

The Management's Discussion and Analysis of Financial Condition and Results of Operations for Waste Connections, Inc. is also included in the Form 10-Q for the period ended September 30, 2019 filed on SEDAR on October 29, 2019 in its entirety. All references to \$ are to U.S. dollars unless otherwise indicated.

Item 2. Management's Discussion and Analysis of Financial Condition and Results of Operations

FORWARD-LOOKING STATEMENTS

Certain statements contained in this Quarterly Report on Form 10-Q are forward-looking in nature, including statements related to our ability and intent to draw on our Credit Agreement or raise additional capital, the responsibilities of our subsidiaries with regard to possible cleanup obligations imposed by the EPA or other regulatory authorities, the impact of global, regional and local economic conditions, including the price of crude oil, on our volume, business and results of operations, the effects of seasonality on our business and results of operations, our ability to address any impacts of inflation on our business, demand for recyclable commodities (including landfill gas reclamation) and recyclable commodity pricing, our expectations with respect to capital expenditures, our expectations with respect to our ability to obtain expansions of permitted landfill capacity and to provide collection services under exclusive arrangements, our expectations with respect to our normal course issuer bid (our share repurchase program) and future dividend payments, our expectations with respect to the outcomes of our legal proceedings, our expectations with respect to the potential financial impairment of our reporting units caused by dispositions of certain operating units, our expectations about new accounting standards, our expectations about potential non-performance by counterparties to our hedge agreements and our expectations with respect to the anticipated benefits of any acquisitions. These statements can be identified by the use of forward-looking terminology such as "believes," "expects," "may," "will," "should" or "anticipates," or the negative thereof or comparable terminology, or by discussions of strategy.

Our business and operations are subject to a variety of risks and uncertainties and, consequently, actual results may differ materially from those projected by any forward-looking statements. Factors that could cause actual results to differ from those projected include, but are not limited to, the following:

- Our results are vulnerable to economic conditions;
- Our industry is highly competitive and includes companies with lower prices, return expectations or other advantages, and governmental service providers, which could adversely affect our ability to compete and our operating results;
- Competition for acquisition candidates, consolidation within the waste industry and economic and market conditions may limit our ability to grow through acquisitions;
- Price increases may not be adequate to offset the impact of increased costs, or may cause us to lose customers;
- We may lose contracts through competitive bidding, early termination or governmental action;
- Our financial and operating performance may be affected by the inability to renew landfill operating permits, obtain new landfills and expand existing ones;
- Lower crude oil prices may adversely affect the level of exploration, development and production activity of E&P companies and the demand for our E&P waste services;
- Increases in labor costs and limitations on labor availability could impact our financial results;
- Increases in capital expenditures could impact our financial results;
- A portion of our growth and future financial performance depends on our ability to integrate acquired businesses, and the success of our acquisitions;
- The seasonal nature of our business and "event-driven" waste projects cause our results to fluctuate;
- Our results will be affected by changes in recycled commodity prices and quantities;

- Our results will be affected by changes in the value of renewable fuels;
- Increases in the price of diesel or compressed natural gas fuel may adversely affect our collection business and reduce our operating margins;
- Our financial results are based upon estimates and assumptions that may differ from actual results;
- Our accruals for our landfill site closure and post-closure costs may be inadequate;
- Increases in insurance costs and the amount that we self-insure for various risks could reduce our operating margins and reported earnings;
- We may be subject in the normal course of business to judicial, administrative or other third-party proceedings that could interrupt or limit our operations, require expensive remediation, result in adverse judgments, settlements or fines and create negative publicity;
- Pending or future litigation or governmental proceedings could result in material adverse consequences, including judgments or settlements;
- Our financial results could be adversely affected by impairments of goodwill, indefinite-lived intangibles or property and equipment;
- Income and other taxes may be uncertain;
- Future changes to U.S., Canadian and foreign income and other tax laws could materially adversely affect us;
- Each business that we acquire or have acquired may have liabilities or risks that we fail or are unable to discover, or that become more adverse to our business than we anticipated at the time of acquisition;
- Our indebtedness could adversely affect our financial condition and limit our financial flexibility;
- We may be unable to obtain performance or surety bonds, letters of credit or other financial assurances or to maintain adequate insurance coverage;
- Our operations in Canada expose us to exchange rate fluctuations that could adversely affect our financial performance and our reported results of operations;
- Alternatives to landfill disposal may cause our revenues and operating results to decline;
- Labor union activity could divert management attention and adversely affect our operating results;
- We could face significant withdrawal liability if we withdraw from participation in one or more multiemployer pension plans in which we participate and the accrued pension benefits are not fully funded;
- We rely on computer systems to run our business and disruptions or privacy breaches in these systems could impact our ability to service our customers and adversely affect our financial results, damage our reputation, and expose us to litigation risk;
- Extensive and evolving environmental, health and safety laws and regulations may restrict our operations and growth and increase our costs;
- Our business is subject to operational and safety risks, including the risk of personal injury to employees and others;

- Future changes in laws regulating the flow of solid waste in interstate commerce could adversely affect our operating results;
- Extensive regulations that govern the design, operation, expansion and closure of landfills may restrict our landfill operations or increase our costs of operating landfills;
- Our E&P waste business could be adversely affected by changes in laws regulating E&P waste;
- Liabilities for environmental damage may adversely affect our financial condition, business and earnings;
- We depend significantly on the services of the members of our senior and regional management team, and the departure of any of those persons could cause our operating results to suffer;
- Our decentralized decision-making structure could allow local managers to make decisions that may adversely affect our operating results; and
- If we are not able to develop and protect intellectual property, or if a competitor develops or obtains exclusive rights to a breakthrough technology, our financial results may suffer.

These risks and uncertainties, as well as others, are discussed in greater detail in this Quarterly Report on Form 10-Q and in other filings with the U.S. Securities and Exchange Commission, or SEC, made by the Company, including its most recent Annual Report on Form 10-K, as well as in the Company's filings during the year with the Canadian Securities Administrators. There may be additional risks of which we are not presently aware or that we currently believe are immaterial which could have an adverse impact on our business. We make no commitment to revise or update any forward-looking statements in order to reflect events or circumstances that may change, except where we are expressly required to do so by law.

OVERVIEW OF OUR BUSINESS

We are an integrated solid waste services company that provides non-hazardous waste collection, transfer, disposal and recycling services in mostly exclusive and secondary markets in the U.S. and Canada. Through our R360 Environmental Solutions subsidiary, we are also a leading provider of non-hazardous exploration and production, or E&P, waste treatment, recovery and disposal services in several of the most active natural resource producing areas in the U.S. We also provide intermodal services for the rail haul movement of cargo and solid waste containers in the Pacific Northwest through a network of intermodal facilities.

We generally seek to avoid highly competitive, large urban markets and instead target markets where we can attain high market share either through exclusive contracts, vertical integration or asset positioning. In markets where waste collection services are provided under exclusive arrangements, or where waste disposal is municipally owned or funded or available at multiple municipal sources, we believe that controlling the waste stream by providing collection services under exclusive arrangements is often more important to our growth and profitability than owning or operating landfills. We also target niche markets, like E&P waste treatment and disposal services.

As of September 30, 2019, we served residential, commercial, industrial and E&P customers in 42 states in the U.S. and six provinces in Canada: Alabama, Alaska, Arizona, Arkansas, California, Colorado, Florida, Georgia, Idaho, Illinois, Iowa, Kansas, Kentucky, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Mississippi, Missouri, Montana, Nebraska, Nevada, New Jersey, New Mexico, New York, North Carolina, North Dakota, Oklahoma, Oregon, Pennsylvania, Rhode Island, South Carolina, South Dakota, Tennessee, Texas, Utah, Vermont, Virginia, Washington, Wisconsin and Wyoming, and the provinces of Alberta, British Columbia, Manitoba, Ontario, Québec and Saskatchewan.

The solid waste industry is local and highly competitive in nature, requiring substantial labor and capital resources. The participants compete for collection accounts primarily on the basis of price and, to a lesser extent, the quality of service, and compete for landfill business on the basis of tipping fees, geographic location and quality of operations. The

solid waste industry has been consolidating and continues to consolidate as a result of a number of factors, including the increasing costs and complexity associated with waste management operations and regulatory compliance. Many small independent operators and municipalities lack the capital resources, management, operating skills and technical expertise necessary to operate effectively in such an environment. The consolidation trend has caused solid waste companies to operate larger landfills that have complementary collection routes that can use company-owned disposal capacity. Controlling the point of transfer from haulers to landfills has become increasingly important as landfills continue to close and disposal capacity moves farther from the collection markets it serves.

Generally, the most profitable operators within the solid waste industry are those companies that are vertically integrated or enter into long-term collection contracts. A vertically integrated operator will benefit from: (1) the internalization of waste, which is bringing waste to a company-owned landfill; (2) the ability to charge third-party haulers tipping fees either at landfills or at transfer stations; and (3) the efficiencies gained by being able to aggregate and process waste at a transfer station prior to landfilling.

The E&P waste services industry is regional in nature and is also highly fragmented, with acquisition opportunities available in several active natural resource basins. Competition for E&P waste comes primarily from smaller regional companies that utilize a variety of disposal methods and generally serve specific geographic markets, and other solid waste companies. In addition, customers in many markets have the option of using internal disposal methods or outsourcing to another third-party disposal company. The principal competitive factors in this business include: gaining customer approval of treatment and disposal facilities; location of facilities in relation to customer activity; reputation; reliability of services; track record of environmental compliance; ability to accept multiple waste types at a single facility; and price. The demand for our E&P waste services depends on the continued demand for, and production of, oil and natural gas. Crude oil and natural gas prices historically have been volatile. If the prices of crude oil and natural gas substantially decline, it could lead to declines in the level of production activity and demand for our E&P waste services, which could result in the recognition of impairment charges on our intangible assets and property and equipment associated with our E&P operations.

CRITICAL ACCOUNTING ESTIMATES AND ASSUMPTIONS

The preparation of financial statements in conformity with U.S. generally accepted accounting principles, or GAAP, requires estimates and assumptions that affect the reported amounts of assets and liabilities, revenues and expenses and related disclosures of contingent assets and liabilities in the condensed consolidated financial statements. As described by the SEC, critical accounting estimates and assumptions are those that may be material due to the levels of subjectivity and judgment necessary to account for highly uncertain matters or the susceptibility of such matters to change, and that have a material impact on the financial condition or operating performance of a company. Such critical accounting estimates and assumptions are applicable to our reportable segments. Refer to our most recent Annual Report on Form 10-K for a complete description of our critical accounting estimates and assumptions.

NEW ACCOUNTING PRONOUNCEMENTS

For a description of the new accounting standards that affect us, see Note 3 to our Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q.

RESULTS OF OPERATIONS FOR THE THREE AND NINE MONTHS ENDED SEPTEMBER 30, 2019 AND 2018

The following table sets forth items in our Condensed Consolidated Statements of Net Income in thousands of U.S. dollars and as a percentage of revenues for the periods indicated.

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2019		2018		2019		2018	
Revenues	\$ 1,412,444	100.0 %	\$ 1,281,110	100.0 %	\$ 4,026,719	100.0 %	\$ 3,661,209	100.0 %
Cost of operations	835,098	59.1	736,122	57.5	2,384,607	59.2	2,120,947	57.9
Selling, general and administrative	137,883	9.8	139,014	10.8	410,132	10.2	398,582	10.9
Depreciation	157,994	11.2	148,232	11.6	461,616	11.5	423,866	11.6
Amortization of intangibles	31,934	2.2	26,871	2.1	93,821	2.3	79,444	2.2
Impairments and other operating items	12,935	0.9	(1,998)	(0.2)	32,949	0.8	6,106	0.1
Operating income	236,600	16.8	232,869	18.2	643,594	16.0	632,264	17.3
Interest expense	(36,780)	(2.6)	(32,078)	(2.5)	(111,313)	(2.8)	(96,874)	(2.7)
Interest income	2,056	0.1	1,467	0.1	7,186	0.2	3,677	0.1
Other income (expense), net	(19)	(0.0)	600	0.0	4,562	0.1	2,053	0.1
Income tax provision	(42,783)	(3.0)	(52,092)	(4.0)	(110,539)	(2.7)	(126,509)	(3.5)
Net income	159,074	11.3	150,766	11.8	433,490	10.8	414,611	11.3
Net loss (income) attributable to noncontrolling interests	35	0.0	77	0.0	89	0.0	(218)	(0.0)
Net income attributable to Waste Connections	\$ 159,109	11.3 %	\$ 150,843	11.8 %	\$ 433,579	10.8 %	\$ 414,393	11.3 %

Revenues. Total revenues increased \$131.3 million, or 10.3%, to \$1.412 billion for the three months ended September 30, 2019, from \$1.281 billion for the three months ended September 30, 2018. Total revenues increased \$365.5 million, or 10.0%, to \$4.027 billion for the nine months ended September 30, 2019, from \$3.661 billion for the nine months ended September 30, 2018.

