

Processing Sites Document Summary for the Cragin Watershed Protection Project (CWPP) Preliminary EA

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Processing Sites

The distance of the CWPP from businesses that can process woody biomass and timber prompted the identification of potential processing sites on the forest, within and adjacent to the project boundary. Preliminary economic analysis identified that if minimal primary processing could be accomplished close to the project area, it would facilitate more utilization of the forest resource and increase transportation efficiencies. Identification of potential processing sites was initially conducted using spatial analysis techniques and followed up with on-the-ground validation and input from subject matter experts. Variables such as current road system, economics of transportation, recreation sites, slopes and landforms, visual aesthetics, and wildlife and hydrological concerns were factored into the analysis process.

The closest timber processing business to the CWPP is High Desert Investment in Winslow, AZ, which is 48 miles from nearest boundary of the project area. At their Winslow facility, High Desert Investment processes pole size ponderosa pine into bundled fuelwood for retail consumption. The nearest sawmill is Newpac Fibre, operating since 2014, which is located 91 miles from the project area, in Williams, AZ. While most of the log processing equipment at Newpac Fibre requires access to the electrical grid, primary processing equipment does exist that is self-contained and portable. High volume fuelwood processing equipment exists that is mobile and completely self-powered through diesel engines built into the machine's frame.

A fully loaded log truck at a gross weight of 80,000 pounds can typically transport 5,000 board feet of raw logs. In comparison, a tractor trailer with a 45-foot trailer can typically transport 10,000 to 12,000 board feet of green lumber and be within the 80,000-pound weight limit threshold. Drying ponderosa pine saw timber for 60 days results in a weight reduction of about 6% which results in haul cost savings¹. The weight loss from drying saw timber (logs that have been dried for 60 days and not processed further) would reduce haul weight and gas costs on the log truck going to a mill. Drying logs and further processing them to a higher value material in the forest (such as cants) reduces costs because of weight reduction, and greater volume of processed material can be loaded on larger trucks at reduced weight. There is also cost savings because of hauling a higher value material.

These figures put into perspective the underlying economics of transporting forest products in Arizona.

Processing sites serve many purposes. All processing sites involve some log sorting for various reasons such as to increase log value and decrease hauling cost, better utilize available log markets and to provide a better log mix to consuming mills. Concentration log yards provide a central point for accumulating logs for drying, debarking and processing and later shipment to mill yards. Small diameter timber or residues from log processing may be chipped and hauled to mills or other businesses. The

¹ Green ponderosa pine logs (45lb/ft³) that are cut and decked can dry to a 20% moisture content (optimal) (28/lbft³) in a year. That means, on average the moisture content drops 6.6%/month, or 1.4lbft³/month. Drying a log for 60 days (2 months), the weight of one log would be reduced by 2.8 lbft³ which is about a 6% weight reduction.

advantage of having strategically located large processing sites over sorting logs at a landing is that logs can be more easily moved, bucked and sorted by quality characteristics (species, size and grade) for allocation to their highest values use (Dramm et al. 2002).

Tasks carried out at processing sites includes drying, debarking, chipping stems and bark, cutting logs, manufacturing and sorting logs to size, producing wood cants², scaling and weighing logs and creating poles from suitable sized logs. Equipment types commonly used at processing sites include circular or band saws, various sizes and types of front-end loaders, log loaders and chippers of several types and may include timber processors, planers and mechanized cut to length systems, associated conveyers and log sorting bunks for accumulation and storage of logs. Electric motors and gas or diesel generators are also used to provide power. Large processing sites are typically greater than 10 acres in size. Large sized sites allow for more flexibility in their design and allow for more area to process, grade, scale and sort logs and manufacture cants and poles and chip and haul products. Larger sites can handle surges in incoming logs and would protect workers better by providing better separation from processing and transport functions. Medium sized processing sites are 5 to 10 acres in size and log processing, equipment use and storage is more limited (Dramm et al. 2002). Landings at the timber sale area are considerably smaller than log sort yards and typically are about 0.33 acre.

