

**PUBLIC VERSION**  
**BEFORE THE**  
**SURFACE TRANSPORTATION BOARD**

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CONSUMERS ENERGY COMPANY	)	
	)	
	)	
	)	
v.	)	Docket No. NOR 42142
	)	
CSX TRANSPORTATION, INC.	)	
	)	
	)	
Defendant.	)	
	)	

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**REBUTTAL EVIDENCE OF COMPLAINANT**

**EXHIBITS**

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Dated: May 20, 2016

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## LIST OF EXHIBITS

### **EXHIBIT**

### **TITLE**

### **EXHIBIT**

#### **II-**

- 1 Rebuttal Report by Ralph W. Barbaro, Ph.D., PE
- 2 Verified Statement of Michael Petro and Paul Bovitz

### **EXHIBIT**

#### **III-B-**

- 1 Rebuttal CERR Track Diagrams

### **EXHIBIT**

#### **III-F-**

- 1 Rebuttal Report by Stuart Smith

### **EXHIBIT**

#### **III-H-**

- 1 Rebuttal Discounted Cash Flow Model
- 2 Rebuttal CERR Maximum Markup Methodology R/VC Ratios

### **EXHIBIT**

#### **IV-**

- 1 Rebuttal Verified Statement by John F. Hennigan, Ph.D.

## **II Market Dominance**

**EXHIBIT II-1**

**Redacted**

## **EXHIBIT II-2**

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SURFACE TRANSPORTATION BOARD**

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CSX TRANSPORTATION, INC.	)	
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Defendant.	)	

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**VERIFIED STATEMENT  
OF  
MICHAEL PETRO  
PAUL BOVITZ**

**on behalf of**

**CONSUMERS ENERGY COMPANY**

Advisian Inc.  
10500 Richmond Avenue  
Houston, TX 77042

May 12, 2016

## **I. INTRODUCTION**

We are Michael Petro, Principal Consultant, Transportation and Logistics, and Global Lead for Intermodal, at Advisian, Inc.; and Paul Bovitz, Principal Consultant, Science and Ecology, at Advisian. Our respective qualifications and experience are summarized in Part V of the Rebuttal Evidence of Consumers Energy Company (“Consumers”), of which this Verified Statement also is a part.

This Verified Statement is submitted on behalf of Consumers, and in response to certain claims made in the Reply Evidence filed by CSX Transportation, Inc. (“CSXT”) in Surface Transportation Board Docket No. NOR 42142, on March 7, 2016 (hereafter “CSXT Reply Evidence”).

On July 1, 2015, approximately eight months after submission of the WorleyParsons 2014 Report to Consumers that is referenced in Part II of the CSXT Reply Evidence, WorleyParsons created a new subsidiary company called Advisian. Advisian provides strategic and management consulting services integrated with engineering and technical expertise. The individuals who prepared the original WorleyParsons report to Consumers in 2014 are now part of Advisian, and are the same individuals who are making this Statement.

We reviewed documents produced in the CSXT Reply Evidence as well as information produced on the record in the proceeding by Consumers’ witnesses, including:

- TranSystems Corporation report, dated March 4, 2016 and filed by CSXT with the Surface Transportation Board (hereafter “TS Report”)
- Report of Ralph W. Barbaro, Ph.D., PE, dated October 29, 2015 and filed by Consumers with the Surface Transportation Board as Exhibit II-1 to Consumers’ Opening Evidence (“Barbaro Report”)

- Spicer Study of Coal Delivery Options JHC, dated October 10, 2014 (“Spicer Report”)
- Cardno Preliminary Assessment of Campbell Plant Alternatives and Strategies, dated July 21, 2014 (“Cardno Report”)
- ERM Campbell Plant Vessel Coal Delivery Feasibility Report, dated October 2007
- ERM West Side Rail Study Report, dated March 2007

## **I.2 STRUCTURE OF THIS VERIFIED STATEMENT**

This Verified Statement is being submitted in response to statements made in the CSXT Reply Evidence regarding our work and work performed by other consultants for Consumers in 2014, and contains five sections. In addition to this Introduction (Section I), Section II examines the scope and purpose of WorleyParsons’ 2014 assignment and Report for Consumers and describes the analyses we performed. We describe the battery limits of our study, the order of magnitude of our cost estimates, and our inputs and assumptions. We also describe items that were outside the scope of our assignment.

Section III reviews the opinions presented by Consumers’ witness, Dr. Barbaro, as part of Consumers’ Opening Evidence. In this section we review the use of previous work in his analysis and we show that the opinions expressed by Dr. Barbaro are consistent with our conclusions in 2014.

Section IV discusses inaccuracies presented in the CSXT Reply Evidence concerning our work and our previous opinions. We show how CSXT inaccurately used our preliminary

conclusions regarding technical and environmental feasibility and expressed them as if they were final opinions that support conclusions regarding the economic competitiveness of transportation service. We discuss examples of these inaccuracies and how they affect conclusions regarding technical feasibility, permitting and cost of delivery options to Campbell.

Section V describes the differences between Muskegon Lake and Pigeon Lake, both of which are located in Michigan. CSXT takes the position that the J.H. Campbell site near Pigeon Lake is a “nearly identical location” to that of Consumers’ now-idled Cobb Station near Muskegon Lake, from the standpoint of the receipt of coal by vessel. We believe that in fact there are many significant and consequential differences between these two bodies of water, and we describe them in Section V.

## **II. PURPOSE AND SCOPE OF WORLEYPARSON’S 2014 REPORT**

On May 21, 2014, Consumers asked WorleyParsons to perform a “fast track” study to evaluate three alternatives (Options D, E and R) for coal delivery to Consumers’ JH Campbell facility. Our initial report was issued five weeks later on June 29, 2014.

On October 15, 2014, WorleyParsons was asked by Consumers to perform a small amount of additional work, and our final report including that additional analysis was issued on October 22, 2014.

The scope of our 2014 study included:

- a preliminary review of environmental and community impacts
- a preliminary review of materials handling
- a preliminary review of marine structural requirements

- high level 'screening' cost estimates

Our analysis was based upon a review of prior reports and documentation provided to us by Consumers and prior WorleyParsons work on similar studies. The scope of our study did not include:

- simulation modelling
- analysis of vessel capacity
- analysis of vessel availability
- analysis of commercial trends of Great Lake vessel operations
- detailed investigations of regulatory requirements or discussion with regulatory bodies
- analysis of the economic competitiveness of any option

WorleyParsons' principal scope of work was to review prior studies and information provided by Consumers. Our scope did not include contacting any third parties, including regulatory authorities, permitting agencies, short line or Class I railroads, barge operators, terminal operators, or community groups. WorleyParsons did not review information regarding Consumers' contract terms with CSXT, or the terms of other agreements involving third parties, such as { }.

The work that we performed for Consumers is similar to work we perform regularly for other clients in early phase or 'concept' phase engagements.



The potential alternatives discussed in the TS Report are similar – but not identical – to scenarios 2) and 3) above.

WorleyParsons was not asked to evaluate the source of the coal vessel loading or the feasibility of loading coal to vessels at KCBX or any other terminals where the coal would arrive from the Powder River Basin in Wyoming prior to shipment by vessel to either J.H. Campbell or Cobb.

KCBX was mentioned only twice in our 275-page report (and in the Glossary where we define the acronym). On page 3 and on page 36 of the WorleyParsons report we describe the marine structural design of Option D as capable of accommodating vessel deliveries from multiple locations including KCBX, Detroit Edison, Midwest Energy Resources, or other coal handlers/producers. KCBX is not specifically mentioned in our report as it pertains to Option E.

Consumers did not ask WorleyParsons to evaluate vessel availability on Lake Michigan. We were asked to provide our expert opinion on the *operational maneuverability* of various vessel sizes. Our review of operational maneuverability included an evaluation of operations as it pertained to:

- a) safe entry into the Pigeon Lake channel
- b) safe positioning of a vessel within Pigeon Lake for offloading at a dock for Option E
- c) safe exit from Pigeon Lake channel
- d) safe positioning of a vessel for offloading offshore for Option D, and
- e) general operations in Lake Michigan.

For Option D and Option R, WorleyParsons was asked to review and update the design and costs which were presented by ERM in their 2007 report.

***a. The WorleyParsons study was principally an engineering analysis; cost estimates were focused on physical plant and basic operational components.***

Option D and Option R were studied previously by ERM in 2007. WorleyParsons was asked to review the ERM design and update the ERM costs to present dollars based on the scope and quantities defined by ERM in their study. The deliverable in our agreed scope of work relating to cost estimates was to update to present dollars the estimate included in the 2007 ERM study for Option D based on the scope and quantities as defined in ERM study, and to recommend any modifications in scope.<sup>3</sup>

Consumers asked WorleyParsons to develop preliminary costs for only one new option (Option E). As part of the evaluation of this new Option E, Consumers asked us to review cost estimates prepared by ERM (2007) for three other Options (A, B and C). Consumers had previously rejected these three options because of the 316(b) environmental regulations associated with the J.H. Campbell plant's cooling water intake. We used the ERM cost estimates from Options A, B and C as the basis for our Option E cost estimates as all options involved the introduction of a new dock at Pigeon Lake for unloading of coal delivered by water.

In our operating cost estimates for both options D and E, Consumers asked us to include a cost per ton estimate for barge shipping transport. Since we did not know the proposed origin of the coal for Option D or E, we could not accurately estimate barge transport costs. For our barge transport cost estimate, therefore, we used the same cost per ton that Consumers provided

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<sup>3</sup> {

}

to us as a benchmark for the cost of barge transport to Cobb. We advised Consumers that using the Cobb benchmark as the estimate was a preliminary assumption.

In our study we did not provide cost estimates for anything outside of the physical plant and basic operational components. We provided no cost estimate or allowance for inventory carrying costs, carrying costs related to stockpiling coal, vessel or rail delays, origin transportation cost differentials, or other elements that could be relevant to a full analysis but were outside the scope of our study.

The cost estimates that we provided were at a { }. Our cost estimates included provisions for certain factors based on a percentage of the installed cost, as is customary in high-level desk top cost estimates. Our provisions included:

- { } engineering and procurement
- { } construction management
- { } contingency

***b. WorleyParsons completed a First Phase analysis: three additional phases are needed before a project can be considered financially feasible.***

Major projects are developed in phases. Each subsequent phase builds on the prior phase as the planning and execution of the project evolves from its initial conception through to its construction and deployment. The level of analysis, design, and project governance becomes increasingly detailed with each subsequent phase. The cost to implement each phase increases substantially from step to step as more work is required. The phased approach ensures that investors do not needlessly spend money on a project which ultimately turns out to be uneconomical or infeasible. As more information and understanding of the project is attained,

the confidence around the project's value increases. The project may become increasingly attractive or increasingly unattractive depending on what subsequent phases uncover.

Different organizations label these phases differently. WorleyParsons follows a construct of four phases defined as follows:

- 1) Identification – in this phase the project is defined in very broad terms as to the purpose, presumed rationale, the conceptual design, and a first order evaluation of options. The Identification phase results in a decision to abandon the project or to define the study parameters for the next phase.
- 2) Pre-Feasibility Study – A Pre-Feasibility Study is an engineering economics case evaluation of the potential of a proposed project. Project proponents use the Pre-Feasibility Study to determine whether the estimated benefits of the project are sufficiently higher than the estimated costs of the project to warrant the project sponsors to fund additional design phases. The Pre-Feasibility Study phase outlines and analyses alternatives and methods of achieving the desired outcome.
- 3) Feasibility Study or Front End Engineering Design (FEED) – A high-level design is needed to bridge a gap between the concept design and the future detailed design. FEED is especially important in cases where the concept design does not sufficiently inform the project sponsors. In a FEED study the system configuration is defined. The FEED will include schematics, diagrams, and layouts of the project to describe the project's configuration.
- 4) Bankable Feasibility Study or Detailed Design - This phase further elaborates each aspect of the project/product by complete description through solid modeling,

drawings as well as specifications, and may consist of procurement of materials as well.

Some example specifications to be finalized in the Detailed Design phase may include:

- Operating parameters
- Operating and non-operating environmental factors
- Test requirements
- External dimensions
- Maintenance and testability provisions
- Materials requirements
- Reliability requirements
- External surface treatment
- Design life

The 2014 WorleyParsons Report to Consumers was a first phase identification analysis with a limited intended scope.

***c. WorleyParsons conducted preliminary permit and environmental reviews. We specifically noted that more in-depth analysis was required.***

Our preliminary permit and environmental review was performed without contacting any regulatory agencies. We advised Consumers that if the project continued beyond the initial phase, additional work would be necessary to determine the requirements for permitting and WorleyParsons would then implement a four-step permitting analysis process.

The “*initial reconnaissance*” we performed in this study focused on developing a listing of permits and approvals required and defined the framework and critical paths of the project’s

regulatory schedule. Utilizing our knowledge and experiences with similar projects, regional community concerns and resource agencies' requirements, we completed the Initial Permit survey and identified the primary tasks anticipated. WorleyParsons prepared a matrix of Federal, state and local regulatory requirements, including key permitting steps and supporting documentation such as habitat or other studies that can reasonably be expected to significantly affect project design activities. We prepared a preliminary comparison of the schedule, some of the costs, and to the extent possible at this initial stage, discussed risk of a protracted permitting process or denial for the Maritime options (Option D and E) and the Rail Options.

We went on to state in our Report that {

}<sup>4</sup>

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<sup>4</sup> {

}

***d. WorleyParsons estimated some but not all costs associated with permits and regulatory approvals.***

WorleyParsons' cost estimates for different coal delivery Options were provided in spreadsheet format within Appendix 4 of our 2014 report. Our cost estimates were limited both by our scope of work, as well as information available at the time.

Specifically, our final cost estimates did not include several significant items:

- Stakeholder coordination/public outreach/meetings with community groups;
- Rezoning for a section of the northern shoreline of Pigeon Lake currently designated as lakeshore residential;
- Selection of dredged material disposal sites that will handle the material to be dredged both initially and annually;
- Dredge testing, dewatering and transportation to confined disposal sites.
- Hazardous waste disposal for any dredged material that may not pass toxicity characteristic leaching procedures (TCLP) in the future, or might otherwise be considered to be impacted so that reuse for beach nourishment or local disposal is not allowable;
- Annual maintenance dredging costs for the 64-acre area to be channelized within Pigeon Lake;
- Any permitting/approvals on the Chicago terminal end (KCBX is currently under pressure to reduce stockpiles);
- EIS for the Cobb option – rail extension would be over one mile and cross private property, including running within 50 ft. of a church.

In addition, while the text of our report discussed the potential need for \$ { } in permitting costs, including an EIS for Option E, that figure was not included in the actual cost estimate presented in Appendix 4.

Finally, while we clearly stated that litigation costs and negotiated settlements could run an additional { }, that number was not included in the cost presented in the spreadsheet in Appendix 4. The cost estimate for Option E in Appendix 4 of our Report covered only the costs for engineering items in nine specific categories: Dredging, Infrastructure, Dock, Terminal, Utilities, Navigational Aids, Materials Handling Equipment, Electrical and Mobilization. We also included cost estimates for Engineering, Procurement and Construction Management based on a percentage of the Total Installed Cost (TIC) of the project. We did not include cost estimates for several items such as environmental permits or litigation. It is common in a preliminary study to exclude non-engineering costs that cannot be estimated at the desired level of accuracy. We were, however, quite clear in our report about the possibility of these costs being required:

{

}<sup>5</sup>

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<sup>5</sup> {

}

We believed the likelihood of an EIS being required for Option E (Pigeon Lake) was high. We did not include that estimate in our overall cost estimate, however, given our recommendation that the next step to be taken would be to meet with the regulators, confirm the regulatory requirements, and discuss in earnest the likelihood of any of these options being permitted.

Further, the \$ { } litigation cost estimate was just that: an estimate. Litigation costs are very difficult to predict in advance, and the actual issues to be litigated might not arise until the permitting process is well underway and the public and other stakeholders have had an opportunity to respond.

***g. Consumers did not ask and WorleyParsons did not offer opinions as to final permit approvals, the economic feasibility of any options, or the effectiveness of any options as competitive alternatives to CSXT.***

#### **Final Permit Approvals**

In our Report we do not describe any option as “permissible”. Only regulatory agencies can make that determination. Our report states that { }, but that further investigation was required.

In our Report we stated that: {

}<sup>6</sup>

In our Report we highlighted significant concerns related to permitting. We identified possible barriers to permitting, several of which were potential {

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<sup>6</sup> {

}

■

}

### **Economic Feasibility**

Consumers did not ask WorleyParsons to offer an opinion whether any transportation alternative was economically competitive to CSXT, and we never stated in our report that any transportation alternative was economically competitive. We identified technically viable options, provided cost estimates for certain physical facilities { }, identified risks, and made recommendations to Consumers to “carry forward for further studies, based on costs, environmental considerations and operational considerations.” Nowhere did we offer an opinion regarding any alternative’s economic feasibility or competitiveness.

### **III. REVIEW OF DR. BARBARO’S OPINION**

Dr. Barbaro’s Report in this proceeding provides an analysis of coal delivery options to Consumers’ Campbell facility drawing on prior work done by WorleyParsons, ERM and Spicer, and adding new detail not analyzed in the WorleyParsons 2014 study.

The Barbaro Report includes analysis of details that were not within the scope of the 2014 WorleyParsons Report, including:

- Lake vessel availability
- Lake vessel rates for transporting coal
- Tug boat harbor assistance requirements at MERC or KCBX, Carrying cost of coal stockpiles
- The Capital Recovery Factor for new investments in infrastructure
- Capacity of KCBX or MERC facilities
- BNSF rail rate differential for delivery of coal to Lake terminals
- Consumers’ Cost of Capital and IRR requirements to justify capital expenditure

- KCBX issues that could impact service and cost of coal shipments from KCBX to Campbell:
  - Chicago Department of Public Health new rules for controlling emissions from bulk materials storage
  - KCBX ongoing issues dealing with fugitive dust with complaints from local citizens and property owners
  - Inability to stockpile PRB coal in the winter

The Barbaro Report also provides a more complete economic analysis of potential options, as it includes information not reviewed by WorleyParsons, including but not limited to:

- The CSXT rates for rail deliveries to Campbell
- The BNSF rate from the Powder River Basin to Chicago
- The BNSF contract requirements regarding shipments
- Actual costs of transporting coal to Consumers' Cobb facility
- Actual vessel transportation costs
- Actual dredging costs for Pigeon Lake
- The terms of contracts involving third parties, { }
- Consumers' minimum after tax return or weighted average cost of capital

The cost estimate prepared by Dr. Barbaro is generally consistent with the WorleyParsons Report. Our cost estimates were based on information provided at the time and did not include estimates for items outside of our scope of work. In some cases Dr. Barbaro has included costs that represent either new sources of information or actual contracts that were not available to WorleyParsons at the time that our estimate was developed.



}

In comparison, the WorleyParsons 2014 Report identified the following environmental and community considerations that would be encountered in obtaining approvals for Option E at Pigeon Lake:

- Ability to obtain federal and state permits (e.g., Critical Dunes [NREPA Part 353]; Wetlands [Part 303 and CWA Section 404]; Stream / Lake [Part 301; LHA Section 10]; FERC agreement for Ludington Pump Station; disposal of dredged materials;
- Potential Limitations on allowable land uses in Subaqueous Lands Leases. Riparian rights and other legal agreements may limit implementation of this alternative;
- Adequate acreage of Consumers Energy owned lands (or availability to acquire) for mitigation of wetlands including emergent wetlands which must be mitigated at a 4:1 ratio (or higher);
- Recreational boat navigation hindrances within Pigeon Lake;
- Mitigation of emergent wetlands, considered highly valuable so high replacement ratios may apply;
- Hydraulic effects and erosion impacts of vessels berthed at the mouth of intake channel on Pigeon Lake;
- Increased commercial traffic in the lake Recreational use of Pigeon Lake including fishing and boating;

- Noise, dust and aesthetic impacts to local residences and Pigeon Lake property owners.<sup>11</sup>

Further, there are several citations in the Barbaro Report that refer to issues that WorleyParsons did not quantify, or estimated a cost that was not included in the overall project costs presented in the spreadsheet in Appendix 4 to our 2014 study. Specifically with regard to the Pigeon Lake vessel alternative, they include the following:

Barbaro, p. 4:

{

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<sup>11</sup> {

}

}

Each of these statements is accurate; WorleyParsons preliminarily estimated \$  
} for permitting Option E, including an EIS, but that cost was not included in our  
spreadsheet within Appendix 4. Likewise, while we broadly estimated that litigation costs and

stakeholder coordination could run from \$ { }, we did not include those estimates in our overall costs as presented in Appendix 4 of our report.

Finally, WorleyParsons stated clearly in our 2014 report (p. 52) that we did not attempt to estimate port operating costs and we “included { } operations cost as a placeholder.”

Dr. Barbaro’s Report states on p. 5: {

}

Dr. Barbaro’s observation is correct. Due to the scope of study, we considered some, but not all costs associated with permitting and approvals. For example, WorleyParsons entered a generic cost of { } for dredging, based on previous studies. As Dr. Barbaro pointed out on p. 13 of his Report:

{

}

This assessment is consistent with our understanding that dredging a large section of Pigeon Lake (about 28% of the lake area) will present significant regulatory, environmental and

technical challenges that will exceed the { } nominal cost included in our original cost estimate.

#### IV. CSXT DISTORTS THE WORLEYPARSONS REPORT

CSXT uses our 2014 report to attempt to justify its conclusions regarding the alleged economic viability or the permissibility of a vessel delivery option for coal moving to the Campbell Station. The following are examples where CSXT inaccurately cited our statements, inaccurately referenced our conclusions out of context, or stretched our preliminary conclusions regarding operational feasibility into final opinions that we did not offer.

- 1) { }<sup>12</sup> WorleyParsons never stated that any transportation alternative was economically competitive. The evaluation of the competitiveness of any option was not within our scope of work. We identified technically viable options and made recommendations to Consumers to “carry forward for further studies, based on costs, environmental considerations and operational considerations.”<sup>13</sup>
- 2) CSXT states that “Consumers' prior consultants estimated { } to construct a dock alternative. . . .”<sup>14</sup> CSXT used the lowest estimate in our range of cost estimates to support its point, and claimed that this represents the actual cost for a Pigeon Lake dock alternative. In actuality, we estimated that the capital cost to construct a dock and develop the necessary infrastructure to support water options was in the *range* of \$ { }

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<sup>12</sup> CSXT Reply at I-9.

<sup>13</sup> { }

<sup>14</sup> CSXT Reply at I-10.

} based on option and vessel size selected. The \$ {

}) was for a shoreline dock which could accommodate a

15000 DWT vessel. It cannot be used as a surrogate cost for the system designed by TS, which contemplates 18,000 ton vessels using a mid-lake unloading platform and a coal conveyor.

3) CSXT refers to {

}<sup>15</sup> This quote is not from our report, contrary to the footnote on page I-12 of CSXT's Reply Narrative, and does not accurately represent our report, which only concluded *preliminarily* that certain options were technically viable from an engineering standpoint, but also noted that further study was needed to assess costs and the prospects for obtaining the necessary permits.

4) CSXT states that {

}<sup>16</sup> This is an excerpted quote from our report that is taken out of context. The report continues, {

} WorleyParsons also states that permit approval

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<sup>15</sup> CSXT Reply at I-11-12.

<sup>16</sup> CSXT Reply at I-12.

<sup>17</sup> {

}

would likely require an Environmental Impact Statement, and that community opposition could result in litigation costs requiring a contingency of { }.<sup>18</sup>

5) CSXT states that: {

{<sup>19</sup> Analysis of vessel capacity was not in our work scope, as noted earlier in this Statement. In fact, our report goes on to state: {

}<sup>20</sup>

6) In at least 8 places, CSXT states that {

{<sup>21</sup> Nowhere in our report did WorleyParsons describe any option as { } Only regulatory agencies can make a determination regarding permissibility. Our report states only that based on our permit research regarding prior approvals, we thought that both Options D and E *could* successfully obtain permits, but that considerable further investigation and research was needed in order to reach a conclusion.<sup>22</sup> Significantly, we also did not provide a detailed timetable or cost estimate for all of the phases of permitting that would be involved.

Our report pointed to several significant possible barriers to permitting, and stated that the permitting process could end in a denial.<sup>23</sup>

7) Our prior work provides no support for the CSXT statement that {

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<sup>18</sup> *Id.* at 83.

<sup>19</sup> CSXT Reply at II-B-38.

<sup>20</sup> {

<sup>21</sup> *See, e.g.*, CSXT Reply at II-B-36.

<sup>22</sup> {

<sup>23</sup> {

}

}

}

}<sup>24</sup> In fact, our report notes the presence of multiple high-priced homes, and two powerful homeowners associations - the Mountain Beach Home Owners Association (MBHA) and Port Sheldon Home Owners Association (PSHA) – that would provide a common voice to the owners of impacted homes and any common lands. As we noted in our report, a protracted legal battle with local homeowners over compensation for property value loss is possible and could drive permitting costs { } and potentially end in a denial.<sup>25</sup> Moreover, these observations related to a dock that would be located on the Pigeon Lake shoreline. The identical risks are not mitigated by CSXT’s consultants’ alternate placement of a dock (or platform) within Pigeon Lake, which we note very likely would run afoul of local zoning rules in any event.

## **V. THE CAMPBELL FACILITY IS NOT “NEARLY IDENTICALLY SITUATED” AS THE COBB FACILITY**

CSXT repeatedly contends that Consumers could employ a water-based approach at Campbell because “Consumers exclusively used water transportation *at a plant nearly identically situated to Campbell.*”<sup>26</sup> This assertion that Cobb and Campbell are identically situated ignores gross physical differences between the two water bodies that are adjacent to the two plants, and dramatically different vessel operations that would be required at the two plants. The claim that

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<sup>24</sup> CSXT Reply Evidence at II-B-37.

<sup>25</sup> {

<sup>26</sup> CSXT Reply Evidence at I-7 (emphasis added).

}

the two plants are identically situated also wrongly implies that the environmental impacts of commercial vessel operations and required mitigation are similar.

The Cobb facility and its dock were constructed long before any state or federal environmental regulations were in place, regulations that in the modern era would severely restrict dock construction, and would affect shoreline stabilization, continuous operating vessel traffic, and dredging.

The two locations also are very different in ways that materially affect the technical and environmental feasibility of Pigeon Lake hosting a vessel unloading facility, including:

1. Size, Depth and Physical Characteristics;
2. Dredging requirements;
3. Land Use and Socioeconomic Impacts;
4. Natural Resources and Environmental impacts;
5. Recreational Use;
6. Technical differences between the Cobb and Campbell facilities; and
7. Regulatory Requirements that did not exist in 1949 (when Cobb was constructed)

### **1. Size, Depth and Physical Characteristics**

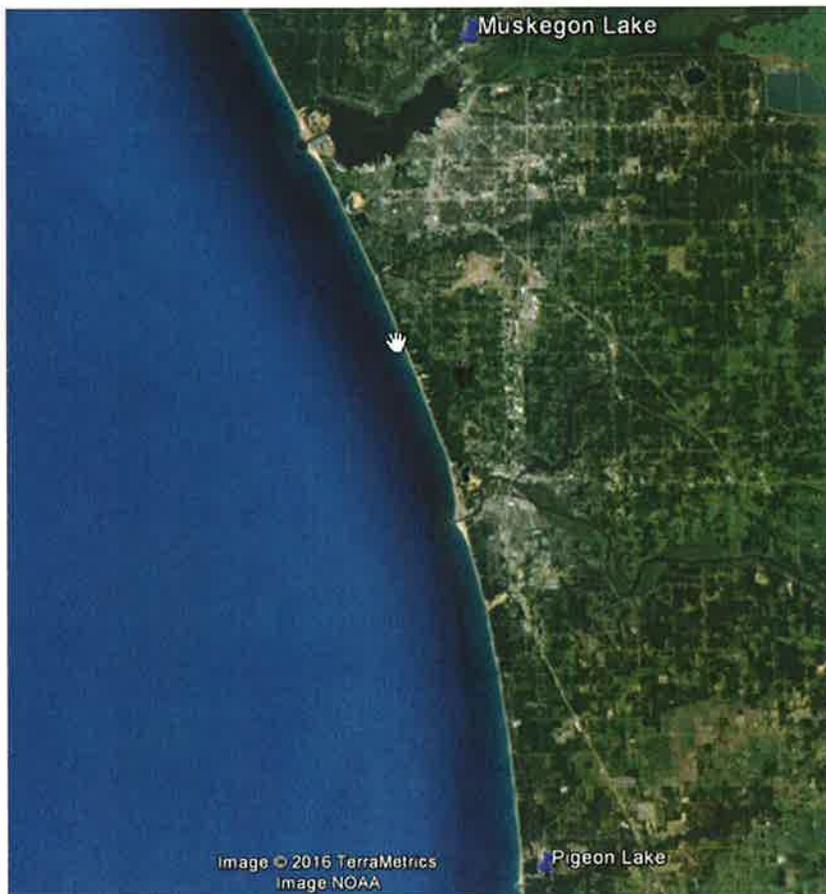
The overall size and depth characteristics of the two lakes are very important in differentiating the ability to obtain approvals required to build a coal dock in Pigeon Lake and to allow vessel traffic through the area. The depth and sediment characteristics are important in understanding potential environmental impacts and necessary dredging. Dredging in Pigeon Lake

would be required both for initial construction and also to maintain the channel and dock area were one to attempt to operate coal vessels there on a regular basis.

### Size

A comparison through aerial photography (Figure 1) indicates that Muskegon Lake, where the Cobb plant is located, is a much larger water body (6.48 square miles) than Pigeon Lake (0.35 square miles or 225 acres). Muskegon Lake is much more conducive to commercial vessel traffic as there is ample room to bring in vessels and tugs and much of the shoreline is already developed with commercial, industrial and suburban development.

**Figure 1 - Aerial Photograph of Lake Michigan Shoreline<sup>27</sup>**



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<sup>27</sup> Google Earth

## Depth

Muskegon Lake also is a significantly deeper water body (79 ft. maximum depth) than Pigeon Lake (27 ft. maximum depth).<sup>28</sup>

## Bottom Characteristics

Describing the bottom characteristics of Pigeon Lake, Jude et al. (1981) reported that: “*The deepest part of the lake, located in the western portion, is 8.25 m; a moderately deep channel (2.1-3.5 m) follows the southern shoreline, which accommodates many docking facilities; approximately 40 exist in the whole lake.*” They further state that “*The eastern third of the lake has a maximum depth of 3.25 m, an organic bottom, and extensive beds of aquatic macrophytes. The western two-thirds has a bottom of mixed organic material and sand, while the extreme west end has a sand bottom.*” Clearly the bottom sediments of Pigeon Lake have been subjected to far less commercial vessel traffic and as a result can be expected to be much less contaminated than those in Muskegon Lake. In contrast, Muskegon Lake has bottom sediments reflecting a long history of commercial vessel traffic and industrial use.<sup>29</sup> The report from a 2002 study prepared by Grand Valley State University for EPA described different areas of contamination in lake sediments stemming from its industrialized history (see Figure 2).<sup>30</sup> In describing the history of Muskegon Lake it noted:

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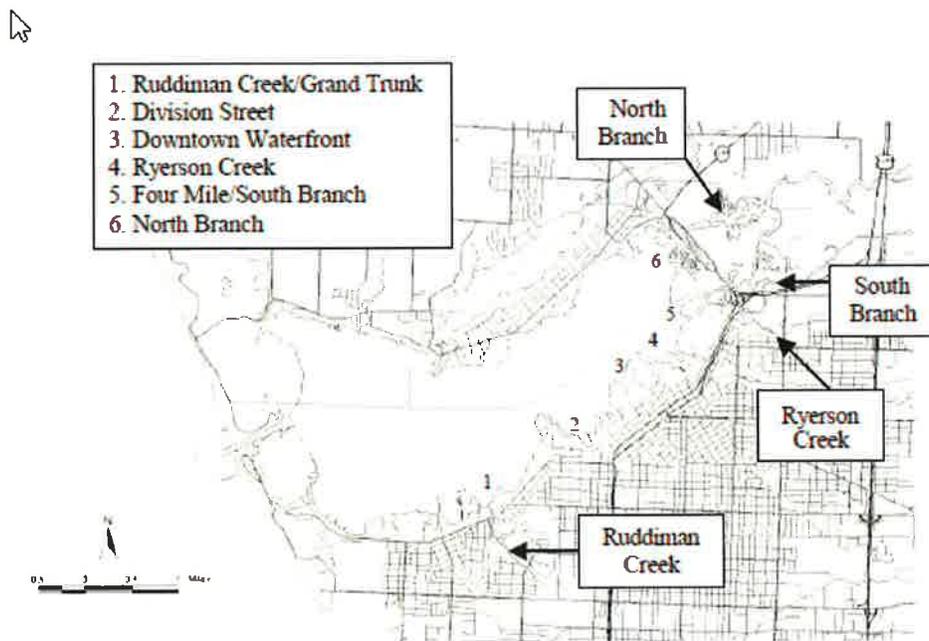
<sup>28</sup> See David J. Jude et al., *The Physical, Chemical, and Biological Nature of Pigeon Lake, A Michigan Coastal Lake* (Apr. 1981), <http://quod.lib.umich.edu/g/glrr/4739141.0001.001?rgn=main;view=fulltext>. See also FishMich.com, <http://www.fishmich.com/counties/muskegon-lakes/muskegon-lake.html> (last visited May 6, 2016).

<sup>29</sup> Lynn Moore, *Lumber mill debris being dredged from Muskegon Lake as part of \$5 million cleanup*, MLive (Oct. 1, 2015), [http://www.mlive.com/news/muskegon/index.ssf/2015/10/lumber\\_mill\\_debris\\_being\\_dredg.html](http://www.mlive.com/news/muskegon/index.ssf/2015/10/lumber_mill_debris_being_dredg.html).

<sup>30</sup> Dr. Richard Rediske et al., *Preliminary Investigation of the Extent of Sediment Contamination in Muskegon Lake*, Figure 1.2 at 5 (July 2002) (Report prepared for EPA by Annis Water Resources Institute at Grand Valley State University), [https://www.gvsu.edu/cms4/asset/C171E200-A9E7-33B9-57544583AFC2C9D4/muskegon\\_sediment\\_assessment.pdf](https://www.gvsu.edu/cms4/asset/C171E200-A9E7-33B9-57544583AFC2C9D4/muskegon_sediment_assessment.pdf).

*“The system was drastically changed in the 1800s when lumber barons harvested the region’s timber resources and left behind a legacy of barren riparian zones and severe erosion. Saw mills were then constructed on the shoreline and much of the littoral zone was filled with sawdust, wood chips, timber wastes, and bark. Large deposits of lumbering waste can still be found today in the nearshore zone of Muskegon Lake. The lumbering era was followed in the 1900s by an era of industrial expansion related to foundries, metal finishing facilities, petrochemical production, and shipping. Local dunes were extensively mined for foundry sand and the shoreline of Muskegon Lake had to be further modified to support heavy industry. Large quantities of waste foundry sand and slag were used as fill material in the remaining littoral zone.”<sup>31</sup>*

**Figure 2 – Sediment Contamination in Muskegon Lake<sup>32</sup>**



The report concluded that:

*“A preliminary investigation of the nature and extent of sediment contamination in Muskegon Lake was performed using Sediment Quality Triad methodology. Sediment chemistry, solid phase toxicity, and benthic macroinvertebrates were examined at 15*

<sup>31</sup> *Id.* at 3-4.

<sup>32</sup> *Id.* Figure 1.2 at 5.

