Bonner County Solid Waste
10-Year Capital Improvements Plan

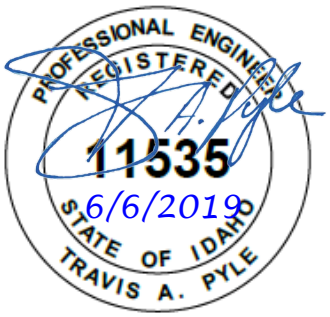
April 2019

Prepared for

Bonner County Solid Waste Division

Prepared by

GreatWest engineering®



Revision 1

This document was prepared under the direct supervision of Travis A. Pyle, a registered Professional Engineer in the State of Idaho, employed at Great West Engineering, Inc.

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1.0 Executive Summary

Bonner County's solid waste system consists of 14 collection sites, one of which, Colburn, also operates as the main transfer station. All of the waste generated in Bonner County is processed through the Colburn transfer station. Waste Management holds the contract for collection and transport of the wastes at each of the 14 collection sites, as well as, operating the Colburn transfer station and long-haul and disposal to Waste Management's landfill in Arlington, Oregon.

The County's population is growing steadily, as is waste generation. In order to accommodate future demands, capital improvements are required at several of the County's solid waste sites. The County has decided to retain Colburn as the main transfer station and make the necessary upgrades and improvements in order to collect and consolidate waste in an efficient and safe manner. Several other sites are also scheduled to receive improvements in the next 10 to 20 years – Idaho Hill, Dickensheet and Dufort.

Table 1 presents the estimated timeline for the proposed capital improvements in the fiscal year.

Table 1 – Bonner County Solid Waste Capital Improvements Timeline

Project	A&E Design Fiscal Year	Construction/ CM Services Fiscal Year
Colburn HHW Building	2020	2021
New Transfer Building at Colburn	2022	2023
Colburn Site Improvements	2022	2023
Existing Transfer Building Improvements at Colburn	2024	2025
Idaho Hill Site Improvements	2026	2027
Dickensheet Site Improvements	2027	2028
Commercial Scale at Colburn	2028	2029
Dufort Site Improvements	2029	2030

2.0 Introduction

Bonner County retained Great West Engineering, Inc. to prepare a 10-year Capital Improvements Plan (CIP) for the solid waste system that is managed by Bonner County Solid Waste (BCSW), a division of the County. Specifically, this project focuses on developing a 10-year capital schedule for renovating and improving existing solid waste facilities and infrastructure.

2.1 General Information

2.1.1 Collection Sites and Transfer Station

Bonner County is located in the northern panhandle of Idaho, and includes the City of Sandpoint, the County seat, and most populous community in the County. The County also includes the towns of Clark Fork, Dover, East Hope, Hope, Kootenai, Oldtown, Ponderay, and Priest River, and the unincorporated communities of Careywood, Cocolalla, Colburn, Coolin, Laclede, Lamb Creek, Nordman, Outlet Bay, Sagle, Schweitzer, Vans Corner, and Westmond.

The solid waste system includes operation of 14 collection sites. See Exhibit 1 for a County map showing the 14 collection site locations, and Table 2 for information on each site. Of the 14 sites, 10 are supervised. Eight of these supervised sites are open from 7AM – 5PM, seven days per week, except for certain holidays, when the hours may differ. The Garfield and Careywood Sites' hours are seasonal. They follow regular supervised site hours, except between Labor Day to Memorial Day when the hours are 7AM – 3PM, Thursday through Monday. One of the sites, 11-Mile, is temporarily closed, and three of the sites, Lakeview, Schweitzer and Wrenco, are unsupervised.

2.1.2 Rates and Fees

Each household pays $115 per year as an assessment fee on their property taxes for operation of the collection sites and the waste transport and disposal that the County pays Waste Management. This allows the public to dispose of a maximum of six cubic yards (cy) per day at a collection site. Commercial waste disposal is charged $14 per cubic yard at the sites.

Most towns in the County offer curbside collection, but participation is voluntary except for Sandpoint where it is mandatory. Residents pay for this added convenience in addition to the yearly assessment fee.

Waste from all of the collection sites is transported to the Colburn transfer station, located north of Sandpoint, which also serves as a collection site. Waste that is received at the site for transfer is then unloaded on the tipping floor of the transfer building or outside pad, top-loaded into long-haul trailers, and hauled by Waste Management roughly 300 miles to their landfill in Arlington, Oregon.

Exhibit 1 – Location Map of Bonner County Solid Waste Collection Sites

Table 2 – Summary of Bonner County Solid Waste Collection Sites

Site Name	Site Type	Supervised
West Side Collection Sites		
11-Mile	Kitchen-Only	Temporarily Closed
Blanchard	Full-Service	✓
Dickensheet	Full-Service	✓
Idaho Hill	Full-Service	✓
Prater Valley	Full-Service	✓
East Side Collection Sites		
Careywood	Kitchen-Only	✓
Clark Fork	Full-Service	✓
Colburn	Full-Service	✓
Dufort	Full-Service	✓
Garfield Bay	Kitchen-Only	✓
Lakeview	Kitchen-Only	
Schweitzer	Kitchen-Only	
Upland	Kitchen-Only	✓
Wrenco	Kitchen-Only	

Notes:

[a.] Supervised sites are open from 7AM – 5PM, seven days a week, except for certain holidays. The Garfield and Careywood Sites' hours are seasonal. They follow regular supervised site hours, except for between Labor Day to Memorial Day when the hours are 7AM – 3PM, Thursday through Monday.

[b.] The Idaho Hill, Colburn, and Dickensheet Sites also have inert waste pits.

[c.] The Colburn Site has a transfer station where Waste Management's long-haul trailers are loaded to transport waste to Waste Management's Arlington Landfill.

2.1.3 Population and Solid Waste Growth

Established in 1907, Bonner County grew slowly for approximately the first 60 years. Beginning around 1970, the population boomed and has been on an upward trend ever since. The United States Census Bureau estimates the population of Bonner County at approximately 44,000 people in 2017.

Exhibit 2 provides a graphical illustration of both the County population and solid waste growth trends from 1994 to 2018. Population for the year 2018 has been projected, based on the current growth trend. For the last almost 25 years, the population in the County has been growing at an average rate of approximately 1.36% per year.

Solid waste tonnage data were provided by the County (from Waste Management). Starting at approximately 19,000 tons in 1994, the waste tonnage has grown to nearly 42,000 tons in 2018.

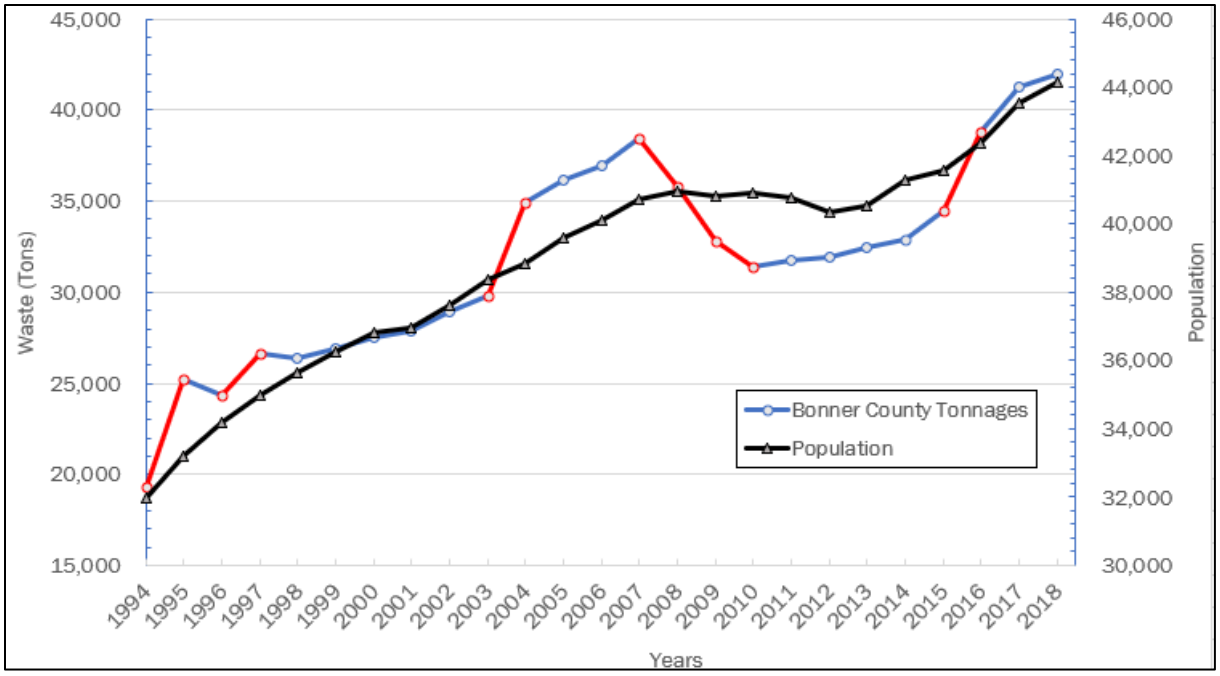

Exhibit 2 – Bonner County Solid Waste and Population Growth (1994 - 2018)

The average waste growth rate over this period is 3.55% per year. The graph shows certain outliers, with periods of unprecedented growth or decline. These outliers are shown in red on the chart (**Exhibit 2**). When these outliers are removed from the data set, the interquartile range[1] yields a value of approximately 2.08%.

Solid waste growth has been slightly higher than that of the population, by 0.72%, with the outliers removed. This difference is likely driven by the economy. When the economy was booming in the mid-2000's, the waste tonnage spiked while the population was experiencing a steady growth. Then the waste tonnage receded coincident with the recession occurring in 2007/2008 and the population growth leveled off. If the population growth during the recession is excluded (2007–2012) from the dataset, then the average population growth is 1.70%, and the difference between population growth rate and waste growth rate drops to 0.37%.

The key in predicting future waste tonnages is to differentiate between spikes and sustainable growth over the long-term horizon. **Exhibit 3** shows a range for the 20-year solid waste projection between 2.08% and a conservative high of 3.00%. For the 10-year horizon (year 2028), the amount of waste that is projected is between approximately 51,600 and 56,400 tons. For the longer-term 20-year horizon (year 2038), the amount of waste is projected to be between 63,300 and 75,800 tons.

[1] The interquartile range (IQR) is a measure of statistical dispersion. In essence, it is a measure of the range in which the majority of the values lie. Mathematically, it is the subtraction of the first quartile from the third quartile. Outliers are any numbers outside of the IQR. If no outliers exist, such as in the Bonner County population growth data (**Exhibit 2**), then the interquartile range encompasses the entire data range.

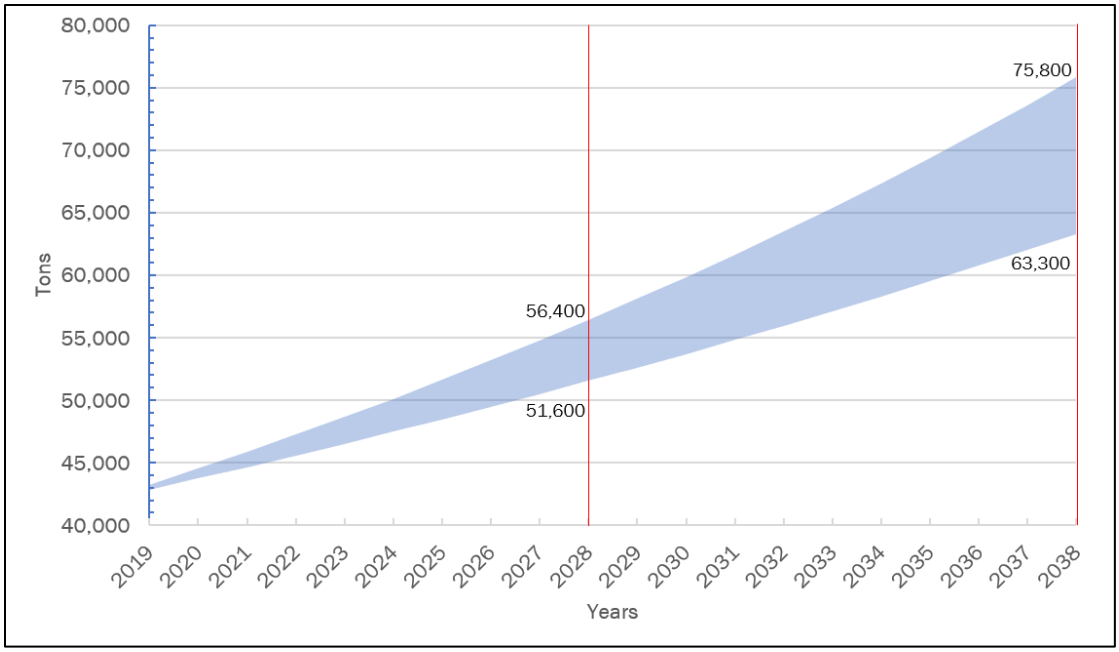

Exhibit 3 – Bonner County 20-Year Waste Projections (2019 - 2038)

2.1.4 Seasonal Fluctuations in Waste Generation Rates

Waste volumetric data provided by the County, when plotted, reveals seasonal fluctuations at each of the collection sites (2018 data). **Exhibits 4-6** show the monthly waste generation rates for the West Side collection site, the East Side collection sites, and the two larger sites of Dufort and Colburn, respectively. Dufort and Colburn are charted separately because waste volumes for these two sites are much larger than the other East Side collection sites.

