



# 3.8 M Litre Water Storage Tank Cost Analysis City of St. John's, NL

fga Consulting Engineers Limited

#### **Prepared for:**

Greg Barton; Ken Tobin fga Consulting Engineers Limited 2 Hunt's Lane St. John's, NL A1B 2L3

#### **Prepared by:**

SGMC Consultants Civil Engineering Group 4: Mark Sampson Nikita Gibbons Russell Murphy Richard Chambers

Faculty of Engineering & Applied Science Memorial University of Newfoundland St. John's, NL A1B 3X5 sgmc2010@gmail.com

#### **Course and Instructor:**

Civil Engineering Project – ENGI 8700 Dr. Steve Bruneau

#### Date:

5 April, 2010



SGMC Consultants Faculty of Engineering and Applied Science Memorial University of Newfoundland St. John's, NL A1B 3X5

5 April, 2010

**fga** Consulting Engineers Limited 2 Hunt's Lane St. John's, NL A1B 2L3

Subject: 3.8 M Litre Water Storage Tank Cost Analysis Progress Report

Dear Mr. Barton and Mr. Tobin:

SGMC Consultants were retained by fga Consulting Engineers Limited to carry out a design and cost analysis for a 3.8 M litre water storage tank. As a result, SGMC Consultants have prepared a final report describing all project components.

The final report consists of the design loads that were used in the design of the concrete and steel storage tanks. Detailed cost estimates are provided for both alternatives and were followed with a benefit cost analysis to determine the preferred construction material.

The enclosed progress report resulted from a request by Dr. Steve Bruneau, Engineering 8700 professor, to gain a better understanding of SGMC Consultant's final year capstone design project. This report was completed on schedule in an efficient and practical manner.

If there are any questions concerning this report, we would be pleased to discuss them with you.

Yours sincerely,

SGMC Consultants Civil Engineering Group 4

cc: Dr. Steve Bruneau





#### SUMMARY

Water tank builders are faced with numerous options and when designing and planning the construction of a new storage tank. The first and foremost decision to be made is what material will be used to build the tank. There are many benefits to using some materials over others, but overall the two most common water storage tanks are made of concrete or steel. The question is, which design is optimal for the owners needs, the general public and the environment. The following report describes, in detail, the design – build process and associated costs of a 3.8M litre concrete vs. steel storage tank over a service life of 25 years.

After creating a material matrix and listing the pros and cons of each material, the steel and concrete tanks were selected for analysis. The next step was to determine how to construct each tank. After researching various construction schemes it was agreed upon a prestressed concrete shell with a concrete dome roof and a welded steel plate shell with an aluminum dome roof. A similar concrete slab foundation was used for both.

An unbalanced snow load of 2.72 kPa for the concrete tank and 2.27 kPa for the steel tank was calculated. The wind loads applied to both tanks was found to be 1.76 kPa of pressure on the walls and 3.52 kPa of suction on the roof. These forces, along with the hydrostatic pressure created by the liquid contained within, is the basis behind the design process.

For the walls, the design criteria was based on a maximum hydrostatic pressure of 133 KN/m applied at a height of 2.1 m. A shell thickness of 200 mm, ½ " horizontal and vertical wired reinforcement and 35 MPa concrete was used throughout the shell to counteract the hydrostatic pressure. The roof was designed to withstand snow, wind suction, maintenance loads and the self weight of the roof. When designed, the concrete roof was 240 mm thick, reinforced with temperature reinforcement and 35 MPa concrete. The concrete dome roof is placed on a neoprene pad, and is supported on a ring beam saddle, poured with the concrete shell. This simple connection eliminates large moments created if the shell and roof were to be connected by dowels. The slab foundation was designed to resist the tension forces created from the hydrostatic forces at the base of the shell. The finished slab will be 610 mm deep, containing only temperature reinforcement and poured with 35 MPa concrete. The shell and foundation connection is a simple bolted angle connection, eliminating moment transfer and a maintenance and inspection hatch was designed for access into the tank.

The design criteria for the steel shell was also based on the hydrostatic pressure, yielding a 25 mm thickness from the base to the middle of the shell and a 12.5 mm thickness for the other half. The steel tank aluminum roof will be designed and supplied by Ultrafloat, a certified consulting firm specializing in aluminum geodesic dome roofing systems. The roof is designed to withstand the same loading specified for the concrete roof. The shell and roof is connected by a simple bolted angle connection. The bolts, nuts and washers connecting the aluminum to steel must be stainless steel to eliminate corrosion. The samethickness, reinforcement and concrete compressive strength of the concrete tank foundation can also be utilized for the steel tank. The concrete and steel tanks share a similar shell and foundation connection and only a maintenance hatch will







be designed for the steel tank. The inspection hatch is located at the roof of the tank, which will be designed by Ultrafloat.

After designing both tanks a detailed cost estimate was completed. The cost estimate included quantity take-offs of all materials, along with associated costs. The labour costs required to construct each tank was also provided, yielding a total cost of \$715,686 to construct the concrete tank and \$828,878 to construct the steel tank.

The benefit/cost analysis was formulated to deduce a total cost of constructing each tank and the maintenance required over the 25 year service life. After analysis, it was determined that the concrete tank will cost \$780,086 to construct and maintain and the steel tank will cost \$957,678 for construction and maintenance. The benefits associated with the concrete tank is its cheap construction and maintenance and long service life. The steel tank is a more preferred design for most consultants and its prefabricated roof makes for a shorter schedule life. The final conclusion made by SGMC Consultants is to design and construct a concrete tank for the developing city of St. John's, Newfoundland and Labrador.



**PROJECT REPORT** 

3.8 M LITRE WATER STORAGE TANK COST ANALYSIS



#### TABLE OF CONTENTS

#### Page No.

1 IN7		5
1.1	BACKROUND	5
1.2		5
2 PR	ELIMINARY PROJECT COMPONENTS	6
2.1	STATEMENT OF QUALIFICATIONS	6
2.2	RESEARCH	6
2.3		ט ט פ
2.4 2 DE		0
3 DE		9
3.1		9
3.2	SEISMIC LOAD	10
3.4	ROOF LIVE LOAD	12
3.5	DEAD LOAD	12
4 PR	ESTRESSED CONCRETE TANK DESIGN	. 13
4.1	SHELL DESIGN	13
4.2	PARABOLIC DOME ROOF DESIGN	13
4.3	FOUNDATION DESIGN	14
4.4	SHELL AND FOUNDATION CONNECTION DESIGN	15
4.5 5 WE	TATCH DESIGN	<b>17</b>
5 1		17
5.2	ALUMINUM GEODESIC DOME BOOF	
5.3	FOUNDATION DESIGN	18
5.4	SHELL CONNECTION DESIGN	19
5.5	MAINTENANCE HATCH DESIGN	19
6 DE	TAILED COST ESTIMATES	. 20
6.1	PRESTRESSED CONCRETE TANK ESTIMATE	20
6.2	WELDED STEEL TANK ESTIMATE	21
7 BE	NEFIT/COST ANALYSIS	. 23
7.1	PRESTRESSED CONCRETE TANK COST ANALYSIS	23
7.2	WELDED STEEL PLATE TANK COST ANALYSIS	23
7.3	RESULTS OF COST ANALYSIS AND BENIFITS	24
8 CO	NCLUSION	. 25
9 RE	COMMENDATIONS	. 26
10 RE	FERENCES	. 27

#### List of Tables:

Table 1: Weld vs. Bolted Tank Construction	7
Table 2: Specified Snow Load Parameters	9



#### **PROJECT REPORT**



3.8 M LITRE WATER STORAGE TANK COST ANALYSIS

Table 3: Specified Wind Load Parameters	11
Table 4: Concrete Tank Cost Estimate Summary	20
Table 5: Steel Tank Cost Estimate Summary	21

#### List of Figures:

Figure 1: Snow Distribution and Snow Loading Factors for Simple Arch or Curved Roofs ......10

#### List of Appendices:

Appendix A	-	Various Tank Options and Dimensions
Appendix B	-	Detailed Snow Load Calculations
Appendix C	-	Detailed Wind Load Calculations
Appendix D	-	Detailed Seismic Load Calculations
Appendix E	-	Detailed Concrete Shell Design Calculations
Appendix F	-	Detailed Concrete Parabolic Dome Roof Design Calculations
Appendix G	-	Detailed Concrete Saddle Design Calculations
Appendix H	-	Detailed Concrete Foundation Design Calculations
Appendix I	-	Detailed Concrete Connection Design Calculations
Appendix J	-	Detailed Concrete Hatch Design Calculations
Appendix K	-	Detailed Steel Shell Design Calculations
Appendix L	-	Detailed Steel Tank Concrete Foundation Design Calculations
Appendix M	-	Detailed Steel Connection Design Calculation
Appendix N	-	Detailed Weld and Steel Hatch Design Calculations
Appendix O	-	Detailed Project Schedule
Appendix P	-	Detailed Construction Drawings
Appendix Q	-	Detailed Concrete Cost Estimate
Appendix R	-	Detailed Steel Cost Estimate
Appendix S	-	Detailed Maintenance Analysis
Appendix T	-	Construction Crew List





# 1 INTRODUCTION

### 1.1 BACKROUND

fga Consulting Engineers Limited was established in 1983 and is a wholly owned and operated Newfoundland and Labrador firm. They provide a wide range of multidisciplinary consulting engineering services in many areas with one of their specialties being storage tanks. fga Consulting Engineers Ltd. are capable of providing project management for tank cleaning, inspection, and repair design and execution.

#### **1.2 PROJECT DESCRIPTION**

SGMC Consultants have conducted a potable water storage tank option study to determine a preferred alternative for its design and construction. It is required that the water tank store 3.8 M litres of potable water to service the developing city of St. John's. The two options to be analyzed were an above ground reinforced concrete tank and an above ground structural steel plate tank. Different design schemes and materials for the roof have been considered along with various foundation designs, which correlate with the applied loadings to provide a list of options for consideration. SGMC Consultants have collaborated with fga Consulting Engineers Ltd. to determine two viable design options and a complete analysis of these two schemes have been conducted.

The scope of work for the design options include a preliminary design for each of the tanks considered. The preliminary designs are completed in significant detail to provide cost estimates for comparison purposes. AutoCAD 2010 software was used to construct design drawings detailing each tank option. The drawings are provided with enough detail to allow the client to determine design features and materials. A list of advantages and disadvantages for each design was developed to aid in determining the recommended option. The list identifies the life expectancy of material used, required maintenance, initial construction costs and a benefit/cost analysis for each option. The report contains detailed construction estimates for each option and a final recommendation based on gathered information and design options.

The preliminary design data for the water tank, geotechnical information, and environmental considerations have been provided by fga Consulting Engineers Ltd. and additional data was made available upon request. All environmental data was determined assuming the water tanks will be constructed in St. John's, Newfoundland and Labrador. The water tank has a known capacity of 3,800,000 litres, a total height of 16.6 m and a diameter of 18.6 m. The geotechnical information provided includes an ultimate bearing capacity of 1,500 kPa, allowable bearing capacity of 500 kPa and a maximum depth of foundation of 2.1 m. Any additional data required was discussed with fga Consulting Engineers Ltd. in weekly meetings, via e-mail, or by telephone depending on its urgency.



3.8 M LITRE WATER STORAGE TANK COST ANALYSIS



# 2 PRELIMINARY PROJECT COMPONENTS

## 2.1 STATEMENT OF QUALIFICATIONS

SGMC Consultants submitted a "Statement of Qualifications" on January 13, 2010. It contained a mission statement and information regarding the background of the team. The SOQ also included the title, expertise and previous work experience of each team member, as well as contact information.

# 2.2 RESEARCH

Research regarding conventional tank design, environmental, geotechnical, and building codes was completed. All environmental regulations and geotechnical investigations were related to the St. John's area and were provided by fga ConsultingEngineers Limited. The building codes and tank design books essential for design and implementation of both tank options are as follows:

- Concrete Design Handbook, Third Edition (Cement Association of Canada, 2006)
- Handbook of Steel Construction, Ninth Edition (Canadian Institute of Steel Construction, 2007)
- National Building Code of Canada (*Canadian Commission on Building and Fire Codes, 2005*).
- Prestressed Concrete; A Fundamental Approach, Fourth Edition
- Aboveground Storage Tanks.New York, NY: McGraw Hill.

## 2.3 BRAINSTORMING

Brainstorming played a major role in determining the material and design schemes considered in this project. Appendix A contains a list of suggested materials and dimensions to be used for tank analysis and design.

SGMC Consultants presented fga Consulting Engineers Limited with a tank material matrix. A decision was made to analyze two of the various tank options, due to time constraints. The two selected tank options are a cylindrical concrete shell with a concrete dome roof and a cylindrical steel shell with an aluminum geodesic dome roof.

A chart illustrating possible tank dimensions was provided to fga Engineering Consultants Limited during a client meeting. It was suggested that an economical tank height would be a multiple of the steel sheet heights being used to reduce steel cutting and preparation. A tank size was then selected with the following dimensions:

• Height of shell = 14.6 m





• Diameter of Tank = 18.6 m

With a shell material selected for both tank options, methods of constructing each tank were analyzed as follows:

- Using prestressed concrete as opposed to cast in place concrete for the shell of the concrete tank. After researching both methods, SGMC Consultants concluded that prestressing is a more conventional construction method (90% of North American concrete tanks) because the tensioned reinforcement is more suitable for the large hydrostatic loads present in such a tank.
- Using a welded metal shell as opposed to a bolted metal shell. Table 1 lists the advantages and disadvantages of both construction methods.

	ADVANTAGES	DISADVANTAGES
WELDS	<ul> <li>More resistance to earthquake damage</li> <li>Can be built in any size and capacity (up to 20MG)</li> <li>Tanks are made of thicker/heavier steel thus adding to useful life</li> <li>Weld tanks can be easily and cost – effectively adapted for cathodic protection systems thus extends the useful life</li> <li>Welded tanks are easier to coat</li> <li>With proper maintenance, the useful life of a weld tank is 50 to 75 years</li> </ul>	<ul> <li>Not all components of the tank can be coated due to its pre assembly thus causing corrosion.</li> <li>Erection time is longer and more costly due to the need of cranes</li> <li>More expensive at the time of construction i.e. material cost</li> </ul>
BOLTS	<ul> <li>Coatings are applied in a controlled environment</li> <li>Standardized parts meaning they have consistency and makes erection time easier</li> <li>All erections are done from the ground up so costly cranes and lifts are not needed</li> <li>Safety risks are greatly reduced</li> <li>20% less cost (Construction cost)</li> </ul>	<ul> <li>Every bolt is a potential point of weakness thus there are more catastrophic failures</li> <li>Bolted tanks are gasketed thus expensive jumper connections must be used to bond together every stave</li> <li>Bolted tanks are subjected more to corrosion</li> <li>Greater maintenance time (tanks need to be taken apart and reassembled)</li> <li>Life span of tank is between 25 to 30 years</li> </ul>

Table 1: Weld vs. Bolted Tank Construction

After close consideration of both methods, welding was estimated to be the most beneficial from a benefit/cost perspective.



3.8 M LITRE WATER STORAGE TANK COST ANALYSIS



## 2.4 SCHEDULE

SGMC Consultants presented fga Consulting Engineers Limited with a work schedule in the initial stages of the project. The schedule was developed using Microsoft Project so the status of each item in the scope of work were readily available to all parties. The timeline assigned to each item were based on their estimated duration to complete the project in an efficient and realistic manner. The detailed schedule is provided in Appendix O.

The schedule was updated weekly to ensure all project deadlines and milestones would be completed on time. SGMC had a recovery plan to reassign manpower should the project fall behind schedule. This proved to be beneficial as SGMC Consultants had mid term examinations and assignments that were concentrated during several weeks of the semester.

Other notable information regarding the project schedule was the expected 4 week duration for cost estimating. SGMC Consultants were able to complete all quantity take offs and construction cost estimates over a 2 week period. It is recommended for future similar studies to decrease the duration for cost estimating and correspondingly increase the timeline for drafting requirements. The ability to review the schedule in weekly meetings aided SGMC Consultants in meeting project deadlines and completed all milestones in an effective and timely manner.





# 3 DESIGN LOADS

## 3.1 SNOW LOAD

The annual precipitation across Canada varies according to geographic location and is influenced by certain factors such as ground elevations, wind direction and the proximity to water bodies. Maximum annual snow depths are measured at over 1600 sites across the country and the National Building Code of Canada (2005) uses these values to predict the maximum 1-in-50-year snow accumulations, which occur at each site. The 1-in-50-year ground snow load ( $S_s$ ) of 2.9 kPa and the 1-in-50-year rain load associated with snow ( $S_r$ ) of 0.7 kPa determined from measured data in the City of St. John's, Newfoundland were used as a basis for the determination of the tank roof snow loads given by the formula: (3) (5)

•  $S = I_s[S_s(C_bC_wC_sC_a) + S_r]$ 

SGMC Consultants assumed and calculated values for the parameters in the specified snow load equation are illustrated in Table 2.

SYMBOL	DESCRIPTION	VALUE
l <sub>s</sub>	Importance Factor for Snow Load	1.00
Ss	1-in-50-year Ground Snow Load (kPa)	2.90
Sr	1-in-50-year Rain Load Associated with Snow (kPa)	0.70
Cb	Basic Snow Load Factor	0.80
C <sub>w</sub>	Wind Exposure Factor	0.75
Cs	Slope Factor	1.00
Ca	Shape Factor	1.16

 Table 2: Specified Snow Load Parameters

An importance factor for snow load  $(I_s)$  of 1.00 was used in the limit states design because it was assumed that the storage tank is ranked in the normal importance category to account for the low human use and occupancy. Storage tanks are not likely to cause injury or pose a hazard to human life should the tank fail and are therefore ranked in the normal importance category. (3) (5)

Snow loads on roofs are generally less than the measured ground snow loads due to factors such as wind erosion and drifting, sliding of the snow on sloped roofs, and melting that may occur from heat losses through the roof. The basic snow load factor  $(C_b)$  is typically taken as 0.80 to account for less snow on the roof, unless it is a large roof where the snow load may be greater than 80%. The tank roof has a characteristic length equal to its diameter of 18.6 m and is therefore not considered a large roof. (3)(4)

The wind exposure factor ( $C_w$ ) of 0.75 was used in the calculation and based on several assumptions by SGMC Consultants. It was assumed the construction site will





be open terrain exposing the structure to wind on all sides and the roof being free of obstructions. There will be no accumulation of snow from adjacent structure and therefore the wind exposure will reduce the specified snow load. (3)

The slope of the roof effects are incorporated in the roof slope factor ( $C_s$ ). SGMC Consultants designed the dome roof in the shape of a parabolic curve. The equation of a parabola was used to determine the slopes tangent to the dome roof. The maximum slope occurs along the circumference of the tank at the roof/wall connection and was calculated to be approximately 25 degrees. Concrete was assumed not to be a slippery material and hence  $C_s$  was taken as 1.0. The slope factor was reduced to 0.78 for the aluminum roof to account for the unobstructed slippery surface. (3) (4)

Uniform and unbalanced snow load distributions were considered to determine the shape factor ( $C_a$ ). Figure 1 taken from Commentary G of the NBC (2005) illustrates the snow distributions for curved roofs and was used to calculate the shape factor. The typical value of 3.0 kN/m<sup>3</sup> for the density of snow on a roof was used in the calculation. The distribution of snow load for Case II governed with a value of 1.16 for  $C_a$ . (3) (4)



Figure 1: Snow Distribution and Snow Loading Factors for Simple Arch or Curved Roofs

The specified unfactored snow load (S) acting on the horizontal projection of the concrete dome roof was calculated to be 2.72 kPa and 2.27 kPa for the aluminum dome roof. Detailed snow load calculations are provided in Appendix B.

# 3.2 WINDLOAD

The mean wind speed used in design is the maximum time-averaged wind speed recorded over a one hour time period at an elevation of 10 meters above the ground surface. Wind pressures are the basis for structural design in Canada. The 1-in-50-year reference velocity pressure (q) of 0.80 from Appendix C of the National Building Code of





3.8 M LITRE WATER STORAGE TANK COST ANALYSIS

Canada (2005) was used to determine the wind loads on the wall and roof of both tanks in the following equations: (3) (4)

- Total Force on Walls:  $F_w = (C_f)(q)(C_g^*)(C_e^*)(A)$
- Total Force on Roof: F<sub>r</sub> = (p<sub>i</sub> p<sub>e</sub>)(A)

Where;  $p_e = (C_p)(q)(C_g^*)(C_e^*)$ 

The parameter values in the above equations that were used to calculate the external wind force on the tank walls and roof are summarized in Table 3. The static procedure was followed in the design because the tank has a height of less than 4 times the effective width and is less than 120 m. (5)

SYMBOL	DESCRIPTION	VALUE
I <sub>w</sub>	Importance Factor for Wind Load	1.00
q	1-in-50-year Reference Velocity Pressure (kPa)	0.80
C <sub>e</sub>	Exposure Factor	1.09
C* <sub>e</sub>	Corresponding Modified Factor Value for use on Hills or Escarpment	2.97
C <sub>g</sub>	Gust Effect Factor	2.00
C* <sub>g</sub>	Corrected Factor for Hills and Escarpments	1.61
C <sub>f</sub>	Force Coefficient	0.50
Cp	External Pressure Coefficient	-1.00

**Table 3: Specified Wind Load Parameters** 

The exposure factor ( $C_e$ ) incorporates the change in the mean wind speed with vertical height above ground level. The calculation for  $C_e$  is a function of the reference height, which is the height above ground level to the midpoint of the structure's roof. The reference height for the tank is 15.6 m, located in an assumed open terrain, resulting in a calculated exposure factor of 1.09. It is assumed that the tank will be constructed on a hill or escarpment, and therefore a modified exposure factor ( $C_e^*$ ) value was calculated to account for the amplification of the wind speed.  $C_e^*$  was calculated to be 2.97 based on the assumptions that the shape is a 2-dimensional escarpment and the structure is on the crest of the hill where the wind amplification is the highest. (3) (5)

The external gust effect factor  $(C_g)$  is the ratio of the peak gust wind pressure to the 1-in-50-year mean hourly wind pressure. A typical value used for structures as a whole is 2.0 and hence was taken for  $C_g$ . The corrected gust factor  $(C_g^*)$  was calculated to be 1.61 which accounts for the speed-up of over hills and escarpments. (3) (4)

The force coefficient ( $C_f$ ) of 0.50 was determined based on the slenderness ratio and the assumption of concrete being moderately smooth. Values for  $C_f$  are determined based on the structure slenderness ratio and the type of cross section and roughness. The external pressure coefficient ( $C_p$ ) has a value of -1.0 and is used to calculate the suction pressure on the tank roof. (3) (4)





3.8 M LITRE WATER STORAGE TANK COST ANALYSIS

The total unfactored force on the walls ( $F_w$ ) resulting from the wind load was calculated to be 477.5 kN or 1.76 kPa. The total unfactored force on the roof ( $F_r$ ) due to wind load was calculated to be 955.4 kN or 3.52 kPa. Detailed wind load calculations are provided in Appendix C.