Eight processing sites are proposed for use in the CWPP (Table 1 and Figure 2). Processing site location and siting considerations included the following: flat uplands less than 5% slope; more than 200 feet distant ephemeral and intermittent stream channels (except for two sites), more than 300 feet from meadows, springs and karst features; more than 0.25 miles from MSO PACs and outside of NOGO PFAs, more than 0.25 miles from campgrounds and group event recreation sites; and more than 0.25 miles from private lands, residences or offices (except for one site, Site 211). Site boundaries may be further modified during the ongoing environmental review by resource specialists. Processing sites were located to provide for a buffer of 100 or 300 feet from Forest roads and state highways to provide for visual screening from Concern Level 1 and 2 travel ways.

Table 1. Processing Sites CWPP

Site Name	Acres
9033H	15
211 Revised	15
613F	15
FR147, 6096/6097	5
FR 95F/396	9
FR 141, 9398	5
FR95,North 9032C	10
9729A	5
Total	79

² A **cant** is a piece of **wood** usually over 2" thick and sawn flat on one to three sides. Most pallet shops want cants to re-saw into pallet parts because they have more options on what sizes they can cut from them.



Figure 1. View of the forest at the proposed 211 Processing Site.

Permitted and Unpermitted Activities

Support operations and facilities on processing sites that would be allowed include office trailers, sanitation facilities and fuel products storage containers or temporary structures. Fencing would be allowed to provide security for equipment and products. Camping or living trailers would not be allowed in the processing sites. Operators would have to provide their own water and water storage facilities and trash pickup. Some sites (211 and 9033H) are closely located to existing powerlines and phone lines and connections to these utilities would be permitted. Operations on site would comply with fire restrictions and forest closures as applicable.

Authorization

Processing sites would be authorized under the terms of the timber contract or through a special use authorization depending on who would be the operator. Fees may be associated with special use authorizations.

Time Period of Use

The eight processing site areas listed above may be used as part of the CWPP project over its implementation period from 10 to 20 years. Continuous use processing sites are those where use is expected to be continuous on a regular basis for 10-20 years. These sites typically consist of the larger sites 10-15 acres in area that are located close to major highways. Sites originally developed and operated as continuous use will frequently change to intermittent use or occasional use following initial harvest activities in the area. Intermittent use processing sites are those where use is expected to be shorter term and used for one or multiple timber sale or service contract periods lasting from 3-10 years.

The processing sites located in the interior of the project area would operate when the roads are open and passable and would be closed during the winter months typically mid-December to April. The two large sites located near State Highway 87 may be operated year round (Sites 211 Revised, 9033H).

Construction, Operation, Rehabilitation and Closure

The design, construction and operation of processing sites shall utilize practicable procedures for control of surface water runoff from facilities. Through the Arizona Department of Environmental Quality (ADEQ), the operator of a processing site would have to obtain coverage under a Multi-Sector General Permit (MSGP) for storm water discharges associated with non-mining industrial facilities such as timber products <http://www.azdeq.gov/node/525> and <http://www.azdeq.gov/permits-needed-timber-products-sector> . Coverage under this permit would entail preparation and implementation of a storm water pollution prevention plan (SWPPP) as well as periodic inspections of the facility consistent with requirements of the permit. Processing site equipment and vehicles shall be operated and maintained to minimize petroleum and lubricating products from entering soil or surface/ground waters. Aggregate surfacing of the processing site location would be required to minimize soil rutting, control surface water runoff and allow for operations during wet weather periods. If the contractor were to store petroleum in aboveground storage containers with a total aggregate capacity of 1,320 gallons or more, they would be subject to the Spill Prevention, Countermeasures, and Contingency (SPCC) Rule which means that the contractor would have to prepare a SPCC plan. Also, they would have to obtain a permit for installation of an aboveground storage tank through the AZ State Fire Marshall's Office <https://www.dfbls.az.gov/ofm/AGST.aspx> .

The contractor or permittee operating the processing site shall maintain the authorized facility and site in good condition and in accordance with approved contract or operating plans and specifications. When the contractor or permittee completes the authorized activity, they must rehabilitate by removing all facilities and structures, removing all wastes with disposal at an approved facility, restoring the pre-disturbance site gradient, preparing the site for reseeding by scarifying the site, and application of a native seed mix native as specified and approved by the Forest Service.

Monitoring

Processing sites are monitored to ensure contract or permit compliance. Monitoring results are used to assess activities associated with the construction, operation and maintenance of the processing site and to ensure that corrective action occurs, if appropriate. Regulatory agencies may include conditions in a permit that require monitoring by the permittee. The agencies may assume some or all monitoring responsibilities.

