



AGENDA
CUYAHOGA COUNTY ECONOMIC DEVELOPMENT & PLANNING
COMMITTEE MEETING
MONDAY, MARCH 4, 2024
CUYAHOGA COUNTY ADMINISTRATIVE HEADQUARTERS
C. ELLEN CONNALLY COUNCIL CHAMBERS – 4TH FLOOR
3:00 PM

Committee Members:

Jack Schron, Chair – District 6
Patrick Kelly, Vice Chair – District 1
Sunny M. Simon - District 11
Cheryl L. Stephens - District 10
Michael P. Byrne – District 4

- 1. CALL TO ORDER**
- 2. ROLL CALL**
- 3. PUBLIC COMMENT**
- 4. APPROVAL OF MINUTES FROM THE JANUARY 16, 2024 MEETING [See Page 3]**
- 5. MATTERS REFERRED TO COMMITTEE**
 - a) R2024-0079: A Resolution authorizing a pre-development economic development recoverable grant in an amount not-to-exceed \$450,000.00 to Blue Abyss Operations Inc. for the Blue Abyss Project located on 12 acres on Aerospace Parkway in the City of Brook Park, Ohio for the purpose of constructing the main astronaut and deep water training facility, a hotel, planetarium, and a long arm centrifuge building totaling approximately 300,000 square feet; authorizing the County Executive and/or the Director of Development to execute all documents consistent with said loan and this Resolution; and declaring the necessity that this Resolution become

immediately effective. [See Page 6]

6. MISCELLANEOUS BUSINESS

7. ADJOURNMENT

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MINUTES

**CUYAHOGA COUNTY ECONOMIC DEVELOPMENT & PLANNING
COMMITTEE MEETING
TUESDAY, JANUARY 16, 2024
CUYAHOGA COUNTY ADMINISTRATIVE HEADQUARTERS
C. ELLEN CONNALLY COUNCIL CHAMBERS – 4TH FLOOR
3:00 PM**

1. CALL TO ORDER

Chairman Schron called the meeting to order at 3:02 p.m.

2. ROLL CALL

In accordance with Rule 12F of the County Council Rules, Council President Jones appointed Councilmember Conwell as a Member Pro Tem of the Economic Development & Planning Committee.

Mr. Schron asked Assistant Deputy Clerk Georgakopoulos to call the roll. Committee members Schron, Kelly and Conwell were in attendance and a quorum was determined. Committee member Simon joined the meeting after the roll call was taken. Committee member Stephens was absent.

3. PUBLIC COMMENT

There were no public comments given.

4. APPROVAL OF MINUTES FROM THE SEPTEMBER 18, 2023 MEETING

A motion was made by Mr. Kelly, seconded by Ms. Conwell and approved by unanimous vote to approve the minutes from the September 18, 2023 meeting.

5. MATTERS REFERRED TO COMMITTEE

- a) R2024-0002: A Resolution awarding a total sum, not to exceed \$250,000 to Euclid Circle Inc. and its' fiscal agent, Olympia Foundation Inc., for phases I and II of a mixed-use development project in the City of East Cleveland from the District 7 ARPA Community Grant Fund; and declaring the necessity that this Resolution become immediately effective.

Mr. Bob Flauto, Senior Development Finance Analyst for the Department of Development and Ms. Jennifer Wintner, Attorney and Consultant for the Euclid Circle Inc., addressed the Committee regarding Resolution No. R2024-0002. Discussion ensued.

Committee members asked questions of Mr. Flauto and Ms. Wintner pertaining to the item, which they answered accordingly.

On a motion by Ms. Conwell with a second by Ms. Simon, Resolution No. R2024-0002 was considered and approved by unanimous vote to be referred to the full Council agenda for second reading.

- b) R2024-0031: A Resolution authorizing a Place-Based/Mixed Use Loan in the amount not-to-exceed \$1,200,000.00 to Euclid Circle, Inc., or their designee, for the benefit of a mixed-use, real estate redevelopment project for property located at 13231 Euclid Ave., City of East Cleveland; authorizing the County Executive and/or Director of Development to execute all documents consistent with said loan and this Resolution; and declaring the necessity that this Resolution become immediately effective.

Mr. Flauto, Ms. Wintner and Mr. Anthony Stella, Senior Development Finance Analyst for the Department of Development, addressed the Committee regarding Resolution No. R2024-0031. Discussion ensued.

Committee members asked questions of Mr. Flauto, Ms. Wintner and Mr. Stella pertaining to the item, which they answered accordingly.

On a motion by Ms. Conwell with a second by Ms. Simon, Resolution No. R2024-0031 was considered and approved by unanimous vote to be referred to the full Council agenda with a recommendation for passage under second reading suspension of the rules.