# 3.3 SEISMIC LOAD

The effect of earthquake load occurs at the contact surface with the ground and can be detrimental to a structure. The seismic load need not be considered if the design spectral acceleration has a value less than 0.2. Although the calculated spectral acceleration was 0.126, the seismic loading was not considered in design as the National Building Code of Canada (2005) states that the seismic load calculations do not apply to several structures, included storage tanks. Detailed seismic load calculations are provided in Appendix D. (3)

# 3.4 ROOF LIVE LOAD

The live load was determined based on the intended use and occupancy on the tank roof. Since the only probable live load on the roof shall be for maintenance purposes, the minimum specified uniform distributed live load of 1.0 kPa for roofs was assumed. (3)

## 3.5 DEAD LOAD

The self weight on the construction material was considered in the design process. The unit weight of 2,400 kg/m<sup>3</sup> for normal weight concrete was assumed in the design of the prestressed concrete tank. The unit weight of 7,850 kg/m<sup>3</sup> for structural steel was assumed in the design of the welded steel tank. Point loads due to construction equipment were also included in the design calculations.



3.8 M LITRE WATER STORAGE TANK COST ANALYSIS



# 4 PRESTRESSED CONCRETE TANK DESIGN

The form in which the concrete tank will take is based on tank design convention, as determined during the research and brainstorming phases of the project and the design loads, as discussed in the previous two sections. Many assumptions were made to progress this design with respect to material choice and building system, all of which were based on economy, convention, and environmental factors. The design process can be distinctly divided into five components: the prestressed shell, the parabolic dome roof, the structural support foundation, shell and foundation connection and hatch design. Detailed construction drawings are provided in Appendix P.

## 4.1 SHELL DESIGN

The design of the shell is required to accommodate the hoop stresses and bending moments acting on it via the hydrostatic pressure of the potable water contained within. The connection system assumed is a hinged base connection with a freely moving top. This system eliminates the potential for large stresses due to bending moments at the wall-slab connection. Since the hinged connection does not carry the moments on the shell created by the hydrostatic force, it is necessary to provide vertical prestressing reinforcement to carry these moments, in addition to the horizontal prestressing reinforcement intended to carry the ring force created by hydrostatic pressure. The prestressing reinforcement was chosen to be 270 grade 1/2" 7 wire prestressing strand and concrete was chosen to have 35 MPa compressive strength.

It was found that the critical vertical moment was 29.1 kN·m/m and occurred at 13.3m water depth. The critical hoop force was determined to be 133 kN/m and occurred at 11.9m water depth. From these parameters it was determined that a shell thickness of 200mm was suitable for design.

It can justly be assumed that a 26% total prestress loss can occur after tendon jacking. Considering these losses, in relation to the hoop stresses found above it was determined that approximately 16 horizontal prestressing tendons per meter height are required. Assuming the same prestress efficiency it was found that vertical prestressing required a 66 mm centre to centre tendon spacing around the entire circumference of the tank. Detailed concrete shell design calculations are provided in Appendix E. (6)

## 4.2 PARABOLIC DOME ROOF DESIGN

The design of the dome roof is required to accommodate the snow loads, maintenance loads, and dead loads that have the potential to contribute to dome buckling; and wind loads that create suction forces with the potential to displace the dome roof from the top of the tank. The connection system assumed is a freely moving top resting on a saddle formed in to the top of the shell. A neoprene pad is provided at the point of contact between the dome and shell to reduce abrasive damage. This





system eliminates the potential for large stresses due to bending moments at the walldome connection. A ring beam is provided on the outer perimeter of the dome and is reinforced with prestressing strand. This ring beam is provided to counteract the reactive forces created by the shell-dome connection. The prestressing reinforcement was chosen to be 270 grade 1/2" 7 wire prestressing strand and concrete was chosen to have 35 MPa compressive strength. Detailed concrete saddle design calculations are provided in Appendix G.

The first mode of failure designed for was displacement of the dome due to suction created by the wind forces. A suction load of 3.5 kPa was found to act on the dome under the assumed environmental conditions. There were several options available to ensure that failure of this nature would not occur. The options discussed included thickening the dome to the required dead load, adding T-beams to the dome to stiffen it and add the required dead load, or making a rigid connection to the shell via dowels. It was decided that making the dome thicker would be the most desirable solution, adding T-beams would increase costs due to form work and a rigid connection would create moment and torsional forces at the connection that would require extensive reinforcing. After applying the applicable load factors to the abovementioned forces it was determined that a dome thickness of 242 mm is adequate.

The second mode of failure designed for was buckling due to snow loads, maintenance loads, dead loads, and dimensional characteristics. The dome radius was found to be 22 m and the dome thickness was assumed to be 242 mm from the calculations mentioned above. The angle that the dome makes with the top of the shell was found to be  $25^{\circ}$ . Because this angle is less than  $51^{\circ}$  it follows that the entire dome would be in compression and only temperature reinforcement is required in the dome. Finally, it was determined that a dome thickness of 242 mm was suitable to withstand buckling. Detailed concrete parabolic dome roof calculations are provided in Appendix F. (6)

## 4.3 FOUNDATION DESIGN

SGMC Consultants designed the foundation as a ring beam to withstand the tension forces created from the hydrostatic pressure applied uniformly to the tank shell. For ease of construction, the ring beam will be poured as a continuous slab. The self weight of the slab was considered, but would not be a determining factor in design, as the downward forces created from the slab weight would cancel with the upward bearing force created from the soil (bedrock in this case). As per a request from fga Consulting Engineers Ltd. the foundation will be 2.0 ft thick. When all of the necessary checks were completed it was established that reinforcement is not needed in the foundation to counteract the tension forces from the shell. The only reinforcement to be used is temperature reinforcement.

Calculation of the length in which the slab extends past the shell exterior resulted in 2 ft. This length allows for extra foundation strength, added surface area to offset moments produced at the shell base and provides the workers a level footing to construct the shell. Detailed concrete foundation design calculation are provided in Appendix H. (6)



# 4.4 SHELL AND FOUNDATION CONNECTION DESIGN

It was decided, with consultation with the client, that a hinged shell to slab connection would be used. A hinged connection allows only shear transfer and eliminates large moments created by rigid connections. SGMC Consultants decided the hinged connection would be an angle bolted to both the shell and foundation on the exterior face of the shell. This connection must be able to withstand the hydrostatic pressure created at the base of the tank, wind and tendon jacking, concrete break out resistance and pull out resistance.

The factored hydrostatic force applied at the base of the shell was 1587 KN, which is the determining factor of size and number of bolts in design. Substituting this force for the shear and bearing capacity determined that shear transfer governed. An angle of 203 mm x 203 mm x 13 mm, along with 8 – A490M, M24 bolts per meter length in each angle leg will be utilized to counteract the force.

The force due to wind and tendon jacking was 243 KN. Because this force is less than the hydrostatic pressure, shear at the angle – leg connection and shear/bearing failure of the bolt fastened to the foundation need not be checked. Necessary checks include torsion of both the angle and bolts and shear block tear out in the perpendicular and parallel plane, which all had a much greater resistance then the applied force.

The last two modes of failure SGMC Consultants had to verify was concrete break out resistance and pull out resistance. All necessary calculations were completed and the proposed connection will not fail under these conditions.

When reviewing the construction process of the shell and foundation connection it was determined that it would be nearly impossible to place the angle over the bolts if the shell and foundation bolts were both cast-in-place. A simple solution is to cast a steel sleeve into the foundation and slot the holes connecting the angle to the shell. This will allow the contractor to push the anglehorizontally over the cast-in-place bolts and the slotted hole can be utilized to align the other holes with the sleeve. Detailed concrete shell to foundation connection calculations are provided in Appendix I. (6)(7)

# 4.5 HATCH DESIGN

SGMC

There are two steel hatches designed for the concrete tank:

- 1. A 915 mm diameter maintenance hatch is required to provide access for repainting, weld testing and cleaning. The hatch is located just above the foundation connected to the shell.
- 2. A 610 mm diameter inspection hatch provides access for testing purposes and to check water levels. It is fastened at the edge of the dome roof, to allow for ladder access.

The base of the maintenance hatch was placed 600 mm from the foundation and was designed to withstand a hydrostatic pressure and factored force of 164 kPa and





3.8 M LITRE WATER STORAGE TANK COST ANALYSIS

108 KN, respectfully. Using A325M, M16 bolts, it was determined that the hatch only required one bolt to successfully counteract the applied hydrostatic pressure. To create a good seal between the hatch flange and shell a spacing of 120 mm would be adequate. This spacing yielded 28 bolts evenly spaced around the circumference of the center of the flange. Other checks included concrete break out resistance and pull out resistance, which were both higher than the applied hydrostatic pressure.

The inspection hatch was designed to withstand snow and wind loading as well as self-weight of the steel door, flange and accessories. Detailed concrete hatch design calculations are provided in Appendix J.(Needs to be finished) (6)(7)







# 5 WELDED STEEL TANK DESIGN

The welded steel tank design is based on the American Water Works Association (AWWA D100-05) Standard. The design is typical for steel storage tanks, as determined through research and brainstorming and has been designed to withstand all of the design loads. The five main components of the design process are the welded steel shell, geodesic dome roof, structural support foundation, shell to roof and foundation connections and the maintenance hatch.Detailed construction drawings are provided in Appendix P.

## 5.1 SHELL DESIGN

SGMC

The design of the shell is based on the requirements to accommodate the normal stresses in the circumferential or hoop direction developed from the hydrostatic pressures as well as the longitudinal or axial direction due to the loads from the self weight and environmental loads on the roof. The ratio of the tank radius to the plate thickness (R/t) was determined to be greater than 10 and therefore considered a thin wall vessel. The stress distribution throughout the thickness of a thin wall vessel does not vary significantly and hence was assumed to be uniform or constant. The connection system was established as a hinged connection to eliminate the development of large stresses due to bending moments at the wall-slab and wall-roof connection. (Hibbler)

The Von Mises criteria was the first method used to calculate an initial plate thickness. The internal gauge pressure developed by the contained water was calculated to produce 137.5 kPa. Geodesic dome research yielded a self weight assumption of 289 kN for the dome and components combined. The required thickness assuming 350 MPa structural steel was calculated to be 5.0 mm. (Hibbler)

Although the Von Mises criterion was used to estimate an initial slab thickness, the AWWA Standard was the final design method. This standard is based on working stress design and the steel members were designed so the maximum stresses would not exceed 99.3 MPa. The thickness of the cylindrical shell plates stressed by pressure of the tank contents was calculated to be 21 mm for the bottom plates of the shell and 25.4 mm (1 inch) thick plates were chosen for design. The stress by the pressure of the tank contents decreases as the height of the tank increases. SGMC Consultants decided to reduce the plate thickness at mid-height (7.3 m from ground elevation). The thickness of the cylindrical steel plates from mid-height to the top of the tank were calculated to be 10 mm and 12.7 mm thick plates (1/2 inch) were chosen for design. (12)

The combined stresses for members subject to both axial and bending stresses must be proportioned so that the ratio of actual unit stress to permitted axial unit stress added to the ratio of actual bending unit stress to permitted bending unit stress is less than 1.0. This check was performed to ensure that neither design thickness would be subjected to greater axial or bending unit stress than permitted by the standard and both design thicknesses met this requirement. (12)





The longitudinal and circumferential joints between the steel plates will be connected using a complete penetration double-V butt joint weld. Preparation time is greater compared to the single-V joint, but less filler metal is needed because of the narrower angle. The full panel welds to be used will develop the same resisting strength as the structural steel panels. Detailed weld design calculations are provided in Appendix N.

The storage tank will be equipped with a dome so a top shell girder is not required. It was determined intermediate girders were also not required as the calculated spacing between girders was 90.6 m. This spacing is greater than the height of the shell therefore no intermediate girder is required. All detailed steel shell design calculations are provided in Appendix K. (12)

## 5.2 ALUMINUM GEODESIC DOME ROOF

The parabolic aluminum geodesic dome roof was not designed by SGMC Consultants as it was decided through discussing with fga Consulting Engineers Limited to purchase the roof from a manufacturer. The aluminum roof is ideal for potable water storage tanks as it will prevent contamination from rust which is a common occurrence with steel roofs. The roof is designed based on the clear span of the tank as well as the loadings acting on the tank. The geodesic dome roof contains a pre engineered a 30 inch diameter inspection hatch. The recommended manufacturer is Ultraflote Corporation, as they supplied the domes for Kenmount Hill, in St. John's, NL. (13)

# 5.3 FOUNDATION DESIGN

The slab on grade foundation for the steel tank was designed assuming bedrock sub grade, an ultimate bearing capacity of 1,500 kPa and an allowable bearing capacity of 500 kPa, as provided by fga Consulting Engineers Limited. The top of the foundation will be 6 inches above finished grade and will be graded to slope uniformly downward to the centre of the tank at a slope of 2.0%.

The preliminary assumptions for the concrete slab were a sub grade modulus, k of 300 psi for bedrock, a slab thickness of 610 mm (2 ft) and a concrete strength of 35 MPa. The slab design calculations include an extension of 2 ft outside the tank walls for practical purposes.

The total pressure acting on the slab due to the weight of water and all tank components was calculated to be 160 kPa which is less than the allowable bearing capacity. The slab would be subjected to a line loading from the tank wall and a stationary uniformly distributed live load due to the contained water. The assumed slab thickness of 610 mm was capable of withstanding the applied loads without any reinforcement. However, temperature reinforcement is a minimum requirement for slab design and 4 No. 20 M bars at 250 mm spacing was determined to be placed in both the longitudinal and transverse direction with a concrete cover of 60 mm. All detailed concrete foundation design calculations are provided in Appendix L. (6) (7) (12)





# 5.4 SHELL CONNECTION DESIGN

The design of the connection of the roof to the tank wall resulted in using an L102X102X9.5 steel angle with bolts connecting the angle to the steel wall and to the aluminum roof. The design considered shear, bearing and tension forces along with shear block tear out and prying action. It was determined that 3 M22 A325 bolts per meter would be sufficient to resist the governing suction force due to wind.

Although the aluminum roof is typical in industry, SGMC Consultants were aware of the electric charge that will occur with the aluminum and steel contact in the presence of water and oxygen. This would result in corrosion with the aluminum potentially completely deteriorating around the bolt. It was decided that stainless steel bolts will be used in the roof to steel angle connection along with a neoprene pad separating the steel and aluminum.

The steel wall to tank connection is designed to be a pinned connection so no moment can be resisted by connecting the wall to the foundation using a steel angle and bolts. The anchor bolts required for connecting the steel walls into the concrete foundation were designed to resist the shear force of 1,596 kN per meter of circumference. It was determined that the L203X203X14 angle with 8 M24 A490 bolts per metre was capable of resisting the hydrostatic pressure an chosen for the wall to slab connection. The wind loading was considered for the bolts in the wall connection. I was determined that 1 M24 A490 bolt per meter would be sufficient to resist the loading however 7 bolts were used at equal spacing staggering the anchor bolts. All detailed steel connection design calculations are provided in Appendix M. (7) (12)

## 5.5 MAINTENANCE HATCH DESIGN

A maintenance and inspection hatch is required for access into the steel tank. The aluminum dome roof is to be designed by Ultrafloat, a certified consulting firm specializing in aluminum geodesic dome roofing system. The inspection hatch is located in the aluminum roof and is therefore pre-designed.

A 915 mm inspection hatch was designed to be located at 600 mm from the tank bottom. The hydrostatic pressure at this point was calculated to be 132 kPa, which applies a factored resultant force of 108 kN acting on the hatch area. The tension and bearing capacity of the hatch was analyzed and it was determined that 1 A325M, M16 bolt was required. However, to maintain a secure seal between the flange and the rubber gasket, 28 M 16 A325 M bolts was chosen at 120 mm spacing. All detailed hatch design calculations are provided in Appendix N. (7) (12)





# 6 DETAILED COST ESTIMATES

RSMeans Costworks construction estimator was used to estimate the cost of the steel and concrete tank. The software provides both material and labour cost estimates associated with the work. The quantities of material required for the construction of each tank were calculated from the tank designs and input into Costworks to obtain an estimate. The capital costs of each tank were compared during the benefit/cost analysis to determine which storage tank would be the most economical and practical for fga Consulting Engineers Limited.

## 6.1 PRESTRESSED CONCRETE TANK ESTIMATE

The prestressed concrete tank estimate includes six major items as summarized in Table 4. The concrete shell has the highest construction cost due to the large quantities of material required. The shell estimate contains 1,700 square metres of formwork along with 340 cubic meters of 34 MPa concrete. The horizontal and vertical prestressing strands are included and total approximately 26,500 kg of steel. The labour costs was determined for finishing 850 square meters of concrete on the inside and outside of the tank walls.

Concrete Tank									
Item Cost									
Shell	\$	467,530.00							
Connection	\$	44,686.00							
Hatch	\$	1,500.00							
Slab	\$	89,943.64							
Roof	\$	92,357.00							
Ring Beam \$ 19,669.00									
Total	Total \$ 715,685.64								

Table 4: Concrete Tank Cost Estimate Summary

The concrete roof requires 315 square meters of formwork and 90 cubic meters of 34 MPa concrete. The roof requires 620 kg of steel for the prestressing strands as well as 1.8 metric tonnes of reinforcing steel required for temperature reinforcement in the dome. Other notable items included in the roof estimate are the cost for placing the dome as well as the labour required for finishing the outside as well as sandblasting and finishing the inside portion.

The concrete slab item includes all necessary excavation and earthwork prior to the slab construction. It was assumed that 216 bank cubic meters of common earth would be excated and 108 loose cubic meters to be hauled and backfilled. 360 squared





meters of fine grading for the slab on grade was included in the cost estimate. The cost for forming and pouring of 178 cubic meters as well as placement of the concrete slab was a significant cost in the slab estimate. The labour and material cost for placing 5.47 metric tonnes of reinforcing steel were also considered as well as as 296 square meters of concrete finishing.

The slab to shell connection requires 24 square meters of formwork and 52 cubic meters of 34 MPa concrete for the water stop encasement. The ribbed PVC waterstop is 58 meters long with a thickness and width of 12 mm to 230 mm respectively. The structural steel angle L203x203x13 was designed and requires 120 meters of length to connect the shell to the slab. The connection details a total of 445, 200 mm high strength M25 A490 bolts for the top and bottom flanges combined.

The final two items in the cost estimate are the ring beam and the inspection and maintenance hatches. The ring beam requires 58 square meters of forming and finishing for 15 cubic meters of 34 MPa structural concrete. Other items include 0.2 metric tonnes of reinforcing steel for the saddle as well as 25 square meters of neoprene padding. The material and labour for the hatches have a total estimated cost of \$1,500 as shown in Table 4. The total capital cost for the concrete tank is approximately \$715,700 and the detailed cost estimates including all quantities of contruction material required for each major item are provided in Appendix Q.

#### 6.2 WELDED STEEL TANK ESTIMATE

The welded steel tank estimate includes five major items as summarized in Table 5. Similar to the concrete tank, the shell has the highest construction cost due to the large quantities of material required. The steel plates used from the tank bottom to midheight have a 446 square meter quantity of 1 inch thick structural steel plates. From the mid-height of the tank to the top it was designed to reduce the thickness of the plates to 1/2 inch. 446 square meters of 1/2 inch plates were incorporated into the shell estimate. The steel plates require 1,784 square meters to be sprayed with paints and protective coatings. The connection of the plates yielded 50 kg of stainless steel weld rod for the complete penetration Double-V butt welds.

Steel Tank									
Item	ltem Cost								
Shell	\$ 408,822.00								
Connection	\$	40,612.00							
Hatch	\$	1,500.00							
Slab	\$	89,943.64							
Roof \$ 288,000.00									
Total	Total \$ 828,877.64								

Table 5: Steel Tank Cost Estimate Summary





The geodesic aluminum dome roof was estimated based on its 3,390 square foot surface area. The cost estimate includes shipping and the labour and equipment cost to install the roof. An inspection hatch is pre-designed in the aluminum roof and the cost for the maintenance hatch in the steel wall was estimated to be \$1,500 as shown in Table 5.

The concrete slab for the steel tank was designed the same as the concrete tank resulting in all the same material and labour quantities. Therefore, the cost for the construction of the slab was identical however the connections differ.

The connection of the aluminum roof to steel shell requires 59 meters of the structural steel angle L103x103x9.5. The roof is designed to be connected to the angle using 177 high strength M22 A325 bolts with a 200 mm length and to the shell with 177 high strength M22 A325 bolts having 100 mm length. The connection of the steel shell to concrete foundation will require 59 meters of the structural steel angle L203x203x14. The shell is designed to be connected to the angle using 413 high strength M25 A490 bolts and to the concrete slab using 474 high strength anchor bolts. The total capital cost of the steel tank is approximately \$828,900 and the detailed cost estimatesincluding all quantities of contruction material required for each major item are provided in Appendix R.





# 7 BENEFIT/COST ANALYSIS

Because a water storage tank is a long-term investment and is such a critical part of the water supply infrastructure, it is important for consulting engineers and their clients to evaluate the type of tank that they are purchasing and the maintenance that comes with it. To verify which storage tank is most cost efficient, the construction costs and maintenance, over a specified service life was analyzed. A list of maintenance procedures and related costs is provided in Appendix S.A future value was then deduced for each tank over a life expectancy of 25 years, provided to SGMC Consultants by fga Consulting Engineers Ltd.

## 7.1 PRESTRESSED CONCRETE TANK COST ANALYSIS

Prior to analyzing the maintenance costs of the concrete it was determined in the previous section that the concrete tank will cost approximately \$ 715,686 to construct.

Over its service life the tank will need to be checked for cracks every 1 ½ years. If cracks are found the tank will need to be abrasively blasted, and then sealed with a water proofing material to prevent water intrusion into the tank.

There is a chance that the concrete roof could deteriorate, creating a structural concern. If so, the tank will need to be drained and the roof would be replaced. This is highly unlikely, as a reinforced concrete dome roof would typically have a life expectancy much greater than 25 years.

## 7.2 WELDED STEEL PLATE TANK COST ANALYSIS

As mentioned in the cost estimate section, materials and construction of the steel tank will cost approximately \$828,878.

The welds of the steel tank are checked once a year to ensure all welded connections are free of erosion. Erosion of welds can cause leaks and create serious strength and safety issues.

Once a year the shell thickness is checked for deterioration and weak spots. If the shell is found to be thinner and weak spots occur, massive reconstruction will be needed to maintain the tanks structural integrity. This procedure can be quite costly, depending on the extent of deterioration.

Over the 25 year service life the steel tanks interior will need to be repainted with an epoxy coating. This process involves draining and cleaning the tank then applying an even coat of a CSA approved epoxy paint.





# 7.3 RESULTS OF COST ANALYSIS AND BENIFITS

The table below summarizes the capital and maintenance costs associated with the concrete and steel tank;

Costs	Concrete Tank	Steel Tank
Capital Costs	\$715,686	\$828,878
Maintenance Costs	\$64,400	\$128,800
Total Costs	\$780,086	\$957,678

 Table 6: Capital and maintenance cost summary

After analyzing both tanks it was determined that the concrete tank will be cheaper to construct and also cheaper to maintain.

The benefits of a concrete tank include its cheap construction and maintenance. A concrete tank is also very reliable and has a long service life.

On the other hand, steel tanks are a preferred design in the St. John's area. SGMC Consultants conducted some field investigation and discovered steel tanks outnumber concrete tank approximately six to one. This would suggest that contractors in the St. John's region are more specialized and experienced in steel tank construction. In addition the prefabricated aluminum roof of the steel tank can be designed and constructed prior or during the construction of the foundation and shell. This will reduce the scheduling implications of the steel tank, decreasing costs and allowing a quick turnover.

