close conversation at 60 decibels and music from a radio at 70 decibels are considered to be moderate. Levels above 90 decibels lasting 8 hours or more are severe, and prolonged exposure to employees on site without hearing protection could lead to hearing loss. Noise decreases with distance. A crusher noise level of 85 decibels measured at 50 feet reduces to 79 decibels at 100 feet, 72 decibels at 200 feet and 65 decibels at 400 feet. Thus, the noise level would be reduced to moderate levels at the permit boundary and would continue to decline beyond that. Noise is not cumulative. A truck operating at 65 decibels and a loader at 75 decibels do not add up to the equivalent of a 140-decibel jet plane at takeoff. **Traffic:** Access to Hwy 2 would be via Pioneer Road. Intersections with Helena Flats Road and Jellison Road offer additional possible routes for trucks to go north and south before coming to Hwy 2, a 5-lane, 70-mile-per-hour paved highway. Helena Flats and Jellison Roads are paved 22-foot to 24-foot wide county roads in good condition. Estimated traffic from this site would be approximately 25 loaded trucks and 25 returning empty trucks per day based on 12 cubic yard dump trucks hauling 300 cubic yards each working day (Traffic Impact Study, 2007). Thus, 1,200,000 cubic yards ÷ 20 years ÷ 200 working days per year ÷ 12 cubic yards per truck = 25 loaded trucks per day.

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	Traffic counts from 2005 on Pioneer Road show that the roadway carried an Average Daily Traffic (ADT) volume of 1322 vehicles per day. Adding all 50 vehicles per day from this site onto Pioneer Road would increase the ADT for that county road by 3.8%. Traffic counts from 2005 on Jellison Road show that the roadway carried an Average Daily Traffic (ADT) volume of 717 vehicles per day. Adding half of the 50 vehicles per day from this site onto Jellison Road would increase the ADT for that county road by 3.5%. Traffic counts from 2005 on Helena Flats Road show that the roadway carried an Average Daily Traffic (ADT) volume of 255 vehicles per day. Adding half of the 50 vehicles per day from this site onto Helena Flats Road would increase the ADT for that county road by 9.8%. It is unlikely that many of the daily trucks would be turning south onto Helena Flats Road. The increase in ADT onto Hwy 2 was less than one percent, which is considered an insignificant affect on the existing traffic volume. **Level of Service (LOS):** The Transportation Research Board's Highway Capacity Manual rates intersections for delays as A through F (A being the least delay) and has determined that a LOS rating of C or better is acceptable during peak traffic hour conditions. Assuming that traffic on these roads increases by 2% each year, it is estimated that the Pioneer Road/Hwy 2 intersection would have a LOS rating of C with delays around 21.3 seconds in the year 2012
12. QUANTITY/ DISTRIBUTION OF EMPLOYMENT	Existing employees would mainly be utilized for this operation. There is low potential that this project would create a significant number of new jobs. *Impacts*: New employment opportunities would be limited.
13. INDUSTRIAL, COMMERCIAL, AGRICULTURAL ACTIVITIES AND PRODUCTION	The acreage listed in the Proposal would be taken out of agricultural use and put into industrial/commercial use. Upon completion of mining, the land would be reclaimed to a pond and residential use. *Impacts:* Agricultural production would be reduced as soil stripping and operations progress across the site. When the entire site is opened up for mining and mine-related activities, all agricultural activities would cease.
14. LOCAL, STATE TAX BASE AND TAX REVENUES, PERSONAL AND COMMUNITY INCOME	Local, state and federal governments would be responsible for appraising the property, setting tax rates, collecting taxes, etc., from the companies, employees, or landowners benefitting from this operation. Following reclamation, it is assumed the tax base of the affected land would revert to pre-mine levels or higher due to the increased value of developed residential land.
15. DEMAND FOR GOVERNMENT SERVICES	Limited oversight by DEQ officials that are generally conducted in concert with other area activity would occur.
16. HUMAN HEALTH AND SAFETY	Any industrial activity will increase the opportunities for accidental injury. There are agencies that require specific safety measures are in place. If required safety measures are followed, there is no reason to