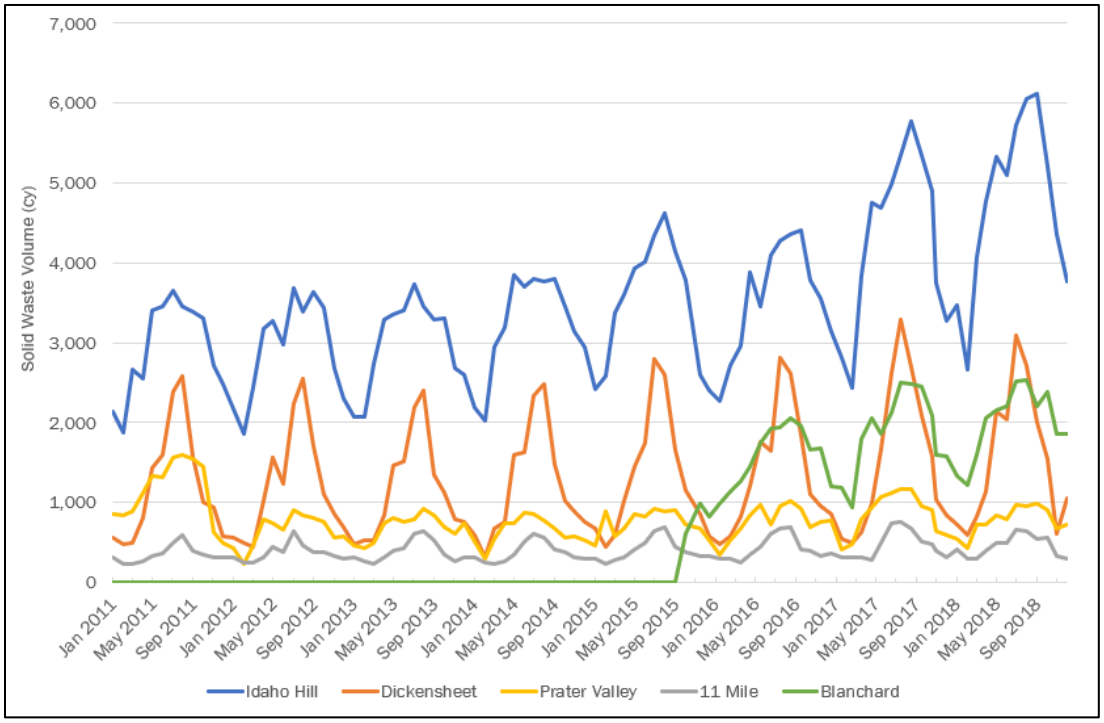

Exhibit 4 – Seasonal Fluctuations for the West Side Collection Sites

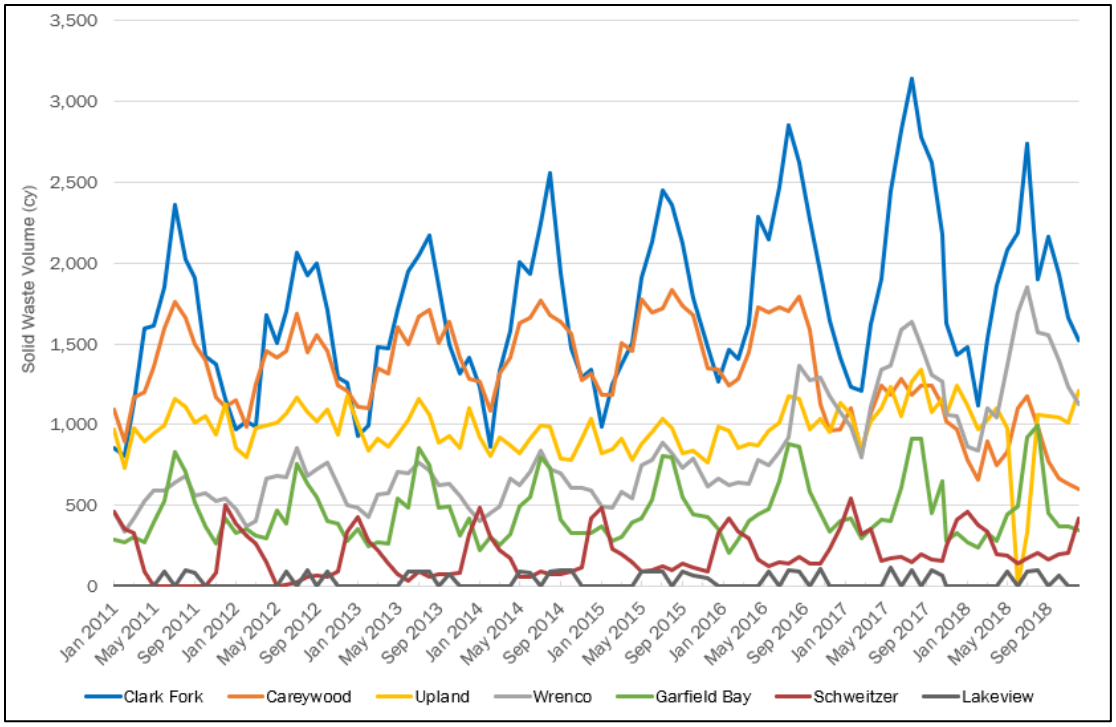

Exhibit 5 – Seasonal Fluctuations for the East Side Collection Sites (without Dufort and Colburn)

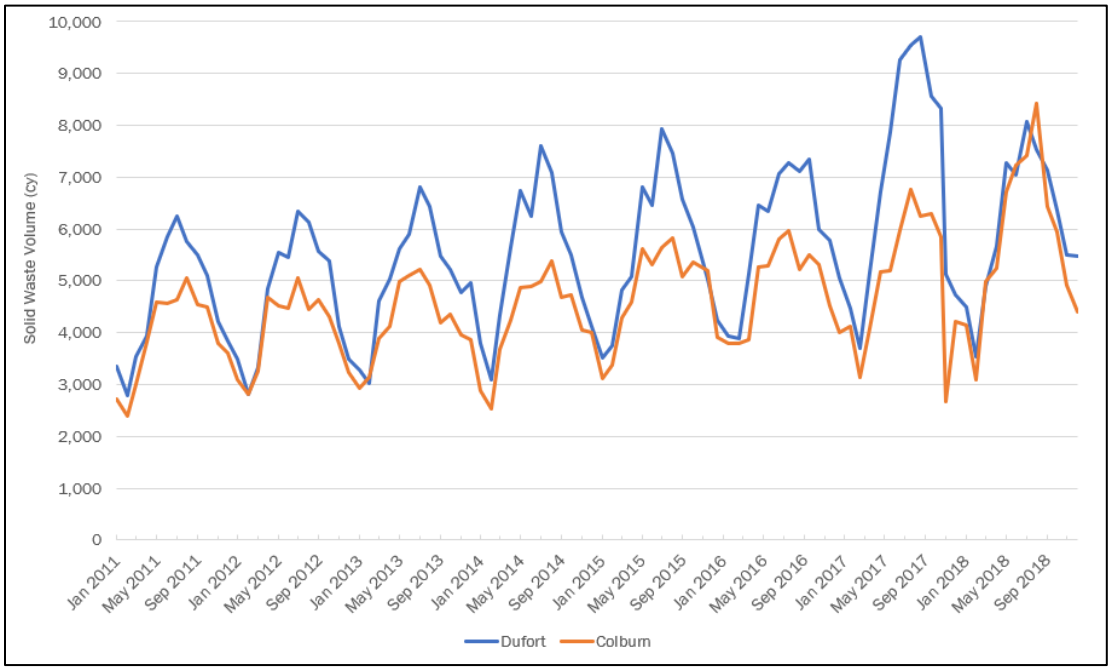

Exhibit 6 – Seasonal Fluctuations for Dufort and Colburn Collection Sites

The summer months show a large spike in waste production, likely due to tourists and seasonal occupants. Only one site, Schweitzer, is the exact opposite with large increases during the winter months, given it is a ski resort (refer to **Exhibit 5**).

Volumetric waste data for the Colburn site, shown in **Exhibit 6**, only includes public waste dropped off at the collection bins. All other waste that comes into the site and is unloaded

directly on the tipping floor, which includes waste from commercial garbage haulers and curbside collection, is not tracked volumetrically.

2.1.5 Waste Tonnage Estimates

The County provided volumetric data for each of the collection sites and mass data for the amount of waste hauled by Waste Management to their regional landfill. The mass of waste from each of the sites is unknown as well as the volumetric amount that is directly unloaded on the transfer station tipping floor at Colburn. The total volume of waste that was collected in 2018 for all of the 14 collection sites was 323,206 cy. The total waste mass hauled by Waste Management was 41,973 tons.

A simple equation was set up to calculate the unknown waste volume:

$$M_T = (V_k + V_u)\rho_w$$

Where,

M_T = Total Waste Mass (tons)
V_k = Known Volume (cy)
V_u = Unknown Volume (cy)
ρ_w = waste density [138 pounds per cubic yards (pcy)][2].

Then, solving for V_u,

$$V_u = \left(\frac{M_T}{\rho_w}\right) - V_k$$

Therefore,

V_u = 285,095 cy (or 19,672 tons).

2.1.6 Center of Waste Mass

A center of mass analysis was completed using the amount of solid waste that is generated at the various collection sites around the County. The center of mass in physics is the unique point where the weighted relative position of the distributed mass sums to zero. In other words, the distribution of mass is balanced around the center of mass and the average of the weighted position coordinates of the distributed mass defines the coordinates.

In applying this concept to waste mass collection points (or points of generation) in Bonner County, this analysis can be useful to determine where an ideal location for a second transfer station might be located. Selecting an arbitrary point of origin to be the southeast corner of the County, the calculation is done in two steps. First the east-west distance (or x-coordinate) is found, followed by the north-south (y-coordinate).

[2] Environmental Protection Agency's (EPA's) *Volume-to-Weight Conversion Factors* report (EPA 2016) for commercial - all waste, uncompacted.

The x-coordinate for the center of mass is calculated using the following equation:

$$X_{CM} = \frac{\sum_{i=1}^{n}(X_i)(M_i)}{\sum_{i=1}^{n} M_i}$$

Where,

X_{CM} = X-Coordinate to the Center of Mass
X_i = X-Distance to Mass (i)
M_i = Mass (i) for X_i

Similarly, the y-coordinate for the center of mass is calculated using the following equation:

$$Y_{CM} = \frac{\sum_{i=1}^{n}(Y_i)(M_i)}{\sum_{i=1}^{n} M_i}$$

where,

Y_{CM} = Y-Coordinate to the Center of Mass
Y_i = Y-Distance to Mass (i)
M_i = Mass (i) for Y_i

The resulting calculation shows that the center of waste mass in the County is located just northwest of the Upland disposal site (refer to **Exhibit 7**), near Sandpoint, the County's most populous city.

This calculation, however, artificially shifts the center of mass toward the Colburn site by assuming that all of the waste in Sandpoint and other towns that have curbside collection and direct haul to Colburn is generated at Colburn. If that fraction of waste is removed from the equation, the center of mass shifts between Wrenco and Dufort.

Future growth in the County will likely change this center of mass as well. Based on conversations with the County staff, growth seems to be occurring around the southeastern part of Lake Pend Oreille. This would then tend to shift the center of mass south and slightly east. This location is further supported with the major waste volumes that is currently experienced at Dufort, which is the busiest collection site besides Colburn.

The current and future center of mass should be considered when deciding on a location for a second transfer site in the County, although other factors will weigh-in to the decision such as availability of land, access, and future development plans in the area

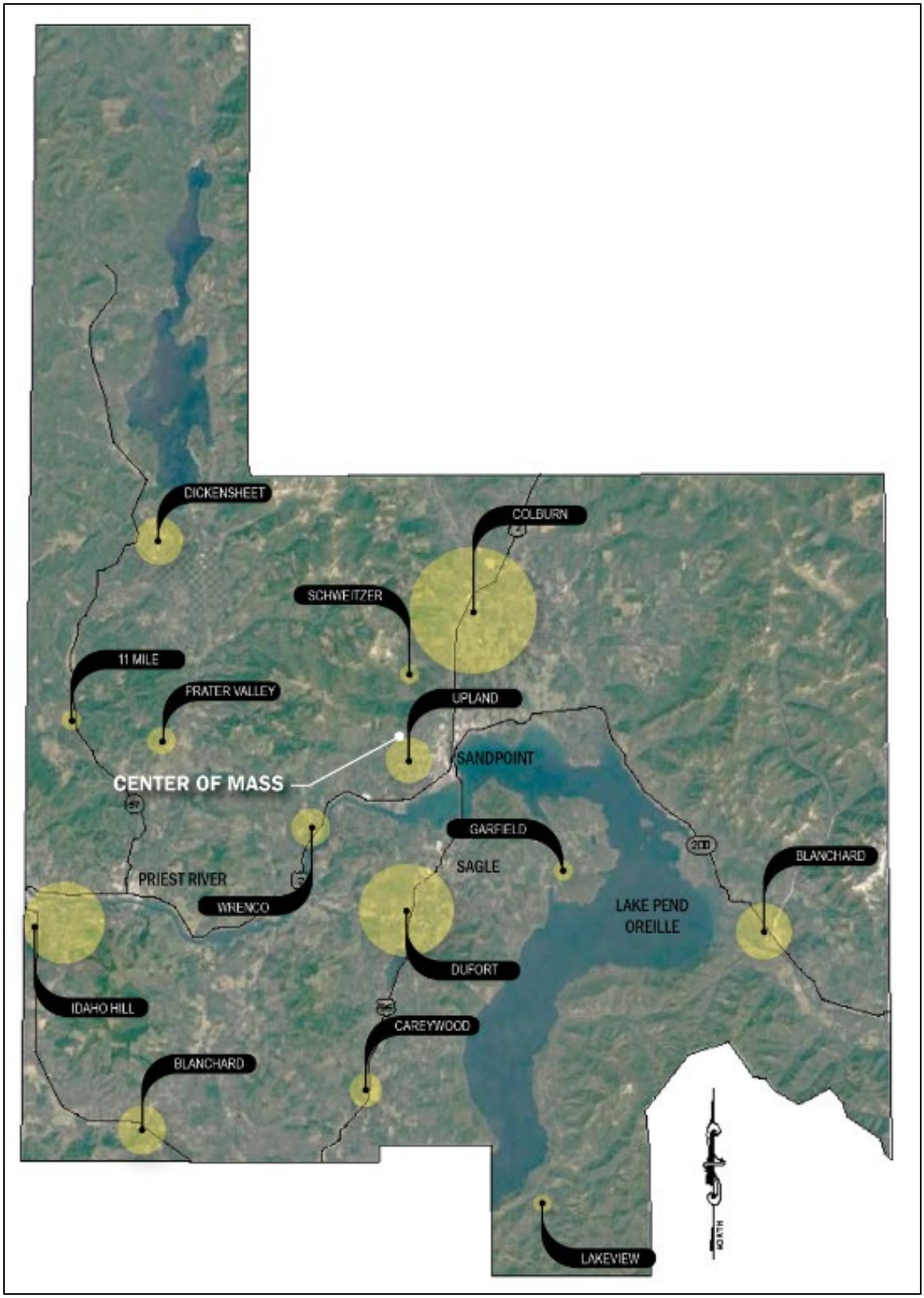

Exhibit 7– Bonner County Center of Waste Mass

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3.0 Existing Site Conditions Review Summary

This section summarizes the existing site conditions for the 14 collection sites that the County operates.