The benefits of the steel tank look promising, but the cheap capital and maintenance costs of the concrete tank make it a more desirable design. SGMC Consultants recommends that a concrete storage tank be designed and constructed for the developing city of St. John's, Newfoundland and Labrador.





# 8 CONCLUSION

SGMC Consultants conducted a cost comparison for a 3.8 M litre capacity potable water storage tank for fga Consulting Engineers Ltd. Through research and brainstorming it was decided that the two viable design options to be analyzed in determine the preferred alternative for design and construction was a prestressed concrete tank and a welded steel tank. The concrete tank was designed with a parabolic concrete dome roof and the steel tank supports an aluminum geodesic dome roof.

The preliminary designs required significant detail for cost estimation. The dimensions consisted of a tank diameter of 18.6 m and a height of 14.6 m. These were chosen to accommodate the structural steel plates used in the construction of the steel tank and kept consistent for comparison purposes. The tanks were designed to resist the calculated snow loads, wind loads, live loads, dead loads and the hoop stress and moments developed by the hydrostatic pressure due to the contained water.

During the design process, it was determined that a true pinned connection between the tank shell with the foundation and roof would be used. This system eliminates the potential for the development of large stresses in these areas. The concrete shell and roof thicknesses required to resist the applied loadings were designed to be 200 mm and 240 mm respectively. The steel shell consists of 25.4 mm thick plates for the bottom half of the tank and reduced to 12.8 mm plates for the top half to account for the hoop stresses decreasing with height. The recommended roofing system specialists, Ultrafloat Corporation, would design the aluminum geodesic dome according to the specified loads. The concrete and steel tank both required similar uniform slab on grade foundation with a 610 mm height.

Construction drawings in AutoCad2010 were provided for both tanks and used to determine the quantities of material required for construction. A detailed cost analysis was performed based on the initial capital cost and individual maintenance activities costs over a specified life expectancy period of 25 years. The initial capital cost for the concrete tank was \$715,686 compared to \$828,878 for the steel tank. The maintenance costs for the steel tank had a total cost of \$128,800, which includes yearly welding, and thickness testing and one paint/epoxy coating. The concrete tank maintenance cost was estimated to be \$64,400 over the 25-year period and accounts for yearly crack inspections and two roof blasting/seal requirements.

SGMC Consultants considered other advantages and disadvantages of both options prior to concluding the recommended construction material. Field observations noted that steel is a preferred design by contractors in the St. John's area as the steel to concrete tank ratio is approximately 6:1. The prefabricated aluminum geodesic dome roof has the ability to be constructed at the same time as the foundation and shell. This is beneficially to the scheduling of the project and has the potential to be constructed in a shorter time period. The overall comparison revealed concrete to be the material of choice due to its initial cost efficiency, low maintenance, reliability and the long material life expectancy.







# 9 **RECOMMENDATIONS**

The prestressed concrete tank option is recommended based on the information documented in this water storage tank cost analysis study. SGMC Consultants verified which storage tank was most cost efficient from a capital and maintenace cost perspective and conclude that the prestressed concrete tank is preferred mainly due to its economic cost, low maintenance requirements and long service life.

The detailed cost estimates included all material and labour costs associated with the construction of both storage tanks analyzed. It was determined from these detailed cost estimates that the concrete tank had an initial capital cost of \$113,192 lower than the steel tank. This results in an approximately 15% lower material and labour cost for the concrete tank compared to the steel tank. Although this is an appealing figure other considerations such as maintenance requirements and the life of material were necessary before SGMC Consultants could concluded a recommendation.

The analysis of the maintencance cost included the individual maintenance activities for both tanks as well as the total maintenance cost over a specified time period of 25 years for its service life. The maintenace analysis of the concrete tank included roof blasting and seal which was assumed to be required twice over the 25 year period and yearly crack inspections. The total cost for maintenance over the specified time period was \$64,400 resulting in a 50% lower rate than the calculated cost for the steel tank. This conclusion was the second determining factor for SGMC Consultants recommendation.

Finally, the reliability and long material life expectancy of concrete were other factors considered in the study. Assuming the tanks are constructed to the specifications of the properly designed tanks, the reliability and material life expectancy is higher for concrete. It was concluded from this data that the advantages of the concrete water storage tank outweight those of the steel tank and hench the concrete tank is recommended for construction.





# 10 **REFERENCES**

- 1. Myers, Philip E. (1997). Aboveground Storage Tanks. New York, NY: McGraw Hill.
- Melerski, Edmund S. (2006). Design Analysis of Beams, Circular Plates and Cylindrical Tanks on Elastic Foundations. London, UK: Taylor and Francis Group.
- 3. National Building Code of Canada 2005, National Research Council of Canada, Ottawa, Ontario.
- 4. User's Guide NBC 2005: Structural Commentaries (Part 4 of Division B).
- 5. Hussein, Dr. Amgad (P. Eng.). (2009). ENGI 8705 Structural Building Systems. Memorial University of Newfoundland, St. John's, Newfoundland.
- 6. Cement Association of Canada (2006). Concrete Design Handbook. Ottawa, ONT : Cement Association of Canada.
- 7. Canadian Institute of Steel Construction (2007). Handbook of Steel Construction. Willowdale, ONT : Lakeside Group Inc.
- 8. "HMT Aluminum Geodesic Dome Roof." <u>HMT Inc.</u> 2008. <u>http://www.hmttank.com/Products\_Geodesic%20Dome%20Roofs.htm</u>
- 9. "Foundations." <u>DKL Engineering Inc.</u> 2009. <u>http://www.sulphuric-acid.com/techmanual/Storage/foundations.htm</u>
- 10. "DuroStar TM Tank Roof Options." <u>VStructural, LLC A Structural Group</u> <u>Company.</u> 2010. <u>http://www.durastortank.com/ABOUTDuraStorTANKS/TANKROOFOPTIONS/tabi</u> d/1581/Default.aspx
- 11. "General rules for aboveground storage tank design and operation." <u>D&B.</u> 2010. <u>http://www.allbusiness.com/manufacturing/chemical-manufacturing/936980-</u><u>1.html</u>
- 12. "Welded Carbon Steel Tanks for Water Storage." <u>American Water Works</u> <u>Association (AWWA D110-05) Standard.</u> 2006.
- 13. "Ultraflote Technology = Ultimate Quality." <u>Ultraflote Corporation.</u> 2009 <u>http://www.ultraflote.com/index.html</u>





# **APPENDICES**

# 3.8 M Litre Water Storage Tank Cost Analysis City of St. John's, NL

fga Consulting Engineers Limited

#### **Prepared for:**

Greg Barton; Ken Tobin fga Consulting Engineers Limited 2 Hunt's Lane St. John's, NL A1B 2L3

#### **Prepared by:**

SGMC Consultants Civil Engineering Group 4: Mark Sampson Nikita Gibbons Russell Murphy Richard Chambers

Faculty of Engineering & Applied Science Memorial University of Newfoundland St. John's, NL A1B 3X5 sgmc2010@gmail.com

#### **Course and Instructor:**

Civil Engineering Project – ENGI 8700 Dr. Steve Bruneau

#### Date:

5 April, 2010

# Appendix A

		Roof				Shell				Bottom				Foundation		
	Material	C	Design		Material	D	esign		Material		Design		Material		Design	
1		Double deck floating pontoor	Reduces losses due to evaporation (mostly petroleum/chemical application).	Aluminum	Large strength to weight ratio, corrosion resistant.	Factory coated bolted section	Can be relocated, quick assembly, capacity can be increased by adding shell courses.			Cone up	Centre of tank is crowned so that water drains to the outside of the tank for easy drainage.	Reinforced	Cast in place	Slab on grade	Slab of specified thickness poured to grade.	
Aluminum <b>2</b>	Large strength to weight ratio, corrosion resistant.	Conical shaped	Simple and economical, widely used in tank design.	Carbon Steel	Most common, easily repairable.	Factory coated bolted section	Can be relocated, quick assembly, capacity can be increased by adding shell courses.	Aluminum	Large strength to weight ratio, corrosion resistant.	Cone down	Bottom is sloped down towards the centre of the tan where water is drained by use of a sump and piping.	k e		Thickened edge	Produces effect of ring wall and anchors tank down.	
3		Geodesic dome	Simple and economical, no column support required.			Welded	High strength, economical, widely used in tank design.		5	Single slope	Bottom is sloped to one side for drainage at one point along the perifery.					
4 Carbon Steel	Most common, easily	Conical shaped	Simple and economical, widely used in tank design.	Reinforced	Fairly common, corrosion	Prestressed	Applies permanent compressive force using rods, cables or tendons, widely used in tank design.	, ed  Carbon Steel Most common, easily Cone repairable.	c	Cone up	Centre of tank is crowned so that water drains to the outside of the tank for easy drainage.					
5	repairable.	Umbrella/Dome shaped	Simple and economical, good for internal coatings.	Concrete	resistant.	Cast in place	External strapping is used to generate hoop forces.		- Carbon Steel Most common, easily repairable.	Cone down	Bottom is sloped down towards the centre of the tan where water is drained by use of a sump and piping.	k 2				
6 Reinforced	Conical sh: Fairly common, corrosion	Conical shaped	Simple and economical, widely used in tank design.	Fiberglass	F Completely corrosion	Filament wound	Applied by continuous glass fiber roving in helical patterns thickness can vary as hoop stresses dictate.			Single slope	Bottom is sloped to one side for drainage at one point along the perifery.					
Concrete 7	resistant.	Umbrella/Dome shaped	Simple and economical, good for internal coatings.	Reinforced Plastic	steel	Contact molded	Multiple layers of fiberglass chopped strand mat are applied and built up to the desired thickness.			Cone up	Centre of tank is crowned so that water drains to the outside of the tank for easy drainage.					
8 Fiberglass	Completely corrosion resistant, more flexible than	Conical shaped	Simple and economical, widely used in tank design.					Reinforced Fa Concrete re	Reinforced Fairly common, corrosion Concrete resistant.	Reinforced Fairly common, corrosion Concrete resistant.	Cone down	Bottom is sloped down towards the centre of the tan where water is drained by use of a sump and piping.	k 2			
9	steel	Umbrella/Dome shaped	Simple and economical, good for internal coatings.	-						Single slope	Bottom is sloped to one side for drainage at one point along the perifery.	_				
10									Completely approxim	Cone up	Centre of tank is crowned so that water drains to the outside of the tank for easy drainage.					
11								Fiberglass Reinforced Plastic	resistant, more flexible than steel	Cone down	Bottom is sloped down towards the centre of the tan where water is drained by use of a sump and piping. Bottom is sloped to one side	k e				
12										Single slope	for drainage at one point along the perifery.					



Group 4 Richard Chambers Mark Sampson Nikita Gibbons Russell Murphy



	Capacity: 3,8 Maximum /	00,000 L (3,800 m	2)	
	Maximum	Height: 25.0 m		
Trial	Volume of Tank (m <sup>3</sup> )	Diameter (m)	Raduis (m)	Height (m
1	3,800	20.00	10.00	12.10
2	3,800	19.90	9.95	12.22
3	3,800	19.80	9.90	12.34
4	3,800	19.70	9.85	12.47
5	3,800	19.60	9.80	12.59
6	3,800	19.50	9.75	12.72
7	3,800	19.40	9.70	12.86
8	3,800	19.30	9.65	12.99
9	3,800	19.20	9.60	13.12
10	3,800	19.10	9.55	13.26
11	3,800	19.00	9.50	13.40
12	3,800	18.90	9.45	13.54
13	3,800	18.80	9.40	13.69
14	3,800	18,70	9.35	13.84
15	3,800	18.60	9.30	13.99
16	3,800	18.50	9.25	14.14
17	3,800	18.40	9.20	14.29
18	3,800	18.30	9.15	14.45
19	3,800	18.20	9.10	14.61
20	3,800	18.10	9.05	14.77
21	3,800	18.00	9.00	14.93
22	3,800	17.90	8.95	15.10
23	3,800	17.80	8.90	15.27
24	3,800	17.70	8.85	15.44
25	3,800	17.60	8.80	15.62
26	3,800	17.50	8.75	15.80
27	3,800	17.40	8.70	15.98
28	3,800	17.30	8.65	16.17
29	3,800	17.20	8.60	16.35
30	3,800	17.10	8.55	16.55
31	3,800	17.00	8.50	16.74
32	3,800	16.90	8.45	16.94
33	3,800	16.80	8.40	17.14
34	3,800	16.70	8.35	17.35
35	3,800	16.60	8.30	17.56
36	3,800	16.50	8.25	17.77
37	3,800	16.40	8.20	17.99
38	3,800	16.30	8.15	18.21
39	3,800	16.20	8.10	18.44
40	3,800	16.10	8.05	18.67
41	3,800	16.00	8.00	18.90
42	3,800	15.90	7.95	19.14
43	3,800	15.80	7.90	19.38
44	3,800	15,70	7.85	19.63
45	7.600	15.55	7.75	20.14



Group 4 Richard Chambers Mark Sampson Nikita Gibbons Russell Murphy



Water Tower Option Study Capacity: 3,800,000 L (3,800 m <sup>2</sup> ) Maximum Diamerter: 20.0 m Maximum Height: 25.0 m							
Trial	Volume of Tank (m <sup>3</sup> )	Diameter (m)	Raduis (m)	Height (m			
47	3,600	15.40	7.70	20.40			
48	3,800	15.30	7.65	20.67			
49	3,800	15.20	7.60	20.94			
50	3,800	15.10	7.55	21.22			
51	3,600	15.00	7.50	21.50			
52	3,800	14.90	7,45	21.79			
53	3,800	14.80	7.40	22.09			
54	3,800	14.70	7.35	22.39			
55	3,800	14.60	7.30	22.70			
56	3,800	14.50	7.25	23.01			
57	3,800	14.40	7.20	23.33			
58	3,800	14.30	7.15	23.66			
59	3,800	14.20	7.10	23.99			
60	3,800	14.10	7.05	24.34			
61	3,800	14.00	7.00	24,69			
62	3,800	13.90	6.95	25.04			



Group 4 Richard Chambers Mark Sampson Nikits Gibbone Russell Murphy

Isa .....

Water Tower Options Category 3,800,000 L (3,800 m <sup>3</sup> ) Maximum Diameter 20.0 m (65,82 m) - Maximum Height 21 m (63,03 m) Selection based on 20 m X 8 m store parets								
Selection	Capacity (m)	Casacity (11)	Heright (H)	Height (m)	Reduct (M)	Radius (m)	Dumeter (A)	Diameter (m)
	3,800	134195.70	40.08	12.59	32.68	9.56	85.38	39.62
2	3,880	134195.70	45.00	24.83	29.83	8.09	59.66	
3	1,800	134195.70	56.00	17.07	27.62	8.42	55.24	35.84
- 14	3,800	134195.70	64.00	19.52	21.83	2.87	\$1.47	15.75
8	3.800	134135.70	72.00	21.95	24.36	7.42	48.71	14.85
- 6	3,800	134195.70	80.08	24.38	23.11	2.04	46.71	34.09

Note: Out of the 6 options SGMC tave decided to go with option 2. This option has a height of 48.1t and and a diameter of approximately 50 ft. To give the tank extra space abovethe water line we have decided to increase the diameter to 62.1t. This extra fact in diameter would still hold the given water option by and provide workable space during construction. Below are the exact values of our proposed tarks dimensions. To determine the diameter we decreased the water height by 2.1t. This using a water level of 45 ft compared to the actual tark height of 48.1t.

Volume	Height.	Radius	Diameter
134195.70	-#6,20	35.47	61

# Appendix B


Date: Feb. 11th, 20 0

Title: Snow Loads - Concrete Tank Shoer 1 of 4

	4	Р	30		-i.	10		4	h	20	,	i.	0	ac	hi	10		(	\$	)																
					•		S	ļ		1	5	Ι	4		ζ	, C	<u>ь</u> .с	<b>C</b> .1	4.4	- 4	٦	R	1.+	•	Ś			•	~~	B	C	¢	k.	∕ S≓	<u>د</u> ک	1,1:
) /h	: 2.571	e,																																		
H	$\neg$	1	6	2	<u>.</u>		br	te		÷£		£.,	ct	C)F	-	6	╞	sr D	a	V		1	Ц	$ \square$				6					-			
H	-		25	-	0	1 <u>C</u> 0	<u>e</u>	ел Ка	e.	L.		L.C		uợ be	-	lin Ve			<u>.</u>	_ UL	) L <sup>™</sup>	Ξħ		1	1	Ur Ur	-	20		P	roi	201	D6.	1	¥.	
		d	, je	5		12.	sù		G	8		<u>Ş</u> I	21		ļ		el.		, d	J.	20														ļ	
H		9	Ц	=		<u>li</u>	5		<u>⊧×</u>	₽	5.	<u>ר</u> פ ר		fa.		0	-						-									┝	$\square$	Η		-
		d	a	5		5	9.F	e	5	i Pe		172 DT				┢		ļ			!											┢	!	Η		Η
		Q	.c	=		2.5	50	ÈÈ	<u>64</u>	2.0		54	i.c		le	20	Ļ.,	4		ĸF	2 Z		K)	0.0	ver	re.r	ļ,	٠ŧ١	<u>,</u> e	. 54	L.		15	ac	Ļ	
H		_		$\vdash$	4	<u>l</u> t	<i>c</i>	11	Ł	1	04	a- (	tic	1	4		4		x	F	$\vdash$	<u>ne</u> .:	e	d.	2	<u>a <del>(</del></u>	Ę	Ь	£.,	Ł	h¥			ą,	<u>eo</u>	te
						ha	<u>n</u>	T	re 1	i'	¢,			a	ve		10. 	>	Rς	Ŵ	/	<u>(</u> _,	<u>은</u> ,		Þ	Ĺ	-		5	5			<u>ندي</u> .	¢.	, L	<u> </u>
							i :					<u> </u>			-		Ĺ																			Ц
$\square$	•		1	(m)		<u></u> ∦ ₹	) J	ce	-	1	<del>ا</del> م	te		4	בן	<u>ls</u>		$\left  \right $	╞				$\vdash$	┢	-							┢	$\vdash$	$\left  \right $		$\square$
						Þ		6	6	Eac	e		-	nk		h	q.c		in	1.P.	۶r	Į.	244		<u>e</u> e	<u>t</u> e	a	<u>רי</u>	/	١	0	rm	٩Ì			
H			Ĺ		L	Þ	$\vdash$	Li	m	<u>i</u>	15	te	łe	5	1	e	<u>sú</u>	h	ļ													į T	╞			$\square$
H	-		ſ	ŧ-	+-			<b>-</b>		. (		-		┢	┞	┢	$\vdash$		-	+	$\left  \right $	$\vdash$		$\left  \right $	╞	╞	$\vdash$	$\vdash$		╞	$\vdash$	┝	<b> </b>	┢		$\vdash$
			F	Ľ			Ĺ		Ì		ļ																									
	_		  .		$\vdash$		Ļ		-	-		ļ				-		$\vdash$			$\vdash$		$\vdash$	,		<b> </b> _			-			┞		Ľ		$\square$
	•		1.		1+		┞	ł	ee	Ľ.	┢	Ę1		124	<b>.</b>	1-5		4	<b>*</b>	۱c	0	<u>لم</u>		ľ		5	ρ.	╞		-	-	┢	╞	$\vdash$	$\vdash$	H
						2	C	ι÷	X	1	Ŧ		5	ŧ		t.	h.	Ś		N	eυ	Ļ Fi	olor		un	L.						L				
H			-	<u> </u>	L	1	T.		Ł	4	ŀ	2	, <b>.</b>	Å₽		di.	×	<u> </u>	Ę,		N1	¢¢	ŧ.	20	þ	þ.,	: }	Ļ			╞	┢	$\vdash$	╞		$\square$
Η	_	-	ſ			5,		-	2	k	1	P					$\vdash$	┢				-	+			<u> </u> -	ļ	$\left  \right $	┢		┢	┢	┢	$\vdash$		
				Ē	Ĺ										Γ	1		İ.														L				
-		A	5		<u>ki</u>	<u> </u>  -	<u>le</u> c		-	<u>ti</u>	h		1	Ы	4	1			1	-	-		-		-			-	-	-	-	╞	╞	Ļ		
			ŀ	łł	┢		1.	ł	+	d F	6	51	4 3 30	5	5		k	$\mathbf{T}$	N		Ę		L		J					1	1	ł		:		-
				1	1		10	Ь.	e.		-	2	1	À	191	e i	ú	x	-	Ē,			1		2	0	69	<b>b</b>				F	Ļ	• +-		
					E		-			72			L		-	_		-						ł.,				-						Ĺ,		



Date: Feb. 11th 010

Title: Snow Loads - Concrete Tank Sheet 2 of 4





Date: Feb, 11th, 2010

Title: Snow Loads - Concrete Tank

Sheet 3\_ of 4\_





Date: Feb. 11, 2010

## Title: Snow Loads - Concrete Tank

#### Sheet 4 of 4





Date: Mar. 10th 2010

### Title: Snow Loads - Steel Jank

### Sheet 1 of 3

							-	•••••			-			-		7	2					-					_			_					ļ
	21	24	L L		<u>د</u> ک		2		<u></u>			20	لف	,s		<u> </u>	2									;		-							
					5	=	1	5.	1	5	<u>k (</u>		- be	2	w	Ç,	Б (	-9	7	+!	S	5	ר ק		Υ.		16	50	_	Ċ	١a	บร	Ë.	ч	
					:						 	-											. i		4					2		T			Providence of the second
	0	5			о 1-0	L.	0. N D	1 <u>5</u>	07	5		e		Ē	<u>50</u> 61	5	5		200	<u>در</u> له	2	5				<u></u> 	(0) (e)	<u>15</u>	-	2 B	.¥	11	¥Р А	<u>LC</u> 204	
							1		ļ.,																										i
$\square$				1	١e	_	£₀	11.	-eri	<u>م م</u>		E.	<i>ا</i> د.	<u>, l</u> e	4	6	5.		ŝ	_1	2013	se	L	<u>_</u>	2	-	h,	-	5	<u>e</u> n	72				
	-			ŧ	γP	<u>tc</u>	<u> </u>		1 54	1.07	<u>h p</u>	ŧċ	579		3	5	<del>{ </del>	Æ.	<u>ل</u> مبر	22			<u>.</u>		20	Ľ.		101	ve	5	~				
$\square$				5	οr ν c	ne F	व प्रद	ESS E	5.26	1/57		20. . 4		2	LL. L	**			du.	1.E_	·····	10		<u>.</u> ۲.	<u>و</u> ا		<u>a</u> ,	+7	er	e.n		17	<u>(</u> 0.)	Æ٢	1
																																			ļ
		Ţ	5	7	7	0	-		$\vdash$							-	<u> </u>	ļ					_												
•		5	5	•	2	<u> 9</u>	2	12	┝	$\vdash$	$\vdash$				<b> </b>								 {						_						
•	$\vdash$	5	r L	-		2	ľ		┝	$\vdash$	$\vdash$				$\vdash$						-		<u>+</u>	<b>⊦</b>			 i	· .					<b> </b>		
•		C	R Lu	-	d		S		<b> </b>	<u> </u>	$\vdash$										-		{						_			$\left  \right $			
· · · ·	· · · ·																												1						
	- 4	5	su	me	•	6	L	m	ļn,	44	┝	P	24	2	20	Lu 1		<u>ل</u> ا	or	2		<u>.</u>	ь£	<u> </u>	5.	þr.		54	e	1		te	~	4	
$\left  \right $	1	<u>a</u> ./		1÷	h.		⊧∞	1	łe,	-	51	e	æ	-	a	5	4	4		21	<u>1</u>	20	<u>( id</u>	<u> </u>	4	<u>.</u>	ķε	<u>e 1</u>	×	4	ar	he	-	0	9
$\square$			07	<u> </u>	6	57	F	17	<b>+</b> :		-											$\vdash$		-			<u> </u>		$\vdash$			$\vdash$		<u> </u>	
								t									2																		
	F	a	ۍ ت		2	1	₽₽	e	5	F.a.	2	0	ŀ	ζ	6	5	$\sum$		×	N	₿¢	-		1	40	5		ч	1	6	2	(	$\mathbf{i}$		
						.	Ľ.		<u> </u>	ļ						-											<u> </u>							<b>.</b>	
		-	2	A	35	UN	e_		A	hu	Y	ne	n		100	1	    	La.	_	an		ψn	<u>5</u> 0	sti	Ψ¢	1	<u>لم</u>	3	il ;	þþe	ry	1	υr	ta.	
		7		_				5.		b	7	44	10		·							$\vdash$	$\vdash$	$\vdash$			<b> </b>					┝╼╴			
				-	(	6	5		Ì		1	45	0																				$\vdash$		
		<b>C</b>						Ļ	L													[						 							
		2	-9	=	<b>k</b>	0	, 7	8	Ц	_					<u> </u> ,	ļ	 	L				ļ													
H	$\vdash$					-	-			$\vdash$	$\vdash$					-	:		-			┣	h			•••								$\vdash$	
							-	+		<u> </u>	<u> </u>								-	·					<u> </u>						-	-			
		·				$\vdash$	$\vdash$	$\vdash$	t	$\vdash$	$\vdash$	$\square$			$\vdash$	$\vdash$								$\vdash$			┢╼╸	┢╍╍╍		$\vdash$			$\vdash$	$\vdash$	
								Γ	<b>[</b> .			_ ·				İ												ļ							-
									1	F							1																		1