*locations. In addition, three core samples were evaluated using radiodating and stratigraphy to assess sediment stability and contaminant deposition. High levels of cadmium, copper, chromium, lead, and mercury were found in the Division Street Outfall area. These levels exceeded the Probable Effect Concentrations (PECs) for current sediment quality guidelines. Most of the heavy metals were found in the top 80 cm of the core samples. Deeper layers of contamination were only found near the former Teledyne foundry and downstream from Ruddiman Creek. High concentrations of PAH compounds were found at a location down gradient from the former lakeshore industrial area. These levels also exceeded PEC guidelines. Sediment toxicity was observed at two stations in the Division Street Outfall area and at the lakeshore industrial area. These locations had the highest concentrations of metals and PAH compounds, respectively. Benthic macroinvertebrate communities throughout Muskegon Lake were found to be indicative of organically enriched conditions.”<sup>33</sup>*

It is apparent from their contrasting conditions that the introduction of regular commercial coal operations such as TS’ proposed Direct Water alternative would cause new and adverse environmental impacts to Pigeon Lake, affecting both the ability to obtain permits and posing such operational challenges as the ability to dispose of dredged material economically.

## **2. Dredging Requirements**

Because Muskegon Lake is much deeper, the dredging requirements for commercial vessel traffic are far less than would be the case for the shallow water body of Pigeon Lake. Muskegon Lake’s larger size also means that dredging is less likely to result in hydrodynamic changes to the overall water body that could change erosion and sedimentation rates. In contrast, the amount of dredging proposed by TS at Pigeon Lake (64 acres), even if we assume that no more would be required, constitutes 28% of the total lake bottom area, which would result in the dredging having a major impact on turbidity and other hydrodynamic conditions. Additionally, the presence of organic material and

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<sup>33</sup> *Id.* at 100.

finer sediment in the eastern portion of Pigeon Lake indicates that sloughing of the sides of the channel would occur more readily, requiring even more frequent maintenance dredging. Also, because the sediment in the eastern portion of Pigeon Lake is mixed with organic material, it would need to be tested for toxins and other constituents before being disposed of, and it would be more difficult to dewater, both of which add to construction and operating costs.

Pigeon Lake has a relatively shallow depth because of the silt deposits resulting from it being at the mouth of Pigeon Creek. The eastern third of the lake contains organic sediments with thick aquatic vegetation growth indicative of its depositional nature. These are important characteristics that are quite different from Muskegon Lake. CSXT's consultants ignored the importance of this shallow depth when they failed to include maintenance dredging for both the channel and dock areas. Nor did they account for all the permitting considerations that would be required for initial approval to construct an unloading facility.

### **3. Land Use and Socioeconomic Impacts**

Review of Figures 1 through 5 and relevant literature (e.g. City of Muskegon zoning plan<sup>34</sup>) indicates that land use characteristics vary greatly between the two lakes. Not surprisingly, land use patterns have affected their respective water quality and natural resources. As shown on the City of Muskegon zoning map,<sup>35</sup> much of the area around the lake including much of the southern and eastern lakeshore has been developed. Muskegon Lake has decades of history with commercial barge shipping in support of industries along its shoreline.

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<sup>34</sup> Master Land Use Plan, City of Muskegon, <http://www.muskegon-mi.gov/departments/planning/plans/master-plan/> (last visited May 6, 2016).

<sup>35</sup> City of Muskegon Zoning Map, <http://www.muskegon-mi.gov/cresources/zoningmap.pdf> (last visited May 6, 2016).

Incrementally adding another vessel or two per day would not have nearly the same effect as it would within Pigeon Lake, where currently there are virtually no commercial vessels.

While coal and other vessel traffic has been steady and regular at Muskegon Lake to support Consumers' Cobb facility and the many other industries that have been located along its shores, the Campbell facility on Pigeon Lake has not, to our knowledge, received vessel shipments of coal. There only have been occasional barge shipments of equipment to the Campbell facility over the last four years, and each shipment has attracted considerable attention from the local news media.<sup>36</sup> These news articles demonstrate that commercial barge traffic in Pigeon Lake is considered extraordinary by the public.

The economics of land use in the vicinity of each lake is linked to their differing paths of development. While the J.H. Campbell plant has been in the vicinity of the Pigeon Lake lakeshore for many years, most of the lake is surrounded by expensive lake homes and locations with recreational boat access. And as shown on Figures 3 and 4, the contrast between the boat launches at Pigeon and Muskegon Lakes is quite evident.

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<sup>36</sup> Barge deliveries of equipment for use at the Campbell plant are considered newsworthy as evidenced by articles that CSXT has submitted for the record. See CSXT Reply e-workpapers "2011 Environmental Equipment Delivery.pdf"; "2013 Barge Deliveries to Campbell.pdf"; "2014 Barge Deliveries to Campbell.pdf."

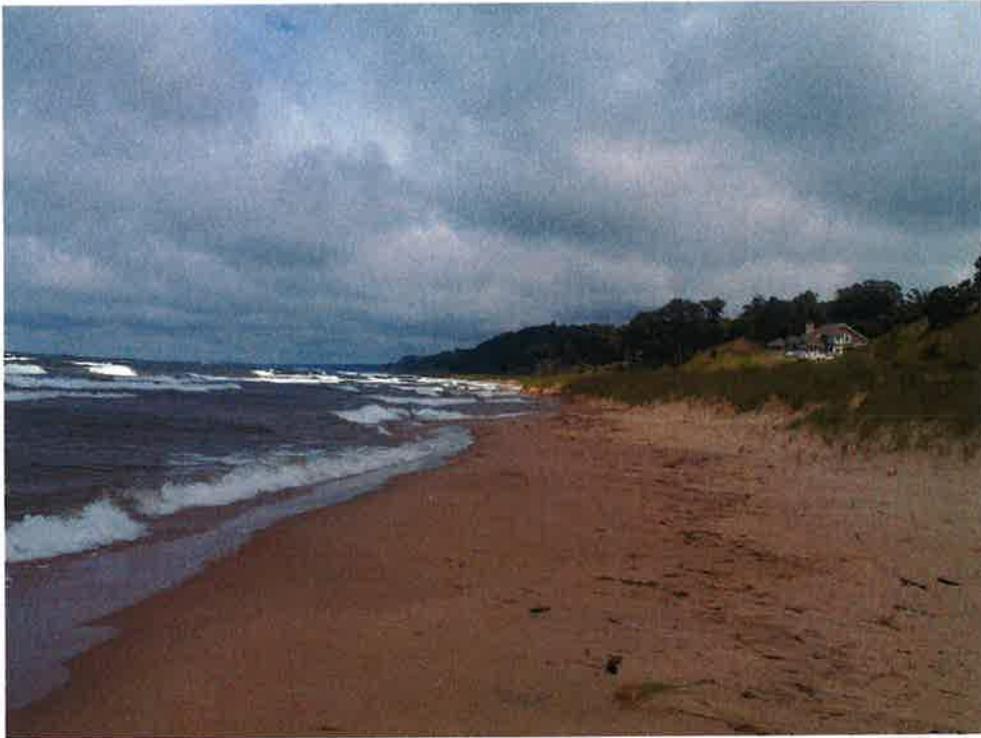
**Figure 3 - Boat Launch at Pigeon Lake**



**Figure 4 – Boat Launch at Muskegon Lake**



**Figure 5 – Lakefront home just north of the Pigeon Lake inlet**



A zoning map for Port Sheldon township (Figure 6) shows that land currently owned by Consumers is zoned industrial, but that other shoreline areas that would be impacted by construction of a coal unloading facility (shoreline stabilization, erosion, dredging) are zoned as residential and lakeshore residential, such that that rezoning authorization would be required by the township. CSXT's own documents show that township officials have expressed their authority in reviewing any projects that would affect land use along the Lake.<sup>37</sup> In documents prepared by CSXT's consultants, {

}<sup>38</sup> The mid-lake platform and conveyor proposed by TS in this litigation would conflict with this policy.

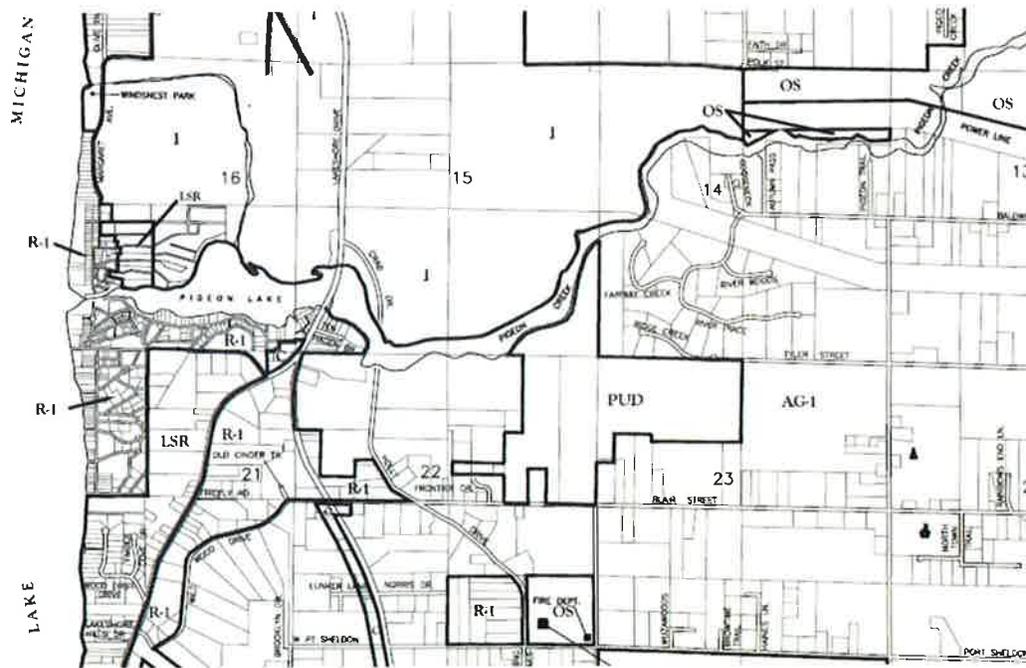
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<sup>37</sup> {

<sup>38</sup> *Id.*

}

**Figure 6 – Port Sheldon Township Zoning Map showing vicinity of Pigeon Lake<sup>39</sup>**



Home values in Ottawa County (where Pigeon Lake is located) are considerably higher than home values in Muskegon County. This very likely reflects the fact that the area is less developed with commercial and industrial properties. According to Realtor.com, as of April 1, 2016, the average home price in Muskegon County was \$59,900, while the average home price in Ottawa County was \$219,900.<sup>40</sup> By comparison, the average home price for the state of Michigan was \$99,900. The 2014 WorleyParsons report indicated that expensive vacation homes and boat slips line a significant portion of the Pigeon Lake shoreline. The impacts of daily arrivals of 15,000+ ton coal vessels into Pigeon Lake would be far greater than the impacts of the historic vessel movements to Cobb on Muskegon Lake.

<sup>39</sup> <http://www.portsheldontwp.org/wp-content/uploads/2013/10/ZoningMap.pdf>

<sup>40</sup> Realtor.com, [http://www.realtor.com/local/Ottawa-County\\_MI/home-prices?v7=1](http://www.realtor.com/local/Ottawa-County_MI/home-prices?v7=1) (last visited Apr. 1, 2016).

A defining feature of Pigeon Lake is its well-known recreational use.<sup>41</sup> A perusal of Google Maps confirms that the lake is adjacent to a Lake Michigan beach, its coastline is lined with private docks for pleasure boats, it offers a kayak launch, a motorized boat launch, expensive single family residences and vacation homes, and hosts establishments such as the Sandy Point Beach House, “Into the Woods Retreat”, and Port Sheldon Natural Area. The latter is described by its web site as “a beautifully groomed County Park.” All of these pre-existing uses would be adversely impacted by the introduction of commercial coal vessels on a regular basis, and those impacts would feature prominently in the evaluation of developments permit applications and lake use restrictions.

#### **4. Natural Resources and Environmental Impacts**

Only a preliminary environmental review was performed in connection with the 2014 reviews of a vessel route to Campbell. The Cardno JFNew report, presented as Appendix F in the Spicer (2014) study, concluded:

{  
  
} <sup>42</sup>

CSXT does not mention this quote in its Reply Evidence.

There is a significant amount of information that would have to be collected before anyone could conclude, as CSXT and TS appear to assume, that the proposed Direct Water project would not have significant adverse impacts on the aquatic ecology of Pigeon Lake. For example, while Jude et al. (1981) mentioned that much of the eastern third of the lake was vegetated, no formal

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<sup>41</sup> Richard Corrigan, *Pigeon Lake Fishing in W. Olive, Mich.*, USA Today Travel Tips, <http://traveltips.usatoday.com/pigeon-lake-fishing-west-olive-michigan-107858.html> (last visited May 6, 2016).

<sup>42</sup> {

}

wetland delineation of the area proposed by TS for its sheet piling and conveyor has been conducted. Such areas can provide significant habitat for waterfowl, piscivorous birds and mammals such as herons, osprey and mink, and a variety of other species of reptiles, amphibians, birds and mammals that may use the shoreline. Nor has any review been conducted of benthic communities, fish or wildlife that would be affected by at least 64 acres of dredging in a 225 acre lake.

There is no detailed discussion in prior reports or in the TS Report of the species impacted by at least 2.5 to 4 acres of wetland fill and 2 acres of dune disturbance associated with installation of coal unloading facilities in Pigeon Lake. The U.S. Fish and Wildlife Service’s web page notes that Pitcher’s thistle (*Cirsium pitcher*) a state-threatened plant species, has been reported on “stable dunes and blow-out areas” in Ottawa County. No related investigation has yet been conducted of the project area.<sup>43</sup>

Cardno JFNew did note that wetlands might well need to be replaced at a ratio of 5 acres to every 1 disturbed:

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}<sup>44</sup>

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<sup>43</sup> U.S. Fish & Wildlife Service, Michigan County Distribution of Federally –Listed Threatened, Endangered, Proposed, and Candidate Species, <http://www.fws.gov/midwest/endangered/lists/michigan-cty.html> (last visited May 6, 2016).

<sup>44</sup> {  
}

These facts are ignored by TS in the cost estimates set out in Appendix 3 to its Report for CSXT.

## **5. Technical Layout of Cobb versus Campbell**

The configuration of the existing wharf structure at the Cobb location is significantly different than what is being proposed by CSXT and TS for the Campbell location. As the TS Report acknowledges, the wharf at Cobb was “constructed to handle Class I vessels with a capacity of approximately 50,000 tons per vessel.” Coal at Cobb was delivered by self-unloading vessels that discharged into a receiving hopper at the rear of the wharf face. The hopper served a 72-inch, electric belt-conveyor extending to a stacker in the rear. The existing wharf at Cobb is a steel sheet-pile bulkhead with concrete-surfaced solid fill that provides approximately 1,800 ft. of berthing space.<sup>45</sup> This type and size of quay configuration and alignment provides flexibility in that many different vessel sizes with self-unloading capability can call on the port, and would have sufficient room to maneuver safely to the dock.

In contrast, the smaller pile-supported platform and mooring dolphin arrangement proposed by TS for Pigeon Lake were selected apparently because the dimensions of the lake cannot accommodate a large wharf structure. TS addressed this by proposing that the platform (mooring face) be located in deeper water and away from the shallow water and shoreline wetlands, with a conveyor connecting the platform to the shore and the Campbell coal handling facilities. However, even with this proposed change in layout, maneuvering space for the vessel designed by TS is limited, especially in the event of adverse weather conditions, as its own schematic shows.<sup>46</sup>

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<sup>45</sup> Seaport Find the Data, <http://seaport.findthedata.com/l/6410/Consumers-Power-Co-B-C-Cobb-Plant-Wharf> (last visited May 6, 2016).

<sup>46</sup> See CSXT Reply Exhibit II-B-1, Appendix 1.

## **6. Many Current Regulatory Requirements did not exist in 1949**

The CSXT argument regarding Cobb as a model for options at Campbell ignores history in considering whether such a facility could be built today. While it might be technically feasible to build a dock in Pigeon Lake from an engineering standpoint (*i.e.*, one could physically construct it), it is not likely to happen without encountering significant regulatory and community opposition.

The Cobb facility on Muskegon Lake was built in 1949, before the advent of environmental regulation. The following is a list of key Federal statutes, resource laws and executive orders that likely would be applicable today for compliance and obtaining approvals and permits to construct commercial infrastructure in Pigeon Lake which were not in effect in 1949.

- **Water Quality Act of 1965** - October 2, 1965 President Johnson signed the Water Quality Act, preventing water pollution by requiring states to establish and enforce water quality standards for interstate waterways.
- **National Historic Preservation Act of 1966** - The National Historic Preservation Act, was signed into law on October 15, 1966. The act requires federal agencies to evaluate the impact of all federally funded or permitted projects on historic properties (buildings, archaeological sites, etc.) through a process known as Section 106 Review.
- **National Environmental Policy Act (NEPA) of 1969 – Enacted January 1, 1970**  
**Clean Water Act (CWA) - Federal Water Pollution Control Act Amendments of 1972** Under sections 301 and 502 of the Clean Water Act, any discharge of dredged or fill materials into "waters of the United States," including wetlands, is forbidden unless authorized by a permit issued by the USACE pursuant to section 404 of the Act.

**CWA § 404: Permits for Dredged or Fill Material** “Facilities that discharge dredged or fill materials into waters of the United States must apply for a permit issued by the Army Corps of Engineers (USACE). In certain circumstances, EPA also may prohibit, restrict or deny the issuance of a Section 404 permit to discharge dredged or fill material into a water of the United States whenever the Administrator determines the discharge will have an unacceptable adverse effect on resources identified in the Act.”<sup>47</sup> Section 404(b) guidelines (Section 230.10) state that “*no discharge of dredged or fill material shall be permitted if there is a practicable alternative to the proposed discharge which would have less adverse impact on the aquatic ecosystem, so long as the alternative does not have other significant adverse environmental consequences.*” **Consumers already has access to all-rail coal delivery service to Campbell**, which is clearly a practicable alternative to proposed water delivery options that would impact aquatic ecosystem in Pigeon Lake. This would make it difficult for USACE to permit the option proposed by TS.

**CWA § 401 - State Certification of Water Quality** “The major Federal licenses and permits subject to Section 401 are Section 402 and 404 permits (in nondelegated States), Federal Energy Regulatory Commission (FERC) hydropower licenses, and Rivers and Harbors Act Section 9 and 10 permits. States and Tribes may choose to waive their Section 401 certification authority. States and Tribes make their decisions to deny, certify, or condition permits or licenses primarily by ensuring the activity will comply with State water quality standards. In addition, States and Tribes look at whether the

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<sup>47</sup> EPA, Enforcement, Clean Water Act (CWA) and Federal Facilities, <https://www.epa.gov/enforcement/clean-water-act-cwa-and-federal-facilities> (last visited May 6, 2016) (§ 404: Permits for Dredged or Fill Material).

activity will violate effluent limitations, new source performance standards, toxic pollutants, and other water resource requirements of State/Tribal law or regulation.”<sup>48</sup>

The 1972 amendments:

- Established the basic structure for regulating pollutant discharges into the waters of the United States.
  - Gave EPA the authority to implement pollution control programs such as setting wastewater standards for industry.
  - Maintained existing requirements to set water quality standards for all contaminants in surface waters.
  - Made it unlawful for any person to discharge any pollutant from a point source into navigable waters, unless a permit was obtained under its provisions.
  - Funded the construction of sewage treatment plants under the construction grants program.
  - Recognized the need for planning to address the critical problems posed by nonpoint source pollution.
- **Great Lakes Water Quality Agreement of 1972** - The U.S. and Canada first signed the Agreement in 1972. It was amended in 1983 and 1987. In 2012, it was updated to enhance water quality programs that ensure the “chemical, physical, and biological integrity” of the Great Lakes.
  - **Endangered Species Act of 1973** – Section 7 of the Act states the following:  
“(2) Each Federal agency shall, in consultation with and with the assistance of the

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<sup>48</sup> EPA, Overview of Section 401 Certification and Wetlands, <https://www.epa.gov/cwa-404/overview-section-401-certification-and-wetlands> (last visited May 6, 2016).

Secretary, insure that any action **authorized**, funded, or carried out by such agency (hereinafter in this section referred to as an “agency action”) is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined by the Secretary, after consultation as appropriate with affected States, to be critical, unless such agency has been granted an exemption for such action by the Committee pursuant to subsection (h) of this section. In fulfilling the requirements of this paragraph each agency shall use the best scientific and commercial data available.”

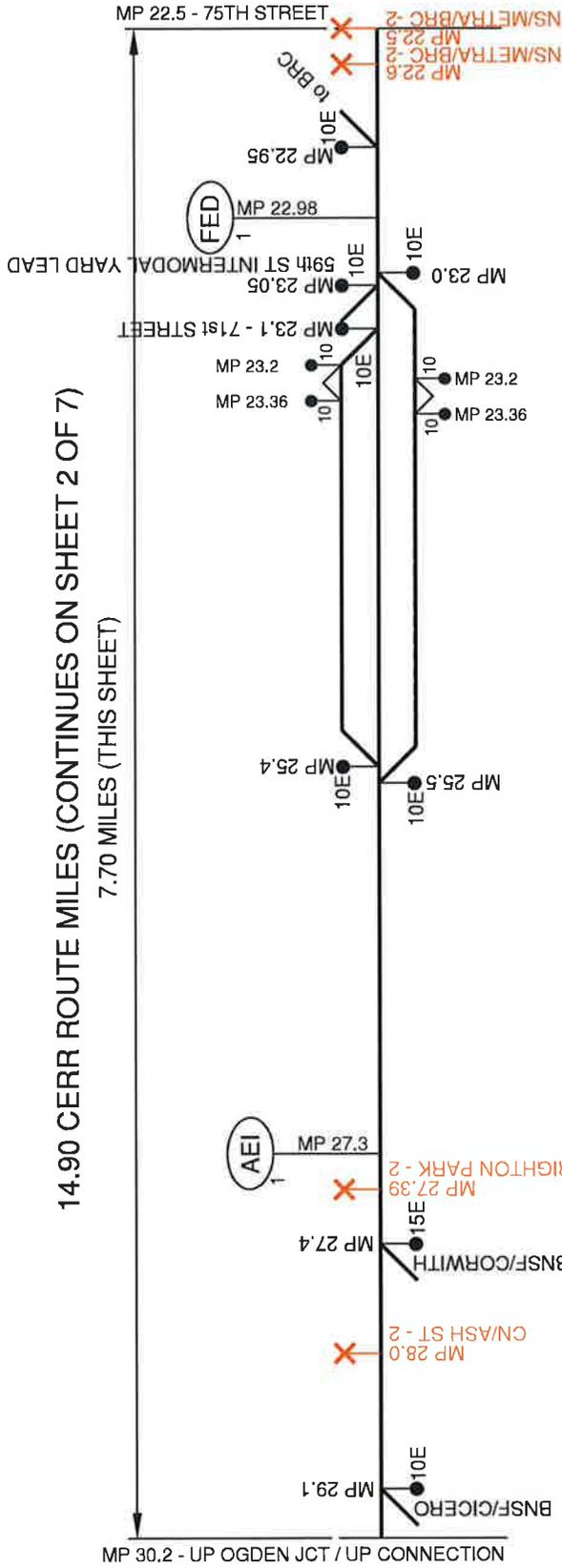
- **Title I of the Great Lakes Critical Programs Act of 1990** – A bill to implement key provisions of the Great Lakes Water Quality Agreement to protect and restore the Great Lakes. The statute put into place parts of the Great Lakes Water Quality Agreement of 1972, signed by the U.S. and Canada, where the two nations agreed to reduce certain toxic pollutants in the Great Lakes. That law required EPA to establish water quality criteria for the Great Lakes addressing 29 toxic pollutants with maximum levels that are safe for humans, wildlife, and aquatic life. It also required EPA to help the States implement the criteria on a specific schedule

None of these federal statutes and their associated regulations were in place when the Cobb facility was constructed. In 1949 there were no Michigan state regulations enforced by the Michigan Department of Environmental Quality and Department of Natural Resources, and no township zoning that would have inhibited Cobb construction. In contrast, all of these regulations would need to be considered by permitting authorities for the proposed changes to the facilities that CSXT and TS propose for Pigeon Lake and Campbell.



### **III-B Stand-Alone Railroad System**

14.90 CERR ROUTE MILES (CONTINUES ON SHEET 2 OF 7)  
7.70 MILES (THIS SHEET)



WELDS, DERAILS, WHEELSTOPS AND MP SIGNS PER SUBDIVISION

DESCRIPTION	COUNT
COMP. WELDS	8
DERAILS	4
WHEEL STOPS	0
MP SIGN 1	0
MP SIGN 2	8
MP SIGN 3	0

TURNOUTS, FED & AEI COUNTS PER SUBDIVISION

DESCRIPTION	COUNT
#10H TURNOUTS	4
#10E TURNOUTS	7
#15E TURNOUTS	1
FED	1
AEI	1
CROSSOVER	0
DIAMOND	8

EXHIBIT:  
**III-B-1**

LEGEND:

- = DIAMOND CROSSING
- = 20 = TURNOUT TYPE\*
- = FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
- = AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED
- 136# STANDARD CWR
- 115# CWR
- \* TURNOUT TYPES
  - 20 - #20 ELECTRIC
  - 15E - #15 ELECTRIC
  - 15- - #15 HAND-THROWN
  - 10S- - #10 SPRING
  - 10- - #10 HAND-THROWN
  - 10E- - #10 ELECTRIC
- DE OR DEED = DRAGGING EQUIPMENT DETECTOR
- HW = HOT WHEEL DETECTOR

SUBDIVISION: **BLUE ISLAND**

DATE: **5/20/16**

MP: **30.2**

FROM: **UP OGDEN JCT**

MP: **22.5**

TO: **75TH STREET**

NOT TO SCALE

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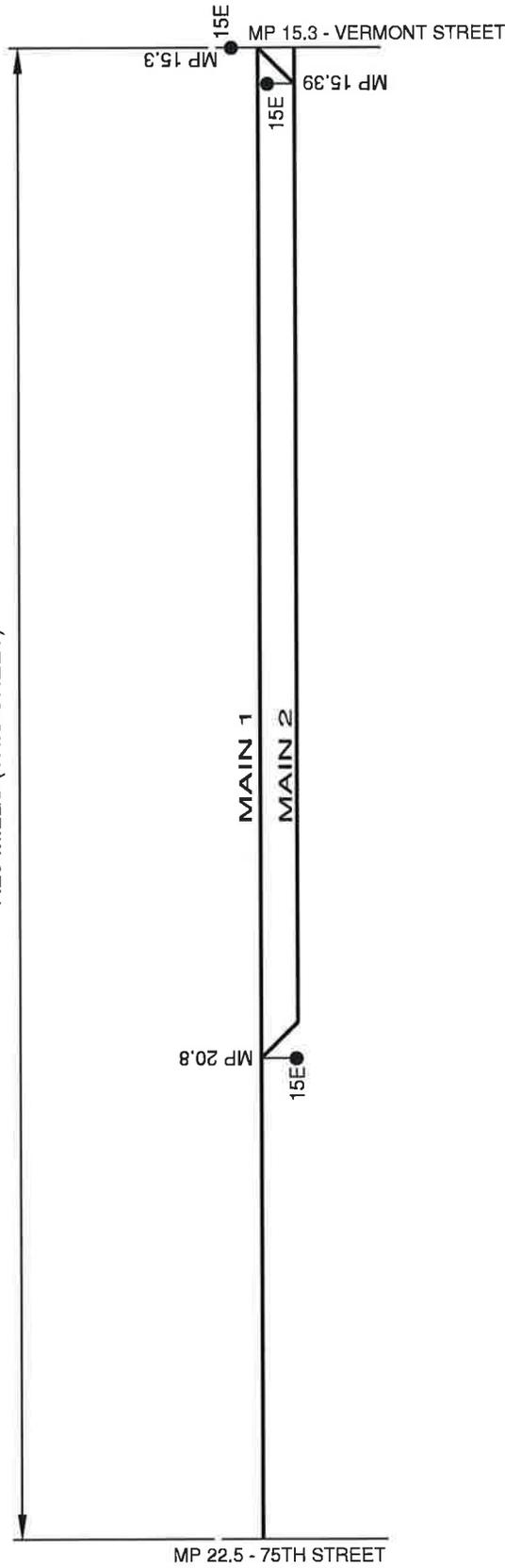


EXHIBIT:  
**III-B-1**

- LEGEND:**
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  - - 115# CWR
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  - ⊙ = TURNOUT TYPE\*
  - \* TURNOUT TYPES
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    - 15E - #15 ELECTRIC
    - 15- #15 HAND-THROWN
    - 10S - #10 SPRING
    - 10E - #10 HAND-THROWN
    - 10E - #10 ELECTRIC
  - ⊖ = FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
  - ⊖ = HOT BEARING DETECTOR
  - ⊖ = DE OR DED = DRAGGING EQUIPMENT DETECTOR
  - ⊖ = HW = HOT WHEEL DETECTOR
  - ⊖ = AUTOMATIC EQUIPMENT IDENTIFICATION
  - ⊖ = SCANNER WITH NUMBER OF TRACKS COVERED

TURNOUTS, FED & AEI COUNTS PER SUBDIVISION

DESCRIPTION	COUNT
#10H TURNOUTS	0
#10E TURNOUTS	0
#15E TURNOUTS	1
FED	0
AEI	0
CROSSOVER	1
DIAMOND	0

WELDS, DERAILS, WHEELSTOPS AND MP SIGNS PER SUBDIVISION

DESCRIPTION	COUNT
COMP. WELDS	0
DERAILS	0
WHEEL STOPS	0
MP SIGN 1	0
MP SIGN 2	8
MP SIGN 3	0

SUBDIVISION: **BLUE ISLAND**

DATE: **5/20/16**

MP: **22.5**

FROM: **75TH STREET**

MP: **15.3**

TO: **VERMONT STREET**

NOT TO SCALE

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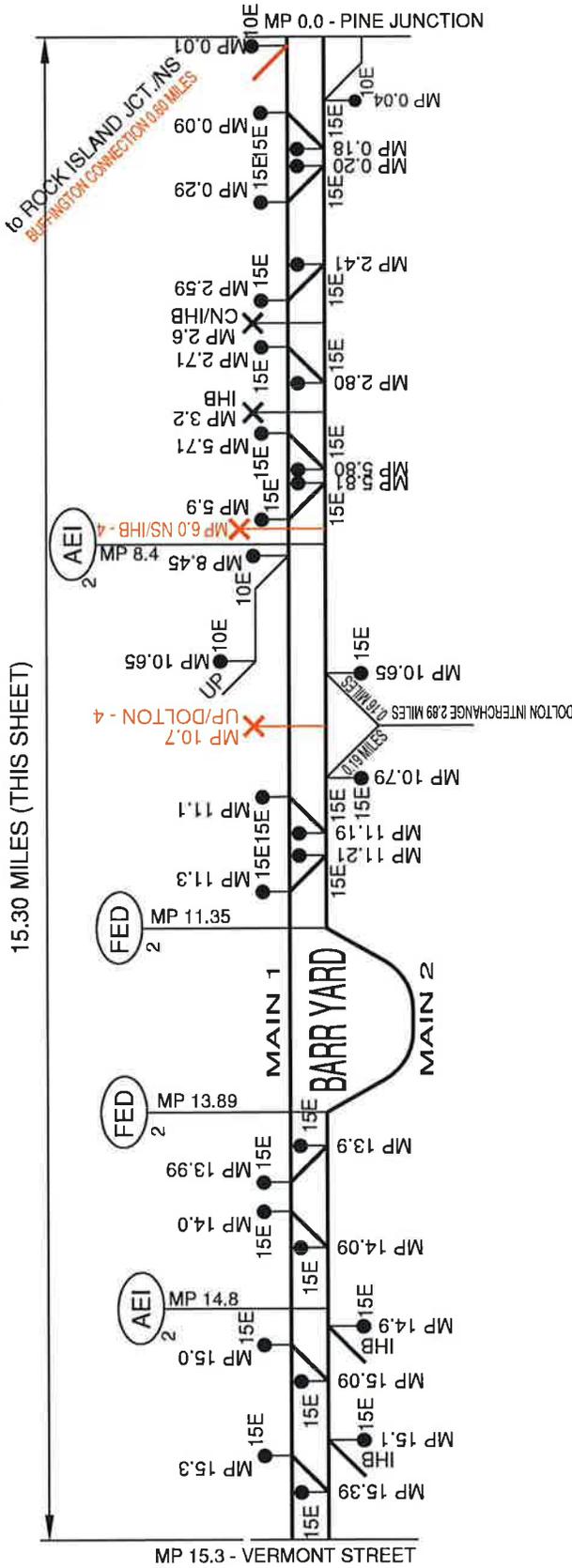


EXHIBIT: **III-B-1**

- LEGEND:**
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  - 115# CWR
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  - HB = HOT BEARING DETECTOR
  - DE OR DED = DRAGGING EQUIPMENT DETECTOR
  - HW = HOT WHEEL DETECTOR
  - AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED
  - \* TURNOUT TYPES**
  - 20 - #20 ELECTRIC
  - 15E - #15 ELECTRIC
  - 15- - #15 HAND-THROWN
  - 10S - #10 SPRING
  - 10- - #10 HAND-THROWN
  - 10E - #10 ELECTRIC

DESCRIPTION	COUNT
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#10E TURNOUTS	4
#15E TURNOUTS	4
FED	4
AEI	4
CROSSOVER	12
DIAMOND	8

DESCRIPTION	COUNT
COMP. WELDS	8
DERAILS	0
WHEEL STOPS	0
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**SUBDIVISION: BARR**

**DATE: 5/20/16**

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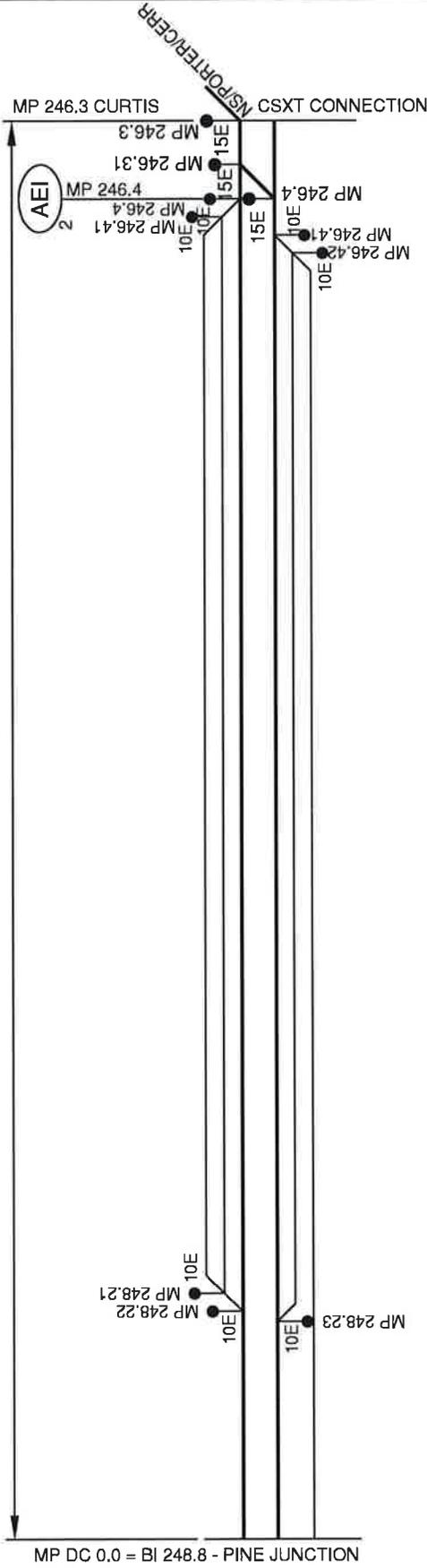
**MP: 0.00**

