

**PROVIDING IN-HOUSE CONSTRUCTION SERVICES**

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Have a question or comment?

**Feel free to ask or share during the presentation**

Open discussion format

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**TODAY WE WILL COVER**

Forming and maintaining an in-house construction unit

① Organizational layout	④ Staffing Levels
② Benefits/Challenges	⑤ Operating Expenses
③ Considering Start Up	⑥ Billing Rates

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# ORGANIZATIONAL LAYOUT

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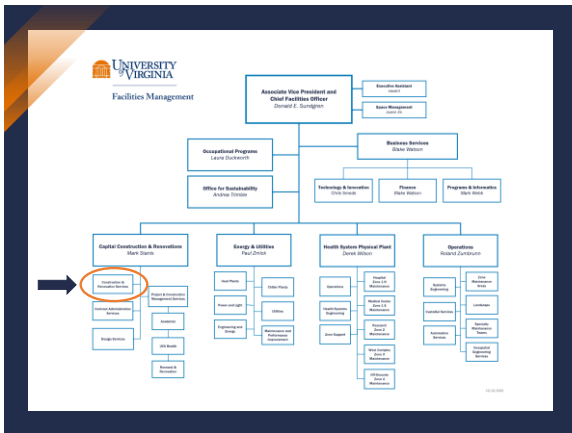
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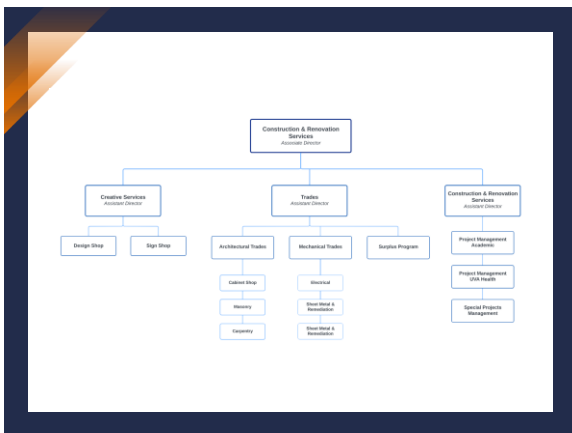
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### Our Construction Staff

Field	Office
<ul style="list-style-type: none"> <li>• Carpentry</li> <li>• Cabinetry</li> <li>• Masonry</li> <li>• Electrical</li> <li>• Sheet metal</li> <li>• Plumbing</li> <li>• Plaster/Drywall</li> <li>• Signage</li> <li>• Environmental Remediation</li> <li>• General services</li> </ul>	<ul style="list-style-type: none"> <li>• Construction management               <ul style="list-style-type: none"> <li>• Project Managers</li> <li>• Superintendents</li> <li>• Associates</li> </ul> </li> <li>• Trades management</li> <li>• Supervisors</li> <li>• Estimating</li> <li>• Scheduling/Resourcing (* shared)</li> <li>• Contract Administrators (Central)</li> <li>• Administrative Support (Shared)</li> </ul>

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## GROUP ACTIVITY

At your tables,  
list 1-2 benefits and challenges  
of an in-house construction group.

**5-7 minutes**

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**BENEFITS**

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**Benefits of in-house construction**

- Share a common mission with the institution
- Ownership and partner with maintenance staff
- Higher quality work
- Lower construction costs
- Lower project costs
- Institutional knowledge
- Increased responsiveness
- Return costs not expended (when does a GC do this?)
- Emergency response
  - 2020 – COVID-19 response as an example

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**CHALLENGES**

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### Challenges with in-house construction

- Fixed workforce with a varying workload
- Different procurement laws
- Ability to hire temp/contract labor
- Union workforce and non-union labor in some areas
- Billing rates (regular vs. OT)
- Workload level
- Fleet management
- Client perception
- Local contractors perception
- Accounting process not designed for construction services billing

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## DARDEN SCHOOL OF BUSINESS

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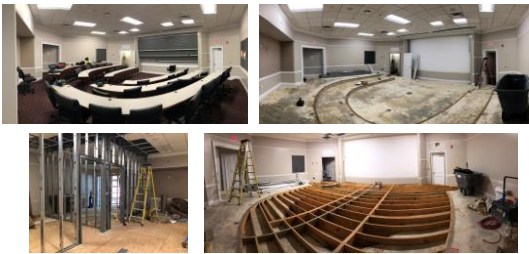
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**DARDEN MEDIA CENTER**  
UVA Darden School of Business

- Convert existing tiered classroom to accommodate two new media rooms to allow for virtual instruction.
- Total project - \$192K
- Fixed price - \$138K
- Construction start - June 2020
- Construction complete - August 2020

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**ABBOTT CENTER DINING**  
UVA Darden School of Business

- Renovate existing dining facilities. This portion is the first phase only.
- Total project - \$750K
- Fixed price - \$580K
- Construction start - June 2020
- Construction complete - August 2020