3.1 Approach and Methodology

Of the 14 collection sites, 7 sites were prioritized by BCSW for needing improvements or expansion. Most all of these sites were visited on January 17, 2019, as part of the project kickoff meeting, with the exception of 2 sites (Blanchard and Careywood). These two sites were not visited as a result of weather and time constraints. Site pictures and data were provided by BSCW for these sites and all other sites that were not visited.

In the following sections, the fourteen sites are listed in alphabetic order and separated by western and eastern locations, as well as priority and non-priority sites. Those that were visited by the Great West team are also noted.

3.2 Western Priority Sites

3.2.1 11-Mile

The 11-Mile Site is an attended/supervised site, located almost half way between Dickensheet and Idaho Hill site off of Highway 57. A drive-by of this site was made during the site visits. Only household waste is accepted at this site. As a result of carbon monoxide complaints from staff using generators/heaters during the winter months, the site is temporarily closed. The property is undeveloped with a gate, attendant shack and several small 8-cy dumpsters. The property is permitted by a special use permit from the Forest Service, with limited means of improvement. A dirt lot allows for large hauling trucks to turn around. **Exhibit 8** is a photograph of 11-Mile Site.

Notable Concerns and Issues

- **Temporary Closure** – The site is temporarily closed as a result of complaints about carbon monoxide from generator/heaters used to heat the attendant shack.
- **Leased Property** – The land is permitted by a special use permit from the Forest Service and no improvements, such as running utilities to the site, are allowed.
- **Redundant Site** – The Prater Valley site is within a few miles of this site and has been recently improved and updated.

Exhibit 8 – 11-Mile Site (photograph courtesy of BCSW)

3.2.2 Blanchard

The Blanchard Site is an attended/supervised site, located in Blanchard, south of the Idaho Hill site off of Highway 41. This site was not visited. It is a full-service site but does not accept dirt, concrete, or asphalt since it does not have an inert pit. Tires, refrigerators, TVs and more are accepted on site. The Blanchard site was recently built in 2015. It is paved and includes many recycling and garbage dumpsters, as well as a z-wall for the larger roll-off containers. **Exhibit 9** is a photograph of the Blanchard site.

Notable Concerns and Issues

At this time, there are no known notable concerns or issues at Blanchard, as it was recently built in 2015. However, there may be land available at Blanchard for a future transfer station, per County staff.

Exhibit 9 – Blanchard Site (photograph courtesy of BCSW)

3.2.3 Dickensheet

Dickensheet is an attended/supervised, full-service site that accepts dirt, concrete, and asphalt, as well as scrap metal, yard and wood waste, and TVs. There is also an inert waste pit on site. It is located in Coolin, Idaho. This site is part of the household hazardous waste (HHW) rotation. **Exhibit 10** is a photograph of the Dickensheet site.

Notable Concerns and Issues

- **Z-Wall** – The z-wall is comprised of stacked ecology blocks. Staff have indicated concerns with the integrity of the wall. During the busy summer months, the small number of z-walls causes congestion.
- **Roll-Off Containers** – Collection could be more efficient if all containers were upgraded to roll-offs. Multiple trips from Waste Management must be made to collect the smaller containers.
- **Paving** – Roads and the site are unpaved.

Exhibit 10 – Dickensheet Site (photograph courtesy of BCSW)

3.2.4 Idaho Hill

Idaho Hill is an attended/supervised site, located on the far east side of the County, off of Highway 41. It is a full-service site that accepts scrap metal, refrigerators, TVs, and tires as well as having an inert pit for dirt, concrete, and asphalt. This site is also part of the rotation for collecting household hazardous waste once per month.

The Idaho Hill Site is under consideration for a future conversion to a long-haul transfer station. The County is considering the possibility of entering into a land swap agreement with the Department of Public Lands to gain additional property next to the existing site. Although not within the 10-year planning horizon, the County has developed a concept layout for the site's conversion to a transfer station. In the meantime, the County would like to expand and improve the site gaining some adjacent ground and retaining it as a collection site. **Exhibit 11** is a photograph of the Idaho Hill site.

Notable Concerns and Issues

- **Z-Wall** – The z-wall is comprised of stacked ecology blocks. Staff have indicated concerns of their stability and integrity.
- **Sewer and Water** – No sewer or water lines currently service the site.

- **Paving** – Onsite roads and the site yard areas are unpaved.

Exhibit 11 – Idaho Hill Site (photograph courtesy of BCSW)

3.3 Eastern Priority Sites

3.3.1 Careywood

Careywood is an attended/supervised site, located in Careywood, Idaho. Accessed by Highway 95, it is a small, fenced-in site that accepts household trash only. Several 8-cy dumpsters and recycling containers are located at the site. **Exhibit 12** is a photograph of the site.

Notable Issues/Deficiencies

The following are notable issues/deficiencies with Careywood:

- **Future Highway Expansion** – The future expansion of Highway 95 will require the relocation of the Careywood site.

Exhibit 12 – Careywood Site (photograph courtesy of BCSW)

3.3.2 Colburn

Colburn is an attended/supervised site, located north of Sandpoint, Idaho. It is a full-service site that also accepts scrap metal and wood waste. Accessed by Pinecone Road off of Highway 95, it is the only transfer station in Bonner County. The site also has an inert pit that accepts dirt, concrete, and asphalt. It formerly had an operating HHW facility but was shut down by the fire department because of a lack of ventilation. This site is part of the mobile HHW collection program. The public drops off waste in bins located on site.

The site seems to have adequate room for staging materials and servicing public customers. There seems to be sufficient room for the scrap metal pile and wood waste pile, which was recently paved.

The leachate drain system (contact water drain) from the transfer building had some issues in the past that were corrected within the last year. The 3,500-gallon tank is dipped routinely and usually emptied about once a year. The liquid is then hauled and dumped at the Newport, Washington wastewater treatment plant.

Exhibit 13 is a photograph of the Colburn site entry area. **Exhibit 14** is a photograph of the exterior of the transfer building and **Exhibit 15** is a photograph of the interior of the transfer building.

Notable Concerns and Issues

The following list identifies the notable concerns and issues with the Colburn site and sets the stage for the necessary improvements to enhance safety and through-put capacity of the facility:

- **Antiquated and Undersized Waste Transfer Building –** The existing waste transfer building was constructed in 1994 by Waste Management. Although it was originally built as a temporary structure to last between 5-7 years (as reported by County staff), it is still in operation today. Ownership was eventually turned over to the County, but operation is still done under contract with Waste Management. The building is generally dilapidated with sections of damaged metal siding and areas with siding panels completely missing. There are four widow-type cutouts in the walls of the building that are missing the original chain link. In addition to several cosmetic issues, the building is undersized. Oftentimes waste is piled up on a concrete pad in a fenced-in area in front (west) of the building until the waste can be pushed into the building and top-loaded into trailers. Short metal push-walls line the edges of the tipping floor and are offset several feet from the building walls. They are made of relatively low-strength (gauge) steel welded to metal posts. The tipping floor was reported to be repaired several years ago with an overlay that has since worn through, as evidenced by eroded concrete and aggregate at the surface. The load-out tunnel has raised scales in the pit with lots of debris and waste around them.
- **Inoperable HHW Facility –** As a result of inadequate ventilation, the HHW facility was shut down by the fire department. The County currently uses portions of the building for storage and removing refrigerants from white goods. The County currently hires a contractor to circulate on weekends around each of the main transfer sites in the County to collect HHW materials.

- **Double-Handling of Public Waste** – Because of the limited tipping floor space, the public dumps their garbage into containers at the northeast end of the facility. Garbage trucks bringing waste into the site will periodically dump the containers and unload the waste on the tipping floor or outside pad.
- **Comingled Traffic Flow** – All vehicles share the main access road (Pinecone Road) into and out of the facility. The public enters the facility on the north side through a gate and drops off waste in containers at the northern edge of the site. Contractors (trucks and trailers) enter with the public and drop off waste on the tipping floor of the transfer station or the tipping pad in front of the transfer building. Commercial trucks (garbage and roll-off container trucks) and long-haul transfer trucks enter the facility through the service entrance gate and use the service road. Long-haul transfer trucks stay within the southern portion of the site, dropping off empty trailers and picking up full ones before leaving. Operations pull empty trailers into the transfer station loading tunnel and then pull loaded trailers out through the main yard before staging them for the long-haul transfer trucks to hitch-up, comingling with general site operations and also contractors accessing the tipping floor.
- **No Commercial Truck Scaling** – The only scales at the site are the pit scales in the loading bay of the waste transfer building. There are no other means to weigh the incoming waste before it is dumped on the tipping floor and comingled with the rest of the trash. Other than waste volumes, garbage is not tracked from the collection sites and curbside collection routes.

Exhibit 13 – Colburn Collection Site – Public Entry Area

Exhibit 14 – Colburn Transfer Site – Waste Transfer Building Exterior (photograph courtesy of BCSW)

Exhibit 15 – Colburn Transfer Site – Waste Transfer Building Interior

3.3.3 Wrenco

Wrenco is an unattended site located off of Highway 2, west of Sandpoint. The site accepts household trash only. It is a small site with only dumpsters. The Fire Department owns the property. **Exhibit 16** is a photograph of Wrenco.

Notable Concerns and Issues

- **Cleanliness** – The site occasionally becomes dirty and requires maintenance.
- **Location** – The County does not like the location and is considering a new site, somewhere between Sandpoint and Priest River, pending land availability.
- **Land Use Agreement** – The Fire Department owns that land and allows BCSW to use a small area.

Exhibit 16 – Wrenco Site (courtesy of BCSW)

3.4 Western Non-Priority Sites

3.4.1 Prater Valley

Prater Valley is an attended/supervised site located east of the 11-Mile site. It is a full-service site but does not have an inert pit to accept dirt, concrete, or asphalt. The site was built in 2011, replacing an unattended site within 5 miles of it, and is in great condition. It appears to have plenty of space for current and future needs. **Exhibit 17** is a photograph of the site.

Notable Concerns and Issues

At the time, there are no notable concerns or issues at Prater Valley.

Exhibit 17 – Prater Valley Site Photograph

3.5 Eastern Non-Priority Sites

3.5.1 Clark Fork

Clark Fork is an attended/supervised site, located in Clark Fork, Idaho. Accessed off of Highway 200, it is a full-service site. This site was not visited. It does not have an inert pit so it does not accept dirt, concrete, or asphalt. Refrigerators are accepted on site. It is a paved site and has a z-wall for easy disposal. Clark Fork is part of the HHW rotation. **Exhibit 18** is a photograph of Clark Fork.

Notable Concerns and Issues

At the time, there are no notable concerns or issues at Clark Fork.

Exhibit 18 – Clark Fork Site Photograph (courtesy of BCSW)

3.5.2 Dufort

Dufort is an attended/supervised site located south of Sandpoint in Sagle, Idaho. Accessed via Highway 95, it is a full-service site. It does not have an inert pit so it does not accept dirt, concrete, and asphalt. The site was renovated in the last 5 years. It is paved and has a z-wall for easy disposal. The site is seasonally busy (summer) but still has plenty of room for queuing of vehicles and does not get congested at this time, even though it is the busiest site. It is part of the HHW rotation.

If desired, there is room for an expansion to construct another set of z-walls, to mitigate possible congestion. A tipping wall for a long-haul trailer may also be an option to be placed at the site, to relieve Colburn in case of a scheduled or unscheduled shutdown of the current transfer station. **Exhibit 19** is a photograph of Dufort.

Notable Concerns and Issues

Portions of the site are unpaved.

Exhibit 19 – Dufort Site Photograph (courtesy of BCSW)

3.5.3 Garfield Bay

Garfield Bay is an attended/supervised site, located in Sage, Idaho. The site is unpaved, small, and fenced. It accepts household trash only. **Exhibit 20** is a photograph of the site.

Notable Concerns and Issues

At this time, there are no notable concerns or issues at Garfield Bay.

Exhibit 20 – Garfield Bay Site Photograph (courtesy of BCSW)

3.5.4 Lakeview

Lakeview is an unattended site, located in Lakeview, Idaho. Only household waste is accepted. Lakeview sees the lowest rates of waste drop off out of all fourteen sites. The County pays a part-time private contractor to maintain the site. Exhibit 21 is an aerial photograph of the site.

Notable Concerns and Issues

At the time, there are no notable concerns or issues at Lakeview.

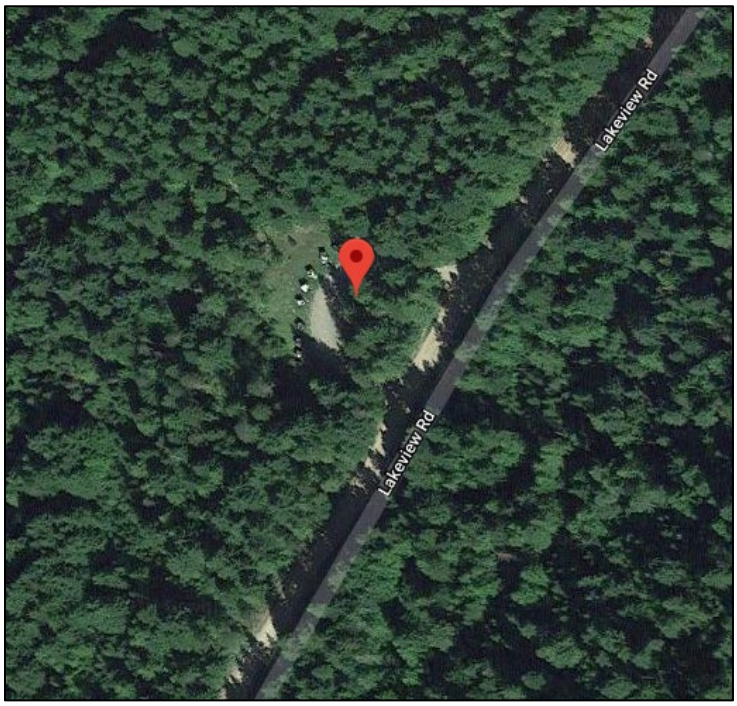


Exhibit 21 – Lakeview Site Aerial Photograph (Courtesy of Google Maps)

3.5.5 Schweitzer

Schweitzer is an unattended site, located near the Schweitzer ski resort. It accepts household trash only. The County pays the Schweitzer Fire District to maintain the site. Exhibit 22 is a photograph of the site.

