



Construction/Demolition Waste Recycling and Disposal

Background

Saskatchewan's built and infrastructure history is just over 100 years old. Many large building projects constructed in our cities, towns and villages during the boom years from 1908 to 1914 have become obsolete or have fallen victim to urban renewal projects.

The disposal costs at landfills for material for which there is no alternate use (waste construction and demolition material) are very high due to large volumes, weights and the mixture of several types of waste which are difficult and costly to compact and cover. In some cases, demolition material is banned from acceptance at waste disposal grounds as large amounts of unexpected waste can quickly shorten the life of a waste disposal ground. The construction industry has been proactive in minimizing cost and construction material waste in the building of new structures.

The demand for demolition material for re-use in landscaping, construction of new buildings and road construction fill has significantly reduced problems associated with disposal of the material. Demolition waste can be recycled in several different ways without great effort nor cost.

Building Permits

Saskatchewan Environment (SE) encourages municipalities to include a section in their Building Permits regarding the preferred handling of construction waste (includes wood, drywall, brick, earth, metals, insulation, electrical and plumbing materials, siding, carpeting, roofing material, concrete). Construction waste which primarily consists of new materials, should be separated into waste streams (eg. dimensional lumber, plywood, insulation, metals, roofing, carpeting and landscaping waste) which can be reused or recycled. Mixed, unuseable construction waste should be disposed of at a waste disposal ground.

Demolition Permits

SE encourages municipalities to include a section in their Demolition Permits regarding salvage of all materials possible from the project prior to demolition. Demolition waste includes all materials resulting from the dismantling of buildings or structures including roadways, bridges, parking lots or land re-development. The permit should indicate if certain types of waste are accepted within the municipality (waste disposal ground or a designated storage area). Demolition waste should be divided into waste streams which can be salvaged for reuse in their original form, or recycled for an alternate use. Local markets and recycle/disposal options will determine which is the best way to manage each project. Only mixed unuseable waste should be disposed of at a waste disposal ground.

Improper Disposal

The Construction/Demolition (C&D) Material Waste Stream is defined as bulk refuse originating from construction, demolition, renovation and re-development projects not including asbestos, waste dangerous goods or material contaminated with waste dangerous goods.

C&D material can be separated into several categories, which allow for recycling and re-use. Although this may be time and labour intensive, material for re-use and recycling has increased in popularity and value. High disposal costs at waste disposal grounds, due to volume and weight reduction, can be avoided through material separation.

Construction or demolition waste which has been improperly disposed of on the property of the owner in an urban municipality (city, town, village, resort village) should be handled by the urban municipality under Section 130 (Untidy or unsightly lands or buildings) of *The Urban Municipality Act*.

Construction or demolition waste which has been improperly disposed of on the property of the owner in a rural municipality (rural municipality, organized hamlet, hamlet) should be handled by the rural municipality under Section 250 (Untidy and unsightly premises) of *The Rural Municipality Act*.

Construction waste or demolition waste which has been improperly disposed of on the property of the owner in a northern municipality should be handled by the northern municipality under Section 97.1 (Untidy or unsightly lands or buildings) of *The Northern Municipalities Act*.

Construction waste or demolition waste which is not reused or recycled in the method described in the table and has been abandoned or caused to be abandoned

- (a) upon any land that is owned by another person;
- (b) upon any land that is vested in Her Majesty in right of Saskatchewan or reserved or set aside for the use of the public; or
- (c) into or upon any water

shall be handled under the Enforcement and Compliance Framework by conservation officers of SE under Section 3 of *The Litter Control Act*.



The following table identifies many of the construction/demolition wastes commonly generated in Saskatchewan and the potential to re-use and recycle separated materials.

References:

Construction Waste & Demolition Debris Recycling... A Primer SWANA Publication #GR-REC 300, 1993.

Construction And Demolition Waste In Canada, Senes Consultants Ltd., Environment Canada, December 1993.

C&D Activity	Separated Materials	Possible Re-use/Recycling
Road reconstruction	asphalt	crushed and mixed with new asphalt; fill material; road subbase
	concrete (without rebar)	road subbase; re-used in concrete; concrete blocks; fill material; rip-rap on roads/lagoons
	concrete (with rebar)	fill material; rip-rap
	separated rebar; metal signs; sign posts; guardrails; culverts	re-use for original purpose, processing at a steel mill
	fill materials (earth, gravel, sand)	clean fill material; landscaping material; landfill cover
Excavation/leveling	topsoil	landscaping; residential fill; landfill cover; agricultural
	sand	fill; residential; road construction
	stones	rip-rap; fill; landscaping
	earth contaminated with wood; buried utilities	fill; landfill cover; disposal at landfill
Site clearance	trees and brush	firewood; landscaping chips; composting; landfill disposal
	soils	landscaping agricultural and residential fill
	mixed concrete, rubble, sand and steel	land reclamation fill; landfill disposal
Building C&D Material - Reusable	clean bricks; whole cindercrete blocks; concrete or stone facades; tiles; ceramics; concrete roofing tiles	re-use for original purpose; landscaping; permanent roadway construction in landfills
	undamaged windows, roofing and metal/vinyl siding; wooden cabinets, counters, flooring, staircases/trim; plumbing/electrical fittings; carpeting; clean insulation; wooden beams/facades	resale for re-use
Building C&D Material - Recyclable	broken bricks, cindercrete blocks, concrete roof tiles, concrete/stone facades, tiles/ceramics	landscaping; crushed clean fill for road subbase, roadways and rip-rap; use for stabilization of roadbases or fill at landfills; clean fill for land reclamation
	broken window glass, glass fixtures	recycle at glass recycler (Canosphere); recycle for glasphalt mix; recycle for use with rubber crumb (Magnum Industries)
	broken wooden beams; trim; wood scrap; trees	chipping or shredding for landscaping; composting; fuel source
	metal girders, supports, rebar, damaged metal siding, roofing	recycle at a steel mill (Ipsco)
	scrap aluminum door and window frames	sell to scrap dealer; recycle at an aluminum smelter
Building C&D Material - Disposal	mixed waste not suitable for separation; materials which cannot be re-used or recycled; asphalt shingles; linoleum flooring	disposal at an approved waste disposal ground (no waste dangerous goods)
	waste dangerous goods including asbestos	manifesting under Dangerous Goods Transportation legislation, treatment or disposal at approved sites using approved methods only

Note: Material types, quantities and end use of materials will vary depending on the project location, season of the year that the project takes place and the cause of the need for demolition (i.e. age, urban renewal, fire, tornado or flood).

Please reference SE's website at www.se.gov.sk.ca for EcoRegion contacts for your area.