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**DARDEN ILAB AND CLASSROOM**  
UVA Darden School of Business

- Renovate to allow for relocation of ILab and conversion of two tiered classrooms to one large open floor plan classroom. In addition, the renovation included the addition of windows to allow for light.
- Total project - \$1.4M
- Fixed price - \$1.2M
- Construction start - May 2020
- Construction complete - August 2020

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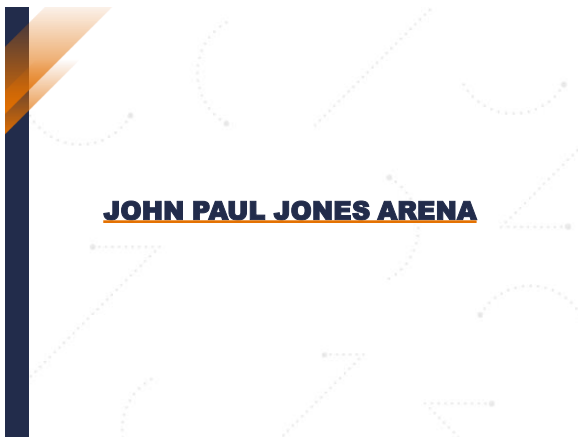
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**JOHN PAUL JONES ARENA**

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**VISITOR TEAM LOCKER ROOMS**  
John Paul Jones Arena

- Relocation of visiting team locker rooms to allow for expansion of the Men's Basketball Performance Center.
- Total project - \$1.5M
- Fixed price - \$1.3M
- Construction start - October 2019
- Construction complete - March 2020

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**PERFORMANCE CENTER**  
John Paul Jones Arena

- Expansion of previous strength and conditioning space to accommodate programmatic needs.
- Total project - \$4.1M
- Fixed price - \$3.1M
- Construction start - March 2020
- Construction complete - November 2020

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**DINING HALL AND COURTSIDE CLUB**  
John Paul Jones Arena

- Renovation of existing Athletic Dining facility at JPI. This renovation includes accommodations for the courtside club space lost during the relocation of the Visitor Team Locker Rooms.
- Total Project - \$2.4M
- Fixed Price - \$1.4M
- Construction start - July 2020
- Construction complete - Feb 2021

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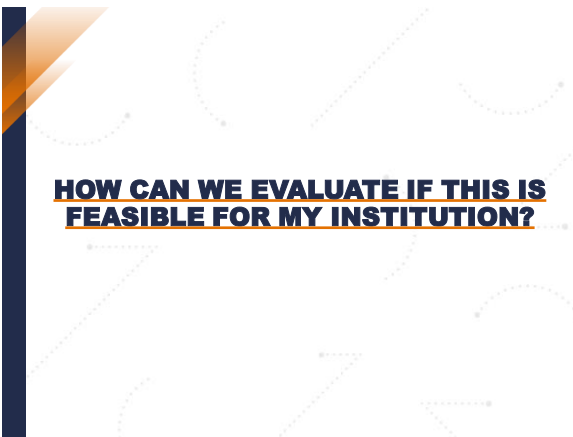
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## **CREATING A PROPOSAL**

- Purpose
  - What are you evaluating?
  - What is the objective?
  - What is your process?
- Data/Research
  - What was your process?
  - Outline of findings
- Analysis of Data
- Recommendation

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### **Each institution is unique**

Size, geographical location and state/procurement laws

What works at one institution may not at another

Reporting structure

Contract types:  
 Fixed price (FP)  
 Guaranteed Maximum Price (GMP)  
 Time and Materials (T&M)

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## **FAT TUESDAY ACADEMY**

### ASSUMPTIONS:

- FAT TUESDAY ACADEMY IS INTERESTED IN CONSIDERING THE FEASIBILITY OF AN IN HOUSE CONSTRUCTION UNIT.
- WE ARE A RECOVERABLE ORGANIZATION
- WE WILL USE EXISTING POSITIONS AND RESTRUCTURE TO START.
  - WE HAVE SOME A SMALL PROJECT TEAM THAT WE WILL INCREASE SCOPE OF PROJECTS.
  - WE HAVE SOME INTERNAL TRADES AND CAPACITY TO SHIFT THEM TO A SMALL GROUP FOR TESTING.