Date: Mr. 10th \_\_\_\_10

### Title: Snow Loads - Stel Tank

### Sheet 2 of 3

<u>'</u>	_			a di		Fa	-	6	d	1	2	4	٥.,	Δ.		×	Ē			<b>.</b>	G	-	B	-	4	51	0	et	Ur.			k	5	-	. 4	ary	4
+	+	$\frac{1}{1}$	{	-		-	┝	┢	1	+		_		-				-	-	 	-	-		1		ło		ΞĿ	<b>.</b>	5	E	É	<b> </b>	24		<u>;</u>	-
1	1	Ľ,	Z	Ų		ب د د بر		t		De	1	5		L	20	ik e	J		hac	2	ļ.,	1	tei	bu	ti	pr."						L	Ĺ				
+	+	4	5	A	55	hur	e.	L.	\$-	4	4	t	D,	-5	55	Ł	μ,		∦₋	-	4.4	¢ĸ	N	la	3							┞	┞	$\vdash$		_	-
+	+	4	2	<u>.</u>	/.£	=	2	1	8.	4	=	Č	-1		P	44	6	<u>∔</u> ≗	┥	<u>þ</u>	<u></u> ∦	-	$\vdash$						_	-	$\vdash$	<u> </u>	<u> </u>	<u> </u>		_	+
	$\pm$	4	2		1 =	-	۲ 0		12	-	-	_	2,	E	É	-		2		Þ	1.												$\vdash$	$\vdash$		$\pm$	-
+		-			- -		-		<u> </u> 	;						1		R	  .		-	Ļ	L		Ļ				_								_
			1				Ē			ļ	1						Ĺ	Ĺ				Ì											t				
$\downarrow$	+	4		5	7		5	ļ	4	24	4	4	Ċ.	4	4.00	46	4	12	Þ	ŧ,	5,	7	-			5											_
+	+	+	-		≓	1	þ	╞	17	<u>}</u>	4	4	þ. ;	Þ	(0	7	<u>'</u> 5'	44	<u>4.7</u>	8)		1	<u> </u>	þ.	7	ĺ						-	-			+	_
	+	╉	-	5	-		<u>.</u>	<u>P</u> i	6	<u>t</u> f	20	,	-	╞		÷;	·	+	┼╾┉		<b>—</b> ,	-		-		_						-	╞			+	_
┢	┢	╡				$\vdash$	$\vdash$	1	T	1	ţ	-	24	R.	10		┉ <u>┉</u> ╓╴	<u> 0.0</u>  9	44.4	등스 		ie;	1d	i re	-	<u>~~</u>	in the second		<u>se</u>	<u>h S</u>	$\frac{1}{1}$	+		Г		+	
t	+	-†	1			$\vdash$			ĺ		ľ	-0	5	<u>† 2</u>		╎╵	1	<b>P</b> -			╞	┞		-						<b>-</b>	$\vdash$	+	╞	1		+	
ĺ			J	~	Le	50		I					$\overline{c}$		-		1 8	x		:		$\square$		1						<b>—</b>		<u> </u>	┢			╈	_
																3		Ł																			
- -	_ -						$\vdash$	$\downarrow$	-	$\downarrow$	4	_			=	4	<u>6</u> )	12	1		ļ	╘								Ļ				$\perp$		_	_
-	+	+					$\vdash$	$\downarrow$	+	╞	4		L	Ļ	_	6	<u>.</u> e	фV.	<u>¢.8</u>	U.	$\vdash$	Ļ	<u> </u>	<u> </u>									╞	-		_	_
	-+		-				$\vdash$	╞	┝	+	-		-	1	╞	12	6	╀	+	:		┞	$\vdash$						-		-	+	1	╞		+	_
+	+	+				-	+			+		_	_		1	1	+	+	-		<b>D</b>	╞	$\vdash$	-		-	\		$\vdash$		$\vdash$	+	+	$\vdash$		+	
+	+	1	1			2			+-	П¢	27	ť	ħΩ	15	*	111		$\vdash$	17	25	a'	r.	21	+	.0	59	· · ·			<b>-</b>	$\vdash$	┢	╋	┢		+	_
			1					1-			1	_	C	6		$\uparrow$	F	-	T.	16	ħ	ľ		Ga	ver	٦Ś			$\vdash$		$\vdash$	┢	+	┢			
														F			F				1																
$\downarrow$		_																		:																	
+	ষ্ণ	4	4	2	<u>. 4</u>	<b>.</b>	Ħ	1	-	+	4		_	Ļ			+	_	<u> </u>	ļ	ļ	L			Ļ							<u>.</u>		╞		4	_
+	+	╁	_			F	₽	X	Þ	F		2	1	╞	ø		¦×		μì	er	╞		<u></u> ∦	3	þ°	_	<u>er</u>		a	ive.	4	15	×	-	ŧ	-	
┽	+	╋			<b>_</b>	$\vdash$	$\vdash$	┞	+	+	4	لم	1	<u> </u>	b Ì	-	201	٩ř	i	L.F	•	<u>≮≞</u>	4	30	<u> </u>						-	+-	┢	┝			_
╈	+	-		_			Ŀ		॑	t	+			$\vdash$	$\vdash$	1		┢	5	$\vdash$	ťċ	$\vdash$	17	-				-			$\vdash$	+	$\vdash$	┢		+	
$\dagger$	Ť	Ť		<u>۲</u>			ŕ	f	1	f	10		•	$\vdash$				╞	Ē		K.	5	A		-	_	$\vdash$			-		+	+	$\vdash$	$\vdash$	╡	_
t	1	1				$\vdash$	$\square$	┞	t	t							5	Ŀ		17	9	3	7	۵.	व							+	$^{+}$	+		+	
																		6	8	Κ	গ	3	]			_											_
										1						ſ	ŧ	2	2	5	5								<b></b>				1				



Date: Mar 10t, 2010

### Title: Snow Loads - Steel tank

#### Sheet 3 of 3



# Appendix C



Date: Feb. 12th, 2010

Title: Wind on - Concrete & Steel Tank Sheet 1 of 5





Date: Feb. 2th 2010

### Sheet <u>2</u> of <u>5</u>





Date: Feb. 12th, 2010

#### Sheet <u>3</u> of <u>5</u>





Title: Wind Loads

Date: Feb. 12th 2010

#### Sheet $\underline{H}$ of $\underline{S}$

(E · 10 Face le v a tour Comma St Ч. Flight H, \*q C'e · A ff... C ÷. • • 0.10 Ce > 0.167 C.P For 40 LFIC: t he \* 28,7 > 0,167 S- OK -4 b.78 A 1.0 14.6 186 = berness A5. to th 4 3. (CF = 0.3 Atain = (18.6)(14.6 = 271.60  $F_{u} = C_{s} \cdot q \cdot C^{*} q \cdot C^{*} q \cdot C^{*} e \cdot A$   $= C_{0} \cdot S_{v} \cdot C_{0} \otimes c_{s} \cdot C_{v} \cdot C_{v} \cdot C_{s} ് 6 - 1) ŧ. ٧A H77 5 XV 1-16 xPa --Ьđ 271.6 m



Date: Feb. 12th 2010

### Sheet 5 of 5



# Appendix D



Title: Seismic Loading

Date: Feb. 12 th . 2010

### Sheet $\_ \ of \_$

8 1 2005 NBC Clause 4) The deFlect Field spec ading blue to to be consulered 41.1.8.4 (6) Le lobe not £ earthqual S(0.2) heed ons <u>ما و</u> d Sentenc equal to 6.12 less | <del>4</del>|\ 05 S(T) = FLSL 0.2 For 1 4 023 ۰ t Profile Hard Rock" Groud las therefore SUME lass 5% danped For eleration 50.0.21=0.18 St. John's, NL flor Ċ, \* Table J-Z, Structural Since Sa (0.2) 0.25 255 uned Fa= 0.7 \* Table H.1.8.H.B- N Table J-Z Commentary 1 Site Cla 4 \$5 Å assumed NBE 2005  $S(a, vz) = F_{a} S_{a}(a, z)$ = (a, 7)(a, 18)= (a, 7)(a, 18)00 For TE025

# Appendix E



Date: february 11,10 Sheet <u>1</u> of <u>7</u>

## Title: Concrete Tank Desgn (Shell) Shee

step	1:	b	R	he	1	100	9	me	le									[]				Ŭ	1	1	Ĺ							1	1	
					F					<b>F</b>													·		·			·				$\dashv$	-	
<u>019</u> U-	<u>ص</u> مب	11	t.								$\vdash$		┝			$\square$	$\vdash$									-				_		-	-+	
		<u> </u>	Ē		┝-					┢	$\vdash$		⊢	$\vdash$																		+	$\dashv$	••••
1 14 = (		2 a	2	-			-			<u> </u>	┢		┢	$\vdash$						$\square$								:		:		+	┦	_
a = 3	Γ.	<u>н</u> . К	FL		0.5		-	L			┢	-	┢─													Η							╡	
	55	0				~		G					$\vdash$												• •							+	┪	_
		6	ç,	-	$\vdash$					╞	$\vdash$		⊢	$\vdash$																				_
X	6 2	Ĺ		Ь	l+	Į. 3			ł	$\vdash$	$\vdash$	-	$\vdash$								Π											1	1	
P=0		<del> '</del>		Ĩ	ľ								1								-				•						•••••	$\neg$	Ť	
6.1+	5	59	0	1	5	E				1																								
Ú. F	3	ns	Ī	25	Ł	[			1			İ	$\square$					·														1	1	
F == =	2	5	hμ		P3	i					<b></b>																					$\uparrow$	1	_
F) 4		15	F/		-	2	2	50		Ps	ł			ŀ	ŀ																			
		20	0	05	i				[			<b> </b>	<b></b>					t					:											
		2	10	01	50		Ps	č								·																		
	Γ.	6	FD.		2	ļ	ጽ	84	1 2	34		P	ż	ĺ																				
DV -	2	3	60	0	Ь	2	s i					<b>[</b>		ľ																				
NS =		22	0	00	0		25	Ł						Į																				
pe =	0	.5	5.	24	-		ч	89	2	0	P	sί																						
			r																														-	
step	2	:	S.	he	11	ì	e:	iq	S																									
	E							-		Ŀ							Ĺ																	
Ash	m	e.	5	h	61		S	21		41	hi	e y	n	25	5	=		z	$\simeq$	5 m	ar.	9	e.	7	8		in							
																						2	ζ.		6	55	f	£						
	L	L							L,															-		Ē			=					
(lonia)	Ш	e		۶	=	X	(]	<u> -</u>	V	<u>} i</u>	h			Ĺ						1	4	Ŧ	0		n	łł	is	. (	a	ŝ				
$ \mathbf{p} $					-	67	-4	(1	44	<u>–</u>	6)	C	<u>30</u>	5)						d	5	-	θ	q	L cr	<u>, </u>	5	Ł	٩Ç	ęç	ស	rt		_
					z		8	15	4	Π.	2	ļ	Į,	Į£	Ł					۵	Ł	H	=0	<u>v</u>	Ú	0	10	m	1 <u>0</u>	£	ha	nl	2	
						=					Ē				Ē			<b> </b>						L_						L.				
								μz									Ĺ																	
<u>3</u> *		2	1		И	4	2	Ľ	H						N	4				5	(	۶.1	0											
4			r	£	$\overline{T}$	2		Ţ.,			Ĺ					Ľ	-1 <sub>2</sub> ,	rγ																
<u> </u>	[3	(	1	- ,	2	Ð	<u>[</u> '	[1		Į _	<u>Q.</u>	6	9																					
$\downarrow \downarrow$		(	30	5	ĿJ	6	3	12			E		E	E																				
		4			-									~		-	-													-				

SGMC

Date: February 11, 10

Title:	Concrete	Tonk	Design	(shell)	Sheet 2 of $\gamma$
			` J	,	

Select		m	<u>۲۹</u>	'pi	a	nt	-	Cd	e	f	Cì	en	t	,	-	-	<u>Fr</u>	<u>&gt;</u> re	۱ <u>ــ</u>		[d	<u>bl</u>	¢	10	<u>), (</u>	4	10	ŀ.	ما	-	_		
12	-		Ц	Ī.	-			Ţ	2	.9	6			1		- 1										I			-	+	+	-	
TH		6	Ŀ	6	55						2	-	3																				
												-		-	-				$\downarrow$			$\rightarrow$								$\dashv$	$\dashv$	$\downarrow$	+
<u>Using</u>		<u>ra</u> ł	zle	_	l	t.(	29		ᡛ	])	<u>ati</u>	Ч	ø	ad	10. 1	4	·	┥	$\dashv$	$\neg$		-	+	-	-	_		-	$ \neg $	+	+	┦	+
ŤŤ	r.			.0	00	la'	-		-	-			0	15	ц				-+	-				$\neg$	$\neg$			$\neg$		+	+	╉	-+
		-	Ĭ				-	<b>-</b> - 1	-			÷.	9	51	40	$\rangle$	4		43	7		=	Ę.										$\top$
			-			_										:		4	-							_		-			-	_	$\downarrow$
Using		Ta	61	2	1	.1	20		4	ĩ	Ы	er	Pd	ما	-li	217	,				-											-	4
		_	7.0			-		-		,		01							┥							_			jļ		-+	+	╉
	<b>↓</b> . Ξ	-1	19	-	_					<u>, ( )</u>		ю. А	2 M 5 (	ш	5		,	3	9.1		£	L .										┪	+
			L							-	F	. 12-		- 14			-	2	-	2						,					,	1	
									_																								
Clone	цI	_	r	۱G	x_	N	h	L				α	h	20		<u> </u>	30	s¢	.								[		<b></b>	1		_	$\downarrow$
					h	10	<u>/</u>	- -		2									_								<b>1</b>	_	1	ro	ŋ	Te	elk
- 14	⊬	= '			4	н Н	7	4		7	L	1	3			5	2 9	24		æ	$\square$	F	- 1		5	¥			11-1	٤Q		500	나
	H	-	,	20		D I		24	-7			21				-			<u></u>	22	=		<u></u>		-1	<u>au</u>						$\uparrow$	1
M.			0			Ę.	<b>.</b> -	h	/1	Fŧ							_															1	
	Ľ				-							-	⊢																$\square$			$\downarrow$	_
	.	Ļ		<u> </u>			<u> </u>	Ļ	Ļ																		$\left  \right $					$\dashv$	+
Hoviz	04	140	Ц,	1 <b>r</b>	a	41	<u>ا م</u>	1	<u>Sìr</u>	ig 13		e:	s	e1	ր											-	┝╸╏		┢━─				╞
6	4	-		z	В	H	- 1	5			1	Ÿ,	÷.					+(	2	G	คา	<u>ا)(</u>	6			5.		6.7	2.4	13	0.	s¥	1
			-		f	ſ		ľ		Ī	12	1	/	42	2		Ĩ												11		-	7	1
														ļ							[							_	Ĺ				_
_		' j				$\vdash$	-	╞	-		$\vdash$		<u> </u>		<u>.</u>		<b> </b> ≓,		14	6	5.	5	8		<u>Xì</u>		ť.		$\vdash$	$\square$			+
	-					$\vdash$	2	┢	-		5			1,	10	<u> </u>		,											┝			┍┥	+
	¥.			2 3		f	2	f	┢	1	1	7	<u>•</u>	r	12	1	╞		4	٦Ċ	<b>P</b> -1	P	ľ	-	-				-				+
			1	ľ		ľ		Ť	$\vdash$		<u>†</u>	t	1-	T			ſ						ļ						1				
Fi	79	'	V			n	5.	99		(	× .	ÿ	1.14		Ţ,	اطد	e		١ŗ,	a			Ľ										ļ
			Ĺ					0			! <del> </del>				ļ	L	1				L	$\vdash$					1.2 2		Ļ	Ļ			-
				C	ŧ.		٩.0	الو		L	1	ŀ	85	łH	Z		3	۹,۱	Ľ	rt,	4			••	Ŋ	È.	FI	<u>b</u> [	Ľ	19.	L.		i



Date: February 11,10

## Tille: <u>Concrete Tank Design (Shell)</u> Sheet <u>3 of 7</u>

	7									7			_					1															
1	ИS	3	g,	T	лb	le		Ū.		(	Τ¢	6	Ł.,	Ó	£	£	2.2	ьd	ìo	nς	)					i	]						
			0		_					_												_								į			_
for		зų	Ξ	_	2.(	Dd	-		_	23	-	6	26	7				_	_	2			0;	56	2				┞				_
			_	_	_	<u> </u>			-	Y	- 1	רו	٩ı	1				_	4			17	30	2					-			$\rightarrow$	+
	Ā	M	_						ļ	-1	2 \				5	$\square$	_			0	111	1.		60	1		56	7.1	2)	1.	5	┓╎	┦
	-	20	H		3	51	3	13	5.5	5	-1	A.1	5)	2		H			T		14	0	2.	5			~2		<u>P.</u> {			╧╁	
				i	. 67	- , 4				- · ·		·	<u>, , , , , , , , , , , , , , , , , , , </u>	i	1		-	1	80	,5	١.	91		16	1	ť			1.				-†
																	, í																
															:	-	1	8ໍ່	6	5 (	, d	I.	١I	Ь/	f			Ú	4s	¢.			
							_									Ļ										-	ļ						-
φ,	3		F	-	4	26	P)		=		8	1	51	47		K	-	-1'	84	5	<u> .</u>	1	- 1						-	-	┥	┝╌┝	$\rightarrow$
		-		_				$\vdash$	<u> </u>		-			6	8	<u>₿.</u>	5	-7	٩		X	1	Et	· ·	-				-		+-	$\left  \right $	+
	$\vdash$			-			<u> </u>	$\vdash$						F				-		-			F			-				⊢	$\vdash$		+
Sfler	2	1	(		20		e	6		~~		10	ſ	Ь	re	5	<b>Į</b> ,	es	5	5		Ţ	c		i.	6		60	ke		500	1,	5 10
Ħ			ļ		1								Í	F						<i></i>					F		F						
Cho	0.5	e	. 1	le	4		1	P	- CS	5	ı٣	٤		Đ,					<u> </u>														$ \rightarrow$
			<u> </u>					-		<u> </u>		Ļ.		님	-	i ni	a	<	Ŀ	-+	٣d	۶Ÿ,	<u>-</u>	-	$\vdash$				┝	┝	₋		-
			-	5			-			_			-	<u></u>	r	1.1				_				⊢	┝	$\left  \right $		-	+	┝	┢		-+
1410		L.el.		. I	V -					۴		2	$\square$		<u>a</u>	N			2	DT	ĥ			┞		-	$\vdash$	-	$\vdash$	$\vdash$	╀─	╞┼┤	ŀ
This	1	-		្រ	ÞJ	=	a	5		5	1	b	f.	ŧ.	1										[				$\vdash$	ſ	$\top$		$\uparrow$
				3			٢	1				-	<b>b</b> 1	1	ľ	$\square$																	
Pie	s li	• • •	<u>ss</u>	ŝ	3	Ê	fl	ee	٩s		us	īη	4		ło	0	25	ċ		Ŕ٩	<u>3.ù</u>	<u>l -</u>	A	1	Ī	lα	<u>a</u> :	إلم		<u>.</u>	d Pr	cs	sia
					2								μ	<b> </b>				-		ļ					<b> </b>			-				Ц	1
┞┞┤	F:	- 	C.	ŧ F		-				_			_		10	2.		5 7		-	<b>/</b> 1	┟┍	-	$\vdash$	<b> </b>	$\vdash$	K.	1	þt	1	40	K	
	-	F	9	p١	<u>) (</u>	8	Π.	54	μ.	2	<u>ν</u>	•	f	1 1	17	۶١	1	i I	<u>ما</u>	<u> </u>	K b	ľ	t.	-	$\vdash$	$\vdash$	<u>(1)</u>	μ	10	<b>.</b>	μs	ed	-
	ł		1	-		$\vdash$	$\vdash$	-						$\vdash$			-	$\vdash$	   	$\vdash$			-		$\vdash$	$\vdash$	$\vdash$	┢	┞		1	$\left  \cdot \right $	-
19				-									<b>†</b>		+	1		<b>†</b>	Ĺ		╞		ſ	$\vdash$	$\uparrow$		$\square$	t	t		1-	Ħ	
				2	00	<b>P</b> 5	ì.	7	<b>9</b> 7	Ð	X	1Z	17	i.												ļ							
	$\langle$	Z	Ľ																														
10			۰ę	SH	=	3	9.	-	H.			1			<b> </b>	<u> </u>		ក្វ	13	11	Г	6	+	2	po	· '	<u>).</u>	רו	×	ĽŻ,	1		
		h	1	-				<b> </b>	┨		Ļ.,	<b> </b>	-	į		-		3	<u> </u>	٩	82	20	5	<u>י</u> ן	6		Þ	ļf,	ŧ.		-		
	4										[		1				1	16	20	h.,	ŧ	<u>fi s</u>	12	<u>65</u>	17		1	6/	PI	ł			

SGMC

Date: February 11, 10

\_\_\_\_\_ Sheet <u>4</u>\_\_\_ of <u>7</u>\_\_\_

Title: Concrete Tank Desig (Shell)