During the three months ended September 30, 2019, incremental revenue from acquisitions closed during, or subsequent to, the three months ended September 30, 2018, increased revenues by approximately \$82.8 million. During the nine months ended September 30, 2019, incremental revenue from acquisitions closed during, or subsequent to, the nine months ended September 30, 2018, increased revenues by approximately \$242.2 million.

Operations that were divested subsequent to September 30, 2018 decreased revenues by approximately \$5.8 million and \$18.8 million, respectively, for the three and nine months ended September 30, 2019.

During the three months ended September 30, 2019, the net increase in prices charged to our customers at our existing operations was \$61.1 million, consisting of \$60.1 million of core price increases and \$1.0 million from surcharges. During the nine months ended September 30, 2019, the net increase in prices charged to our customers at our existing operations was \$174.5 million, consisting of \$168.4 million of core price increases and \$6.1 million from surcharges.

During the three months ended September 30, 2019, volume increases in our existing business increased solid waste revenues by \$10.3 million due primarily to increased collection and landfill volumes in our Western segment and increased roll off and landfill special waste in our Central segment exceeding declines in transfer station volumes in our Eastern segment's New York City market due to reduced inbound waste from the New York Department of Sanitation and reduced landfill municipal solid waste in our Eastern and Southern segments. During the nine months ended

September 30, 2019, volume increases in our existing business increased solid waste revenues by \$7.0 million due primarily to increased collection and landfill volumes in our Western segment, increased landfill volumes in our Eastern segment and increased roll off collection and landfill special waste in our Central segment exceeding declines in transfer station volumes in our Eastern segment's New York City market, reduced landfill municipal solid waste in our Eastern, Central and Southern segments and reduced residential collection in our Southern and Canada segments.

E&P revenues at facilities owned and fully-operated during the three and nine months ended September 30, 2019 and 2018 increased by \$1.4 million and \$12.5 million, respectively, due to increased drilling activity and E&P disposal volumes at the majority of basins we operate.

A decrease in the average Canadian dollar to U.S. dollar currency exchange rate resulted in a decrease in revenues of \$1.9 million and \$16.6 million, respectively, for the three and nine months ended September 30, 2019. The average Canadian dollar to U.S. dollar exchange rates on our Canadian revenues were 0.7573 and 0.7651 in the three months ended September 30, 2019 and 2018, respectively. The average Canadian dollar to U.S. dollar exchange rates on our Canadian revenues were 0.7524 and 0.7761 in the nine months ended September 30, 2019 and 2018, respectively.

Revenues from sales of recyclable commodities at facilities owned during the three and nine months ended September 30, 2019 and 2018 decreased \$9.5 million and \$21.9 million, respectively, due primarily to decreased prices for old corrugated cardboard and other fiber products resulting from a reduction in overseas demand.

Other revenues decreased by \$7.1 million during the three months ended September 30, 2019, due primarily to reduced demand causing a reduction in the prices for renewal energy credits associated with the generation of landfill gas primarily at our Canada segment. Other revenues decreased by \$13.4 million during the nine months ended September 30, 2019, due primarily to a decrease in intermodal revenues resulting from customer losses causing a reduction in cargo volume and reduced demand causing a reduction in the prices for renewal energy credits associated with the generation of landfill gas primarily at our Canada segment.

Cost of Operations. Total cost of operations increased \$99.0 million, or 13.4%, to \$835.1 million for the three months ended September 30, 2019, from \$736.1 million for the three months ended September 30, 2018. The increase was primarily the result of \$57.6 million of operating costs from acquisitions closed during, or subsequent to, the three months ended September 30, 2018 and an increase in operating costs at our existing operations of \$47.5 million, assuming foreign currency parity, partially offset by a decrease in operating costs of \$5.1 million at operations divested during, or subsequent to, the three months ended September 30, 2018 and a decrease of \$1.0 million resulting from a decrease in the average foreign currency exchange rate in effect during the comparable reporting periods.

The increase in operating costs at our existing operations of \$47.5 million for the three months ended September 30, 2019, assuming foreign currency parity, was comprised of an increase in labor expenses of \$16.2 million due primarily to employee pay rate increases, an increase in truck, container, equipment and facility maintenance and repair expenses of \$8.6 million due to parts and service rate increases and variability impacting the timing of major repairs, an increase in third-party trucking and transportation expenses of \$4.5 million due primarily to outsourcing transportation services to third party operators at certain locations and increased rates charged by third parties to provide trucking and transportation services, an increase of \$4.5 million resulting from higher costs per ton charged by third party processors of recyclable commodities, a \$2.9 million increase in expenses for auto and workers' compensation claims due primarily to higher adjustments recorded in the prior year period to decrease projected losses on outstanding claims, an increase in 401(k) matching expenses of \$2.6 million due to our increasing the maximum matching contribution rate to our employees and higher credits recorded in the prior year period resulting from employee forfeitures, an increase in third party disposal expenses of \$2.3 million due primarily to disposal rate increases exceeding the benefits of improved internalization of waste collected in our Southern and Eastern segments, an increase in taxes on revenues of \$2.1 million due primarily to increased revenues in our solid waste markets, an increase in leachate disposal expenses of \$1.5 million due to increased precipitation from harsh weather generating higher leachate volumes primarily in our Eastern and Southern segments as well as higher costs per gallon for leachate treatment, an increase in subcontracted operating expenses of \$1.5 million due primarily to subcontracting certain operating activities at our E&P segment and an increase in equipment and facility rental expenses of \$1.1 million due primarily to increased truck rental expenses in our Southern segment and the adoption on January 1, 2019 of new accounting standards associated with leases, partially offset by \$0.3 million of other net expense decreases.

Total cost of operations increased \$263.7 million, or 12.4%, to \$2.385 billion for the nine months ended September 30, 2019, from \$2.121 billion for the nine months ended September 30, 2018. The increase was primarily the result of \$159.9 million of operating costs from acquisitions closed during, or subsequent to, the nine months ended September 30, 2018 and an increase in operating costs at our existing operations of \$129.0 million, assuming foreign currency parity, partially offset by a decrease in operating costs of \$16.1 million at operations divested during, or subsequent to, the nine months ended September 30, 2018 and a decrease of \$9.1 million resulting from a decrease in the average foreign currency exchange rate in effect during the comparable reporting periods.

The increase in operating costs at our existing operations of \$129.0 million for the nine months ended September 30, 2019, assuming foreign currency parity, was comprised of an increase in labor expenses of \$37.3 million due primarily to employee pay rate increases, an increase in truck, container, equipment and facility maintenance and repair expenses of \$23.7 million due to parts and service rate increases and variability impacting the timing of major repairs, an increase in third-party trucking and transportation expenses of \$18.1 million due primarily to outsourcing transportation services to third party operators at certain locations and increased rates charged by third parties to provide trucking and transportation services, an increase of \$9.8 million resulting from higher costs per ton charged by third party processors of recyclable commodities, an increase in 401(k) matching expenses of \$6.3 million due to our increasing the maximum matching contribution rate to our employees and higher credits recorded in the prior year period resulting from employee forfeitures, an increase in leachate disposal expenses of \$6.0 million due to increased precipitation from harsh weather generating higher leachate volumes primarily in our Eastern and Southern segments as well as higher costs per gallon for leachate treatment, an increase in taxes on revenues of \$5.3 million due primarily to increased revenues in our solid waste markets, an increase in subcontracted operating expenses of \$3.7 million due primarily to subcontracting certain operating activities at our E&P segment, an increase in diesel fuel expense of \$3.5 million due primarily to the prior year period benefiting from purchasing a portion of our diesel fuel needs under a favorable fuel hedge agreement that expired in December 2018, an increase in compressed natural gas expense of \$3.3 million due primarily to a non-recurring reduction in expense during the prior year period resulting from recording retroactive tax credits associated with purchases of compressed natural gas fuel, an increase in equipment and facility rental expenses of \$2.8 million due primarily to increased truck rental expenses in our Southern segment and the adoption on January 1, 2019 of new accounting standards associated with leases, an increase in insurance premiums for our auto and workers' compensation policies of \$2.2 million due primarily to our growth from acquisitions and a non-recurring reduction in expense during the prior year period in our Canada segment resulting from an annual workers' compensation premium audit, an increase in third party disposal expenses of \$2.0 million due primarily to disposal rate increases exceeding the benefits of improved internalization of waste collected in our Southern and Eastern segments and \$8.4 million of other net expense increases, partially offset by a \$3.4 million decrease in intermodal expenses resulting from a decrease in intermodal cargo volume due to customer losses.

Cost of operations as a percentage of revenues increased 1.6 percentage points to 59.1% for the three months ended September 30, 2019, from 57.5% for the three months ended September 30, 2018. The increase as a percentage of revenues consisted of a 0.6 percentage point increase from the net impact of cost of operations expenses from acquisitions closed during, or subsequent to, the three months ended September 30, 2018, a 0.4 percentage point increase from higher labor expenses, a 0.3 percentage point increase from higher maintenance and repair expenses and a 0.3 percentage point increase from an increase in recyclable commodities processing expenses at third party locations.

Cost of operations as a percentage of revenues increased 1.3 percentage points to 59.2% for the nine months ended September 30, 2019, from 57.9% for the nine months ended September 30, 2018. The increase as a percentage of revenues consisted of a 0.5 percentage point increase from the net impact of cost of operations expenses from acquisitions closed during, or subsequent to, the nine months ended September 30, 2018, a 0.3 percentage point increase from higher maintenance and repair expenses, a 0.2 percentage point increase from higher third-party trucking and transportation expenses, a 0.2 percentage point increase from higher labor expenses, a 0.2 percentage point increase from higher 401(k) matching expenses and a 0.2 percentage point increase from an increase in recyclable commodities processing expenses, partially offset by a 0.3 percentage point decrease from improved internalization of collected waste volumes disposed at third party locations.

SG&A. SG&A expenses decreased \$1.1 million, or 0.8%, to \$137.9 million for the three months ended September 30, 2019, from \$139.0 million for the three months ended September 30, 2018. The decrease was comprised of a

decrease of \$7.3 million in SG&A expenses at our existing operations, assuming foreign currency parity, a decrease of \$0.4 million consisting of SG&A expenses from operations divested during, or subsequent to, the three months ended September 30, 2018 and a decrease of \$0.2 million resulting from a decrease in the average foreign currency exchange rate in effect during the comparable reporting periods, partially offset by \$6.8 million of additional SG&A expenses from operating locations at acquisitions closed during, or subsequent to, the three months ended September 30, 2018.

The decrease in SG&A expenses at our existing operations, assuming foreign currency parity, of \$7.3 million for the three months ended September 30, 2019 was comprised of a decrease of \$5.0 million in equity-based compensation expenses associated with adjusting common shares of Waste Connections, Inc. held in our deferred compensation plan by certain key executives to fair value as a result of the shares being exchanged for other investment options, a further decrease in equity-based compensation expenses of \$2.5 million for equity awards accounted for as liabilities that were granted to employees of Progressive Waste prior to June 1, 2016 which are subject to valuation adjustments each period based on changes in fair value, a decrease of \$3.0 million in professional fees expense resulting primarily from reduced legal expenses resulting from the settlement of certain legal matters subsequent to September 30, 2018 and a decrease of \$1.8 million in expenses for uncollectible accounts receivable resulting primarily from adjustments to prior period reserve estimates at our E&P segment, partially offset by an increase in payroll expenses \$1.8 million as a result of increased headcount and annual pay increases, an increase in 401(k) matching expenses of \$1.0 million due to our increasing the maximum matching contribution rate to our employees, an increase in direct acquisition expenses of \$0.7 million due to higher acquisition activity, an increase in management training expenses of \$0.8 million due to an expansion of our management training curriculum and an increase in equity-based compensation expenses of \$0.7 million associated with our annual recurring grant of restricted share units to our personnel.

SG&A expenses increased \$11.5 million, or 2.9%, to \$410.1 million for the nine months ended September 30, 2019, from \$398.6 million for the nine months ended September 30, 2018. The increase was comprised of \$19.6 million of additional SG&A expenses from operating locations at acquisitions closed during, or subsequent to, the nine months ended September 30, 2018, partially offset by a decrease of \$5.2 million in SG&A expenses at our existing operations, assuming foreign currency parity, a decrease of \$1.7 million resulting from a decrease in the average foreign currency exchange rate in effect during the comparable reporting periods and a decrease of \$1.2 million consisting of SG&A expenses from operations divested during, or subsequent to, the nine months ended September 30, 2018.