6. MISCELLANEOUS BUSINESS

There was no miscellaneous business.

7. ADJOURNMENT

With no further business to discuss, Chairman Schron adjourned the meeting at 3:57 p.m., without objection.

County Council of Cuyahoga County, Ohio

Resolution No. R2024-0079

<p>Sponsored by: Councilmembers Miller, Jones, Schron and Turner</p>	<p>A Resolution authorizing a pre-development economic development recoverable grant in an amount not-to-exceed \$450,000.00 to Blue Abyss Operations Inc. for the Blue Abyss Project located on 12 acres on Aerospace Parkway in the City of Brook Park, Ohio for the purpose of constructing the main astronaut and deep water training facility, a hotel, planetarium, and a long arm centrifuge building totaling approximately 300,000 square feet; authorizing the County Executive and/or the Director of Development to execute all documents consistent with said loan and this Resolution; and declaring the necessity that this Resolution become immediately effective.</p>
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WHEREAS, the County Council recommends a pre-development economic development recoverable grant in an amount not-to-exceed \$450,000.00 to Blue Abyss Operations Inc. for the Blue Abyss Project located on 12 acres on Aerospace Parkway in the City of Brook Park, Ohio for the purpose of constructing the main astronaut and deep water training facility, a hotel, planetarium, and a long arm centrifuge building totaling approximately 300,000 square feet; and

WHEREAS, the primary goal of this recoverable grant is to assist in funding pre-development costs for the Blue Abyss Project; and

WHEREAS, this project is anticipated to create approximately 200 new jobs; and

WHEREAS, the total cost of the project is approximately \$250,000,000 of which the County will provide a pre-development economic development recoverable grant in the amount not-to-exceed \$450,000; and

WHEREAS, the project is funded 100% Community Grant Fund, which is funded by gross casino revenue; and

WHEREAS, it is necessary that this Resolution become immediately effective in order that critical services provided by Cuyahoga County can continue.

NOW, THEREFORE, BE IT RESOLVED BY THE COUNTY COUNCIL OF CUYAHOGA COUNTY, OHIO:

SECTION 1. That the Cuyahoga County Council hereby authorizes a pre-development Economic Development Recoverable Grant in an amount not-to-exceed \$450,000.00 to Blue Abyss Operations, Inc. for the Blue Abyss Project located on 12 acres on Aerospace Parkway in the City of Brook Park, Ohio for the purpose of constructing the main astronaut and deep water training facility, a hotel, planetarium, and a long arm centrifuge building totaling approximately 300,000 square feet.

SECTION 2. The recoverable grant will be secured by a second position lien on the real property where the Blue Abyss Project is located. The recoverable grant will be repayable in full if the Blue Abyss Project is not substantially completed as planned. The recoverable grant is subject to other terms and conditions as the Department of Development determines are needed to ensure funds are used for their intended pre-development purposes.

SECTION 3. That the County Executive and/or the Director of Development is authorized to execute all documents consistent with said grant and this Resolution. To the extent that any exemptions are necessary under the County Code and contracting procedures, they shall be deemed approved by the adoption of this Resolution.

SECTION 4. It is necessary that this Resolution become immediately effective for the usual daily operation of the County and the reasons set forth in the preamble. Provided that this Resolution receives the affirmative vote of at least eight members of Council, it shall take effect and be in force immediately upon the earliest occurrence of any of the following: (1) its approval by the County Executive through signature, (2) the expiration of the time during which it may be disapproved by the County Executive under Section 3.10(6) of the Cuyahoga County Charter, or (3) its passage by at least eight members of Council after disapproval pursuant to Section 3.10(7) of the Cuyahoga County Charter. Otherwise, it shall take effect and be in force from and after the earliest period allowed by law.

SECTION 5. It is found and determined that all formal actions of this Council relating to the adoption of this Resolution were adopted in an open meeting of the Council, and that all deliberations of this Council and of any of its committees that resulted in such formal action were in meetings open to the public, in compliance with all legal requirements, including Section 121.22 of the Ohio Revised Code.

On a motion by _____, seconded by _____, the foregoing Resolution was duly adopted.