**FROM: VERMONT STREET**

**TO: PINE JUNCTION**

**NOT TO SCALE**

17.80 CERR ROUTE MILES  
2.50 MILES (THIS SHEET)



WELDS, DERAILS, WHEELSTOPS AND MP SIGNS PER SUBDIVISION	
DESCRIPTION	COUNT
COMP. WELDS	8
DERAILS	0
WHEEL STOPS	0
MP SIGN 1	0
MP SIGN 2	0
MP SIGN 3	2

TURNOUTS, FED & AEI COUNTS PER SUBDIVISION	
DESCRIPTION	COUNT
#10E TURNOUTS	0
#10E TURNOUTS	7
#15E TURNOUTS	1
FED	0
AEI	2
CROSSOVER	1
DIAMOND	0

EXHIBIT:  
**III-B-1**

**LEGEND:**

- - 136# STANDARD CWR
- - 115# CWR
- X = DIAMOND CROSSING
- = TURNOUT TYPE\*
- \* TURNOUT TYPES
  - 20 - #20 ELECTRIC
  - 15E - #15 ELECTRIC
  - 15- #15 HAND-THROWN
  - 10S- #10 SPRING
  - 10- #10 HAND-THROWN
  - 10E- #10 ELECTRIC
- (FED) = FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
- HB = HOT BEARING DETECTOR
- DE OR DEED = DERAILING EQUIPMENT DETECTOR
- HW = HOT WHEEL DETECTOR
- (AEI) = AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

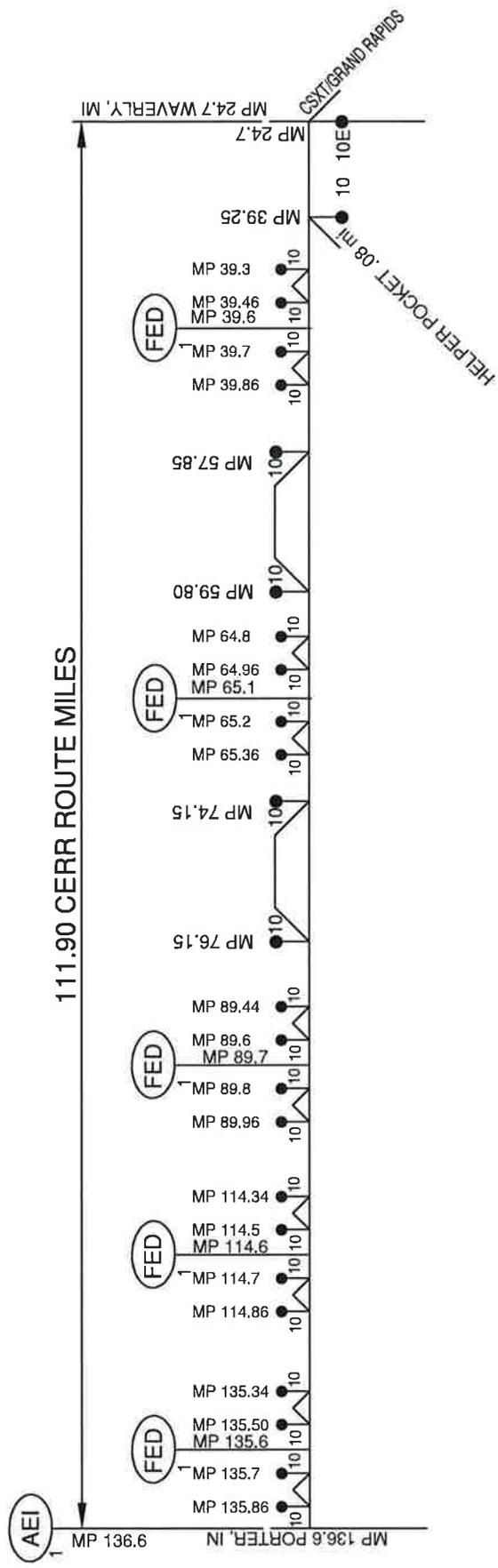
**SUBDIVISION: BARR**

**DATE: 5/20/16**

**FROM: PINE JUNCTION**      **MP: 248.8**

**TO: CURTIS/NS & CSXT CONNECTION MP: 246.3**

**NOT TO SCALE**



TURNOUTS, FED & AEI COUNTS PER SUBDIVISION

DESCRIPTION	COUNT
#10H TURNOUTS	25
#10E TURNOUTS	1
#15E TURNOUTS	0
FED	5
AEI	1
CROSSOVER	0
DIAMOND	0

WELDS, DERAILS, WHEELSTOPS AND MP SIGNS PER SUBDIVISION

DESCRIPTION	COUNT
COMP. WELDS	0
DERAILS	21
WHEEL STOPS	1
MP SIGN 1	0
MP SIGN 2	75
MP SIGN 3	36

**LEGEND:**

✱ = DIAMOND CROSSING  
 ⚡ = 20 = TURNOUT TYPE\*

— - 136# STANDARD CWR  
 — - 115# CWR

\* TURNOUT TYPES  
 20 - #20 ELECTRIC  
 15E - #15 ELECTRIC  
 15- #15 HAND-THROWN  
 10S - #10 SPRING  
 10E - #10 HAND-THROWN

⊙<sub>1</sub> = FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED  
 ⊙<sub>1</sub> = HOT BEARING DETECTOR  
 ⊙<sub>1</sub> = DE OR DED = DRAGGING EQUIPMENT DETECTOR  
 ⊙<sub>1</sub> = HW = HOT WHEEL DETECTOR  
 ⊙<sub>1</sub> = AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

**SUBDIVISION: GRAND RAPIDS**

**DATE: 5/20/16**

**FROM: PORTER**      **MP: 136.6**

**TO: WAVERLY, MI**      **MP: 24.7**

**NOT TO SCALE**

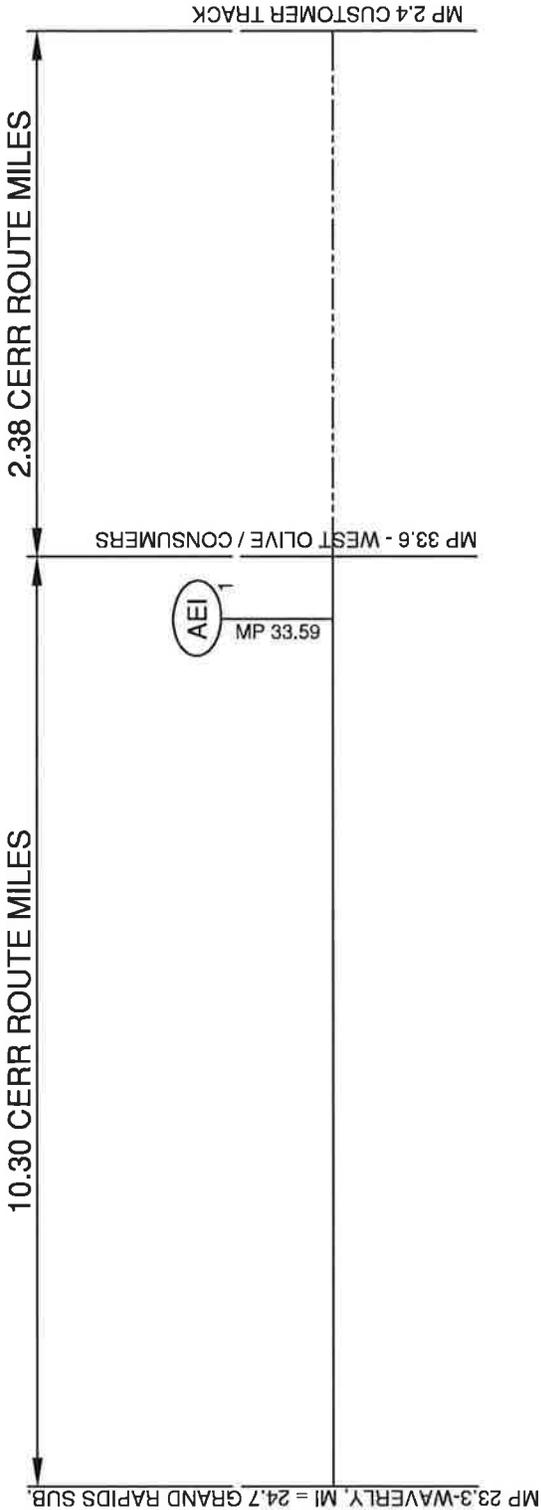


EXHIBIT:  
**III-B-1**

TURNOUTS, FED & AEI COUNTS PER SUBDIVISION

DESCRIPTION	COUNT
#10H TURNOUTS	0
#10E TURNOUTS	0
#15E TURNOUTS	0
FED	0
AEI	1
CROSSOVER	0
DIAMOND	0

WELDS, DERAILS, WHEELSTOPS AND MP SIGNS PER SUBDIVISION

DESCRIPTION	COUNT
COMP. WELDS	0
DERAILS	0
WHEEL STOPS	0
MP SIGN 1	3
MP SIGN 2	10
MP SIGN 3	0

- LEGEND:**
- - 136# STANDARD CWR
  - - 115# CWR
  - ⊗ = DIAMOND CROSSING
  - ⦿ = TURNOUT TYPE\*
  - \* TURNOUT TYPES
    - 20 - #20 ELECTRIC
    - 15E - #15 ELECTRIC
    - 15- #15 HAND-THROWN
    - 10S- #10 SPRING
    - 10- #10 HAND-THROWN
    - 10E- #10 ELECTRIC
  - ⦿<sub>1</sub> FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
  - ⦿<sub>1</sub> HB = HOT BEARING DETECTOR
  - ⦿<sub>1</sub> DE OR DED = DRAGGING EQUIPMENT DETECTOR
  - ⦿<sub>1</sub> HW = HOT WHEEL DETECTOR
  - ⦿<sub>1</sub> AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

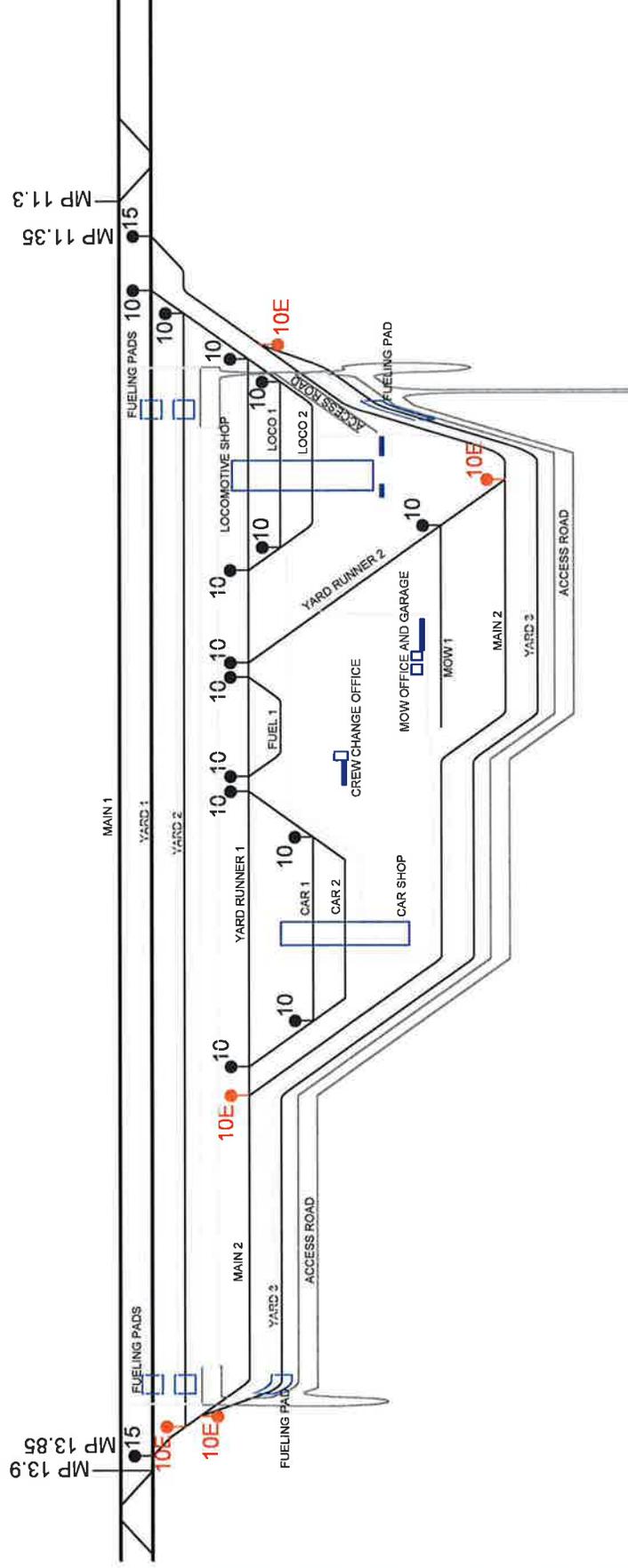
**SUBDIVISION: FREMONT**

**DATE: 5/20/16**

**FROM: WAVERLY, MI**      **MP: 23.3**

**TO: WEST OLIVE / CONSUMERS**      **MP: 33.6**

**NOT TO SCALE**



- LEGEND:**
- 136# STANDARD CWR
  - 115# CWR
  - ⊗ = DIAMOND CROSSING
  - = TURNOUT TYPE\*
- \* TURNOUT TYPES
- 20 - #20 ELECTRIC
  - 15E - #15 ELECTRIC
  - 15 - #15 HAND-THROWN
  - 10S - #10 SPRING
  - 10 - #10 HAND-THROWN
  - 10E - #10 ELECTRIC
- (FED)<sup>1</sup> FAILED EQUIPMENT DETECTOR WITH NUMBER OF TRACKS COVERED
- HB = HOT BEARING DETECTOR
- DE OR DEED = DRAGGING EQUIPMENT DETECTOR
- HW = HOT WHEEL DETECTOR
- (AEI)<sup>1</sup> AUTOMATIC EQUIPMENT IDENTIFICATION SCANNER WITH NUMBER OF TRACKS COVERED

TURNOUTS, FED & AEI COUNTS PER SUBDIVISION

DESCRIPTION	COUNT
#10H TURNOUTS	14
#10E TURNOUTS	5
#15E TURNOUTS	2
FED	0
AEI	0
CROSSOVER	0
DIAMOND	0

WELDS, DERAILS, WHEELSTOPS AND MP SIGNS PER SUBDIVISION

DESCRIPTION	COUNT
COMP. WELDS	4
DERAILS	2
WHEEL STOPS	1
MP SIGN 1	0
MP SIGN 2	0
MP SIGN 3	0

**SUBDIVISION: BARR YARD**

DATE: **5/20/16**

MP: **13.9**

MP: **11.3**

FROM:

TO:

NOT TO SCALE

**III-F Road Property  
Investment**

## **EXHIBIT III-F-1**

**STUART I. SMITH REAL ESTATE ADVISORS LLC  
REBUTTAL TO RMI APPRAISAL REVIEW / CERR**

**EXECUTIVE SUMMARY:**

RMI has prepared an appraisal of the subject property largely predicated on statistical modeling. While statistical analysis is an important tool used by appraisers, the industry has not adopted automated valuation for commercial or unique properties.

The essence of statistical analysis is the credibility of the sample population in relation to the subject property. We believe that statistical analysis alone based on the vagaries of the real estate markets in three states with nearly 800 different uses (per RMI assumptions) is risky.

RMI's identification of nearly 800 different land uses in a route that covers about 155 miles in length and stretches through largely rural areas is contrived.

When we analyzed the RMI comparable-transactions within the context of their statistical model, we discovered several significant errors. These errors included inappropriate data selection methodology, statistically insignificant sample size, and the misleading application of that data in determining prices, trends and adjustments. The variables input to the RMI valuation model did not, in our view, account for inconsistencies, shortcomings and limitations in the use of that data.

Appraisal is more than calculating the 'mean, median, mode and standard deviation' of a subset of data. We believe that RMI's layers of interdependent calculations predicated on weak market data produced multiple inaccuracies. Appraisal should be a thought-provoking process that requires an intimate knowledge of how markets work as well as what and how information is used and interpreted by investors. While statistics and modeling are very useful tools in this process, the mass appraisal of disparate properties cannot be achieved through rote calculations.

**WE ARE  
REMINDED OF THE  
6-FOOT TALL  
STATISTICIAN  
THAT DROWNED  
CROSSING A RIVER  
WITH AN  
'AVERAGE' DEPTH  
OF 6 FEET.**

**SMITH REBUTTAL TO RMI**

RMI submitted an extensive quantitative analysis in support of their appraisal of the real estate for the CERR. However, as discussed *infra*, the workpapers submitted include circular references with hardcoded data that are undefined. The spreadsheets are replete with errors. RMI divided the CERR into numerous unsupported land use segments inconsistent with across-the-fence uses. The consequence being that the total land costs reported by RMI do not reflect a reasonable approximation of the market value for the underlying real estate required for construction of the CERR.

The appraisal of real estate has variously been described as a curious blend of art and science. In our view appraising is a skill that integrates data and interpretation. If it was a science you could state things unequivocally – 5 appraisers using the same data would arrive at the same answer. However, unlike official regulations guiding accountants and actuaries, the professional regulations impacting appraisals are perceived more as guidelines.

While statistical methods both simple and sophisticated are important and are helpful when combined with other market evidence, the use of statistical lexicon such as mean, average, coefficients, correlations and r-factors may impart more science than warranted since these factors are also subject to interpretation, particularly when data is limited and disparate.

The purpose of this document is to respond to issues of value raised in the RMI Midwest's appraisal report of the CERR vis-à-vis their review of the Smith Appraisal report.

One criticism levied by RMI was that the Smith sales data was unreviewable. We believe this to be unsupported since the Smith data included:<sup>1</sup>

- Mapped location
- Identification by longitude and latitude
- Land area
- Grantor / seller
- Grantee / buyer
- Property address
- City and state location
- Sales data
- Unit price
- Price per acre of land

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<sup>1</sup> Consumers Opening e-workpaper "CERR RoW Land Valuation Report 10 30 2015.pdf" at 61-65 (Comparable Sales Digest starts on p.59 of the Appraisal Report).

Clearly there was adequate information to identify the sales transactions in both public and proprietary databases. As a note, by using the same data descriptors for the RMI sales, as provided in the Smith report, we were able to identify transactional data in public records; it is uncertain why RMI was unable to complete similar research.

The following two summary tables present (1) our initial value conclusion compared to RMI conclusion of value; and (2) the Smith revised conclusions of value that incorporate several segments not included the original valuation. There were no changes to our base line value conclusions.

**Summary Table 1: Comparison of Initial Appraisal Findings**

**Overview of Appraisal Findings**

RoW Segment	Smith Appraisal Findings			RMI Midwest Appraisal Findings		
	Value	Mileage (i)	Value/Mile	Value	Mileage (i)	Value/Mile
Ottawa	\$1,154,934	13.00	\$88,841	\$6,626,568	13.00	\$509,736
Allegan	\$2,176,614	27.40	\$79,438	\$2,811,076	27.40	\$102,594
Van Buren	\$1,859,814	21.40	\$86,907	\$1,783,658	21.40	\$83,349
Berrien	\$27,567,210	46.40	\$594,121	\$27,578,304	46.40	\$594,360
LaPort	\$19,406,640	23.76	\$816,778	\$18,328,157	23.76	\$771,387
Cook	<u>\$50,994,900</u>	<u>22.90</u>	\$2,226,852	<u>\$60,892,141</u>	22.90	\$2,659,045
Total Mainline	\$103,160,112	154.86		\$118,019,904		
<b>Other Assets:</b>						
BRC Alternative @ 25%	\$6,138,347			\$3,027,025		
Dolton	\$3,846,646			\$3,222,536		
IHB @ 21.42%				\$1,024,844		
Buffington				\$455,217		
Microwave Site				\$223,040		
Barr Yard	<u>\$7,033,459</u>			<u>\$6,619,726</u>		
	\$17,018,452			\$14,572,388		
<b>Total CERR</b>	<b>\$120,178,564</b>			<b>\$132,592,292</b>		

*Notes:*

- (i) some minor variations in mileage may be noted between reports*
- (l) Smith mileage used as denominator in each column*

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**Summary Table 2: Smith Final Conclusion of Land Values**

**Rebuttal Table**

**Consumers Rebuttal Land Value for CERR RoW**

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<b>RoW Segment</b>	<u>Value</u>	<u>Mileage</u>	<u>Value/Mile</u>
Ottawa	\$1,154,934	13.00	\$88,841
Allegan	\$2,176,614	27.40	\$79,438
Van Buren	\$1,859,814	21.40	\$86,907
Berrien	\$27,567,210	46.40	\$594,121
LaPort	\$19,406,640	23.76	\$816,778
Cook	<u>\$50,994,900</u>	<u>22.90</u>	\$2,226,852
Total Mainline	\$103,160,112	154.86	
<b>Other Assets:</b>			
BRC Alternative @ 25%	\$6,138,347		
Dolton	\$3,846,646		
IHB @ 21.42%	not included	<sup>1/</sup>	
Buffington	\$455,217	<sup>2/</sup>	
Microwave Site	included above	<sup>3/</sup>	
Barr Yard	<u>\$7,033,459</u>		
	\$17,473,669		
<b>Total CERR</b>	<b>\$120,633,781</b>		
<b>Rounded</b>	<b>\$120,630,000</b>		

**Notes:**

**1/** IHB partial ownership is excluded from the Smith Total CERR value. However, we would accept RMI's estimate of value for this segment if incorporated into the RoW.

**2/** Buffington RoW has been revised to accept RMI's valuation of this segment.

**3/** The six microwave sites were included in the initial estimate of value at the appropriate RoW segment. We valued these microwave tower areas at a total of \$237,402. This compares with RMI's estimate of \$223,040.

In their analysis, RMI Midwest implied that the Smith report was 'impressionistic' and by default their report was 'scientific'. In our view, RMI Midwest has framed the issue of differences in terms of highest and best use, selection of underlying data, and the analysis of that data.

This rebuttal will focus on the following items:

- Highest and Best Use
- Data Analysis
- Interpretation of Value and Value Conclusions

**HIGHEST AND BEST USE:**

Valuation of corridors typically involves the "Across the Fence (ATF)" method of land valuation. This is generally not a parcel-by-parcel valuation but rather one that is focused on the dominant land use.

It is important to recognize that 'land' is valued in accordance with its highest and best use as if vacant. This means that just because an owner of several gas stations or convenience centers deems it profitable to improve a parcel for their business, those improvements do not necessarily drive nor do they necessarily represent the highest and best use of land as if vacant. Another example, would be the construction of a "McMansion" in a neighborhood and on a street of second generation row houses. The construction of those improvements may impact the value of the property 'as improved' but the land value remains constant for its dominant use as a lot for row houses regardless of what's on the site.

We believe it is arbitrary and misleading to divide a corridor into different and often hop-scotched uses by defining H&BU in terms of what is built on the site. Our approach to establishing H&BU is more generalized and better reflects the underlying land use. Doing so, avoids the pitfalls of changing or alternating land use 'every block' and arbitrarily changing land values for adjacent and otherwise identical parcels of land.

Beyond this, our review of the RMI report revealed some very serious flaws in the examination of highest and best use. In a number of instances, the H&BU concluded by RMI is inconsistent either with its workpapers and/or with the visual representation of each the sites presented in their addenda. Specifically, consider the examples discussed below as indicative of the

misinterpretations scattered throughout RMI's analysis which they tout as 'superior' based, in large part, on the 792 valuation segments identified in the RoW.

**DATA ANALYSIS:**

RMI states that its use of GIS methodologies and its statistical analyses yield superior conclusions of land value. Based on this assertion, we examined their techniques and conclusions. Our re-examination focused on the Ottawa and Allegan RoW segments since those were presented in depth and described as illustrative of the analysis applied through the RMI study.

To summarize, we found:

- I. Inappropriate collection of data;
- II. Statistical issues, including the:
  - a. Misuse of data samples,
  - b. Calculations not supported by RMI worksheets
  - c. Inclusion of statistical outliers,
  - d. Reliance on results with marginal inference; and
- III. Lack of common sense with regard to interpreting inferential data.

**I. INAPPROPRIATE COLLECTION OF DATA:**

RMI charged that in some of the RoW segments Smith used inappropriate data. One such example was their criticism of our inclusion of distressed and related sales primarily for residential product in Cook County / predominately Chicago.

To the contrary, our analysis led us to conclude that distressed sales were a considerable part of the local market. To exclude those sales would be to make an arbitrary determination that RMI knew better than the market how to price real estate. The essence of appraisal is not to impose the appraiser's view of market conditions and factors, but rather to accurately portray market pricing and market assumptions. Thus, if distressed sales are part of the market they must be considered as a factor which is indicative of value.

This criticism manifests in the apparent conflict between assertion and assumptions in the RMI study. While RMI criticizes Smith's use of distressed sales in the Chicago area, RMI's own chart

summarizing changes in values between 2013 and 2015 for Cook County (Figure 118, page 155) clearly states that there is "0%" change in value during that period. Obviously, the underlying value of the RoW in this segment is dominated by its trackage through the City of Chicago. It is our view that NO INCREASE in price for a two-year period in the Cook County area is clearly indicative of a no-growth, price sluggish market – at best. Thus, RMI's own analysis would support the inclusion of distressed sales and Smith is entirely correct in using distressed and other related transactions in its valuation of that segment of the RoW.

**RMI Comparable Sales were not Comparable and Do Not Reflect Current or Best Use:**

In several instances, the comparable sales relied on to generate the statistics and estimates for the land underlying the CERR were incorrectly classified, inaccurately recorded and, as a result reflected unit sale prices that were misleading, skewing the analysis.

**1.1 RMI's Comparable Sales for Industrial ATF Valuation, Ottawa**

The comparable sales listed by RMI were compared to public property records available online. Five of the ten sales either had the incorrect acreage listed, was sold more recently, or the land use was misclassified.

- Instrument Number 3500:

The sale price of this property is listed as \$43,050 on 1/8/2010. However, an online search of the public property sales records indicates that the forfeiture sale price for this property on 4/22/2015 was \$2,504.<sup>2</sup> Based on RMI's criticism of the Smith Report, this sale should have been (a) used as a lower indication of value, or (b) excluded from consideration since it last traded as a 'forfeiture' which RMI suggested was not indicative of the market.

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<sup>2</sup> See Ottawa Michigan Real Property Search, <https://www.miottawa.org/Property/salesHist.do?ppn=70-16-05-300-045> (search for APN 70-16-05-300-045). While this transaction occurred beyond the date of value, it is our view that this sale is timely and appropriate to include in this analysis because of the inherent lag time between the actual price negotiation, acquisition, and final recordation.

The screenshot shows the miOttawa.org website interface. At the top, there is a navigation bar with links for Online Services, Officials & Departments, Courts & Sheriff, Parks & Recreation, Community & Health, and Connect with miOttawa. The main heading is "Real Property Search". Below this, there is a "Sales History" section with a sub-menu containing Property Summary, Taxes, GIS Map, Sales History, Split History, Payments, and Parcel Report. A disclaimer states that sales listed are from the county assessment database for equalization purposes and excludes documents recorded before January 2004. The specific parcel information is: Parcel Number: 70-16-05-300-045, Property Address: 0 RANSOM ST. A table below lists the sales history with columns for Doc. Num, Sale Date, Type, Seller (Grantor), Buyer (Grantee), Sales Price, and Multiple Parcel Sale.

Doc. Num	Sale Date	Type	Seller (Grantor)	Buyer (Grantee)	Sales Price	Multiple Parcel Sale
2015-0012176	03/01/2015	FF	OTTAWA COUNTY TREASURER	KLW BROKERS LLC	\$2504.00	
2015-0014084	04/22/2015	TC	OTTAWA COUNTY TREASURER	K L W BROKERS LLC	\$2504.00	
2015-0016002	03/17/2015	QC	C E W HOLLAND	RED DUCK HILL INC	Confidential	
2015-0016003	03/17/2015	QC	K L W BROKERS	RED DUCK HILL INC	Confidential	
2015-0016004	03/17/2015	WD	LANDPRO CO	K L W BROKERS LLC	Confidential	

- Instrument Number 24729:

The sale of property to River Ridge Farms in December 2012 is classified by RMI as “industrial” and is used to calculate the adjusted sale price per acre for all industrial property for the CERR in Ottawa. However, as depicted below, this land is clearly farmland and should have been classified as agricultural land.

**RMI Ottawa County Industrial ATF Valuation included APN 70-05-25-200-013<sup>3</sup>**



As further evidence of property use, this parcel was also sold to River Ridge Farms, which according to the Coopersville Area Chamber of Commerce is an "Agriculture" business, i.e. a farm.<sup>4</sup>

- Instrument Number 16221:

Acreage listed for instrument number 16221, located at 1653 Chicago Drive, Jenison, MI, is also incorrect. RMI listed the sale price for this property as \$200,000 and the acreage as 4.88. According to the quit claim deed, CSXT subsequently sold these two parcels together totaling approximately 4.92 acres to Van Os Enterprises LLC.<sup>5</sup>

Interestingly, this property is located outside of Grand Rapids, Michigan, and is over 15 miles from the CERR right-of-way.

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<sup>3</sup> Ottawa County Property Mapping, <https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-05-25-200-013> (accessed on Apr. 7, 2016).

<sup>4</sup> See Coopersville Area Chamber of Commerce, <http://www.coopersville.com/list/member/river-ridge-farms-inc-156> (accessed on Apr. 8, 2016).

<sup>5</sup> See Consumers Rebuttal Workpaper "Instrument Number 16221\_CSXT Quit Claim Deed.pdf."

- Instrument Number 19185:

Acreage listed is incorrect by ~50%. The total acreage reported by RMI at 7.23 acres is only for one parcel of a multiple parcel sale. The actual total acreage is 14.27 acres and includes two parcels.

RMI reports that on 5/12/2015, Glad Properties LLC conveyed 7.23 acres to Rich Street Associates LLC for \$475,000.<sup>6</sup> However, in a search of public records online, a downloaded copy of the warranty deed lists the actual sale as \$475,000 for two parcels- APN 70-09-24-400-055 (7.22 acres) and for APN 70-09-24-400-059 (7.05 acres).<sup>7</sup>

The street address for these two adjacent parcels is 4966 Rich Street and 4923 Allen Park Drive, Allendale Township, Michigan.

Thus, the initial sale price per acre should be \$33,287<sup>8</sup> and not \$65,696 as reported by RMI.

Please refer to the following property tax map information.

**RMI Ottawa County Property Map for APNs 70-09-24-400-055 and 70-09-24-400-059<sup>9</sup>**



<sup>6</sup> See CSXT Reply at Exhibits III-F-44, Figure 7 "Ottawa County Industrial Sales" at line 5.

<sup>7</sup> See "Instrument Number 19185\_Rich Street Assoc Warranty Deed.pdf" (includes APN numbers and sale information); Ottawa County Property Mapping, <https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-09-24-400-055> (accessed on Apr. 8, 2016) (includes acreage information).

<sup>8</sup> Price per acre = \$475,000/(7.22 acres + 7.05 acres) = \$33,287/acre.

<sup>9</sup> Ottawa County Property Mapping, <https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-09-24-400-055> (accessed on Apr. 8, 2016).

RMI also misclassifies this property and lists it as industrial, when the aerial map and the warranty deed clearly indicate that this land is rural in nature and includes farmland. Specifically, the warranty deed from 2015 includes the following statement:

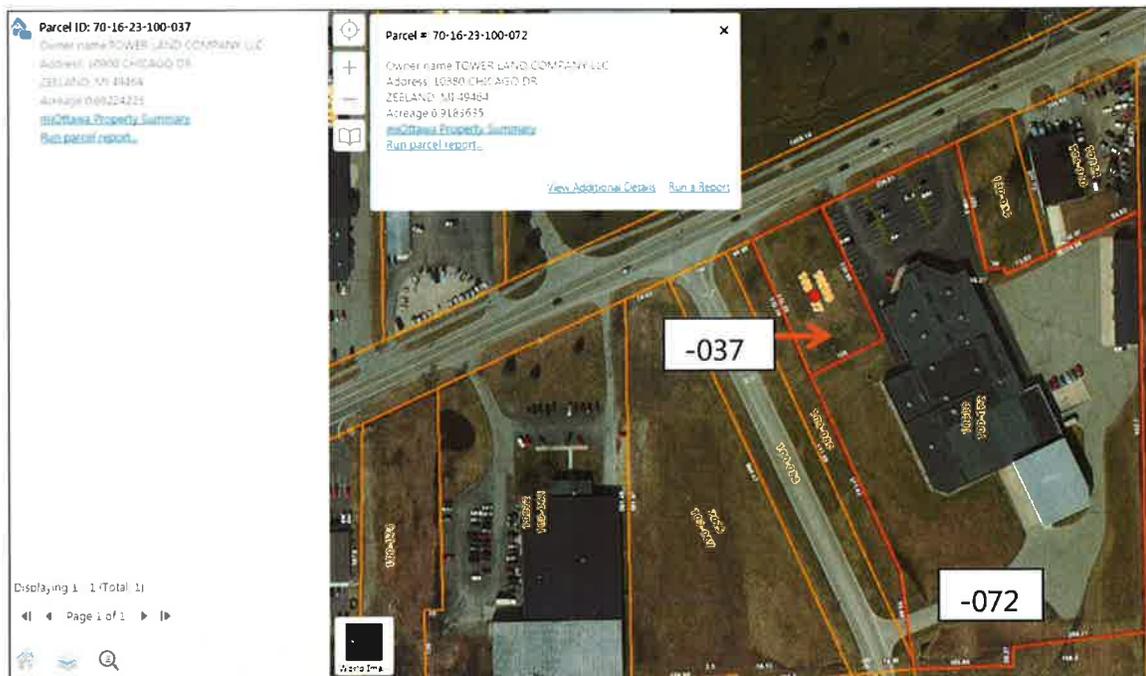
*The property may be located within the vicinity of farmland or a farm operation. Generally accepted agricultural and management practices which may generate noise, dust, odors and other associated conditions may be used and are protected by the Michigan Right to Farm Act.*

- Instrument Number 36587:

As illustrative of another problem with RMI's statistical analysis is its misclassification of property. For example, RMI classified this property as industrial when it is clearly commercial. This property, APN 70-16-23-100-037, was purchased by Tower Land Company LLC in 2010. The Tower Land Company LLC also owns the adjacent property, on which is located the Van Hill Furniture Superstore.

The property address is 10900 Chicago Drive, Holland Township, Michigan.

**RMI Ottawa County Industrial ATF Valuation included APN 70-16-23-100-037<sup>10</sup>**



<sup>10</sup> Ottawa County Property Mapping, <https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-05-25-200-013> (accessed on Apr. 7, 2016).

- APN 70-16-23-100-037 is located next to a Furniture Superstore<sup>11</sup>



Clearly this is not an Industrial Property<sup>12</sup>



A screenshot of a Google Maps business listing for 'Van Hill Furniture'. The listing includes a 5-star rating with 5 reviews, the address '10880 Chicago Dr, Zeeland, MI 49464', a phone number '(616) 396-6547', and the website 'vanhillfurniture.com'. A map shows the location at the intersection of Chicago Dr and Van Hill Dr. A red arrow points from the street view image above to the listing.

<sup>11</sup> Google Earth images, downloaded Apr. 7, 2016 (aerial and street view of 10900 Chicago Drive).