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### EXAMPLE BUSINESS PLAN

Business Plan for Fat Tuesday Academy

Creative Services	FY23 Budget	FY24 Budget	FY25 Budget	FY26 Budget	FY27 Budget
<b>Revenue</b>					
Manager/Director APFA Construction (12/20%)	\$ 42,222	\$ 42,488	\$ 43,762	\$ 45,075	\$ 46,427
Construction Manager (12/20%)	\$ 170,900	\$ 173,100	\$ 180,973	\$ 189,364	\$ 198,136
Construction Superintendent (12/20%)	\$ 170,900	\$ 173,100	\$ 180,973	\$ 189,364	\$ 198,136
Start-Up Fee (Flat)	\$ 400,000	\$ -	\$ -	\$ -	\$ -
<b>Total Revenue</b>	<b>\$ 884,022</b>	<b>\$ 888,688</b>	<b>\$ 905,708</b>	<b>\$ 923,803</b>	<b>\$ 942,700</b>
<b>Expenses</b>					
Manager/Director APFA Construction	\$ 134,432	\$ 135,620	\$ 139,689	\$ 143,874	\$ 148,106
Construction Manager	\$ 189,494	\$ 192,000	\$ 198,681	\$ 205,968	\$ 213,897
Construction Superintendent	\$ 189,494	\$ 192,000	\$ 198,681	\$ 205,968	\$ 213,897
OTPA	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
<b>Total Expenses</b>	<b>\$ 533,420</b>	<b>\$ 539,620</b>	<b>\$ 557,051</b>	<b>\$ 575,810</b>	<b>\$ 595,900</b>
<b>Net Income (Loss)</b>	<b>\$ 350,602</b>	<b>\$ 349,068</b>	<b>\$ 348,657</b>	<b>\$ 347,993</b>	<b>\$ 346,799</b>
<b>Cumulative</b>	<b>\$ -</b>	<b>\$ 350,602</b>	<b>\$ 700,214</b>	<b>\$ 1,048,871</b>	<b>\$ 1,395,670</b>

Assumptions	Amount	Annual Mgmt hrs Available	2,812
Construction Manager (20% Rate)	\$ 100	Annual Contracted Labor Hours	Based on Multiple Hours in Assumptions
Construction Superintendent (20% Rate)	\$ 100	F of H hrs per Project	00
Start-Up Fee (20%)	\$ 200	Annual Budgeted Hours	40
Manager/Director APFA Construction	\$ 100	F of H hrs per Base Project	40
Start-Up Fee (20%)	\$ 100	Annual Budget Management Hours	1,000
Manager/Director APFA Construction	\$ 80,000		
Construction Manager	\$ 20,000		
Construction Superintendent	\$ 20,000		
OTPA	\$ 20,000		
Fringe Rate	38.65%		
OTPA (per person)	\$ 10,000		
Escalation each year	3%		

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### EXAMPLE BUSINESS PLAN

Business Plan for Trades at Fat Tuesday Academy

Creative Services	FY23 Budget	FY24 Budget	FY25 Budget	FY26 Budget	FY27 Budget
<b>Revenue</b>					
Trades Manager (100%)	\$ -	\$ -	\$ -	\$ -	\$ -
Carpenter (4/100%)	\$ 402,400	\$ 476,272	\$ 490,560	\$ 505,272	\$ 520,432
Electrician (4/100%)	\$ 402,400	\$ 476,272	\$ 490,560	\$ 505,272	\$ 520,432
Mechanical/HVAC (4/100%)	\$ 402,400	\$ 476,272	\$ 490,560	\$ 505,272	\$ 520,432
<b>Total Revenue</b>	<b>\$ 1,207,200</b>	<b>\$ 1,428,816</b>	<b>\$ 1,471,680</b>	<b>\$ 1,515,816</b>	<b>\$ 1,561,296</b>
<b>Expenses</b>					
Trades Manager (100%)	\$ 124,740	\$ 126,462	\$ 132,132	\$ 136,302	\$ 140,106
Carpenter (4/100%)	\$ 349,272	\$ 359,250	\$ 370,543	\$ 381,459	\$ 393,109
Electrician (4/100%)	\$ 378,278	\$ 389,278	\$ 401,421	\$ 413,464	\$ 425,868
Mechanical/HVAC (4/100%)	\$ 378,278	\$ 389,278	\$ 401,421	\$ 413,464	\$ 425,868
OTPA	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Start-Up Equipment/Tools	\$ 60,000	\$ -	\$ -	\$ -	\$ -
<b>Total Expenses</b>	<b>\$ 1,491,768</b>	<b>\$ 1,485,062</b>	<b>\$ 1,485,077</b>	<b>\$ 1,486,688</b>	<b>\$ 1,535,350</b>
<b>Net Income (Loss)</b>	<b>\$ 715,432</b>	<b>\$ 943,754</b>	<b>\$ 986,603</b>	<b>\$ 1,029,128</b>	<b>\$ 1,025,946</b>
<b>Cumulative</b>	<b>\$ -</b>	<b>\$ 715,432</b>	<b>\$ 1,661,186</b>	<b>\$ 2,647,314</b>	<b>\$ 3,673,260</b>

Assumptions	Amount
Carpenter	\$ 88,000
Electrician	\$ 88,000
Mechanical/HVAC Tech	\$ 88,000
Trades Manager	\$ 1,000
Carpenter	\$ 60,000
Electrician	\$ 60,000
Mechanical/HVAC Tech	\$ 60,000
Fringe Rate	38.65%
OTPA (per person)	\$ 10,000
Escalation each year	3%