Notable Concerns and Issues

At the time, there are no notable concerns or issues at Schweitzer.

Exhibit 22 – Schweitzer Site Photograph (courtesy of BCSW)

3.5.6 Upland

Upland is an attended/supervised site, located near Sandpoint. It was renovated in 2018. Exhibit 23 is a photograph of the site.

Notable Concerns and Issues

At the time, there are no notable concerns or issues at Upland.

Exhibit 23 – Upland Site Photograph (courtesy of BCSW)

4.0 Site Assessments Summary

This section summarizes the assessments that were conducted for each of the priority sites progressing forward to the existing site conditions review and input provided by BCSW staff.

4.1 Approach and Methodology

Following the preparation of the site conditions assessment work, the consensus among BCSW staff was to focus attention on improving and expanding the Colburn site to be retained as the main transfer facility for the County. Although there is a strong possibility to acquire a large piece of property next to the existing Idaho Hill site through a land swap with the Idaho Department of Lands, the Idaho Hill site does not offer the same level of immediate service improvement to the solid waste system. The site is generally remote and outside of the center of waste mass. Conversely, the Colburn site is already the main transfer site for the County and continues to offer a centralized location for waste consolidation in the County close to the center of waste mass. The Colburn site also offers plenty of space to provide both waste collection and transfer operations over the planning horizon.

4.2 Colburn Site

4.2.1 Existing Operations

Refer to **Section 3.3.2** for a description of the existing site conditions, as well as notable concerns and issues, at Colburn. **Figure 1** (attached) shows the existing conditions.

Waste from all of the other 13 collection sites are transported to Colburn in commercial trucks (garbage trucks and roll-off container trucks), unloaded on the tipping floor of the transfer building or the outside tipping pad, and then loaded into long-haul transfer trailers for transportation to Waste Management's landfill in Arlington, Oregon. The Arlington Landfill is located roughly 300 miles away, and the haul and disposal charge to the County is $73.44/ton. Waste Management also operates the waste transfer building under contract with the County at a rate of $8.72/ton.

Construction contractors also unload waste on the tipping floor or pad of the transfer building. All trucks and vehicles share Pinecone Road, the main access road into the facility, but then split off at the public entrance gate. Commercial trucks continue to the service gate entrance and along the service road. Public customers turn right into the main entrance gate and dump either at the dumpsters or roll-off containers for oversized materials. Contractors with trailers also enter through the public gate but are directed to haul and dump on the tipping floor/pad at the transfer building.

Operations includes a yard goat which pulls the long-haul transfer trailers into the loading bay of the waste transfer building facing north, and then once the trailers are full, the yard goat loops around into the main yard area next to the public and then drops full trailers south of the transfer building next to Waste Management's extra dumpsters and containers.

The yard goat then picks up an empty trailer off the service road corner and then pulls it north and around to the loading bay of the building.

Long-haul trucks share the service road with commercial trucks and operations but have a lower level access into the loading tunnel at the basement level. They drop off empty trailers east of the transfer building and pick up the loaded trailers south of the transfer building in the yard next to all of Waste Management's extra dumpsters and containers.

4.2.2 Proposed Improvements

The following subsections present the proposed improvements to the Colburn site. **Figure 2** (attached) shows the general plan for the location and arrangement of the new facilities and site improvements.

Constructing a New Waste Transfer Building

A new waste transfer building will be constructed next to (northeast of) the existing transfer building. It will be a two-level pre-engineered metal structure with dimensions of 120 feet wide by 60 feet deep (or 7,200 sf). It is assumed that this size of the building will not require sprinklers. The Fire Marshal will ultimately need to decide what, if any, fire protection will be required.

The tipping level (main level) of the building will feature high-strength concrete floors with 8-ft tall metal-cladded concrete push walls on the edges and steel-plate armoring surrounding the pit openings. The building will be arranged in the same general orientation as the existing building, opening to the northwest.

Two 15-ft wide mixed-use unloading stalls (demarked with floor paint) will be provided on the south end of the new building for commercial trucks to use during the weekdays in addition to the existing transfer building that will be reconditioned. Approximately seven 12-ft wide unloading stalls (also demarked with floor paint) will be provided for the public to use during the weekdays plus the two 15-ft wide mixed-use stalls on the weekends. Commercial vehicles will enter the building on the southwest end using the service road. The public will enter from the north through the main entrance gate. The commercial area in front of the new building will be separated from the public area using removable traffic barricades. This arrangement will separate public from commercial vehicles and maximize efficiency and safety of the operations.

After waste is dumped on the new tipping floor, it will be pushed to the rear of the facility toward two loading pits (chutes) using a rubber-tire loader with cutting blades to protect the floor. A stationary knuckle-boom crane will be located between the pit openings to pull waste off the floor and compact waste in the transfer trailer parked beneath. The crane will also be used to balance the trailer payload. The lower (basement) level will feature a pull-through tunnel for the existing building drive-through and a new loading tunnel with pit scales to weigh the trailers while they are loaded. A third loading bay can be added as a provision to the building as a future "bump-out" (further east) depending on the capital budget and future needs of the facility.

Building a New HHW Facility

The existing HHW facility will be demolished since it is not functional any longer as an HHW facility and will be in the way of the new loop road for operations . A new HHW facility will be

built on the north end of the facility where the recycling and dumpsters are currently located. The HHW facility will be a slab-on-grade, 1,200-sf pre-engineered metal structure with a 200-sf covered receiving area and an adjacent 750 sf dry storage area. The building will be placed on a concrete slab (monolithic pour with a central sump for secondary containment). The floor will have an inset (pit) for a hazardous waste locker to use for storing and bulking materials. The facility will feature general building ventilation, explosion-proof electrical and lighting systems, a flammable fixed gas monitoring system, and a safety shower/eye wash station with tepid water supply. It is assumed that this size of the facility will not require fire protection. Waste material storage will be inside the hazardous waste locker and possibly around the exterior of the building in metal storage containers. The Fire Marshal will need to ultimately decide if building sprinklers will be required.

Reconditioning the Existing Waste Transfer Building

The overall assumption for reconditioning the existing waste transfer building is that the building concrete footings/foundation and pre-engineered metal structure are structurally intact and safe. A structural analysis was not performed as part of this assessment. With that in mind, the following improvements are recommended to recondition the existing building: completely replacing the metal siding with heavier gauge paneling, installing translucent paneling in the window openings, repairing 1,500 sf of the tipping floor with a high-strength material overlay in heavy wear areas, upgrading the interior and exterior lighting, and replacing the push-wall and metal armoring around the pit opening.

Adding an Automated Commercial Truck Scale

A new 80-ft aboveground, low-profile platform scale will be installed along the service access road before the waste transfer buildings. The primary purpose of the scale will be to weigh commercial trucks entering the facility. Secondarily, it can be used to weigh long-haul trucks for cross-checking the pit scales. A radio-frequency identification (RFID) system will be provided that can be monitored remotely from the attendant building at the public entrance gate. Video cameras will be used to monitor traffic pulling on and off the scale with monitors in the attendant building. The scale will also include inbound and outbound kiosks and an intercom system for the driver to communicate with the attendant. Commercial trucks will be tared and read with RFID cards or window tags requiring only inbound scaling. Vehicles that are not tared, such as roll-off container trucks with multiple truck/container combinations, will require both inbound and outbound scaling. Traffic control onto and off the scale will be done by an automatic light that is activated by transactions.

Relocating Drop-Off Facilities

The metals collection pile will be relocated north of the wood waste pile area, near the existing location of the tire drop-off area. The tire drop-off area will be relocated south of the existing (former) HHW Facility and north of the future transfer station building. The recycle bins, near the public dumpsters and z-wall will be relocated to a new recycling drop-off area across from the old HHW facility. The carboard recycling container will also be relocated at the new recycling drop-off location. The new waste transfer building will allow for direct waste unloading on the floor of the building and use of the z-wall for overflow (busy periods) and for oversized materials such as furniture.

Site/Yard Improvements

Several grading and drainage improvements will be needed to accommodate the new buildings and site infrastructure. The new waste transfer building will be constructed next to (northeast) of the existing building. The existing road, for the length of the new building, will need to be re-graded (flattened), at the same elevation of the existing building tunnel.

The existing stairs and a portion of the concrete retaining wall on the northeastern side of the existing building will be demolished, and the hillside excavated and then backfilled to construct the new transfer building.

Portions of the paved road leaving the basement level of the two transfer buildings will also be re-graded to approximately 7% slope, and then re-paved to meet the existing road/ yard grades. A retaining wall will be needed on the north side of the new building until the yard grade is reached as the road climbs out of the basement level of the buildings. The yard area will be paved where the former HHW facility was for the turnaround area for operations (yard goat pulling empty containers into the loading bays).

On the east side of the two transfer buildings at the basement level, the road will be extended further east making room for the new tunnel and bypass road (and possible "bump-out" for a future, third bay). A new (second) buried tank (approximately 5,000 gallons) will be needed to collect and store contact water from the new transfer building floor and pit area. The existing swale, further east will be enlarged. Drainage improvements such as catch basins and culverts will be necessary to ensure stormwater flows to the re-graded swale.

The new scrap metal drop-off area will be paved, as well as the new recycling and cardboard drop-off location. Six-foot fencing will be installed around the perimeter of the site. The existing fence, east of the service road will be upgraded to chain link, to match the new installation. A new entrance gate will be installed northwest of the existing service gate for on-site operations to access the waste transfer buildings.

Improving Site Access and Traffic Circulation

Reversing the traffic flow for the onsite transfer trailer loading operations will create a more efficient traffic pattern and eliminate the comingling of traffic in the yard area. As previously mentioned, this will also require demolishing the existing HHW building and relocating the metals pile next to the wood waste pile.

Site Traffic Flow and Control

Signs and pavement markings (striping) will be used throughout the facility to direct and control traffic. There are four main types of traffic utilizing the site: public (including contractors), commercial trucks (garbage trucks and roll-off container trucks), onsite operations (yard goat pulling empty and loaded trailers around the site), and long-haul transport trucks dropping off empty containers and picking up full containers. Each traffic type is discussed below (refer to the referenced figures).

- ***Public Traffic (refer to Figure 3A - attached):*** Public traffic will continue to enter the facility by taking a right off of Pinecone Road through the main gate on the northern

end of the site. The destinations and access routes for public customers using the site include:

- **Waste Transfer Building –** Public customers dropping off MSW at the new waste transfer building will enter the site by taking a right turn off of Pinecone Road into the main gate and then drive through the northern portion of the yard to the new building and then back into one of the unloading stalls, delineated with floor paint. Removeable traffic barricades will separate public from commercial stalls during the weekdays. On the weekends, all of the stalls will be available to the public. After dropping off waste, the public customer will return via the same path they entered and exit the site through the main gate. The customers can also visit the other facilities as they leave but it will be recommended to the public that they do this before they unload their MSW at the new building to keep traffic flow and pull-outs to the right-hand-side for safety and efficiency.
- **Z-Wall –** During periods of heavy traffic (use), some public customers will be sent to the existing z-wall to drop-off MSW in order to mitigate congestion and drop-off oversized materials such as furniture. The z-wall is located on the northernmost section of the site, west of the public entrance gate.
- **HHW Facility –** Customers dropping off HHW or refrigerators will be directed to the new HHW facility located on the north end of the site. Customers dropping off materials will pull in through the customer entrance gate and make a right turn to reach the facility. After dropping off materials, the customers can loop around and exit the site or continue south to the recycling drop-off area and/or transfer building to drop off MSW.
- **Recyclables Drop-Off Area –** The existing recycling bins and the cardboard bin will be relocated, west of the existing (former) HHW Facility. Customers will drive as if visiting the waste transfer building but stop at the bins along the way. After dropping off recyclables, they can then turn around and exit the site or visit the other locations.
- **Wood Waste Drop-off Area–** To access the wood waste drop-off area, customers will follow a similar route as if driving to the waste transfer building, but instead, turn right after passing the recyclables drop-off area. The wood waste pile is located on the southern end of a large paved pad. Customers may use this area to turn around and exit the site via the same path they entered or visit the other drop-off locations.
- **Scrap Metal Drop-Off Area–** The scrap metal/large appliance (non-refrigerants) drop-off area will be north of the wood waste drop-off area. To access the scrap metal drop-off area, customers will take a slight right after passing by the recyclables drop-off area. Customers may use the area south of the drop-off to turn around and exit via the same path they entered or visit the other locations
- **Tire Drop-Off Area –**The new tire drop-off area will be south of the existing (former) HHW Facility and north of the new transfer station building. The area will be delineated by a low-wall of ecology blocks. Customers may use the open area in front of the tire drop-off location to turn around and exit via the same path they entered, or to visit the other drop-off locations.
- **Inert Landfill** – To access the inert landfill, customers will follow a similar route as if accessing the wood waste drop-off area but will continue driving past the piles to the landfill, which is located northwest of the scrap metal drop off area. After

unloading their waste, customers will turn around and exit via the same path they entered.

- ***Commercial Traffic (refer to Figure 3B):*** Commercial trucks will continue to access the facility through the service entrance gate. The only destination for commercial customers using the site is the waste transfer buildings. To access the two buildings, commercial trucks (garbage trucks and roll-off container trucks) will drive past the public entrance gate, through the service entrance gate, down the service road and then pass over the new commercial truck scale with their RFID card or tag. Afterwards, they will drive into one of the two transfer buildings to unload. The existing transfer building will be available for commercial waste drop-off, and during the weekdays, two unloading stalls at the south end of the new building, delineated by floor paint and separated from public stalls by removeable traffic barriers, will be available to commercial trucks as well. After backing in and unloading waste, the commercial vehicles will exit via the same route they entered; however, this time being able to pass by the automatic scale without weighing if they are tared. If the vehicles are not tared, they will be required to pass back over the scale to be weighed before leaving the site.
- ***Onsite Operations Traffic (refer to Figure 3C):*** A yard goat will be used onsite to move empty and loaded trailers into and out of the trailer loading bays of the two transfer buildings and park them in designated areas. The yard goat will hook-up to empty containers sitting in the container parking area, located southwest of the existing transfer building, where the full trailers are currently placed. They will travel out along the service road and then turn left through a new entrance gate. The yard goats will loop around south within the open, paved area, east of the entrance gate, and travel down the ramp road to the basement level (loading level) of the transfer buildings. They will enter the loading bay tunnels of the transfer buildings from the northeast, and after being loaded, exit via the southwest and park the full trailers in the full trailer lot, located next to where the empty trailers are currently placed. From there, the yard goats can turn, rounding the island if necessary, and pick up another empty trailer and take it to one of the transfer building loading bays.
- ***Long-Haul Transport Traffic (refer to Figure 3D):*** Long-haul transfer trucks entering the facility will follow a similar route as commercial vehicles using the service gate and road but after rounding the corner, will drop off empty trailers in the empty trailer parking area. They will then use the yard area where all the spare containers are currently located to turn around and drive to the full container parking area, attach the trailer, and then exit the site via the same route they entered. Occasionally, on an as-needed basis, to check the calibrations of the transfer station pit scales, a long-haul truck may need to be weighed with a fully loaded trailer. The truck would load the trailer at the full container parking area and then turn right to access the scale. Spotters will be needed to navigate the truck through the site, passing the transfer station tipping floors, and exit via the public access gate.