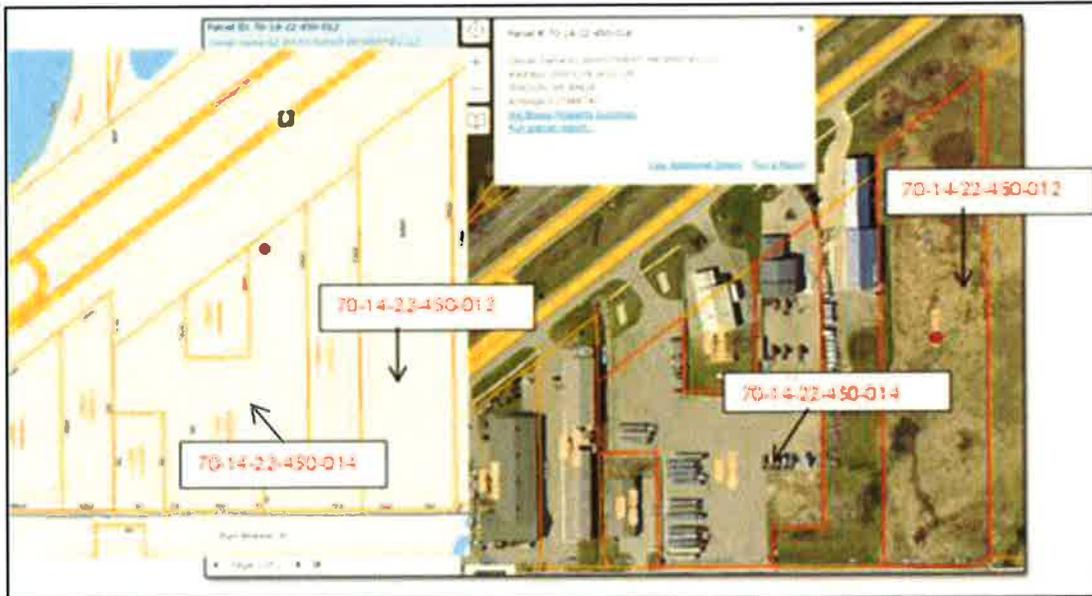
<sup>12</sup> Yelp, <http://www.yelp.com/biz/van-hill-furniture-zeeland> (accessed Apr. 7, 2016).

## 1.2 RMI's Comparable Sales for Commercial ATF Valuation, Ottawa

- Instrument Number 37944:

Acreage listed is incorrect by ~50% and sale included an improved parcel. Again, the total acreage listed (3.59 acres) is only for one of the parcels that was part of a multiple parcel sale. RMI lists that on 8/29/2012 that Stevens Properties & Dev. LLC conveyed 3.59 acres to AZ Investment Properties LLC for \$425,000.<sup>13</sup> However, in a search of public records online, a downloaded copy of the warranty deed lists the actual sale as \$425,000 for two parcels- APN 70-14-22-450-012 (3.64 acres) and for APN 70-14-22-450-014 (3.28 acres).<sup>14</sup> Therefore, the initial sale price per acre should be \$33,287<sup>15</sup> instead of \$65,696.

### RMI Ottawa County Property Maps for APNs 70-14-22-450-012 and 70-14-22-450-014<sup>16</sup>



<sup>13</sup> See CSXT Reply at Exhibits III-F-45, Figure 11 "Ottawa County Commercial Sales" at line 11.

<sup>14</sup> See "Instrument Number 37944\_AZ Investment Properties Warranty Deed.pdf" (includes APN numbers and sale information); Ottawa County Property Mapping, <https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-14-22-450-012> (accessed on Apr. 8, 2016) (includes acreage information).

<sup>15</sup> Price per acre = \$425,000/(3.64 acres + 3.28 acres) = \$33,287/acre.

<sup>16</sup> Ottawa County Property Mapping, <https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-14-22-450-012> (accessed on Apr. 8, 2016).

Also, as depicted in the above aerial map, APN 70-14-22-450-014 is an **improved** parcel and has one building with extensive parking located on it. This level of improvement is consistent with adjacencies along Chicago Drive. Therefore, to reflect the unimproved cost of the land, the price per acre of \$61,416.18 would need to be further adjusted downwards.

- Instrument Number 12683:

Acreage is incorrect and RMI did not use the most recent sales data available online. RMI reports that on 3/13/2013 that Smith John W & Amanda B conveyed 24.64 acres to Steele for \$485,000.<sup>17</sup>

However, Ottawa County's online public records, shown below, indicate that this transaction was part of a multiple parcel sale. These records also show that the parcel listed by RMI, APN 70-10-21-100-012,<sup>18</sup> was sold most recently on 8/14/2015 for \$250,000 as part of a multiple parcel sale.<sup>19</sup>

Parcel Number: 70-10-21-100-012						
Property Address: 0 LINDEN DR						
Doc. Num	Sale Date	Type	Seller (Grantor)	Buyer (Grantee)	Sales Price	Multiple Parcel Sale
<a href="#">2013-0012683</a>	03/13/2013	WD	SMITH JOHN W- AMANDA	STEELE MARCIA	\$485000.00	X
<a href="#">2015-0031098</a>	08/14/2015	QC	STEELE MARCIA	SLADE KELSEY	\$250000.00	X

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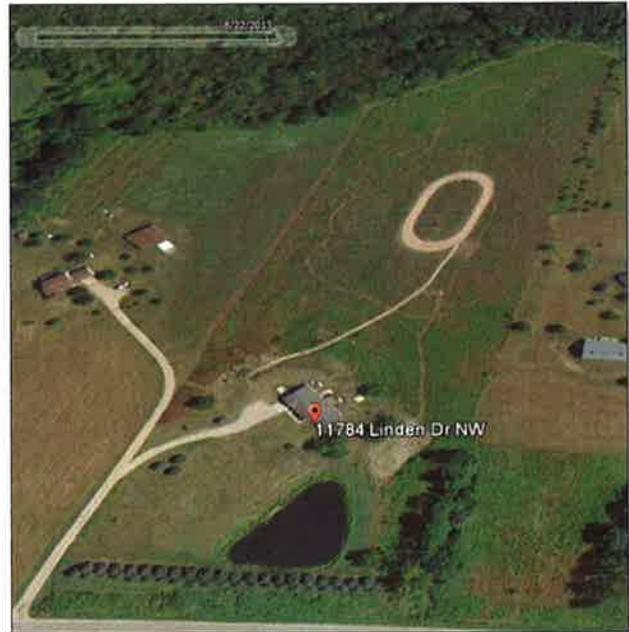
<sup>17</sup> See CSXT Reply at Exhibits III-F-43, Figure 6 "Ottawa County Acreage Sales" at line 3.

<sup>18</sup> *Id.*

<sup>19</sup> See Ottawa Michigan Real Property Search, <https://www.miottawa.org/Property/salesHist.do?ppn=70-10-21-100-012> (search for APN 70-10-21-100-012) (accessed on Apr. 8, 2016).

The property transfer in 2013 and 2015 included three separate parcels: APNs 70-10-20-200-033; 70-10-21-100-012; and 70-10-20-200-034.<sup>20</sup> This property has a recorded street address of: 11784 Linden Dr, 0 Linden Dr NW, Linden Dr.<sup>21</sup>

In reviewing these addresses on Google Earth, the property located at 11784 Linden Drive is improved land that includes a residence and is actively farmed. As such, this sale should not be included as a comparable sale for acreage.<sup>22</sup>



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<sup>20</sup> See Consumers Rebuttal Workpapers "Instrument Number 12683\_2013 Deed.pdf" and "Instrument Number 12683\_2015 Deed.pdf."

<sup>21</sup> See *id.*

<sup>22</sup> Google Earth image, (accessed Apr. 8, 2016) (image dated Aug. 22, 2013).

### 1.3 RMI's Comparable Sales for Residential Development ATF Valuation, Ottawa

- Instrument Number 12639

Acreage listed in the RMI report is less than 25% of the actual acreage. The total acreage listed (9.42 acres) is only for one of the parcels that was part of a multiple parcel sale. RMI reports that on 3/27/2015 that Machiela Andrew C et. ux. conveyed 9.42 acres to Lubbers Properties LLC \$213,500.<sup>23</sup>

However, in a search of public records online, a downloaded copy of the warranty deed lists the actual sale as \$213,500 for four parcels totaling 40.36 acres- APN 70-14-33-400-041 (9.39 acres); APN 70-14-33-400-061 (5.54 acres); APN 70-14-34-300-016 (13.19 acres); and for APN 70-14-33-200-005 (12.24 acres).<sup>24</sup> Therefore, the initial sale price per acre should be \$5,290<sup>25</sup> instead of \$22,658.

#### **RMI Ottawa County Property Map for APNs 70-14-33-400-041; 70-14-33-400-061; 70-14-34-300-016; and 70-14-33-200-005<sup>26</sup>**



<sup>23</sup> See CSXT Reply at Exhibits III-F-47, Figure 15 "Ottawa and Allegan Counties Residential Development Sales" at line 1.

<sup>24</sup> See "Instrument Number 12639\_Lubbers Properties LLC Warranty Deed.pdf" (includes APN numbers and sale information); Ottawa County Property Mapping, <https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-14-33-400-041> (accessed on Apr. 11, 2016) (includes acreage information).

<sup>25</sup> Price per acre = \$673,000/(20.68 acres + 18.02 acres) = \$17,390/acre.

<sup>26</sup> Ottawa County Property Mapping, <https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-14-33-400-041> (accessed on Apr. 11, 2016) (search performed for 70-14-33-400-041, other parcels manually selected).



Additionally, the land for APN 70-14-33-200-005 has two buildings on it (see adjacent Google Map extract) and is actively farmed land. As such, it is not an unimproved parcel. Given the fact this sale was for multiple parcels and included improved land, this comparable sale should not have been used for pricing Residential land underlying the CERR.



#### 1.4 RMI's Comparable Sales for Rural Residential ATF Valuation, Ottawa

- Instrument Number 5070

RMI lists the purchase of land (APN 70-15-10-100-060) by Consumers Energy from the Reformed Heritage Community Church as "rural residential,"<sup>27</sup> when Ottawa County lists this property as commercial (APN 70-15-10-100-060). As such, this comparable sale should not be included as a comparable sale and used for pricing Rural Residential land underlying the CERR.

**Ottawa County Public Records list Instrument Number 5070 as Commercial property<sup>28</sup>**

<b>Parcel Identification</b>	
Parcel Number:	70-15-10-100-060
Property Address:	0 Quincy St
Property Status:	ACTIVE
Government Unit:	20 - PARK TOWNSHIP
Taxing Unit:	20 - PARK TOWNSHIP
Classification:	202 - COMMERCIAL
School District:	70070 - WEST OTTAWA
Approximate Acreage:	
Active Date:	11/04/2010
Current Liber/Page:	<a href="#">Sales History</a>

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<sup>27</sup> See CSXT Reply e-workpaper "15-250OttawaSales12142015.xlsx" at row 15.

<sup>28</sup> See Ottawa Michigan Real Property Search, <https://www.miottawa.org/Property/backRealEstate.do> (search for APN 70-15-10-100-060) (accessed on Apr. 8, 2016).

- Instrument Number 35213

Acreage listed is incorrect by over 50%. Again, the total acreage listed (17.79 acres) is only for one of the parcels that was part of a multiple parcel sale. RMI lists that on 9/30/2014 that Vander Kooi John J Trust conveyed 17.79 acres to Vanderkooi \$673,000.<sup>29</sup> However, in a search of public records online, a downloaded copy of the warranty deed lists the actual sale as \$673,000 for two parcels- APN 70-08-26-300-006 (20.68 acres) and for APN 70-08-26-300-007 (18.02 acres).<sup>30</sup> Therefore, the initial sale price per acre should be \$17,390<sup>31</sup> instead of \$37,838.

Further "Vanderkooi" is a very uncommon name. A deed transfer from "Vanderkooi" to "Vanderkooi" is most likely to be a 'non-arms-length' transaction and should be excluded from an independent market-value analysis.

**RMI Ottawa County Property Map for APNs 70-08-26-300-006 and 70-08-26-300-007<sup>32</sup>**



Further, as evidenced by the aerial map above, this land is Agricultural and both parcels appear to be actively farmed. Ottawa County also classifies both APNs 70-08-26-300-006 and 70-08-26-300-007 as Agricultural property.

<sup>29</sup> See CSXT Reply at Exhibits III-F-48, Figure 19 "Ottawa County Rural Residential Sales" at line 7.

<sup>30</sup> See "Instrument Number 35213\_Vander Kooi Warranty Deed.pdf" (includes APN numbers and sale information); Ottawa County Property Mapping,

<https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-08-26-300-007> (accessed on Apr. 11, 2016) (includes acreage information).

<sup>31</sup> Price per acre = \$673,000/(20.68 acres + 18.02 acres) = \$17,390/acre.

<sup>32</sup> Ottawa County Property Mapping,

<https://gis.miottawa.org/ottawa/geocortex/propertymapping/?run=searchPIN&PIN=70-08-26-300-007> (accessed on Apr. 11, 2016).

Ottawa County Public Records list APNs 70-08-26-300-006 and 70-08-26-300-007 as Agricultural Property<sup>33</sup>

Parcel Identification		Parcel Identification	
Parcel Number:	70-08-26-300-006	Parcel Number:	70-08-26-300-007
Property Address:	11187 112TH AVE	Property Address:	0 PIERCE ST
Property Status:	ACTIVE	Property Status:	ACTIVE
Government Unit:	23 - ROBINSON TOWNSHIP	Government Unit:	23 - ROBINSON TOWNSHIP
Taxing Unit:	23 - ROBINSON TOWNSHIP	Taxing Unit:	23 - ROBINSON TOWNSHIP
Classification:	102 - AGRICULTURAL	Classification:	102 - AGRICULTURAL
School District:	70350 - ZEELAND	School District:	70350 - ZEELAND
Approximate Acreage:		Approximate Acreage:	
Active Date:	PRIOR TO 1975	Active Date:	01/06/2004
Current Liber/Page:	<a href="#">Sales History</a>	Current Liber/Page:	<a href="#">Sales History</a>

RMI’s statistical analysis is only as good as the nature of the input. Here again, we note that RMI failed to review the underlying data and this compromises their analysis. Because this sale is a likely non-arms-length transaction and given the discrepancy in the acreage as well as the misclassification of the property, this sale should have been excluded by RMI as a comparable sale.

<sup>33</sup> See Ottawa Michigan Real Property Search, <https://www.miottawa.org/Property/backRealEstate.do> (search for APNs 70-08-26-300-006 and 70-08-26-300-007) (accessed on Apr. 11, 2016).

**II. STATISTICAL ISSUES:**

At first blush, the RMI analysis appears to be scientific. However, closer inspection of their manipulation of the data suggests a lack of perspective with regard to analyzing and interpreting data. The following examples are focused on the data presented for Ottawa and Allegan where detailed explanations of their methodology were provided.

**Size & Location Adjustments:**

Please refer to "Commercial ATF Valuation for Ottawa County, page 45 of the RMI report. RMI used statistical analysis to fit a regression line to selected sale comparables. They adjusted each one of the comparables to the 'best fit' equation and developed a price adjustment based on relative size. For purposes of illustration please refer to RMI's "Commercial ATF Valuation," CSXT Reply Exhibit III-F-1-45-46, Figures 11-14.

- The initial adjustment for differences in price related to size is relatively straight forward; however that analysis is complicated by the inclusion of comparable sales that are clearly outside the parameters of a 'comparable' sale.
- Specifically, two high-end sales were included that should have been omitted from the overall analysis:
  - #16748 is a corner lot with strong commercial potential in a downtown area of Holland, the area with the highest priced real estate in Ottawa County. It's most likely use is for a branch bank site.
  - #52400 is a parcel located in Park Township, Michigan, desirable corner location along a commercial corridor near Pigeon Lake.

**#16748 – 671 Michigan Ave, Holland**



**#52400 – Douglas Ave, Holland**

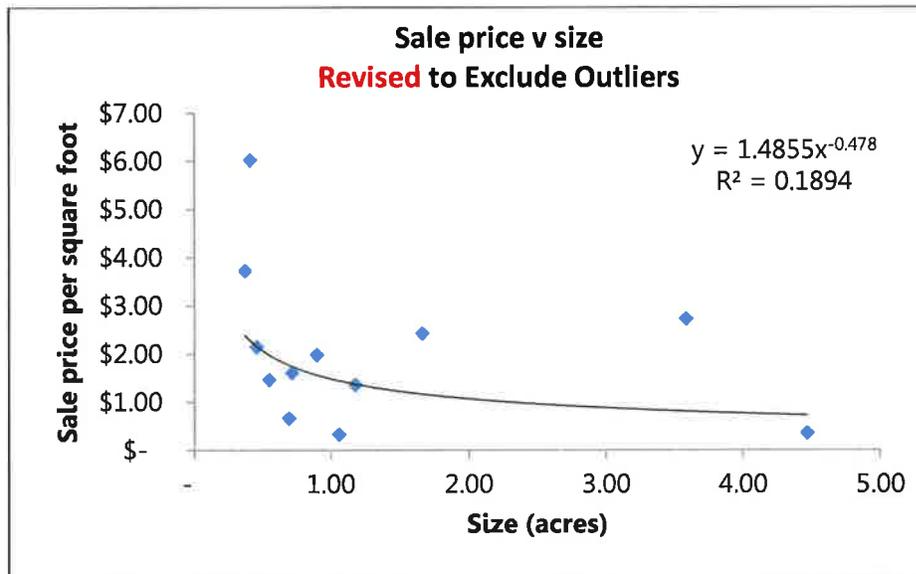


- Neither of these sales is indicative of the RMI-commercially-designated RoW segments #'s 62 and 67 to which the highest unit prices were applied. Those higher unit prices would not have existed if the two outliers #'s 16748 and 52400 (pictured above) were not included in the initial sample.
- Statistically, outlier sales #16748 and #52400 at \$17.91 psf and \$8.66 psf; respectively, are 1.5 times the interquartile range, often known as the "mid-fifty" range, and should have been excluded from the comparable data set. By definition, comparable sales need to be representative and where there is a substantial and unsupported deviation, those sales will skew the statistics. Specifically, RMI was relying on a small data set, and thus the outlier data had an unwarranted impact on the analysis.

The other commercial transactions in this data set, range from \$0.32 psf to \$6.02 psf; averaging \$2.06 psf (unadjusted), nearly 45% below the group average that includes the two high-end sales. Further, in reviewing just the sales that RMI listed as having a rating (actually a group name) of "4," which it applies to high-end properties, the other unadjusted sale prices in this group are reported at \$0.35; \$1.36; \$1.61; and \$2.72, per square foot of land area.

As we have emphasized, you cannot start from a non-probability sample, include sales that are not indicative of the population, mechanically calculate statistics, apply those statistics without interpretation and expect the results to be accurate from an appraisal standpoint. Outliers by definition bias the results.

- To illustrate the problem, the statistics and R<sup>2</sup> analysis were re-performed excluding the outlier sales of \$17.91 psf and \$8.66 psf. Consistent with RMI's approach, the Sale Price v. Size was plotted first, and subsequently we replotted the relationship between Sale Price v. Location. As the charts below illustrate, this analysis by RMI was performed on a small enough data set that the removal of outliers changed the output and results of their analysis.



See Consumers Rebuttal Workpaper "15-250OttawaSales12142015 Revised to Exclude Outliers.xlsx," tab "Com Graphs."



See Consumers Rebuttal Workpaper "15-250OttawaSales12142015 Revised to Exclude Outliers.xlsx," tab "Com Graphs."

- As evidenced by the charts above, there was not enough data or a strong enough correlation to justify the adjustments made by RMI to the comparable sale data. This is clear from the recalculated  $R^2$ , the coefficient of determination which is less than 1% for Sale Price v. Location. That is to say, that less than one-percent of determination can be

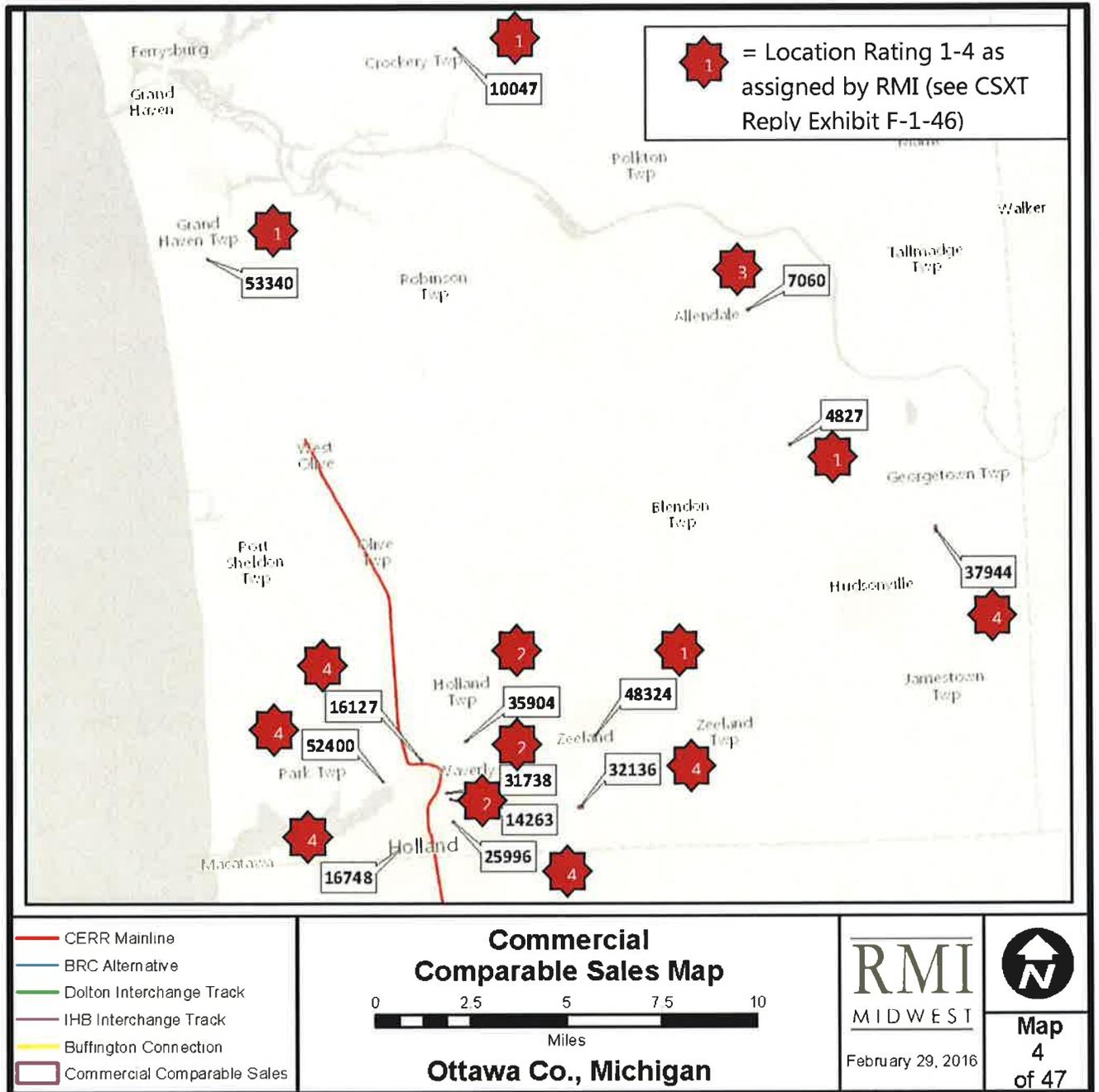
related to location. Clearly there must be another determinant in making adjustments to prices not considered in the RMI analysis.

- It should also be noted that this "location rating" RMI used is not very location specific, and when the "ratings" are mapped there is little, to no correlation. It makes no sense to take two very geographically distant comparables and apply a single-locational adjustment.

For example, RMI classifies sale #37944 which is about 20 miles from the RoW in the same category 4 location as it does sale #16127 which is virtually on-top of the RoW. Both comparables are adjusted downward by 48% (Figure 11) regardless of their physical proximity to the RoW.

The physical manifestation of the single-locational adjustment is illustrated in Figure 1 below, which is based on CSXT Reply WP "Appraisal Report Addendum.pdf" at 153 (Map 4 of 47). From our analysis of RMI's model, RMI's adjustments for location are statistically invalid and yield erroneous conclusions.

Figure 1 – Commercial Comparable Sales Mapped with RMI’s “Location Rating”



**Selected Examples of Pricing Errors:**

Based on questionable adjustments for size and location, RMI concluded several 'unit values' psf attributable to various line segments. The conclusions of value ranges from \$0.25 to \$9.40 per square foot. We followed up on the values as applied to specific land segments Nos. 62 and 67, and found the following:

- Value ID#34 and ID#35 (sale data inputs), page 46, for Ottawa Commercial land concluded adjusted unit values of \$9.40 and \$8.75 psf. Those values were applied to RMI value segments #62 and #67; see maps 8 and 9.
- The segment values for #62 and #67 at \$9.40 and \$8.75 psf were well above any of the Ottawa 'adjusted' sale prices shown in RMI's Figure 11, on page 45 (erroneously labeled as sale price per acre).

Therefore to apply this 'outside the range' conclusions, RMI would have had to make the determination that these RoW line segments were well above the norm. This does not appear to be the case.

- Let's take a closer look at those purported high-value segments on the aerial maps included by RMI in their appraisal.
  - Commercial RMI segment #62 is priced at \$9.40 psf and segment #67 is priced at \$8.75 psf of land area.
  - Aerial #62 shows the dominant use as single-family residential; not high-end commercial.

While there is a small one-story office building located on the 17<sup>th</sup> Street side of the line segment (it's a dead-end residential street) all other parcels adjacent to the RoW are characterized by older, typically-clapboard-style, 2-story SFD residential properties on both sides of the RoW.

Clearly, the RoW segment is not a dominant commercial location and, and is not an area that would warrant extraordinary pricing similar to that of a corner, commercial site in a downtown market area. Please refer to the following illustrations and keep in mind that RMI has priced this segment well above the 'adjusted' price range per square foot of land area.

**RMI Map No 8 of 141**



To further examine the utility of this site, we have drilled down to street level geography. Please refer to the more detail site views of the RMI segment shown on the following pages.





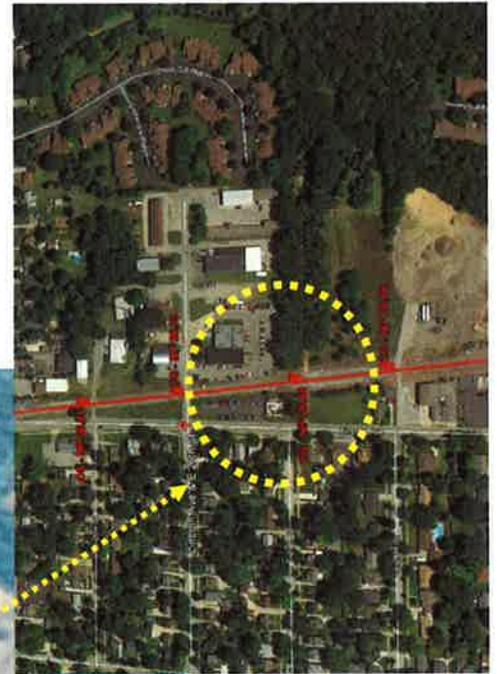
While we do not suggest using Zillow to support value estimates, it is useful to note, however, that the Zillow data base also identifies the surrounding property as predominately residential. As such, while not definitive, it is illustrative that the Zillow prices listed for the multiple, adjacent improved properties do not support RMI's vacant commercial land estimate of \$409,464 per acre.<sup>34</sup>

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<sup>34</sup> Zillow,  
[http://www.zillow.com/homes/for\\_sale/74203102\\_zpid/any\\_days/globalrelevanceex\\_sort/42.784282,-86.096992,42.780616,-86.103965\\_rect/17\\_zm/](http://www.zillow.com/homes/for_sale/74203102_zpid/any_days/globalrelevanceex_sort/42.784282,-86.096992,42.780616,-86.103965_rect/17_zm/) (Apr. 1, 2016).

Similarly, section #67 is described by RMI as a commercial valued outlier parcel at \$8.75 psf. Again, RMI is pricing this segment above the adjusted range of value, indicative of a premium location. The following aerials show the relevant intersections at 26<sup>th</sup> and 29<sup>th</sup> Streets. While these are industrial / warehouse type uses, they are not high value locations, i.e. a high-end industrial park/center city.

Again, we believe that this type of analysis which divides the RoW into arbitrary H&BU segments, forces RMI to develop more values than are warranted in the market in order to justify their approach.



**Challenges to RMI's Selective Use of Sales Data:**

RMI's statistical assessment for ATF Acreage Valuation for Ottawa County is also significantly flawed because it fails to exclude statistical outliers. The first step in sales comparison is to identify credible comparables that best reflect the nature of the assignment. These transactions must not only be physically comparable but also be relevant in terms of the transactional date. Therefore, the more current the comparable sales are, the more reliable the estimate will be.

In keeping with this theme, we examined acreage sales data presented by RMI in its Acreage ATF Valuation chart displayed on page 43. We simply re-ordered the sales by transaction year. Doing so provides a much different result from RMI's statistical conclusion of a base rate of \$7,800 per acre.

	<u>2010-2013</u>	<u>2014</u>	<u>2015</u>
	\$3,553	\$5,067	\$3,157
	\$19,682	\$1,916	\$5,601
	\$7,805		\$7,491
	\$6,628		
	\$3,869		
	\$15,331		
	\$9,005		
	\$1,078		
	<u>\$14,044</u>		
<b>Average:</b>	<b>\$8,999</b>	<b>\$3,492</b>	<b>\$5,416</b>
<b>Exclude sales &gt; \$10K</b>	<b>\$5,323</b>		

Clearly, RMI's \$7,800 per acre conclusion distorts the final value. Again, appraisal is more than adding and subtracting numbers; a critical evaluation of data and a common sense approach are requisite for property valuation results.

Our re-examination suggests a much lower price per acre, say \$5,450 per acre; a reduction of about 30% from the RMI conclusion. This re-estimate is more closely aligned with recent sales data.

Since this a 'methodological' issue, we believe – by simple extrapolation - that RMI has made similar errors in technique in the valuation applicable to other segments of RoW. Logically, we would expect to find similar inconsistencies in the remaining 778 segments.

Another compelling way to assess RMI’s actual conclusions of value, is to examine the actual values placed on groups of adjacent segments along the RoW. Again, we have focused on the Ottawa County RoW given that this is the greatest difference between our value conclusions.

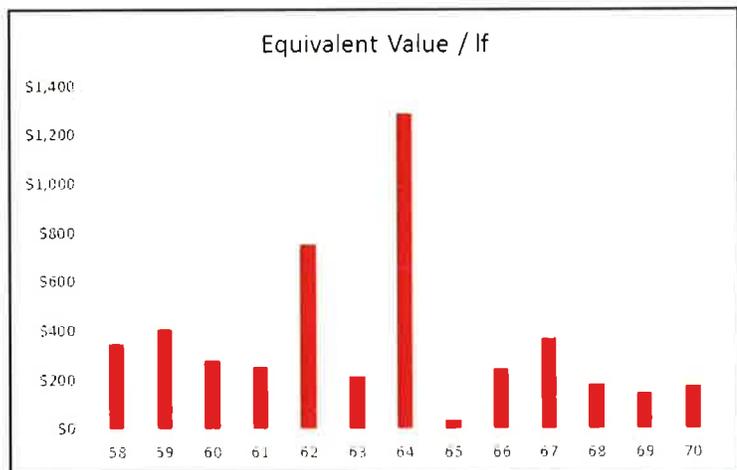
The following table abstracts data from the RMI report. Based on the data presented, we simply calculated the implied value per linear foot of RoW.

This chart illustrates the impact and consequences of RMIs approach to the assessment of highest and best use and the implications of the apparent rote use of statistics to opine segment values.

**Segment Unit Values by Linear Foot / Ottawa County**

RMI Seg	RMI Use 1	RMI Use 2	Length-m	Length-lf	RMI Segment Value	Equivalent Value / lf
58	COM	COM	0.1	528	\$182,026	\$345
59	COM	COM	0.02	106	\$42,906	\$406
60	COM	COM	0.31	1637	\$453,990	\$277
61	COM	SFR	0.19	1003	\$250,421	\$250
62	COM	COM	0.06	317	\$237,447	\$750
63	SFR	IND	0.09	475	\$101,983	\$215
64	IND	IND	0.02	106	\$135,803	\$1,286
65	MF	ROAD	0.13	686	\$23,485	\$34
66	ROAD	IND	0.13	686	\$166,696	\$243
67	COM	IND	0.13	686	\$251,404	\$366
68	IND	IND	0.06	317	\$56,434	\$178
69	IND	MF	0.06	317	\$45,315	\$143
70	IND	IND	0.08	422	\$74,154	\$176

- These RMI Segments are designated as having separate highest and best uses.
- The 13 segments contain about one and one-third linear mile of RoW.
- Unit values range from \$34 to \$1,286 per linear foot of RoW.



- Inexplicably, the highest value per linear foot is situated between industrial/SFR and industrial/road; the two low points in overall value per linear foot. Additionally, we should point out that a conclusion of 'road' per se is not an example of highest and best use. It may be what is present, but it would not represent the highest and best use, as if-vacant.

In our view, RMI's analysis was derailed in the first instance by relying on non-comparable sales data. RMI also failed to adequately review the data, and then relied on these small data sets that included questionable transactions to perform their adjustments. RMI needed to be more critical in their selection of the sales and be more analytical and careful in the model application.

### **INTERPRETATION OF VALUES**

RMI has analyzed the transactions as though they were a bio-medical study of the spread of disease rather than, in our view, as unique parcels of real property. Statistical analysis is important to appraisers. Appraisals have always relied on the science of data as the core for valuation. However, the reliability and validity of this inference is dependent on a number of factors including sample size and how well the sample represents the population. The measure of accuracy is usually reported along with an inference. The measure of accuracy states the degree of uncertainty associated with the inference. Uncertainty may not, however, be quantifiable when the sample is a non-probability sample (a sampling that does not involve random selection). With a small sample size, a non-probability sampling model may or may not represent the population. Thus while mass appraisal and the automated valuation model has come to the residential domain, it offers limited appeal to commercial real property where highest and best use and value is far more complicated and far more unique to each parcel.

Our sense is that while modern statistical analysis can contribute to the appraisal process, the ease of making multiple calculations on a rote basis can lead to the production of less-than credible work. In this regard we believe that RMI has made a considerable number of errors in the analysis and interpretation of data. Appraisal relies on the careful interpretation of quality data in a way that reflects the manner in which the market would determine value.

Starting from the very foundation of the RMI report that cuts the RoW into 792 separate valuation segments over less than 160 miles, it implies that highest and best use (a complicated assessment of what is physically possible, legally permissible, financially feasible and maximally productive) materially changes, on average, every 1,067 linear feet.

To put this into a local perspective, the average linear footage for a typical block along K Street in Washington, DC is about 480 feet. Thus RMI is suggesting that this largely rural, agricultural, industrial RoW-corridor changes its' underlying (highest and best) use the equivalent of every 2.2 city-blocks. This does not make sense!