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### STAFFING LEVELS

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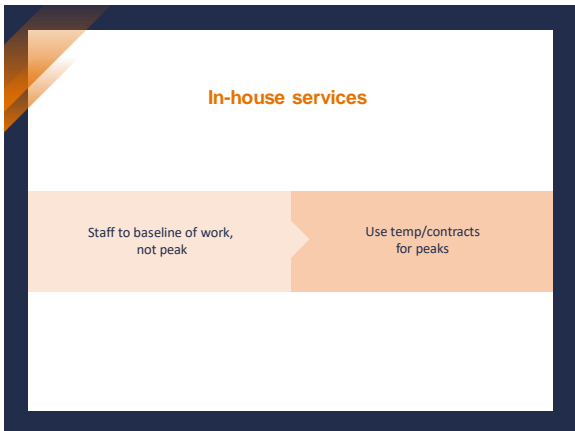
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### EXAMPLE BUSINESS PLAN (STAFFING)

Created Services	FY23 Budget	FY24 Budget	FY27 Budget	FY28 Budget	FY29 Budget
<b>Revenue</b>					
Management APFA Construction (1770%)	\$ 49,220	\$ 49,400	\$ 49,782	\$ 49,921	\$ 49,921
Construction Manager (1200%)	\$ 170,000	\$ 175,100	\$ 180,925	\$ 185,704	\$ 191,251
Construction Superintendent (1200%)	\$ 170,000	\$ 175,100	\$ 180,925	\$ 185,704	\$ 191,251
Self Help Staff (0%)	\$ -	\$ -	\$ -	\$ -	\$ -
<b>Total Revenue</b>	<b>\$ 389,220</b>	<b>\$ 399,600</b>	<b>\$ 411,632</b>	<b>\$ 421,329</b>	<b>\$ 432,423</b>
<b>Expenses</b>					
Management APFA Construction	\$ 133,375	\$ 134,251	\$ 135,088	\$ 135,972	\$ 136,789
Construction Manager	\$ 105,000	\$ 107,000	\$ 109,081	\$ 111,008	\$ 112,972
Construction Superintendents	\$ 105,000	\$ 107,000	\$ 109,081	\$ 111,008	\$ 112,972
OTPS	\$ 30,000	\$ 30,000	\$ 31,827	\$ 32,792	\$ 33,741
Self Help	\$ 368,120	\$ 368,000	\$ 368,622	\$ 368,649	\$ 368,649
<b>Net Income (Loss)</b>	<b>\$ 108,025</b>	<b>\$ 122,349</b>	<b>\$ 123,953</b>	<b>\$ 125,700</b>	<b>\$ 124,142</b>
<b>Completions</b>	<b>1</b>	<b>1</b>	<b>11,044</b>	<b>14,400</b>	<b>13,071</b>

**Assumptions:**

- Construction Manager (Bids/No Bid) = 100
- Construction Superintendents (Bids/No Bid) = 100
- Bids/No Bid (10%) = 1,000
- Management APFA Construction = 100
- Bids/No Bid (10%) = 1,000
- Management APFA Construction = 100,000
- Construction Manager = 75,000
- Construction Superintendents = 75,000
- OTPS per person = 10,000
- Self Help staff = 368,000

**Annual Mgmt Hrs Available:**

- Annual Contracted Large Projects = 3,817 (Based on Bids/No Bid in Assumptions)
- # of Hours per Project = 300 (Based on Research on Niche Market and Review of Professional Projects)
- Annual Available Mgmt Projects = 60 (Based on Research on Niche Market and Review of Professional Projects)
- # of Hours per Area Project = 40
- Annual Project Management Hours = 2,400

**Projected Hours based on Research (Management Staff)**

Assume 3 FTE (Management Staff)