4.3 Proposed Improvements at Other Collection Sites

The following subsections present the proposed improvements for the other Priority collection sites.

4.3.1 Idaho Hill

Refer to **Section 3.2.4** for a description of Idaho Hill and notable concerns and issues.

Proposed Improvements

Proposed improvements to the Idaho Hill site include the following (refer to **Figure 4**):

- **Z-Wall** –The z-wall will be upgraded with cast-in-place walls and an additional roll-off bay to accommodate future demand.
- **District Manager Shop Building –** An approximate 2,300 sf shop building will be built on the northern portion of the existing site, between the existing site area and the access road. This building would allow for the servicing of equipment in the shop area and also contain an office and bathroom.
- **Sewer and Water** – Sewer and water lines will be placed to service the site and the District Manager Shop building, as currently no sewer or water lines exist at the site. Frost-free spigots will be installed on site. A domestic water well will be installed onsite approximately 200 ft deep, and a septic tank with a drain field, east of the shop building, will provide sewer services. The water well will be positioned upgradient from the closed landfill, septic tank, and drain field.
- **Grading/Paving** – Approximately 47,500 sf of area will be paved. This will include the main yard area, wood pile area and the existing tire trailer/cardboard roll-off area.
- **Fencing** – Six-foot fencing will surround the entire site to prevent break-ins and collect blowing litter. Gates will be installed at the access point to District Manager Shop Building, the main site, and the inert landfill.

4.3.2 Dickensheet

Refer to **Section 3.2.3** for a description of Dickensheet and notable concerns and issues.

Proposed Improvements

Proposed improvements to the Dickensheet site include the following (refer to **Figure 5**):

- **Z-Wall** – The z-wall will be upgraded with cast-in-place walls and expanded to add an additional unloading bay.
- **Roll-Off Containers** – As a consideration (not included in the cost estimate), all of the waste containers could be upgraded to roll-off containers, to improve collection efficiency. This would need to be discussed with Waste Management. Currently, multiple trips are made by Waste Management to dump the smaller dumpster containers.
- **Grading/Paving** – The main yard area, wood waste pile area, and access road will be paved (approximately 76,700 sf).
- **Water –** A domestic water well will be installed on the site to service the attendant shack and several frost-free yard spigots. The well will be approximately 200 feet deep and located on the northeastern portion of the site. Frost-free spigots will be placed on the site, near the attendant shack, the inert pit, and the z-wall, for a total of three spigots.
- **Fencing –** Six-foot fencing with privacy slats will surround the entire site to prevent break-ins and collect blowing litter.

4.3.3 Dufort

Refer to **Section 3.5.2** for a description of Dufort and notable concerns and issues.

Proposed Improvements

Proposed improvements to the Dufort site include the following (refer to **Figure 6**):

- **Z-Walls –** Space is available for the construction of another z-wall with three slots. This would mitigate the congestion experienced at Dufort during the busy season. The z-wall would be cast-in-place mirroring the existing wall at this site
- **Grading/Paving –** The remaining unpaved area within the site boundary will be paved, including the location of the proposed z-wall (approximately 60,410 sf).
- **Site Drainage Improvements –** A new swale will be excavated at the southwestern corner of the site. Drainage improvements will be implemented to ensure stormwater drains to the swale.

4.3.4 Wrenco

Wrenco is an unattended site located off of Highway 2, east of Sandpoint. The site accepts household trash only. It is a small site with only dumpsters. The Fire Department owns the property.

Identified / Known Issues

- **Cleanliness** – The site occasionally becomes dirty and requires maintenance.
- **Location** – The County is not fond of the location and is considering a new site, somewhere between Sandpoint and Priest River, pending land availability.
- **Land Use Agreement** – The Fire Department owns that land and allows BCSW to use a small area.

Proposed Improvements

Closure or relocation of the Wrenco site is in question. The site has been problematic in the past with cleanliness. This is not currently within the 10-year planning horizon.

4.3.5 Careywood

Careywood is an attended/supervised site, located in Careywood, Idaho. Accessed by Highway 95, it is a small, fenced-in site that accepts household trash only. Several 8-cy dumpsters and recycling containers are located at the site.

Identified / Known Issues

The future expansion of Highway 95 will require the relocation of the Careywood site.

Proposed Improvements

Due to the future expansion of Highway 95, the Careywood site will need to be relocated. This is not currently within the 10-year planning horizon.

4.4 Engineer's Opinion of Costs

The engineer's cost opinions are considered bottom rolled-up-type estimates with identified cost items. The estimates include cost allowances and costs per square foot for certain

components of the estimates. The estimates assume the projects will be done on a competitive bid basis; contractors will have a reasonable amount of time to complete the work given a reasonable project schedule with no liquidated damages; and the project will be constructed under a single contract. The actual cost of the projects will depend on competitive market conditions, actual labor and material costs, actual site conditions (e.g., suitability of subsurface soils), productivity, project scope, schedule, final design, and other factors. As a result, the actual costs of the projects will vary. Because of these factors, funding needs must be carefully reviewed prior to making specific financial decisions or establishing final budgets.

These cost estimates are in 2019 dollars (2019$) and have not been escalated to the year of expenditure. The timeframe for phasing and implementation will need to be decided as the improvements are needed. Appendix A provides more detailed breakdowns. Note that the costs for the possible relocations of Wrenco and Careywood are not included. Those costs will depend upon the market availability and prices of lots in the area, as well as future site development and access requirements.

4.4.1 Colburn

The cost estimates for the proposed improvements at the Colburn site are shown in Table 3.

Table 3 – Cost Estimates for Proposed Colburn Site Improvements (2019$)

Facility/Improvement	Low Range -30%	ESTIMATE RANGE Base*	High Range +50%
Site Work	$441,000	$630,000	$945,000
New Commercial Scale	$243,000	$347,000	$521,000
New Waste Transfer Building	$2,309,000	$3,298,000	$4,947,000
Recondition Existing Waste Transfer Building	$451,000	$644,000	$966,000
New HHW Building	$434,000	$620,000	$930,000
Total	**$3,878,000**	**$5,539,000**	**$8,309,000**

**Includes 20% contingency, 6% taxes on materials (est.), 12% A&E Design Fee, and 4% limited A&E CM support fee.*

4.4.2 Idaho Hill

The cost estimates for the proposed improvements at the Idaho Hill are shown in Table 4.

Table 4 – Cost Estimates for Proposed Idaho Hill Site Improvements (2019$)

Facility/Improvement	Low Range -30%	ESTIMATE RANGE Base*	High Range +50%
Idaho Hill Site Proposed Improvements	**$631,000**	**$901,000**	**$1,352,000**

**Includes 20% contingency, 6% taxes on materials (est.), 12% A&E Design Fee, and 4% limited A&E CM support fee.*

4.4.3 Dickensheet

The cost estimates for the proposed improvements at the Dickensheet are shown in Table 5.

Table 5 – Cost Estimates for Proposed Dickensheet Site Improvements (2019$)

Facility/Improvement	Low Range -30%	ESTIMATE RANGE Base*	High Range +50%
Dickensheet Site Proposed Improvements	**$644,000**	**$920,000**	**$1,380,000**

**Includes 20% contingency, 6% taxes on materials (est.), 12% A&E Design Fee, and 4% limited A&E CM support fee.*

4.4.4 Dufort

The cost estimates for the proposed improvements at the Dufort site are shown in Table 6.

Table 6 – Cost Estimates for Proposed Dufort Site Improvements (2019$)

Facility/Improvement	Low Range -30%	ESTIMATE RANGE Base*	High Range +50%
Dufort Site Proposed Improvements	**$216,000**	**$308,000**	**$462,000**

**Includes 20% contingency, 6% taxes on materials (est.), 12% A&E Design Fee, and 4% limited A&E CM support fee.*

5.0 Project Prioritization

This section describes the evaluation process prioritizing the capital improvements projects over the next 10-year planning horizon, and beyond.

5.1 Approach and Methodology

A workshop was held by teleconference call on March 7, 2019, with BCSW staff, Commissioner Dan McDonald, and Great West Engineering. The purpose of the Workshop was to review each of the proposed capital improvements projects at each of the priority sites and develop a strategy to prioritize the projects over the 10-year planning horizon.

5.1.1 Selection Criteria

Six selection criteria were identified in the workshop for evaluating the proposed capital improvement projects. The criteria were then organized in order of significance from most significant to least significant, with assigned numeric weights ranging from 6 to 1 (refer to Table 7).

Table 7 – Selection Criteria Listed by Level of Significance

Numeric Weight	Criterion	Description
6	Financial Impacts/Economics	Relative cost of the project versus financial benefits and economics, including the rate of return on investment, if applicable.
5	Level of Service	Anticipated service level increase as it pertains to transaction times, efficiency, and convenience to the public
4	Liability/Risk	Known or perceived risk of potential environmental issues and associated risks and liabilities of continuing to operate without the capital project.
3	Public Perception (Social Factors)	Social attitudes, public expectations and/or public perceptions of the proposed capital project.
2	Regulatory Compliance/Permitting	Possible current and/or anticipated future regulations considering what impacts they may have on the proposed capital project.
1	County Land Use Compatibility	Potential issues or concerns of the compatibility of the land with the proposed project.

5.1.2 Scoring and Ranking

The selection criteria within each of the proposed projects were then scored by applying a numeric value ranging from 1 (least important) to 5 (most important).

Table 8 shows the scorecard that was used.

Table 8 – Capital Improvements Evaluation Scorecard

Component/System	VI. Financial Impacts/ Economics	V. Level of Service	IV. Liability/Risk	III. Public Perception (Social Factors)	II. Regulatory Compliance/Permitting	I. County Land Use Compatibility
Colburn HHW Building						
New Transfer Building at Colburn						
Colburn Site Improvements						
Existing Transfer Building Improvements at Colburn						
Idaho Hill Site Improvements						
Dickensheet Site Improvements						
Commercial Scale at Colburn						

5.1.3 Results

The scores from each participant were averaged within each criterion and then the weighting factors were applied and rounded to the nearest tenth (for example, Criterion 1 – Financial Impacts/Economics for the New Waste Transfer Building at Colburn had an average score of 2.5 amongst the group, and ended up with a weighted score of 15, or 2.5 times 6). The weighted scores were then tallied and ranked for each project. The results of the evaluation process are shown in Table 9.

Table 9 – Capital Improvements Evaluation Scores

Component/System		VI. Financial Impacts/ Economics	V. Level of Service	IV. Liability/Risk	III. Public Perception (Social Factors)	II. Regulatory Compliance/Permitting	I. County Land Use Compatibility	Weighted Score	Rank
New Transfer Building at Colburn	Average	3	5	4	4	3	1	75	2
	Weighted Average	15	25	17	11	5	2		
Existing Transfer Building Improvements at Colburn	Average	3	4	4	2	3	2	66	3
	Weighted Average	15	20	17	7	5	2		
Commercial Scale at Colburn	Average	3	2	3	2	1	1	54	6
	Weighted Average	19	11	12	7	3	2		
HHW Building at Colburn	Average	5	5	4	4	4	1	91	1
	Weighted Average	29	23	17	11	9	2		
Idaho Hill Improvements	Average	2	4	4	4	2	2	62	4
	Weighted Average	10	18	17	11	4	2		
Dickensheet Improvements	Average	2	3	3	4	2	2	57	5
	Weighted Average	11	16	13	11	4	2		
Dufort Improvements	Average	2	3	2	3	2	2	51	7
	Weighted Average	11	17	9	9	3	2		

The results rank the HHW Building first (score of 91 points) followed by the two other major improvements identified at the Colburn Site – New Waste Transfer Building (score of 75 points) and Existing Transfer Building Reconditioning (score of 66). Improvements at the Idaho Hill site ranked fourth (score of 62) followed by Dickensheet (score of 57), the scale at Colburn (score of 54), and finally the improvements at Dufort (score of 51).

6.0 Funding Options and Considerations

The following section provides a brief description of the potential funding sources and whether Bonner County would be eligible.

6.1 Community Development Block Grant

A community development block grant (CDBG) is a federally funded program that is administered by the Idaho Department of Commerce (IDC). The primary purpose of CDBG funds is to benefit low to moderate income (LMI) families and individuals. To be eligible for CDBG funds 51% or more of a community's population of must be LMI. The IDC uses census data to determine a community's LMI. However, under certain circumstances, the IDC may allow an income survey to be completed (e.g., if there have been significant economic changes since the census or if a community is only slightly under the required LMI population percentage).

An amount of $500,000 is the maximum CDBG grant for a public facilities project. The use of CDBG funds requires a 25% local match that can be provided through cash, loans, grants or a combination thereof.

Bonner County's population is currently 38% LMI, which makes it ineligible for CDBG funding. For more information about Idaho's CDBG Program, contact CDBG Program Manager Dennis Porter at (208) 287-0782 or dennis.porter@commerce.idaho.gov.

6.2 State Revolving Fund

Under certain circumstances, the SRF may provide low-interest loan funds for a solid waste project through the Water Pollution Control State Revolving Fund. For a solid waste project to be eligible for SRF, project funding would be necessary to protect a source of drinking water or surface water from contamination from a structurally deficient disposal cell or leachate collection system.

For more information about Idaho's SRF Program, contact SRF Program Manager Tim Wendland at (208) 373-0439 or tim.wendland@deq.idaho.gov.

6.3 USDA Rural Development Water and Waste Disposal Loan & Grant Program

Rural Development (RD) provides grant and loan funding to municipalities and counties for solid waste, water and wastewater projects that improve the quality of life and promote economic development in Rural America. RD determines eligibility based on the population of the community where the project would be constructed. Bonner County (population 40,877) is eligible to apply for RD funding if the facility it wants to construct is in a community with a population of 10,000 or less.