Yeas:

Nays:

County Council President

Date

County Executive

Date

Clerk of Council

Date

First Reading/Referred to Committee: February 27, 2024

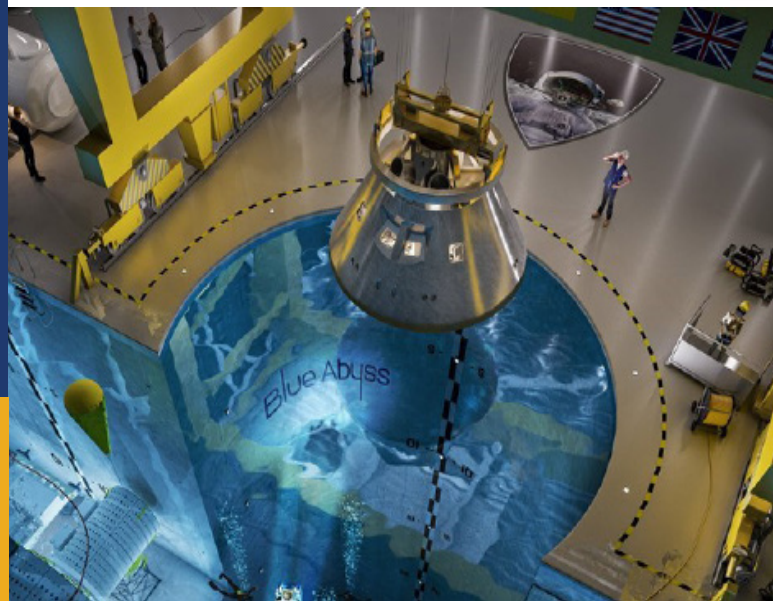
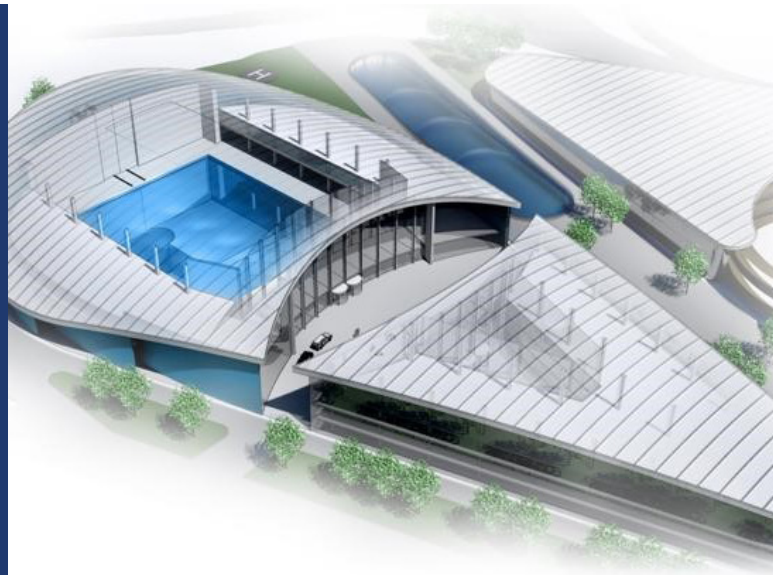
Committee(s) Assigned: Economic Development & Planning

Additional Sponsorship Requested: February 27, 2024

Journal _____

_____, 20____

The Economic and Fiscal Impact Study of the Blue Abyss Training Facility and Hotel



by:

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November 1st, 2023



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Executive Summary

The Blue Abyss Company is interested in developing a large space and deep-sea training facility in Brook Park Ohio. This research and deep-sea training facility will provide astronauts, as well as marine and oil researchers a cutting-edge location for extreme environment training. Such a large development project will attract many visitors, providing substantive economic and fiscal benefits to the local economy.³

The local economy will benefit quickly from the construction of the training complex and hotel adding 1,759 full-time equivalent jobs, an increase in local residents’ incomes of \$135 million, and a total spending impact of \$316 million. However, equally important are the recurring economic and fiscal benefits that occur from the operation of the facility and hotel. These benefits will be driven by increased local spending by the operations of the complex, the added staff, and perhaps most importantly the increase in visitor spending to the area.

In just 5 years, the training facility and hotel will produce an additional \$654 million and will create or support 3,900 additional jobs and add \$277 million to local residents’ incomes. In 30 years, this economic impact will total \$3.6 billion, provide 21,800 additional jobs, and add \$1.5 billion to local residents’ incomes.

Source: Summary of IMPLAN Model Output

Table 1: Economic Impact of the Blue Abyss Facility and Hotel (in 2023 Dollars)				
The 5 Year Economic Impact				
Impacts	Employment	Local Earnings	Value-added	Output
Direct Impact	2,343.3	\$183,728,022	\$205,967,601	\$374,323,750
Indirect Impact	736.4	\$48,024,270	\$73,629,110	\$140,469,711
Induced Impact	816.9	\$45,850,186	\$80,092,488	\$139,427,487
Total:	3,896.6	\$277,602,479	\$359,689,199	\$654,220,948
The 30 Year Economic Impact				
Impacts	Employment	Local Earnings	Value-added	Output
Direct Impact	12,671.0	\$947,621,172	\$1,133,337,910	\$2,010,319,505
Indirect Impact	4,849.4	\$309,473,962	\$456,955,172	\$890,926,965
Induced Impact	4,285.5	\$240,685,525	\$420,494,481	\$732,012,979
Total:	21,805.9	\$1,497,780,659	\$2,010,787,563	\$3,633,259,450

³ We define the local economy as Cuyahoga County.