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## EXAMPLE BUSINESS PLAN

Business Plan for Trades at Fat Tuesday Academy					
Creative Services	FY25 Budget	FY26 Budget	FY27 Budget	FY28 Budget	FY29 Budget
<b>Revenue</b>					
Trades Manager (1/100%)	\$ -	\$ -	\$ -	\$ -	\$ -
Carpenter (4/100%)	\$ 462,400	\$ 476,277	\$ 490,154	\$ 504,031	\$ 520,437
Electrician (4/100%)	\$ 462,400	\$ 476,277	\$ 490,154	\$ 504,031	\$ 520,437
Mechanical/HVAC (4/100%)	\$ 462,400	\$ 476,277	\$ 490,154	\$ 504,031	\$ 520,437
<b>Total Revenue</b>	<b>\$ 1,387,200</b>	<b>\$ 1,428,831</b>	<b>\$ 1,470,462</b>	<b>\$ 1,512,093</b>	<b>\$ 1,561,308</b>
<b>Expenses</b>					
Trades Manager (1/100%)	\$ 124,740	\$ 128,462	\$ 132,183	\$ 136,007	\$ 140,096
Carpenter (4/100%)	\$ 349,272	\$ 359,790	\$ 370,448	\$ 381,609	\$ 393,109
Electrician (4/100%)	\$ 378,178	\$ 389,279	\$ 400,411	\$ 411,664	\$ 423,066
Mechanical/HVAC (4/100%)	\$ 378,178	\$ 389,279	\$ 400,411	\$ 411,664	\$ 423,066
OTPS	\$ 130,000	\$ 133,900	\$ 137,917	\$ 142,050	\$ 146,318
Start-Up Equipment/Tools	\$ 40,000	\$ -	\$ -	\$ -	\$ -
<b>Total Expense</b>	<b>\$ 1,400,368</b>	<b>\$ 1,451,361</b>	<b>\$ 1,481,063</b>	<b>\$ 1,498,944</b>	<b>\$ 1,531,546</b>
<b>Net Income (Loss)</b>	<b>\$ (13,168)</b>	<b>\$ 27,225</b>	<b>\$ 28,042</b>	<b>\$ 28,883</b>	<b>\$ 29,742</b>
<b>Cumulative</b>	<b>\$ (6,343)</b>	<b>\$ 21,699</b>	<b>\$ 50,182</b>	<b>\$ 80,331</b>	<b>\$ 111,073</b>
<b>Assumptions</b>	<b>Amount</b>				
Carpenter	\$ 68,000				
Electrician	\$ 68,000				
Mechanical/HVAC Tech	\$ 68,000				
Trades Manager	\$ 61,000				
Trades Manager	\$ 61,000				
Electrician	\$ 68,150				
Mechanical/HVAC Tech	\$ 68,150				
Fringe Rate	38.60%				
OTPS (per person)	\$ 33,000				
Locations each year	7%				

Assume 13 FTE (Trades Staff)

In this example we are going to assume that based on the construction management calculations that we will keep these trades busy and supplement with outside contractors.

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## OPERATING EXPENSES (OTPS - OTHER THAN PERSONNEL EXPENSES)

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office furniture and equipment

labor

employee benefits

shop rent and upkeep

vehicles

management

### TYPICAL OPERATING EXPENSES

support salaries

Supplies – Sanitization

travel and training

equipment

tools

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**EXAMPLE BUSINESS PLAN (OPERATING EXPENSES)**

**Business Plan for Fat Tuesday Academy**

Creative Services	FY23 Budget	FY24 Budget	FY27 Budget	FY28 Budget	FY29 Budget
<b>Revenue</b>					
Manager/Director APFA Construction (12/27/23)	\$ 43,200	\$ 42,480	\$ 43,760	\$ 49,070	\$ 46,470
Construction Manager (12/28/24)	\$ 170,000	\$ 174,300	\$ 180,310	\$ 185,740	\$ 188,340
Construction Superintendent (12/28/24)	\$ 170,000	\$ 174,300	\$ 180,310	\$ 185,740	\$ 188,340
Trade Staff (12/28/24)	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000
<b>Total Revenue</b>	<b>\$ 393,200</b>	<b>\$ 391,080</b>	<b>\$ 394,380</b>	<b>\$ 434,550</b>	<b>\$ 423,150</b>
<b>Expense</b>					
Manager/Director APFA Construction	\$ 133,470	\$ 133,470	\$ 133,470	\$ 146,870	\$ 146,130
Construction Manager	\$ 203,900	\$ 207,690	\$ 210,000	\$ 213,090	\$ 214,920
Construction Superintendent	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000
OTPS	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000	\$ 20,000
<b>Total Expense</b>	<b>\$ 397,370</b>	<b>\$ 391,160</b>	<b>\$ 393,470</b>	<b>\$ 439,960</b>	<b>\$ 431,050</b>
<b>Net Income (Loss)</b>	<b>\$ 5,830</b>	<b>\$ 9,920</b>	<b>\$ 10,910</b>	<b>\$ 4,590</b>	<b>\$ 12,100</b>
<b>Cumulative</b>	<b>\$ 5,830</b>	<b>\$ 15,750</b>	<b>\$ 26,660</b>	<b>\$ 31,250</b>	<b>\$ 43,350</b>

**Assumptions**

Assumptions	Amount	Annual Major Hrs Available	Based on
Construction Manager (Billable Rate)	\$ 170	2,000	Based on Billable Hours in Assumptions
Construction Superintendent (Billable Rate)	\$ 170	2,000	Based on Research on Niche Market and Review of Historical Projects
Trade Staff (12/28/24)	\$ 500	300	Based on Research on Niche Market and Review of Historical Projects
Manager/Director APFA Construction	\$ 375	40	Based on Research on Niche Market and Review of Historical Projects
OTPS	\$ 20,000	20,000	Based on Research on Niche Market and Review of Historical Projects
Construction Superintendent	\$ 60,000	20,000	Based on Research on Niche Market and Review of Historical Projects
OTPS (per person)	\$ 10,000	10,000	Based on Research on Niche Market and Review of Historical Projects
Evolution each year	3%		