The decrease in SG&A expenses at our existing operations of \$5.2 million, assuming foreign currency parity, for the nine months ended September 30, 2019 was comprised of a decrease in professional fees expense of \$11.4 million resulting primarily from reduced legal expenses resulting from the settlement of certain legal matters subsequent to September 30, 2018, a decrease of \$5.0 million in equity-based compensation expenses associated with adjusting common shares of Waste Connections, Inc. held in our deferred compensation plan by certain key executives to fair value as a result of the shares being exchanged for other investment options, a further decrease in equity-based compensation expenses of \$1.4 million associated with equity awards accounted for as liabilities that were granted to employees of Progressive Waste prior to June 1, 2016 which are subject to valuation adjustments each period based on changes in fair value, a decrease of \$3.1 million in expenses for uncollectible accounts receivable resulting primarily from improved collection results in our solid waste segments and adjustments to prior period reserve estimates at our E&P segment and a decrease in integration-related expenses of \$2.8 million incurred in the prior year period resulting from the acquisition of Progressive Waste, partially offset by an increase in equity-based compensation expenses of \$6.7 million associated with our annual recurring grant of restricted share units to our personnel, an increase in direct acquisition expenses of \$3.2 million due to higher acquisition activity, an increase in 401(k) matching expenses of \$2.1 million due to our increasing the maximum matching contribution rate to our employees, an increase in deferred compensation expenses of \$2.0 million as a result of increases in the market value of investments to which employee deferred compensation liability balances are tracked, an increase in accrued recurring cash incentive compensation expense to our management of \$1.9 million, an increase in management training expenses of \$1.4 million due to an expansion of our management training curriculum and \$1.2 million of other net expense increases.

SG&A expenses as a percentage of revenues decreased 1.0 percentage points to 9.8% for the three months ended September 30, 2019, from 10.8% for the three months ended September 30, 2018. The decrease as a percentage of revenues consisted of a 0.4 percentage point decrease from lower equity-based compensation expenses associated with the exchange of shares held in our deferred compensation plan, a 0.3 percentage point decrease from lower legal

expenses, a 0.2 percentage point decrease from lower equity-based compensation expenses for equity awards accounted for as liabilities and a 0.1 percentage point decrease from a reduction in expenses for uncollectible accounts receivable.

SG&A expenses as a percentage of revenues decreased 0.7 percentage points to 10.2% for the nine months ended September 30, 2019, from 10.9% for the nine months ended September 30, 2018. The decrease as a percentage of revenues consisted of a 0.4 percentage point decrease from lower legal expenses, a combined 0.2 percentage point decrease from lower equity-based compensation expenses associated with the exchange of shares held in our deferred compensation plan and equity awards accounted for as liabilities, a 0.1 percentage point decrease from lower expenses for uncollectible accounts receivable, a 0.1 percentage point decrease from integration-related expenses resulting from the acquisition of Progressive Waste and a 0.1 percentage point decrease from all other changes, partially offset by a 0.2 percentage point increase from increased equity-based compensation expenses associated with our annual recurring grant of restricted share units to our personnel.

Depreciation. Depreciation expense increased \$9.8 million, or 6.6%, to \$158.0 million for the three months ended September 30, 2019, from \$148.2 million for the three months ended September 30, 2018. The increase was comprised of depreciation and depletion expense of \$6.8 million from acquisitions closed during, or subsequent to, the three months ended September 30, 2018 and additional depletion expense of \$4.7 million at our existing landfills due primarily to higher E&P and municipal solid waste volumes, partially offset by a decrease in depreciation expense at our existing operations of \$1.4 million due primarily to the impact of certain equipment acquired from the acquisition of Progressive Waste becoming fully depreciated subsequent to September 30, 2018 exceeding the impact of additions to our fleet and equipment purchased to support our existing operations and a decrease of \$0.3 million resulting from a decrease in the average foreign currency exchange rate in effect during the comparable reporting periods.

Depreciation expense increased \$37.7 million, or 8.9%, to \$461.6 million for the nine months ended September 30, 2019, from \$423.9 million for the nine months ended September 30, 2018. The increase was comprised of depreciation and depletion expense of \$18.0 million from acquisitions closed during, or subsequent to, the nine months ended September 30, 2018, an increase in depletion expense of \$13.8 million at our existing landfills due primarily to higher E&P and municipal solid waste volumes and additional depreciation expense of \$8.1 million associated with additions to our fleet and equipment purchased to support our existing operations exceeding the impact of certain equipment acquired from the acquisition of Progressive Waste becoming fully depreciated subsequent to September 30, 2018, partially offset by a decrease of \$2.2 million resulting from a decrease in the average foreign currency exchange rate in effect during the comparable reporting periods.

Depreciation expense as a percentage of revenues decreased 0.4 percentage points to 11.2% for the three months ended September 30, 2019, from 11.6% for the three months ended September 30, 2018. Depreciation expense as a percentage of revenues decreased 0.1 percentage points to 11.5% for the nine months ended September 30, 2019, from 11.6% for the nine months ended September 30, 2018. The decrease as a percentage of revenues for both periods was attributable to certain equipment acquired from the acquisition of Progressive Waste becoming fully depreciated subsequent to September 30, 2018.

Amortization of Intangibles. Amortization of intangibles expense increased \$5.0 million, or 18.8% to \$31.9 million for the three months ended September 30, 2019, from \$26.9 million for the three months ended September 30, 2018. The increase was the result of \$7.9 million from intangible assets acquired in acquisitions closed during, or subsequent to, the three months ended September 30, 2018, partially offset by a decrease of \$2.9 million from certain intangible assets becoming fully amortized subsequent to September 30, 2018.

Amortization of intangibles expense increased \$14.4 million, or 18.1% to \$93.8 million for the nine months ended September 30, 2019, from \$79.4 million for the nine months ended September 30, 2018. The increase was the result of \$23.0 million from intangible assets acquired in acquisitions closed during, or subsequent to, the nine months ended September 30, 2018, partially offset by a decrease of \$7.9 million from certain intangible assets becoming fully amortized subsequent to September 30, 2018 and a decrease of \$0.7 million resulting from a decrease in the average foreign currency exchange rate in effect during the comparable reporting periods.

Amortization expense as a percentage of revenues increased 0.1 percentage points to 2.2% for the three months ended September 30, 2019, from 2.1% for the three months ended September 30, 2018. Amortization expense as a

percentage of revenues increased 0.1 percentage points to 2.3% for the nine months ended September 30, 2019, from 2.2% for the nine months ended September 30, 2018. The increases as a percentage of revenues were due primarily to the impact of amortization expense associated with acquisitions closed during, or subsequent to, the three and nine months ended September 30, 2018.

Impairments and Other Operating Items. Impairments and other operating items increased \$14.9 million, to net losses totaling \$12.9 million for the three months ended September 30, 2019, from net gains totaling \$2.0 million for the three months ended September 30, 2018.

The net losses of \$12.9 million recorded during the three months ended September 30, 2019 consisted of \$8.0 million resulting from the abandonment of a landfill development project at our E&P segment, \$3.5 million of losses on property and equipment that were disposed of through sales or as a result of being damaged in operations, \$1.2 million of charges to terminate or write off the carrying cost of certain contracts that were not, or are not expected to be, renewed prior to their original estimated termination date and \$0.2 million of other net charges.

The net gains of \$2.0 million recorded during the three months ended September 30, 2018 consisted of the reversal of \$6.3 million of expenses recognized in prior periods to adjust the carrying cost of assets held for disposal to fair market value due to modifications to our divestiture plan and changes in the fair market value of the divested operations, partially offset by \$2.0 million of losses on trucks and equipment that were scrapped, disposed of through sales or disposed of as a result of being damaged in operations, \$0.7 million of charges to write off the carrying cost of certain contracts that were not renewed prior to their original estimated termination date and \$1.6 million of other net charges.

Impairments and other operating items increased \$26.8 million, to net losses totaling \$32.9 million for the nine months ended September 30, 2019, from net losses totaling \$6.1 million for the nine months ended September 30, 2018.

The net losses of \$32.9 million recorded during the nine months ended September 30, 2019 consisted of \$14.3 million of charges to terminate or write off the carrying cost of certain contracts that were not, or are not expected to be, renewed prior to their original estimated termination date, \$8.0 million resulting from the abandonment of a landfill development project at our E&P segment, \$7.7 million of losses on property and equipment that were disposed of through sales or as a result of being damaged in operations, \$1.7 million of expenses associated with the settlement of various litigation claims and a \$1.5 million expense charge to increase the fair value of amounts payable under liability-classified contingent consideration arrangements from acquisitions closed in periods prior to 2018, partially offset by \$0.3 million of other gains.

The net losses of \$6.1 million recorded during the nine months ended September 30, 2018 consisted of \$7.7 million of losses on trucks and equipment that were scrapped, disposed of through sales or disposed of as a result of being damaged in operations, \$2.1 million of charges to write off the carrying cost of certain contracts that were not expected to be renewed prior to their original estimated termination date and \$2.6 million of other net charges, partially offset by the reversal of \$6.3 million of expenses recognized in prior periods to adjust the carrying cost of assets held for disposal to fair market value due to modifications to our divestiture plan and changes in the fair market value of the divested operations.

Operating Income. Operating income increased \$3.7 million, or 1.6%, to \$236.6 million for the three months ended September 30, 2019, from \$232.9 million for the three months ended September 30, 2018. The increase was primarily attributable to operating income generated from acquisitions and price-led growth in our existing solid waste business, partially offset by an increase in impairments and other operating charges.

Operating income increased \$11.3 million, or 1.8%, to \$643.6 million for the nine months ended September 30, 2019, from \$632.3 million for the nine months ended September 30, 2018. The increase was primarily attributable to operating income generated from acquisitions, price-led growth in our existing solid waste business and gross margins recognized on E&P volume growth, partially offset by an increase in impairments and other operating charges.

Operating income as a percentage of revenues decreased 1.4 percentage points to 16.8% for the three months ended September 30, 2019, from 18.2% for the three months ended September 30, 2018. The decrease as a percentage of

revenues was comprised of a 1.6 percentage point increase in cost of operations, a 1.1 percentage point increase in impairments and other operating items and a 0.1 percentage point increase in amortization expense, partially offset by a 1.0 percentage point decrease in SG&A expense and a 0.4 percentage point decrease in depreciation expense.

Operating income as a percentage of revenues decreased 1.3 percentage points to 16.0% for the nine months ended September 30, 2019, from 17.3% for the nine months ended September 30, 2018. The decrease as a percentage of revenues was comprised of a 1.3 percentage point increase in cost of operations, a 0.7 percentage point increase in impairments and other operating items and a 0.1 percentage point increase in amortization expense, partially offset by a 0.7 percentage point decrease in SG&A expense and a 0.1 percentage point decrease in depreciation expense.

Interest Expense. Interest expense increased \$4.7 million, or 14.7%, to \$36.8 million for the three months ended September 30, 2019, from \$32.1 million for the three months ended September 30, 2018. The increase was primarily attributable to an increase of \$5.3 million from the November 2018 issuance of our 2028 Senior Notes, an increase of \$4.4 million from the April 2019 issuance of our 2029 Senior Notes, an increase of \$0.5 million due to higher interest rates on outstanding borrowings under our Credit Agreement and \$0.1 million of other net increases, partially offset by a decrease of \$5.6 million due to a decrease in the average borrowings outstanding under our Credit Agreement.

Interest expense increased \$14.4 million, or 14.9%, to \$111.3 million for the nine months ended September 30, 2019, from \$96.9 million for the nine months ended September 30, 2018. The increase was primarily attributable to an increase of \$15.9 million from the November 2018 issuance of our 2028 Senior Notes, an increase of \$8.0 million from the April 2019 issuance of our 2029 Senior Notes and an increase of \$2.3 million due to higher interest rates on outstanding borrowings under our Credit Agreement, partially offset by a decrease of \$10.7 million due to a decrease in the average borrowings outstanding under our Credit Agreement, a decrease of \$0.5 million from the redemption of our 2018 Senior Notes using proceeds from our Credit Agreement and \$0.6 million of other net decreases.

Interest Income. Interest income increased \$0.6 million, to \$2.1 million for the three months ended September 30, 2019, from \$1.5 million for the three months ended September 30, 2018. Interest income increased \$3.5 million, to \$7.2 million for the nine months ended September 30, 2019, from \$3.7 million for the nine months ended September 30, 2018. The increases were primarily attributable to higher reinvestment rates in the current period and higher average cash balances.

Other Income. Other income decreased \$0.6 million, to \$0 for the three months ended September 30, 2019, from \$0.6 million for the three months ended September 30, 2018. The decrease was due primarily to a decrease in income earned on investments purchased to fund our employee deferred compensation obligations.

Other income increased \$2.5 million, to \$4.6 million for the nine months ended September 30, 2019, from \$2.1 million for the nine months ended September 30, 2018. The increase was due primarily to a \$2.2 million increase in income earned on investments purchased to fund our employee deferred compensation obligations and a \$1.1 million increase in foreign currency transaction gains, partially offset by a \$0.8 million decrease in other net income sources.

Income Tax Provision. Income taxes decreased \$9.3 million, or 17.9%, to \$42.8 million for the three months ended September 30, 2019, from \$52.1 million for the three months ended September 30, 2018. Our effective tax rate for the three months ended September 30, 2019 was 21.2%. Our effective tax rate for the three months ended September 30, 2018 was 25.7%. Income taxes decreased \$16.0 million, or 12.6%, to \$110.5 million for the nine months ended September 30, 2019, from \$126.5 million for the nine months ended September 30, 2018. Our effective tax rate for the nine months ended September 30, 2019 was 20.3%. Our effective tax rate for the nine months ended September 30, 2018 was 23.4%.