31



Date: February 14, 10

## Title: <u>Concrete Jack Design</u>. (Shell)

\_\_\_\_\_ Sheet <u>5</u> of <u>7</u>\_\_\_





Date: February 11, 10

## Title: <u>Concrete Jank Design</u> (Shell) Sheet 6 of 7

A	49	1	16	١e		M	n,	5	A	ę١	f	<u>55</u>	(	d	ρ.	1	9	).	ł	2	5	Fy	(	d	-	<u>q</u>	)							_
		2	lí.	2 ltt-			r		בא			3	٩.	39	<u> </u>	2									_	4								
		S1			Ą		2	6	3		i	69	s				24	es	م لرد	e !	50	.0		<u>(</u>	5	~~	- J- J-	e						
								[]]	4	%		C	Ð	<u>_</u>	<u>c.</u> [	2	<b>ب</b>	3																
	Ŧ	e	"	,	74	4	X		8	8	9	8	4	25		=			39	8	4	8	2		ور	۲ö.								
	4	ps	-		4	3	9.) 4		7		9	<u>8</u> 9	20	S a	7	e		ų,		-	10	2		7		۴	÷	ц	10	11	1	F	y	ht
	4	5	4	n e			in	d	iìo	me		~		27	0	ĸ		7	ن د			54	~ 0	N	d		tv	d	04	i s				
						2				A	r	en en			14	Ц		۲	2	/	5.	10	<b>F</b> .	ł	-									
	ŧ	01		H c	1VI	20	<u>~</u>			51	ra	20	5	7	5	F	t	H	eic U	h	ł	-		. T	0	2	>		5 f	t				
													1											- 11		25			n	do	h.	5		
	of		lin	i.	10	00	6	n	, t	Ff		Do	n	1	=			10	2	,	4				1	2	2							
		ļ				'												. 0	2	8.					4						-			
	2	2	4	ir F	5		DC C	<u>م</u>	ų.		υ	ln Ge	<u>e</u> 1	<u>۲</u>	5_	<b>F</b> t 1.		1	<u>)a</u>	<u> </u>		03	n		ω.	h	25	e 		¢.a	50		15	
¥er		a		T	rn.		 9m	5.												╞											<u>†</u>			
Å	på v	 		ī	Pu				84 9	0	20		2	=		. (	0	8	ì	n	2													
AS.	8	1	13		ď,	ar	ne	e e		2	7.	<u> </u>		5	L	iv	٤	5	4,	20	1			Å	11		14	ч		2				
		Z		Ŭ.		Þ.	-	1	1	6	Ŧ		C	v	-1-					-														



# Appendix F



Date: February 11, 10

## Title: <u>Concrete</u> Tank Design (Dome Roof) Sheet 1 of 5

Ī	Ţ			/					1	2			1	d.	50															_						_
_			4					<b> </b>			Ľ	3							_					Н	ء י	6	. 5	6	Fť							_
+	+		$\mathbf{Y}$	_			_	H			_	<u>2</u>	67		5.6	-		-				_		4	=	6	11	t						$\square$	_	
┥	┦	-	_					$\vdash$			4		יר		43		- 6	2	-	-	-	_		0	1.									┝╌┤	+	_
┥	╡								5	$\leftarrow$				-				-	$\neg$	$\neg$	-			Kα	24	P	_				-	<u> </u>			$\neg$	_
┫							N	X	-	c).	-) (e	9	a	+ - (	5	=	]	5		-			ł	r	-		5		_	.1	57	5	4		17	5
1				i						-	ά		8	0	-1	59								1				-								_
							Γ							1	2	ъ.																	0	Ł		
┥		_						<b> </b>			-								_		_									-					_	_
+	<u> </u>																				_					L.,			-							
4	ЦЦ	며	10	<u>a</u> (				$\vdash$		╞			-								_	_	$\vdash$	-							-				-	
┥	2			1				9	Б	>	E		14				Η						14		a.	ï.		i i		17	k,	1	İĘ	e.		-
	Ĩ	71 4		1.6	-			9	Þ	2				55	5							¥	1	ak	- - -		iv a	<b>m</b>	6	lin	Lī.		5			-
								, q	0	2	1	55												C 0	.lc	۶.	a	l i	٥v	15	Ĺ					
									b	2		16		5																	<u> </u> .					
4								٩.	D	2	LU.	1_		١Ŋ	1	Ft		_ =	2	4	i.e	łf	J.	2	ąИ	H	Ø{	R	00	F.						
4							┡	-	-				_	┝	<u></u>	$\vdash$									μ	, 							-			
+	-				Se	╞	<u>* -</u>			2		די	┢	$\vdash$	$\vdash$	┞	50	iu ì	2	$\vdash$	0	<u>~</u>	<u>C</u>	<u>د.</u>		┢					┼	$\vdash$	+			
+	_		-	<u> </u>				2	-		$\vdash$		┢	$\vdash$		1	<u> </u>		]			÷.	<b>*</b>		2	<u>P</u>	1	p	$\vdash$		$\vdash$	$\vdash$	╞		$\vdash$	
+						 		<b>.</b>		t.			#	6	ļ F	a	.5						i-			┝			┢		$\vdash$	$\vdash$	F	$\vdash$		_
							$\uparrow$	1	[ "	1			Ť	ŕ	-	=		-													1	$\square$	Γ			-
K	Tİ,	14	+'	hid	k,	٦e	65	;	Lu.	64	d		au é		6	m	e	1	n e		Sι	٨Ċ	14	S		Ŷγ	es	51	V.					ŝк		
							Ļ		Ĺ	╞			Ĺ		ļ	L.		<u> </u>			_												-		-	
4	2	2	بد	1	62	4	-	_	<b> </b>				<b> </b>	_	<b> </b>	-												<u> </u>			I t	<u> </u>		<u> </u>	<u> </u>	_
			.	<u> </u> .	0		-		-	┥╌┉	-	<u> </u>	I.	+		┢	1.	.,	-		1					-	⊢		$\vdash$	$\vdash$	i İ	┞	┝	-		
4	5	su	m	<u>e</u> .	K	<u>14</u>	h	15	ea	m		<u>*</u> C1	11	P	┢	⊢	0	<u>× 1</u>	<u>n</u> .	Ξ_	A	ŀ¢.	┢┈	<b> </b>		┢╌	$\vdash$		$\vdash$	┢╌	┞	┞	ŀ	$\vdash$		
	Ľ	.)		╞	21		ľ						1		0.							-	L				†•	t,	1					2		
1		<u>- 1</u>	LC	h.		<u>ne.</u>		4	81	ia is				n.		<u>kri</u>	ру. Г	L.	Б. О	<u>~7</u>	忆	6.1				17			51	1	9	ĥ	ľ.			
-		2.13					ľ		-			r i e	Ē						, S		<u> </u>				ſ	ľ				F	×ه			T T		
S	hŧ	-11		R,	Ы	u	k	(	a	5																										
		(	<u>a -</u>		<u>₿</u> /	2		=		3	<u>þ.</u>	5		=	<b>.</b>	17	2	2	f	4																_
				S	lo.	ĸ			L.,	\$1.	6.7	ł٩	L	<u>.</u>		13	E	F	F	F.							1					1	1			L



Dato: February 12, 10

## Title: Concrete Tank Design (Dome Roof) Sheet Z of 5

4	141	in	ιu	2	-	티	d€	21		łh	12	K,	de	4	5	_ï	0	Ч	<u> </u> .	<u>ih</u>	4	14	ne	}		<u>bu</u>	cl	<u>kl</u> i	ng	-	_			┢	╞	╞	$\vdash$		$\vdash$
+		٨	51		ť		ģ,	5	į.	۱.			t	╡	_				Ļ	╞	╡		_				-			 				ŀ	F				Ļ
	A	ve	a	6	f	R	6	ام		=		π	ľ	6	5	6	/2	)	F	-	- -		3	38	32	Ŧ	÷E,	2.			$\vdash$								L
4				·	L		+	$\downarrow$	<u> </u>			1	╞	$\downarrow$			-		_	╀	4								$\vdash$					╞	<b> </b> 	<b>.</b>	┿╼		-
╉	- ľ	() 	h		1.		泉		<u>X</u>	₽∐ ₽		51	+	╁		a.	5	1.7	+	╘	+		19		25			1		┢─	$\vdash$	$\vdash$	-	┝	┢	┢	┢	$\left  \right $	┢
1	1	<u>ج</u>				0	Ī		,(			Ь	]	đ				Ľ		Ē	1																		
4		d,	00	Ļ	=	1	4	3 ļ	ę	s		+	╈	+	_		╞	$\vdash$	╞	+	$\downarrow$	_		_					$\vdash$					╞	$\vdash$	╞	₋	┥┤	-
┽	4	Şei	ай.	ļr_	57	┢┙	24	2	9	┝╸	<u> </u>	ŀ	f	<u></u>	-		┢	<u> </u> 	┢	+	╉					╞	$\vdash$	$\vdash$		<u> </u>	$\vdash$	T	ŀ	┢	┢	┝╹	┢	┢╌┤	┢
ļ	9	20		(	6	ł	<u>,</u>	n	2)	io	ns			1						Ţ	1								ĺ	-				F	L	F			F
			D		ļ		-	1.0	ĩ	-	1	╞	1	7			┢		╞	╀	┥	_				$\vdash$	(								╞	+		┝	+
						2	5	<u>a</u>	<u>بد (</u>	5	+	1	15	2	<u>-</u> 717	.9	5			-			•						=	η	ή.	5	1	<u>t</u>	F	Ľ.			
								1	26	5.	6	ø	ļ	21	>/	ff	3			_	$\downarrow$				<b> </b>		D	L	=	1	9	ļ.,	ß	ļf	1	$\downarrow$			Ļ
+	$\neg$		4		╀						$\frac{1}{2}$						ł	1	ł	+	+				$\vdash$	┢	╞	-	┢	╀╌	┢	┞	$\left  \right $	-	╀	+	+	+	╞
					Ċ										<u> </u>		Ľ		Ì	Ţ	,						1.	<b>F</b> .		<b> -</b>			1	Ĺ		t	t		t
_	_	B	È.	=	¥	1	4		$\rightarrow$	2			+	4	-	7	Ł	-	4		-	1				╞		. 	╞			$\vdash$	-	╀	+	╇	+	╀	╞
+			$\vdash$	$\frac{1}{1}$		ť	1	2		$\vdash$			ľ	-	<u>(+ '</u>	1	ţ.	44	-	1	-					$\left  \right $	$\left  \right $	┞	┥	+	+	┥		+	+-	+-	╞	+	ł
	Å	ξ		z	4	14	'	-	١,	þ	3		4	7		ļ.,	Ζ	-	3	3										-				1	L	Ţ	T	<u> </u>	
+	_		$\vdash$	ŧ	4	14 _	ŀ	-	•	<u>þ</u> 1 n		<u> </u>	1	<u>ר</u>	. 9	Ļ	+-			┽	_					╞		2	1	Ŀ		ĸ	Ļ	╀	╀	╉	┼╍	╉	┢
┥	_			+	ľ		$\dagger$		• 4			-			_		<u> </u>	T	1			_					Ē	Ê			Į.					t		t	t
	)		-				-		L.	ł	╞	2	+	-		F			1	-					╞				┞	-	 	<b> </b>	1	╇	+	╞	+	+	╞
+	문	2	2	+	5	1	Î	0	۵.	1.	+		+	f		+	<u>,                                    </u>		<u>ф</u> 44	9 21/	<u>Ч</u>	э: X	10	р (6	¢	1		┢	╀	┼┉		┢╴	┼╍	┿	+	╁	╈	+	+
						t	1		-				1			L	ļ		ļ	1					ľ				_					-	1	1	-	Ţ	† _
	м	in	h.	+	1	╀		9					1	4	<u>1</u>	╞	┢	+	Ļ	+			<b> </b>		╞	-	$\vdash$	-	+	+	+	+		+	╞	┽┈	+-	╉─	┢
						,	7	2.	2	ľ		4	Ĩ	2	4 4	₩ 8	6	5	t	+				+	-		T			1	t	†		t	t	t	İ		_
_			Ļ		-					Τ,	6	9(	-	<u>, î</u>	1	5	Ð	1	1	-	_		[ 					<b> </b>	ļ.	1				Ļ	Ļ	Ŧ			Ļ
$\neg$			┞	╀	+	5	•   		ŀ.	<u>6'</u>	18	1	ł	-	2	¥	1	ľ	¥	生	4		$\vdash$	$\vdash$		1 (	<u>ak</u>	-	+	<u> </u>	╀	-	+-	╇	╉	+	+	+	+



Date: February 12,10

## Title: <u>Concrete Tank Design</u> (Dome Roof) Sheet <u>3 of 5</u>

0	45	e	0		Sk	*	1	4	ÞE		1	±	9	5		1		1			4		-							-					
	<u> </u>	<u> </u>			Sir	4	₽	-	5	5	29		=	٠٩	17	2	2	_	$\neg$		-	Ц		-	_	_			_	-	$\vdash$	╞	<u> </u>	$\left  \right $	L
+		┝			5i e	<u> </u>	<u>P</u>	5	Cđ	<u>Ş</u>	23			•	<b>9(</b>	0	_				_				$\dashv$	_	_			┝	┢╍	┢─		H	ŀ
+	-	-	-				a	=	==		,	-	+	۲	-						-				$\neg$						┢	╀─	<b>ب</b>	$\square$	
七	-	<u> -</u>	1.	- 1		$\mathcal{L}$							_ ·	1		<u>ل</u>		JL.		~	F		۱.,۱			1					╞	+	<u>i                                     </u>	$\square$	F
1.57	ð	20		\$				ľ	┝┦				2.1			24	d	16		~	`			5.	3.1	11					┢	+	<u>†</u>	┢┈╴┢	
N	C.	=		N	d		6									5	0	7			3	. (	1		1	0	5	20	J,				<b>—</b>	Π	Γ
	-		2	S	'n	3-			١.	1	05	÷.					_	j			4	<u>.</u>	9												
																			Ĺ									_							-
	-	ŧ.		19		4	P,	F.	L	Ļ	ł,			_			?0	6	L		*	ካ.	٩	(	6	2	(	<u>,</u>	6	91	2)	)	$\vdash$	Ц	L
			2	<u>.</u>	12	26	2	L	ļ	+	90	6									4	(	. 4	2	6	]		-	1		Ļ	_	Ļ	Ц	-
╉╌				•		-		17	12	<u>  t</u> ,	4	6	_	-	1	80	24	17	3									Ļ	-	⊢	┞	+	Ļ	$\square$	┝
╀	┡	<u> </u>	-				:		<u></u>	-	5	0	26	-	9		K	¢/	T't	. ,								<u> </u>	l	╞	┝	+	┢	$\vdash$	┝
1-	┝	1				-	i +-				<u>}</u>	-			1	5		$\left  \right $	-		r.					Г Г			-	$\vdash$	+	+	┢	$\vdash$	┝
<u>, n</u>	r:	р	þ۵	<u>n</u> e		1	01	134	r_	łf	<u> ከ-</u> ደ 1	r	u	ni	1	X	1	6 t	И.	0	۱.	<u> </u>	. 4	4	10	<u>eT</u>	101	rey	14		┢	+	$\vdash$		┝
Á		ļ.,	<u> </u>			ſ	┢─	hī	<u> </u>	╀─	t.	<u> </u>	5				$\vdash$	<u> </u>									<u> </u>	┝╌	┢	ŀ		ŀ	$\vdash$	Η	t
+n	۴q	1-	<u> </u>		0	┝╌┤		E		5	+1	-		<b>L</b>	╞┤			ŀ		-				-			┥	$\vdash$	┢	$\vdash$	t	;	╞	╎	ł
<u> </u>	<b>i</b>	+			5	5	Ϊŕ		<u>בק</u>	Í			-	2 7		1	7		F	-	~	3	9	.9	5	Ĩ,	$\vdash$	10	h	1A		$\uparrow$	t		t
		$\uparrow$	Ī				11		<b>.</b>	100	6	1	†=	2	2_	-	1					1		<u> </u>									İ		T
1-				[		:	-	1		[								1												Γ					ŀ
Rа	di	1		Ρ,	ies	Į,	3	\$11	a		i r	1 -1	he		R	nı		B	a	h	ŀ	r9	k)	rec	1	į.		p	0	di	lc.	e			ļ
)0 m	2	i	1	V.	10	F		10-	<u>ŧ</u> §	r.	he	ŧ.	b Y		<u> </u>	10	ŧν	<u>k</u>	1	<u>h e</u>		s∛	e.	Į.		i	h	Ľ	Ŀ.	\$;		$\downarrow$	_	<b>.</b>	ļ
`	1		ļ	Ľ		Ĺ	L		 	L		ļ			Į	-		ŀ.				Ļ							_	Ĺ		1	1		1
		<b>i</b> 1	₽.	-		þ	h	ſ	ĮN	þ	-	μ	M	þ	<u> </u>	1	ļ	Ц.	10	¥4	<u>.</u>	þ.	4	p	Ļ		$\vdash$	Ļ	Ļ	╞	Ļ	┥	╞	+	╞
_		╞	Ļ	┝	-	1.1	ŧ_	╞	Į	$\vdash$	$\vdash$	Ļ	╞	ŀ	-			R.	-		┝	┢	·		<u> </u>	┝	$\vdash$	┞	╞	╞	╞	+	+	┢	╉
+	! †			-		-	$\vdash$	.	í.	-	ŀ	-	-				-	-		-				$\vdash$		-	$\vdash$	-	-	1	+		-		╀
11	0	P	44	<b>v</b> -1	<u>ni (</u>	n e	1	Ŀ	h	+	-	-	+	-	<b> </b>	-		-		-	-	$\vdash$		┝	+	-	$\left  \right $	╞	┢	+	+	+	+	╞	ł
<u> </u>	-	+	$\left  \right $		ŀ.				Ŀ		$\mathbf{k}$	<u>+</u>	+	Į.,		$\frac{1}{1}$	  n (	2 1 2								K	┞	┥╴	╀	╉┉	+	+	+	┢	ł
	٣	12	19	<u> </u>	$\vdash$	۴	₽		Þ	<b>T</b>	<u>p</u>	F	┝	5	+ •	+=	μ	<u>₽1</u>		<u>n-</u>		Ľ	Į.			1		┼	┢	+	╀	+	┢	╉─	ţ
	+	+	-	╢	╞	╞	ł	+	┢		+	+	╞	ř.	5	ţ.		<u>,</u>	2		6	-	2	14	1	ŀ	┢	╈	┢	╈	┢	┢	┢	┢	$^{+}$
	┢	╈╌	┢	╀	╉	┞	╞	+	┢	ſ	┢		Ť	-  -		ľ		1	1	<u> </u>	ľ	-	[	1		$\vdash$	$\vdash$	1	╀	┢	Ť	t	┭	ϯ	t
	þ.:	Vo.	L			+		41	ę	$\uparrow$	1	I.	1		5		1.	1	<b>4</b>		Ī.	-	s		E		2	6	2		t				1
	ľ	ľ		1			T		T	$\top$	1	ľ				ſ								Ĺ				ľ	Ĺ						T
						X		-		}			20	0		-		<b>,</b> 1	4										Γ		Γ			Ī	
Τ								Γ	1										Γ																



Date: February 12,10

#### Title: <u>Concrete</u> tank <u>Design</u> (Dome Roof) Sheet 4 of 5 202 212.18= = 1614L 273340.78 Pe = 74 900 ps NISE $f_{2}$ Compre Excess ress ntre 51 ah i ่าน . 341.67 H 20 2733 40 78 ile | æ 800 2 lain h = 22... **t.**... Ъŧ 52 <u>X64</u> 16 \* 22 F 35 2 . 2 фk 342 352 × ,906) 502619 -2/17319.450 6 (- 73 9 95 1 1 ٥. **4**.5 12 2 [-3562.2] 202 27218 3.08 4 Ŧ -10971.576 - 213 243.76 eb/Ft 5e TEPu 188984 151 1 -288 1617-24 lb -213 243 14 Pa .74 14 288 164.24 $\mathbf{P}_{c}$ 26 = 1.52 4 An 5 188984 056 indh diameter Strands N ROK wit a 2 Abs/Ghrand = 344 in 7 # of swands = 1.52 0.56 2 Strands ÷. 34 .1441



Date: february 12, 10

## Title: <u>Concrete Tank Design (Dome Roof</u>) Sheet <u>5</u> of <u>5</u> Check the concrete stress of the shell Rim ritical Section ihε t= 9.5 1 ih No = -7319.0= -7319.9.5 12×95 No - 64.2) PSC OHI/ t. 5 F. 12×t ØK ÷. .