**Assumption per FTE Based on your organization's calculations**

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**EXAMPLE BUSINESS PLAN (OPERATING EXPENSES)**

**Business Plan for Trades at Fat Tuesday Academy**

Creative Services	FY23 Budget	FY24 Budget	FY27 Budget	FY28 Budget	FY29 Budget
<b>Revenue</b>					
Trades Manager (12/27)	\$ -	\$ -	\$ -	\$ -	\$ -
Carpenter (4/12/28)	\$ 462,400	\$ 476,272	\$ 490,560	\$ 505,272	\$ 520,432
Electrician (4/12/28)	\$ 462,400	\$ 476,272	\$ 490,560	\$ 505,272	\$ 520,432
Mechanical/HVAC (4/12/28)	\$ 462,400	\$ 476,272	\$ 490,560	\$ 505,272	\$ 520,432
<b>Total Revenue</b>	<b>\$ 1,387,200</b>	<b>\$ 1,428,816</b>	<b>\$ 1,471,680</b>	<b>\$ 1,515,816</b>	<b>\$ 1,561,296</b>
<b>Expense</b>					
Trades Manager (12/27)	\$ 124,740	\$ 126,840	\$ 128,940	\$ 131,040	\$ 133,140
Carpenter (4/12/28)	\$ 289,270	\$ 295,260	\$ 301,250	\$ 307,240	\$ 313,230
Electrician (4/12/28)	\$ 278,370	\$ 283,720	\$ 289,070	\$ 294,420	\$ 299,770
Mechanical/HVAC (4/12/28)	\$ 278,370	\$ 283,720	\$ 289,070	\$ 294,420	\$ 299,770
OTPS	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Trade Staff Equipment/Tools	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
<b>Total Expense</b>	<b>\$ 1,426,780</b>	<b>\$ 1,461,580</b>	<b>\$ 1,488,280</b>	<b>\$ 1,515,940</b>	<b>\$ 1,551,350</b>
<b>Net Income (Loss)</b>	<b>\$ 60,420</b>	<b>\$ 67,236</b>	<b>\$ 83,400</b>	<b>\$ 100,876</b>	<b>\$ 110,946</b>
<b>Cumulative</b>	<b>\$ 60,420</b>	<b>\$ 127,656</b>	<b>\$ 211,056</b>	<b>\$ 311,932</b>	<b>\$ 422,878</b>

**Assumptions**

Assumptions	Amount
Carpenter	\$ 48,000
Electrician	\$ 48,000
Mechanical/HVAC Tech	\$ 48,000
Billable Hours	\$ 3,700
Trades Manager	\$ 30,000
Carpenter	\$ 10,000
Electrician	\$ 10,000
Mechanical/HVAC Tech	\$ 10,000
OTPS Rate	\$ 18,000
OTPS (per person)	\$ 10,000
Evolution each year	3%

**Assume 13 FTE (Trades Staff)**

Here we are also assuming some start-up costs for the first year.

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**BILLING RATES**

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### Billing rates rule of thumb

Recharge rates should be approximately twice the employee's direct wages

1x for the employees' direct wages

.35x for benefits

.25x for non-billable time

.40x for supervision and support

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### EXAMPLE BUSINESS PLAN (BILLING RATES)

Business Plan for Trades at Fat Tuesday Academy

Creative Services	FY25 Budget	FY26 Budget	FY27 Budget	FY28 Budget	FY29 Budget
<b>Revenue</b>					
Trades Manager (120%)	\$ 0	\$ 0	\$ 0	\$ 0	\$ 0
Carpenter (42100%)	\$ 460,400	\$ 476,272	\$ 490,560	\$ 505,272	\$ 520,472
Electrician (42100%)	\$ 460,400	\$ 476,272	\$ 490,560	\$ 505,272	\$ 520,472
Mechanical/HVAC (42100%)	\$ 460,400	\$ 476,272	\$ 490,560	\$ 505,272	\$ 520,472
<b>Total Revenue</b>	<b>\$ 1,381,200</b>	<b>\$ 1,428,816</b>	<b>\$ 1,471,680</b>	<b>\$ 1,515,816</b>	<b>\$ 1,561,386</b>
<b>Expense</b>					
Trades Manager (120%)	\$ 124,740	\$ 128,482	\$ 132,637	\$ 136,907	\$ 140,396
Carpenter (42100%)	\$ 349,272	\$ 359,750	\$ 370,548	\$ 381,659	\$ 393,109
Electrician (42100%)	\$ 378,738	\$ 389,228	\$ 399,811	\$ 411,484	\$ 423,806
Mechanical/HVAC (42100%)	\$ 378,738	\$ 389,228	\$ 399,811	\$ 411,484	\$ 423,806
OT/OT	\$ 150,000	\$ 153,900	\$ 157,920	\$ 162,050	\$ 166,318
Shop Use/Equipment/Tools	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000	\$ 60,000
<b>Total Expense</b>	<b>\$ 1,430,788</b>	<b>\$ 1,481,368</b>	<b>\$ 1,543,637</b>	<b>\$ 1,608,046</b>	<b>\$ 1,683,526</b>
<b>Net Income (Loss)</b>	<b>\$ (49,588)</b>	<b>\$ 27,225</b>	<b>\$ 28,042</b>	<b>\$ 28,883</b>	<b>\$ 29,749</b>
<b>Cumulative</b>	<b>\$ (49,588)</b>	<b>\$ (21,693)</b>	<b>\$ 7,349</b>	<b>\$ 36,762</b>	<b>\$ 66,511</b>