**CONCLUSIONS:**

RMI's development of highest and best use does not pass the 'common sense test.' Our analysis of RMI's data, techniques, and the quality of their conclusions shows that RMI's approach has some significant flaws, including:

- The incorrect identification of highest and best use which has been artificially cut into nearly 800 pieces, a little more than 1,000 linear feet each in areas with considerable homogeneity of use.
- The incorrect identification of property type as higher-end commercial when, in fact, the parcel is inherently residential.
- The inclusion of statistical outliers in the collection of market data which can materially skew statistical results and values.
- The use of statistical findings where the 'coefficient of determination',  $R^2$ , is low indicating a gap in the explanation of variation attributable to the specific data set being analyzed. As to how much one should expect in terms of variability, it is our view that the answer is fairly domain specific. On the one hand the benefits of new medication or of the efficacy of new teaching methodologies can be expected to have a low proportion of variance explained by a single variable; however, on the other hand, if you are testing performance of a product you may require a larger fraction of variance to be explained by a specific variable.

The RMI report remains silent on this issue and analyzes clusters of as small as 10 data points and extrapolates these findings to the valuation of 792 segments with little to no comment on the overall efficacy of the statistical model and the potential impact, if any, of social science data relative to the behavior of markets; which definitely do not perform in a linear manner.

Real estate markets cannot simply be modeled as straight lines particularly when the underlying data set is limited, variable, and potentially not representative of the parcels it portends to describe. Appraisal is a unique blend of art, science and common sense wherein valuation is not inextricably linked to statistics because it must incorporate the subjective, including how the market actually selects, analyzes and responds to data.

*In this context we are reminded of the 6-foot tall statistician that drowned crossing a river with an 'average' depth of 6 feet.*

**The Smith report which blends common sense market experience, a hands-on assessment of highest and best use and the application of modern GIS techniques and statistical analysis provides the most credible indication of value for the CERR RoW.**

**III-H Results of SAC  
Analysis**

**TABLE A: CERR ANNUAL COST OF CAPITAL**

(1) Year	(2) Industry Cost of Capital	(3) Industry Cost of Debt 1/ Equity 2/	(4) Industry Cost of Preferred Equity 2/ Equity 3/	(5) Industry Cost of Equity 3/	(6) CERR's Cost of Debt	(7) CERR's Cost of Preferred Equity	(8) CERR's Cost of Equity	(9) Debt as a Percent of Total Investment	Preferred		(11) Equity as a Percent of Total Investment	(12) Composite Cost of Capital	(13) 1 + Cost of Capital	(14) STB Prescribed Debt as a % of Capital 4/	(15) STB Preferred Equity as a % of Capital 4/
									(10) Equity as a Percent of Total Investment	(11) Equity as a Percent of Total Investment					
2012	11.12%	3.29%	0.00%	13.40%	3.29%	0.00%	13.40%	22.56%	0.000%	77.44%	11.12%	1.112	22.560%	0.000%	
2013	11.32%	3.68%	3.87%	12.96%	3.68%	3.87%	12.96%	17.69%	0.004%	82.31%	11.32%	1.132	17.690%	0.004%	
2014	10.65%	3.58%	3.69%	12.06%	3.58%	3.69%	12.06%	16.66%	0.004%	83.34%	10.65%	1.1065	16.660%	0.004%	
2015	9.61%	3.55%	3.68%	10.96%	3.60%	3.37%	10.96%	17.82%	0.004%	82.17%	9.65%	1.0965	18.160%	0.000%	
2016					3.60%	3.37%	12.35%	17.82%	0.004%	82.17%	10.79%	1.1079			
2017					3.60%	3.37%	12.35%	17.82%	0.004%	82.17%	10.79%	1.1079			
2018					3.60%	3.37%	12.35%	17.82%	0.004%	82.17%	10.79%	1.1079			
2019					3.60%	3.37%	12.35%	17.82%	0.004%	82.17%	10.79%	1.1079			
2020					3.60%	3.37%	12.35%	17.82%	0.004%	82.17%	10.79%	1.1079			
2021					3.60%	3.37%	12.35%	17.82%	0.004%	82.17%	10.79%	1.1079			
2022					3.60%	3.37%	12.35%	17.82%	0.004%	82.17%	10.79%	1.1079			
2023					3.60%	3.37%	12.35%	17.82%	0.004%	82.17%	10.79%	1.1079			
2024					3.60%	3.37%	12.35%	17.82%	0.004%	82.17%	10.79%	1.1079			

1/ Cost of railroad industry debt from the STB Decisions in Ex Parte No. 558 (Sub-No. 16), *Railroad Cost of Capital - 2012*, decided August 30, 2013, Ex Parte No. 558 (Sub-No. 17), *Railroad Cost of Capital - 2013*, decided July 31, 2014, Ex Parte No. 558 (Sub-No. 18), *Railroad Cost of Capital - 2014*, decided August 7, 2015. The 2015 railroad industry cost of debt was taken from the AAR's filing in Ex Parte No. 558 (Sub-No. 19), Railroad Cost of Capital - 2015, filed with the STB on April 20, 2016.

2/ Cost of preferred equity from the STB Decisions Ex Parte No. 558 (Sub-No. 17), *Railroad Cost of Capital - 2013*, decided July 31, 2014, Ex Parte No. 558 (Sub-No. 18), *Railroad Cost of Capital - 2014*, decided August 7, 2015. The 2015 railroad industry cost of preferred equity was taken from the AAR's filing in Ex Parte No. 558 (Sub-No. 19), Railroad Cost of Capital - 2015, filed with the STB on April 20, 2016. There was no railroad preferred equity issued in 2012 or 2015.

3/ Cost of railroad common equity from the STB Decisions in Ex Parte No. 558 (Sub-No. 16), *Railroad Cost of Capital - 2012*, decided August 30, 2013, Ex Parte No. 558 (Sub-No. 17), *Railroad Cost of Capital - 2013*, decided July 31, 2014, Ex Parte No. 558 (Sub-No. 18), *Railroad Cost of Capital - 2014*, decided August 7, 2015. The 2015 railroad industry cost of common equity was taken from the AAR's filing in Ex Parte No. 558 (Sub-No. 19), Railroad Cost of Capital - 2015, filed with the STB on April 20, 2016.

4/ Railroad average capital structure from the STB Decisions in Ex Parte No. 558 (Sub-No. 16), *Railroad Cost of Capital - 2012*, decided August 30, 2013, Ex Parte No. 558 (Sub-No. 17), *Railroad Cost of Capital - 2013*, decided July 31, 2014, Ex Parte No. 558 (Sub-No. 18), *Railroad Cost of Capital - 2014*, decided August 7, 2015. The 2015 average capital structure was taken from the AAR's filing in Ex Parte No. 558 (Sub-No. 19), Railroad Cost of Capital - 2015, filed with the STB on April 20, 2016.



**TABLE C: CERR PROPERTY INVESTMENT VALUES**

Construction of the CERR occurs between July 1, 2012 and January 1, 2015. Investments are assumed to be in January 1, 2015 dollars.

<u>Property Account</u> (1)	<u>Property Component</u> (2)	<u>Service Life In Years 1/</u> (3)	<u>Investment In 3Q2012 Dollars 2/</u> (4)	<u>Investment In 3Q2013 Dollars 3/</u> (5)	<u>Investment In 3Q2014 Dollars 4/</u> (6)	<u>2012 Investment Value 5/</u> (7)	<u>2013 Investment Value 6/</u> (8)	<u>2014 Investment Value 7/</u> (9)	<u>Total Property Investment 1Q 2015 8/</u> (10)
1	Engineering	NA	\$38,485,991	\$38,631,278	\$39,992,396	\$23,091,594	\$15,452,511	\$0	\$38,544,106
2	Land	NA	\$88,240,233	\$99,888,654	\$113,587,644	\$37,817,243	\$57,079,231	\$0	\$94,896,474
3	Grading	69	\$44,626,178	\$44,672,907	\$46,177,580	\$0	\$44,672,907	\$0	\$44,672,907
5	Tunnels	76	\$0	\$0	\$0	\$0	\$0	\$0	\$0
6	Bridges & Culverts	61	\$69,752,014	\$69,825,053	\$72,176,901	\$0	\$48,877,537	\$21,653,070	\$70,530,607
8	Ties	20	\$58,607,862	\$57,627,119	\$59,030,596	\$0	\$24,697,337	\$33,731,769	\$58,429,106
9	Rails and OTM	34	\$82,152,900	\$80,778,154	\$82,745,462	\$0	\$34,619,209	\$47,283,121	\$81,902,330
11	Ballast	36	\$50,588,092	\$49,741,552	\$50,952,980	\$0	\$21,317,808	\$29,115,989	\$50,433,797
12	Labor	31	\$45,807,089	\$45,980,015	\$47,600,055	\$0	\$19,705,721	\$27,200,031	\$46,905,752
13	Fences and Roadway Signs	47	\$97,882	\$97,984	\$101,285	\$0	\$41,993	\$57,877	\$99,870
16	Stations and Office Buildings	40	\$2,280,710	\$2,283,098	\$2,359,998	\$0	\$913,239	\$1,415,999	\$2,329,238
17	Roadway Buildings	37	\$1,518,993	\$1,520,583	\$1,571,799	\$0	\$608,233	\$943,080	\$1,551,313
19	Fuel Stations	29	\$0	\$0	\$0	\$0	\$0	\$0	\$0
20	Shops and Enginehouses	34	\$2,647,607	\$2,650,379	\$2,739,649	\$0	\$1,060,152	\$1,643,790	\$2,703,941
26	Communications Systems	13	\$11,461,808	\$11,473,810	\$11,860,271	\$0	\$0	\$11,860,271	\$11,860,271
27	Signals and Interlockers	29	\$33,224,587	\$33,259,377	\$34,379,619	\$0	\$0	\$34,379,619	\$34,379,619
39	Public Improvements	44	\$12,165,075	\$12,177,813	\$12,587,987	\$0	\$5,219,063	\$7,193,135	\$12,412,198
	Total		\$541,657,021	\$550,607,777	\$577,864,224	\$60,908,837	\$274,264,941	\$216,477,752	\$551,651,530

1/ 1 ÷ Depreciation Rate shown in Schedule 332 of CSXT's 2014 Annual Report R-1

2/ January 1, 2015, indexed to 2012 dollars; Investment Exhibit - 1Q2015 x Inflation Index from Table B, 3Q2012 ÷ 1Q2015.

3/ January 1, 2015, indexed to 2013 dollars; Investment Exhibit - 1Q2015 x Inflation Index from Table B, 3Q2013 ÷ 1Q2015.

4/ January 1, 2015, indexed to 2014 dollars; Investment Exhibit - 1Q2015 x Inflation Index from Table B, 3Q2014 ÷ 1Q2015.

5/ Column (4) x Percent constructed in 2012.

6/ Column (5) x Percent constructed in 2013.

7/ Column (6) x Percent constructed in 2014.

8/ Sum of Columns (7) through (9).

**TABLE D: INTEREST DURING CONSTRUCTION**

Month of Installation (1)	Cost of Funds 1/ (2)	Timing of Account 1 Investment 2/ (3)	Timing of Account 2 Investment 2/ (4)	Timing of Accounts 3, 5 and 6 Investment 2/ (5)	Timing of Accounts 8 Through 39 Investment 2/ (6)	Total Investment by Month 3/ (7)	Interest During Construction 4/ (8)	Cost of Debt 5/ (9)	Deductible Interest During Construction 6/ (10)
Jul-12	0.88%	\$3,848,599	\$0	\$0	\$0	\$3,848,599	\$0	0.27%	\$0
Aug-12	0.88%	\$3,848,599	\$0	\$0	\$0	\$3,848,599	\$33,963	0.27%	\$2,345
Sep-12	0.88%	\$3,848,599	\$0	\$0	\$0	\$3,848,599	\$68,226	0.27%	\$4,711
Oct-12	0.88%	\$3,848,599	\$12,605,748	\$0	\$0	\$16,454,347	\$102,791	0.27%	\$7,098
Nov-12	0.88%	\$3,848,599	\$12,605,748	\$0	\$0	\$16,454,347	\$248,905	0.27%	\$17,188
Dec-12	0.88%	\$3,848,599	\$12,605,748	\$0	\$0	\$16,454,347	\$396,308	0.27%	\$27,366
Jan-13	0.90%	\$3,863,128	\$14,269,808	\$0	\$0	\$18,132,936	\$554,294	0.30%	\$32,952
Feb-13	0.90%	\$3,863,128	\$14,269,808	\$0	\$0	\$18,132,936	\$722,014	0.30%	\$42,922
Mar-13	0.90%	\$3,863,128	\$14,269,808	\$0	\$0	\$18,132,936	\$891,239	0.30%	\$52,982
Apr-13	0.90%	\$3,863,128	\$14,269,808	\$6,381,844	\$0	\$24,514,779	\$1,061,983	0.30%	\$63,133
May-13	0.90%	\$0	\$0	\$6,381,844	\$0	\$6,381,844	\$1,291,537	0.30%	\$76,779
Jun-13	0.90%	\$0	\$0	\$13,364,349	\$0	\$13,364,349	\$1,360,406	0.30%	\$80,874
Jul-13	0.90%	\$0	\$0	\$13,364,349	\$17,600,188	\$30,964,537	\$1,492,563	0.30%	\$88,730
Aug-13	0.90%	\$0	\$0	\$13,364,349	\$17,600,188	\$30,964,537	\$1,783,868	0.30%	\$106,048
Sep-13	0.90%	\$0	\$0	\$13,364,349	\$18,245,594	\$31,609,944	\$2,077,789	0.30%	\$123,521
Oct-13	0.90%	\$0	\$0	\$13,364,349	\$18,245,594	\$31,609,944	\$2,380,140	0.30%	\$141,495
Nov-13	0.90%	\$0	\$0	\$6,982,505	\$18,245,594	\$25,228,100	\$2,685,204	0.30%	\$159,630
Dec-13	0.90%	\$0	\$0	\$6,982,505	\$18,245,594	\$25,228,100	\$2,935,729	0.30%	\$174,523
Jan-14	0.85%	\$0	\$0	\$7,217,690	\$18,739,885	\$25,957,575	\$3,007,920	0.29%	\$173,740
Feb-14	0.85%	\$0	\$0	\$7,217,690	\$18,739,885	\$25,957,575	\$3,253,165	0.29%	\$187,906
Mar-14	0.85%	\$0	\$0	\$7,217,690	\$18,739,885	\$25,957,575	\$3,500,486	0.29%	\$202,191
Apr-14	0.85%	\$0	\$0	\$0	\$18,739,885	\$18,739,885	\$3,749,902	0.29%	\$216,598
May-14	0.85%	\$0	\$0	\$0	\$18,739,885	\$18,739,885	\$3,940,318	0.29%	\$227,596
Jun-14	0.85%	\$0	\$0	\$0	\$34,153,182	\$34,153,182	\$4,132,347	0.29%	\$238,688
Jul-14	0.85%	\$0	\$0	\$0	\$33,486,037	\$33,486,037	\$4,456,502	0.29%	\$257,412
Aug-14	0.85%	\$0	\$0	\$0	\$33,486,037	\$33,486,037	\$4,777,754	0.29%	\$275,967
Sep-14	0.85%	\$0	\$0	\$0	\$0	\$0	\$5,101,726	0.29%	\$294,680
Oct-14	0.85%	\$0	\$0	\$0	\$0	\$0	\$5,144,921	0.29%	\$297,175
Nov-14	0.85%	\$0	\$0	\$0	\$0	\$0	\$5,188,482	0.29%	\$299,691
Dec-14	0.85%	\$0	\$0	\$0	\$0	\$0	\$5,232,412	0.29%	\$302,229
<b>Total</b>		<b>\$38,544,106</b>	<b>\$94,896,474</b>	<b>\$115,203,514</b>	<b>\$303,007,436</b>	<b>\$551,651,530</b>	<b>\$71,572,895</b>		<b>\$4,176,172</b>

1/ ((1 + Cost of Capital from Table A for the applicable year)<sup>(1/12)</sup> - 1) x 100.

2/ Applicable account value from Table C for the applicable investment period.

3/ Sum of Columns (3) through (6).

4/ July 12 equals Column (2) x prior Column (7), all other periods equal Column (2) x ((Sum of Column (7) for all prior periods) + (Sum of Column (8) for all prior periods)).

5/ ((1 + Cost of Debt from Table A for the applicable year)<sup>(1/12)</sup> - 1) x 100.

6/ July 12 equals prior Column (7) x Column (9) x Table A, Column (9) for 2012, all other periods equal Column (9) x ((Sum of Column (7) for all prior periods) + (Sum of Column (8) for all prior periods)) x Table A, Column (9) for the applicable year.

**TABLE E: CERR INTEREST PAYMENTS FOR ASSETS PURCHASED WITH DEBT CAPITAL**

INTEREST SCHEDULE FOR THE CERR 2012 ROAD PROPERTY INVESTMENT FOR THE 1Q2015 START-UP		INTEREST SCHEDULE FOR THE CERR 2013 ROAD PROPERTY INVESTMENT FOR THE 1Q2015 START-UP		INTEREST SCHEDULE FOR THE CERR 2014 ROAD PROPERTY INVESTMENT FOR THE 1Q2015 START-UP	
1. Total Investment	\$60,908,837 1/	1. Total Investment	\$274,264,941 1/	1. Total Investment	\$216,477,752 1/
2. IDC	\$850,193 2/	2. IDC	\$19,236,766 2/	2. IDC	\$51,485,936 2/
3. Principal	\$13,932,837 3/	3. Principal	\$51,920,452 3/	3. Principal	\$44,642,750 3/
4. Interest	3.29% 4/	4. Interest	3.68% 4/	4. Interest	3.58% 4/
5. Term (Quarters)	80 5/	5. Term (Quarters)	80 5/	5. Term (Quarters)	80 5/
6. Quarterly Coupon	\$113,210 6/	6. Quarterly Coupon	\$471,214 6/	6. Quarterly Coupon	\$394,298 6/
<u>Quarter</u> (1)	<u>Interest 7/</u> (2)	<u>Quarter</u> (3)	<u>Interest 7/</u> (4)	<u>Quarter</u> (5)	<u>Interest 7/</u> (6)
1	\$113,210	1	\$471,214	1	\$394,298
2	\$113,210	2	\$471,214	2	\$394,298
3	\$113,210	3	\$471,214	3	\$394,298
4	\$113,210	4	\$471,214	4	\$394,298
5	\$113,210	5	\$471,214	5	\$394,298
6	\$113,210	6	\$471,214	6	\$394,298
7	\$113,210	7	\$471,214	7	\$394,298
8	\$113,210	8	\$471,214	8	\$394,298
9	\$113,210	9	\$471,214	9	\$394,298
10	\$113,210	10	\$471,214	10	\$394,298
11	\$113,210	11	\$471,214	11	\$394,298
12	\$113,210	12	\$471,214	12	\$394,298
13	\$113,210	13	\$471,214	13	\$394,298
14	\$113,210	14	\$471,214	14	\$394,298
15	\$113,210	15	\$471,214	15	\$394,298
16	\$113,210	16	\$471,214	16	\$394,298
17	\$113,210	17	\$471,214	17	\$394,298
18	\$113,210	18	\$471,214	18	\$394,298
19	\$113,210	19	\$471,214	19	\$394,298
20	\$113,210	20	\$471,214	20	\$394,298
21	\$113,210	21	\$471,214	21	\$394,298
22	\$113,210	22	\$471,214	22	\$394,298
23	\$113,210	23	\$471,214	23	\$394,298
24	\$113,210	24	\$471,214	24	\$394,298
25	\$113,210	25	\$471,214	25	\$394,298
26	\$113,210	26	\$471,214	26	\$394,298
27	\$113,210	27	\$471,214	27	\$394,298
28	\$113,210	28	\$471,214	28	\$394,298
29	\$113,210	29	\$471,214	29	\$394,298
30	\$113,210	30	\$471,214	30	\$394,298
31	\$113,210	31	\$471,214	31	\$394,298
32	\$113,210	32	\$471,214	32	\$394,298
33	\$113,210	33	\$471,214	33	\$394,298
34	\$113,210	34	\$471,214	34	\$394,298
35	\$113,210	35	\$471,214	35	\$394,298
36	\$113,210	36	\$471,214	36	\$394,298
37	\$113,210	37	\$471,214	37	\$394,298
38	\$113,210	38	\$471,214	38	\$394,298
39	\$113,210	39	\$471,214	39	\$394,298
40	\$113,210	40	\$471,214	40	\$394,298
41	\$113,210	41	\$471,214	41	\$394,298
42	\$113,210	42	\$471,214	42	\$394,298
43	\$113,210	43	\$471,214	43	\$394,298
44	\$113,210	44	\$471,214	44	\$394,298
45	\$113,210	45	\$471,214	45	\$394,298
46	\$113,210	46	\$471,214	46	\$394,298
47	\$113,210	47	\$471,214	47	\$394,298
48	\$113,210	48	\$471,214	48	\$394,298
49	\$113,210	49	\$471,214	49	\$394,298
50	\$113,210	50	\$471,214	50	\$394,298
51	\$113,210	51	\$471,214	51	\$394,298
52	\$113,210	52	\$471,214	52	\$394,298
53	\$113,210	53	\$471,214	53	\$394,298
54	\$113,210	54	\$471,214	54	\$394,298

**TABLE E: CERR INTEREST PAYMENTS FOR ASSETS PURCHASED WITH DEBT CAPITAL**

INTEREST SCHEDULE FOR THE CERR 2012 ROAD PROPERTY INVESTMENT FOR THE 1Q2015 START-UP		INTEREST SCHEDULE FOR THE CERR 2013 ROAD PROPERTY INVESTMENT FOR THE 1Q2015 START-UP		INTEREST SCHEDULE FOR THE CERR 2014 ROAD PROPERTY INVESTMENT FOR THE 1Q2015 START-UP	
1. Total Investment	\$60,908,837 1/	1. Total Investment	\$274,264,941 1/	1. Total Investment	\$216,477,752 1/
2. IDC	\$850,193 2/	2. IDC	\$19,236,766 2/	2. IDC	\$51,485,936 2/
3. Principal	\$13,932,837 3/	3. Principal	\$51,920,452 3/	3. Principal	\$44,642,750 3/
4. Interest	3.29% 4/	4. Interest	3.68% 4/	4. Interest	3.58% 4/
5. Term (Quarters)	80 5/	5. Term (Quarters)	80 5/	5. Term (Quarters)	80 5/
6. Quarterly Coupon	\$113,210 6/	6. Quarterly Coupon	\$471,214 6/	6. Quarterly Coupon	\$394,298 6/
<u>Quarter</u> (1)	<u>Interest 7/</u> (2)	<u>Quarter</u> (3)	<u>Interest 7/</u> (4)	<u>Quarter</u> (5)	<u>Interest 7/</u> (6)
55	\$113,210	55	\$471,214	55	\$394,298
56	\$113,210	56	\$471,214	56	\$394,298
57	\$113,210	57	\$471,214	57	\$394,298
58	\$113,210	58	\$471,214	58	\$394,298
59	\$113,210	59	\$471,214	59	\$394,298
60	\$113,210	60	\$471,214	60	\$394,298
61	\$113,210	61	\$471,214	61	\$394,298
62	\$113,210	62	\$471,214	62	\$394,298
63	\$113,210	63	\$471,214	63	\$394,298
64	\$113,210	64	\$471,214	64	\$394,298
65	\$113,210	65	\$471,214	65	\$394,298
66	\$113,210	66	\$471,214	66	\$394,298
67	\$113,210	67	\$471,214	67	\$394,298
68	\$113,210	68	\$471,214	68	\$394,298
69	\$113,210	69	\$471,214	69	\$394,298
70	\$113,210	70	\$471,214	70	\$394,298
71	\$113,210	71	\$471,214	71	\$394,298
72	\$113,210	72	\$471,214	72	\$394,298
73	\$113,210	73	\$471,214	73	\$394,298
74	\$113,210	74	\$471,214	74	\$394,298
75	\$113,210	75	\$471,214	75	\$394,298
76	\$113,210	76	\$471,214	76	\$394,298
77	\$113,210	77	\$471,214	77	\$394,298
78	\$113,210	78	\$471,214	78	\$394,298
79	\$113,210	79	\$471,214	79	\$394,298
80	\$113,210	80	\$471,214	80	\$394,298

- 1/ From Table D, Column (7) for the applicable year investment.  
2/ From Table D, Column (8) for the applicable year investment.  
3/ (Total Investment + IDC) x (Proportion of Debt from Table A, Column (9)).  
4/ From Table A, Column (6) for the applicable year investment.  
5/ Based on Ex Parte No. 657 20-year payment period x 4.  
6/ Quarterly coupon payments on Line 3 principal and Line 4 interest rates.  
7/ Line 6 coupon payment.

**TABLE F: CERR PRESENT VALUE OF REPLACEMENT COST**

<b>Property Account</b> (1)	<b>Property Component</b> (2)	<b>Service Life In Years 1/</b> (3)	<b>Investment 2/</b> (4)	<b>Salvage 3/</b> (5)	<b>Replacement Year Asset Net Cost 4/</b> (6)	<b>Replacement Cost Adjusted To Reflect An Infinite Life 5/</b> (7)	<b>Present Value Of Replacement Cost Adjusted To Reflect An Infinite Life 6/ (2015 Dollars) 6/</b> (8)
3	Grading	69	\$449,395,692	\$0	\$382,829,685	\$386,569,436	\$354,352
5	Tunnels	76	0	0	0	0	0
6	Bridges & Culverts	61	554,218,234	0	465,711,074	0	976,145
8	Ties	20	103,116,607	0	81,446,767	108,891,372	13,626,073
9	Rails and OTM	34	188,436,536	13,311,950	137,894,674	153,070,806	4,690,463
11	Ballast	36	120,252,903	0	94,981,889	104,083,080	2,638,994
12	Labor	31	152,496,367	0	120,449,425	138,071,507	6,192,086
13	Fences and Roadway Signs	47	508,620	0	427,395	446,380	3,817
16	Stations and Office Buildings	40	9,429,882	0	7,923,956	8,520,992	154,690
17	Roadway Buildings	37	5,742,639	0	4,825,555	5,274,587	128,443
19	Fuel Stations	29	0	0	0	0	0
20	Shops and Enginehouses	34	9,332,252	0	7,841,917	8,704,966	266,741
26	Communications Systems	13	21,148,306	0	16,704,013	28,653,638	7,662,739
27	Signals and Interlockers	29	101,003,965	3,385,701	77,027,516	89,644,703	4,659,364
39	Public Improvements	44	<u>57,800,024</u>	<u>0</u>	<u>48,569,516</u>	<u>51,216,095</u>	<u>587,444</u>
	<b>Total</b>		<b>\$1,772,882,028</b>	<b>\$16,697,651</b>	<b>\$1,446,633,381</b>	<b>\$1,083,147,563</b>	<b>\$41,941,354</b>

1/ From Table C, Column (3).

2/ (Table C, Column (10) after allocation of Engineering) x (Table B, 1.0 + Annual Inflation Index)^(Column (3)).

3/ [(Column (4) x Salvage %) - (Table C, Column (10) after allocation of Engineering x Salvage %)] x (1 - Current Federal Tax Rate) + (Table C, Column (10) after allocation of Engineering x Salvage %).

4/ Column (4) - (Present Value of the remaining tax deductions for depreciation, interest expense and the Present Value of any salvage).

5/ Column (6) + [(Column (6) / ((1 + Real Cost of Capital)^(Column (3) - 1))].

6/ Column (7) / ((1 + Average Nominal Cost of Capital from Table A Column (2))^(Column (3))).

**TABLE G PART 1: TAX DEPRECIATION SCHEDULES**

Depreciation of Start-up investment for tax purposes using accounting lives from Modified Accelerated Cost Recovery System (MACRS) 1/

<u>Road Property Account</u> (1)	<u>Road Property Component</u> (2)	<u>Asset Lives Per MACRS 2/</u> (3)	<u>Total IQ 2015 Investment</u> (4)	<u>Depreciable Base</u> (5)
1	Engineering	5	\$38,544,106	\$38,544,106
2	Land	N/A	\$94,896,474	\$0
3	Grading	50	\$44,672,907	\$44,672,907
5	Tunnels	50	\$0	\$0
6	Bridges & Culverts	20	\$70,530,607	\$70,530,607
8	Ties	7	\$58,429,106	\$58,429,106
9	Rails and OTM	7	\$81,902,330	\$81,902,330
11	Ballast	7	\$50,433,797	\$50,433,797
12	Labor	7	\$46,905,752	\$46,905,752
13	Fences and Roadway Signs	20	\$99,870	\$99,870
16	Stations and Office Buildings	20	\$2,329,238	\$2,329,238
17	Roadway Buildings	20	\$1,551,313	\$1,551,313
19	Fuel Stations	20	\$0	\$0
20	Shops and Enginehouses	20	\$2,703,941	\$2,703,941
26	Communications Systems	7	\$11,860,271	\$11,860,271
27	Signals and Interlockers	7	\$34,379,619	\$34,379,619
39	Public Improvements	20	\$12,412,198	\$12,412,198
<b>Total</b>			<b>\$551,651,530</b>	<b>\$456,755,056</b>

1/ Applicable Depreciation Method: 200 or 150 percent Declining Balance Switching to Straight Line  
Applicable Recovery Periods: 7, 20 and 50 a/ years  
Applicable Convention: Mid-quarter(property placed in service in first quarter)

The Depreciation Rates are as follows for the corresponding Recovery Period and Recovery year:

<u>Year</u>	<u>5-Year</u>	<u>7-Year</u>	<u>20-Year</u>	<u>50-Year a/</u>
1	20.00%	25.00%	6.56%	2.00%
2	20.00%	21.43%	7.00%	2.00%
3	20.00%	15.31%	6.48%	2.00%
4	20.00%	10.93%	6.00%	2.00%
5	20.00%	8.75%	5.55%	2.00%
6		8.74%	5.13%	2.00%
7		8.75%	4.75%	2.00%
8		1.09%	4.46%	2.00%
9			4.46%	2.00%
10			4.46%	2.00%
11			4.46%	2.00%
12			4.46%	2.00%
13			4.46%	2.00%
14			4.46%	2.00%
15			4.46%	2.00%
16			4.46%	2.00%
17			4.46%	2.00%
18			4.46%	2.00%
19			4.46%	2.00%
20			4.46%	19-50
21			0.57%	

a/ 50 year property uses the Straight Line Method for all time periods

2/ Bonus Depreciation Per the Tax Relief, Unemployment Compensation Reauthorization, and Job Creation Act of 2010, the American Taxpayer Relief Act of 2012 and the Tax Increase Prevention Act of 2014.

<u>MARCS Lives</u>	<u>Bonus Depreciation - 50%</u>
7	\$141,955,438
20	\$44,813,584



**TABLE G PART 2: TAX DEPRECIATION SCHEDULES**

Year (1)	Amortization - 5 Years			Road Property Depreciation - MACRS 7 Years			Depreciation - MACRS 20 Years			Depreciation - MACRS 50 Years			Total Annual Depreciation 10/ (14)
	Unamortized Investment 1/ (2)	Rate 2/ (3)	Annual Amort. 3/ (4)	Undepreciated Investment 4/ (5)	Rate 2/ (6)	Annual Amount 5/ (7)	Undepreciated Investment 6/ (8)	Rate 2/ (9)	Annual Amount 7/ (10)	Unamortized Investment 8/ (11)	Rate 2/ (12)	Annual Amount 9/ (13)	
46										\$4,467,291	2%	\$893,458	\$893,458
47										\$3,573,833	2%	\$893,458	\$893,458
48										\$2,680,374	2%	\$893,458	\$893,458
49										\$1,786,916	2%	\$893,458	\$893,458
50										\$893,458	2%	\$893,458	\$893,458
											100%		

1/ From Table G Part 1, Column (5); Road Property Accounts 1 minus Table G Part 1

2/ From Table G, Footnote 1/, Page 8.

3/ Column (2), Year 1 x Column (3).

4/ From Table G Part 1, Column (5); Road Property Accounts 8, 9, 11, 12, 26 and 27 minus Table G Part 1, 7-Year Bonus Depreciation.

5/ Column (5), Year 1 x Column (6).

6/ From Table G Part 1, Column (5); Road Property Accounts 6, 13, 16, 17, 19, 20 and 39 minus Table G Part 1, 20-Year Bonus Depreciation.

7/ Column (8), Year 1 x Column (9).

8/ From Table G, Page 8, Column (5); Road Property Accounts 3 and 5.

9/ Column (11), Year 1 x Column (12).

10/ Column (4) + Column (7) + Column (10) + Column (13) plus Page 8, 7 & 20 Year Bonus Depreciation.

**TABLE H: CERR AVERAGE ANNUAL INFLATION IN ASSET PRICES**

Development of average annual inflation factors for all capital assets

1. 1Q 2015 Land value	\$94,896,474 1/
2. 1Q 2015 Property asset value accounts 3, 5, 6, 13, 16, 17, 26, 27, 39 and 52	\$180,539,965 1/
3. 1Q 2015 Road Property asset value accounts 8, 9, and 11	\$190,765,233 1/
4. 1Q 2015 Road Property asset value accounts 1 and 12	\$85,449,858 1/

Period (1)	Quarter (2)	Inflation Index		Inflation Index		Land Value 6/ (7)	Road Property Value 7/ (8)	IQ 2015 Inflation Index 8/ (9)
		Inflation Index For Land 2/ (3)	Inflation Index For Line 2 Property Assets 3/ (4)	Inflation Index For Line 3 Road Property Assets 4/ (5)	Inflation Index For Line 4 Road Property Assets 5/ (6)			
0		1.000	1.000	1.000	1.000	\$94,896,474	\$456,755,056	1.000
1	1Q 2015	1.032	1.020	0.944	1.032	\$97,963,575	\$452,386,881	0.998
2	2Q 2015	1.065	1.025	0.938	1.039	\$101,046,423	\$452,817,957	1.004
3	3Q 2015	1.086	1.022	0.927	1.037	\$103,040,339	\$449,862,787	1.002
4	4Q 2015	1.104	1.026	0.944	1.039	\$104,791,711	\$454,064,233	1.013
5	1Q 2016	1.117	1.021	0.908	1.040	\$105,967,440	\$446,419,729	1.001
6	2Q 2016	1.129	1.019	0.908	1.037	\$107,156,727	\$445,694,829	1.002
7	3Q 2016	1.142	1.025	0.913	1.043	\$108,359,735	\$448,368,998	1.009
8	4Q 2016	1.155	1.033	0.928	1.049	\$109,576,625	\$453,118,573	1.020
9	1Q 2017	1.168	1.043	0.929	1.062	\$110,807,564	\$456,257,346	1.028
10	2Q 2017	1.181	1.051	0.939	1.069	\$112,052,717	\$460,289,021	1.038
11	3Q 2017	1.194	1.061	0.956	1.078	\$113,312,254	\$466,087,990	1.050
12	4Q 2017	1.207	1.069	0.960	1.086	\$114,586,346	\$468,955,870	1.058
13	1Q 2018	1.221	1.079	0.970	1.096	\$115,875,165	\$473,608,824	1.069
14	2Q 2018	1.235	1.089	0.981	1.106	\$117,178,888	\$478,186,364	1.079
15	3Q 2018	1.249	1.099	0.991	1.116	\$118,497,692	\$482,808,406	1.090
16	4Q 2018	1.263	1.109	1.001	1.126	\$119,831,755	\$487,475,386	1.101
17	1Q 2019	1.277	1.119	1.011	1.135	\$121,181,260	\$491,731,779	1.111
18	2Q 2019	1.291	1.128	1.020	1.145	\$122,546,392	\$496,025,387	1.121
19	3Q 2019	1.306	1.138	1.029	1.154	\$123,927,335	\$500,356,534	1.132
20	4Q 2019	1.321	1.147	1.038	1.164	\$125,324,279	\$504,725,550	1.142
21	1Q 2020	1.336	1.157	1.046	1.174	\$126,737,414	\$508,857,092	1.152
22	2Q 2020	1.351	1.167	1.054	1.184	\$128,166,934	\$513,022,545	1.162
23	3Q 2020	1.366	1.177	1.062	1.194	\$129,613,034	\$517,222,188	1.173
24	4Q 2020	1.381	1.187	1.071	1.205	\$131,075,912	\$521,456,303	1.183
25	1Q 2021	1.397	1.198	1.080	1.216	\$132,555,769	\$526,165,133	1.194
26	2Q 2021	1.413	1.209	1.089	1.227	\$134,052,807	\$530,916,537	1.205
27	3Q 2021	1.429	1.220	1.099	1.239	\$135,567,232	\$535,710,900	1.217
28	4Q 2021	1.445	1.231	1.108	1.250	\$137,099,252	\$540,548,612	1.228
29	1Q 2022	1.461	1.242	1.117	1.262	\$138,649,077	\$545,105,895	1.239
30	2Q 2022	1.478	1.253	1.126	1.273	\$140,216,920	\$549,701,697	1.251
31	3Q 2022	1.494	1.264	1.135	1.284	\$141,802,997	\$554,336,345	1.262
32	4Q 2022	1.511	1.275	1.144	1.295	\$143,407,526	\$559,010,168	1.273
33	1Q 2023	1.528	1.286	1.152	1.307	\$145,030,729	\$563,524,204	1.284
34	2Q 2023	1.546	1.296	1.161	1.318	\$146,672,828	\$568,074,849	1.296
35	3Q 2023	1.563	1.307	1.169	1.329	\$148,334,051	\$572,662,401	1.307
36	4Q 2023	1.581	1.318	1.178	1.341	\$150,014,627	\$577,287,162	1.318
37	1Q 2024	1.599	1.329	1.186	1.352	\$151,714,787	\$581,819,497	1.330
38	2Q 2024	1.617	1.340	1.194	1.364	\$153,434,768	\$586,387,736	1.341
39	3Q 2024	1.635	1.352	1.203	1.376	\$155,174,807	\$590,992,165	1.353
40	4Q 2024	1.654	1.363	1.211	1.388	\$156,935,144	\$595,633,075	1.364

Annual Average 9/

3.48%

1/ Table C, Page 3, Column (10).  
2/ Previous Column (3) x (1 + Quarterly Inflation Rate Change from Table B).  
3/ Previous Column (4) x (1 + Quarterly Inflation Rate Change from Table B).  
4/ Previous Column (5) x (1 + Quarterly Inflation Rate Change from Table B).  
5/ Previous Column (6) x (1 + Quarterly Inflation Rate Change from Table B).  
6/ Line 1 x Column (3) for applicable quarter.  
7/ (Line 2 x Column (4) for applicable quarter) + (Line 3 x Column (5) for applicable quarter) + (Line 4 x Column (6) for applicable quarter).  
8/ (Column (7) + Column (8)) ÷ (Period 0; (Column (7) + Column (8))).  
9/ Annual weighted inflation using the last two quarters, used to calculate real cost of capital.