The income tax provision for the three and nine months ended September 30, 2019 included a \$3.8 million expense primarily associated with a reduction in deferred income tax assets related to compensation of executive officers no longer deemed deductible for tax purposes. Additionally, the income tax provision for the three and nine months ended September 30, 2019 included a benefit of \$0.1 million and \$5.4 million, respectively, from share-based payment awards being recognized in the income statement when settled, as well as a portion of our internal financing being taxed at effective rates substantially lower than the U.S. federal statutory rate.

The income tax provision for the three and nine months ended September 30, 2018 included a \$6.6 million expense primarily associated with refinements to the estimates, as provided by Staff Accounting Bulletin No. 118, of the impact of a portion of our U.S. earnings no longer deemed to be permanently reinvested in conjunction with the Tax Cuts and Jobs Act, or the Tax Act. The income tax provision for the nine months ended September 30, 2018 included a \$5.6 million expense associated with the restructuring of our internal refinancing in conjunction with the Tax Act, as well as a \$3.1 million benefit related to a reduction in our deferred income tax liabilities resulting from state legislation enacted in the current year and changes in our geographical apportionment due to acquisition activity. Additionally, the income tax provision for the three and nine months ended September 30, 2018 included a benefit of \$0.1 million and \$4.9 million, respectively, from share-based payment awards being recognized in the income statement when settled and a portion of our internal financing is taxed at effective rates substantially lower than the U.S. federal statutory rate.

SEGMENT RESULTS

General

No single contract or customer accounted for more than 10% of our total revenues at the consolidated or reportable segment level during the periods presented. The following table disaggregates our revenue by service line for the periods indicated (dollars in thousands of U.S. dollars).

	<u>Three Months Ended September 30,</u>		<u>Nine Months Ended September 30,</u>	
	<u>2019</u>	<u>2018</u>	<u>2019</u>	<u>2018</u>
Commercial	\$ 408,415	\$ 369,543	\$ 1,186,565	\$ 1,080,261
Residential	355,574	300,026	1,024,105	881,927
Industrial and construction roll off	226,801	202,130	629,597	573,877
Total collection	990,790	871,699	2,840,267	2,536,065
Landfill	310,633	285,945	852,073	790,056
Transfer	209,585	187,961	575,337	495,317
Recycling	14,142	23,371	50,676	69,559
E&P	70,874	68,049	205,743	189,071
Intermodal and other	26,520	34,261	90,491	105,588
Intercompany	(210,100)	(190,176)	(587,868)	(524,447)
Total	\$ 1,412,444	\$ 1,281,110	\$ 4,026,719	\$ 3,661,209

Our Chief Operating Decision Maker evaluates operating segment profitability and determines resource allocations based on several factors, of which the primary financial measure is segment EBITDA. We define segment EBITDA as earnings before interest, taxes, depreciation, amortization, impairments and other operating items and other income (expense). Segment EBITDA is not a measure of operating income, operating performance or liquidity under GAAP and may not be comparable to similarly titled measures reported by other companies. Our management uses segment EBITDA in the evaluation of segment operating performance as it is a profit measure that is generally within the control of the operating segments.

We manage our operations through five geographic operating segments and our E&P segment, which includes the majority of our E&P waste treatment and disposal operations. Our five geographic operating segments and our E&P segment comprise our reportable segments. Each operating segment is responsible for managing several vertically integrated operations, which are comprised of districts. In the first quarter of 2019, we moved two districts from our Eastern segment to our Central segment because their location was closer in proximity to operations in our Central segment. The segment information presented herein reflects the realignment of these districts.

At September 30, 2019, under the current orientation, our Eastern segment services customers located in northern Illinois, Kentucky, Maryland, Massachusetts, New Jersey, New York, North Carolina, Pennsylvania, Rhode Island, South Carolina, eastern Tennessee, Vermont, Virginia and Wisconsin; our Southern segment services customers located in Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, southern Oklahoma, western Tennessee and Texas; our Western segment services customers located in Alaska, California, Idaho, Montana, Nevada, Oregon, Washington and western Wyoming; our Central segment services customers located in Arizona, Colorado, southern Illinois, Iowa, Kansas, Minnesota, Missouri, Nebraska, New Mexico, Oklahoma, South Dakota, western Texas, Utah and eastern

Wyoming; and our Canada segment services customers located in the state of Michigan and in the provinces of Alberta, British Columbia, Manitoba, Ontario, Québec and Saskatchewan. The E&P segment services E&P customers located in Arkansas, Louisiana, New Mexico, North Dakota, Oklahoma, Texas, Wyoming and along the Gulf of Mexico.

Revenues, net of intercompany eliminations, for our reportable segments are shown in the following table in thousands of U.S. dollars and as a percentage of total revenues for the periods indicated:

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2019		2018		2019		2018	
Eastern	\$ 330,887	23.4 %	\$ 284,865	22.2 %	\$ 947,334	23.5 %	\$ 788,912	21.5 %
Southern	305,188	21.6	283,040	22.1	890,532	22.1	839,489	22.9
Western	289,208	20.5	271,018	21.2	821,185	20.4	779,880	21.3
Central	230,074	16.3	189,903	14.8	626,312	15.6	527,486	14.4
Canada	190,820	13.5	187,054	14.6	547,694	13.6	543,867	14.9
E&P	66,267	4.7	65,230	5.1	193,662	4.8	181,575	5.0
	<u>\$ 1,412,444</u>	<u>100.0 %</u>	<u>\$ 1,281,110</u>	<u>100.0 %</u>	<u>\$ 4,026,719</u>	<u>100.0 %</u>	<u>\$ 3,661,209</u>	<u>100.0 %</u>

Segment EBITDA for our reportable segments is shown in the following table in thousands of U.S. dollars and as a percentage of segment revenues for the periods indicated:

	Three Months Ended September 30,				Nine Months Ended September 30,			
	2019		2018		2019		2018	
Western	\$ 90,059	31.1 %	\$ 86,174	31.8 %	\$ 253,504	30.9 %	\$ 240,006	30.8 %
Eastern	88,101	26.6 %	82,733	29.0 %	250,106	26.4 %	222,772	28.2 %
Southern	77,406	25.4 %	70,159	24.8 %	226,294	25.4 %	207,853	24.8 %
Central	81,746	35.5 %	71,276	37.5 %	219,280	35.0 %	195,018	37.0 %
Canada	66,794	35.0 %	68,819	36.8 %	193,702	35.4 %	195,390	35.9 %
E&P	35,803	54.0 %	35,099	53.8 %	100,845	52.1 %	95,009	52.3 %
Corporate ^(a)	(446)	—	(8,286)	—	(11,751)	—	(14,368)	—
	<u>\$ 439,463</u>	<u>31.1 %</u>	<u>\$ 405,974</u>	<u>31.7 %</u>	<u>\$ 1,231,980</u>	<u>30.6 %</u>	<u>\$ 1,141,680</u>	<u>31.2 %</u>

(a) Corporate functions include accounting, legal, tax, treasury, information technology, risk management, human resources, training and other administrative functions. Amounts reflected are net of allocations to the six operating segments.

A reconciliation of segment EBITDA to Income before income tax provision is included in Note 11 to our Condensed Consolidated Financial Statements included in Part 1, Item 1 of this report.

Significant changes in revenue and segment EBITDA for our reportable segments for the three and nine month periods ended September 30, 2019, compared to the three and nine month periods ended September 30, 2018, are discussed below:

Segment Revenue

Revenue in our Eastern segment increased \$46.0 million, or 16.2%, to \$330.9 million for the three months ended September 30, 2019, from \$284.9 million for the three months ended September 30, 2018. The components of the increase consisted of net revenue growth from acquisitions closed during, or subsequent to, the three months ended September 30, 2018, of \$38.8 million and net price increases of \$14.9 million, partially offset by solid waste volume decreases of \$3.2 million attributable primarily to declines in transfer station volumes in our New York City market and reduced landfill municipal solid waste, decreased recyclable commodity sales of \$4.3 million resulting from the impact of declines in prices for old corrugated cardboard and other fiber products and other revenue decreases of \$0.2 million.

Revenue in our Eastern segment increased \$158.4 million, or 20.1%, to \$947.3 million for the nine months ended September 30, 2019, from \$788.9 million for the nine months ended September 30, 2018. The components of the increase consisted of net revenue growth from acquisitions closed during, or subsequent to, the nine months ended September 30, 2018, of \$124.6 million and net price increases of \$44.0 million, partially offset by solid waste volume

decreases of \$1.6 million primarily due to declines in residential collection and transfer station volumes in our New York City market exceeding higher landfill municipal solid waste and special waste volumes, decreased recyclable commodity sales of \$8.2 million resulting from the impact of declines in prices for old corrugated cardboard and other fiber products and other revenue decreases of \$0.4 million.

Revenue in our Southern segment increased \$22.2 million, or 7.8%, to \$305.2 million for the three months ended September 30, 2019, from \$283.0 million for the three months ended September 30, 2018. The components of the increase consisted of net revenue growth from acquisitions closed during, or subsequent to, the three months ended September 30, 2018, of \$16.8 million and net price increases of \$14.3 million, partially offset by net revenue reductions from divestitures closed subsequent to September 30, 2018 of \$5.8 million, solid waste volume decreases of \$1.1 million primarily from declines in landfill municipal solid waste, decreased recyclable commodity sales of \$1.1 million resulting from the impact of declines in prices for old corrugated cardboard and other fiber products and \$0.9 million of other revenue decreases.

Revenue in our Southern segment increased \$51.0 million, or 6.1%, to \$890.5 million for the nine months ended September 30, 2019, from \$839.5 million for the nine months ended September 30, 2018. The components of the increase consisted of net price increases of \$42.3 million and net revenue growth from acquisitions closed during, or subsequent to, the nine months ended September 30, 2018, of \$43.7 million, partially offset by net revenue reductions from divestitures closed subsequent to September 30, 2018 of \$18.8 million, solid waste volume decreases of \$12.2 million primarily from declines in residential customers at certain locations acquired in the Progressive Waste acquisition and reductions in landfill municipal solid waste volumes, decreased recyclable commodity sales of \$3.3 million resulting from the impact of declines in prices for old corrugated cardboard and other fiber products and other revenue decreases of \$0.7 million.

Revenue in our Western segment increased \$18.2 million, or 6.7%, to \$289.2 million for the three months ended September 30, 2019, from \$271.0 million for the three months ended September 30, 2018. The components of the increase consisted of solid waste volume increases of \$9.7 million due to the net impact of increases associated with landfill municipal solid waste, landfill special waste, residential collection and commercial collection, net price increases of \$9.3 million and other revenue increases of \$0.5 million, partially offset by decreased recyclable commodity sales of \$1.3 million resulting from the impact of declines in prices for old corrugated cardboard and other fiber products.

Revenue in our Western segment increased \$41.3 million, or 5.3%, to \$821.2 million for the nine months ended September 30, 2019, from \$779.9 million for the nine months ended September 30, 2018. The components of the increase consisted of net price increases of \$26.0 million and solid waste volume increases of \$21.9 million due to the net impact of increases associated with landfill municipal solid waste, landfill special waste, residential collection and commercial collection and other revenue increases of \$1.1 million, partially offset by decreased intermodal revenue of \$3.6 million resulting from customer losses causing a reduction in cargo volume and decreased recyclable commodity sales of \$4.1 million resulting from the impact of declines in prices for old corrugated cardboard and other fiber products.

Revenue in our Central segment increased \$40.2 million, or 21.2%, to \$230.1 million for the three months ended September 30, 2019, from \$189.9 million for the three months ended September 30, 2018. The components of the increase consisted of revenue growth from acquisitions closed during, or subsequent to, the three months ended September 30, 2018, of \$25.5 million, net price increases of \$10.6 million and volume increases of \$4.8 million primarily due to increased roll off collection and landfill special waste, partially offset by other revenue decreases of \$0.7 million.

Revenue in our Central segment increased \$98.8 million, or 18.7%, to \$626.3 million for the nine months ended September 30, 2019, from \$527.5 million for the nine months ended September 30, 2018. The components of the increase consisted of revenue growth from acquisitions closed during, or subsequent to, the nine months ended September 30, 2018, of \$68.3 million, net price increases of \$29.8 million and volume increases of \$1.7 million primarily due to increased roll off collection and landfill special waste exceeding lower landfill municipal solid waste, partially offset by other revenue decreases of \$1.0 million.