I. Introduction

Blue Abyss Global Holdings Ltd. is pursuing the development of a new research center and training complex in Brook Park, Ohio. Focused on space and deep-sea research this complex will provide training facilities for astronauts, as well as marine and oil researchers, including a 150-foot-deep pool containing 43,000 cubic meters of water, a “mission control” center, and hyperbaric chambers.

The construction and operation of this training facility and hotel will provide significant economic and fiscal benefits locally for Brook Park, Ohio, Cuyahoga County, and its neighboring counties as well as for the state of Ohio. The total economic impact includes the direct impact of construction and operation as well as the multiplier effect as the economic activity spreads through the industry interconnections in the economy and from the additional household spending from income earned.

This study uses IMPLAN (Impact Analysis for Planning) software to measure the direct economic impact as well as the indirect impact through higher demand for inputs, and the induced effects from higher demand for local goods and services from the associated increase in labor income resulting from both construction and the operation of the training facility and hotel. IMPLAN uses an input-output methodology to model the economic links between industry sectors of the local economy.

The **direct impact** of the construction project, for example, includes the construction jobs created or supported directly by the training facility and the labor earnings associated with these jobs. The **indirect impact** of the construction project includes spending by the construction industry on inputs such as building materials, which supports jobs and earnings in industries that supply inputs. The wages and salaries earned by employees in the construction industry

The Multiplier Effect

Captures the secondary effects from the interconnections between various local economic sectors.

- **Indirect effects** measure the economic impact on the various industry suppliers of local goods and services.
- **Induced effects** measure the impact of changes in household spending of income on local goods and services.

and by employees in the various industries that supply inputs are then recirculated in the local economy by spending on local goods and services, the *induced effect*. The direct, indirect, and induced effects reflect the three components of the total economic impact (equation 1).

$$\text{Total Effect} = \text{Direct Effect} + \text{Indirect Effect} + \text{Induced Effect} \quad (1)$$

Within each of these effects, this study focuses on the impact on employment (jobs), local residents' income, value-added and total output (\$). The total output includes the value of intermediate purchases in other industries and the value-added by the industry (equation 2). The value-added includes the labor income associated with employment in the industry.

$$\text{Output} = \text{Intermediate Purchases} + \text{Value-Added} \quad (2)$$

Once the direct, indirect, and induced effects are measured, we calculate the multiplier effect (equation 3 for the employment multiplier and the output multiplier. The multiplier effect describes how many additional dollars (or jobs) are created or supported in other industries per each additional dollar (or job) in the construction industry associated with Blue Abyss's training facility. Because the linkages between economic sectors varies by region, the multiplier effect is specific to Cuyahoga County.⁴

$$\text{Multiplier Effect} = \frac{\text{Direct} + \text{Indirect} + \text{Induced}}{\text{Direct}} \quad (3)$$

⁴ At the county level, the typical IMPLAN output multiplier is 1-2. <https://implanhelp.zendesk.com/hc/en-us/articles/115009505707-General-Information-About-Multipliers>

II. Economic and Fiscal Impact Analysis

There are three main sources of the economic impact of Blue Abyss’s training facility and hotel: (1) the construction project itself, the direct economic impact on the construction industry as well as the indirect and induced effects associated with building the project, the multiplier effect, and (2) the yearly impact of the operation of the training facility as well as its associated indirect and induced effects, and (3) the yearly impact of the visitor spending that occurs because of the complex. The economic impact of the construction project tends to be a shorter-term impact whereas the impact of the operations of the training facilities and visitor spending generate economic activity for a much longer period. Thus, we measure the expected economic impact in the next 5 years and 30 years.

II.A. Economic and Fiscal Impact Analysis: Constructing the Training Facilities

Table 2 presents the economic impact of the construction associated with Blue Abyss’s training facilities. The overall costs of constructing the training facilities is budgeted for \$179.6 million. This construction is expected to create or support (direct employment impact) 814 jobs. The indirect employment, 242, are the jobs created or supported by the intermediate inputs necessary for the construction project. The induced employment, 321, accounts for the jobs that are created or supported as a result of household spending on local goods and services from the wages and salaries associated with the construction project. The total employment, 1,377, are the additional jobs created or supported by Blue Abyss’s training facility construction.