RD bases its determination of grant eligibility and the interest rate a project would receive on the community's median household income (MHI) and user rates. If the community has an MHI of $39,648 or lower, and the project is necessary to alleviate a serious public health and/or sanitation concern, up to 75% of the project costs are grant eligible. The term of the loan would include the Poverty Rate, which is currently 2.5%. With an MHI of $41,943 (2010 census) Bonner County qualifies for RD's Intermediate Rate of 3.375% and potentially having up to 45% of project costs grant funded. Historically, RD does not award grant funding to solid waste projects. To win an RD grant, the project would need to address a situation that represents an imminent threat to public health and/or the environment. RD's Market Rate for communities with an MHI greater than $49,561 is 4.25%.

Although, Bonner County may be eligible for an RD funding, it is unlikely to secure such a grant for solid waste projects based on history. For more information about USDA Rural Development, contact the Northern Idaho Area Director Mary Christine Fisher at (208) 209-4364 or christine.fisher@usda.gov.

6.4 Economic Development Administration Public Works Program

Economic Development Administration's (EDA's) Public Works Program provides economically distressed communities and regions with comprehensive and flexible resources to address a wide variety of economic needs. A solid waste project is potentially eligible for EDA funding if it would support the expansion of an existing business or the location of a new business to Bonner County that would result in the creation or retention of good-paying jobs.

This also doesn't seem like a possibility for solid waste projects in Bonner County. For more information about the EDA Public Works Program, contact Richard Berndt at EDA's Seattle Regional Office at (206) 220-7682 or rberndt@eda.gov.

7.0 Capital Outlay Schedule

The capital outlay schedule is provided in Table 10. Design and permitting are assumed to occur at least one year before construction.

The cost estimates are in 2019 dollars (2019$) and have been escalated to the year of expenditure assuming a 2.8% annual rate of inflation. Capital expenditures are expected to occur in the fiscal year (FY).

Appendix A provides more detailed breakdowns of the cost estimates for those that are noted in the table.

Table 10 – Bonner County Solid Waste – Capital Outlay Cost Schedule

Project	A&E Design Year	A&E Design Fees (2019$)	Construction/ CM Services Year	Construction/ CM Services Cost Estimate (2019$)	Total Project Cost (2019$)	Notes
Colburn HHW Building	2020	$65,520 <$67,360>	2021	$554,480 <$585,970>	$620,000	Includes a 1,200-sf pre-engineered metal structure with a 200-sf covered receiving area and an adjacent 750 sf dry storage area.
New Colburn Transfer Building	2022	$323,280 <$351,210>	2023	$2,974,720 <$3,322,150>	$3,298,000	Includes a 7,200-sf steel building, with a 15,000-sf paved apron, two tunnel access with pit scales, and a knuckleboom crane.
Colburn Site Improvements	2022	$63,480 <$68,970>	2023	$566,520 <$632,690>	$630,000	Concurrent with the new transfer building construction, as most of the site work is related to the new building. Includes general earth work, grading improvements, road improvements and chain link fencing and gates.
Existing Colburn Transfer Building Remodel	2024	$63,120 <$72,470>	2025	$580,880 <$685,560>	$644,000	The reconditioning of the existing transfer building includes the replacement of steel siding and translucent window panels, the replacement of heavy-wear areas on the tipping floor, 8' metal cladded concrete walls, and new pit scales.
Idaho Hill Site Improvements	2026	$88,320 <$107,160>	2027	$812,680 <$1,013,600>	$901,000	Includes paving, a District Manager's Shop building, water and sewer utilities, electrical connections, and a new cast-in-place concrete z-wall.
Dickensheet Site Improvements	2027	$90,240 <$112,550>	2028	$829,760 <$1,063,880>	$920,000	Includes paving, a domestic well, pump, water lines, chain link fence, and a new cast-in-place concrete z-wall.
Colburn Commercial Scale	2028	$32,520 <$41,700>	2029	$314,480 <$414,500>	$347,000	Includes an 80'x10' above-ground commercial scale (unattended) for the Colburn Site, as well as remote displays, kiosk, servers, and software.
Dufort Site Improvements	2029	$30,120 <$39,700>	2030	$277,880 <$376,520>	$308,000	Includes paving, site drainage improvements, and a new cast-in-place concrete z-wall.
Total (2019$)		**$756,600**		**$6,911,400**	**$7,668,000**	

Notes:

[a.] Estimates included contingencies with a typical level of accuracy of -30% to +50%.

[b.] Year of expenditure dollars are in "< >" and assume a 2.8% annual inflation rate. No interest on investments or accruals are included.

[c.] Total costs are an estimate of two or more years of expenditures.

8.0 Summary

Bonner County's solid waste system consists of 14 collection sites, half of which are full-service sites and the other half, kitchen-only sites. The Colburn Site also serves as the main transfer station where all of the waste generated in Bonner County is processed and sent to Waste Management's landfill in Arlington, Oregon. For access to these collection sites, each household in the County pays $115 per year, as an assessment fee on their property taxes. In addition, commercial waste disposal or wastes dropped off in access of the maximum amounts by residents is charged at $14 per cubic yard, at the sites.

Solid waste production in the County is growing at a rate of approximately 2.08%. To accommodate future demands, several sites were proposed for upgrade. Based on discussions between Bonner County and Great West Engineering, it was decided to retain Colburn as the main transfer station for the County and make it the primary of focus for improvements. Colburn is located near the center of solid waste mass in the County and can be upgraded without the need for more land acquisition, among other reasons. The Idaho Hill, Dickensheet, and Dufort collection sites were also included as needing capital improvements. The prioritization of improvements, through discussion and scoring, as well as detailed cost estimating, resulted in a capital outlay schedule (refer to **Table 10**).

FIGURES

Figure 1
Colburn Existing Site Plan

BONNER COUNTY SOLID WASTE
10-YEAR CAPITAL IMPROVEMENTS PLAN

GreatWest engineering®

M:\4-17148-Bonner County Transfer Station\CADD 4-17148\Exhibits\4-17148-FIG-01.dwg

M:\4--17148--Bonner County Transfer Station\CADD 4--17148\Exhibits\4--17148--FIG--02.dwg

GreatWest engineering®

Figure 2
Proposed Site Plan

BONNER COUNTY SOLID WASTE
10-YEAR CAPITAL IMPROVEMENTS PLAN

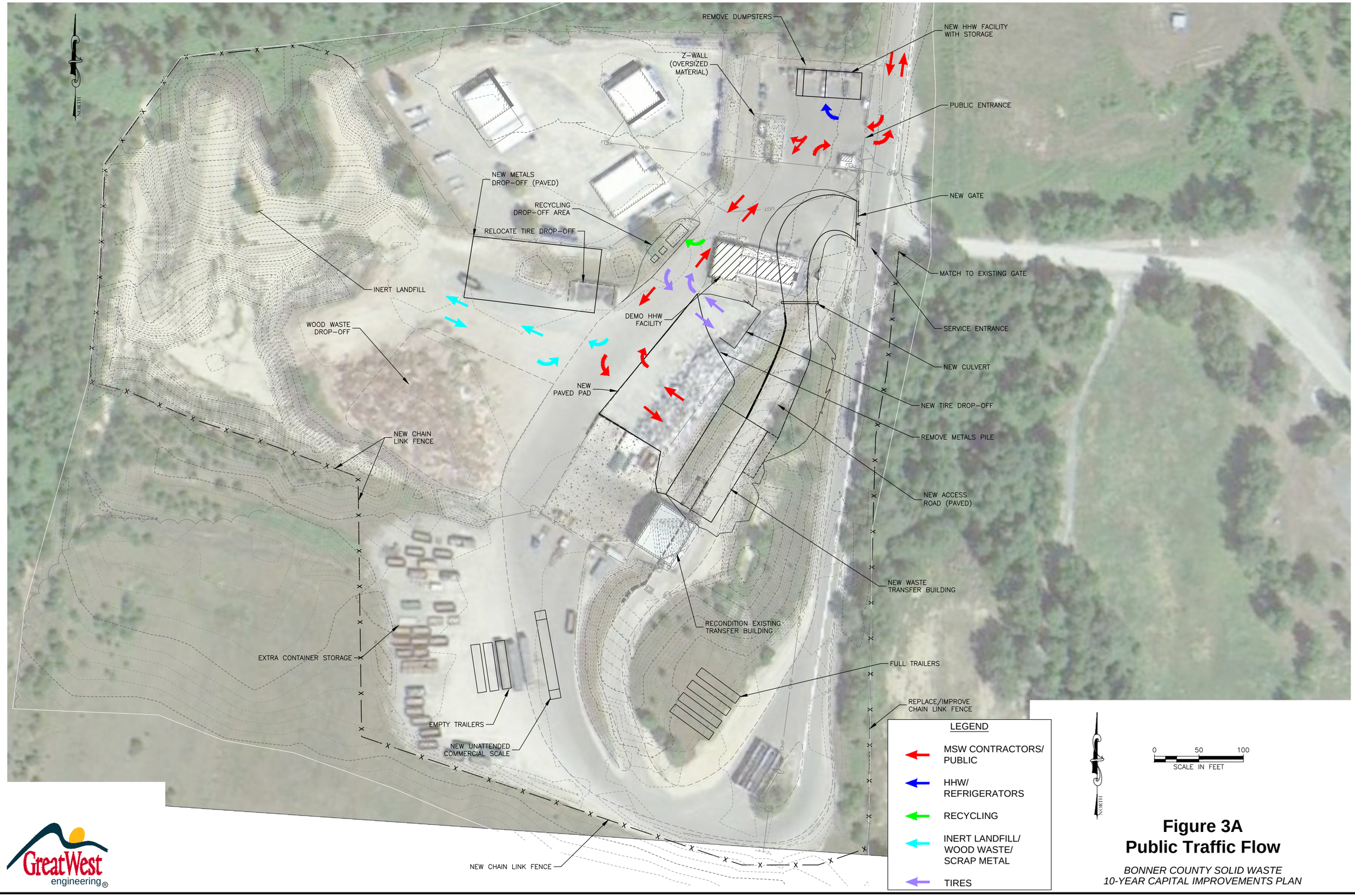


Figure 3A
Public Traffic Flow

BONNER COUNTY SOLID WASTE
10-YEAR CAPITAL IMPROVEMENTS PLAN

GreatWest engineering®

M:\4--17148--Bonner County Transfer Station\CADD 4--17148\Exhibits\4--17148--FIG--03A.dwg

REMOVE DUMPSTERS
NEW HHW FACILITY WITH STORAGE
Z-WALL (OVERSIZED MATERIAL)
NEW METALS DROP-OFF (PAVED)
RECYCLING DROP-OFF AREA
RELOCATE TIRE DROP-OFF
NEW GATE
INERT LANDFILL
DEMO HHW FACILITY
MATCH TO EXISTING GATE
WOOD WASTE DROP-OFF
SERVICE ENTRANCE
NEW CLUVERT
NEW PAVED PAD
NEW TIRE DROP-OFF
NEW CHAIN LINK FENCE
REMOVE METALS PILE
NEW ACCESS ROAD (PAVED)
NEW WASTE TRANSFER BUILDING
RECONDITION EXISTING TRANSFER BUILDING
EXTRA CONTAINER STORAGE
FULL TRAILERS
REPLACE/IMPROVE CHAIN LINK FENCE
EMPTY TRAILERS
NEW UNATTENDED COMMERCIAL SCALE
NEW CHAIN LINK FENCE

LEGEND

WASTE TRANSFER BUILDINGS

NORTH

0 50 100
SCALE IN FEET

Figure 3B
Commercial Traffic Flow

BONNER COUNTY SOLID WASTE
10-YEAR CAPITAL IMPROVEMENTS PLAN

GreatWest engineering®

M:\4--17148--Bonner County Transfer Station\CADD 4--17148\Exhibits\4--17148--FIG--03B.dwg

REMOVE DUMPSTERS
NEW HHW FACILITY WITH STORAGE
Z-WALL (OVERSIZED MATERIAL)
NEW ACCESS ROAD (PAVED)
NEW GATE
NEW METALS DROP-OFF (PAVED)
RECYCLING DROP-OFF AREA
RELOCATE TIRE DROP-OFF
INERT LANDFILL
MATCH TO EXISTING GATE
DEMO HHW FACILITY
WOOD WASTE DROP-OFF
REMOVE METALS PILE
SERVICE ENTRANCE
NEW CULVERT
NEW PAVED PAD
ONSITE OPERATIONS EMPTY CONTAINER TURNING DISPLAY,TYP
NEW CHAIN LINK FENCE
NEW TIRE DROP-OFF
NEW WASTE TRANSFER BUILDING
NEW UNATTENDED COMMERCIAL SCALE
RECONDITION EXISTING TRANSFER BUILDING
EXTRA CONTAINER STORAGE
FULL TRAILERS
EMPTY TRAILERS
REPLACE/IMPROVE CHAIN LINK FENCE
NEW CHAIN LINK FENCE

LEGEND
EMPTY CONTAINER
FULL CONTAINER

NORTH

0 50 100
SCALE IN FEET

Figure 3C
Onsite Operations Traffic Flow

BONNER COUNTY SOLID WASTE
10-YEAR CAPITAL IMPROVEMENTS PLAN

GreatWest engineering®

M:\4--17148--Bonner County Transfer Station\CADD 4--17148\Exhibits\4--17148--FIG--03C.dwg

REMOVE DUMPSTERS
NEW HHW FACILITY WITH STORAGE
Z-WALL (OVERSIZED MATERIAL)
NEW METALS DROP-OFF (PAVED)
NEW ACCESS ROAD (PAVED)
NEW GATE
RECYCLING DROP-OFF AREA
RELOCATE TIRE DROP-OFF
INERT LANDFILL
MATCH TO EXISTING GATE
DEMO HHW FACILITY
WOOD WASTE DROP-OFF
REMOVE METALS PILE
SERVICE ENTRANCE
NEW CULVERT
NEW PAVED PAD
NEW TIRE DROP-OFF
NEW CHAIN LINK FENCE
NEW WASTE TRANSFER BUILDING
NEW UNATTENDED COMMERCIAL SCALE
RECONDITION EXISTING TRANSFER BUILDING
EXTRA CONTAINER STORAGE
FULL TRAILERS
REPLACE/IMPROVE CHAIN LINK FENCE
EMPTY TRAILERS
NEW CHAIN LINK FENCE