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	believe that significant safety issues would be present. There is concern by Glacier Park International Airport about the activities of waterfowl and what possible risks water bodies created by gravel mining operations might have on aircraft flying near the runways. No local studies have investigated this situation. However, in 2003 DEQ performed a search for information on this issue, as well as evaluating habitat factors near the Glacier Airport. Key elements from that assessment are discussed below. Aircraft collisions with wildlife (see Bird Strike Committee and Cleary 2004) are recognized in the aviation community to be a potential hazard. Due to the nature of aircraft operation (i.e. flight) most occurrences of wildlife strike take place between avian species (birds) and aircraft. **Attractants:** FAA Advisory Circular (FAA AC) 150/5200-33A (Federal Aviation Administration 2004) addresses land uses that attract wildlife and create hazards to airports and air-traffic operations. Land use features around an airport are significant factors regarding the wildlife strike hazard. Features such as waste management and water management facilities (i.e., landfills and sewage treatment operations), wetlands, dredge spoil containment areas (i.e., disposal site for dredged materials), agricultural activities, golf courses, and landscaping are the major categories in the FAA AC. The creation of ponds is not considered a major risk category in the FAA AC. However, synergistic effects can be created when a new land use is developed close to an airport. Creating a pond on one side of an airport while food sources exist on the other side falls under the category of a synergistic effect. The pond itself may only attract a few animals; however, if it becomes a nesting or dabbling (e.g. bathing, resting) ground used in association with the food source, this could create a concentration of birds with a flyway across the airport. **Homann and Other Operations:** Six adjacent gravel mining operations, including the proposed Homann site, would occupy a permitted area of slightly more than 2/3 of a square mile within Sections 36 and 2. These operations are located across Highway 2 from Glacier Park International Airport and are not in line with the flight path of either the major or minor runways. All of these gravel operations have post-mining pond areas either approved or proposed as part of their reclamation. The final total pond area resulting from these six operations would be between 120 and 180 acres by the time mining is completed, under the long-term plans of these operations. Using a 10,000-foot radius, as suggested in the FAA AC, around Glacier Park International as a target buffer zone of interest, the surface

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	water ponds and channels were identified around Glacier Park International Airport. The airport is situated between two rivers that appear to contain more desirable waterfowl habitat than would be created by gravel mining. Over 4 miles of the Whitefish River run within 10,000 feet of the west side of the airport. The Flathead River also provides substantial acreage of natural habitat slightly east of the 10,000 foot zone. Additionally, inside the 10,000 foot zone the Goodrich Bayou adds approximately 11 acres of natural waterfowl habitat. Also, there is potential additional habitat in the form of unnamed streams within 10,000 feet of the airport. Thirty-eight miles of unnamed stream channels are located in this area, based on stream reach lines included in the USGS NHD Geodatabase. Assuming the unnamed streams are an average of 5 feet wide and contain water in them for a substantial part of the year, approximately 23 acres of stream channel area occur in this zone. If the same unnamed streams are assumed to be 10 feet wide, 45.5 acres of stream channel area are within the 10,000 foot radius. Glacier Park International Airport is situated adjacent to six existing and proposed gravel mining operations with a gravel resource located below the water table and attractive to the mine industry due to local product demand. All of the operators have requested establishment of ponds as part of their final reclamation. An important consideration in evaluating potential affects of the water bodies is their location relative to the runways. It is anticipated that ponds located directly in the take-off and approach paths of planes would have a higher likelihood of bird strikes than ponds that are constructed outside these flight paths. All of the existing and proposed gravel operations are out of the direct path of take-off and approach of the runways. Another factor contributing to the potential for bird strikes is the location of food sources relative to the water bodies and runways. The dominant land use within this 10,000-foot zone is agriculture, which is a primary attractant for birds. The distribution of both food sources and native and artificially created waterfowl habitat around the airport is a complex mosaic of real and potential habitat that does not present a simple picture of bird flight pathways and associated potential risks to aircraft in this zone. The final total pond area among these six operations would be between 120 and 180 acres. However, the two rivers and the streams within 10,000 feet of the airport create an estimated 85-100 acres of real or potential native habitat in all directions from the airport that already

IMPACTS ON THE HUMAN POPULATION	
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	provide natural waterfowl habitat. *Impacts:* Given that the ponds being created by mining are located in the same direction as existing habitat near the Flathead River, it does not appear likely that wildlife flight paths would be altered significantly.
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES	This activity would not inhibit the use of the identified resources.
18. NATIVE CULTURAL CONCERNS	*Impacts:* None.