Table 2: The Economic Impact of the Construction of the Training Facilities				
Impacts	Employment	Local Earnings	Value-added	Output
Direct Impact	814	\$71,064,463	\$74,274,447	\$150,443,158
Indirect Impact	242	\$16,652,321	\$27,256,653	\$49,866,945
Induced Impact	321	\$18,002,624	\$31,442,902	\$54,736,527
Total:	1,377	\$105,719,407	\$132,974,003	\$255,046,630

Source: Summary of IMPLAN Model Output

Economic and Fiscal Impact Study of the Blue Abyss Training Complex

The local labor income associated with these jobs is included in column 2 of Table 2. The wages and earnings (direct+indirect+induced) resulting from the construction total over \$105.7 million. Wages and earnings directly associated with the construction industry will increase by over \$71 million. Local suppliers to the construction industry will see their wages and earnings increase by approximately \$16.6 million. As a result of household spending from the additional wages and earnings, other industries such as the retail industry will see wages and earnings increase by \$18 million. Thus, the construction project will increase jobs and earnings in a variety of industry sectors across the local economy.

The value-added column reflects the difference between the industry's total output and the cost of intermediate inputs. It is the value that the industry specifically adds to the economy of the local area through the training facility construction, totaling almost \$133 million. The total output directly associated with the construction, value-added and intermediate inputs, is \$150 million.⁵ For suppliers to the industry, their total output will increase by almost \$50 million. For local retailers and other industries that will see a bump in sales from the additional household income, their total output will increase by over \$54 million. In total, the local will increase total output by \$255 million.

This increase in spending throughout the economy will help increase tax revenue for the various levels of government. Table 3 provides the fiscal impact of the construction of the training facilities. Starting with column 1, we find that sub-county taxes, such as cities, villages, townships, will collect an additional \$1.3 million. County taxes in the region will increase by \$609 thousand dollars while the state of Ohio and the federal government will increase their tax revenue by \$4.1 and \$17.5 million respectively. In totality the construction of Blue Abyss's training facilities will increase tax revenue by \$23.5 million.

⁵ Note that this number is less than the total construction budget because not all of the budget will be spent in the area.

Table 3: The Fiscal Impact of the Construction of the Training Facilities					
Jurisdictions	Sub-County Taxes	County Taxes	State Taxes	Federal Taxes	Total Taxes
Direct Impact	\$602,845	\$70,543	\$31,182	\$12,239,824	\$12,944,393
Indirect Impact	\$372,956	\$302,249	\$2,268,885	\$2,358,513	\$5,302,603
Induced Impact	\$341,141	\$236,559	\$1,847,106	\$2,869,433	\$5,294,240
Total:	\$1,316,942	\$609,350	\$4,147,174	\$17,467,770	\$23,541,237

Source: Summary of IMPLAN Model Output

II.B. Economic and Fiscal Impact Analysis: Operating the Training Facilities

Once construction is complete the training facilities will employ numerous people across many occupations and will source many of their operating expenses locally. The value of these economic and fiscal impacts are that these impacts persist yearly providing a substantive and continuous impact over time. Table 4 provides estimates of the yearly economic impact from operating the training facilities at expected capacity 4 years after the construction. Column 4, of Table 4 indicates that the facilities are expected to increase local spending by \$101 million which will multiply through the economy to cause a \$186 million total spending impact. This yearly spending will provide and support the equivalent of 1,041 full-time equivalent jobs, increase local earnings by \$78 million and increase value-added Gross Domestic Product (GDP) by almost \$103 million.

Table 4: The Yearly Economic Impact of the Operation of the Training Facility				
Impacts	Employment	Local Earnings	Value-added	Output
Direct Impact	563	\$49,330,305	\$57,160,476	\$101,186,946
Indirect Impact	256	\$16,421,851	\$23,918,437	\$46,529,946
Induced Impact	222	\$12,486,406	\$21,815,429	\$37,977,183
Total:	1,041	\$78,238,563	\$102,894,342	\$185,694,075

Source: Summary of IMPLAN Model Output

Table 5 provides the yearly fiscal impact of the operation and maintenance of the training facility complex. The \$185 million in increased spending found in the economic impact analysis will help local cities, towns, and villages by increasing their tax revenue by \$884,000 while county taxes in the region will rise by \$246,000 yearly.

The State of Ohio and the federal government will benefit the most with increased tax revenue of \$13 million and \$17.4 million respectively.