Revenue in our Canada segment increased \$3.7 million, or 2.0%, to \$190.8 million for the three months ended September 30, 2019, from \$187.1 million for the three months ended September 30, 2018. The components of the increase consisted of net price increases of \$12.0 million and revenue growth from acquisitions closed during, or subsequent to, the three months ended September 30, 2018, of \$1.2 million, partially offset by a decrease of \$1.9 million resulting from a lower average foreign currency exchange rate in effect during the comparable reporting periods, a decrease of \$5.6 million resulting from reduced demand causing a reduction in the prices for renewal energy credits associated with the generation of landfill gas and decreased recyclable commodity sales of \$2.0 million resulting from the impact of declines in prices for old corrugated cardboard and other fiber products.

Revenue in our Canada segment increased \$3.8 million, or 0.7%, to \$547.7 million for the nine months ended September 30, 2019, from \$543.9 million for the nine months ended September 30, 2018. The components of the increase consisted of net price increases of \$32.4 million, revenue growth from acquisitions closed during, or subsequent to, the nine months ended September 30, 2018, of \$4.5 million and \$0.2 million of other revenue increases, partially offset by a decrease of \$16.6 million resulting from a lower average foreign currency exchange rate in effect during the comparable reporting periods, a decrease of \$9.1 million resulting from reduced demand causing a reduction in the prices for renewal energy credits associated with the generation of landfill gas, decreased recyclable commodity sales of \$4.5 million resulting from the impact of declines in prices for old corrugated cardboard and other fiber products and solid waste volume decreases of \$3.1 million primarily associated with losses in residential revenue resulting from the non-renewal of certain contracts acquired in the Progressive Waste acquisition.

Revenue in our E&P segment increased \$1.1 million, or 1.6%, to \$66.3 million for the three months ended September 30, 2019, from \$65.2 million for the three months ended September 30, 2018. Revenue in our E&P segment increased \$12.1 million, or 6.7%, to \$193.7 million for the nine months ended September 30, 2019, from \$181.6 million for the nine months ended September 30, 2018. The increases were due to increased drilling activity and E&P disposal volumes at the majority of basins we operate.

Segment EBITDA

Segment EBITDA in our Western segment increased \$3.9 million, or 4.5%, to \$90.1 million for the three months ended September 30, 2019, from \$86.2 million for the three months ended September 30, 2018. The increase was due primarily to an increase in revenues of \$18.2 million and a decrease in corporate overhead expense allocations of \$1.1 million due to a decrease in the overhead allocation rate, partially offset by an increase in direct and administrative labor expenses of \$4.4 million due primarily to employee pay rate increases, an increase of \$2.1 million resulting from higher costs per ton charged by third party processors of recyclable commodities, an increase in disposal expenses of \$2.0 million due primarily to higher residential and commercial collection volumes disposed at third party facilities, an increase in taxes on revenues of \$2.0 million due primarily to higher landfill and collection revenues, an increase in third-party trucking and transportation expenses of \$1.6 million due primarily to increased rates charged by third parties to provide trucking and transportation services, an increase in truck, container, equipment and facility maintenance and repair expenses of \$1.5 million due to parts and service rate increases and variability impacting the timing of major repairs, a \$1.3 million increase in expenses for auto and workers' compensation claims due primarily to higher adjustments recorded in the prior year period to decrease projected losses on outstanding claims and an increase in 401(k) matching expenses of \$0.5 million due to our increasing the maximum matching contribution rate to our employees.

Segment EBITDA in our Western segment increased \$13.5 million, or 5.6%, to \$253.5 million for the nine months ended September 30, 2019, from \$240.0 million for the nine months ended September 30, 2018. The increase was due primarily to an increase in revenues of \$41.3 million, a decrease in intermodal expenses of \$3.3 million resulting from a decrease in intermodal cargo volume due to customer losses and a decrease in corporate overhead expense allocations of \$2.1 million due to a decrease in the overhead allocation rate, partially offset by an increase in direct and administrative labor expenses of \$8.2 million due primarily to employee pay rate increases, an increase in taxes on revenues of \$5.2 million due primarily to higher landfill and collection revenues, an increase in disposal expenses of \$4.2 million due primarily to higher residential and commercial collection volumes disposed at third party facilities, an increase of \$3.3 million resulting from higher costs per ton charged by third party processors of recyclable commodities, an increase in third-party trucking and transportation expenses of \$3.2 million due primarily to increased rates charged by third parties to provide trucking and transportation services, an increase in truck, container, equipment and facility maintenance and

repair expenses of \$2.9 million due to parts and service rate increases and variability impacting the timing of major repairs, a \$2.2 million increase in expenses for auto and workers' compensation claims due primarily to higher adjustments recorded in the prior year period to decrease projected losses on outstanding claims, an increase in 401(k) matching expenses of \$1.7 million due to our increasing the maximum matching contribution rate to our employees and \$2.3 million of other net expense increases.

Segment EBITDA in our Eastern segment increased \$5.4 million, or 6.5%, to \$88.1 million for the three months ended September 30, 2019, from \$82.7 million for the three months ended September 30, 2018. The increase was due primarily to an increase in revenues of \$46.0 million, partially offset by a net \$31.2 million increase in cost of operations and SG&A expenses attributable to acquired operations, an increase in direct and administrative labor expenses of \$2.8 million due primarily to employee pay rate increases, an increase of \$1.9 million resulting from higher costs per ton charged by third party processors of recyclable commodities, a \$1.8 million increase in expenses for auto and workers' compensation claims due primarily to higher adjustments recorded in the prior year period to decrease projected losses on outstanding claims, an increase in truck, container, equipment and facility maintenance and repair expenses of \$1.6 million due to parts and service rate increases and variability impacting the timing of major repairs, an increase in leachate disposal expenses of \$0.8 million due to higher costs per gallon for leachate treatment and an increase in 401(k) matching expenses of \$0.5 million due to our increasing the maximum matching contribution rate to our employees.

Segment EBITDA in our Eastern segment increased \$27.3 million, or 12.3%, to \$250.1 million for the nine months ended September 30, 2019, from \$222.8 million for the nine months ended September 30, 2018. The increase was due primarily to an increase in revenues of \$158.4 million and a decrease in disposal expenses of \$2.7 million due to improved internalization of collected volumes into our disposal locations, partially offset by a net \$96.9 million increase in cost of operations and SG&A expenses attributable to acquired operations, an increase in truck, container, equipment and facility maintenance and repair expenses of \$6.1 million due to parts and service rate increases and variability impacting the timing of major repairs, an increase in direct and administrative labor expenses of \$6.0 million due primarily to employee pay rate increases, an increase in third-party trucking and transportation expenses of \$5.4 million due primarily to increased rates charged by third parties to provide trucking and transportation services, an increase of \$4.8 million resulting from higher costs per ton charged by third party processors of recyclable commodities, an increase in leachate disposal expenses of \$3.5 million due to increased precipitation generating higher leachate volumes as well as higher costs per gallon for leachate treatment, an increase in expenses for auto and workers' compensation claims of \$3.2 million due primarily to higher adjustments recorded in the prior year period to reduce projected losses on outstanding claims, an increase in corporate overhead expense allocations of \$2.1 million due to higher revenues for which overhead allocations are based, an increase in diesel fuel expense of \$1.7 million due primarily to the prior year period benefiting from a favorable diesel fuel hedge agreement that expired in December 2018, an increase in 401(k) matching expenses of \$1.5 million due to our increasing the maximum matching contribution rate to our employees, an increase in compressed natural gas expense of \$0.9 million due primarily to a non-recurring reduction in expense during the prior year period resulting from recording retroactive tax credits associated with purchases of compressed natural gas fuel and \$1.7 million of other net expense increases.

Segment EBITDA in our Southern segment increased \$7.2 million, or 10.3%, to \$77.4 million for the three months ended September 30, 2019, from \$70.2 million for the three months ended September 30, 2018. The increase was due to an increase in revenues of \$28.0 million from organic growth and acquisitions and a decrease in third party disposal expenses of \$1.4 million due to improved internalization of waste collected at certain operating locations in Florida and Louisiana, partially offset by a net \$11.6 million increase in cost of operations and SG&A expenses attributable to acquired operations, an increase in direct and administrative labor expenses of \$3.9 million due primarily to employee pay rate increases, an increase in truck, container, equipment and facility maintenance and repair expenses of \$2.0 million due to parts and service rate increases and variability impacting the timing of major repairs, an increase in third-party trucking and transportation expenses of \$1.5 million due primarily to increased rates charged by third parties to provide trucking and transportation services, an increase in 401(k) matching expenses of \$0.8 million due to our increasing the maximum matching contribution rate to our employees, an increase in diesel fuel expense of \$0.6 million due primarily to the prior year period benefiting from purchasing a portion of our diesel fuel needs under a favorable fuel hedge agreement that expired in December 2018, a decrease to EBITDA of \$0.3 million from the impact of operations disposed of during, or subsequent to, the three months ended September 30, 2018 and \$1.5 million of other net expense increases.

Segment EBITDA in our Southern segment increased \$18.4 million, or 8.9%, to \$226.3 million for the nine months ended September 30, 2019, from \$207.9 million for the nine months ended September 30, 2018. The increase was due to an increase in revenues of \$69.8 million from organic growth and acquisitions, a decrease in third party disposal expenses of \$5.7 million due to improved internalization of waste collected at certain operating locations in Florida and Louisiana, a decrease in corporate overhead expense allocations of \$2.1 million due to a decrease in the overhead allocation rate and \$0.3 million of other expense decreases, partially offset by a net \$27.6 million increase in cost of operations and SG&A expenses attributable to acquired operations, an increase in direct and administrative labor expenses of \$8.9 million due primarily to employee pay rate increases, an increase in truck, container, equipment and facility maintenance and repair expenses of \$7.3 million due to parts and service rate increases and variability impacting the timing of major repairs, an increase in third-party trucking and transportation expenses of \$4.7 million due primarily to increased rates charged by third parties to provide trucking and transportation services, an increase in 401(k) matching expenses of \$2.5 million due to our increasing the maximum matching contribution rate to our employees, an increase in leachate disposal expenses of \$1.8 million due to increased precipitation generating higher leachate volumes as well as higher costs per gallon for leachate treatment, a decrease to EBITDA of \$1.5 million from the impact of operations disposed of during, or subsequent to, the nine months ended September 30, 2018, an increase in diesel fuel expense of \$1.5 million due primarily to the prior year period benefiting from purchasing a portion of our diesel fuel needs under a favorable fuel hedge agreement that expired in December 2018, an increase in compressed natural gas expense of \$1.4 million due primarily to a non-recurring reduction in expense during the prior year period resulting from recording retroactive tax credits associated with purchases of compressed natural gas fuel, an increase in equipment and facility rental expenses of \$1.3 million due primarily to increased truck rental expenses and the adoption on January 1, 2019 of new accounting standards associated with leases and an increase of \$1.0 million resulting from higher costs per ton charged by third party processors of recyclable commodities.

Segment EBITDA in our Central segment increased \$10.4 million, or 14.7%, to \$81.7 million for the three months ended September 30, 2019, from \$71.3 million for the three months ended September 30, 2018. The increase was due primarily to an increase in revenues of \$40.2 million, partially offset by a net \$21.6 million increase in cost of operations and SG&A expenses attributable to acquired operations, an increase in direct and administrative labor expenses of \$2.9 million due primarily to employee pay rate increases, an increase in third-party trucking and transportation expenses of \$1.9 million due primarily to transportation associated with increased landfill special waste volumes and increased rates charged by third parties to provide trucking and transportation services, an increase in truck, container, equipment and facility maintenance and repair expenses of \$0.4 million due to the variability and timing of major repairs, an increase in 401(k) matching expenses of \$0.4 million due to our increasing the maximum matching contribution rate to our employees and \$2.6 million of other net expense increases.

Segment EBITDA in our Central segment increased \$24.3 million, or 12.4%, to \$219.3 million for the nine months ended September 30, 2019, from \$195.0 million for the nine months ended September 30, 2018. The increase was due primarily to an increase in revenues of \$98.8 million, partially offset by a net \$55.0 million increase in cost of operations and SG&A expenses attributable to acquired operations, an increase in direct and administrative labor expenses of \$6.1 million due primarily to employee pay rate increases, an increase in third-party trucking and transportation expenses of \$5.9 million due primarily to outsourcing transportation services to third party operators at certain locations, transportation associated with increased landfill special waste volumes and increased rates charged by third parties to provide trucking and transportation services, an increase in disposal expenses of \$1.8 million due to increased disposal rates and strategic adjustments to redirect certain collected waste to third party disposal facilities, an increase in truck, container, equipment and facility maintenance and repair expenses of \$1.4 million due to the variability and timing of major repairs, an increase in 401(k) matching expenses of \$1.4 million due to our increasing the maximum matching contribution rate to our employees, an increase in diesel fuel expense of \$1.2 million due primarily to the prior year period benefiting from purchasing a portion of our diesel fuel needs under a favorable fuel hedge agreement that expired in December 2018, an increase in corporate overhead expense allocations of \$1.0 million due to higher revenues for which overhead allocations are based and an increase in compressed natural gas expense of \$0.7 million due primarily to a non-recurring reduction in expense during the prior year period resulting from recording retroactive tax credits associated with purchases of compressed natural gas fuel.