19. Alternatives Considered:

A. Denial Alternative: The Department would deny an application that does not comply with the Act and Rules. No impacts to the natural or human environment would occur.
B. Proposed Action Alternative: None

20. Public Involvement, Agencies, Groups or Individuals contacted: Montana State Historic Preservation Office, Montana Natural Heritage Program, and this Environmental Assessment will be provided to the public.

21. Other Governmental Agencies which May Have Overlapping or Sole Jurisdiction: Flathead County Weed Control District and the Flathead County Planning and Zoning Office, MSHA and OSHA regarding mine safety. **Possible permits required from other programs or agencies:** DEQ's Air Resources Management Bureau regarding air quality, DEQ's Water Protection Bureau for stormwater or discharge permits, Department of Natural Resources and Conservation for water rights permit.

22. References cited:

Bird Strike Committee-USA. Significant Bird and other Wildlife Strikes. Http//www.birdstrike.org/commlink/signif.htm

Cleary, E. C., R. A. Dolbeer and S. E. Wright. 2004. Wildlife Strikes to Civil Aircraft in the United States 1990-2003: Prepared for Federal Aviation Administration, National Strike Database, Serial Report Number 10.

Federal Aviation Administration. July 24, 2004. Advisory Circular 150/5200-33A; Hazardous Wildlife Attractants on or Near Airports.

LaFave, John I., Larry N. Smith, and Thomas W. Patton. 2004. Ground-Water Resources of the Flathead Lake Area: Flathead, Lake, Missoula, and Sanders Counties, Montana, Montana Ground-Water Assessment Atlas 2.

Peckenham, John M. and Teresa Thornton. June 2006. Can Gravel Mining and Water Supply Wells Coexist? University of Maine, Senator George J. Mitchell Center for Environmental and Watershed Research.

Ostrander, M.D., P.J. Martin, B. Blackport and M. Picotti. 1998. Impact of Aggregate Extraction Activities on Cold Water Discharge. Groundwater in a Watershed Context. Canadian Water Resources Association.

Smith, Larry N. December 2004. Surficial Geologic Map of the Upper Flathead River Valley (Kalispell Valley)

Traffic Impact Study, White Rock Aggregate. 2007. Larsen Engineering & Surveying, Inc., P.C.

Ward, J.V., J.A. Stanford and N.J. Voelz. 1994. Spatial Distribution Patterns of Crustacea in the Floodplain Aquifer of an Alluvial River. Hydrobiologia, 287: 11-17.

23. Regulatory Impact on Private Property: The analysis done in response to the Private Property Assessment Act indicates no impact. The Department does not plan to deny the application or impose conditions that would restrict the use of private property so as to constitute a taking.

24. Magnitude and Significance of Potential Impacts: This proposal is not likely to create impacts of significance due to mitigation, restrictions, and oversight mandated by the Opencut Mining Act and pursuant rules and the Montana Clean Air Act.

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25. Recommendation for Further Environmental Analysis: [ ] EIS [X] No Further Analysis

EA Prepared By: Rod Samdahl, Opencut Mining Program Environmental Science Specialist
Name Title

EA Prepared By: JJ Conner, Opencut Mining Program Environmental Science Specialist
Name Title