LEGEND
EMPTY CONTAINER
FULL CONTAINER

NORTH

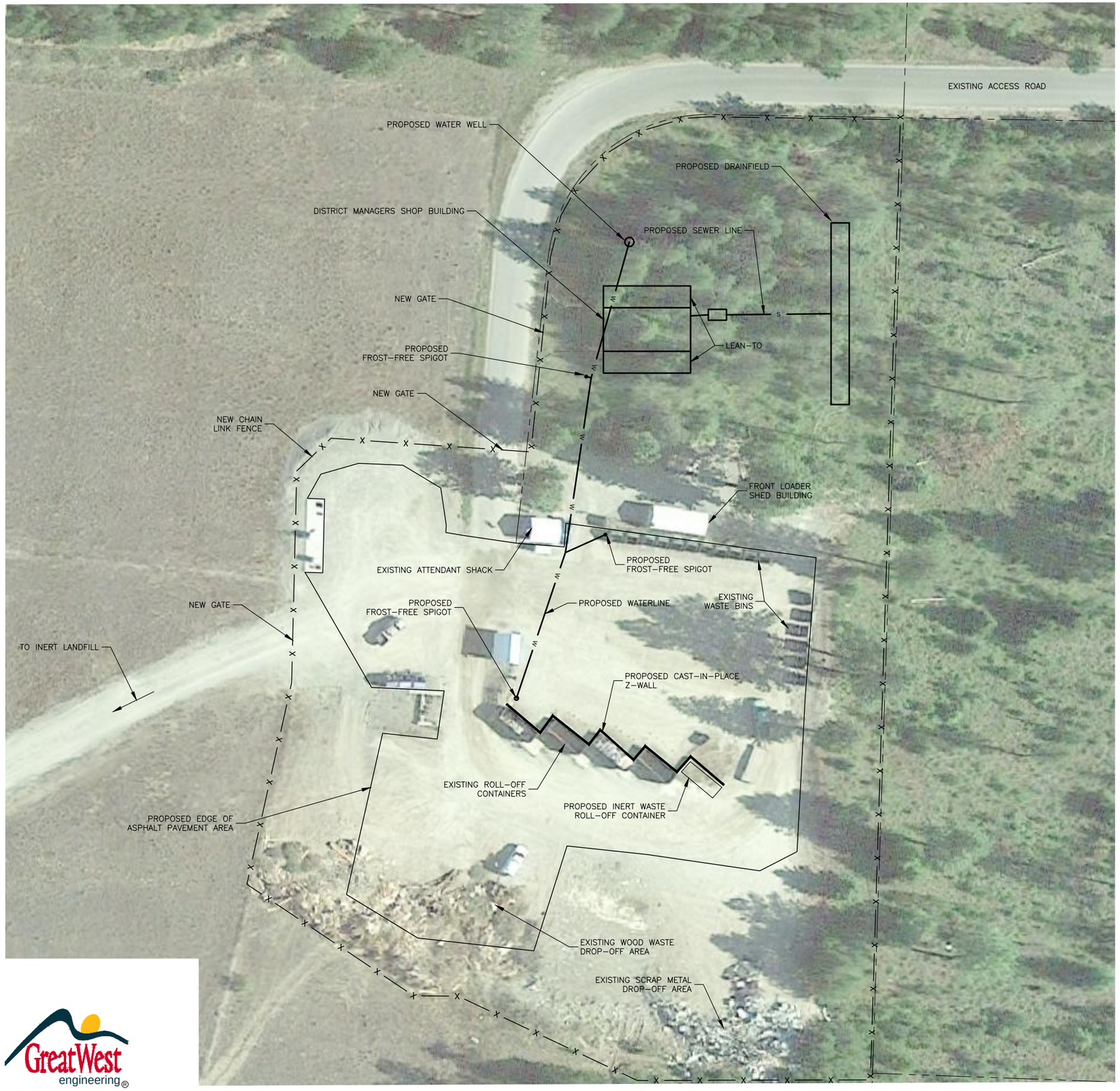
0 50 100
SCALE IN FEET

Figure 3D
Long-Haul Transport Traffic Flow

BONNER COUNTY SOLID WASTE
10-YEAR CAPITAL IMPROVEMENTS PLAN

GreatWest engineering®

M:\4--17148--Bonner County Transfer Station\CADD 4--17148\Exhibits\4--17148--FIG--03D.dwg



NORTH

0 30 60

SCALE IN FEET

Figure 4
Idaho Hill Proposed Site Improvements

BONNER COUNTY SOLID WASTE
10-YEAR CAPITAL IMPROVEMENTS PLAN

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M:\4-17148-Bonner County Transfer Station\CADD 4-17148\Exhibits\4-17148-FIG-04.dwg

DICKENSHEET ROAD

20

PROPOSED ENTRANCE GATE

PROPOSED WATER WELL

PROPOSED
FROST–FREE SPIGOT

INERT WASTE PIT

PROPOSED WATERLINE

EXISTING
WOOD WASTE
DROP–OFF
AREA

PROPOSED CHAIN LINK FENCE

EXISTING SCRAP METAL
PILES DROP–OFF AREA

PROPOSED EDGE OF
ASPHALT PAVEMENT AREA

EXISTING
WASTE BINS

EXISTING ATTENDANT SHACK

PROPOSED
CAST–IN–PLACE
Z–WALL

PROPOSED
FROST–FREE SPIGOT

EXISTING AC/REFRIGERANTS AND
TV/MONITORS DROP–OFF AREA

EXISTING HAZ–MAT BUILDING

PROPOSED ADDITIONAL
UNLOADING BAY AND
CONTAINER

PROPOSED
FROST–FREE SPIGOT

PROPERTY LINE

EXISTING CONTAINERS

EXISTING LANDFILL AREA

NORTH

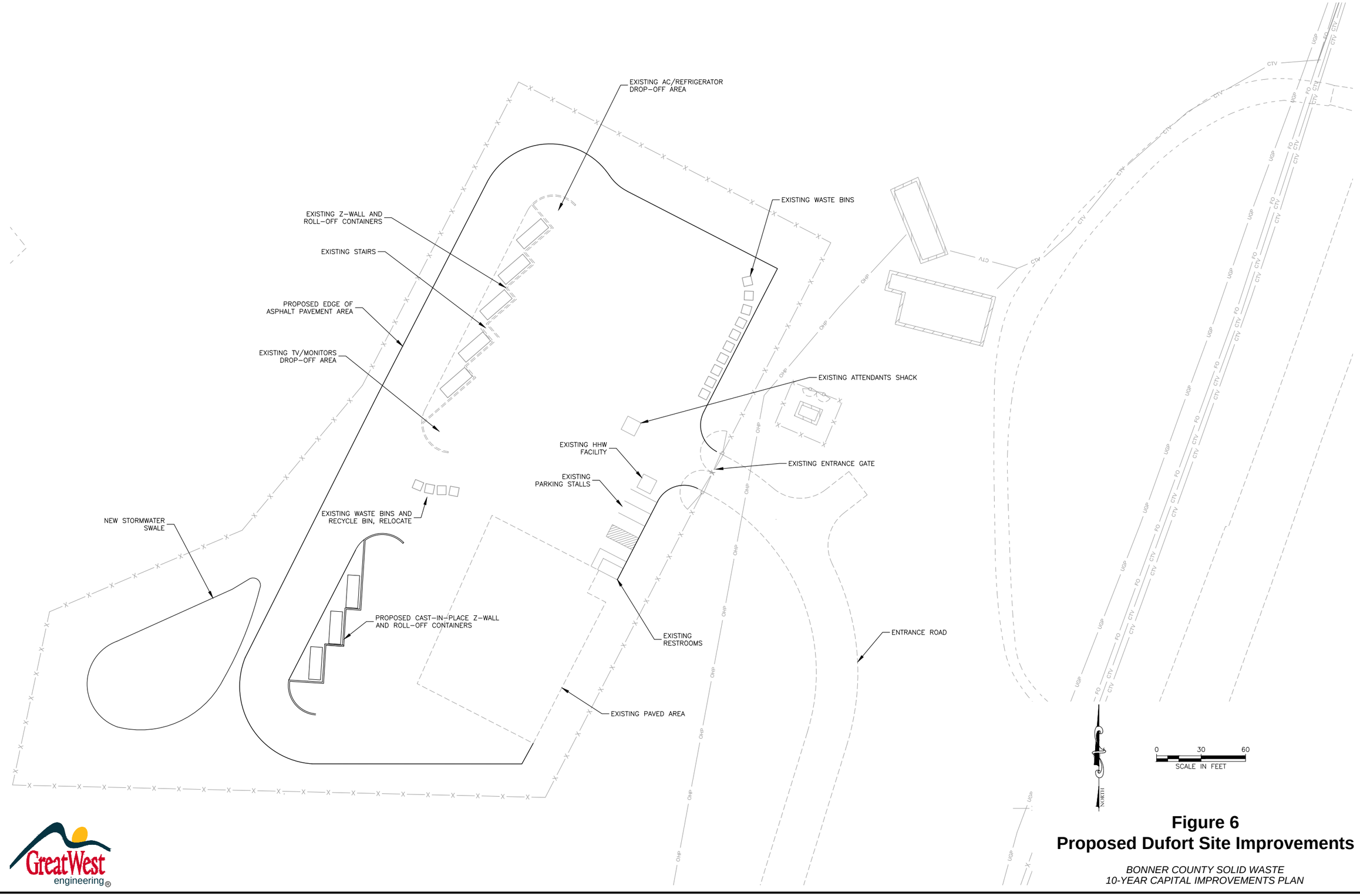
0 50 100
SCALE IN FEET

Figure 5
Proposed Dickensheet Site Improvements

BONNER COUNTY SOLID WASTE
10-YEAR CAPITAL IMPROVEMENTS PLAN

GreatWest engineering®

M:\4-17148-Bonner County Transfer Station\CADD 4-17148\Exhibits\4-17148-FIG-05.dwg



M:\4-17148-Bonner County Transfer Station\CADD 4-17148\Exhibits\4-17148-FIG-06.dwg

GreatWest engineering®

Figure 6
Proposed Dufort Site Improvements

BONNER COUNTY SOLID WASTE
10-YEAR CAPITAL IMPROVEMENTS PLAN

APPENDIX A

Engineer's Opinion of Costs

10-Year CIP / Bonner County

Colburn Site Improvements - New HHW Facility/Storage

Engineer's Opinion of Cost

Prepared For: Bonner County Solid Waste
Prepared By: Duncan Breedlove, EIT
Reviewed by: Stephanie Beckert, PE
Date: April 2019
Project No. 4-17148
Revision No. 0
Approved By: Travis Pyle, PE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Extended Unit Price
Site Civil					
1	Building Utilities Connection (Allowance)	1	LS	$ 10,000	$ 10,000
2	Building Pad Final Preparation (Allowance)	1	LS	$ 5,000	$ 5,000
3	Structural Backfill (Under Building Slabs)	100	CY	$ 28.00	$ 2,800
4	Paved Apron (Asphalt/Base Rock/Top Course)	2,500	SF	$ 5.00	$ 12,500
Structural/Architectural					
5	Steel Building/Slab/Walls	1,200	LS	$ 175.00	$ 210,000
6	Mechanical - Plumbing and Ventilation	1	LS	$ 30,000	$ 30,000
7	Electrical Systems	1	LS	$ 35,000	$ 35,000
8	Canopy Cover w/ Slab	200	SF	$ 50.00	$ 10,000
9	Enclosed Storage w/ Slab	750	SF	$ 65.00	$ 48,750
General Conditions					
10	Bonds, Insurance Premiums, Mobilization, Demobilization, Contract Closeout and OH&P (15%)	1	LS	$ 52,733	$ 52,733
11	Construction Facilities, Temporary Controls, Survey, and Safety (5%)	1	LS	$ 17,578	$ 17,578

CONSTRUCTION SUBTOTAL		**$434,360**
CONTINGENCY[2]	20%	$86,872
CONSTRUCTION TOTAL (Rounded)		**$521,000**
A/E DESIGN	12%	$62,520
A/E CM SUPPORT SERVICES (limited CM Support)	4%	$20,840
TAXES (Materials Only)	6.00%	$15,630
TOTAL (Base Cost)		**$620,000**
Low Range (-30%)		**$434,000**
High Range (+50%)		**$930,000**

Notes:
(1) This is cost estimate based on concept-level design. This estimate assumes a 1-15% level of design and is considered a Class 4 estimate in accordance with AACE International's classification system (Study of Feasibility) with a typical range of accuracy between -30% to +50%.
(2) Contingency is for scope changes that are presently unforeseen.

10-Year CIP / Bonner County

Colburn Site Improvements - New Waste Transfer Building

Engineer's Opinion of Cost

Prepared For: Bonner County Solid Waste
Prepared By: Duncan Breedlove, EIT
Reviewed by: Stephanie Beckert, PE
Date: April 2019
Project No. 4-17148
Revision No. 0
Approved By: Travis Pyle, PE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Extended Unit Price
Site Civil					
1	Building Utilities Connection (Allowance)	1	LS	$ 5,000	$ 5,000
2	Building Pad Final Preparation (Allowance)	1	LS	$ 12,000	$ 12,000
3	New Contact Water Tank (5,000 gallons)	1	LS	$ 35,000	$ 35,000
4	Structural Fill (Building Foundation)	100	CY	$ 28.00	$ 2,800
5	Structural Fill (Retaining Wall)	130	CY	$ 28.00	$ 3,640
6	Paved Apron (Asphalt/Base Rock/Top Course)	15,000	SF	$ 5.00	$ 75,000
Structural/Architectural					
7	Steel Building/Tipping Floor/Push Walls/Cladding	7,200	SF	$ 200.00	$ 1,440,000
8	Retaining Wall - Assume 0.5 CY/LF	70	CY	$ 800.00	$ 56,000
7	Knuckleboom Crane/Electrical/Install	1	LS	$ 250,000	$ 250,000
8	Axle Pit Scales (Two Scales) w/ Readouts	1	LS	$ 45,000	$ 45,000
General Conditions					
9	Demobilization, Contract Closeout and OH&P (15%)	1	LS	$ 288,666	$ 288,666
10	Construction Facilities, Temporary Controls, Survey, and Safety (5%)	1	LS	$ 96,222	$ 96,222

CONSTRUCTION SUBTOTAL		**$2,309,328**
CONTINGENCY[2]	20%	$461,866
CONSTRUCTION TOTAL (Rounded)		**$2,771,000**
A/E DESIGN	12%	$332,520
A/E CM SUPPORT SERVICES (limited CM Support)	4%	$110,840
TAXES (Materials Only)	6.00%	$83,130
TOTAL (Base Cost)		**$3,298,000**
Low Range (-30%)		**$2,309,000**
High Range (+50%)		**$4,947,000**

Notes:
(1) This is cost estimate based on concept-level design. This estimate assumes a 1-15% level of design and is considered a Class 4 estimate in accordance with AACE International's classification system (Study of Feasibility) with a typical range of accuracy between -30% to +50%.
(2) Contingency is for scope changes that are presently unforeseen.