Segment EBITDA in our Canada segment decreased \$2.0 million, or 2.9%, to \$66.8 million for the three months ended September 30, 2019, from \$68.8 million for the three months ended September 30, 2018. The decrease was comprised of a decrease of \$1.3 million assuming foreign currency parity during the comparable reporting periods and a

decrease of \$0.7 million from a decrease in the average foreign currency exchange rate in effect during the comparable reporting periods. The \$1.3 million decrease, which assumes foreign currency parity, was due primarily to an increase in direct labor expenses of \$2.7 million due primarily to a reduction in open employment positions and employee pay rate increases, an increase in truck, container, equipment and facility maintenance and repair expenses of \$2.2 million due to the variability and timing of major repairs and an increase in third-party disposal expenses of \$2.0 million due to higher disposal rates charged by operators, partially offset by an increase in revenues of \$5.6 million.

Segment EBITDA in our Canada segment decreased \$1.7 million, or 0.9%, to \$193.7 million for the nine months ended September 30, 2019, from \$195.4 million for the nine months ended September 30, 2018. The decrease was comprised of \$5.8 million from a reduction in the average foreign currency exchange rate in effect during the comparable reporting periods, partially offset by an increase of \$4.1 million assuming foreign currency parity during the comparable reporting periods. The \$4.1 million increase, which assumes foreign currency parity, was due primarily to an increase in revenues of \$20.4 million, partially offset by an increase in direct labor expenses of \$6.6 million due primarily to a reduction in open employment positions and employee pay rate increases, an increase in truck, container, equipment and facility maintenance and repair expenses of \$4.6 million due to the variability and timing of major repairs, an increase in third-party disposal expenses of \$4.5 million due to higher disposal rates charged by operators and other expense increases of \$0.6 million.

Segment EBITDA in our E&P segment increased \$0.7 million, or 2.0%, to \$35.8 million for the three months ended September 30, 2019, from \$35.1 million for the three months ended September 30, 2018. The increase was due primarily to an increase in revenues of \$1.1 million, a decrease of \$1.2 million in expenses for uncollectible accounts receivable resulting primarily from adjustments to prior period reserve estimates and other expense decreases of \$1.0 million, partially offset by an increase in direct labor expenses of \$0.9 million due to employee pay rate increases and increased headcount to support higher disposal volumes, an increase in truck, container, equipment and facility maintenance and repair expenses of \$0.9 million due to the variability and timing of major repairs and an increase in subcontracted operating expenses of \$0.8 million due primarily to subcontracting certain operating activities to third parties.

Segment EBITDA in our E&P segment increased \$5.8 million, or 6.1%, to \$100.8 million for the nine months ended September 30, 2019, from \$95.0 million for the nine months ended September 30, 2018. The increase was due primarily to an increase in revenues of \$12.1 million, partially offset by an increase in subcontracted operating expenses of \$3.3 million due primarily to subcontracting certain operating activities to third parties, an increase in direct labor expenses of \$1.9 million due to employee pay rate increases and increased headcount to support higher disposal volumes and an increase in truck, container, equipment and facility maintenance and repair expenses of \$1.1 million due to the variability and timing of major repairs.

Segment EBITDA at Corporate increased \$7.9 million, to a loss of \$0.4 million for the three months ended September 30, 2019, from a loss of \$8.3 million for the three months ended September 30, 2018. The increase was due to a decrease of \$5.0 million in equity-based compensation expenses associated with adjusting common shares of Waste Connections, Inc. held in our deferred compensation plan by certain key executives to fair value as a result of the shares being exchanged for other investment options, a further decrease in equity-based compensation expenses of \$2.5 million for equity awards accounted for as liabilities that were granted to employees of Progressive Waste prior to June 1, 2016 which are subject to valuation adjustments each period based on changes in fair value, a decrease of \$3.6 million in professional fees expense resulting primarily from reduced legal expenses resulting from the settlement of certain legal matters subsequent to September 30, 2018 and \$0.9 million of other net expense decreases, partially offset by an increase in 401(k) matching expenses of \$1.3 million due to credits recorded in the prior year period from employee forfeitures, a decrease in corporate overhead allocated to our segments of \$0.8 million due to a reduction in allocable expenses, an increase in direct acquisition expenses of \$0.7 million due to higher acquisition activity, an increase in equity-based compensation expenses of \$0.7 million associated with our annual recurring grant of restricted share units to our personnel and an increase in management training expenses of \$0.6 million due to an expansion of our management training curriculum.

Segment EBITDA at Corporate increased \$2.6 million, to a loss of \$11.8 million for the nine months ended September 30, 2019, from a loss of \$14.4 million for the nine months ended September 30, 2018. The increase was due to a decrease of \$10.0 million in professional fees expense resulting primarily from reduced legal expenses resulting

from the settlement of certain legal matters subsequent to September 30, 2018, a decrease of \$5.0 million in equity-based compensation expenses associated with adjusting common shares of Waste Connections, Inc. held in our deferred compensation plan by certain key executives to fair value as a result of the shares being exchanged for other investment options, a further decrease in equity-based compensation expenses of \$1.4 million for equity awards accounted for as liabilities that were granted to employees of Progressive Waste prior to June 1, 2016 which are subject to valuation adjustments each period based on changes in fair value and a decrease in integration-related expenses of \$2.8 million incurred in the prior year period resulting from the acquisition of Progressive Waste, partially offset by an increase in equity-based compensation expenses of \$6.7 million associated with our annual recurring grant of restricted share units to our personnel, an increase in direct acquisition expenses of \$3.2 million due to higher acquisition activity, an increase in deferred compensation expenses of \$2.0 million as a result of increases in the market value of investments to which employee deferred compensation liability balances are tracked, an increase in 401(k) matching expenses of \$1.1 million due to credits recorded in the prior year period from employee forfeitures, an increase in management training expenses of \$1.1 million due to an expansion of our management training curriculum, an increase in accrued recurring cash incentive compensation expense to our management of \$1.0 million and \$1.5 million of other net expense increases.

LIQUIDITY AND CAPITAL RESOURCES

The following table sets forth certain cash flow information for the nine months ended September 30, 2019 and 2018 (in thousands of U.S. dollars):

	Nine Months Ended September 30,	
	2019	2018
Net cash provided by operating activities	\$ 1,185,430	\$ 1,037,792
Net cash used in investing activities	(885,672)	(870,446)
Net cash used in financing activities	(308,039)	(395,689)
Effect of exchange rate changes on cash, cash equivalents and restricted cash	143	(528)
Net decrease in cash, cash equivalents and restricted cash	(8,138)	(228,871)
Cash, cash equivalents and restricted cash at beginning of period	403,966	556,467
Plus: change in cash held for sale	—	192
Cash, cash equivalents and restricted cash at end of period	<u>\$ 395,828</u>	<u>\$ 327,788</u>

Operating Activities Cash Flows

For the nine months ended September 30, 2019, net cash provided by operating activities was \$1.185 billion. For the nine months ended September 30, 2018, net cash provided by operating activities was \$1.038 billion. The \$147.6 million increase was due primarily to the following:

- 1) *Increase in earnings* — Our increase in net cash provided by operating activities was favorably impacted by \$110.6 million from an increase in net income, excluding depreciation, intangible amortization, lease amortization, deferred taxes, equity based compensation, adjustments to and payments of contingent consideration recorded in earnings and impairments and other operating items, due primarily to the impact of acquisitions closed subsequent to September 30, 2018 and price-led earnings growth at certain solid waste segments.
- 2) *Accounts payable and accrued liabilities* — Our increase in net cash provided by operating activities was favorably impacted by \$61.2 million from accounts payable and accrued liabilities due primarily to period end timing of payments to vendors for goods and services.
- 3) *Accounts receivable* — Our increase in net cash provided by operating activities was favorably impacted by \$10.5 million from accounts receivable due to improved collection results.
- 4) *Prepaid expenses* — Our increase in net cash provided by operating activities was unfavorably impacted by \$18.7 million from prepaid expenses due primarily to a higher utilization of prepaid income taxes during the prior year period.
- 5) *Other long-term liabilities* — Our increase in net cash provided by operating activities was unfavorably impacted by \$15.6 million from other long-term liabilities due primarily to lease payments resulting from our adoption of new accounting standards associated with leases.

As of September 30, 2019, we had a working capital surplus of \$113.5 million, including cash and equivalents of \$303.8 million. Our working capital surplus decreased \$118.7 million from a working capital surplus of \$232.2 million at December 31, 2018, including cash and equivalents of \$319.3 million, due primarily to decreased cash balances and the adoption of new accounting standards associated with leases requiring a current liability to be recorded for the portion of lease payments payable with the next twelve months. To date, we have experienced no loss or lack of access to our cash and equivalents; however, we can provide no assurances that access to our cash and equivalents will not be impacted by adverse conditions in the financial markets. Our strategy in managing our working capital is generally to apply the cash generated from our operations that remains after satisfying our working capital and capital expenditure requirements, along with share repurchase and dividend programs, to reduce the unhedged portion of our indebtedness under our Credit Agreement and to minimize our cash balances.

Investing Activities Cash Flows

Net cash used in investing activities increased \$15.3 million to \$885.7 million for the nine months ended September 30, 2019, from \$870.4 million for the nine months ended September 30, 2018. The significant components of the increase included the following:

- 1) An increase in capital expenditures of \$60.0 million due to an increase in trucks and heavy equipment for operations owned in the comparable periods, increased additions to existing facilities and additional trucks and heavy equipment purchased for operations acquired subsequent to December 31, 2018; and
- 2) An increase in capital expenditures of \$31.7 million due to the purchase of a greenfield landfill site in our Southern segment that will be developed into an operating location in the future; less
- 3) A decrease in cash paid for acquisitions of \$79.7 million due primarily to a decrease in acquisitions closed during the nine months ended September 30, 2019.

Financing Activities Cash Flows

Net cash used in financing activities decreased \$87.7 million to \$308.0 million for the nine months ended September 30, 2019, from \$395.7 million for the nine months ended September 30, 2018. The significant components of the decrease included the following:

- 1) A decrease from the net change in long-term borrowings of \$59.6 million (long-term borrowings decreased \$162.4 million during the nine months ended September 30, 2019 and decreased \$222.0 million during the nine months ended September 30, 2018) due primarily to the availability of cash to repay outstanding obligations and higher repayments in the prior year of long term debt assumed and paid in full from acquisitions; and
- 2) A decrease in payments to repurchase our common shares of \$42.0 million due to no shares being repurchased during the nine months ended September 30, 2019; less
- 3) An increase in cash dividends paid of \$15.9 million due primarily to an increase in our quarterly dividend rate for the nine months ended September 30, 2019 to \$0.16 per share, from \$0.14 per share for the nine months ended September 30, 2018.

Our business is capital intensive. Our capital requirements include acquisitions and capital expenditures for landfill cell construction, landfill development, landfill closure activities and intermodal facility construction in the future.

On July 25, 2019, our Board of Directors approved, subject to receipt of regulatory approvals, the annual renewal of our normal course issuer bid, or the NCIB, to purchase up to 13,184,474 of our common shares during the period of August 8, 2019 to August 7, 2020 or until such earlier time as the NCIB is completed or terminated at our option. Shareholders may obtain a copy of our TSX Form 12 – Notice of Intention to Make a Normal Course Issuer Bid, without charge, by request directed to our Senior Vice President and Chief Financial Officer at (832) 442-2200. The timing and amounts of any repurchases pursuant to the NCIB will depend on many factors, including our capital structure, the market price of our common shares and overall market conditions. All common shares purchased under the NCIB shall be immediately cancelled following their repurchase. Information regarding our NCIB plan can be found under the “Shareholders’ Equity” section in Note 17 to the Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q and is incorporated herein by reference.

Our Board of Directors authorized the initiation of a quarterly cash dividend in October 2010 and has increased it on an annual basis. In October 2018, our Board of Directors authorized an increase to our regular quarterly cash dividend of \$0.02, from \$0.14 to \$0.16 per share. Cash dividends of \$126.3 million and \$110.4 million were paid during the nine months ended September 30, 2019 and 2018, respectively. We cannot assure you as to the amounts or timing of future dividends.

We made \$433.5 million in capital expenditures for property and equipment during the nine months ended September 30, 2019, and we expect to make total capital expenditures for property and equipment of between \$600 million and \$625 million in 2019. In addition, we made a capital expenditure of \$31.7 million for the purchase of a greenfield landfill site during the nine months ended September 30, 2019. We have funded and intend to fund the balance of our planned 2019 capital expenditures principally through cash on hand, internally generated funds and borrowings under our Credit Agreement. In addition, we may make substantial additional capital expenditures in acquiring municipal solid waste and E&P waste businesses. If we acquire additional landfill disposal facilities, we may also have to make significant expenditures to bring them into compliance with applicable regulatory requirements, obtain permits or expand our available disposal capacity. We cannot currently determine the amount of these expenditures because they will depend on the number, nature, condition and permitted status of any acquired landfill disposal facilities. We believe that our cash and equivalents, Credit Agreement and the funds we expect to generate from operations will provide adequate cash to fund our working capital and other cash needs for the foreseeable future. However, disruptions in the capital and credit markets could adversely affect our ability to draw on our Credit Agreement or raise other capital. Our access to funds under the Credit Agreement is dependent on the ability of the banks that are parties to the agreement to meet their funding commitments. Those banks may not be able to meet their funding commitments if they experience shortages of capital and liquidity or if they experience excessive volumes of borrowing requests within a short period of time.