EA Reviewed By: Chris Cronin, Opencut Mining Program Supervisor
Name Title

FIGURE 1 – AREA MAP

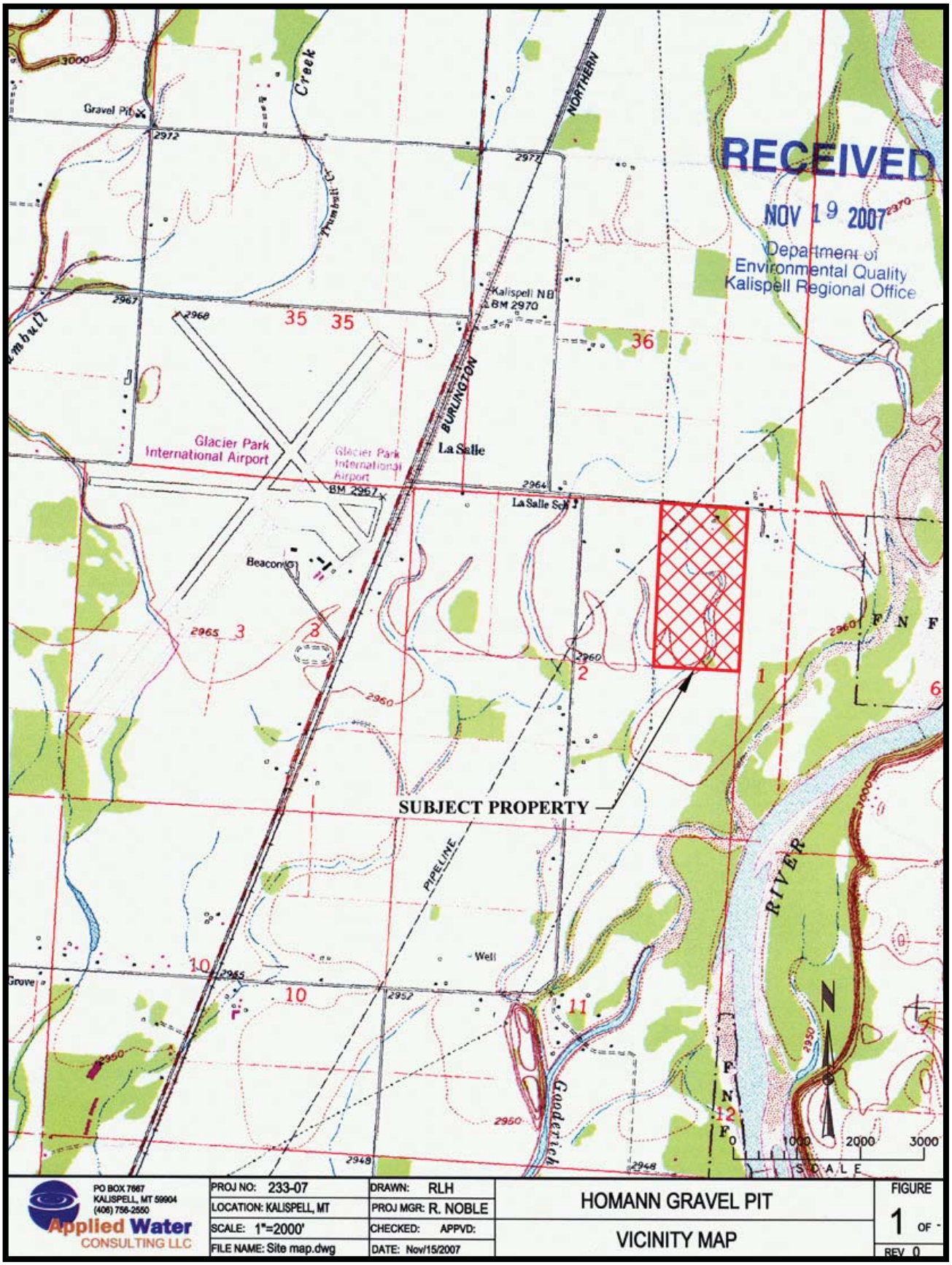


FIGURE 2 – AREA PHOTO

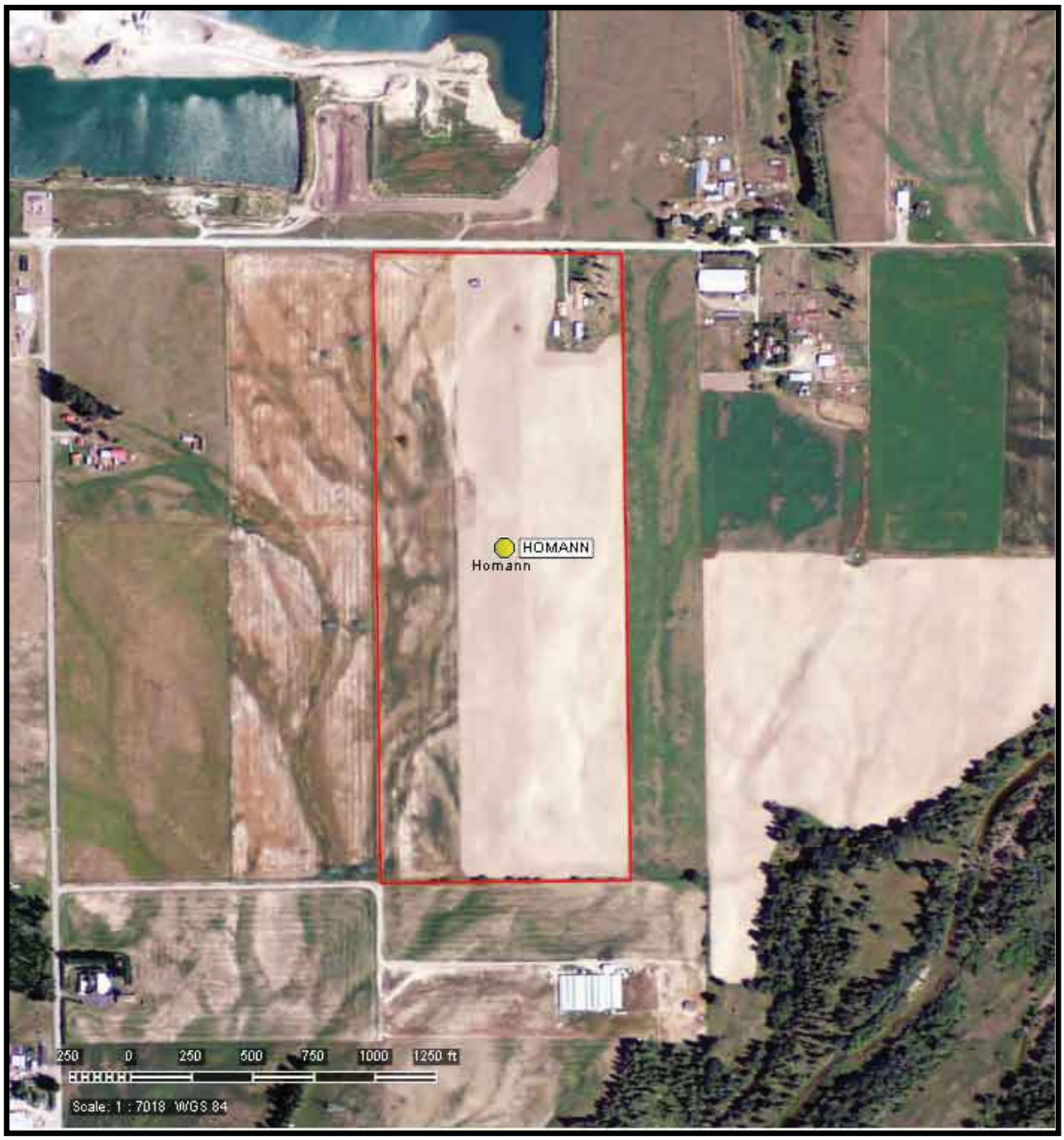
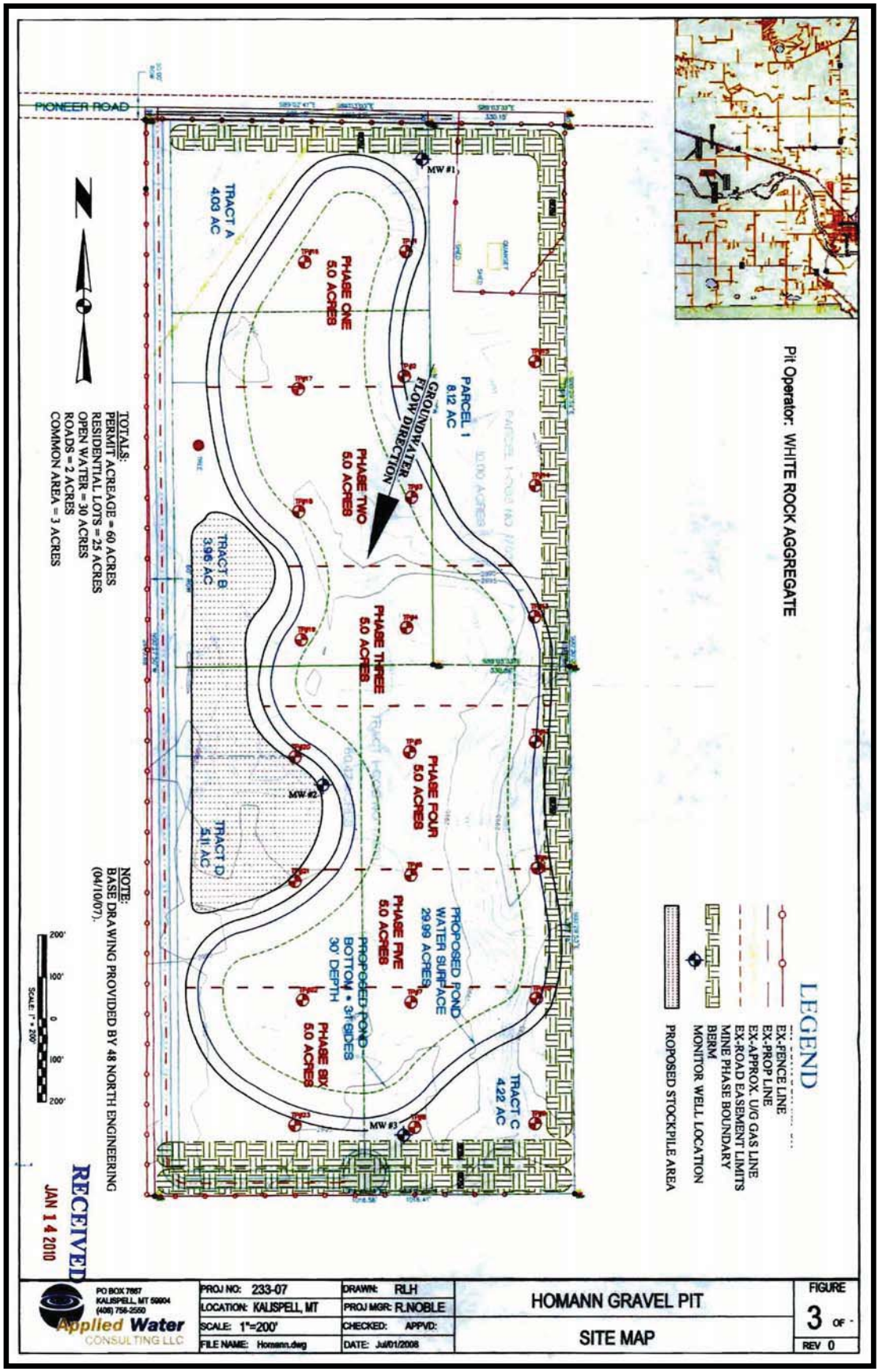


FIGURE 3 – SITE MAP



July 16, 2007

Damon Murdo, Cultural Records Manager
State Historic Preservation Program
PO Box 201202
Helena MT 59620-1202

Re: White Rock Aggregate - Homann Site

Dear Mr. Murdo:

The above-referenced operator has applied with this agency to mine a 60 acre site in the following area:

E2NE4, Sec. 2, T29N, R21W in Flathead County

We believe this project is not funded by Federal or State dollars. Attached is the reclamation plan submitted by the Operator. Please check your files on this area for archaeological or historical sites.

When responding, please reference the **Operator/Site.** Your assistance is appreciated.

Thank you.

Sincerely,

Debbie Voeller, Program Specialist
Opencut Mining Program
Industrial & Energy Minerals Bureau
Phone: 406-444-3920
Fax: 406-444-1923

Enclosure