Assumptions	Amount
Carpenter	\$ 460,400
Electrician	\$ 460,400
Mechanical/HVAC Tech	\$ 460,400
Trades Manager	\$ 0
Carpenter	\$ 460,400
Electrician	\$ 460,400
Mechanical/HVAC Tech	\$ 460,400
Trades Manager	\$ 0
OT/OT (over payment)	\$ 150,000
Evacuation each year	3%

RATE CHECK (Mechanical/Electrician): \$68,250 / 2000 hours = \$34.1/hr  
 \$34.1/hr \* 2 = \$68.2/hr  
 Approximately 2x Hourly Rate ✓

RATE CHECK (Carpentry): \$60,000 / 2000 hours = \$30.0/hr  
 \$30.26/hr \* 2 = \$60.5  
 More than 2x Hourly Rate ?

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### Mechanical Trades/ Building Trades Rates

In reviewing rates, you should also do research based on your local market.

Hourly Rate Comparison

Trade	Company A	Company B	Company C
Carpentry	~\$58	~\$65	~\$58
Mechanical	~\$65	~\$70 (marked with ?)	~\$68

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**EXAMPLE BUSINESS PLAN (BILLING RATES)**

Business Plan for Trades at Fat Tuesday Academy

Creative Services	FY25 Budget	FY26 Budget	FY27 Budget	FY28 Budget	FY29 Budget
<b>Revenue</b>					
Trades Manager (1.0%)	\$ -	\$ -	\$ -	\$ -	\$ -
Carpenter (4.00%)	\$ 480,000	\$ 492,000	\$ 492,000	\$ 488,880	\$ 492,000
Electrician (4.00%)	\$ 481,440	\$ 476,272	\$ 490,560	\$ 519,272	\$ 518,475
Mechanical/Electrical (4.00%)	\$ 481,440	\$ 476,272	\$ 490,560	\$ 519,272	\$ 518,475
<b>Total Revenue</b>	<b>\$ 1,443,880</b>	<b>\$ 1,474,544</b>	<b>\$ 1,473,120</b>	<b>\$ 1,527,424</b>	<b>\$ 1,537,950</b>
<b>Expenses</b>					
Trades Manager (1.0%)	\$ 124,740	\$ 128,492	\$ 132,517	\$ 136,307	\$ 140,398
Carpenter (4.00%)	\$ 192,720	\$ 196,704	\$ 196,080	\$ 193,800	\$ 195,120
Electrician (4.00%)	\$ 176,576	\$ 173,728	\$ 175,424	\$ 181,444	\$ 183,888
Mechanical/Electrical (4.00%)	\$ 176,576	\$ 173,728	\$ 175,424	\$ 181,444	\$ 183,888
OTPS	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Start-Up Equipment/Tools	\$ 40,000	\$ -	\$ -	\$ -	\$ -
<b>Total Expenses</b>	<b>\$ 1,420,612</b>	<b>\$ 1,488,252</b>	<b>\$ 1,489,445</b>	<b>\$ 1,498,588</b>	<b>\$ 1,513,514</b>
<b>Net Income (Loss)</b>	<b>\$ (76,732)</b>	<b>\$ (113,708)</b>	<b>\$ (116,325)</b>	<b>\$ (71,164)</b>	<b>\$ (75,564)</b>
<b>Compliance</b>	\$ -	\$ 138,708	\$ 138,468	\$ 137,668	\$ 138,468

**Assumptions**

Assumption	Amount
Carpenter	\$ 80,000
Electrician	\$ 80,000
Mechanical/Electrical Tech	\$ 80,000
Billable Hours	3,700
Trades Manager	\$ 60,000
Carpenter	\$ 63,000
Electrician	\$ 68,750
Mechanical/Electrical Tech	\$ 68,250
OTPS Rate	\$ 20,000
OTPS per person	\$ 10,000
Equipment each year	\$ 0

RATE CHECK (Mechanical/Electrical):  
 \$62,200 (2080 hours) = \$32.81/hr  
 \$52.81/hr \* 2 = \$65.62/hr  
 Approximately 2x Hourly Rate ✓  
 RATE CHECK (Carpentry):  
 \$63,000 (2080 hours) = \$30.29/hr  
 \$30.29/hr \* 2 = \$60.58/hr  
 More than 2x Hourly Rate ✓