As of September 30, 2019, \$700.0 million under the term loan and \$427.8 million under the revolving credit facility were outstanding under our Credit Agreement, exclusive of outstanding standby letters of credit of \$121.9 million. Our Credit Agreement matures in March 2023.

On April 16, 2019, we completed an underwritten public offering of \$500.0 million aggregate principal amount of our 3.50% Senior Notes due 2029, or the 2029 Senior Notes. The 2029 Senior Notes were issued under the Indenture, dated as of November 16, 2018, by and between the Company and U.S. Bank National Association, as trustee, as supplemented by the Second Supplemental Indenture, dated as of April 16, 2019.

We will pay interest on the 2029 Senior Notes semi-annually, commencing on November 1, 2019, and the 2029 Senior Notes will mature on May 1, 2029. The 2029 Senior Notes are our senior unsecured obligations, ranking equally in right of payment with our other existing and future unsubordinated debt and senior to any of our future subordinated debt. The 2029 Senior Notes are not guaranteed by any of our subsidiaries.

See Note 10 to the Condensed Consolidated Financial Statements included in Part I, Item 1 of this Quarterly Report on Form 10-Q for further details on the debt agreement.

We are a well-known seasoned issuer with an effective shelf registration statement on Form S-3 filed in May 2018, which registers an unspecified amount of debt securities, including debentures, notes or other types of debt. In the future, we may issue debt securities under our shelf registration statement or in private placements from time to time on an opportunistic basis, based on market conditions and available pricing. We expect to use the proceeds from any such offerings for general corporate purposes, including repaying, redeeming or repurchasing debt, acquiring additional assets or businesses, capital expenditures and increasing our working capital.

As of September 30, 2019, we had the following contractual obligations:

Recorded Obligations	Payments Due by Period				
	(amounts in thousands of U.S. dollars)				
	Total	Less Than 1 Year	1 to 3 Years	3 to 5 Years	Over 5 Years
Long-term debt	\$ 4,062,511	\$ 502	\$ 379,689	\$ 1,653,729	\$ 2,028,591
Cash interest payments	\$ 771,632	\$ 128,317	\$ 254,235	\$ 161,382	\$ 227,698
Contingent consideration	\$ 78,912	\$ 14,038	\$ 23,915	\$ 3,224	\$ 37,735
Final capping, closure and post-closure	\$ 1,508,736	\$ 17,676	\$ 33,745	\$ 17,666	\$ 1,439,649

Long-term debt payments include:

- 1) \$427.8 million in principal payments due March 2023 related to our revolving credit facility under our Credit Agreement. We may elect to draw amounts on our Credit Agreement in U.S. dollar LIBOR rate loans, U.S. dollar base rate loans, Canadian-based bankers' acceptances, and Canadian dollar prime rate loans. At September 30, 2019, \$382.5 million of the outstanding borrowings drawn under the revolving credit facility were in U.S. LIBOR rate loans, which bear interest at the LIBOR rate plus the applicable margin (for a total rate of 3.14% on such date) and \$45.3 million of the outstanding borrowings drawn under the revolving credit facility were in Canadian-based bankers' acceptances, which bear interest at the Canadian Dollar Offered Rate plus the applicable acceptance fee (for a total rate of 3.05% on such date).
- 2) \$700.0 million in principal payments due March 2023 related to our term loan under our Credit Agreement. Outstanding amounts on the term loan can be either base rate loans or LIBOR loans. At September 30, 2019, all amounts outstanding under the term loan were in LIBOR loans which bear interest at the LIBOR rate plus the applicable margin (for a total rate of 3.14% on such date).
- 3) \$175.0 million in principal payments due 2019 related to our 2019 Senior Notes. The 2019 Senior Notes bear interest at a rate of 5.25%. We have recorded this obligation in the payments due in 3 to 5 years category in the table above as we have the intent and ability to redeem the 2019 Senior Notes on November 1, 2019 using borrowings under our Credit Agreement.
- 4) \$100.0 million in principal payments due 2021 related to our 2021 Senior Notes. The 2021 Senior Notes bear interest at a rate of 4.64%.
- 5) \$150.0 million in principal payments due 2021 related to our New 2021 Senior Notes. The New 2021 Senior Notes bear interest at a rate of 2.39%.
- 6) \$125.0 million in principal payments due 2022 related to our 2022 Senior Notes. The 2022 Senior Notes bear interest at a rate of 3.09%.
- 7) \$200.0 million in principal payments due 2023 related to our 2023 Senior Notes. The 2023 Senior Notes bear interest at a rate of 2.75%.
- 8) \$150.0 million in principal payments due 2024 related to our 2024 Senior Notes. The 2024 Senior Notes bear interest at a rate of 3.24%.
- 9) \$375.0 million in principal payments due 2025 related to our 2025 Senior Notes. The 2025 Senior Notes bear interest at a rate of 3.41%.
- 10) \$400.0 million in principal payments due 2026 related to our 2026 Senior Notes. The 2026 Senior Notes bear interest at a rate of 3.03%.

- 11) \$250.0 million in principal payments due 2027 related to our 2027 Senior Notes. The 2027 Senior Notes bear interest at a rate of 3.49%.
- 12) \$500.0 million in principal payments due 2028 related to our 2028 Senior Notes. The 2028 Senior Notes bear interest at a rate of 4.250%.
- 13) \$500.0 million in principal payments due 2029 related to our 2029 Senior Notes. The 2029 Senior Notes bear interest at a rate of 3.500%.
- 14) \$9.7 million in principal payments related to our notes payable to sellers and other third parties. Our notes payable to sellers and other third parties bear interest at rates between 2.75% and 10.90% at September 30, 2019, and have maturity dates ranging from 2019 to 2036.

The following assumptions were made in calculating cash interest payments:

- 1) We calculated cash interest payments on the Credit Agreement using the LIBOR rate plus the applicable LIBOR margin and the Canadian Dollar Offered Rate plus the applicable acceptance fee at September 30, 2019. We assumed the Credit Agreement is paid off when it matures in March 2023.
- 2) We calculated cash interest payments on our interest rate swaps using the stated interest rate in the swap agreement less the LIBOR rate through the earlier expiration of the term of the swaps or the term of the credit facility.

Contingent consideration payments include \$57.0 million recorded as liabilities in our Condensed Consolidated Financial Statements at September 30, 2019, and \$21.9 million of future interest accretion on the recorded obligations.

The estimated final capping, closure and post-closure expenditures presented above are in current dollars.

	Amount of Commitment Expiration Per Period				
	(amounts in thousands of U.S. dollars)				
Unrecorded Obligations⁽¹⁾	Total	Less Than 1 Year	1 to 3 Years	3 to 5 Years	Over 5 Years
Operating leases	\$ 236,150	\$ 9,662	\$ 69,589	\$ 60,607	\$ 96,292
Unconditional purchase obligations	\$ 132,444	\$ 72,573	\$ 59,871	\$ —	\$ —

- (1) We are party to operating lease agreements and unconditional purchase obligations. These lease agreements and purchase obligations are established in the ordinary course of our business and are designed to provide us with access to facilities and products at competitive, market-driven prices. At September 30, 2019, our unconditional purchase obligations consisted of multiple fixed-price fuel purchase contracts under which we have 50.4 million gallons remaining to be purchased for a total of \$132.4 million. The current fuel purchase contracts expire on or before December 31, 2021. These arrangements have not materially affected our financial position, results of operations or liquidity during the nine months ended September 30, 2019, nor are they expected to have a material impact on our future financial position, results of operations or liquidity.

We have obtained financial surety bonds, primarily to support our financial assurance needs and landfill and E&P operations. We provided customers and various regulatory authorities with surety bonds in the aggregate amounts of approximately \$1.068 billion and \$977.6 million at September 30, 2019 and December 31, 2018, respectively. These arrangements have not materially affected our financial position, results of operations or liquidity during the nine months ended September 30, 2019, nor are they expected to have a material impact on our future financial position, results of operations or liquidity.

From time to time, we evaluate our existing operations and their strategic importance to us. If we determine that a given operating unit does not have future strategic importance, we may sell or otherwise dispose of those operations. Although we believe our reporting units would not be impaired by such dispositions, we could incur losses on them.

The disposal tonnage that we received in the nine month periods ended September 30, 2019 and 2018, at all of our landfills during the respective period, is shown below (tons in thousands):

	Nine Months Ended September 30,			
	2019		2018	
	Number of Sites	Total Tons	Number of Sites	Total Tons
Owned operational landfills and landfills operated under life-of-site agreements	92	35,412	89	33,387
Operated landfills	4	433	4	335
	96	35,845	93	33,722

NON-GAAP FINANCIAL MEASURES

Adjusted Free Cash Flow

We present adjusted free cash flow, a non-GAAP financial measure, supplementally because it is widely used by investors as a valuation and liquidity measure in the solid waste industry. Management uses adjusted free cash flow as one of the principal measures to evaluate and monitor the ongoing financial performance of our operations. We define adjusted free cash flow as net cash provided by operating activities, plus or minus change in book overdraft, plus proceeds from disposal of assets, less capital expenditures for property and equipment and distributions to noncontrolling interests. We further adjust this calculation to exclude the effects of items management believes impact the ability to assess the operating performance of our business. This measure is not a substitute for, and should be used in conjunction with, GAAP liquidity or financial measures. Other companies may calculate adjusted free cash flow differently. Our adjusted free cash flow for the nine month periods ended September 30, 2019 and 2018, are calculated as follows (amounts in thousands of U.S. dollars):

	Nine Months Ended	
	September 30,	
	2019	2018
Net cash provided by operating activities	\$ 1,185,430	\$ 1,037,792
Plus (less): Change in book overdraft	1,911	(243)
Plus: Proceeds from disposal of assets	2,626	3,698
Less: Capital expenditures for property and equipment	(433,526)	(373,512)
Less: Distributions to noncontrolling interests	(117)	(103)
Adjustments:		
Payment of contingent consideration recorded in earnings ^(a)	—	11
Cash received for divestitures ^(b)	(2,376)	(1,250)
Transaction-related expenses ^(c)	8,057	4,907
Integration-related and other expenses ^(d)	—	2,794
Pre-existing Progressive Waste share-based grants ^(e)	4,306	5,219
Tax effect ^(f)	(3,375)	(3,609)
Adjusted free cash flow	\$ 762,936	\$ 675,704

(a) Reflects the addback of acquisition-related payments for contingent consideration that were recorded as expenses in earnings and as a component of cash flows from operating activities as the amounts paid exceeded the fair value of the contingent consideration recorded at the acquisition date.

(b) Reflects the elimination of cash received in conjunction with the divestiture of certain Progressive Waste operations.

(c) Reflects the addback of acquisition-related transaction costs.

(d) Reflects the addback of integration-related items, including rebranding costs, associated with the Progressive Waste acquisition.

(e) Reflects the cash settlement of pre-existing Progressive Waste share-based awards during the period.

(f) The aggregate tax effect of footnotes (a) through (e) is calculated based on the applied tax rates for the respective periods.

Adjusted EBITDA

We present adjusted EBITDA, a non-GAAP financial measure, supplementally because it is widely used by investors as a performance and valuation measure in the solid waste industry. Management uses adjusted EBITDA as one of the principal measures to evaluate and monitor the ongoing financial performance of our operations. We define adjusted EBITDA as net income attributable to Waste Connections, plus or minus net income (loss) attributable to noncontrolling interests, plus income tax provision, plus interest expense, less interest income, plus depreciation and amortization expense, plus closure and post-closure accretion expense, plus or minus any loss or gain on impairments and other operating items, plus other expense, less other income. We further adjust this calculation to exclude the effects of other items management believes impact the ability to assess the operating performance of our business. This measure is not a substitute for, and should be used in conjunction with, GAAP financial measures. Other companies may calculate adjusted EBITDA differently. Our adjusted EBITDA for the three and nine month periods ended September 30, 2019 and 2018, are calculated as follows (amounts in thousands of U.S. dollars):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Net income attributable to Waste Connections	\$ 159,109	\$ 150,843	\$ 433,579	\$ 414,393
Plus (less): Net income (loss) attributable to noncontrolling interests	(35)	(77)	(89)	218
Plus: Income tax provision	42,783	52,092	110,539	126,509
Plus: Interest expense	36,780	32,078	111,313	96,874
Less: Interest income	(2,056)	(1,467)	(7,186)	(3,677)
Plus: Depreciation and amortization	189,928	175,103	555,437	503,310
Plus: Closure and post-closure accretion	3,649	3,253	10,821	9,749
Plus (less): Impairments and other operating items	12,935	(1,998)	32,949	6,106
Plus (less): Other expense (income), net	19	(600)	(4,562)	(2,053)
Adjustments:				
Plus: Transaction-related expenses ^(a)	1,036	323	8,057	4,907
Plus: Fair value changes to equity awards ^(b)	(589)	6,880	3,693	10,101
Plus: Integration-related and other expenses ^(c)	—	379	—	2,795
Adjusted EBITDA	<u>\$ 443,559</u>	<u>\$ 416,809</u>	<u>\$ 1,254,551</u>	<u>\$ 1,169,232</u>

(a) Reflects the addback of acquisition-related transaction costs.