Table 5: The Yearly Fiscal Impact of the Operation of the Training Facility					
Jurisdictions	Sub-County Taxes	County Taxes	State Taxes	Federal Taxes	Total Taxes
Direct Impact	\$448,316	\$16,812	\$831,244	\$8,653,313	\$9,949,685
Indirect Impact	\$199,088	\$65,843	\$680,585	\$2,877,058	\$3,822,573
Induced Impact	\$236,806	\$164,323	\$1,282,806	\$1,989,774	\$3,673,708
Total:	\$884,209	\$246,978	\$2,794,634	\$13,520,144	\$17,445,966

Source: Summary of IMPLAN Model Output

II.C. Economic and Fiscal Impact Analysis: Constructing and operating the Hotel

In addition to the Training facilities a hotel will also be constructed to provide lodging for all visitors from the astronauts and recreational non-local visitors. Tables 6 and 7 provide the economic and fiscal impacts of constructing the hotel while Tables 8 and 9 provide the economic and fiscal impacts of operating the hotel. Beginning with Table 6, \$37.3 million will be spent directly to build the hotel and restaurant, which will provide an additional \$8.5 million and \$15.5 million in supply chain effects and impacts due to increase local household incomes. This spending on construction will increase local residents’ incomes by almost \$30 million and create the equivalent of 382 full-time equivalent jobs.

Table 6: The Economic Impact of the Construction of the Hotel				
Impacts	Employment	Local Earnings	Value-added	Output
Direct Impact	252	\$21,808,317	\$22,512,678	\$37,340,345
Indirect Impact	39	\$2,756,266	\$4,505,222	\$8,523,080
Induced Impact	91	\$5,101,529	\$8,909,798	\$15,510,359
Total:	382	\$29,666,111	\$35,927,697	\$61,373,784

Source: Summary of IMPLAN Model Output

Table 7 indicates that the yearly local (sub-county and county) tax revenue will increase by \$352,000 and \$139,000 while the state of Ohio and the federal government will see tax revenues of roughly \$4.9 million and \$6.3 million each from the construction of the hotel.

Table 7: The Fiscal Impact of the Construction of the Hotel					
Jurisdictions	Sub-County Taxes	County Taxes	State Taxes	Federal Taxes	Total Taxes
Direct Impact	\$201,257	\$31,255	\$133,070	\$3,680,403	\$4,045,985
Indirect Impact	\$54,911	\$40,614	\$312,324	\$417,523	\$825,372
Induced Impact	\$96,661	\$67,021	\$523,333	\$813,156	\$1,500,170
Total:	\$352,828	\$138,890	\$968,727	\$4,911,081	\$6,371,527

Source: Summary of IMPLAN Model Output

However, because these effects are from the construction of the hotel and restaurant they only occur over the two years the hotel is built. In order to understand the yearly economic and financial impact of the hotel and restaurant Tables 8 and 9 are presented. From Table 8, we found that the yearly operating of the hotel provided a total spending impact of \$24 million across all 3 impacts. This spending provided an economic on local residents' earnings of \$7.7 million and an jobs impact of 184 full-time equivalent.

Table 8: The Yearly Economic Impact of the Operation of the Hotel				
Impacts	Employment	Local Earnings	Value-added	Output
Direct Impact	128	\$4,357,014	\$7,893,656	\$14,045,954
Indirect Impact	35	\$2,141,312	\$3,231,473	\$6,450,685
Induced Impact	22	\$1,220,878	\$2,133,103	\$3,713,396
Total:	184	\$7,719,204	\$13,258,232	\$24,210,035

Source: Summary of IMPLAN Model Output

Table 9 presents the fiscal impact of the yearly operations of the hotel and suggests that all levels of government will benefit yearly from the operations of the hotel and restaurant. Specifically, sub-county taxes will grow by a total of \$154 thousand dollars while county taxes will grow by \$113 thousand. The state of Ohio and the Federal government benefit the most with fiscal impacts of \$875 thousand and \$1.1 million respectively. Note that we assume that 90% of those staying in the hotel are related to the training center while 10% of visitors simply chose to stay in the hotel due to its location but are unrelated to the activities of the training facility and therefore are not counted.

Table 9: The Yearly Fiscal Impact of the Operation of the Hotel					
Jurisdictions	Sub-County Taxes	County Taxes	State Taxes	Federal Taxes	Total Taxes
Direct Impact	\$100,029	\$81,467	\$609,414	\$639,153	\$1,430,062
Indirect Impact	\$31,776	\$16,356	\$140,907	\$355,068	\$544,108
Induced Impact	\$23,156	\$16,069	\$125,444	\$194,549	\$359,218
Total:	\$154,961	\$113,892	\$875,764	\$1,188,771	\$2,333,389

Source: Summary of IMPLAN Model Output

II.D. Economic and Fiscal Impact Analysis: Visitor Spending

Lastly, unlike most businesses, which provide economic benefits to the local economy from their employees and local purchases, Blue Abyss’s training facilities will provide an additional economic driver through spending by the visitors they attract. This study uses estimates of the number astronauts who will be staying roughly 6.5 months to train. The training of non-astronauts will also provide many visitors with around 17,280 visitors a year in the fourth year of operation. It is expected that roughly 30% of these visitors will be international and stay an average of 7 days while 66% will be non-local American visitors spending an expected average of 4 days in area for training. Note the last 4% of the visitors will be local and have no economic or fiscal impact. Taken together the expectation is that there will be over 86,000 visitor days from out-of-towners due to the new facility.