# Appendix G



Date:	

## Title: <u>Concrete Tank Design (saddle)</u> Sheet <u>1</u> of <u>3</u>





Title: Concrete Tank Design (Soddle) Sheet <u>2</u> of <u>3</u>

	-	1	1		. [	_ ]							T	I	]	Ï			]			]				1	Ĩ	Ι	1					-	T	T	
_	M	۴	E	K	4	a	12	Χİ	<u>0</u> 9		_	_	_		_	-												-									_
ľ	ž		Й		 =:	Ń	ĥ			37	34	1	<u>, ·</u>	i4														_	_							+	
}#		2	2			,	A	۲ ۲	=	-4	3	k.	J .,	۶															\	-••.		~				$\pm$	_
	s'			11			6				4-			^											A		_		<							+	_
	<u> </u>			<sup>64</sup>	2	2	, . 		-	4	34	<u></u>	3						c •		<u>۽ د</u> و		75		. /7	2.1			3	( <b>3</b> 14	2						_
	=>	12	<u>_</u>	• 6	ы 1						45.	2	4:	'n	מע	1	. 4	\$5	ur	ne		20	7 A	<u>.</u>	Зa	.c.s		224		0	l Ea		ce	νε		G	2
1_						is.		7	1		_		1/3	ج	ŕ					24	4	20		4					رم ا					2		-+	_
12	<u>~</u>	<u>, n</u>		- <u>-</u>	1	4		-74 			l Jr		¥		<u> </u>	20	2	0			- <u>-</u>	194 	<u>, and i</u>			-4		-		<u>-</u>			4			-+	_
						-																															_
-ł	2		4.	[ [	-	7	34	40 - \	2	ш.	0	<u>,</u> ≁	, %		."	, C	K,	~	-															:			_
_			<u>721</u>	-			þ	ູ																													-
			-	c.	he		ľ	5	he	a	-	-																			 			$\square$			_
1	-				2/	T	  -/										+						6					-7	Ē				-				
						1/c.		ii x							ļ			<b>•</b>		ľ		<u>a</u> ,	21		-4-3			-		1 pr		ļ					
		$\left  \right $	$\vdash$			$\vdash$				2			. 		<u> </u>		-		4	-		9	6	2			2	1,2	m	m	4	†G	00		<u>n.</u> s		_
					[ 													-	∦ <u></u> ≤	54	~	<u>e.</u>		14	Ĺ	-	6	m	1.2-	-	<u></u> ]⇒	-	₿	=	0	18	
4		44	2.2	5	10	5	17	.7	5	ī	3	5	Ż	b	<u>5)</u>	2	.74	5	-		56	1			5	ί	¥	- 2	0	k			2	5ª	4		-
			1		5	he	pr			د.)	f					4	L	1		lea	T																_
			2	L.			20				-		Z	   		7				-	-				1		-										
							₽ <u>∽</u>	Ĕ		Ľ	×۲				Ľ			+		+-	+		+			 					<b> </b>	F	F	<u> </u>			
_	<b>₹</b>	1		<u> </u>		19	2	¢ 1	<b>1</b>									╞	+-				-		-				• 		$\left  \right $	-					
p	4	h		ł,	5 -		þ,	88	H		-	P.	6	m	h-	2	>	30	2 10	207	-			0		2		_		<b>.</b>			-				
					$\vdash$	Ĺ																			-	1				-	1	+	†	-			



Date:

## Title: <u>Concrete Tank Resign (Saddle)</u> Sheet 3 of 3



## Appendix H



Date:\_\_\_\_\_

Title: \_\_\_\_\_ Concrete Tank Design (Found tion) Sheet 1 of 1

$\frac{1}{2} = \frac{1}{2} C W^{2} - C C C C C C C C C C C C C C C C C C $	
$-\frac{3}{4} + \frac{3}{4} + \frac{1}{4} + 1$	╍╁╍┟╍╶┧╸╴┧
$-\frac{1}{h} = \frac{1}{2} + \frac{1}{4} + 1$	ST4
	uncel
┝╴┊╴┫╴╠╴╎╴╦╍╈━┿┿┿┿┿╋╋╋┿╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋╋	<u>         </u>
	4
	#
/30.5/2.50	
┊┼┼┦┊╎┦╴╎╎╽╽╽╢╢╷╎┝╍┝╋┟╾┝╼┾╼┝╼┾╼┾╌┤┦╎╎╎┠	+ + + + +
$\frac{1}{47}$ = $\frac{1}{2}$ $\frac$	
(herptic ter 981 Knows 33804 m3) = 32312 Knows	
$\frac{1}{1+1} = \frac{1}{2(2)} \sqrt{\frac{1}{2}} \sqrt{\frac{1}{2$	┼┼╆┼╴
	**
$= 15, 105, f_{4}^{2} = 472, 3, 97^{2}$	
4/707 = 373177 / 10272 = 47582 AV	
	_
- 1 1 - 37 5 7 F 33/8/7 T 300 m - show coris (APA)	
1/2 sound pr 5/26 + 4/2 583 Km + 22 = 15G.0	
BOE np <sup>2</sup>	
	LPA EM
Kar = 02 / A TITI 20 AI MOLG ZEG E	e Both
- Ag = Telecheren = Telecheren	<u> </u>
	╺┪─╌┟╌┼┈
	Licio
He 20 m Bars > 1200 + 4 bars/20	
	-1001

# Appendix I


Date:

Title: Concrete Tank Design (Slab & Shell Conn.) Sheet 1 of 5

										]		4								H	F		8	75	43		6		_						
-		:					2																	-										 	
															4						- ,														
_ '	À			n		Pe	ι-		20	e_#	20		. c	F.		C.	- c	415						(	B	14	#	2							
_		Ę.	7	54	47	ļ. Fi	2			а, <b>с</b>	1 1 7	llo	/x H				4	20	5 7	K	2	lp		<u>م</u> ل											
	21	5.6	-		1 -	9	01	n	-	м	24	1	B	51	5			F	- - 	• / ·	o# 	10 	۸ı 	R	<u>ب</u>	Ø1		<u>a</u> .	30	3	22		1		
2		<	2,4	4	6	5 <sub>12</sub>		ĄĮ.	- Fc	r				2	7		L,	)	V	4	<b>-</b>	1,:	25	:(	/2	وي.	f)		,	s	6		k,		
#	<u>י</u>		14 28	6	ð		83 04	10	10 1 (	₽ 4:	52	  }	-		2.0	<u>&gt; </u>		<i>Во</i> 	γ/+ <u>-</u>		m	-		-	20	B,	-11	<u>-</u>	/, [	<u>-</u>		+		-	
Ĺ	<u>′</u> 5-	2			2.		\$,		0	3	×	J *			-																<b>.</b>				
ß	- -	-	3		<u>br</u>	+2		5 M		P± S	23		₹							<u>*</u> 0				P / h			<u>P. 1</u>	₽ <i>7</i>			+				
Ĺ	) <del>.</del>	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	10	6	5 5)	8		x 1	2		4	50		<b>.</b>		5	73	<u> </u>	5,	m		2	10	В	.1		Z								
												,														} 								 	
											ļ			 	<u> </u>	· -							+	$\vdash$	+-	{									



Date:\_\_\_\_\_

Title: Coccc Tank Design (slah & shell Conn.) Sheet 2 of 5

	C	he	3	-	5	2.5	a	-	4	2		1	3/1 3/1		- 1		þ		4	<u>р</u> и		4	<del>/</del>	24	÷						-						<u> </u>
					_		-4																														
								*							s;	29	<b>-</b> ,	<b>*</b>		- 6	<b>-</b>									 - - -							
	-																																				-   -
	1	- <b>t</b>	0	6	Ţ	-	Ą	بر	É.	<u>}</u>			<u>د</u>	h	11	ý.	3	ís.	to	9		/	<b>1</b> -40			3	-	ź	£	, J)		24	6	1			
		<i>f</i>		// 5	5		∦ ≨⊥	3				Ę		6			7	m																			
	B0	/4		ە() ئې	5. °	11 -02	39	=		3.	<u>_</u>	-	8	C					47	8,	hr		£	2	7	m	р Д			26		20					
	2	3	61	1 <u>,</u>	۶	2	7	2	4ì	<u> </u>	G	5	77		1		2	5		m		Ŀ	C		-												
	L C	he			Di	st Ba	-	6	6-7 2 / T	8	n	m 7	2		<i>∟</i> , †	۹ <u>ک</u> ه ر	m	en c	ff.		10	42	,t			na	1							2	ā.(-)	K.	
,	V	/ <del>-</del>		4	<u>,</u> (		6	4		×		ų.	N 160	17 17		· .		[]	2	5	<u> </u> <^		6-) <sup>5</sup>	5	7/	4.15	2)	-	= /	<u> </u>	2			m			
		4		4	- 5 (	26	2			24	 4 <u>-</u>	Ì	. {^	22	h																	 					
		2 7 21	-#: - 4: - 4:	4	2			5	14			6-10 - 10 - 10	600				13	+/- e/.	1 2 4	2			(⊡ ₽1 ₩	2.		Z				6		í. F	15		1	¢.4	1
			/																																		



Date:

Title: Concrete Tank Design (slab \$ shell com) Sheet 3 of 5

ŀ			]			<u> </u>	<b>-</b>			-t-								[			]		1					_						П	Ц			_
	3							ſ	-																													_
						عہ ا	<b>4</b> 72.	Ĵ																														j
+		_												-	<u> </u>	-																$\mid$	_			-		_
╋				Η										-					-							-												<u>ب</u> ہ۔۔ ا
ļ							-												_																			_
╈	- 1	1	e e	k		¥0	   ,	-		0		-	60	1+	s	•	 										-			-			-	ļ ļ				
1																																		Ļ				
ł		F_	- (	<u>þ.</u> 1	25	¢	<u>⊧∕</u>	16.	Fer.		[1	0	7	57	þ.(	РХ	10	140	<u>})</u>	(4	5:	2)	-		28	<u>2</u>	K	γ	>	2	43	ы Ц	$\sim$	┢	И	0x	-/2	·
	-	<u>c</u>	he	<u>c</u>	k.	ľ	sh.	w,	-	Б	10	лk	7	Ĩ	20	ГС	24	Ł	. "							 										<u> </u>		
	-	-	+	L .					Ē			6	6	4		F			r						┨							$\vdash$		$\vdash$		-		
		<u>_</u>	7					1.24						16A 	Ľ	۴		!																				
+	_					<u>0</u> .	8(	9	20	3	$\mathcal{U}$	ųε	X	<u>4e</u>	6	<u>}</u>	0	.6	6	105	(1	3)	r 2	И	73	þ£	30	Þ	÷	2	13	8	к,	$ \geq $	Ľ	$\vdash$		_
											<u>.</u>	•															Ŀ		-		•	<u> </u>						
_		-				1						1		-				-													_	L	.	-	<u> </u>		$\square$	
┢	4	- 4	27		4	145	<u>u r</u> i		<del>/</del> -	<u>.</u> .e	4	μγ	νt	1.		<u> </u>	μ,	; <u>}</u> .	12	141		4	F	<u></u>	фціл П	<u>e.,</u> ,	<u>þs</u>			┢	╞			$\left  \right $		$\vdash$		
-								29	2	14.1	þ.	>	2	<b>-</b> -1	<u>\$ 1</u>	44	Į	ļ	~	6	15	÷					ĺ											
╎	-7	• . /	5		$\left  \right $	E	1		Ļ	7			10.	1.	į.,		$\vdash$		$\vdash$	$\vdash$	1			$\vdash$	╞	╞	:   		$\vdash$	$\vdash$		┝	$\vdash$	┢	┝	$\vdash$		
	_											Ĺ	-	Þ	<b>[</b> ,												<b>_</b>											
+	_	7,	- 1		2.5	<u>is</u>	2/	h	5	-	=	<u></u>	<u> </u>	51	b, 1	钓	[]	<u>5)</u>	ľ	<u>7</u> )	1	<u>78</u>	<u>p</u> Z	3	<u>\$</u> C	<u>}</u>	╞	14	<u>13</u>	2	<u>k</u> r	μ	₽	2	<u>44 }</u>	<u> </u>	N	
	×	Ā	6	Ē		-	Z	5	ļ	e			e.	 5 (	e	7		Fre	2		Z	,a	5		1		1	Ba	4	įΩ.	ļ,	7	i.	ŧ	a	he	L	
4	21	<u>//</u>	b	k.	- 4	Þ	þ£.	þ	k	23		er i	á	h	1	<b>[</b>	71	4		<u>4</u> 9,	2Ì	ľ	\$4	e	4	ſ.	<u>ia:</u>	ļ	E	5	م	b	1-	44	þ	<u></u>	μ	Ľ
ł		0	$\frac{n}{2}$	ρ <sub>γ</sub> ν	<u>}</u>	7	Þa.	4.4:	<b>-</b>				;					+	-			-				-	+	+						t				
1		Å	e.	þ	-	<u> </u> 2-	24	m	h,	=		10	α	þ,	K	₿	-	1	₽.	<u>5 r</u>	<u>nr</u>	h-									<u> </u>			1	$\vdash$	$\vdash$	-	
						$\vdash$		-	É	-	$\vdash$			ļ	$\vdash$			$\vdash$	+	-	-		$\vdash$			$\vdash$	$\vdash$	$\vdash$	$\vdash$	-			$\vdash$	+	┞	╞	$\vdash$	
							Ĺ							-	ŀ					į.		:		Ŀ	ĺ							<u>↓</u>	<u> </u>	Ţ	L			
		_		1		l	L	L.			L				1	1					I		L	1		L	1		1.	1	1				[			



Date:\_\_\_\_\_

Title: Concrete Tonk Design (slah + shell Con.) Sheet 4 of 5

	-				[ ]		[ ]			- 1							-	[						ľ		Ĩ		·	Ĩ		-	-			Ī	Τ	Т	1
	- (	2	2	ų	2-4			64	1	<u>, k</u>		ç	4		Ļ	4	54.5	÷	2n	54	ý.														ļ			
	-	Ü	6.6	J		1																										••••						-
								0	_		-			~																							-	-
		0./	<i>†</i>	_	-4		2~	¥.			2			/\c	1	nn	<u>.</u>							_	_												┽	
	<i>y</i> .	ed,	n,	=	C	2, '	7 1	- (	2.7	4	4	-}		¢	, 9	L.	Ļ	2.	2.4	£	<b></b>				,									_		+		_
	K.			-	7.	29												-																				
4					1													_							: 											+	+	-
	2	Ģл	. J	;	1																						_			_								
4	4	-	k	đ	٢ĺ	TZ.		<i>1-</i>		R		لم	<u>jh</u>	er	ي.	, /	K	= t	þ,	ą	4	. (	<u>&gt;.</u> %	s	4	4	4	p.									+	
			10	6	 5 -	57	17	5	57	10		$\overline{f}$	"		4	8	K,	Þ													-							
-	Į.		-	9	6	2	<u>۲</u>	9	<u>(</u> ,	$\sim$	<u>٦</u>	_	13	2,	Int				2-											~	-							⊷⊣
	4	¢,			r / T 				<b>C</b> 71				/ -	·/																								
4	4.	) 🕾	/	1.0	<u>0</u>	<u>b</u> :		43		+	3	<u>[1]</u>	6	1	3	K/I	$\mathbb{Q}$			19	3	<u>2</u> '	26	-		n.	-										+	-
	Ũ.	- fo	بر ح	=		4	9	βc	Ħ.	2	4	2	1:2	's	<u>.</u>	4	82	=	2	1/1	Z	Ł	2	1		24	( ]	5	K.	2	- 2	12						_
			ľ	$\vdash$		1	<u>21</u>	10	ын	-			,				ŀ	$\vdash$	-	╞													$\vdash$	$\vdash$	$\square$		+	;
	_	c	h	êc,		p	11	V	-	ŧ	ŕ	2		40	nc	L	;																					
		L		-	76								; ;				-		-	<b>.</b> .	 ; ;				<b> _</b>				_							-	-	
	- 1.2	7			1	1.	[			-											,,														F			-
-	Ŋ	þr:	-	<u>ە</u> ،	2	Fr.	ŧe.	2	ræ	a	Æ		. 0	ph 1	et	5	<u>+</u>	54	=			=	3	$\mathcal{D}$	H)	5	7.	2	ļ	Ł	<u>, i</u>	2.0	5		K =	4	4	-24
1	k	, -		14																								Ļ						-			_	_
<u></u>	•	R	с. <sub>0</sub>		-	1.4		\$ 5	3	31	}	E	Ĺ,	ð	s	K		4	ha	401		k	2		nc	hci	5		3	38	K			4	31	KJ	ç	ote.
			ľ		<u> </u>			Ľ			<u> </u>														-	_			_						-			_
																													:				$\vdash$		$\vdash$			
_																		,																		-		_
				-													-								-	-		t.										_



Date:	

Title: Concrete Tank Design (Slab i Shall Com) Sheet 5 of 5



## Appendix J





Date:\_\_\_\_\_

Title: Concrete Tank Design (Hotch & gennas) Sheet 2 of\_\_\_\_

_	[	].	Γ.	[	[.		[.	[							-				ľ	-		'	<u> </u>					<u> </u>	-								_
	2	4	<u> </u> _	K	. 	<u>k.</u>	-16	-0	-25	-	6	re.	<u>a 1</u> 4	<u>_</u>	64	.+		~	57	\$ <i>+</i> ,	an,	æ	_		_					<u> </u>				<u> </u>			-
/				=	2	142 12	- (	44	ςø	 2	4	9	a.i. (	<i>6</i> ,		4	Pr	- 4		6.										-							
<u>h</u>	6			20	p.	5	<u>c</u> -	2	4	-	11	6	nr.	1	,	. 7	m.			25	n	n															_
.1	a) e	. =	71	11	6	2	2		2	ţ, İ	04	· ,	nirv	, <sup>7</sup>			_														-						 
	l. N		1.	28	2	3	4	2	n	~	2																				 		╞				
P		+ , =	K	ø	ĺ	Ē	]		1 <del>, 3</del> 7	k				لم	he	د.ج			K	-	1	4	,	<	¥ )	0							-				-
-   •		=	1	10	26	5)	Û	39	)	()	lin,	15	, 1		¥	4	<i>44</i> -,	3	K												-				}		
Ų	4	+- - -	   =	1									 	 				÷,		+											-	╞		╞			_
	6	Ļ	=	þ.'	2;	6		ł	7	ς γ	16	Ŋ	37	C	2,6	23						· · · ·		- - -												-	
Ų		4	-	12	5																											╞					
. jil		;w	=	L	5/	4	-	2	).?	; ;7	<u>5</u> ~			       																		$\vdash$		ļ			
h		5			0	87 2		34 01	4.2 -/	<u> </u>	<u>ک</u>	10.	ß	<u>ل</u> ور ا	ζ,	(, <u>,</u> 2	5		3, 2	32:	5	4	щ,	3		/	64	( /4	~			10	\$, -	the second secon			24 24
		h	 بد د	12		þ.	7	-	01	n 7		rc	57	57	21	20.	 																				
1	k	- <u>p</u> r	۰ ۲	Ų	F	k	61	-		:																				i ; ;	-	 	-	<u> </u>			
_/	ŀ.	<u>_</u>	<u> </u>	.9	d	4.7			CA.	e j	R			5	/	L	4	N.	h •		Л	3 -		•7	7	5		5	5	<u>hn</u>				<u></u>	1		_
		=	0	9	0	65	)(	3	5)	6	Ó	56	6	) <u>(</u>	1	Ŧ	1		<u>B</u> 8	30														F	<u> </u>		
	k	p	=	1,1	7		-		:							• ·		  -		ļ							-								F		_
	ļ	t							-									<b> </b>	1-					<u> </u>	 					!	t		t	t	$\vdash$	$\square$	



Date:

## Title: <u>Concrete</u> Tank Design (Hard & genings) Sheet 3 of

1	ι <u>.</u>		=	1	94.	38		[]		) -		23		ζ,	2	40	4	····			2	[ ] [ ]	6	2	5		<u>م</u> ل	1 h-7	K	~			6	8	67	Į		×2
×				7.	<u>5</u> -	12	n	~		Ç.	37	n]								4	16					Ver				4		6			-			
	_	c,	H	h/	=	0	1-4	1	6	] =	4	6	.*	1 n	1/m			_				-7			5	2.	-	Ŧa,	4		μļ;	) ) 	<del>مر</del> ا	4	.ť.			
2	7	£4	Z	6	2	-	+	0	h	ŀ	a,	te!	6											-										+	┼─	-		
_	9	Þ	=		57	þ		m		6	1/		19	0	m	'n,	÷	10	5	je.	   ·							-						<b>†</b>	+	+ 	 	
 	Æ	57	22	0	tc.		6	~	5	h.†		7	~	Ē	* 7	(; <sub>1</sub>	 	7	67	Ð	\ \	  -  -	2	4	1.0 e	7	=	(7 <sup>4</sup>	7	<u>k</u> ,	V	m	2	╞	╞	-	F	
/	1/	2				D		-	-	71	1	þ.,	710	2	<u>}</u>	Ļ	=	c	6	5	m	2						-		-		<u> </u>	<b> </b>	╈╼╸	+	F		
ι	le i	4	Í	2		ir.	2	0	2	Б	D.	0 S	Ы	1.	5)	-	Ċ	10	4	n			-									-		┢	+		!	
Ŀ	- 1	 	7	2		4	6		3	7		 	 	-5	· 7	Þį	1	<u>, ;</u>	15	3	7	72	-44	.7	6	4.							╞	+	╞			
U	5-	,	4	3:	15	h		Ņ	11	ţ	7	ol	45																						: +	+		
\ \	И	\$0	6		44	E		5	n	k		52 152	ec.	h,	5	0	¥	4	20	E	37/2	5	/	#	3	1/1			3	8	8	=		20	, <u>B</u>	, /-	5	
	6.	d	ł	<u>Г</u>	1,17-	d	f .		 	P		2.7	/	Kł	<u>,</u>		h	Þ	<i>i</i> =	8	5	K	Po	1						0			-	+	╧	<u> </u>		
ł	-	F	8	6	0	G	\$)	=	s	53		<u>k</u> ,	V	4		5	60	Ŀ	0-		<b>C</b> 7	w		p <u>s</u>	 									$\vdash$	╞		E	
	Ē				-		-								-				<u> </u>									-  -						<u> </u>	╞			
																		-	-				-  .			} 									-			
		ŀ																	!															$\pm$	╞			
				-	_	-										-					-		-		_	_		-			-		-	+-				
			-	-			-		-				-				┢					╞	$\vdash$		-			-	-			-	-			-		
									-						:															-				+	$\downarrow$			

## Appendix K



Date: Ma 8, 2010

## Title: <u>Stee Eark - Wall Design</u> Sheet 1 of M.

11 = (1/t 2 10) «t WS = r Unner wall thickness + t 1 thin vessel the 1 at di k -> WHen the tress. throug out its thickness significa WE W yo4 htilv 5 vary ے ایت ζŚ =) pressure gauge ressell pressure. the circumterential or hoop direction a) dam stresses , 01 in in =) thethed of sections: 4 52 exect tension on the \_ of ma show il be noted equations 01 2 02 No : t the hoop Forential stre 15 E. 4 ideum es. dr. longit ds the Fabricat rently der/ 0 adsda a fror inde A pressure. ressels pipts much stress i. formed Ţ ioints, to carry المن a s 85 حاي Flord, p: presence developed by the Internal conta => galude | ine ci . X H b∔ = (981 KN/n.3)(14.0.1) = 137.341 KN/m2 Ø 杰 MAG L 18.60



Date: March 8, 2010

#### Title: Steel Tank - Wall D. sign

#### Sheet <u>2</u> of <u>14</u>





Date: March 8, 20 0

#### \_\_\_\_ Sheet <u>\_\_\_\_\_</u> of <u>\_\_\_\_</u>

lond 4: 271.7-7 = 1584.6 Sla k₩ 2.17 XPa X × 271.7m2 Wind Lord (Walls) = 1.76 KPa - 4-8. 2 KN - Wind Lord (Roof) 3. 52 KB 27,72 -1 9584 XN x Self- We ont (Root) ÷ 1289.1 KN Salf- Weight (Wally) the de phate idel (6.m)(2.44m)(00254m)(7.850Kg/2)(52 177, 28 Ke 688 KN 44-110 + 137,134 KBaT Later a ψ gruge <u>08</u>00 ticant Con Heal 584.6 KN 1 1 ( KPA) <u> | 2hil 7 via</u> 2891.13KN 4 WE KN 1.4 0289. 3KW -1 : 1250-15440.65 2 |: | 1 5 (2-1. + KN + C 5 (5896 KN = 1, DONKN -1,25 289.13+  $\frac{3!125}{1:25} + \frac{1.55}{289} + \frac{3.54}{1:5} + \frac{3.54}{289} + \frac{3.54}{289} + \frac{$ Case 4: 125 D + 444 + 0.55 35 (289.13) - 14 (478.2) + d.5 (587.6 KM) = 1-12.3 KN. ---

Title: Steel Tank - Wall Design

····--·



Date: March 8,0

#### Title: Steel Tack - Wall Design \_\_\_\_

Sheet <u>4</u> of <u>14</u>

-			2			1	3	87	. *	.N			┝			8	2	(N	2	<u>\</u>	24		-	1		-	=	Y	4	4		4	4		1		
+		+	_	-	-	2	- 5	2 (	4						2	<u>r-</u> -						_			-						-	$\pm$			-	_	-
	-			-	l	1	0	2	KΝ		2	_	-		2,	11	2	1		•		_		╡	4	37	4	<u>4</u> [	<u>Mn</u>	,21) 4	4	4	m	<u>1</u>	1.7	5	)
ł	╎		-	-	4	52	н	+	- <del>]</del> .	m	-					6.	2		•~`					=			ν,	5	17	Ň	N	<u>In</u>	1		_† 		
																	_			_			_				_		4	4	┉	4	_	! 	-		ŀ
~	N		e.		4	:A	e.t	a	;		0	- 1	• •	- 0	22	··· •	<u> </u>	5.	σ	-	4	7	4	<u>ح</u>	1	2	-†										
	$\frac{1}{1}$		_		$\overline{\mathbf{v}}$	2	-			-			i -	-	2				1	<u>- a</u>			7		a	2	7			┪	10	 	1		0.0	00	ķ
		<u> </u> ,	24	<b>.</b>		<u> </u>	┟┿╸ ╎──	(			5	3.4	. • ₁ -{		   			ť		-+	·	Ż		5	8.	1				Ţ						1	ļ
	-		5	<u> </u>	47	ha	 1	-	╞	   1 ·	2.				4	4			_		50	5			2	4		_   _		- a	2	2	5	X	10	٩	
+	4		;_ -{	z	-10			┟┍╇╸	+-		3	н	10	ć	6	Ę?	-						38	4	+	2						H					Ī
	-		5	10	4	04					 Pa.	5	79	ل. فرة				2	<u>।</u> स	با اما 1	۹	 \	8	4	-	99		2	24	, x		•	:				Ì
$\downarrow$				t			<u> </u>			╞╌		-	2				[				£														1		
+						-	2,1		8		લ	3		-	4	9	2	25	, ×	ļ	p q																
								-	K	2				-	ļ.	-			į.		-		i			-						 			<u> </u>		
		_	• •		<b>*</b>	F		¢.			P	m						20	L.									<b>.</b>	 					Ļ	<u> </u>		, -
J.						$\vdash$			+			6	ŧ.	<u> </u>			-	1		1.			-					5		<b>.</b> 1				k	-	+	-
*	:	<u>v</u>	2	, D.			Î	ľ	Ť			Ľ		<u>r.</u> g				ļ	00				e		6	0	<u>o</u> ł	5				Ľ		Ļ	1	Ļ	-
	_	_	<u>.</u>		-			4		-						1	-		e r			3	4		╞	11_	be		÷.			,			-	+	_i
			6	15			<u> </u>	<u>d</u> r	عاد	Ň	4	62		ą	<b>μ</b> ρ	4	- Fe		-	15	5e	in.	51	100		Ļ	ľ.		e.	5-	<b>*</b>	F	K	3.1	6	-	3
۲	_	<u>_</u> ,	1	<u> </u>	3.	ł	+	0.	nt-		<u></u> €€	re	951	5	┢	+	+	+					+.					 							1		-
	-	_	Ā		5	Ŀ	a	l	m	£ m	29		,	5	40	11		<u>e</u>		<u>k</u> e	51	9		Å.	-	þr	d	4	PI	Ċ.	0	t	ic	<u>h e</u>			
	f	1			du	ie c II	<u>.</u>		<u>+</u> }	4	<u>a</u>		<u>u.</u>					H	ar L	1		1	15	ire Af	-	ita. Ki		<u> </u>			с. Д	s s	141 4	: - 	4-	┼	_
	-9	De De			- eo	1	5	er F	0. 5 9	94 5 e		4	1			, de	, <del>f</del> .	an 	X C.			<u> </u>	4	d₹1 ¥⊥	4		εp;		110 1	-		Ŀ	<u>†</u>		Ţ		_
	-	ia.	51	Į,		1	-	Æ	hir	00	an.		¢,									1	1	1		1	ŀ				1				!		