**TABLE I: CERR DISCOUNTED CASH FLOW**

Discounted Cash Flow  
Present Value of the Cash Flow Discounted at the Cost of Capital in Table A  
Inflation In Asset Values From Table H

1. 1Q 2015 Road Property Investment	\$551,651,530 1/	Federal Tax Rate	35.0%
2. Interest During Construction (1Q 2015 Invest.)	\$71,572,895 2/		
3. Total 1Q 2015 Investment	\$623,224,424 3/	Route Mile Weighted	
4. Present Value Of Replacement Cost for the CERR	\$41,941,354 4/	Average State Tax Rate	6.38% 6/
5. Total Cost Recovered From Quarterly Revenue Flow	\$665,165,778 5/		

Period	Quarter	Quarterly Levelized C Carrying Charge Requirement 6/	Interest on Investment Financed With Debt 7/	Tax Depreciation 8/	Actual Federal Tax Payments 9/	Actual State Tax Payments 10/	Cash Flow 11/	Present Value Cash Flow 12/	Cumulative Present Value 13/
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1	1Q 2015	\$14,996,787	\$978,723	\$58,450,319	\$0	\$0	\$14,996,787	\$14,825,125	\$14,825,125
2	2Q 2015	\$15,092,539	\$978,723	\$58,450,319	\$0	\$0	\$15,092,539	\$14,580,177	\$29,405,302
3	3Q 2015	\$15,066,346	\$978,723	\$58,450,319	\$0	\$0	\$15,066,346	\$14,223,573	\$43,628,874
4	4Q 2015	\$15,228,557	\$978,723	\$58,450,319	\$0	\$0	\$15,228,557	\$14,049,467	\$57,678,341
5	1Q 2016	\$15,052,286	\$978,723	\$10,540,070	\$0	\$0	\$15,052,286	\$13,553,245	\$71,231,586
6	2Q 2016	\$15,064,941	\$978,723	\$10,540,070	\$0	\$0	\$15,064,941	\$13,221,703	\$84,453,289
7	3Q 2016	\$15,170,592	\$978,723	\$10,540,070	\$0	\$0	\$15,170,592	\$12,977,818	\$97,431,107
8	4Q 2016	\$15,333,175	\$978,723	\$10,540,070	\$0	\$0	\$15,333,175	\$12,785,285	\$110,216,392
9	1Q 2017	\$15,452,248	\$978,723	\$8,310,118	\$0	\$0	\$15,452,248	\$12,558,829	\$122,775,221
10	2Q 2017	\$15,596,039	\$978,723	\$8,310,118	\$0	\$0	\$15,596,039	\$12,355,233	\$135,130,454
11	3Q 2017	\$15,788,380	\$978,723	\$8,310,118	\$0	\$0	\$15,788,380	\$12,191,394	\$147,321,848
12	4Q 2017	\$15,901,246	\$978,723	\$8,310,118	\$0	\$0	\$15,901,246	\$11,968,126	\$159,289,974
13	1Q 2018	\$16,063,157	\$978,723	\$6,701,258	\$0	\$0	\$16,063,157	\$11,784,334	\$171,074,309
14	2Q 2018	\$16,223,418	\$978,723	\$6,701,258	\$0	\$0	\$16,223,418	\$11,601,007	\$182,675,316
15	3Q 2018	\$16,385,304	\$978,723	\$6,701,258	\$0	\$0	\$16,385,304	\$11,420,549	\$194,095,865
16	4Q 2018	\$16,548,829	\$978,723	\$6,701,258	\$0	\$0	\$16,548,829	\$11,242,915	\$205,338,780
17	1Q 2019	\$16,701,587	\$978,723	\$5,877,185	\$0	\$0	\$16,701,587	\$11,059,833	\$216,398,613
18	2Q 2019	\$16,855,785	\$978,723	\$5,877,185	\$0	\$0	\$16,855,785	\$10,879,752	\$227,278,364
19	3Q 2019	\$17,011,437	\$978,723	\$5,877,185	\$0	\$0	\$17,011,437	\$10,702,621	\$237,980,986
20	4Q 2019	\$17,168,556	\$978,723	\$5,877,185	\$0	\$0	\$17,168,556	\$10,528,394	\$248,509,379
21	1Q 2020	\$17,319,646	\$978,723	\$3,899,825	\$0	\$0	\$17,319,646	\$10,352,530	\$258,861,910
22	2Q 2020	\$17,472,107	\$978,723	\$3,899,825	\$0	\$0	\$17,472,107	\$10,179,629	\$269,041,538
23	3Q 2020	\$17,625,950	\$978,723	\$3,899,825	\$0	\$0	\$17,625,950	\$10,009,638	\$279,051,177
24	4Q 2020	\$17,781,191	\$978,723	\$3,899,825	\$0	\$0	\$17,781,191	\$9,842,509	\$288,893,686
25	1Q 2021	\$17,949,830	\$978,723	\$3,860,353	\$0	\$0	\$17,949,830	\$9,684,663	\$298,578,349
26	2Q 2021	\$18,120,097	\$978,723	\$3,860,353	\$3,444,213	\$670,654	\$14,005,230	\$7,365,353	\$305,943,702
27	3Q 2021	\$18,292,008	\$978,723	\$3,860,353	\$4,408,107	\$858,342	\$13,025,559	\$6,676,962	\$312,620,663
28	4Q 2021	\$18,465,580	\$978,723	\$3,860,353	\$4,464,981	\$869,417	\$13,131,183	\$6,560,932	\$319,181,595
29	1Q 2022	\$18,631,996	\$978,723	\$1,109,753	\$5,420,796	\$1,055,532	\$12,155,668	\$5,919,972	\$325,101,567
30	2Q 2022	\$18,799,952	\$978,723	\$1,109,753	\$5,475,830	\$1,066,249	\$12,257,874	\$5,818,823	\$330,920,390
31	3Q 2022	\$18,969,464	\$978,723	\$1,109,753	\$5,531,374	\$1,077,064	\$12,361,026	\$5,719,443	\$336,639,833
32	4Q 2022	\$19,140,546	\$978,723	\$1,109,753	\$5,587,432	\$1,087,980	\$12,465,135	\$5,621,799	\$342,261,632
33	1Q 2023	\$19,307,783	\$978,723	\$722,924	\$5,768,982	\$1,123,331	\$12,415,470	\$5,457,839	\$347,719,470
34	2Q 2023	\$19,476,532	\$978,723	\$722,924	\$5,824,276	\$1,134,098	\$12,518,159	\$5,363,856	\$353,083,326
35	3Q 2023	\$19,646,809	\$978,723	\$722,924	\$5,880,070	\$1,144,962	\$12,621,777	\$5,271,526	\$358,354,852
36	4Q 2023	\$19,818,626	\$978,723	\$722,924	\$5,936,369	\$1,155,924	\$12,726,332	\$5,180,817	\$363,535,669
37	1Q 2024	\$19,988,458	\$978,723	\$722,924	\$5,992,018	\$1,166,760	\$12,829,680	\$5,090,847	\$368,626,516
38	2Q 2024	\$20,159,809	\$978,723	\$722,924	\$6,048,164	\$1,177,693	\$12,933,952	\$5,002,471	\$373,628,987
39	3Q 2024	\$20,332,693	\$978,723	\$722,924	\$6,104,813	\$1,188,724	\$13,039,157	\$4,915,662	\$378,544,649
40	4Q 2024	\$20,507,124	\$978,723	\$722,924	\$6,161,969	\$1,199,853	\$13,145,303	\$4,830,391	\$383,375,040
	Future	\$1,209,434,715	\$57,721,457	\$21,169,164	\$370,444,050	\$72,132,522	\$766,858,142	\$281,790,738	\$665,165,778

1/ From Table C, Column (10) + Repaving and Rail Grinding Capital Costs from [].  
2/ From Table D, Column (8).  
3/ Line 1 + Line 2.  
4/ Table F Column (8).  
5/ Line 3 + Line 4.  
6/ Michigan, Illinois, and Indiana corporate income tax rates weighted on CERR route miles.  
7/ Quarterly carrying costs needed to recover the total investment over 40 quarters after consideration of the applicable interest payments, tax depreciation and tax liability. The Future value is an estimate of a perpetual income stream for the CERR and is calculated by taking the Period 40, Column (3) value and dividing it by the CERR's estimated quarterly Real Cost of Capital.  
8/ Value from Table E.  
9/ Value from Table G - Part 2, Column (14) divided by 4 quarters.  
10/ Table J: Part 1.  
11/ Table J: Part 2.  
12/ (Column (3) - Column (6) - Column (7)).  
13/ Column (8) discounted by the fourth root of the annual Cost of Capital adjusted to Midquarter dollars from Table A. Cumulative total of Column (9).

**TABLE J - PART 1: COMPUTATION OF FEDERAL TAX LIABILITY - TAXABLE INCOME**  
**(Road Property)**

Time Period (1)	Taxable Income B/4 NOL's IRR 1/ (2)	Net Operating Losses Generated 2/ (3)	NOL's Generated Plus Carryforward 3/ (4)	Carryforward Utilized 4/ (5)	Carryforward Remaining 5/ (6)	Carryback Available 6/ (7)	Carryback Utilized 7/ (8)	Carryback Remaining 8/ (9)	Annual Taxable Income 9/ (10)	Annual Tax Liability 10/ (11)
2012	(\$58,709)	(\$58,709)	(\$58,709)	\$0	(\$58,709)	(\$58,709)	\$0	(\$58,709)	\$0	\$0
2013	(\$1,143,589)	(\$1,143,589)	(\$1,202,298)	\$0	(\$1,202,298)	(\$1,202,298)	\$0	(\$1,202,298)	\$0	\$0
2014	(\$2,973,874)	(\$2,973,874)	(\$4,176,172)	\$0	(\$4,176,172)	(\$4,176,172)	\$0	(\$4,176,172)	\$0	\$0
1Q 2015	(\$44,432,255)	(\$44,432,255)	(\$48,608,427)	\$0	(\$48,608,427)	(\$48,608,427)	\$0	(\$48,608,427)	\$0	\$0
2Q 2015	(\$44,336,502)	(\$44,336,502)	(\$92,944,929)	\$0	(\$92,944,929)	(\$92,944,929)	\$0	(\$92,944,929)	\$0	\$0
3Q 2015	(\$44,362,696)	(\$44,362,696)	(\$137,307,625)	\$0	(\$137,307,625)	(\$137,307,625)	\$0	(\$137,307,625)	\$0	\$0
4Q 2015	(\$44,200,484)	(\$44,200,484)	(\$181,508,109)	\$0	(\$181,508,109)	(\$181,508,109)	\$0	(\$181,508,109)	\$0	\$0
1Q 2016	\$3,533,493	\$0	(\$181,508,109)	\$3,533,493	(\$177,974,615)	(\$177,974,615)	\$0	(\$177,974,615)	\$0	\$0
2Q 2016	\$3,546,148	\$0	(\$177,974,615)	\$3,546,148	(\$174,428,468)	(\$174,428,468)	\$0	(\$174,428,468)	\$0	\$0
3Q 2016	\$3,651,799	\$0	(\$174,428,468)	\$3,651,799	(\$170,776,669)	(\$170,776,669)	\$0	(\$170,776,669)	\$0	\$0
4Q 2016	\$3,814,382	\$0	(\$170,776,669)	\$3,814,382	(\$166,962,286)	(\$166,962,286)	\$0	(\$166,962,286)	\$0	\$0
1Q 2017	\$6,163,407	\$0	(\$166,962,286)	\$6,163,407	(\$160,798,880)	(\$160,798,880)	\$0	(\$160,798,880)	\$0	\$0
2Q 2017	\$6,307,198	\$0	(\$160,798,880)	\$6,307,198	(\$154,491,682)	(\$154,491,682)	\$0	(\$154,491,682)	\$0	\$0
3Q 2017	\$6,499,539	\$0	(\$154,491,682)	\$6,499,539	(\$147,992,143)	(\$147,992,143)	\$0	(\$147,992,143)	\$0	\$0
4Q 2017	\$6,612,405	\$0	(\$147,992,143)	\$6,612,405	(\$141,379,738)	(\$141,379,738)	\$0	(\$141,379,738)	\$0	\$0
1Q 2018	\$8,383,176	\$0	(\$141,379,738)	\$8,383,176	(\$132,996,561)	(\$132,996,561)	\$0	(\$132,996,561)	\$0	\$0
2Q 2018	\$8,543,438	\$0	(\$132,996,561)	\$8,543,438	(\$124,453,123)	(\$124,453,123)	\$0	(\$124,453,123)	\$0	\$0
3Q 2018	\$8,705,323	\$0	(\$124,453,123)	\$8,705,323	(\$115,747,800)	(\$115,747,800)	\$0	(\$115,747,800)	\$0	\$0
4Q 2018	\$8,868,849	\$0	(\$115,747,800)	\$8,868,849	(\$106,878,951)	(\$106,878,951)	\$0	(\$106,878,951)	\$0	\$0
1Q 2019	\$9,845,679	\$0	(\$106,878,951)	\$9,845,679	(\$97,033,272)	(\$97,033,272)	\$0	(\$97,033,272)	\$0	\$0
2Q 2019	\$9,999,877	\$0	(\$97,033,272)	\$9,999,877	(\$87,033,395)	(\$87,033,395)	\$0	(\$87,033,395)	\$0	\$0
3Q 2019	\$10,155,529	\$0	(\$87,033,395)	\$10,155,529	(\$76,877,866)	(\$76,877,866)	\$0	(\$76,877,866)	\$0	\$0
4Q 2019	\$10,312,649	\$0	(\$76,877,866)	\$10,312,649	(\$66,565,217)	(\$66,565,217)	\$0	(\$66,565,217)	\$0	\$0
1Q 2020	\$12,441,099	\$0	(\$66,565,217)	\$12,441,099	(\$54,124,119)	(\$54,124,119)	\$0	(\$54,124,119)	\$0	\$0
2Q 2020	\$12,593,559	\$0	(\$54,124,119)	\$12,593,559	(\$41,530,560)	(\$41,530,560)	\$0	(\$41,530,560)	\$0	\$0
3Q 2020	\$12,747,403	\$0	(\$41,530,560)	\$12,747,403	(\$28,783,157)	(\$28,783,157)	\$0	(\$28,783,157)	\$0	\$0
4Q 2020	\$12,902,643	\$0	(\$28,783,157)	\$12,902,643	(\$15,880,514)	(\$15,880,514)	\$0	(\$15,880,514)	\$0	\$0
1Q 2021	\$13,110,754	\$0	(\$15,880,514)	\$13,110,754	(\$2,769,760)	(\$2,769,760)	\$0	(\$2,769,760)	\$0	\$0
2Q 2021	\$12,610,367	\$0	(\$2,769,760)	\$2,769,760	\$0	\$0	\$0	\$0	\$9,840,607	\$3,444,213
3Q 2021	\$12,594,590	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,594,590	\$4,408,107
4Q 2021	\$12,757,088	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$12,757,088	\$4,464,981
1Q 2022	\$15,487,988	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,487,988	\$5,420,796
2Q 2022	\$15,645,229	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,645,229	\$5,475,830
3Q 2022	\$15,803,925	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,803,925	\$5,531,374
4Q 2022	\$15,964,092	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$15,964,092	\$5,587,432
1Q 2023	\$16,482,806	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,482,806	\$5,768,982
2Q 2023	\$16,640,788	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,640,788	\$5,824,276
3Q 2023	\$16,800,200	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,800,200	\$5,880,070
4Q 2023	\$16,961,055	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,961,055	\$5,936,369
1Q 2024	\$17,120,052	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,120,052	\$5,992,018
2Q 2024	\$17,280,470	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,280,470	\$6,048,164
3Q 2024	\$17,442,323	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,442,323	\$6,104,813

**TABLE J - PART 1: COMPUTATION OF FEDERAL TAX LIABILITY - TAXABLE INCOME**  
**(Road Property)**

Time Period (1)	Taxable Income B/4 NOL's IRR 1/ (2)	Net Operating Losses Generated 2/ (3)	NOL's Generated Plus Carryforward 3/ (4)	Carryforward Utilized 4/ (5)	Carryforward Remaining 5/ (6)	Carryback Available 6/ (7)	Carryback Utilized 7/ (8)	Carryback Remaining 8/ (9)	Annual Taxable Income 9/ (10)	Annual Tax Liability 10/ (11)
4Q 2024	\$17,605,625	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,605,625	\$6,161,969
Future	\$1,058,411,572	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,058,411,572	\$370,444,050

1/ Table I Column (3) - Table E Columns (2),(4) & (6) - Table G, Column (14) / 4 - Table J - Part 2, Column (11). Values for 2012 from Table D, Sum of Column (10).

2/ Column (2) if less than zero, otherwise zero.

3/ Cumulative total of Column (2).

4/ If Column (2) is greater than zero, and (Column (2) + Column (4) is less than zero, then Column (2), otherwise Column (4).

5/ Column (4) + Column (5) + Column (8).

6/ Previous period Column (9) + current period Column (3) - current period Column (5).

7/ If previous Column (10) is greater than zero, and previous Column (10) is less than current Column (7), then previous Column (10), otherwise zero.

8/ Column (7) + Column (8).

9/ If Column (2) is greater than zero, then Column (2) - Column (5) - Column (8), otherwise zero.

10/ Column (10) times applicable Federal Statutory Tax Rate.

**TABLE J - PART 2: COMPUTATION OF STATE TAX LIABILITY - TAXABLE INCOME**  
**(Road Property)**

Time Period (1)	Taxable Income B/4 NOL's IRR 1/ (2)	Net Operating Losses Generated 2/ (3)	NOL's Generated Plus Carryforward 3/ (4)	Carryforward Utilized 4/ (5)	Carryforward Remaining 5/ (6)	Carryback Available 6/ (7)	Carryback Utilized 7/ (8)	Carryback Remaining 8/ (9)	Annual Taxable Income 9/ (10)	Annual Tax Liability 10/ (11)
2012	(\$58,709)	(\$58,709)	(\$58,709)	\$0	(\$58,709)	(\$58,709)	\$0	(\$58,709)	\$0	\$0
2013	(\$1,143,589)	(\$1,143,589)	(\$1,202,298)	\$0	(\$1,202,298)	(\$1,202,298)	\$0	(\$1,202,298)	\$0	\$0
2014	(\$2,973,874)	(\$2,973,874)	(\$4,176,172)	\$0	(\$4,176,172)	(\$4,176,172)	\$0	(\$4,176,172)	\$0	\$0
1Q 2015	(\$44,432,255)	(\$44,432,255)	(\$48,608,427)	\$0	(\$48,608,427)	(\$48,608,427)	\$0	(\$48,608,427)	\$0	\$0
2Q 2015	(\$44,336,502)	(\$44,336,502)	(\$92,944,929)	\$0	(\$92,944,929)	(\$92,944,929)	\$0	(\$92,944,929)	\$0	\$0
3Q 2015	(\$44,362,696)	(\$44,362,696)	(\$137,307,625)	\$0	(\$137,307,625)	(\$137,307,625)	\$0	(\$137,307,625)	\$0	\$0
4Q 2015	(\$44,200,484)	(\$44,200,484)	(\$181,508,109)	\$0	(\$181,508,109)	(\$181,508,109)	\$0	(\$181,508,109)	\$0	\$0
1Q 2016	\$3,533,493	\$0	(\$181,508,109)	\$3,533,493	(\$177,974,615)	(\$177,974,615)	\$0	(\$177,974,615)	\$0	\$0
2Q 2016	\$3,546,148	\$0	(\$177,974,615)	\$3,546,148	(\$174,428,468)	(\$174,428,468)	\$0	(\$174,428,468)	\$0	\$0
3Q 2016	\$3,651,799	\$0	(\$174,428,468)	\$3,651,799	(\$170,776,669)	(\$170,776,669)	\$0	(\$170,776,669)	\$0	\$0
4Q 2016	\$3,814,382	\$0	(\$170,776,669)	\$3,814,382	(\$166,962,286)	(\$166,962,286)	\$0	(\$166,962,286)	\$0	\$0
1Q 2017	\$6,163,407	\$0	(\$166,962,286)	\$6,163,407	(\$160,798,880)	(\$160,798,880)	\$0	(\$160,798,880)	\$0	\$0
2Q 2017	\$6,307,198	\$0	(\$160,798,880)	\$6,307,198	(\$154,491,682)	(\$154,491,682)	\$0	(\$154,491,682)	\$0	\$0
3Q 2017	\$6,499,539	\$0	(\$154,491,682)	\$6,499,539	(\$147,992,143)	(\$147,992,143)	\$0	(\$147,992,143)	\$0	\$0
4Q 2017	\$6,612,405	\$0	(\$147,992,143)	\$6,612,405	(\$141,379,738)	(\$141,379,738)	\$0	(\$141,379,738)	\$0	\$0
1Q 2018	\$8,383,176	\$0	(\$141,379,738)	\$8,383,176	(\$132,996,561)	(\$132,996,561)	\$0	(\$132,996,561)	\$0	\$0
2Q 2018	\$8,543,438	\$0	(\$132,996,561)	\$8,543,438	(\$124,453,123)	(\$124,453,123)	\$0	(\$124,453,123)	\$0	\$0
3Q 2018	\$8,705,323	\$0	(\$124,453,123)	\$8,705,323	(\$115,747,800)	(\$115,747,800)	\$0	(\$115,747,800)	\$0	\$0
4Q 2018	\$8,868,849	\$0	(\$115,747,800)	\$8,868,849	(\$106,878,951)	(\$106,878,951)	\$0	(\$106,878,951)	\$0	\$0
1Q 2019	\$9,845,679	\$0	(\$106,878,951)	\$9,845,679	(\$97,033,272)	(\$97,033,272)	\$0	(\$97,033,272)	\$0	\$0
2Q 2019	\$9,999,877	\$0	(\$97,033,272)	\$9,999,877	(\$87,033,395)	(\$87,033,395)	\$0	(\$87,033,395)	\$0	\$0
3Q 2019	\$10,155,529	\$0	(\$87,033,395)	\$10,155,529	(\$76,877,866)	(\$76,877,866)	\$0	(\$76,877,866)	\$0	\$0
4Q 2019	\$10,312,649	\$0	(\$76,877,866)	\$10,312,649	(\$66,565,217)	(\$66,565,217)	\$0	(\$66,565,217)	\$0	\$0
1Q 2020	\$12,441,099	\$0	(\$66,565,217)	\$12,441,099	(\$54,124,119)	(\$54,124,119)	\$0	(\$54,124,119)	\$0	\$0
2Q 2020	\$12,593,559	\$0	(\$54,124,119)	\$12,593,559	(\$41,530,560)	(\$41,530,560)	\$0	(\$41,530,560)	\$0	\$0
3Q 2020	\$12,747,403	\$0	(\$41,530,560)	\$12,747,403	(\$28,783,157)	(\$28,783,157)	\$0	(\$28,783,157)	\$0	\$0
4Q 2020	\$12,902,643	\$0	(\$28,783,157)	\$12,902,643	(\$15,880,514)	(\$15,880,514)	\$0	(\$15,880,514)	\$0	\$0
1Q 2021	\$13,110,754	\$0	(\$15,880,514)	\$13,110,754	(\$2,769,760)	(\$2,769,760)	\$0	(\$2,769,760)	\$0	\$0
2Q 2021	\$13,281,021	\$0	(\$2,769,760)	\$2,769,760	\$0	\$0	\$0	\$0	\$10,511,261	\$670,654
3Q 2021	\$13,452,933	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13,452,933	\$858,342
4Q 2021	\$13,626,505	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$13,626,505	\$869,417
1Q 2022	\$16,543,521	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,543,521	\$1,055,532
2Q 2022	\$16,711,477	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,711,477	\$1,066,249
3Q 2022	\$16,880,989	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$16,880,989	\$1,077,064
4Q 2022	\$17,052,071	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,052,071	\$1,087,980
1Q 2023	\$17,606,137	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,606,137	\$1,123,331
2Q 2023	\$17,774,886	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,774,886	\$1,134,098
3Q 2023	\$17,945,162	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$17,945,162	\$1,144,962
4Q 2023	\$18,116,979	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,116,979	\$1,155,924
1Q 2024	\$18,286,812	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,286,812	\$1,166,760
2Q 2024	\$18,458,163	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,458,163	\$1,177,693
3Q 2024	\$18,631,047	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,631,047	\$1,188,724

**TABLE J - PART 2: COMPUTATION OF STATE TAX LIABILITY - TAXABLE INCOME**  
(Road Property)

Time Period (1)	Taxable Income B/4 NOL's IRR 1/ (2)	Net Operating Losses Generated 2/ (3)	NOL's Generated Plus Carryforward 3/ (4)	Carryforward Utilized 4/ (5)	Carryforward Remaining 5/ (6)	Carryback Available 6/ (7)	Carryback Utilized 7/ (8)	Carryback Remaining 8/ (9)	Annual Taxable Income 9/ (10)	Annual Tax Liability 10/ (11)
4Q 2024	\$18,805,478	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$18,805,478	\$1,199,853
Future	\$1,130,544,095	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$1,130,544,095	\$72,132,522

1/ Table I Column (3) - Table E Columns (2),(4) & (6) - Table G, Column (14) ÷ 4 - Table J - Part 2, Column (11). Values for 2012 from Table D, Sum of Column (10).

2/ Column (2) if less than zero, otherwise zero.

3/ Cumulative total of Column (2).

4/ If Column (2) is greater than zero, and (Column (2) + Column (4) is less than zero, then Column (2), otherwise Column (4).

5/ Column (4) + Column (5) + Column (8).

6/ Previous period Column (9) + current period Column (3) - current period Column (5).

7/ If previous Column (10) is greater than zero, and previous Column (10) is less than current Column (7), then previous Column (10), otherwise zero.

8/ Column (7) + Column (8).

9/ If Column (2) is greater than zero, then Column (2) - Column (5) - Column (8), otherwise zero.

10/ Column (10) times applicable route mile weighted State Statutory Tax Rates.

**TABLE K - PART I: CERR OPERATING EXPENSES**

Item (1)	2015 (2)	2016 (3)	2017 (4)	2018 (5)	2019 (6)	2020 (7)	2021 (8)	2022 (9)	2023 (10)	2024 (11)
1. Train & Engine Personnel	\$7,225,988	\$6,468,269	\$7,847,258	\$7,693,531	\$7,707,271	\$8,102,896	\$8,155,978	\$8,450,439	\$8,302,059	\$8,785,568
2. Locomotive Lease Expense	\$1,644,964	\$1,472,472	\$1,786,393	\$1,751,398	\$1,754,526	\$1,844,588	\$1,856,672	\$1,923,704	\$1,889,926	\$1,999,995
3. Locomotive Maintenance Expense	\$2,213,750	\$1,981,615	\$2,404,081	\$2,356,986	\$2,361,195	\$2,482,398	\$2,498,661	\$2,588,872	\$2,543,414	\$2,691,541
4. Locomotive Operating Expense	\$4,521,676	\$4,047,532	\$4,910,436	\$4,814,241	\$4,822,839	\$5,070,402	\$5,103,618	\$5,287,878	\$5,195,029	\$5,497,585
5. Railcar Lease Expense	\$5,062,421	\$4,531,574	\$5,497,674	\$5,389,974	\$5,399,601	\$5,676,770	\$5,713,958	\$5,920,253	\$5,816,300	\$6,155,039
6. Material & Supply Operating	\$626,289	\$626,289	\$626,289	\$626,289	\$626,289	\$626,289	\$626,289	\$626,289	\$626,289	\$626,289
7. Ad Valorem Tax	\$1,986,847	\$1,986,847	\$1,986,847	\$1,986,847	\$1,986,847	\$1,986,847	\$1,986,847	\$1,986,847	\$1,986,847	\$1,986,847
8. Operating Managers	\$5,067,703	\$5,067,703	\$5,067,703	\$5,067,703	\$5,067,703	\$5,067,703	\$5,067,703	\$5,067,703	\$5,067,703	\$5,067,703
9. General & Administration	\$7,034,134	\$7,172,332	\$7,172,332	\$7,172,332	\$7,172,332	\$7,172,332	\$7,172,332	\$7,172,332	\$7,172,332	\$7,172,332
10. Loss and Damage	\$111,052	\$99,407	\$120,600	\$118,237	\$118,449	\$124,529	\$125,345	\$129,870	\$127,590	\$135,020
11. Trackage Rights	\$1,777,373	\$1,590,997	\$1,930,186	\$1,892,374	\$1,895,754	\$1,993,065	\$2,006,122	\$2,078,550	\$2,042,053	\$2,160,982
12. Intermodal Lift Costs	\$5,933,928	\$5,311,695	\$6,444,111	\$6,317,871	\$6,329,154	\$6,654,039	\$6,697,629	\$6,939,439	\$6,817,589	\$7,214,643
13. Insurance 3.75%	\$1,950,243	\$1,843,403	\$2,047,275	\$2,024,547	\$2,026,579	\$2,085,069	\$2,092,916	\$2,136,450	\$2,114,513	\$2,185,996
14. Maintenance of Way	<del>\$8,805,976</del>									
15. Total Operating Expenses	\$53,962,342	\$51,006,111	\$56,647,160	\$56,018,305	\$56,074,513	\$57,692,901	\$57,910,045	\$59,114,602	\$58,507,618	\$60,485,516
16. Expense Per Quarter	\$13,490,585	\$12,751,528	\$14,161,790	\$14,004,576	\$14,018,628	\$14,423,225	\$14,477,511	\$14,778,651	\$14,626,905	\$15,121,379
17. Net-Ton Miles	1,877,568,723	1,680,686,473	2,038,996,792	1,999,052,895	2,002,623,126	2,105,420,571	2,119,213,161	2,195,724,720	2,157,170,084	2,282,802,921

**TABLE K - PART 2: CERR OPERATING EXPENSES INDEXED**

<u>Period</u> (1)	<u>Quarter</u> (2)	<u>Hybrid Index 1/</u> (3)	<u>Operating Expense Indexed For Inflation 2/</u> (4)
1	1Q 2015	100.000	\$14,173,427
2	2Q 2015	93.014	\$13,230,984
3	3Q 2015	87.621	\$12,503,413
4	4Q 2015	91.095	\$12,972,132
5	1Q 2016	91.309	\$11,643,230
6	2Q 2016	88.728	\$11,314,182
7	3Q 2016	91.452	\$11,661,528
8	4Q 2016	92.897	\$11,845,780
9	1Q 2017	93.157	\$13,192,707
10	2Q 2017	94.499	\$13,382,682
11	3Q 2017	96.129	\$13,613,533
12	4Q 2017	96.773	\$13,704,744
13	1Q 2018	97.668	\$13,677,965
14	2Q 2018	98.734	\$13,827,294
15	3Q 2018	99.812	\$13,978,253
16	4Q 2018	100.902	\$14,130,860
17	1Q 2019	102.033	\$14,303,577
18	2Q 2019	103.161	\$14,461,813
19	3Q 2019	104.303	\$14,621,799
20	4Q 2019	105.456	\$14,783,554
21	1Q 2020	106.655	\$15,383,070
22	2Q 2020	107.847	\$15,555,081
23	3Q 2020	109.053	\$15,729,014
24	4Q 2020	110.273	\$15,904,893
25	1Q 2021	111.375	\$16,124,292
26	2Q 2021	112.463	\$16,281,893
27	3Q 2021	113.563	\$16,441,034
28	4Q 2021	114.673	\$16,601,730
29	1Q 2022	115.578	\$17,080,896
30	2Q 2022	116.463	\$17,211,615
31	3Q 2022	117.354	\$17,343,335
32	4Q 2022	118.252	\$17,476,062
33	1Q 2023	119.169	\$17,430,695
34	2Q 2023	120.065	\$17,561,758
35	3Q 2023	120.968	\$17,693,807
36	4Q 2023	121.877	\$17,826,850
37	1Q 2024	122.850	\$18,576,657
38	2Q 2024	123.806	\$18,721,132
39	3Q 2024	124.769	\$18,866,731
40	4Q 2024	125.739	\$19,013,462

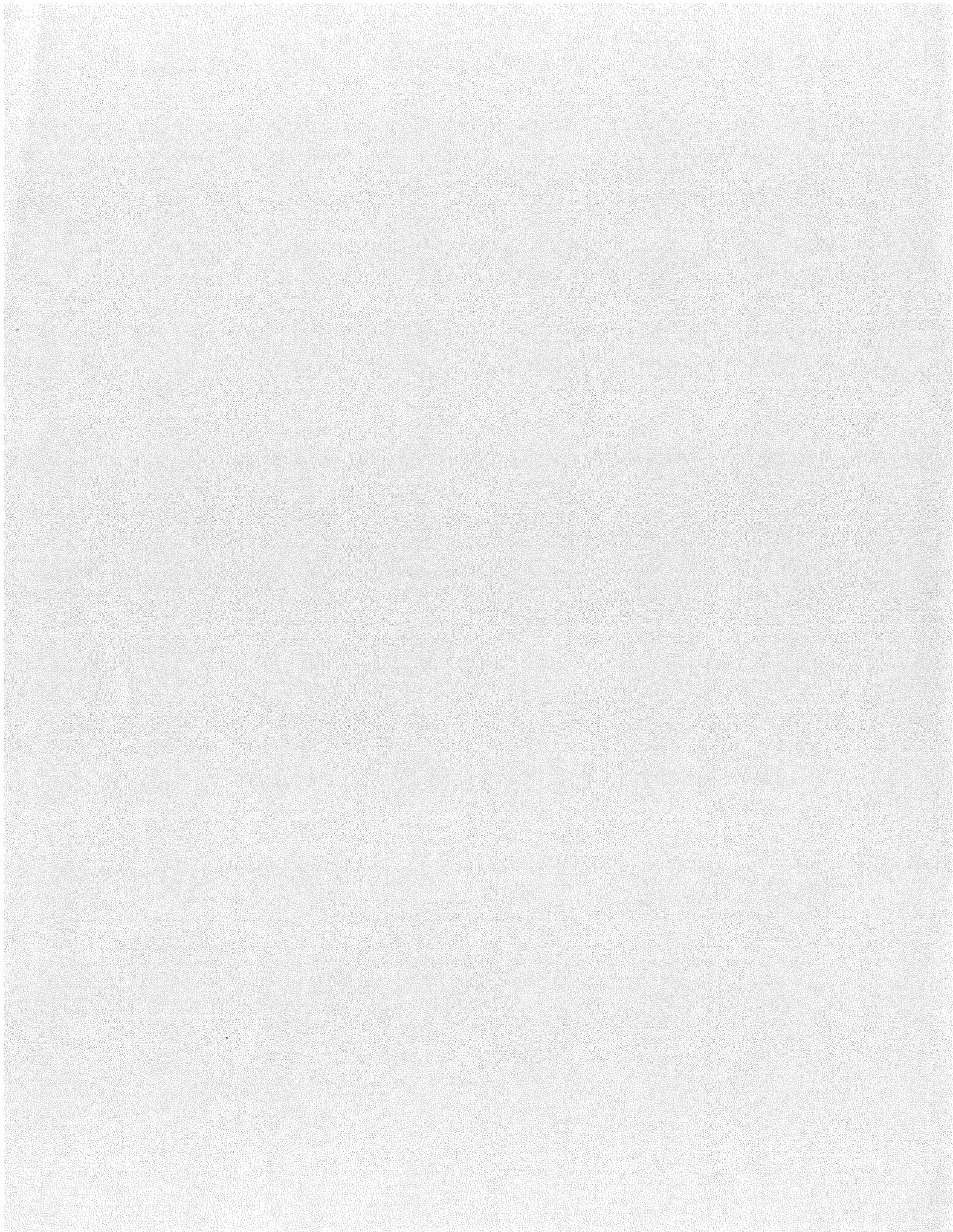
1/ 1Q15 equals 100.0, all other quarters equal Quarterly Inflation Indexes for the Hybrid Index from Table B.