10-Year CIP / Bonner County

Colburn Site Improvements - Site Work

Engineer's Opinion of Cost

Prepared For: Bonner County Solid Waste
Prepared By: Duncan Breedlove, EIT
Reviewed by: Stephanie Beckert, PE
Date: April 2019
Project No. 4-17148
Revision No. 0
Approved By: Travis Pyle, PE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Extended Unit Price
Site Civil					
1	Site Clearing and Preparation	1	LS	$ 5,000	$ 5,000
2	Site General Excavation	3,100	CY	$ 2.25	$ 6,975
3	General Site Fill (Select Native Fill)	1,400	CY	$ 3.50	$ 4,900
4	Geotech Work/Structural Allowance	1	LS	$ 35,000	$ 35,000
5	Asphalt/Base Rock/Top Course	28,600	SF	$ 5.00	$ 143,000
6	8-Inch Structural Fill (Road)	300	CY	$ 28.00	$ 8,400
7	Stormwater Management Systems (Swales, Ponds, Ditches, etc.) - Allowance	1	LS	$ 35,000	$ 35,000
8	Perimeter Chain Link Fence	2,500	LF	$ 35.00	$ 87,500
9	Striping and Signage	1	LS	$ 5,000	$ 5,000
10	Soil Stabilization/Seeding and Mulching	1	AC	$ 2,500	$ 2,500
Site Yard Electrical/Comm.					
11	Site/Yard Electrical/Comm./Lighting (Allowance)	1	LS	$ 35,000	$ 35,000
General Conditions					
12	Bonds, Insurance Premiums, Mobilization, Demobilization, Contract Closeout and OH&P (15%)	1	LS	$ 54,116	$ 54,116
13	Construction Facilities, Temporary Controls, Survey, and Safety (5%)	1	LS	$ 18,039	$ 18,039

CONSTRUCTION SUBTOTAL		**$440,430**
CONTINGENCY[(2)]	20%	$88,086
CONSTRUCTION TOTAL (Rounded)		**$529,000**
A/E DESIGN	12%	$63,480
A/E CM SUPPORT SERVICES (limited CM Support)	4%	$21,160
TAXES (Materials Only)	6.00%	$15,870
TOTAL (Base Cost)		**$630,000**
Low Range (-30%)		**$441,000**
High Range (+50%)		**$945,000**

Notes:
(1) This is cost estimate based on concept-level design. This estimate assumes a 1-15% level of design and is considered a Class 4 estimate in accordance with AACE International's classification system (Study of Feasibility) with a typical range of accuracy between -30% to +50%.
(2) Contingency is for scope changes that are presently unforeseen.

10-Year CIP / Bonner County

Colburn Site Improvements - Recondition Existing Transfer Building

Engineer's Opinion of Cost

Prepared For: Bonner County Solid Waste
Prepared By: Duncan Breedlove, EIT
Reviewed by: Stephanie Beckert, PE
Date: April 2019
Project No. 4-17148
Revision No. 0
Approved By: Travis Pyle, PE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Extended Unit Price
Site Civil					
1	Allowance - Site Prep/Area Work/Demo	1	LS	$ 25,000	$ 25,000
Structural/Architectural					
2	Replace Steel Siding Panels	7,000	SF	$ 6.00	$ 42,000
3	Replace Transluscent Window Panels	200	SF	$ 125.00	$ 25,000
4	Demo/Repair Heavy Wear Area of Tipping Floor	1,500	SF	$ 75.00	$ 112,500
5	Replace Push-Walls with 8' Metal Cladded Walls	80	LF	$ 700.00	$ 56,000
6	Upgrade Lighting (interior and exterior)	1	LS	$ 25,000	$ 25,000
7	Replace Chute Metal Armoring	90	LF	$ 500.00	$ 45,000
8	Replace Pit Scales	1	LS	$ 45,000	$ 45,000
General Conditions					
9	Demobilization, Contract Closeout and OH&P (15%)	1	LS	$ 56,325	$ 56,325
10	Construction Facilities, Temporary Controls, Survey, and Safety (5%)	1	LS	$ 18,775	$ 18,775

CONSTRUCTION SUBTOTAL		**$450,600**
CONTINGENCY[(2)]	20%	$90,120
CONSTRUCTION TOTAL (Rounded)		**$541,000**
A/E DESIGN	12%	$64,920
A/E CM SUPPORT SERVICES (limited CM Support)	4%	$21,640
TAXES (Materials Only)	6.00%	$16,230
TOTAL (Base Cost)		**$644,000**
Low Range (-30%)		**$451,000**
High Range (+50%)		**$966,000**

Notes:
(1) This is cost estimate based on concept-level design. This estimate assumes a 1-15% level of design and is considered a Class 4 estimate in accordance with AACE International's classification system (Study of Feasibility) with a typical range of accuracy between -30% to +50%.
(2) Contingency is for scope changes that are presently unforeseen.

10-Year CIP / Bonner County

Colburn Site Improvements - Commercial Scale

Engineer's Opinion of Cost

Prepared For: Bonner County Solid Waste
Prepared By: Duncan Breedlove, EIT
Reviewed by: Stephanie Beckert, PE
Date: April 2019
Project No. 4-17148
Revision No. 0
Approved By: Travis Pyle, PE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Extended Unit Price
Site Civil					
1	Site Prep	1	LS	$ 15,000	$ 15,000
2	Grading/Paving/Improvements	1	LS	$ 30,000	$ 30,000
Scales and Appurtenances					
3	80'x10' Above Ground Scale/Approach Pads	1	EA	$ 90,000	$ 90,000
4	Remote Weight Displays (Scoreboards)	2	EA	$ 2,500	$ 5,000
5	Kiosks	2	EA	$ 8,500	$ 17,000
6	Servers/Computer Hardware (Allowance)	1	LS	$ 15,000	$ 15,000
7	Electrical/Comm. (Allowance)	1	LS	$ 25,000	$ 25,000
8	Installation/Comissioning Support	1	LS	$ 5,000	$ 5,000
General Conditions					
9	Demobilization, Contract Closeout and OH&P (15%)	1	LS	$ 30,300	$ 30,300
10	Construction Facilities, Temporary Controls, Survey, and Safety (5%)	1	LS	$ 10,100	$ 10,100

CONSTRUCTION SUBTOTAL		**$242,400**
CONTINGENCY[(2)]	20%	$48,480
CONSTRUCTION TOTAL (Rounded)		**$291,000**
A/E DESIGN	12%	$34,920
A/E CM SUPPORT SERVICES (limited CM Support)	4%	$11,640
TAXES (Materials Only)	6.00%	$8,730
TOTAL (Base Cost)		**$347,000**
Low Range (-30%)		**$243,000**
High Range (+50%)		**$521,000**

Notes:
(1) This is cost estimate based on concept-level design. This estimate assumes a 1-15% level of design and is considered a Class 4 estimate in accordance with AACE International's classification system (Study of Feasibility) with a typical range of accuracy between -30% to +50%.
(2) Contingency is for scope changes that are presently unforeseen.

10-Year CIP / Bonner County

Idaho Hill Site Improvements

Engineer's Opinion of Cost

Prepared For: Bonner County Solid Waste
Prepared By: Duncan Breedlove, EIT
Reviewed by: Stephanie Beckert, PE
Date: April 2019
Project No. 4-17148
Revision No. 0
Approved By: Travis Pyle, PE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Extended Unit Price
Site Civil					
1	Site Clearing and Preparation	1	LS	$ 2,500	$ 2,500
2	Paving (Asphalt/Base Rock/Top Course)	49,900	SF	$ 5.00	$ 249,500
3	Septic Tank	1	LS	$ 2,500	$ 2,500
4	Drainfield	1,000	SF	$ 3.50	$ 3,500
5	Domestic Well	200	FT	$ 60.00	$ 12,000
6	Pump	1	LS	$ 2,500	$ 2,500
7	Pump Electrical Connection	1	LS	$ 1,500	$ 1,500
8	Site Utility Lines (Water/Sewer)	740	LF	$ 25.00	$ 18,500
9	Frost-Free Spigots	3	LS	$ 800	$ 2,400
10	Chain Link Fence and Gates	1,610	LF	$ 35	$ 56,350
Structural/Architectural - Building and Wall					
10	District Managers Shop Building				
10a	Building Structure/Footing/Foundation	1150	SF	$ 75.00	$ 86,250
10b	Lean-To	1150	SF	$ 30.00	$ 34,500
10c	Mechanical - Plumbing and Ventilation	1	LS	$ 8,000	$ 8,000
10d	Electrical Systems	1	LS	$ 10,000	$ 10,000
11	Z-Walls - Assume 0.25 cy/LF	45	CY	$ 800	$ 35,600
General Conditions					
12	Bonds, Insurance Premiums, Mobilization, Demobilization, Contract Closeout and OH&P (15%)	1	LS	$ 78,840	$ 78,840
13	Construction Facilities, Temporary Controls, Survey, and Safety (5%)	1	LS	$ 26,280	$ 26,280

CONSTRUCTION SUBTOTAL		**$630,720**
CONTINGENCY[(2)]	20%	$126,144
CONSTRUCTION TOTAL (Rounded)		**$757,000**
A/E DESIGN	12%	$90,840
A/E CM SUPPORT SERVICES (limited CM Support)	4%	$30,280
TAXES (Materials Only)	6.00%	$22,710
TOTAL (Base Cost)		**$901,000**
Low Range (-30%)		**$631,000**
High Range (+50%)		**$1,352,000**

Notes:

(1) This is cost estimate based on concept-level design. This estimate assumes a 1-15% level of design and is considered a Class 4 estimate in accordance with AACE International's classification system (Study of Feasibility) with a typical range of accuracy between -30% to +50%.

10-Year CIP / Bonner County

Dickensheet Site Improvements

Engineer's Opinion of Cost

Prepared For: Bonner County Solid Waste
Prepared By: Duncan Breedlove, EIT
Reviewed by: Stephanie Beckert, PE
Date: April 2019
Project No. 4-17148
Revision No. 0
Approved By: Travis Pyle, PE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Extended Unit Price
Site Civil					
1	Site Clearning and Preparation	1	LS	$ 2,500	$ 2,500
2	Paving (Asphalt/Base Rock/Top Course)	76,700	SF	$ 5.00	$ 383,500
3	Domestic Well	200	FT	$ 60.00	$ 12,000
4	Pump	1	LS	$ 2,500	$ 2,500
5	Pump Electrical Connection	1	LS	$ 1,500	$ 1,500
6	Site Utility Lines (Water)	600	LF	$ 25.00	$ 15,000
7	Frost-Free Spigots	3	LS	$ 2,500	$ 7,500
8	Chain Link Fence and Gates	2,200	LF	$ 35.00	$ 77,000
Structural/Architectural - Wall Replacement/Extension					
9	Z-Walls - Assume 0.25 cy/LF	45	CY	$ 800	$ 35,600
General Conditions					
10	Bonds, Insurance Premiums, Mobilization, Demobilization, Contract Closeout and OH&P (15%)	1	LS	$ 80,565	$ 80,565
11	Construction Facilities, Temporary Controls, Survey, and Safety (5%)	1	LS	$ 26,855	$ 26,855

CONSTRUCTION SUBTOTAL		**$644,520**
CONTINGENCY[2]	20%	$128,904
CONSTRUCTION TOTAL (Rounded)		**$773,000**
A/E DESIGN[3]	12%	$92,760
A/E CM SUPPORT SERVICES (limited CM Support)	4%	$30,920
TAXES (Materials Only)	6.00%	$23,190
TOTAL (Base Cost)		**$920,000**
Low Range (-30%)		**$644,000**
High Range (+50%)		**$1,380,000**

Notes:
(1) This is cost estimate based on concept-level design. This estimate assumes a 1-15% level of design and is considered a Class 4 estimate in accordance with AACE International's classification system (Study of Feasibility) with a typical range of accuracy between -30% to +50%.
(2) Contingency is for scope changes that are presently unforeseen.

10-Year CIP / Bonner County

Dufort Site Improvements

Engineer's Opinion of Cost

Prepared For: Bonner County Solid Waste
Prepared By: Duncan Breedlove, EIT
Reviewed by: Stephanie Beckert, PE
Date: April 2019
Project No. 4-17148
Revision No. 0
Approved By: Travis Pyle, PE

Item No.	Description	Estimated Quantity	Unit	Unit Price	Extended Unit Price
Site Civil					
1	Site Clearing and Preparation	1	LS	$ 2,500	$ 2,500
2	Paving (Asphalt/Base Rock/Top Course)	25,000	SF	$ 5.00	$ 125,000
3	Site Drainage Improvements	1	LS	$ 12,000	$ 12,000
Structural/Architectural					
4	Z-Walls - Assume 0.25cy/LF	50	CY	$ 800	$ 40,000
General Conditions					
5	Demobilization, Contract Closeout and OH&P (15%)	1	LS	$ 26,925	$ 26,925
6	Construction Facilities, Temporary Controls, Survey, and Safety (5%)	1	LS	$ 8,975	$ 8,975

CONSTRUCTION SUBTOTAL		**$215,400**
CONTINGENCY(2)	20%	$43,080
CONSTRUCTION TOTAL (Rounded)		**$258,000**
A/E DESIGN	12%	$30,960
A/E CM SUPPORT SERVICES (limited CM Support)	4%	$10,320
TAXES (Materials Only)	6.00%	$7,740
TOTAL (Base Cost)		**$308,000**
Low Range (-30%)		**$216,000**
High Range (+50%)		**$462,000**

Notes:

(1) This is cost estimate based on concept-level design. This estimate assumes a 1-15% level of design and is considered a Class 4 estimate in accordance with AACE International's classification system (Study of Feasibility) with a typical range of accuracy between -30% to +50%.

(2) Contingency is for scope changes that are presently unforeseen.