Title: Steel Tank - Wall Design

Date: <u>Marce</u>, 2010

## Sheet <u>5</u> of <u>14</u>

	E	_	-	34	50	1	<u>h F</u>	1	>	2	34	1.	1.	hF	4	L	р 2•		£١	a:	5	1	<u>}</u>												
											<u> </u>																								
$\square$		_				$\vdash$		<u>į</u> .	<u> </u>		<u> </u>				<u> </u>	<u> </u> .										Μ	aX	ί <del>π</del> ,	<u>u</u> m		25	<b> </b>			<b>5</b> \$
- <u>-</u>	Ы	۱e		5	:	١	<u>) ni</u>	łŧ		<u>\$ {</u>	1-6	5	<u>se</u>	5	╞	te	n :	ίċς	5										١C	з.	4	21	Per.		
Ta	ЪЦ	٩		6.	:	1	R.v	Ł.	ļ	₹£	e	55	S.	ŀ	Ł.	4	<u>77)</u>	2171	<u>e.2</u>	56	pn.								12	ખ	<u>.</u> `	Ľ٣	Po	╘╌┤	_
Te	ы	-	_	2		4	ny	Ł	<u>) :</u>	<u>+</u>	6.9	<u>ks</u>	<u> </u>	<u> </u>	Į_	Pri	me	cγ		æn	<u>eti</u>	ng					50	<b>.</b>	<u></u>	e.	10	<b>₽</b>	3	ч	
6	ble		8		:	U	he	╄.	ł	t	29	<u>ke</u>	\$	-	ļ.	<u>\$-</u>	ea	rur	g						<u> </u>			-		99	k.	<u>}_</u>	76	9	
6	<u>21</u> e	_	G		ľ. -	1	10.6	ŧ	+ -	<u>t</u>	e e	<u> \$ 9</u>	5.	<u> -</u>	<u> </u>	<u>Pe</u>	i ar	4	ę.:	<u> </u> .	<b>[</b>	<b>j</b>		<b> </b>							⊢	┡	┝┙	┝╍╍┿	$\neg$
$\left  \cdot \right $		$\neg$				<b>-</b>	$\vdash$	┢	┝	-	ŀ	╞	┢	-	┝	$\vdash$	<u> </u>		-	$\vdash$		_	-	╞	<u> </u>					<b> </b>	┝	⊢	<u> -</u> '		$\neg$
+		_				-	-	-		$\vdash$	$\vdash$	-	-				¦ 		_		╞	-	$\vdash$	-	-	-	<u> </u>			<u>.</u>	┢──	┢╌	Ļ	┞╍┿	
ec	<u>. t.</u>	<u>, or</u>		3.	1	-	ľ	⊊)	<u>/ i</u>	<u>60</u>	<u>tri</u>	<u></u>	<u>.</u>	151	<u>.</u>	1	Pl	a.*	-	5	-	1	-	$\vdash$						-	╞	<u> </u>	┝━╵	┈━┼	
		_			 	.		-		┢					1	$\vdash$	. <sup>.</sup>		1	$\vdash$		l.	1	-		+						<u> </u>	┝━━	╈	-
$\left  \cdot \cdot \right $	-	- 4	Ņę.			1.5	K	<u>le s</u>	1	ုိ		16		12	67.6	1	<u>4. \</u>	4	he	<u>+</u>			1.00	15	9	÷.		55	<u>e.a</u>	ŀ.	P	ť	┢	╞	-
	귀	с. Г I	- 5	5 L (		<b>.</b>	2	Į.	1	<u>e</u> .	.*		1K	ŧ	5-1	\$07 ,	εŋ	E <u>5</u> .	'	₽₽ī	ф. \	<b>.</b> .	₽£	¢	e!	E.V.	ις, l	ec	÷ -	lby	<b>F</b>	<b> </b>	+	$\left  \right $	-
┝╼┈╋		51	£	7		1m	<b>P</b> .	<del>.</del>	┼┷	+	+	┝	-	<u> </u>	<u>†</u>	†-	<u>+</u>			╞╌		┟┈	+	-	ŀ					$\vdash$	$\vdash$	+	!	$\vdash$	•
			-			┢	+	+	$\vdash$	$\vdash$	┢	┢	$\mathbf{I}$		ł	ţ					1		1.			5			7		5	╁	1	$\vdash$	
$\left  \right $	4	_	H	a		h	k	Ť	$\vdash$	$\vdash$	$\vdash$	$\vdash$	$\uparrow$	$\vdash$	ŀ	İ		1.		L.	1				7.5		194 X	1			l.		La		
		-		-				Ť		$\vdash$	$\top$	$\top$	$\square$	╞	ţ	$\top$		114	Ĺ	6	Ĩ	41	Ľ	4	- \1					L	20		de	E.a.	cei
		-	ч.	a	Ci	4.0		10	8.	5	Ż	5	1	5		$\top$		Ь	=		L.,	L.	L†	i an	Ę.	اند	me	ker		E.	5	7			
		1		1	40	1.2	5	P.	12		N	b.	85	$\overline{\Gamma}$				G	-	3	Þe	1.	i.e	10	re.	1	4	6	0.	Ę,	, - i	ψ <i>r</i> ±	∉r	1	
									Γ									5	= ,	Ar	1	h	le	de	10	-	5	tre	55		5	18	1		
L	. =	2	1		2		] /	* (	2.8	3		1	*					E	<b>*</b>	3	¢٠	.t	2	F\$2	24	ine	ŧγ				Ĺ				
	-	_		╘														[		Ľ							Ĺ				L				
	*	A	55	ur	<u>,</u>		U	i.	1 -1		<del>\{</del>	110	k	P			-7	Ł	25	\$.1	4 <del>r</del> r	m									L				
			<u> </u>	ļ		1		+		Ļ	<b>_</b>	<b>.</b>	ļ		ļ		-	ļ	ļ	ļ	<u> </u>	_	<u> </u>	<u> </u>	ļ	 	-	-	<u> </u>		<u> </u>	╞	1	╞┈╡	
₽	_	간	æ	5	ł	<u>,                                    </u>	<u>,</u>	Ŀ		ļŧ	He.	ļe	łe	59	<u>i U</u>	÷_	0	£	f	he	+	<u>fa</u>	hk	4	40,	h÷.	ent	5		μi	<u>lu</u>	4	<u>ke</u>	दत्त	<u>as</u>
14	ωì	<u>4</u> ۲	<u> </u>	<u> </u>	3.	<sub>:</sub> 누	*		F	łŧ	<u>e</u>	u	p-1	415		8	7	hi	ĸΫ	he	Ę5	╞	ьf		<u>.</u>	1	5	4	t au	þ.,	be	4	÷.	d a	e.
┥	Re	d	12	a	1	φe	<u>ήR</u>	<u>k</u>	G	₽	<u>hr</u>	赵	1	÷e.	4	ЧŁ		μ£.	<u> </u>	<u>f e</u>	hĽ		0.0		P	<u> </u>	6	17	m	-	+		┢	<b>├</b>	
	_	_		.	-	+	ł	Ł	+	-	+	+	$\vdash$	╞	┢	╞	Ł	┢		1	┞	┢	$\vdash$	$\vdash$	-	$\vdash$	╞	1	┡		┝	+	╞	$\vdash$	
		÷	<u>a</u> .		-		Şe	₽₽	10	4-	+	+	-	┢─	┝╌	+	<u> </u>	┼╌	<u> </u>		┢-	<u>.</u>	+	+	┢	┢	╉╌╴	₋	-	╞	┝	┢	┢	$\vdash$	
<b> </b>					5	ļĒ	+		1	-	+	1	$\frac{1}{2}$	1.	1.7		+ •	+-	╞		+	$\left[ - \right]$	┝	-	╞	+	$\vdash$	┢	-	-	$\vdash$	+	+	┝┤	
╞╴┦			-=		÷-	1	<u>þ.</u>	4	μ.		Éro.	Щ <u>Ц</u>		14	K		⊢	┢	ł	$\vdash$	╞	╞	$\vdash$	-	$\vdash$	$\vdash$	$\vdash$	$\vdash$	1	+	╞	+	┝	$\left\{ \cdot \right\}$	
┼╌╼┨				┝╼╼	-	+4	197	13	M	Ha.	K3	गेत	22k	18	<b>1</b>	+		<b>.</b>	•	+		┢─	+	┢──	+-	╞		<u> </u>	┢	╞	┢	+	┢	H	
┝┤		4	_	1.	┢	+	+	┢		-	20	-			İ	+		┢	+	+	+	1	:	$\vdash$	-	⊢	$\vdash$	$\vdash$	$\vdash$	┢	╞	+	+	╡┦	
	$\vdash$	τ	-	1 "	٣	f	*	f	μ	Ĥ	27	40	r) & '	<u> </u>	5	+	+	$\vdash$	$\vdash$	+	+	+	: ;	╞	+	╞	$\left  \right $		$\vdash$	+	╞	+	+	+	



### Title: Steel Tank - Wall Design

#### Sheet <u>6</u> of <u>14</u>

ber.	ŧ	<u>n</u>		3,1	2	-		am	نط	<u></u>	d.		ξĘ	Çe.	<u>55</u>	- 5																					
$\square$	_																									_											$\vdash$
M	ᇑ	أمط	<u>rs</u>		սե	12	£ ج		6	6-1	h	a	хċ	<u>a1</u>	.0	പ്		en	<u>ما د</u>	28	-5	ł۵	- 1	i e l	5.	54	164	I.	69	÷							$\vdash$
	╘┙	<u>po</u> j	- t.	.On	يط	-	Ъ	•	<u>c.</u> {	94	de	100	e	. 1	ωÚ	9	:	_			_																$\vdash$
$\square$					_								_					_		_											<u> </u>	_					$\vdash$
┿╋	-	8			<u>.</u> †	╘╌							5	2	12h	د	ax	<u>امن</u>	۱ ;	uni	t	56	26	- (	ihya I	£	چىر	<u>.</u>	}	e.,	P	ያም	<u>; R</u>	e cr	_¥	¥	<u> </u>
$\square$	F	2			FI	-									44	15.	4	<u>.t</u> e	S.R.	ari	٨.	5	<u> </u>	×.×	<u>ما</u>	9	ŧι	eş	5   //	an	lγ	Ę	κi.	i to	<u>.</u> 4		;
┼╴╃													<u>t</u> i	, <del>-</del>	+	he	-	20	<u>nd</u> .	<u>. 64</u>		νų	54	4	4	-55	-	• <u>}</u> _	24 U	<u> </u>	100	ւթ		ŧ.			┝
┢╍┼	-		_	-									-	-	be!	n.	<u>He</u>	4	<u>ь</u> .	<u> Hi</u>	5	5	ડ્સ	are	يما	러	<u> </u>	<u> </u>	s.o	<u>1.</u> 0	ŀq.	. S'	ξ <u>τ.</u> ε	55	ه ا	$\nu_{f}$	F
$\vdash$	-												n n		نسا	2.4	<u>.</u> *e	₫					H		$\square$	$\square$	/	-		.\	$\vdash$			,	H		┝
$\vdash$	4												1	<b>~</b>	-	£.		. A	×ċ,	<del>در</del> ا	u	N. 4		5 00	29	۶	م	<u>، د</u>	tua tua	11	1	e.q	Un.	1	ED		┝
	-										; -				a, K	<u>ie</u>		101	105		4	<i>y</i> ic	لوجا	-	Þγ	4	.rQ	55	- 1	1		<u>On o</u>	<u> </u>	CAL	<u>e</u> q	A	┝
╏╌┼	-	-				-					! i				0		m	<u>¢ n</u>	5 (p.)	<u>ربر</u>						7			5		<u> </u>		ŀ .				t.
		4				·					$\vdash$		Ť	₽. <sup>-</sup>		14	, Þ	50) 1	<u>L</u> LC	9	U A	1	5	tre L	55	6	tet	Le.	<u>ι</u> ,	<u> </u>		<u>a 1</u>	2	10	be	1	CY ,
┝┈╉				-		ŀ		╞	$\vdash$			$\vdash$		$\vdash$		noi	<u> </u>	<u>. n T</u>		al:	. 40	64.E	<u>لط</u>			<u>E.C</u>	565	<u> </u>	177		ीक		<u></u>	~	<u>¢0'</u>	24	ŕ
			4		<b> </b> _		8 3			1.	r	1				┢						 		-	<b> </b>		-				12		$\vdash$		$\left  \right $		ŀ
124	<u>e t</u>	hq	¢.	-4	-			50	m	1 <u>.</u>		-el	6	<u> </u>	50	<u>70</u>	i n	1	the	201	1	<u> </u>	- 7	- G		<u> </u>	a		- <del>-</del>	1 <u>5</u>	te 	1.			$\left  \right $		╞
			$\square$			~	27	<u>er</u>	F	1	122		57	e.'	152		104	ъх.		<u></u>	<u>-</u>		ine.	۲Ż	P.E	-	Ex.	221	Ľ	<u>.</u> ~	1.4			13.	$\left  \right $		t
		Δ.						3					L		1	4	=	2	5	4	~	_							-				-	·-			٣
	_	D	•	<del>Ч</del> а	2	18									ľ			-			m	1		$\vdash$					<b> </b>		<u></u> +	† <i>*</i>	F.	`···	i	• •	ŀ
		-Р	- -	- (			<b>}</b>	<b> -</b>	<u> </u>	+					<b> -</b>					· •·	·				†					$\left  \right $	$\square$		İ	$\vdash$		:	t
	0		÷	10	=		6.	67	5	4	4	-		-		1.0	0	2 -	•		ļ		$\square$	$\square$	$\square$			<u> </u>		t	1	<b> </b>	1	$\square$	$\square$		t
	1	_		<u> </u>			1		ľ	ŕ		ľ				1.1					<b></b>	-		<u> </u>	1		-		ļ-	1	T	Γ			$\square$		t
	-							[ "		·	ľ						<u> </u>				<b>_</b>		<b>†</b>		1						1	Ĺ			$\square$	Ì	Γ
		-		F	L		¥	5	12	.c	66	7	ľŧ		Π	١.		50	6. c		b /	Ŧŧ	$\overline{\mathbb{N}}$	F. 1	1				F		6	4	2		$\square$		T
				-		· · ·	<u> </u>			ľ		Π	5		Π	ľ	ľ				1	ļ	[]						ł	Ŗ			2			<u> </u>	Ţ
						<u> </u>		+			1					Ī	1			<b></b>	<u> </u>	1	1							ľ	Γ		Γ	1			t
								Γ																		ļ				Ι.							Γ
		:	ρ	N	14	p	s í	(	0.	òь	89	м	Pa	$\Lambda$ :				¦																1			[
1						Γ					Γ		[	Γ	1			ŀ					1		-	(					]	[					
							K	2	-	1.	0	+	1	0.	2.5	$\Gamma$	7	R		3	3	H	٢	6	4 1	1.7	5								i i		Γ
1													L	11	6	17	K	łŧ					Į							-							
							ŀ	ŀ	-	1	6	+	1	6.7	5	1	1 4	.3	[ ]		2	3	-1	١.	] ]		1										
				1									2	16		Л	0	07	5	ť	:			1		<u> </u>											ľ
																														•				!			
									-	1	.0	7		Ł	1	2	5		-		b											1		1			
					1	1	[		<b>_</b>	1	[																-				1						Γ



#### Title: Steel Tank - Wall Design

#### Sheet 7 of 14





## Title: Steel Tank - Wall Design

#### Sheet <u>8</u> of <u>14</u>

I	Ţ	-1	1	Γ٦	- 1	1	- :	1	7	7	T			T		1			1	- 1				1			3					[	[	[ ]		ſΤ	Γ	1
1	7	5	•	1		2	٩_	- 1	Π	7	n	7		2	in.	$ \ge $	- 175	~	$\mathbf{n}$		8	0.	Lin	2	7	7	2		3	É					$\square$			
1	-	^			-				1	t	18	0						-	Л	-			T	04	7	R	- -	¢2	$\mathbf{N}$									1
1			=	,	74	.3		1.2	75	۳ý	Ż	- הר:	3.1		. 4	in	21	con	3	1		8	0	527	2	1, 1	( •	. 3	3	4	2	5	$\overline{\Lambda}$					
	╡			4	· •					-		120	)			-								-	$(\cdot$		1	9.	2	-	4.	2.7	5 <sup>2</sup>	$\mathbf{N}$	$\square$			1
	-		_		2		6	5			`.	4.	71	-																		ſ	-		$\square$		-1	
									:		i "	н.	57								1											1					-	Ĵ
T	r.	+	<u> </u>	Ö.	0	7	_	4	17	h				-																		[ .	ł			Π		
4		,			Ť	1										· · · ·														i į			Γ	Γ		$\square$		
	لاء		2	he	٤Ł		W	20.	Ľ	6	x	e,	5	e c	ι. Li	on.	Γ,	ne	d	i le	5	4	51	I,	5	ec	ίtι	pr		me	d.	lu	ş.	w	e/			
		56	2	hic	2	l	5	0	r Ci	C.h	te	j.	1	-or	'n	ha.	k i i	ni	3	ŀ	e	A	in			5	51	-	10	 ₽,		ŀ						
						İ									:									9										]				
		5	V	-	7	Ĺv			4	p,	00	2	4			2.2	3	m	2			İ															1	
			1			Ē				þ,	þ	29																										
			[	<b>_</b>						i																	[									Í		
	N	A.	5	.4	-	F	5	Z	8		ŧί	. (	1	F (		-	Z	3.	5	ĸ	h.	സ	6															
-		1						-																									L					
					l										[	[								·		-	ļ					l						
				F	5	-	2	З.	51	N	1 m	1	h	-	-	1	6	Ł	K	2	ń.									•		I.						
	:			1					1.7		6	2	F	ſ		0	1	6:	Ź٢	٨F	ի Դել	7																
								į	ľ	ľ											-	1.		ŀ												:		
			Γ							1						ĺ			ł								Γ		1							ļ		
	_	5	4		=		5		-		١,	32	Z	×	N					Z,	11	6	۴N									Τ						
			17								Ş	8.	H	1.4	22	54				58	. 4	Ċ.	0	15	5	Γ												
			÷					-				İ		ļ	[									1							[			1				
					1			] ;	F.a.			2.	39	24	K	P,		*		2.	3	6	41	Pa.	17													
								-			T				ï					Ì.	ł	ĺ.	i	-	Ľ													
																												ł					ŀ					
	=>		F		=	Ģ	t_	X	Q																			Ĺ										
					<b></b>			1	Ľ		į										ł							]							Ł			
					-														1															1	Ĺ			
		6		F		ſ	17	2	F		Ϋ́								ļ																	i		
					1.	r	F	Î.		Γ				Ĺ					İ				Ī												-			
																		1				ļ																
				=		5	2	6			a	m	Pa	K		-					:	i	1									1	1		<b>_</b>	1		
		ſ	T	1	IJ	-	T		8.	4	M	Pan		1				$\top$	$\square$		T	1	T	1	1													
Ì	,	-	1	T	Ē	1	Γ	Γ	T	i.	1-			1	1	T		Ţ	$\square$	$\square$			1		$\square$			Γ				1	T	T				
.`	17	$\mathbf{c}$	Ĩ	1	5	0	2	1	T	i			$\square$					ł	$\top$	Τ	$\top$		$\top$	T	Τ		İ	1		Γ	1	1	T	1	T	Γ		
	t t			Ť	1		T	-	ł	1	t				-	T	ſ	Ĺ	$\top$		1		1	Ť		-	1	Ī		1	1	-					-	
-		-	<u> </u>	1 -		1	Sec. 14	A				.u —				E		1	·	_	-	1.1	-	- <b>1</b>	- 10 M	1-	- A	L	L .		1	1	-	1.1		See. 1	· ·	/