In order to estimate how much non-local visitors will spend we used a weighted-average of spending patterns from similar studies we have done in the greater Cleveland area as well as spending pattern data from Destination Marketing Association International, which provides spending pattern data for visitors of the representative group of cities. Table 9 provides the dollar amount and industry that is expected to be spent. Note since we already incorporate the spending on lodging through the hotel impact we don’t include those numbers in the visiting impact. Additionally, since the hotel impact includes spending at a restaurant in the hotel we assume half of the restaurant spending will be spent in the hotel (therefore not included in the visitor spending impact) while the other half is spent in the region outside the hotel.

Table 10: Spending Allocation Assumptions	
Industry	Spending per visitor
Overnight Non-local Visitors	
Restaurants	\$85.45
Entertainment	\$14.51
Retail	\$43.74
Local Transportation	\$29.03
Other	\$12.34
Total:	\$185.07

Using the expected non-local visitors and the spending pattern numbers this study estimates how much additional spending will be created by the training facility. Tables 11 and 12 provide the economic and fiscal impacts from the spending of non-local visitors. Table 11 suggests that each year total spending from non-local visitors will have a spending impact of \$9.5 million, increasing value-added GDP by \$5.4 million, increasing local residents' incomes by almost \$4 million and creating a jobs impact the equivalent of 93 full-time workers.

Table 11: The Yearly Economic Impact of Spending by Visitors of the Training Facility				
Impacts	Employment	Local Earnings	Value-added	Output
Direct Impact	70	\$2,561,760	\$3,232,547	\$5,233,236
Indirect Impact	12	\$688,619	\$1,076,209	\$2,279,100
Induced Impact	11	\$639,366	\$1,116,882	\$1,944,305
Total:	93	\$3,889,746	\$5,425,639	\$9,456,641

Source: Summary of IMPLAN Model Output

Table 12 suggests that local (sub-county and county) governments will benefit somewhat modestly (\$91 and \$75 thousand respectively) in terms of tax revenue from this new visitor spending. This is likely due to the types of industries that the spending will occur in.

Jurisdictions	Sub-County Taxes	County Taxes	State Taxes	Federal Taxes	Total Taxes
Direct Impact	\$69,321	\$61,912	\$454,148	\$275,183	\$860,565
Indirect Impact	\$10,116	\$5,233	\$45,033	\$116,203	\$176,584
Induced Impact	\$12,121	\$8,408	\$65,644	\$101,897	\$188,070
Total:	\$91,558	\$75,553	\$564,825	\$493,283	\$1,225,219

Source: Summary of IMPLAN Model Output

III. Economic and Fiscal Impact Analysis: 5- and 30-Year Totals

Combing all the economic drivers (construction of both the training facilities and the hotel, operating both the training facility and hotel, and visitor spending) together provides the total economic and fiscal impacts from Blue Abyss’s facilities and hotel. Table 13 provides 5- and 30-year economic impacts from the training facility. The total economic impacts include the direct impact of these activities as well as the multiplier effect as the economic activity spreads through the industry interconnections in the economy and from the additional household spending from income earned. In 5 years, the Blue Abyss training facility will create or support almost 3,900 total full-time equivalent jobs and nearly \$654 million in economic activity while local residents incomes will rise by \$277 million. In 30 years, those figures grow to an astounding 21,800 jobs, \$3.6 billion of total output, with \$1.5 billion in increased local residents’ incomes. That is simply amazing.