(b) Reflects fair value accounting changes associated with certain equity awards.

(c) Reflects the addback of integration-related items, including rebranding costs, associated with the Progressive Waste acquisition.

Adjusted Net Income Attributable to Waste Connections and Adjusted Net Income per Diluted Share Attributable to Waste Connections

We present adjusted net income attributable to Waste Connections and adjusted net income per diluted share attributable to Waste Connections, both non-GAAP financial measures, supplementally because they are widely used by investors as a valuation measure in the solid waste industry. Management uses adjusted net income attributable to Waste Connections and adjusted net income per diluted share attributable to Waste Connections as one of the principal measures to evaluate and monitor the ongoing financial performance of our operations. We provide adjusted net income attributable to Waste Connections to exclude the effects of items management believes impact the comparability of operating results between periods. Adjusted net income attributable to Waste Connections has limitations due to the fact that it excludes items that have an impact on our financial condition and results of operations. Adjusted net income attributable to Waste Connections and adjusted net income per diluted share attributable to Waste Connections are not a substitute for, and should be used in conjunction with, GAAP financial measures. Other companies may calculate these non-GAAP financial measures differently. Our adjusted net income attributable to Waste Connections and adjusted net income per diluted share attributable to Waste Connections for the three and nine month periods ended September 30, 2019 and 2018, are calculated as follows (amounts in thousands of U.S. dollars, except per share amounts):

	Three Months Ended September 30,		Nine Months Ended September 30,	
	2019	2018	2019	2018
Reported net income attributable to Waste Connections	\$ 159,109	\$ 150,843	\$ 433,579	\$ 414,393
Adjustments:				
Amortization of intangibles ^(a)	31,934	26,871	93,821	79,444
Impairments and other operating items ^(b)	12,935	(1,998)	32,949	6,106
Transaction-related expenses ^(c)	1,036	323	8,057	4,907
Fair value changes to equity awards ^(d)	(589)	6,880	3,693	10,101
Integration-related and other expenses ^(e)	—	379	—	2,795
Tax effect ^(f)	(11,486)	(8,006)	(33,955)	(25,783)
Tax items ^(g)	—	6,578	—	9,093
Adjusted net income attributable to Waste Connections	<u>\$ 192,939</u>	<u>\$ 181,870</u>	<u>\$ 538,144</u>	<u>\$ 501,056</u>
Diluted earnings per common share attributable to Waste Connections' common shareholders:				
Reported net income	<u>\$ 0.60</u>	<u>\$ 0.57</u>	<u>\$ 1.64</u>	<u>\$ 1.57</u>
Adjusted net income	<u>\$ 0.73</u>	<u>\$ 0.69</u>	<u>\$ 2.03</u>	<u>\$ 1.90</u>

(a) Reflects the elimination of the non-cash amortization of acquisition-related intangible assets.

(b) Reflects the addback of impairments and other operating items.

(c) Reflects the addback of acquisition-related transaction costs.

(d) Reflects fair value accounting changes associated with certain equity awards.

(e) Reflects the addback of integration-related items, including rebranding costs, associated with the Progressive Waste acquisition.

(f) The aggregate tax effect of the adjustments in footnotes (a) through (e) is calculated based on the applied tax rates for the respective periods.

(g) Primarily reflects refinements to the estimates, as provided by Staff Accounting Bulletin No. 118, of the impact of a portion of our U.S. earnings no longer permanently reinvested in conjunction with the Tax Act.

INFLATION

Other than volatility in fuel prices, third party brokerage and labor costs in certain markets, inflation has not materially affected our operations in recent years. Consistent with industry practice, many of our contracts allow us to pass through certain costs to our customers, including increases in landfill tipping fees and, in some cases, fuel costs. Therefore, we believe that we should be able to increase prices to offset many cost increases that result from inflation in the ordinary course of business. However, competitive pressures or delays in the timing of rate increases under our contracts may require us to absorb at least part of these cost increases, especially if cost increases exceed the average rate of inflation. Management's estimates associated with inflation have an impact on our accounting for landfill liabilities.

SEASONALITY

We expect our operating results to vary seasonally, with revenues typically lowest in the first quarter, higher in the second and third quarters and lower in the fourth quarter than in the second and third quarters. This seasonality reflects (a) the lower volume of solid waste generated during the late fall, winter and early spring because of decreased construction and demolition activities during winter months in Canada and the U.S. and (b) reduced E&P activity during harsh weather conditions, with expected fluctuation due to such seasonality between our highest and lowest quarters of approximately 10% to 12%. In addition, some of our operating costs may be higher in the winter months. Adverse winter weather conditions slow waste collection activities, resulting in higher labor and operational costs. Greater precipitation in the winter increases the weight of collected municipal solid waste, resulting in higher disposal costs, which are calculated on a per ton basis.

Item 3. Quantitative and Qualitative Disclosures About Market Risk

In the normal course of business, we are exposed to market risk, including changes in interest rates and prices of certain commodities. We use hedge agreements to manage a portion of our risks related to interest rates and fuel prices. While we are exposed to credit risk in the event of non-performance by counterparties to our hedge agreements, in all cases such counterparties are highly rated financial institutions and we do not anticipate non-performance. We do not hold or issue derivative financial instruments for trading purposes. We monitor our hedge positions by regularly evaluating the positions at market and by performing sensitivity analyses over the unhedged fuel and variable rate debt positions.

At September 30, 2019, our derivative instruments included 16 interest rate swap agreements that effectively fix the interest rate on the applicable notional amounts of our variable rate debt as follows (dollars in thousands of U.S. dollars):

Date Entered	Notional Amount	Fixed Interest Rate Paid*	Variable Interest Rate Received	Effective Date	Expiration Date
May 2014	\$ 50,000	2.344 %	1-month LIBOR	October 2015	October 2020
May 2014	\$ 25,000	2.326 %	1-month LIBOR	October 2015	October 2020
May 2014	\$ 50,000	2.350 %	1-month LIBOR	October 2015	October 2020
May 2014	\$ 50,000	2.350 %	1-month LIBOR	October 2015	October 2020
April 2016	\$ 100,000	1.000 %	1-month LIBOR	February 2017	February 2020
June 2016	\$ 75,000	0.850 %	1-month LIBOR	February 2017	February 2020
June 2016	\$ 150,000	0.950 %	1-month LIBOR	January 2018	January 2021
June 2016	\$ 150,000	0.950 %	1-month LIBOR	January 2018	January 2021
July 2016	\$ 50,000	0.900 %	1-month LIBOR	January 2018	January 2021
July 2016	\$ 50,000	0.890 %	1-month LIBOR	January 2018	January 2021
August 2017	\$ 100,000	1.900 %	1-month LIBOR	July 2019	July 2022
August 2017	\$ 200,000	2.200 %	1-month LIBOR	October 2020	October 2025
August 2017	\$ 150,000	1.950 %	1-month LIBOR	February 2020	February 2023
June 2018	\$ 200,000	2.925 %	1-month LIBOR	October 2020	October 2025
June 2018	\$ 200,000	2.925 %	1-month LIBOR	October 2020	October 2025
December 2018	\$ 200,000	2.850 %	1-month LIBOR	July 2022	July 2027

* Plus applicable margin.

Under derivatives and hedging guidance, the interest rate swap agreements are considered cash flow hedges for a portion of our variable rate debt, and we apply hedge accounting to account for these instruments. The notional amounts and all other significant terms of the swap agreements are matched to the provisions and terms of the variable rate debt being hedged.

We have performed sensitivity analyses to determine how market rate changes will affect the fair value of our unhedged floating rate debt. Such an analysis is inherently limited in that it reflects a singular, hypothetical set of assumptions. Actual market movements may vary significantly from our assumptions. Fair value sensitivity is not necessarily indicative of the ultimate cash flow or earnings effect we would recognize from the assumed market rate

movements. We are exposed to cash flow risk due to changes in interest rates with respect to the unhedged floating rate balances owed at September 30, 2019 and December 31, 2018, of \$277.8 million and \$885.0 million, respectively, including floating rate debt under our Credit Agreement and floating rate tax-exempt bond obligations. A one percentage point increase in interest rates on our variable-rate debt as of September 30, 2019 and December 31, 2018, would decrease our annual pre-tax income by approximately \$2.8 million and \$8.9 million, respectively. All of our remaining debt instruments are at fixed rates, or effectively fixed under the interest rate swap agreements described above; therefore, changes in market interest rates under these instruments would not significantly impact our cash flows or results of operations, subject to counterparty default risk.

The market price of diesel fuel is unpredictable and can fluctuate significantly. Because of the volume of fuel we purchase each year, a significant increase in the price of fuel could adversely affect our business and reduce our operating margins. To manage a portion of this risk, we periodically enter into fuel hedge agreements related to forecasted diesel fuel purchases, and we also enter into fixed price fuel purchase contracts. At September 30, 2019, we had no fuel hedge agreements in place; however, we have entered into fixed price fuel purchase contracts for 2019 as described below.

For the year ending December 31, 2019, we expect to purchase approximately 73.9 million gallons of fuel, of which 45.3 million gallons will be purchased at market prices and 28.6 million gallons will be purchased under our fixed price fuel purchase contracts. We have performed sensitivity analyses to determine how market rate changes will affect the fair value of our unhedged, market rate diesel fuel purchases. Such an analysis is inherently limited in that it reflects a singular, hypothetical set of assumptions. Actual market movements may vary significantly from our assumptions. Fair value sensitivity is not necessarily indicative of the ultimate cash flow or earnings effect we would recognize from the assumed market rate movements. During the three month period of October 1, 2019 to December 31, 2019, we expect to purchase approximately 11.3 million gallons of fuel at market prices; therefore, a \$0.10 per gallon increase in the price of fuel over the remaining three months in 2019 would decrease our pre-tax income during this period by approximately \$1.1 million.

We market a variety of recyclable materials, including cardboard, mixed paper, plastic containers, glass bottles and ferrous and aluminum metals. We own and operate recycling operations and sell other collected recyclable materials to third parties for processing before resale. To reduce our exposure to commodity price risk with respect to recycled materials, we have adopted a pricing strategy of charging collection and processing fees for recycling volume collected from third parties. In the event of a decline in recycled commodity prices, a 10% decrease in average recycled commodity prices from the average prices that were in effect during the nine months ended September 30, 2019 and 2018, would have had a \$4.9 million and \$6.7 million impact on revenues for the nine months ended September 30, 2019 and 2018, respectively.

We have operations in Canada and, where significant, we have quantified and described the impact of foreign currency translation on components of income, including operating revenue and operating costs. However, the impact of foreign currency has not materially affected our results of operations in 2018 or 2019. A \$0.01 change in the Canadian dollar to U.S. dollar exchange rate would impact our annual revenue and EBITDA by approximately \$9.8 million and \$3.6 million, respectively.

Item 4. Controls and Procedures

As required by Rule 13a-15(b) under the U.S. Securities Exchange Act of 1934, as amended, or the Exchange Act, we carried out an evaluation, under the supervision and with the participation of our management, including our President and Chief Executive Officer and our Senior Vice President and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as such term is defined in Rule 13a-15(e) under the Exchange Act) as of the end of the fiscal quarter covered by this Quarterly Report on Form 10-Q. In designing and evaluating the disclosure controls and procedures, our management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving the desired control objectives, and our management is required to apply its judgment in evaluating the cost-benefit relationship of possible controls and procedures.

Based on this evaluation, our President and Chief Executive Officer and our Senior Vice President and Chief Financial Officer concluded as of September 30, 2019, that our disclosure controls and procedures were effective at the reasonable assurance level such that information required to be disclosed in our Exchange Act reports: (1) is recorded, processed, summarized and reported within the time periods specified in the SEC's rules and forms; and (2) is accumulated and communicated to our management, including our President and Chief Executive Officer and Chief Financial Officer, as appropriate to allow timely decisions regarding required disclosure.

During the quarter ended September 30, 2019, there was no change in our internal control over financial reporting that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

PART II – OTHER INFORMATION

Item 1. Legal Proceedings

Information regarding our legal proceedings can be found in Note 18 of our Condensed Consolidated Financial Statements included in Part I, Item 1 of this report and is incorporated herein by reference.