2/ Quarterly expense from Table K, Page 18, for the applicable time period x Column (3) ÷ 1Q15. Start-up costs have been distributed over the first 12 months in periods 1 - 4.

**TABLE L: CERR STAND-ALONE COSTS AND REVENUES**

Revenue Requirements to Cover Total Stand-Alone Costs

<u>Period</u>	<u>Quarter</u>	<u>Quarterly Capital Requirement Road Property</u>	<u>Quarterly Operating Expense</u>	<u>Annual Stand-Alone Requirement</u>	<u>Annual Stand-Alone Revenues</u>	<u>Overpayments Or Shortfalls In Revenues</u>	<u>PV Difference</u>	<u>Cumulative PV Difference</u>
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1	1Q 2015	\$14,996,787	\$14,173,427					
2	2Q 2015	\$15,092,539	\$13,230,984					
3	3Q 2015	\$15,066,346	\$12,503,413					
4	4Q 2015	\$15,228,557	\$12,972,132	\$113,264,186	\$139,628,736	\$26,364,550	\$25,177,985	\$25,177,985
5	1Q 2016	\$15,052,286	\$11,643,230					
6	2Q 2016	\$15,064,941	\$11,314,182					
7	3Q 2016	\$15,170,592	\$11,661,528					
8	4Q 2016	\$15,333,175	\$11,845,780	\$107,085,713	\$121,592,139	\$14,506,427	\$12,440,432	\$37,618,417
9	1Q 2017	\$15,452,248	\$13,192,707					
10	2Q 2017	\$15,596,039	\$13,382,682					
11	3Q 2017	\$15,788,380	\$13,613,533					
12	4Q 2017	\$15,901,246	\$13,704,744	\$116,631,577	\$155,739,878	\$39,108,301	\$30,273,360	\$67,891,777
13	1Q 2018	\$16,063,157	\$13,677,965					
14	2Q 2018	\$16,223,418	\$13,827,294					
15	3Q 2018	\$16,385,304	\$13,978,253					
16	4Q 2018	\$16,548,829	\$14,130,860	\$120,835,080	\$156,446,662	\$35,611,582	\$24,882,821	\$92,774,598
17	1Q 2019	\$16,701,587	\$14,303,577					
18	2Q 2019	\$16,855,785	\$14,461,813					
19	3Q 2019	\$17,011,437	\$14,621,799					
20	4Q 2019	\$17,168,556	\$14,783,554	\$125,908,109	\$161,400,726	\$35,492,617	\$22,385,306	\$115,159,904
21	1Q 2020	\$17,319,646	\$15,383,070					
22	2Q 2020	\$17,472,107	\$15,555,081					
23	3Q 2020	\$17,625,950	\$15,729,014					
24	4Q 2020	\$17,781,191	\$15,904,893	\$132,770,953	\$176,952,127	\$44,181,174	\$25,152,372	\$140,312,276
25	1Q 2021	\$17,949,830	\$16,124,292					
26	2Q 2021	\$18,120,097	\$16,281,893					
27	3Q 2021	\$18,292,008	\$16,441,034					
28	4Q 2021	\$18,465,580	\$16,601,730	\$138,276,463	\$183,545,475	\$45,269,012	\$23,262,660	\$163,574,936
29	1Q 2022	\$18,631,996	\$17,080,896					
30	2Q 2022	\$18,799,952	\$17,211,615					
31	3Q 2022	\$18,969,464	\$17,343,335					
32	4Q 2022	\$19,140,546	\$17,476,062	\$144,653,867	\$197,592,151	\$52,938,284	\$24,555,280	\$188,130,216
33	1Q 2023	\$19,307,783	\$17,430,695					
34	2Q 2023	\$19,476,532	\$17,561,758					
35	3Q 2023	\$19,646,809	\$17,693,807					
36	4Q 2023	\$19,818,626	\$17,826,850	\$148,762,860	\$198,740,607	\$49,977,747	\$20,925,140	\$209,055,356
37	1Q 2024	\$19,988,458	\$18,576,657					
38	2Q 2024	\$20,159,809	\$18,721,132					
39	3Q 2024	\$20,332,693	\$18,866,731					
40	4Q 2024	\$20,507,124	\$19,013,462	\$156,166,068	\$219,400,189	\$63,234,121	\$23,897,907	\$232,953,262



**CERR MMM Revenue to Variable Cost Ratios - 2015 to 2024**

	<b><u>Year</u></b>	<b><u>MMM Revenue to Variable Cost Ratios</u></b>
	(1)	(2)
1.	2015	358.6%
2.	2016	419.9%
3.	2017	310.6%
4.	2018	325.4%
5.	2019	327.3%
6.	2020	302.3%
7.	2021	298.8%
8.	2022	280.3%
9.	2023	282.0%
10.	2024	252.4%

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Source: e-workpaper "CERR MMM\_Rebuttal.xlsm,"  
worksheet "Exhibit III-H-2," cells F10 to F19.

## **EXHIBIT IV-1**

THE REVENUE ADEQUACY STATUS OF  
CSX TRANSPORTATION, INC.

Rebuttal Verified Statement

John F. Hennigan, Ph.D.

Navigant Consulting, Inc.

1200 19<sup>th</sup> Street, N.W.

Washington, D.C. 20036

**Introduction**

My name is John F. Hennigan. My initial Verified Report in this proceeding is included as Exhibit IV-1 in the Opening Evidence of Complainant dated November 2, 2015. In that report, I include an overview of my qualifications, along with my professional resume, and thus do not do so here. I will also use the same abbreviations and conventions as in my initial report.

I have been asked by counsel to respond to various points or issues from the CSXT reply submission dated March 7, 2016. I will address these issues separately in the sections that follow.

**A. The Revenue Adequacy and Stand Alone Cost constraints are both necessary to emulate and ensure competitive and efficient market pricing for railroad captive shippers.**

In its reply statement at page IV-3, CSXT argues that the Board should abandon a revenue adequacy rate constraint based on CSXT's system-wide revenue needs and rely exclusively on the Board's Stand-Alone Cost (SAC) and Simplified-SAC rate reasonableness standards.

This recommendation should be rejected by the Board. The revenue adequacy constraint is a necessary and vital element of the economic foundation of the Board's Constrained Market Pricing methodology (CMP), and should not be ignored or revoked. The constraint defines the overall revenue requirements for an efficient railroad, and provides a needed alternative tool to the stand-alone cost test for captive shippers. Now that railroads have achieved revenue adequacy, the need for the revenue adequacy constraint in Coal Rate Guidelines is even greater. The revenue adequacy constraint in the Coal Rate Guidelines should be fully implemented and applied by the Board in reviewing the reasonableness of rates to captive shippers.

In the following sub-sections I will address three important aspects of the revenue adequacy constraint: the continuing and critical need for the constraint; how the revenue adequacy constraint complements the SAC test for determining the revenue requirements of an efficient carrier; and how the revenue adequacy and stand-alone cost constraints help to emulate a competitive marketplace by reconciling the interests of both shippers and railroads on an efficient basis.

**1. The revenue adequacy constraint is a necessary explicit condition needed to complete CMP and to apply competitive pricing principles to a regulatory framework.**

Achieving railroad revenue adequacy was affirmed as a national policy goal by the Staggers Act, and actually achieving revenue adequate levels by a railroad was later included as a constraint on railroad pricing of captive shippers in the Coal Rate Guidelines decision. The revenue adequacy and other constraints form the critical underlying components of the CMP that the ICC adopted in its 1985 decision in Coal Rate Guidelines. In the Guidelines decision, the ICC clearly highlighted the importance of the revenue adequacy constraint, "Therefore, the logical first constraint on a carriers pricing is that its rates not be designed to earn greater revenue than needed to achieve and maintain this 'revenue adequacy' level. In other words, captive shippers should not be required to continue to pay differentially higher rates than other shippers when some or all of that differential is no longer necessary to

ensure a financially sound carrier capable of meeting its current and future service needs.”<sup>1</sup>

That is a very clear statement of the ICC’s logic, intent, and priority in the CMP of first endorsing differential pricing flexibility, but then constraining its exercise as to captive shippers when that flexibility is no longer needed for the carrier to achieve an adequate level of revenues. The revenue adequacy and other constraints serve as a check to unlimited differential pricing flexibility of railroad services and thus complete the methodology of CMP.<sup>2</sup>

The ICC based the economic framework for the CMP on the need for differential pricing and the contestability of markets. With respect to pricing, the Guidelines described the cost structure of the railroad industry with its scale and scope economies, large fixed costs, and large costs that could not be attributed to a particular user. These factors necessitated differential pricing of rail services to recover all unattributable costs, i.e., charging some shippers higher rates by incorporating greater shares of the unattributable costs into the prices charged them, compared to other shippers. To provide greater theoretical support and a proper construct for this endorsement of differential pricing, the ICC referenced, analyzed, and adopted the principles of Ramsey pricing.<sup>3</sup> Ramsey pricing is a theoretical and widely recognized method of using differential pricing principles to solve public financing and public welfare issues. Ramsey pricing concepts were originally applied to determine optimal tax rates for financing of public services, and were later used more broadly to set

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<sup>1</sup> Coal Rate Guidelines, Nationwide, 1 I.C.C.2d 520, 535-536 (1985).

<sup>2</sup> The SAC and management efficiency constraints, under the Coal Rate Guidelines, are also available for captive shippers to use in filing a rate complaint desiring to pay no more than is necessary for efficient service on the route at issue. The management efficiency constraint will not be directly addressed in this testimony.

<sup>3</sup> F. Ramsey, “A Contribution to the Theory of Taxation,” The Economic Journal, Volume 37, March, 1927, 47-61, including as e-workpaper RA-Ramsey1927.pdf.

prices for public utility services to meet revenue levels or profit constraints. As the ICC stated in Coal Rate Guidelines:

Ramsey pricing, is a widely recognized method of differential pricing, which is, pricing in accordance with demand. Under Ramsey pricing, each price or rate contains a mark-up above the long run marginal cost of the product or service to cover a portion of the unattributable costs. The unattributable costs are allocated among the purchasers or users in inverse relation to their demand elasticity. Thus, in a market where shippers are very sensitive to price changes (a highly elastic market), the mark-up would be smaller than in a market where shippers are less price sensitive. The sum of the mark-ups equals the unattributable costs of an efficient producer.

Applied to the railroad industry, Ramsey pricing would permit an efficient carrier to cover all of its costs (including the cost of capital) and thus become revenue adequate.<sup>4</sup>

While the ICC recognized that imposing pure Ramsey pricing was not practical, it decided to use what it called “Constrained Market Pricing” as an alternative and more pragmatic implementation of the principles and objectives underlying Ramsey pricing. The ICC stated,

Under CMP, the carriers are expected to use the market demand which they observe as the basis for their pricing, but they need not calculate the precise elasticity of demand for every movement. Indeed, where information on demand elasticity is required under the CMP methodology, we will consider qualitative (rather than necessarily quantitative) evidence on the relative demand elasticity of specific movements and/or commodities. We are satisfied that the constraints and incentives CMP contains should lead to rates approximating Ramsey prices and protect captive shippers from possible carrier abuse of pricing discretion.<sup>5</sup>

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<sup>4</sup> Coal Rate Guidelines, Nationwide, 1 I.C.C.2d at 526-527.

<sup>5</sup> Coal Rate Guidelines, Nationwide, 1 I.C.C.2d at 527-528.

Ramsey pricing concepts and formulas were initially devised as a method for determining efficient tax rates for a public entity in order, for example, to recover needed revenues, eliminate a budget deficit or constraint, or set optimal prices to achieve a fixed profit constraint in the case of public utility regulation, while also meeting the public's needs.<sup>6</sup> In other words, Ramsey pricing was a means to optimally price public services so that the total revenues received (the revenue constraint) equals, but does not exceed, the total costs of providing the service for all users. The underlying basis for the more theoretical Ramsey pricing model, and the ICC's and Board's CMP methodology based on Ramsey pricing, is the need to set an effective constraint, one that eliminates the revenue shortfall or subsidy, and maximizes output and associated production efficiencies, without creating or increasing an overrecovery.<sup>7</sup>

Constrained Market Pricing, based on the Ramsey pricing concept, similarly allows efficiently set demand-based prices in order for carriers to recover all the unattributable costs of their railroad operations, thus generating adequate levels of railroad revenue. Just like using Ramsey pricing concepts to set efficient tax rate levels to generate needed levels of tax revenues, the pricing flexibility permitted by the ICC and the Board under the CMP allows and encourages railroads to use differential pricing and other flexibilities, to generate rail revenues sufficient for a carrier to become revenue adequate over time. That revenue constraint is a necessary condition of the model in that it also specifies the amount of

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<sup>6</sup> For an excellent overview of the Ramsey analysis, see William J. Baumol and David F. Bradford, Optimal departures from Marginal Cost Pricing, American Economic Review, Volume 60, Issue 3 (June., 1970), p. 66, included as e-workpaper RA-Baumol1970.pdf.

<sup>7</sup> The revenue need or profit constraint implicit in the Ramsey pricing model is explicitly described in footnote number 15 of the Coal Rates Guideline, Nationwide, 1 I.C.C.2d at 527, footnote 15.

unattributable costs that need to be recovered by the railroad through differential pricing. Once the carrier is able to recover those unattributable costs on a regular basis, the revenue adequacy need has been met, and further and higher railroad differential pricing margins above the marginal cost of captive shipper's service ceases to be necessary or useful. At that point, there is no justification for further differential pricing. The actual constraint on the needed level of revenues is thus a critical constraint on differential pricing by the carriers. Absent a constraint or effective target for policy, there is no overall limit on, for example, revenue generation in the case of setting Ramsey tax rates or abuse of market power by railroads against captive shippers.

The revenue adequacy constraint needs to be retained by the Board as an integral part of the Coal Rate Guidelines; the constraint should also be more fully defined and applied by the Board as an element of its maximum rate reasonableness determinations. It is especially important today, after 35 plus years since the Staggers Act was passed, that railroads like CSXT have now had adequate time, opportunity, and incentive to transition to Ramsey-like differential pricing and have achieved revenue adequacy. Allowing increased differential pricing under such circumstances amounts to unconstrained differential pricing.

**2. Both the revenue adequacy and stand-alone cost constraints are guided by and emulate competitive market principles.**

The ICC chose the CMP methodology in 1985 as an alternative to pure Ramsey pricing due to the difficulty and burden of universal application of pure Ramsey pricing. But the ICC affirmed the underlying value of the Ramsey pricing theory. The ICC stated in the Coal Rate Guidelines decision, "...our purpose in CMP is to approximate Ramsey pricing," and the ICC recognized that the "the resulting Ramsey price model represents the logical pricing patterns of an efficient firm."<sup>8</sup> CMP approximates Ramsey pricing by establishing differential pricing freedoms within a set of constraints that induce the railroads to price all traffic efficiently. "As with Ramsey pricing, services are priced according to market demand and to cover only the total costs of an efficient carrier. CMP provides two approaches for determining the revenue requirements of an efficient carrier. They can be calculated for the existing carrier on a system-wide basis by applying the revenue adequacy and management efficiency constraints. Alternatively, they can be hypothesized using a potential, 'stand-alone cost' system."<sup>9</sup>

Thus, use of the revenue adequacy constraint, which determines the overall revenue requirements of a carrier and then allocates those costs, attributable and unattributable, on a firm-wide basis, is consistent with the efficiency and pricing of competitive markets. Prices are based on market demand, inefficiencies in operation are removed, and revenue or profit

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<sup>8</sup> Coal Rate Guidelines, Nationwide, 1 I.C.C.2d at 534.

<sup>9</sup> Coal Rate Guidelines, Nationwide, 1 I.C.C.2d at 534.

levels are constrained at the required cost of capital. Achieving revenue adequacy ensures that the carrier earns competitive returns over time. Additional differential pricing of captive shippers should not be permitted.

The SAC constraint is similarly consistent with and emulates pricing in competitive markets. It allows captive shippers, which should not bear the costs of facilities or services from which they derive no benefit, to propose an alternate stand-alone carrier, unconstrained by entry or other barriers, in which the relevant railroad plant size and traffic base are designed to maximize the efficiencies and production economies. The operating assumption is that without entry and other barriers, this hypothetical new rail system would provide the rail price competition for the shipper as if there were an actual alternate carrier able to provide the service. Thus, the SAC model provides a hypothetical new service provider and an alternative competitive rate for the captive shipper, consistent with the competitive marketplace.

The revenue adequacy and the stand-alone cost constraints both mimic the competitive marketplace, but in different ways. The revenue adequacy constraint assures that shippers will be protected from monopoly prices. Once revenue adequacy is achieved, the carrier's unattributable costs have been fully covered and the carrier is efficiently pricing its traffic to cover all its costs. Shippers are paying no more than necessary for efficiently-priced services. This outcome mimics the competitive marketplace, using current operating costs,

including the asset base as recognized under GAAP in conjunction with the nominal current cost of capital.

For the stand-alone cost test, captive shippers that believe they should not bear the costs of facilities or services from which they derive no benefit, can introduce the competitive standard of contestability into a non-competitive market. They can develop a hypothetical stand-alone railroad and determine what the simulated competitive price of service, using replacement costs, would be against which the actual rates they are charged can be compared. Ultimately, the Board's final decision in a stand-alone case will determine whether or not a lower competitive stand-alone rate for the service is available and should be awarded to the shipper. This outcome also mimics the competitive marketplace.

**3. The revenue adequacy and stand-alone cost constraints complement each other, but SAC does not displace the need for the revenue adequacy constraint, especially as carriers become revenue adequate.**

Under both the revenue adequacy and the stand-alone cost constraints, rail services are efficiently priced according to market demand and cover only the carrier's total costs. The full revenue requirements of the incumbent carrier can be determined on a system-wide basis using the revenue adequacy constraint. Alternately, the specific revenue requirements needed to serve a particular shipper or a series of shipper commodity movements can be estimated using the stand-alone cost approach. Both methods produce efficient outcomes

because both, as previously stated, follow competitive market pricing principles. Under the revenue adequacy constraint, the shippers pay their Ramsey-based share of what is necessary for railroads to earn adequate revenue levels; under SAC, the captive shipper should not bear the costs of any facilities or services from which it derives no benefit.

The revenue adequacy constraint is referred to as a top-down approach to ratemaking. The focus is on the entire railroad and the critical issue is whether the carrier's overall revenue levels are adequate to allow it to cover its costs and attract needed capital (defined by whether the carrier's return on investment equals the industry required cost of capital). The cost of service and revenues required to complete this revenue adequacy test are based on the carrier's actual costs as measured under generally accepted accounting principles (GAAP) and its actual rates (before application of the contested rate increase).

SAC is a bottom-up approach to rate review since it focuses on a particular part of a railroad's system used to deliver the shipper's traffic at issue. It is based on the principle that captive shippers should not bear the costs of facilities or services from which they derive no benefit. The SAC method develops a hypothetical alternative railroad from the ground up, with all available operating and scale efficiencies, to provide an alternative rail service for the shipper's movement, to compare the rate actually paid with the rate that would be charged by the efficient competitor. SAC costs are typically developed based on new equipment, new rail routings, and selected non-issue traffic flows over the hypothetical

system. The cost and other operational data of the bottoms-up developed railroad may, but need not, reflect the actual costs of the incumbent.

The top-down and bottom-up tests both identify constraints on the rates to be charged captive shippers. The tests under the two constraints are similar but different, in that they start from different vantage points. As such, they can result in different prescribed coal rates for the shipper, as the ICC itself noted in Coal Rate Guidelines.<sup>10</sup>

A captive shipper can rely on any or all CMP constraints in a rate complaint case filed before the Board or the predecessor ICC. Historically, since the guidelines were implemented, there was no relief granted and little opportunity for rail shippers to use the revenue adequacy constraint in a rate complaint case because, until recently, carriers were perceived to fall far short of revenue adequacy levels. As a result, most cases used the stand-alone cost test to determine competitive rates for particular movements in the rail system. Still, the revenue adequacy constraint was, as previously discussed, part of the underlying foundation for the CMP methodology and becomes an important option for captive shippers seeking rate relief now and into the future -- when railroads, as the Staggers Act had hoped for, achieve revenue adequacy. That time has come. The revenue adequacy constraint should not be revoked, especially now that it is relevant. In addition, while shippers have relied on stand-alone cost tests in rate cases, a shipper should not be forced to pay a higher SAC determined rate when the revenue adequacy constraint

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<sup>10</sup>Coal Rate Guidelines, Nationwide, 1 I.C.C.2d at 534, footnote 35.

identifies a lower rate as being sufficient for a railroad to cover its attributable and unattributable costs for its existing output on a Ramsey-efficient basis.

As carriers become revenue adequate, individual shippers can file complaints against specific rates on captive traffic using the revenue adequacy constraint test under CMP, and request that the Board find that the carrier is revenue adequate and reject any greater differential pricing increases on the captive movement in question. The shipper can also file the rate complaint, relying on the use of the stand alone cost test, under which the shipper should not bear the cost of services or facilities from which it derives no benefits. Both methods are needed to ensure that captive shipper rail rate relief is available when justified. Shippers should continue to be able to use all available tools to ensure that their rail rates are judged reasonable or unreasonable by the Board, where there is a demonstrated lack of effective competition for the service in question.

**B. Use of Replacement Cost for Revenue Adequacy Determination is not required and remains unworkable.**

In its reply statement in Section IV-A-2 (pages IV-8-22), CSXT contends that the Board's measurement of revenue needs should be based on the current value of railroad assets. "It [CSXT] has long maintained that any revenue adequacy constraint must be premised on the current value of rail assets needed to meet the demand for rail service, regardless of the

sources of funds used. And the current value of existing assets is best determined by the replacement cost of those depreciated assets.”<sup>11</sup>

CSXT and other railroads have previously recommended the use the replacement cost of rail assets for revenue adequacy determinations, and those recommendations have been repeatedly rejected-- by the Board since 1995 and by the ICC since at least the Staggers Act. CSXT's arguments in this case should be rejected once again by the Board for three major reasons. First, the Board's clear policy is to use the net book value of rail assets for measuring return on net investment (ROI) in revenue adequacy determinations -- and the Board and the prior ICC have repeatedly rejected proposals for the use of replacement cost of assets in these calculations. CSXT has presented no new evidence in this case on why the Board should now reverse its decision. Second, CSXT has provided no specific evidence in this case about how the replacement cost of assets could be developed. Finally, CSXT does not even mention or provide any testimony on how the required real cost of capital would be computed in this case to match the requested use of the replacement cost of carrier assets. These three broad reasons and related matters are addressed more fully below.<sup>12</sup> I recommend that the Board continue to use the net book value of assets in all revenue adequacy determinations.

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<sup>11</sup> CSXT reply, pages IV-8-9.

<sup>12</sup> I have previously provided reply testimony in EP 722, Railroad Revenue Adequacy, on the continued use of net book value for valuing rail assets in railroad revenue adequacy determinations. That testimony reviewed the extensive history and decisions on the issues. My earlier testimony is included in my e-workpapers as RA-HenniganEP722Reply.pdf.

**1. The Board's clear policy is to use net book value for valuing rail assets.**

Consumers' rate complaint sought rate relief based on the revenue adequacy constraint and the stand-alone cost constraint, both established under the Coal Rate Guidelines. To make its case under the revenue adequacy constraint, Consumers provided, among numerous other items, ROI values for CSXT following previous Board and ICC decisions using the net book value of assets in the annual revenue adequacy determinations.

CSXT, on the other hand, asks the Board to reverse previous guidance and decisions and now use the replacement cost to value rail assets. Railroads have made this same request many times since passage of the Staggers Act. But each time the ICC, a government authority, or the Board, has evaluated the issue, they have recommended or affirmed that the net book value for railroad assets should continue to be used for revenue adequacy determinations.

To better understand the background and difficulty of the issues associated with replacement cost that the ICC and the Board and parties have addressed over the years, five important points are noted and discussed below.

First, the use of replacement or current cost, as proposed here by CSXT, is not the norm for accurate valuation and reporting of company assets. The norm for reporting on company assets, especially for public companies, is to follow generally accepted accounting principles

(GAAP). These rules and standards are mandated for the creation of uniform financial reports by publicly-traded companies, such as CSXT. The purpose of GAAP is to ensure that financial reporting is transparent and consistent from one organization to another. In the United States, the Securities and Exchange Commission (SEC) mandates that financial reports adhere to GAAP requirements. The Financial Accounting Standards Board (FASB) is responsible for developing and managing overall GAAP standards. Publicly traded companies must comply with both SEC and GAAP requirements. Further, if a company's stock is publicly traded, federal law requires the company's financial statements be audited by independent public accountants. Both the company's management and the independent accountant must certify that the financial statements and the related notes have been prepared in accordance with GAAP.

“Since GAAP is founded on basic accounting principles and guidelines, we can better understand GAAP if we understand those accounting principles.”<sup>13</sup> The most relevant accounting principle for valuation of company assets is the Cost Principle. “From an accountant's point of view, the term ‘cost’ refers to the amount spent (cash or the cash equivalent) when an item was *originally* obtained, whether that purchase happened last year or thirty years ago. For this reason, the amounts shown on financial statements are referred to as *historical* cost amounts. Because of this accounting principle asset amounts are *not*

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<sup>13</sup> Part 1, Introduction to Accounting Principles, Basic Accounting Principles and Guidelines, Accounting Coach, <http://www.accountingcoach.com/accounting-principles/explanation>, p. 2. Accounting Coach is used as a source on basic GAAP concepts because of its ready accessibility. Excerpts are included as RA-AccountingCoach.pdf.

adjusted upwards for inflation.”<sup>14</sup> Thus, the real norm for asset valuation for public firms in the United States is historical cost, based on GAAP.

The clear value and simplicity of using commonly-followed GAAP accounting rules and having company standardized financial statements with asset values based on depreciated original cost greatly assisted regulatory agencies such as the ICC and the Board over the years to perform their regulatory duties and also helped investors in evaluating railroad and other investments.

The ICC and later the Board have never used the current value (replacement cost) of railroad assets for revenue adequacy determinations. Instead, the ICC and the Board have always relied on accurate data from railroad systems of accounts based on GAAP. It is logical to expect regulators to place great reliance on trusted accounting systems. There has, however, been an ongoing debate or tension in U.S. regulatory circles generally between the traditional accounting view of assets stated at original cost and the economic concept that assets should be stated at current values to reflect associated opportunity costs. This theoretical debate about what was the better measure of the value of assets was quickly joined by the practical debate involving the difficulty of computing the replacement cost for a company compared to the relative simplicity of using net book values taken from audited financial statements.

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<sup>14</sup> Part 1, Introduction to Accounting Principles, Basic Accounting Principles and Guidelines, Accounting Coach, <http://www.accountingcoach.com/accounting-principles/explanation> , p. 3

A few persistent problems troubled the ICC and later the Board about the use of replacement costs. Railroad balance sheets at the time of the Staggers Act were full of excess, redundant, and obsolete equipment and facilities that should be retired or eliminated; regulators were unsure whether many of the then current rail assets would be replaced; and there was no market data, in many cases, to evaluate the current cost of railroad's plant and equipment. Assets might also be replaced in a more efficient or productive fashion. In addition, use of replacement cost would require developing a real cost of capital for the railroad industry to avoid a double-count for inflation. By any measure, moving to replacement costs would be a huge undertaking with tremendous uncertainties and unresolved issues, including how to determine the replacement cost of all the assets of a railroad.

The ICC and later the Board were at times sympathetic and supportive of the replacement cost concept in regulatory proceedings, but finally decided not to use replacement costs for railroad assets due to practical implementation difficulties. While there is a theoretical appeal to using a forward looking measure for the replacement cost of the rail assets, forward-looking measures are difficult to construct. In contrast, the book value of rail assets is based on known transaction costs of tangible equipment, with a proper paper trail and documentation in the rail accounting or asset system. In a recent Board decision about Simplified SAC cases, the Board again described how replacement cost would be theoretically preferable to original cost valuation, but concluded the discussion by stating it

did not use replacement cost “because it is impractical to update the book value of railroad assets to replacement costs on an annual basis.”<sup>15</sup>

All of these issues that troubled the ICC and the Board about changing to a replacement standard remain significant. Railroads continue to adjust to changing market realities by closing and consolidating facilities. It is still difficult to identify which rail assets will not be replaced over time and how they will be replaced. A workable, cost-effective and reliable solution to address the problem of repricing railroad assets annually for revenue adequacy purposes remains elusive.

Section 302 of the Staggers Act of 1980 established the Railroad Accounting Principles Board, implemented cost accounting principles for railroads, and also added a new section 11166, Accounting and Cost Reporting, to Subtitle IV of title 49, United States Code. That new section 11166 stated that the ICC “may promulgate reasonable rules for rail carriers..., prescribing expense and revenue accounting and reporting requirements **consistent with generally accepted accounting principles uniformly applied to carriers**” (emphasis added).

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<sup>15</sup> Rate Regulation Reforms, EP 715 at 15-16, n.24 (STB served July 18, 2013). The Board added, “We do not use replacement costs in our annual revenue adequacy determination or in our URCS model because it is impractical to update the book value of railroad assets to replacement costs on an annual basis. See Ass’n of Am. R.R.s—Petition Regarding Methodology for Determining R.R. Revenue Adequacy, EP 679, slip op. at 7 (STB served Oct. 24, 2008) (“the railroad proponents have failed to overcome the practical difficulties associated with using a replacement-cost approach to perform the annual revenue adequacy determination”); see also Standards for R.R. Revenue Adequacy, 3 I.C.C.2d 261, 277 (1986) (“[w]hile current cost accounting is theoretically preferable to original cost valuation, it cannot be practically implemented in a manner that we can be confident would produce accurate and reliable results.”).

In addition, the ICC Termination Act of 1995, which created the Surface Transportation Board, reaffirmed and increased the significance of accounting and cost accounting systems by requiring the new Board to: prescribe a uniform accounting system for classes of rail carriers (sec. 11142)<sup>16</sup> and periodically review its cost accounting rules (sec. 11161).<sup>17</sup> The legislation also provided that “the Board may promulgate reasonable rules for rail carriers providing transportation subject to the jurisdiction of the Board under this part, prescribing expense and revenue reporting requirements” (sec. 11164)<sup>18</sup>. For each of these new or slightly modified provisions, the Board was required at a minimum to adopt rules consistent with generally accepted accounting principles or, in the case of 11142 and 11161, to conform its rules to GAAP to the maximum extent practicable. This instruction from Congress to the ICC in 1980 and to the Board in 1995 puts additional focus on the expectation of the ICC and later the Board to adhere to GAAP principles in developing financial systems and financial reporting included in, for example, the required annual determination of railroad revenue adequacy.

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<sup>16</sup>“§ 11142. Uniform accounting system “The Board may prescribe a uniform accounting system for classes of rail carriers providing transportation subject to the jurisdiction of the Board under this part. To the maximum extent practicable, **the Board shall conform such system to generally accepted accounting principles, and shall administer this subchapter in accordance with such principles.**” (Emphasis added.)

<sup>17</sup> “§ 11161. Implementation of cost accounting principles “The Board shall periodically review its cost accounting rules and shall make such changes in those rules as are required to achieve the regulatory purposes of this part. The Board shall insure that the rules promulgated under this section are the most efficient and least burdensome means by which the required information may be developed for regulatory purposes. **To the maximum extent practicable, the Board shall conform such rules to generally accepted accounting principles.**” (Emphasis added.)

<sup>18</sup> “§ 11164. Accounting and cost reporting “To obtain expense and revenue information for regulatory purposes, the Board may promulgate reasonable rules for rail carriers providing transportation subject to the jurisdiction of the Board under this part, prescribing expense and revenue accounting and reporting requirements **consistent with generally accepted accounting principles uniformly applied to such carriers.** Such requirements shall be cost effective and compatible with and not duplicative of the managerial and responsibility accounting requirements of those carriers.” (Emphasis added.) Section 11164 replaced section 11166.