Mitigation Measures, BMPs and Design Features

See Processing Site section of Appendix B.

References

Dramm, J. R.; Jackson, G. L. and J. Wong. 2002. Review of Log Sort Yards. Forest Products Laboratory GTR-132, USDA-Forest Service, 39 p.

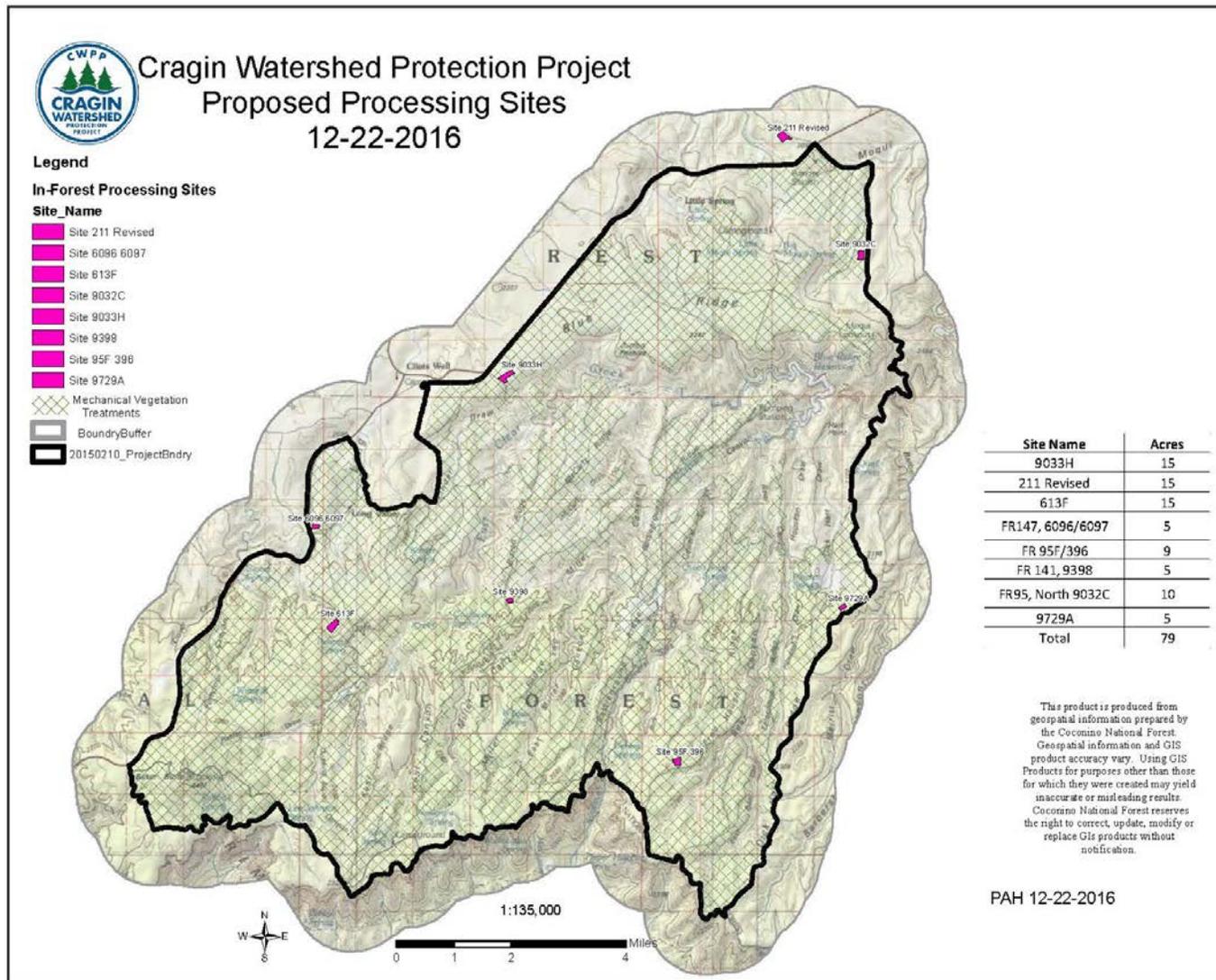


Figure 2. Eight proposed In-Forest Processing Sites Location Map. Green cross-hatch areas corresponds to mechanical thinning vegetation treatments.