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**Profit and loss**

- Project profit/loss limits
- Overall profit/loss distribution
- Profit/loss carryover

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**EXAMPLE BUSINESS PLAN (BILLING RATES)**

Business Plan for Trades at Fat Tuesday Academy

Creative Services	FY25 Budget	FY26 Budget	FY27 Budget	FY28 Budget	FY29 Budget
<b>Revenue</b>					
Trades Manager (1.0%)	\$ -	\$ -	\$ -	\$ -	\$ -
Carpenter (4.00%)	\$ 480,000	\$ 492,000	\$ 492,000	\$ 488,880	\$ 492,000
Electrician (4.00%)	\$ 481,440	\$ 476,272	\$ 490,560	\$ 519,272	\$ 518,475
Mechanical/Electrical (4.00%)	\$ 481,440	\$ 476,272	\$ 490,560	\$ 519,272	\$ 518,475
<b>Total Revenue</b>	<b>\$ 1,443,880</b>	<b>\$ 1,474,544</b>	<b>\$ 1,473,120</b>	<b>\$ 1,527,424</b>	<b>\$ 1,537,950</b>
<b>Expenses</b>					
Trades Manager (1.0%)	\$ 124,740	\$ 128,492	\$ 132,517	\$ 136,307	\$ 140,398
Carpenter (4.00%)	\$ 192,720	\$ 196,704	\$ 196,080	\$ 193,800	\$ 195,120
Electrician (4.00%)	\$ 176,576	\$ 173,728	\$ 175,424	\$ 181,444	\$ 183,888
Mechanical/Electrical (4.00%)	\$ 176,576	\$ 173,728	\$ 175,424	\$ 181,444	\$ 183,888
OTPS	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000	\$ 10,000
Start-Up Equipment/Tools	\$ 40,000	\$ -	\$ -	\$ -	\$ -
<b>Total Expenses</b>	<b>\$ 1,420,612</b>	<b>\$ 1,488,252</b>	<b>\$ 1,489,445</b>	<b>\$ 1,498,588</b>	<b>\$ 1,513,514</b>
<b>Net Income (Loss)</b>	<b>\$ (76,732)</b>	<b>\$ (113,708)</b>	<b>\$ (116,325)</b>	<b>\$ (71,164)</b>	<b>\$ (75,564)</b>
<b>Compliance</b>	\$ -	\$ 138,708	\$ 138,468	\$ 137,668	\$ 138,468

**Assumptions**

Assumption	Amount
Carpenter	\$ 80,000
Electrician	\$ 80,000
Mechanical/Electrical Tech	\$ 80,000
Billable Hours	3,700
Trades Manager	\$ 60,000
Carpenter	\$ 63,000
Electrician	\$ 68,750
Mechanical/Electrical Tech	\$ 68,250
OTPS Rate	\$ 20,000
OTPS per person	\$ 10,000
Equipment each year	\$ 0

**Annual Mgmt Fees Available**

\$100,000 (2080 hours) = \$48.08/hr  
 \$48.08/hr \* 2 = \$96.16/hr  
 Approximately 2x Hourly Rate ✓  
 \$100,000 (2080 hours) = \$48.08/hr  
 \$48.08/hr \* 2 = \$96.16/hr  
 Approximately 2x Hourly Rate ✓

- Project Profit/Loss Limits
  - Use prior projects for data on total projected project billing per year and use these limits to estimate potential profit/loss
  - This example uses a 1% profit on projected \$10M "business"
- Overall Profit/Loss Distribution
- Profit Loss Carryover

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**OTHER CONSIDERATIONS**

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**Market niche**

- What is your target market?
- Services offered and not offered?
- Practical and imposed project size limitations

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**Estimating and Bidding Work**

- Estimating quantities and effort-hours
- Client should be given the option to use or not use in-house services
- Bidding against the market
- Fixed price work (FP)
- Time and materials basis (T&M)
- Guaranteed maximum price (GMP)

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**Further “in-house” considerations**

- Incremental changes in the scope of work that eat into the “margin”
- Change orders are paramount, but some of our staff have more of a Customer service attitude – this can be detrimental to the bottom line.

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**As an in-house unit, your warranty period may be much longer than an outside contractor**

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**EXAMPLE BUSINESS PLAN**

**PURPOSE**  
 Reasons for investment or growth throughout the country are increasing in volume and the expansion of the new technology. Signage Customer Study will affect the Sign Shop in significant ways. There is a need to assess the Sign Shop's evolution and maintain capabilities as well as provide shop services.

**NEW SERVICES**

- 1. In-house Marketing, Design Packages
- 2. Environmental Graphic Design (EGD) Services
- 3. Dimensional Signage & Sign with Lighting Systems

**SIGN SHOP FINANCIAL MODEL**

**RECOMMEND**

shop stock units

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