Second, CSXT references at page IV-9 of its reply the statement submitted in 1985 by 50 leading economists in support of the Staggers Rail Act, and use of replacement cost for determining revenue adequacy for railroad revenues. The economists' statement states in part:

“The appropriate standard for determining the adequacy of railroad revenues is a rate of return equal to the current cost of capital on the **replacement value of all rail assets that are required to meet the demands for railroad service**, regardless of the sources of funds used in investing in those assets (emphasis added).”<sup>19</sup>

Based on decisions on this issue over the years, neither the ICC nor the Board has disagreed as a matter of pure theory about the value of the replacement cost concept advocated by the economists. The ICC and the Board were concerned about the proper application of replacement costs. As the above passage clearly recognized, rail assets that will not be replaced should be eliminated from the asset base calculation (“replacement value of all rail assets that are required to meet the demands for railroad service”). Even today, the Board still appreciates the practical difficulty of identifying individual rail assets or larger parts of railroad systems that would not be replaced in the future, as well as the potential for replacement assets to be superior or have lower associated operating costs. While it is less of a concern today than it was in 1985 when the note was written by the economists, today's railroads are still assessing restructurings to accommodate market

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<sup>19</sup> Economists' Statement in Support of the Staggers Act, dated February 25, 1985

changes. Replacement cost is still a very difficult concept to apply properly. Replacement costs, such as the price of steel, are likely to fluctuate in value based on demand and supply conditions in the economy.

Third, while the ICC was considering the issue of using replacement cost in revenue adequacy determinations and in its rulemakings on Standards for Railroad Revenue Adequacy in the 1980's, and ultimately deciding to retain the net book value concept for rail assets, two other federal agencies reached the same conclusion.

In its 1987 report, the Railroad Accounting Principles Board (RAPB) concluded that while "current market valuation is preferable to historical valuation from a theoretical economic viewpoint," there are "serious practical problems" with such an approach. One practical concern identified by the RAPB is "the need to identify and revalue existing assets which will not be replaced."<sup>20</sup> In a contemporaneous study, the United States General Accounting Office (GAO) also expressed concern that a current cost approach could overstate the value of the investment base, observing that "[t]he cost of reproducing a particular asset . . . may not be a good measure of the value of the asset." After conducting its own inquiry, GAO concluded that it was "not able to identify an adequate solution for the potential problems of overstating asset values under a current cost approach."<sup>21</sup>

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<sup>20</sup> Railroad Accounting Principles, Final Report, Railroad Accounting Principles Board, Vol II at 60-61 (1987) (RAPB Final Report).

<sup>21</sup> Railroad Revenues: Analysis of Alternative Methods to Measure Revenue Adequacy, GAO/RCED-87-15BR at 109-10 (Oct. 1986) (GAO Report).

The RAPB, in its 1987 report, also specifically considered whether using GAAP costs rather than replacement costs would undermine the railroads' ability to attract needed capital, a critical concern expressed by railroad interests. The RAPB concluded that the use of GAAP costs was consistent with the revenue adequacy objective. It stated:

“Capital Attraction

A primary object of the [Staggers Rail Act] is to assist railroads in attaining revenue adequacy. To accomplish this objective, investors must be permitted to earn a market return on their investment. As long as investors can earn a rate of return comparable to their market rates of return for investments of comparable risk, they will continue to invest.

Use of GAAP cost is consistent with the objective of enabling railroad entities to attract capital for the replacement of necessary assets. Railroad assets will be replaced so long as competitive returns are allowed on the existing and new investments of the entity.... if investors reasonably can expect to earn a competitive return, capital can be attracted when it is required, and the accumulation of funds in advance of the reinvestment is not necessary.”<sup>22</sup>

Significantly, the Board's cost of capital purports to measure the opportunity cost of attracting capital to railroad investment, although in practice the Board overstates that opportunity cost substantially.

Fourth, the gap or discrepancy between the net book value and replacement cost of railroad assets, if it can be measured, has likely decreased since Staggers, particularly so in recent years. This development cannot be fully verified without actually computing the replacement costs of a complete railroad, which remains impractical. But from a qualitative standpoint, railroad GAAP-based balance sheets have been cleaned up and improved dramatically

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<sup>22</sup> RAPB Final Report, Vol II, Ch. 7, at p. 47.

since the passage of the Staggers Act in 1980. In the 35-plus years since Staggers, railroads have been given great flexibility, and they have used it to abandon unproductive rail routes, sell light density lines to short-line railroads, eliminate or retire old equipment and obsolete facilities, update equipment and track and other operations, install modern communication and operational controls, consolidate with other railroads at current market valuations, outsource certain non-core functions, and use differential pricing on captive shippers. The rail asset bases for the Class 1 railroads are now much more up to date with new equipment and facilities and have little remaining obsolete or unused assets.

In addition, some railroad assets, such as locomotives and other rolling stock, tend to have relatively shorter useful lives and can easily be sold. In addition, periodic additions and retirements to fleets mean the market and book values of such assets may not be far apart. In fact, some of these types of assets, particularly railcars, can be secured by lease arrangements, and shippers are now more frequently responsible for providing the railcars, removing these assets from the railroad asset base.

A more difficult concern that persists is how to find current costs for very long-lived railroad assets such as bridges, tunnels, land and track. The railroad investment in those assets is also complicated by public-private partnerships and federal grants to remedy bottlenecks or help replace critical older structures. Rail capital expenditures for replacement and capacity additions have also been at very high levels in recent years, indicating a faster addition to and turnover of rail assets. All these factors, plus the steady growth in rail traffic, and the

improved financial performance of railroads in recent years, should result in faster turnover and replacement or retirement of assets – overall younger capital assets. The net book value of a railroad's assets should now be much more in line with the replacement cost of those assets, decreasing any need to compute overall replacement costs.

The RAPB made a useful observation in 1987 which is also relevant to this issue. The RAPB stated:

To the extent that technology and inflation remain reasonably stable, historic cost measures also can serve as an accurate predictor of future costs; current asset value does not provide better matching of future prices to future reported expenses automatically. The expenses reported in subsequent years financial reports under GAAP will represent a combination of existing and new assets. The predictive accuracy of either the current cost or historical cost method is related to the timing and requirements of purchasing new assets.<sup>23</sup>

Fifth, a review of CSXT's GAAP-based balance sheet information in its financial statements show that its total properties have increased considerably from 2010-2014.<sup>24</sup> Increases in the rail asset base have been propelled by large capital expenditures by CSXT that averaged \$2.248 billion per year over the period.<sup>25</sup> For 2010-2014, the value of CSXT year-end rail properties increased from \$32.065 billion to \$39.343 billion, a 23.0% increase. Year-end accumulated depreciation grew from \$8.266 billion to \$10.759 billion in 2014, a 30.2% increase. Finally, the year-end net book value of CSXT's rail properties increased from

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<sup>23</sup> RAPB Final Report, Vol II, Ch. 7, at p. 43.

<sup>24</sup> Information on CSXT's rail properties is taken from Note 6 to the Financial Statements of CSX's Annual Reports for 2010 and 2014, included as e-workpaper RA-CSXTProperties.pdf. The data on rail properties excludes current assets, investments in Conrail and other affiliations, and certain other long-term assets.

<sup>25</sup> Hennigan Report, Table 6.

\$23.799 billion in 2010 to \$28.584 billion in 2014, a 20.1% increase, indicating strong net replacements or additions to CSXT rail assets over the period.<sup>26</sup>

But, even if the Board wanted to utilize replacement costs to measure CSXT's revenue adequacy, CSXT has not offered any calculations or other quantitative evidence to compute the replacement cost of its assets or the difference between book value and replacement cost that CSXT asserts is so critical. While CSXT references values compiled by the Bureau of Economic Analysis, there is no attempt to identify those values or apply them to CSXT, only a general statement that the Board should commence a rulemaking to do so.

CSXT has also not offered a way to measure CSXT ROI based on replacement cost. In particular, if assets are going to be replaced on an ongoing basis, then the treatment of depreciation will also need to be reconsidered. CSXT has also not offered any guidance on how to compare CSXT's ROI based on replacement cost with a real cost of capital for the railroad industry, as CSXT did not mention the real cost of capital or provide any evidence on how to compute it.

Further, in response to a discovery request by Consumers, (Interrogatory No. 20) about whether CSXT calculates, tracks, and/or utilizes Replacement Costs in the regular course of its business, CSXT responded that "In the ordinary course of business CSXT does not maintain any database, spreadsheet, or other document that calculates the overall

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<sup>26</sup> E-workpaper RA-CSXTProperties.pdf.

replacement cost of the CSXT system.” CSXT’s own practices show the difficulty of measuring replacement costs and also indicate that the information is not needed or useful as a practical matter.

At page IV-8 of the reply statement, CSXT quotes from the Board’s Conrail Acquisition Order of 1998 as follows, “And the Agency has explained that ‘carriers cannot attract and retain capital unless they are given the opportunity to be compensated for the real value of property, not just the book value.’” However, CSXT has acknowledged, as noted above, that in the ordinary course business it does not maintain any database, spreadsheet, or other document that calculates the overall replacement cost of the CSXT system. So CSXT itself cannot know directly if it is being compensated for the real value of property it possesses. As my initial report in this case documents, CSXT has had no trouble attracting and retaining capital for at least the period 2010-2014. This view is shared by shareholders and industry financial advisors, and CSXT does not contend otherwise in its evidence, public statements, {

}. Clearly, CSXT does not need to calculate the replacement cost of capital and the appropriate level of return to attract and retain capital.

In fact, CSXT now uses a GAAP-based return on asset performance measure to incentivize its key executives and align company conduct with shareholder value. In 2013, CSXT modified its Long Term Incentive Compensation (LTIC) program for a select group of named executive officers (NEOs), including its Chief Executive Officer. Each NEO’s total

compensation is heavily weighted toward performance-based awards, as long term compensation comprises the majority of the compensation. For the 2013-2015 LTIC cycle, CSXT added a second performance measure, Return on Assets (ROA), to supplement Operating Ratio and further drive performance and value creation. According to CSXT, Operating Ratio and ROA have both demonstrated a high correlation to shareholder value over time.

CSXT measures ROA using tax-adjusted operating income, excluding non-recurring items as disclosed in the Company's financial statements, divided by net property. The tax-adjusted operating income uses a flat 38% tax rate to eliminate the volatility of one-time tax issues. Net property is calculated by subtracting accumulated depreciation from gross property. This is a GAAP-based measure that tracks the revenue adequacy performance measure used by the Board, which CSXT is demanding be computed using replacement costs.

The 2013-2015 LTIP cycle measured cumulative Operating Ratio and average ROA over an 11-quarter period from April 2013 to December 2015. The first quarter of 2013 was not included in the performance period due to timing of approval of the LTIP cycle. The awards were made under the plan in early 2016.<sup>27</sup>

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<sup>27</sup>The Operating Ratio and ROA each comprised 50% of the total payout opportunity for participants, and each is measured independently of the other. The Operating Ratio equals Operating Expenses divided by Operating Revenues, and Return on Assets (ROA) equals Tax-Adjusted Operating Income divided by Net Property. The threshold, target and maximum payouts for each measure are 10%, 50% and 100%, respectively, generating a target payout of 100% and a maximum possible payout of 200% for the 2013-2015 LTIP cycle.

Under the 2013-2015 LTIP cycle, the threshold (10%), target (50%), and maximum payout goals (100%) for Operating ratio were set at 72.6%, 71.1%, and 69.9%, respectively. For ROA, the threshold, target and maximum payout goals were set at 7.69%, 8.25 %, and 8.78%, respectively. For the 2013-2015 cycle, CSX achieved a cumulative Operating Ratio of 70.8% and average ROA of 7.86%, which resulted in a payout of 64% of target.

CSXT did not base its ROA goals for executive compensation on replacement cost of assets, yet CSXT achieved a sufficient ROA for executive awards to be triggered. Even the maximum ROA goal of 8.78% for achieving a 100% payout is considerably lower than the Board's annual railroad cost of capital calculation.<sup>28</sup>

This discussion in the CSXT 2016 Proxy statement recently sent to shareholders provides strong indirect evidence that the 2013-2015 target ROA payout goal ranging between 7.86 - 8.78% (over an eleven-quarter period) approximates CSXT's cost of capital, and it would make little sense to incentivize long-term performance falling below the COC. If CSXT's ROA target had been based on replacement cost, as CSXT requests of the Board, this measure would not have provided any incentive for executive performance, unless the threshold, target, and maximum returns were adjusted similarly.

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<sup>28</sup> Extracted from CSXT 2016 Proxy Statement, RA-CSX2016ProxyStatement.pdf, pp. 33-47.

**2. CSXT provided no evidence on the implementation of the replacement cost of its assets.**

CSXT's reply evidence discusses how railroads now manage their assets better, no longer have substantial excess capacity, and face capacity constraints at certain times and places. CSXT concludes that carriers are not likely to have unused or useless assets in their asset bases. CSXT argues that the lack of or decreases in these practical difficulties to the use of replacement cost, such as these previously cited by the Board and ICC, can no longer justify relying on accounting measures to measure revenue adequacy.

This trend toward greater railroad operating efficiency results in substantial part from the regulatory flexibilities conferred under the Staggers Act. Railroads have become more financially stable by restructuring their operations, facilities, and equipment; better controlling costs by eliminating excess, obsolete or unproductive assets; and adding needed replacements or additional capacity. While CSXT's observations about railroad balance sheets and finances are generally correct and these points have been argued by others (including myself at pages 6-7 of in my Reply Verified Statement in EP 722), railroads continue to operate in a dynamic changing environment. In the current environment, railroads have been making needed cutbacks on facilities, assets, and labor resources in response to shifting levels of demand and shifting commodity movements. Such developments make it difficult to conclude that the current railroad asset configuration will

extend into perpetuity and that all existing assets will be replaced with similar assets. The greater likelihood is that traffic patterns will continue to shift, and assets will need to be redeployed and revised.

More important though, while CSXT argues that it is now potentially easier for the Board to calculate the replacement costs of railroad assets -- because rail asset bases are more in line with current service demand -- CSXT has provided no practical guidance for computing the replacement cost for a railroad's assets. CSXT mentions a BEA database that estimates the current value of industry assets for selected industry groups, but CSXT provides little practical discussion or testimony about the data, how the data would be used, or how calculating the replacement cost of a railroad would be accomplished, save that the Board should open a rulemaking to seek public input.

A rulemaking on this issue could not possibly result in a solution to determining CSXT's revenue adequacy in this rate case.

**3. CSXT provided no evidence on the real rate of return to be used with the replacement cost of assets.**

CSXT's request for the Board to use the replacement cost of assets for computing CSXT's return on investment (ROI) would require the development of the real (inflation-adjusted)

cost of capital for the railroad industry, so as not to count inflation twice, once in the asset base (replacement costs) and again in the nominal cost of capital. No such measure currently exists. Currently, the Board computes and uses (with considerable room for improvement) relatively simple and well-known methods to compute nominal industry cost of capital (COC). The industry COC is compared to the ROI for the carrier computed as carrier net income divided by the net book value of the asset base. This simple process provides the required data for the revenue adequacy determination ( $ROI=COC$ ). But the real (inflation adjusted) cost of capital for the rail industry has not been computed, would be very difficult to compute, and contributes further to the difficulty of computing the replacement cost of assets.

CSXT does not even acknowledge the need to use a real cost of capital in conjunction with replacement costs in its reply evidence. Nor does CSXT provide any evidence or discussion about how a real rate of return for railroads could be computed. Without a real cost of capital benchmark, a replacement cost analysis cannot possibly be utilized.

In the past, the Board has been very clear that suggestions for alternatives to the revenue adequacy determination should be accompanied by substantive analysis of how the proposal would be implemented. In this case, CSXT has completely ignored that requirement for a calculation of the real cost of capital, let alone provided any guidance of how it would be computed.

#### **4. Summary**

The Board is not required to use the replacement cost of railroad assets in revenue adequacy determinations, and doing so would be contrary to Board and ICC precedent, independent GAO and RAPB reviews, the Congressional directives to utilize GAAP, the practice of other regulatory agencies, and CSXT's own practices. CSXT has not provided any evidence that should alter the Board's prior conclusion that the calculation of replacement costs for railroads remains unworkable. CSXT has not followed Board direction to use net book value, CSXT has not offered evidence of support for how to compute replacement cost, and CSXT has not even mentioned the need for a real cost of capital measure and how it could be calculated and used in conjunction with CSXT's request. Replacement costs cannot possibly be used to apply the revenue adequacy constraint in Consumers' rate case.

#### **C. Based on an analysis of all available measures, CSXT is Revenue Adequate.**

CSXT's principal response to the analysis of its revenue adequacy in Consumers' Opening Evidence is that the Board has not found that CSXT's return on net investment exceeds the railroad industry current cost of capital under the ROI=COC test. CSXT believes the test must be applied using only the Board's COC, and no other information can be considered.

CSXT is incorrect. CSXT has already acknowledged at page 13 of its Motion to Dismiss filed on March 24, 2015 in this case that “Agency precedent does permit a party to challenge these annual [revenue adequacy] findings in a particular adjudication.” The Board denied CSXT’s motion in a decision decided June 11, 2015, ruling at page 2 that “Consumers has stated a claim under the constraint and may present other competent and probative evidence to make its case, should it so choose.”

CSXT did not present any evidence to challenge Consumers’ financial data, calculations using that data, presentation of the data, or the results of the analysis showing CSXT to be revenue adequate. CSXT also did not disagree with, or even address, Consumers’ evidence that showed that CSXT fulfilled all the statutory criteria for revenue adequacy specified by Congress in 49 U.S.C. § 10704(a)(2). CSXT did dispute the meaning and significance of multiple measures of financial evidence about CSXT’s revenue adequacy presented throughout the testimony. Significant points of disagreement are addressed below. The analysis in my testimony clearly demonstrates, based on multiple tests and analysis of financial measures and specified criteria, that CSXT has achieved long-term revenue adequacy.

### **1. Competent and probative evidence of CSXT’s revenue adequacy**

The following listing summarizes the analyses and tests of CSXT’s revenue adequacy that are performed and detailed in Consumers’ Opening Evidence and my initial report:

**a. Compare the financial performance of CSXT to the criteria for measuring revenue adequacy specified in 49 U.S.C. § 10704(a)(2).**

In 49 U.S.C. § 10704(a)(2), Congress specified the criteria for determining if a carrier is revenue adequate. A carrier that satisfies those criteria should be found to be revenue adequate. The evidence fully shows that CSXT meets each of the detailed criteria. If a railroad meets all of these enumerated criteria, then the railroad should not be deemed revenue inadequate based solely on the result of a single test historically used by the Board. Under these conditions, failure to meet the Board's ROI=COC test would indicate that the singular test is defective or its inputs are suspect.

**b. Perform an analysis of multiple financial ratios for CSXT financial performance.**

CSXT exhibited strong performance under all of the financial measures traditionally used to measure revenue adequacy. Since all the evaluations are favorable, there is no need to weigh one consideration against another. It is also appropriate to note that the financial ratios together present a more coherent and complete financial analysis. For example, CSXT's favorable dividend payout ratio might be less

significant if it were not accompanied by the favorable operating ratio (showing the cash flow and dividends were funded by operations) and the favorable debt to capital ratio (showing that the dividends and cashflow were not funded through increased leverage). The dividend payout ratios are more significant because they were achieved in the face of substantial capital expenditures and stock repurchases. The market to book value ratios, return on equity, and cash flow to equity also reflect the strong operating ratio performance that is more impressive because CSXT is able to fund dividends, buybacks, and capital expenditures while maintaining modest debt leverage in its capital structure. In contrast, CSXT's reply attempts to minimize each ratio by considering it in isolation, without considering the relationship to the other factors considered.

In that regard, single-factor tests, such as  $ROI=COC$ , may be attractive in theory because of their simplicity and clarity. However, the trade-off is that such tests may become inaccurate and misleading if the inputs are susceptible to distortions, gaming, or the equivalent. Even where a single-factor test is used, other evidence should be readily available to determine if it is being properly applied and is yielding plausible results. The various financial metrics for CSXT taken together over the period 2010-2014 present a very positive and attractive picture of CSXT's financial performance. This analysis presents a very positive view of CSXT as a mature, growing, profitable, future focused, and revenue adequate U.S. railroad, all of which are inconsistent with the results of the Board's  $ROI=COC$  test. CSXT does not fall short of any reasonable standard measure of railroad revenue adequacy.

**c. Correct the procedures for applying the Board's ROI=COC test, and show CSXT to be revenue adequate under that test as properly applied.**

The Board's ROI=COC test uses the Board's methodology for estimating the equity portion of the industry cost of capital. That methodology is flawed in three key respects that individually and collectively lead to cost of capital calculations that are unrealistically high. To correct these flaws, my testimony utilizes three modifications to the Board's methodology: eliminate the use of the Multi Stage Discounted Cash Flow model, compute the market risk premium (MRP) based on a 50-year historical period, and use a Blume adjustment to the estimated "beta" risk factor. These three modifications were explained in detail in the testimony. The resultant computed industry cost of capital is more realistic and in line with expressed investor expectations. As a result, CSXT ROI exceed the COC in each year, 2010-2014, and CSXT is revenue adequate, as shown by Tables 21 and 22 in my initial report.

**d. Analyze CSXT's revenue adequacy based on a CSXT-specific cost of capital.**

While the Board estimates an average cost of capital for the railroad industry as a whole based on a composite sample, it is also possible and desirable to estimate a cost of capital for just CSXT. Each railroad's cost of capital is likely to vary from the average, and an individual railroad and its investors are ultimately more interested

in the individual railroad's cost of capital rather than the industry average.

Ultimately, a railroad needs to have a good idea of its own cost of capital in order to make sound decisions and be a competent steward of its capital assets. Moreover, the composite sample used by the Board to calculate the industry average is not very large (only three or four carriers), excludes what is the largest carrier by some reasonable measures (BNSF), includes one carrier (KCS) that is substantially smaller than the others and that also has a substantial foreign exposure.

Furthermore, the largest carrier in the sample (UP) operates in the West, whereas CSXT operates in the East. The average is thus not representative of CSXT. Also, outside investment firms (such as Morgan Stanley, whose report is addressed later in this report) often present costs of capital for individual firms, as opposed to industries. Accordingly, I estimated a CSXT-specific cost of capital using the Board's CAPM methodology, making the appropriate adjustments noted earlier, for purposes of applying the ROI=COC test.

The results of this test show that CSXT's ROI exceeded its cost of capital and that CSXT is revenue adequate each year, 2010-2014. (See Tables 29 and 30 of my initial report.) The analysis also shows that a CSXT-specific cost of capital is lower than the industry average cost of capital using the Board's CAPM as modified.

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**f. Evaluate CSXT's revenue adequacy as perceived by the financial and investment community.**

A review of CSXT's revenue adequacy logically would consider analyses prepared by and relied upon in the financial and investment community. Those independent and informed analyses are particularly useful where they review CSXT's financial health and viability on a long-term basis, and its suitability or desirability as a long term investment. ValueLine, S&P, and Morningstar reports are particularly useful in this regard as they are independent, well-respected, and readily available. Retail investors typically can access these reports through their public libraries and on an online basis.

The ValueLine analysis regards CSXT as a desirable investment. It offers no indication that the company is revenue inadequate or faces any problems attracting needed capital.

Morningstar's evaluation states that CSXT, like the other major Class I railroads, is already outearning its cost of capital, is highly likely to continue doing so for the

next ten years, and “more likely than not” for the following ten years. Morningstar thus believes that CSXT passes the ROI=COC revenue adequacy test on a long-term basis.

Like ValueLine and Morningstar, S&P presents a very favorable long-term view of CSXT. There is no suggestion that CSXT’s revenues are inadequate to sustain the company on a long-term basis.

The information reviewed above demonstrates that CSXT has achieved revenue adequacy over a multi-year period through 2014 and is likely to remain revenue adequate on a long-term basis. CSXT’s revenue adequacy is not a short-term event. CSXT has shown the ability to tailor its railroad operations to demand, control its costs, make significant investments in capital assets, aggressively seek new business, earn increasing levels of profits, and achieve and maintain revenue adequacy. The stock market and its multitude of diverse participants continually appraise and evaluate the expected future performance of publicly traded companies such as CSXT. Future revenues, costs, profitability, and stock prices of companies with traded stock are constantly evaluated by individual and institutional investors, market researchers, brokers, other companies, and others. As shown in this Report, those sources and the metrics on which they rely confirm that CSXT’s multi-year, steady trend of progress will continue.

## **2. Other Public Information on Railroad Cost of Capital**

A recent indication from the investment community about the cost of capital for individual railroads, including CSXT, was provided in the February 23, 2016 edition of Freight Transportation, a detailed periodic report on the transportation industry and financial performance and estimates prepared by Morgan Stanley. The Morgan Stanley report includes an estimate of the prospective WACC (weighted average cost of capital) for each of the main railroads (except for NS and CP). Morgan Stanley identifies a WACC for CSXT of 6.7%. Morgan Stanley also estimates the WACCs for Union Pacific (7.2%), Kansas City Southern (7.4%), and Canadian National (6.5%). (See excerpts at RA-MorganStanley.pdf)

That Morgan Stanley's published cost of capital values for CSXT and other railroads are so much lower than the values estimated by the Board, provides a strong indication that the Board's values are substantially overstated. Morgan Stanley is a respected investment banking firm with much expertise and experience in corporate finance matters such as the cost of capital. The Board should not be using a cost of capital that is so much higher than that perceived by the financial and investment community.

## **3. Further CSXT Information on own Cost of Capital**

As discussed earlier, CSXT issued its 2016 Proxy Statement on March, 25, 2016. The statement specifies the threshold, target, and maximum figures for long term incentive

compensation based on ROA (return on assets) at 7.69%, 8.25%, and 8.78%, respectively. As explained earlier, it would not make sense for CSXT to reward ROA performance that is below its cost of capital. CSXT issued its 2016 Proxy Statement to shareholders. Public companies send their proxy statements to shareholders before their annual meetings. This public document, posted on the company's website and filed with the SEC, provides information on matters to be voted on at the meeting as well as other useful information for stockholders.

As discussed earlier, the 2016 Proxy Statement explains that CSXT bases half of its long term incentive plan (LTIP) compensation for Named Executive Officers (NEOs) on Return on Assets ("ROA"), reflecting income divided by net property, representing an investment base very similar or identical to that used for revenue adequacy purposes.

This discussion in the CSXT 2016 Proxy statement provides strong indirect evidence that the 2013-2015 target ROA payout goal ranging between 7.86 - 8.78% (over an eleven-quarter period) approximates CSXT's cost of capital, and it would make little sense to incentivize long-term performance falling below the COC.

This new publicly available information on a return on asset measure by CSXT set for a maximum executive payout at 8.78% over a three year period, is still lower than the Board's cost of capital. {

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**D. CSXT is a revenue adequate railroad that annually covers its costs, invests heavily in improving its plant and equipment, provides for its shareholders - and is not a “cash cow”.**

At page IV- 57-61 of its reply statement, CSXT claims that Consumers has asserted that CSXT is a “cash cow”, recycling an argument that shippers supposedly made against railroads from the 1980’s. CSXT’s characterization is inaccurate. Nowhere in Consumers’ narrative or in my testimony is CSXT directly or indirectly called a “cash cow.” The term is simply not used, and no such meaning is implied. Beyond that, CSXT uses the term to describe a railroad company that earns less than the cost of capital or is otherwise unable to sustain its operation, yet directs funds away from railroad infrastructure in favor of large investments outside the railroad industry, payment of large cash dividends, or large stock repurchase programs, etc., like the Southern Pacific Railroad, the single example used by CSXT.

The concept of being or behaving like a “cash cow” is clearly inconsistent with CSXT’s plans, actions, actual performance, or communications to public investors. It is also clearly inconsistent with Consumers’ view of CSXT. For example, Consumers reviewed the favorable operating ratio progress already achieved by CSXT and the further progress that is projected. In contrast, SP had operating ratios of 100.7% in 1993, 92.6% in 1994, and

100.4% in 1995 before it was merged with the Union Pacific railroad.<sup>30</sup> CSXT's efforts to equate its condition with SP, or to assert that Consumers has done so, are pure fantasy.

Consumers' testimony and narrative demonstrate very clearly that CSXT is a viable and revenue adequate railroad, earning the cost of capital from 2010-2014, and that in addition to covering all its costs, including capital costs, CSXT also makes substantial investments in needed improvements and expansion of its rail system. For example, I explain at page 24 of my initial report that, "CSXT also has been able to devote approximately 19% of its revenues over the past 5 years to capital expenditures, so as to maintain and expand its operations."<sup>31</sup> CSXT itself professes to have the same view of its own performance and reinvestment in its rail operations. CSXT's Chairman stated in his letter to shareholders in the 2014 Annual Report at p. 11: "Since 2003, CSX has invested an astonishing amount – nearly \$21 billion – in its network and equipment. A record capital investment in 2014 of more than \$2.4 billion supported safe, reliable service upon which our customers rely."<sup>32</sup>

My initial testimony shows in detail how CSXT meets the standards for revenue adequacy based on numerous and varied criteria. I show that CSXT meets the legal definitions of revenue adequacy, as supported by numerous financial measures of CSXT's cost of capital, other financial indicators, and the views of rail transportation investment advisors. I believe that CSXT earned the cost of capital (properly calculated) over at least 2010-2014, that its revenues were adequate to meet all of the legal requirements specified in Section

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<sup>30</sup> The figures are taken from Southern Pacific Railway Company's 10-K for 1996, available at <http://www.sec.gov/Archives/edgar/data/92259/0000898430-96-001043.txt>, and included as e-workpaper RA-SP-1995-10K.pdf (p. 2 of the report and p. 4 of the pdf).

<sup>31</sup> Consumers Op. at IV-24, also see Table IV-6 at IV-16 and IV-16-17.

<sup>32</sup> E-workpaper RA-CSX-2014-AnnualReport.pdf.

10704(a)(2), and that CSXT exercised its flexibility to choose where to invest its earnings, whether in plant and equipment, additional dividends, a stock reinvestment programs, or other programs. Achieving revenue adequacy enables a carrier to fulfill all of the probative criteria specified in Section 10704(a)(2).

CSXT references Consumers' statement on Opening at IV-14 that "...the repurchases (of stock) are another reflection of revenues sufficient to meet capital needs." Consumers further noted at IV-19-20 that, "CSXT could devote even more of its resources to capital expenditures if it needed additional investment." Consumers showed that buybacks during 2010-2014 totaled \$4.7 billion. As shown in Table IV-10 from Consumers Opening Evidence at IV-19, CSXT has devoted substantial resources to buying back its own stock, a clear indicator that CSXT does not suffer from a capital shortfall.

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These statements do not claim that making capital expenditures or engaging in stock buybacks is sufficient, in isolation, to demonstrate that a carrier is revenue adequate. But they are things that revenue adequate carriers normally do or consider doing, especially

when it is shown that the funds are generated from operations, that the carrier has not taken on excessive or increased debt to generate those funds, that the carrier is earning its cost of capital as reasonably estimated, that the carrier has favorable credit ratings, {

} Consumers has not created a “modern variation on the “cash cow” argument” as CSXT alleges at page IV-57-58 of its reply.

On the contrary, Consumer’s testimony shows that CSXT is viable and revenue adequate, and has been heavily investing in equipment and facilities for the future. CSXT has been providing for its stockholders in terms of earnings, adequate dividends, and through stock repurchase plans when it chooses. Throughout this period CSXT stock price has responded favorably to CSXT’s performance. CSXT today is not like the former Southern Pacific Railroad.

#### **E. CSXT Traffic Growth and Changes**

In its reply statement at page IV-19-20, CSXT notes recent shipper testimony before the Board that railroad excess capacity is a feature of the industry’s past and now shippers are concerned with tightening capacity. CSXT points out that Congress also shares this view and concern. Studies of forecasts of future transportation demand are referenced, some

predicting “massive increases in freight movements over the next 20 years.”<sup>33</sup> CSXT states “The modern railroad industry is no longer burdened by substantial excess capacity. Indeed, the industry now faces the opposite situation of strained rail capacity.”<sup>34</sup>

The reality is more nuanced. The railroads have experienced significant growth in a number of areas, but by some measures traffic levels are only slightly above, or still below, the peaks achieved before the recession. These relationships and patterns are shown in my e-workpapers and include various tables that present data for CSXT and the Class I railroad industry as a whole that show measures of railroad traffic over time.<sup>35</sup> The data show that the concepts of excess capacity and capacity constraints are not static in the railroad industry and can change quickly. The railroad industry, as well as the underlying economy that drives its demand, is dynamic and responsive.

#### **F. CSXT’s historical revenue shortfall estimate remains meaningless and incorrect.**

In Section IV-C-2 of its reply statement, CSXT returns to and updates an analysis of revenue adequacy shortfalls that it previously presented in the motion to dismiss Consumers’ revenue adequacy claim, which the Board denied. CSXT has now added one additional year of data, 2014, to the spreadsheet. However, the additional year does not

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<sup>33</sup> CSXT Reply, pp. IV-19-20.

<sup>34</sup> CSXT Reply, pp. IV-19 - IV-20, including footnotes 41 and 42, pp. IV-9 - IV-10 including footnote 20.

<sup>35</sup> See e-workpapers RA-RRVolumeData.xlsx and RA-RRvolumeData.pdf.

make the analysis any more meaningful, and the analysis remains deficient for the reasons that Consumers noted in opposing the motion to dismiss.

The Staggers Act of 1980 partially deregulated the railroad industry. The legislation and ICC and Board implementation of its provisions afforded the railroads great flexibility in terms of operations, abandonments, and overall ratesetting, and other areas, except where there is an absence of effective competition (and agency intervention has been very limited in that regard). Since the Staggers Act, and even before, government regulation has been supplanted by reliance on market forces.

If CSXT had actually experienced escalating losses over the period 1999-2014 of the magnitude CSXT depicts, investors would be quick to recognize the situation and would shun CSXT's stock, causing it to trade at a massive discount as the enterprise headed towards bankruptcy. Nothing of the sort happened. Table 34, below, present's year-end data on CSXT's stock price, shareholdings, and market capitalization as well as the year-end values of the Standard & Poor's 500 Index of stocks.

Date	Shares Outstanding (000)	Last Price (\$)	Historical Market_Cap (Millions of \$)	S+P 500 Index
12/31/1998	1302.714	6.9167	9010.48	1229.23
12/31/1999	1310.664	5.2292	6853.72	1469.25
12/29/2000	1276.428	4.3229	5517.87	1320.28
12/31/2001	1282.128	5.8417	7489.81	1148.08
12/31/2002	1288.122	4.7183	6077.75	879.82
12/31/2003	1290.426	5.99	7729.65	1111.92
12/31/2004	1293.174	6.68	8638.40	1211.92
12/30/2005	1309.218	8.4617	11078.21	1248.29
12/29/2006	1313.292	11.4767	15072.26	1418.3
12/31/2007	1223.592	14.66	17937.86	1468.36
12/31/2008	1171.578	10.8233	12680.34	903.25
12/31/2009	1180.38	16.1633	19078.84	1115.1
12/31/2010	1111.026	21.5367	23927.83	1257.64
12/30/2011	1049.157	21.06	22095.25	1257.6
12/31/2012	1020.485	19.73	20134.17	1426.19
12/31/2013	1008.86	28.77	29024.90	1848.36
12/31/2014	991.591	36.23	35925.34	2058.9

Source: Bloomberg Finance; e-workpapers RA-Table34.xlsx.

The data in Table 34 shows that CSXT's shareholders have had an extremely favorable experience during the period covered by CSXT's claimed revenue shortfall. As of December 31, 1998, CSXT had a split-adjusted share price of \$6.91 and a market capitalization of \$9.01 billion. As of December 31, 2014, CSXT's share price had risen to \$36.23, representing a 424% increase, and its market capitalization had grown to \$35.93 billion, representing a 299% increase. By comparison, the S&P 500 index over the same period

began at a value 1229.23 and ended at a value of 2058.9 on December 31, 2014, amounting to an increase of 67%. If CSXT had really experienced a \$33 billion shortfall the funds needed for its long-term survival over this period, it would not have experienced a concurrent \$27 billion growth in its market capitalization.

There is no evidence that CSXT actually experienced any massive revenue shortfall as presented in CSXT's Reply Evidence.