The 5 Year Economic Impact				
Impacts	Employment	Local Earnings	Value-added	Output
Direct Impact	2,343.3	\$183,728,022	\$205,967,601	\$374,323,750
Indirect Impact	736.4	\$48,024,270	\$73,629,110	\$140,469,711
Induced Impact	816.9	\$45,850,186	\$80,092,488	\$139,427,487
Total:	3,896.6	\$277,602,479	\$359,689,199	\$654,220,948
The 30 Year Economic Impact				
Impacts	Employment	Local Earnings	Value-added	Output
Direct Impact	12,671.0	\$947,621,172	\$1,133,337,910	\$2,010,319,505
Indirect Impact	4,849.4	\$309,473,962	\$456,955,172	\$890,926,965
Induced Impact	4,285.5	\$240,685,525	\$420,494,481	\$732,012,979
Total:	21,805.9	\$1,497,780,659	\$2,010,787,563	\$3,633,259,450

Source: Summary of IMPLAN Model Output

Table 14, summaries the fiscal impact of Blue Abyss’s training facility and hotel at the federal, state, county, and sub-county level. After 5 years, the sub-county (nearby cities, towns, and villages) tax revenues will increase by over \$3.5 million. After 30 years, the sub-county should expect an increase in tax revenues of over \$19 million (net present value).⁶ The state of Ohio can expect an additional tax revenue of \$46 million over 5 years and \$252 million after 30 years, while the federal government would get \$65 million over 5 years and \$350 million after 30 years.

Table 14: Fiscal Impact of the Blue Abyss Facility and Hotel (in 2023 Dollars)					
The 5 Year Fiscal Impact					
Jurisdictions	Sub-County Taxes	County Taxes	State Taxes	Federal Taxes	Total Taxes
Direct Impact	\$1,841,660	\$420,607	\$3,582,234	\$31,155,516	\$38,053,988
Indirect Impact	\$792,511	\$481,678	\$3,928,753	\$7,722,081	\$13,223,955
Induced Impact	\$869,166	\$602,900	\$4,707,139	\$7,307,324	\$14,040,672
Total:	\$3,503,336	\$1,505,185	\$12,218,126	\$46,184,921	\$65,318,614
The 30 Year Fiscal Impact					
Jurisdictions	Sub-County Taxes	County Taxes	State Taxes	Federal Taxes	Total Taxes
Direct Impact	\$10,229,900	\$2,596,085	\$29,314,729	\$161,089,408	\$204,284,094
Indirect Impact	\$4,065,150	\$1,669,059	\$15,696,623	\$53,194,216	\$74,923,978
Induced Impact	\$4,564,188	\$3,166,906	\$24,723,412	\$38,355,440	\$71,364,090
Total:	\$18,859,239	\$7,432,050	\$69,734,764	\$252,639,063	\$350,572,162

Source: Summary of IMPLAN Model Output

⁶ For both 5 year and 30 year estimates we assume a 3% growth rate of economic activity and use a discount rate of 7%.

IV. Conclusion

The Blue Abyss space and deep-sea training facility is an important piece of a larger push to redevelop the local economy to foster a more vibrant and economically viable region. It brings very high quality jobs and economic activity not only to the construction industry but also to many different industries, businesses, and people throughout the local region. After 5 years, the training facility will create or support over 3,900 jobs and increase total output by well over \$654 million (Table 13) and increase county and sub-county tax revenue by nearly \$3.5 million combined (Table 13). After 30 years, the economic impact will have created or supported an astounding 21,800 jobs and increase total output by \$3.6 billion and increase tax revenue for the county and sub-county by over \$19 million.

Appendix A: A Closer Look at the Input-Output Multiplier Framework

This section describes in detail the methodology used to calculate the economic impact figures for Blue Abyss's training facility. The full economic impact of a project or program is not realized in the initial functions of that project or program. To truly measure the effects that may be incurred, all the interactions in an economy must be considered. For every dollar spent, an effect is created that allows for a portion of that dollar to reenter the economy. This effect is the multiplier effect created by some level of spending. By purchasing a meal at a local restaurant, a portion of that money will be given to a local worker who will in turn spend a portion of that money at a local business. Thus, the initial spending creates secondary and even tertiary spending in the local economy.

The multiplier effects that are used for this study are derived from IMPLAN and the publicly available data it incorporates from the U.S. Census Bureau. It is based upon the Input-Output (IO) accounting framework. The basis of the IO method is to create a table of the distribution of any inputs purchased within an industry and the outputs sold. Using IMPLAN allows us to capture localized effects instead of state or even nationwide effects.

In general terms, the multiplier effect says that an extra dollar spent inside of an economy from an outside source creates a ripple effect throughout that economy.

For example, a non-local visitor goes to a restaurant and buys a meal, leaving a tip for the server. That server then uses that extra income to purchase gas from a local gasoline station. That gasoline station then takes those extra profits and puts them into a savings account at a local bank. That local bank then takes that money and uses it for a loan to give to another local business. This cycle is known as the money multiplier effect and is computed using the econometric input-output model. Each sector within an economy (gasoline, hotel, restaurant, etc.) has its own specific multiplier corresponding to the money multiplier effect on business revenues, personal incomes, and increased employment in the local economy.

