**Flood Repellant Project**

**Projected Yearly Operating Cash Flows**

**Top-Down Approach with Depreciation**

Revenue (50,000 cans at $4/can) $200,000

Variable costs ($2.50/can) 125,000

Fixed Costs 12,000

Depreciation ($90,000/3) 30,000

EBIT $ 33,000

Taxes (21%) 6,930

# Net Income $ 26,070

Depreciation 30,000

CF from Operations $ 56,070

**Top-Down Approach without Depreciation**

Revenue (50,000 cans at $4/can) $200,000

Variable costs ($2.50/can) 125,000

Fixed Costs 12,000

EBIT $ 63,000

Taxes (21%) 13,230

# Net Income $ 49,770

CF from Operations $ 49,770

**Depreciation Tax Shield Approach**

OCF = (Rev – Costs) (1-t) + (Depr) (t)

OCF = ($200,000 - $137,000) (1 - .21) + ($30,000) (.21)

OCF = $49,770 + $6,300

OCF = $56,070

Depreciation Tax Shield = $6,300

OR,

OCF = [(Rev) (1-t) – (Costs) (1-t)] + [(Depr) (t)]

OCF=[($200,000) (1-.21) – ($137,000) (1-.21)] + [($30,000) (.21)]

OCF = $158,000 - $108,230 + $6,300

OCF = $56,070

## Flood Repellant Project

## Projected Working Capital Requirements

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | | | | |
|  | **0** | **1** | **2** | **3** |
| Net Working Capital | $20,000 | $20,000 | $20,000 | $ 0 |
| **Change in NWC** | +20,000 | 0 | 0 | -20,000 |
| **Cash Flow** | -20,000 | 0 | 0 | +20,000 |

**Flood Repellant Project**

**Projected Total Cash Flows – with Depreciation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | | | | |
|  | **0** | **1** | **2** | **3** |
| Operating Cash Flow |  | $56,070 | $56,070 | $56,070 |
| **Changes in NWC** | - $ 20,000 |  |  | + 20,000 |
| **Capital Spending** | - 90,000 |  |  |  |
| **Total Project CF** | - $110,000 | $56,070 | $56,070 | $76,070 |

**Separating Out Risky CF from the Depreciation Tax Shield**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | | | | |
|  | **0** | **1** | **2** | **3** |
| Risky OCF |  | $49,770 | $49,770 | $49,770 |
| Deprec. Tax Shield |  | 6,300 | 6,300 | 6,300 |
| **Changes in NWC** | - $ 20,000 |  |  | + 20,000 |
| **Capital Spending** | - 90,000 |  |  |  |
| **Total Project CF** | - $110,000 | $56,070 | $56,070 | $76,070 |

**Flood Repellant Project**

**Projected Total Cash Flows – without Depreciation**

Note that when the capital expenditure can be expensed, taxable income for the company is lowered by that amount (we are assuming the company had earnings other than from this project)

Thus, the net cash flow from capital spending in year zero is

-$90,000 (1-.21) = -$71,100

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Year | | | | |
|  | **0** | **1** | **2** | **3** |
| Operating Cash Flow |  | $49,770 | $49,770 | $49,770 |
| **Changes in NWC** | - $ 20,000 |  |  | + 20,000 |
| **Capital Spending** | - 71,100 |  |  |  |
| **Total Project CF** | - $ 91,100 | $49,770 | $49,770 | $69,770 |