#### Title: Steel Tank- Wall Design Sheet 9 of 14





## Title: Steel Tank - Wall Design

#### Sheet <u>10</u> of <u>14</u>

1	ię.	£V		٤	-1	÷ ÷	r he	Ne.	<del>ل</del> ا ار	Ě É	يد بو			.k. au	<u>ال</u> م	-	þ: Y		v	5 C	d		نيو 	i (	<i>.</i>		<b>ң</b>	2	F	ť			<b>F</b>		
		-	-				મ		Л	1		11		4		π	વ.'	3	<u>)</u> (	.4	2	24	Ż	Ţ			, e	ч		ļ		:			
₽		S	a	55	-	2	1.	<u>Na</u>	4.5	Ľ,	2	1	7	7	ŧ	/:	5	4	ji I	ţ	0.	0	01	35	3	71	2	ļ							_
+	_			ŧ,	R		=		2	4	0				ø	00	22	7																	
	er	·····				t	/R	4		1	÷	12	). ).		ę	.a	51	ic		4		<u>د</u> (				ø	۰.t		١٢			- /			
	_							ł_	2	F	, ·		17	د. ارغ	26	6	1	t,				Ŧ	5	1 2,0	20	0	23	1	12						_
						   	   		 				 12	.0	66	(		201	7	1	ľ	ł	5	o, ∣	pc	0	, V	к. 50	2.7		7			<u> </u>	_
			!	   						ſ	1	3		ч	<u>я</u> ,	5	м	Pa		•	F	2													_
<u>F</u>	5	Ξ.	10	2	1P	8. P.													-			-												 	
	L L	2		7		ble		3	5	<u>-</u>		-							ŀ						-										_
•	t,	ír.	"	0	0.0	07	27				•	2							ļ ļ																_
•	<u>لا</u>		-	1	3-																														_
괴	1	ŧ٢	••[·	k	L OF	- -		-  -	6	0	31		1.8	47				4,0	3	-	X														
									,		<u>3</u> . 0.'	5	60	2	Ъ =	-0	0	00 00	<u>Б</u>	+., K +	3	0	5	É.											_
									5		אן אַג	-				-		<b>K</b> :		5	-							 							
		İ				F	F		0	.00	3	-	00	2	5		5	10	3	• • •	60	25	2		<b>-</b>	<u>-</u>									_
					-		-	1	ľ	l	1	=	4	4.8	20	2	ſ					ľ	<b> </b>								1				



## Title: Steel Tank - Wall Design

#### Sheet <u>11</u> of <u>14</u>

[	ľ		1	- ľ	Ι						_		-									ļ			ſ		-												_
			4.	80	2	1	5	3	18			. 4	80	2		z		[				Ĺ	-																_
		Ţ	Ţ	5	2-	17	- 5				<b>I</b>	1	50	-	13	Z	_	<u> </u>			_	╞	_	ļ	4				_					;	ļ		<b>  </b>	-	_
		$\downarrow$	4	-	6	70	8	-	-	2(	27	<u>.</u> +	12	29	0	52		-	-	$\vdash$	$\vdash$	╞	+-	╞	4										┝─	╞	$\left  \right $	+	_
-	<u> </u>	1	Ľ	-7	?	<u> </u>	15,	0	70		₽	<u> </u> .				$\vdash$	$\vdash$	┝	-		-	╞	+	┾	-+	+						_	$\vdash$		<b></b>	╀─	┢┤	+	
╞	1	,	1	~	-	6			F	17		$\vdash$	╘	13	c		Þ	-	-	╞	<b>-</b>	ļ	+	+	+	+	_	-				-	ļ	┝╼	┝╌╴	┢	Ħ		
╉	10	¢	<u>_</u>	<u>671</u>	~		229	<u> </u>	٣.	<u>//</u>	ľ		<b>F</b> -	-		1		鬥	╟╍╍	╞	+	÷	╞	╈	╡	┤	•	-			• • •		į i	$\vdash$	╞	$\vdash$		-†	-
+			$\uparrow$	-	ţ			.   .		F.	<u> </u>	-	2	$\mathbf{I}_{1}$		$\vdash$	ŀ		+		╞	t	-	t	1								<u>†</u>	$\square$	$\vdash$	$\Box$	Η		
ϯ	t	- 14-	4		F	а. А	<b>†</b> …	╏╇		F		$\square$							<u>†</u>		+	T		T															
		+			z.:	35			1	1	12		Ż		0	0	7	4	1		â		¢	k	1												Ì		
					3	ĥ				44	1.1				<u> </u>	t	<b>–</b>					Ļ		1								! ∔—	<b> </b>		ļ	$\downarrow$	$\square$		
	-							ļ			1								+		<u> </u>	1		1		_					L	-7		╞	╞	$\vdash$	$\square$		
6	<u>(</u>	4	:		Ē	ŧ.	1.	hai	4	2	4.6		4	he	2	<b>I</b>	Ľ	h	<u>at</u>		ť٢		<u>-</u>  ·	ţ	<u>.:</u> d	kı	Se.	5	Ļ,	ha	y.	lF	ie.	10	<b>k</b> a	44		£	
+	-	+	4	<u>.</u> e	ſ	hìs	<u>}-</u>	1	ų.v	1	Ł	12	ł	$\frac{\epsilon}{2}$		H	<u>k</u>	¥K.	10	₽	7	3	竹	-	<u></u>	~	~	- +	4		g.	10	<u>+-</u>	柠		╞	+		
!	+	+	4	2			3	<u>9</u>	6	40	he	<u>¢.</u>	<u> </u>	F	s.	╈	μZ	₽	<u> </u> č		╋	ł	₽╏⁰	1		5		Fc	<b>~</b> ~	<u></u> ⊧	m	6	( - +  -	<u> </u>	<u>*</u>	₽.	14	<u>e</u>	-
	╓┼	+	ť	٥p	6	1		600	<u>(n)</u>	<b>4</b> .	÷	+	╞	ŀ	┢	╞	╞	╎	+	┿	- <b>-</b> -	╈		╡			-		$\vdash$		·	<u> </u>	┢	╞	t	╞	+		$\vdash$
-	4		-	t		5	İ.	+	h.		<u>ا</u> ر.	Τ.	ł	╞	17		Ι.	╀		┢	1.	+		-+		+			5	- 7			╞	┢	ϯ	╈	+		
-	1		M			12	╬			5			þ		ľ	6	Ħ	<u>ጥር</u> የም	Ţ,	F	14	1	1			~		<u> </u>		i		Ê.	+	╧	+	1	$\uparrow$		
+	$^{+}$	╡			<u>├</u>	0	1	ŧ7	5	1		2.	÷,	19	3	00	, ,	ŧ	1 c	2.0	90	10	-17	!†				<u>†</u>	<b>†</b> - ` ·		t-	$\square$	$\top$	T.	T		1		
T	t	1					1		1	İ		$\top$	ľ			Т		T	Τ	ļ		ł	P						- 										
T	Þ	-			H							1						T				1																	
	1		<u>*</u>	6	<b>a</b> .,	81	ĸ	14	$a^{3}$	•	1	47	*	K	2	5					1	_	$\downarrow$	$\downarrow$						ļ	Ļ.	<u> </u>	+	$\downarrow$	$\downarrow$	⊥	$\downarrow$		
1.	1		2		8	2	2	<u> </u>   K	24	L	= (	2.	28	21	ļľ	<u>,</u>	7	$\perp$	1	$\downarrow$	1	$\downarrow$	_					!	$\vdash$			$\downarrow$	$\perp$	1	$\perp$		+	<b> </b>	ļ
	$\downarrow$	4			Ł	$\vdash$	$\perp$			-	+	_	+	+	1	1-				+	+	+	4	+				÷	<b> </b>	-		┢	+	+	╞	+	+	Ļ.	
-15	4	4		110	ŧ٩	44	4	p.	p	P	백	<u>  </u>	+	+	┿╸	+	╞	Ļ	+	╀	+	ł	-	-[				<b>.</b>	ļ	+	┞	╞	╞	+	╞	+	+		-
	+	+		$\vdash$			╞	+				-	+	L	+	+	+		+	+		+			,	$\vdash$			_	+	<u> </u> .		╀	╉	╀	┼	+	$\vdash$	
+	╎	+		$\vdash$	<b> </b> ."	2	F	1	<u>.   0</u>	+ ·	•	1	2.2		∄	╉	₽Ľ		+	┽	1	봔	1	+	-	·	ä.	K.		$\vdash$	+	+	+	╀	+	╉	┼╍╌	┢	┢
+-	╉	╉		ŀ	$\vdash$	+	+	•	╈	+	+	4	15	<u>4</u> -	Ť	┢	ť	1		╞	+	+	-				<u>+</u>	+	$\vdash$	╏	+	+	+	+	╧	+-	<u> </u>	$\vdash$	t
+-	╉	╡			+	+		Č I		+		尢	1-	E	Ν	Ż	4	<u>,</u>		+			24	7		2		2 4		t	t	-	-	1-	t	+		$\square$	ļ
	┢	-†		┢		╞	+		ï		1				1)	ţ	Ťe	72	17	Ť	Ţ	Ţ				-		Г			T	T	T	╈	1	-	-	ſ	ſ
	-	- 1		ſ	t	t				1	Ť		Ţ	T		Ť	1				T													Τ		-  :-			
					1	1	F	-	Tk	81	5	4	1	25			2																		_	Ì			
								-								-															-				$\square$	$\downarrow$	$\perp$		
							i	4	-	1	40	F	I.	2	\$	1	-			ļ										_	-	Ļ		$\downarrow$	$\downarrow$	$\downarrow$	-		-
				L		_		4							-	<u><u> </u></u>	_	-	$\perp$	1					-			1	+-		ļ			Ļ	-ţ -ţ-	_		-	
	]	1		1	L				1	J	1	J.	E	ł	L.	1	l	L		L			1			]	L		L	1	i	Ĭ	1	l	1.			ļ	1



## Title: Steel Tank- Wall Design

### Sheet <u>12</u> of <u>14</u>

								1				1										1														ļ						
	=}	ļ	F				h	2	Q	66		L	₽	N	Π	ì	¥	50	4.0	20	φ		1	Ŀ	۲,				ì							ļ						
						1	ļ						<u> </u>	╞	L							4		R	)	Į	Ϊ.	<u> </u>	<u> </u>						_	_	4					_
	$\downarrow$			-	١.	2:	\$	(	12	, C	60	₽	4	ų	-	<u> </u>	η.	ļſ	¥.	<u>t</u>	\$	2,4	×	3	7	2	7	Ц	<u>ا</u>			_			<u> </u>		1					_
1	ł	~						_						1	-3	50	1	Ľ			1				5		$\mathbf{b}$	<u>61</u>	-	4	_	_				+					Ļ	_
1	4	A	4	=		2	4	4	2	4	Pa	1-	4	Eļ	6	4		1.	<u> </u> .	-	4					-	<u> </u>	-	+	+	4			 	$\vdash$	$\downarrow$	$\downarrow$					_
+	-					Ł	╉			_	+	ŀ	+	4	-	_		-	╞	+	4	ļ				-		.	+	+	4				+	+	$\downarrow$				╞	
⊉	4	4	6	2		e	a	Li	<u>ng</u>	,	ih er	m	4	4	_	ì.r		<u> </u>		4	14	1				<u> </u>	<b> </b>	┡	╞	-	-	_			: +	+	+				╞	_
	-+				-	12	5	-1	<u>ia</u>	ς.	┟Ⴞ	10	4	4	2.5		þſ	+ •	<u>41</u>	4	4	e	1	t	hì		ine Ine	2	4	╞	+	-		$\vdash$	╞	ł	+	_			╞	_
+	7		_		$\vdash$	<u> </u>	╉			$\vdash$	ł,	-	+	╞	~ ]		-		+	╀	+		_		$\vdash$	$\vdash$	$\vdash$		╀	┼				┝	╢	-	-				<u> </u> _	-
+	<u>&gt;</u> e	4	<u>ei d</u>		<u> </u>	<u>н</u> ,	벁	(u	<u>u</u> 4	ŧ,		2	Ŧ	1	-4	G	+	t-	¢.	1	εŧ	<u> </u>		-1.1	n.	1	105	*	14	1	4	ŧЧ		$\vdash$	┢	╉	+	_			╞	-
	+	-		D	 	4	╡	_			╞	╎	+		_				+	1		-	1	10	.5	2	-	<u></u> +−	┿	╉	-+				┢	╋	+			-	╞	-
ľ	+	4	-	р Ф	Į,		_		21.	, -,	i.	t	╡		_	-	7	Ì.		7	4		זר	-			╞╴	+	+	-	+				┢	+	+			$\vdash$	┢	-
	7	-	-	a	ť-	25	2		_	5	ſ	t	1					4		ſ	Ì		۲			1		t	$\dagger$	1	1	-		-	1-	+	+				t	
+	1	-		- 1		ľ	ť		<u>`</u>	-	t	1	╈				1-	┢	$\dagger$	+	+				i.	$\uparrow$	1	ţ	t	+	1				t	$\dagger$	+	_			t	
	đ	_	11	20	\$	en	1	3	1	1	9	, P.,	3,		9,	2	87	3					7	9.	3	<b>P</b> •	1.7	12	7		-	61	3		Ţ	1						
	Τ		_		1		6	з.	5	1	٩.	3	2	q	2	27	2		1	T							Ż	{							ľ					ļ		
		I			0	ŀ	2	8	9			9	۱.	2	80	$\mathbf{\Sigma}$								<u> </u>	1	Γ.		Τ.											-			
_[		4	7		þ			Q	9	5		Ļ						1			$\downarrow$									Ţ						1					+	
ì	4						_			Ĺ		Ļ	1	_	_			$\perp$	$\downarrow$	$\downarrow$	$\downarrow$						$\vdash$			1					$\downarrow$	4					i	
•	_	T	γ.	=	<u>'</u>	<u>/</u> 4	Ц	(	R	۳.	1.	1	X	4	~	1	Ł	<u>_</u>	4	ź	<u>n</u>	-	<u> </u>	29	Ł	1)	<b>_</b>	<b> </b>			_				_	$\downarrow$					-	_
_			1	<u> </u>	╞	+		_			+	$\downarrow$	+	l	t;	20		+	∔	+						Ł	ļ	$\vdash$	+	┥				Ļ.	╞	+				┣	╞	_
+	4			=			-	0	3	Ľ	9	42	28	2	*)		Ł	2	4.	<u>a</u> t	4		5	<u>in</u>	<u>₿.</u>	<u> </u>	p.	43	2k.	Ц				:	╞	+				$\vdash$	╀	_
+		1	-	$\vdash$	1		+		<u> </u>	$\vdash$	-	+	+	_		1	┡	$\mathbf{h}$	84	2	-	_		-	-	╞	1	╞	+	4			<u> </u>		+	┅┝					┿	
+	+	(	=	+	C	4	q	0	μ	m	17	₿	4	ŝ		-	+	+	+	ļ						┝	┿╍	╉╍	╈					┢	╀	╡	-		$\vdash$	1	╀	_
	╤┥			-	$\frac{1}{2}$	+	7	-	4	┼╼	t	$\frac{1}{1}$	$\frac{1}{2}$		,	+	+		╉		+	7				+	2			╁	_	_?	$\vdash$		20	,	3	72	╞	-	÷	-
P .	4	×	-	1	14	+	<u>L:</u>	ĸ	-	12		Щ	10		<u>~</u>	+	-	10	1	4	2	뉘		à		151		13		*	7	1		1.		4	2	) 21	┝	$\vdash$	╀	-
	+			┢	╈	╸					+	╋	4	29	ř	<u></u> †−	┝	+	+	╉	-	-		$\vdash$	$\vdash$	<u> </u>		<u>-</u>		4	-1		-	-7	Ŧ	1	괸	Ļ	-	$\vdash$	+	-
╡,		1	1	<b>a</b> .	1	t,	9	z	87	#	17	4	1	3,	h		5	ini	311			3.1	1		8	b.	dia	73	.11	4	2.1	5	. e	8.3	28	z	Ĵ			+	r	•
1	+		$\vdash$	ſ	ſ	$\dagger$	Ť			T	T	T	8	2		ľ	ť		ť			- 1 4	ナ			T	5	7	2	١Ì	7	9.	z		7	7	77	- \	ľ		t	
		-	i.	12	28	1				2.	6	32		-			T		1	╡	ſ			Í	ŀ	$\uparrow$		ſ	1	Ť	-		-	T	Ť	1	4	ŕ			Ţ	
		_				Ţ				2	3	57	3																				ļ									
I	=		Ø	c	ъ	$q_{1}$											1													Τ			L		T	T						-
	-						7																										Ĺ									ĺ
,					Ļ	1											_			ļ															1					;		_
1			1	1	Ł	Í	- 1		1		1	[				1				1				1	1	1	-		1	1			1	1		1			1	i		



## Title: Steel Tank- Wall Design

## Sheet <u>13</u> of <u>14</u>

-)	5		- cic	5	ie,	0	Ł	en f	k d	11	s Fo		1.47	217	ne	~	J.	( )e	nd	in.	(بر) ع	6	5	5	a	~	ne	e.	1	es.	Jh	-0			1
		5	¥ =		¥			9	. ¢ . ¢	0	<u>11.</u> 7	<b>-</b> '	1	0	12	2. 17	<u>_</u> 2	]																	
	<b>(</b> )		1	=	72	. 1 . 1	<u>د ۲</u>	۲. אין . ג	7/	<u>n</u>		Ę	14	17 Ø	5	Ľ. P	5	11																	111
-	>	Ŧ	h	<b>=</b> .		2				1.	30	22				 		2,1	10		V	27							   						
_	r F							-			70	8	<u>k</u> R	- / a		Ĺ	г Ч.	7			5		:											-	
	5	5			F		K v	E																											
				 	Į	11	F 26	02	0,i	2×																									111
6					9	6						1 1							+							   									-
											ą,					E			12	\$							7								
		. t`		<u> </u>			2				 															0.		7	7						
			23					6	- - -										7																
									 						*	╣ ╢╺┉	-+, 			0 212	20		2									! 	ţ		
-												-	P	¢.	ŧ	C	ol e	32	¥			ľ													-



#### Title: Steal Tank - Wall Design

#### Sheet <u>14</u> of <u>14</u>



# Appendix L



Date: March

## Title: Slab Design (Sleel Tank)

#### Sheet <u>|</u> of <u>7</u>

References 11 "converse floor Slaps on grade Subject to heally Army technical Hannal TM 5-809-12 Air lbads' TM 9-809-12 AFA 88-3. Manua I. Mana 15 (1987) Phane on g-ade" (1595.01)) "Slab incliness linickness Design for Industria Robert G. Packard (Portland Concrete for Industrial Cement Ass ANDION Concrete Slap on Grade Amalys 15 Distributed live load/Line buding from Wall - Stable Subject to Plationary Uniformly Aspanplions 1) Subprode Modulus ¥. bedrack. Nould Subarade Thus **a**Nt his is given settlement. with ian 25 For high sugar Ňa Rection Ranges H 50 + top psi ச Jublingde net stalld Within gnen however for high Support <u>Qhav</u> of plastic fines) have a Range of much higher support This value is Not high of 186-220 psc. psi Considering assumed al Brc Rock has We have 800 Should high however aive us di live onswer 2) thickness of side t = 24 in (. 600 m) af state at 245 (45+ added to diameter) d= 455+ (19.05 m) + Practical Purposes At edge b) | τ. Strongth Fe = 35 MPa H) Concerte () factor OF SAFELY 2.0 Conservative Value Lan be used lat a.



Date: March

## Title: Slab Design (Steel Tom K)

## Sheet <u>Z</u> of <u>7</u>

						· [		<u> </u>		i i						151	JE1	_		_										_	$\left  - \right $		÷	┝
Vw	<u>4</u> +	¥	-			1	<u>}</u>					i		-		46	P4		171	~		$\vdash$	$\vdash$		$\vdash$									┢
+	$\left  \right $		-	10	1.2 0 4	) 94	-	-	м Э								-						$\vdash$		$\vdash$				ļ –	$\vdash$	$\vdash$		+	+
+	┞╴			<u>د</u>	90	-	0	<u>.</u>	m i								$\vdash$	H												$\vdash$	$\left  \right $		+	+
We		0	E 1	V.	~	E		۰.۱							1													1	11	5			+	
				-			Ĩ	.0	Ń	VI,	3		6 3	90	ц.	02		1	-		87	31	7.1	13	K	N	x	1.	25	t.	I SE V	1		+
									-												2		16	64	. ما	n٩	K	M						
				L.,						1   												1		L	L									
W-	<u>4</u> h		þF	Ro	ŧ۴.	ε	_	65	00	b١	<u>ا</u>											<u> </u>			<u> </u>		1						$\square$	!
_	1							F,	0~		Dv.	24	01	2	(	•	G		-		28	۹.	1	KN			<u> </u>				Ľ		$\perp$	Ļ
-											ļ	1							i		_	<u> </u>						<u> </u>		$\vdash$	$\vdash$		-	+
30	IE.	J ei	h	1	₽F.	14	al	5	⇒	1	6	8	K	<u>N</u> _					ļ		<u> </u>	$\vdash$	Į		<u> </u>					$\vdash$	+	$\vdash$	+	+
-							-			_	-	-		ļ.,	_	7	╞				<b>P</b> - <b>R</b>	-		$\vdash$	<u> </u>	-	-				-	$\left  \right $	1	+
300	w]		<u>99,1</u>		<b> </b>		<b>K</b>	21	S	99	. *		2	<u>76</u>	6	<u>}-</u>	=		61	<b>.</b>	1. 10	<u>۲</u>					μ.	2	1.5	р.,	⊢	$\vdash$	+	╈
╀			$\vdash$	$\vdash$				$\vdash$				$\vdash$	$\vdash$	Ļ						F	Ч	K -	<u>}.</u>	<u>י</u> ק		1						$\vdash$	+	+
Η.		=		41.		16	70	4		28	a.1	4		6	29			LIR	6.5		ч	43			$\vdash$	<b> </b>	$\vdash$	$\vdash$	$\vdash$	┢	┢	$\square$	+	+
					Ĩ					ľ			$\square$		ľ						ŀ	1	<u>;</u>	ſ	$\square$		$\vdash$		1		$\vdash$			$\uparrow$
A	Ł	-	8 e -		£	Π	(9.	9)	2	-	3	•	1,4	1.6	2											:				İ		$\square$		T
	1 MAY	n,																											1					
-Pr	255	ų,r	£	a	ĥ	5	a	<b>þ_</b> ⁼	<b>.</b>		18	e	21	4	ի≮		N.	•	ł	2.	2'	Lu	<u>8</u>	<b>.</b>	-	1	60	1.1	8	Xç	9	<	50	<u>4</u> 1
+	-			 							13	0'	<u>þ.</u>	<u>h.</u>	<b>∼</b>	[							-	<u> </u>	<u> </u>	<u> </u>	<b> </b>		$\vdash$	ş.	12	K	_	╆
	-					$\left  \right $					<u> </u>	-		╞			-		_	-		<u> </u>	11	-	-	-			╞	┢	$\vdash$	$\square$		Ļ
<u>(4)</u>	SI.	<u>ab</u>		βu	Þj	<u>t e 1</u>	fç		10	Ļ	<u>hi 8</u>	1	1	04	di	10	$\vdash$	*	ro	<b>b</b> -3-		Ľ	¥	-	-	-	ŀ		-	┝	$\vdash$		_	$\frac{1}{1}$
+	0		h	) iz -	1.					2	h :			┢		-	<u> </u>	$\vdash$			-	ŀ	$\vdash$	$\vdash$	$\vdash$	$\vdash$	-	-	$\vdash$	⊢	$\vdash$	$\vdash$	_	╉
-	10	42	11	514	0.0	22		5	51	-	1			$\vdash$	$\vdash$	F	$\vdash$	$\vdash$					$\vdash$		$\vdash$	$\vdash$	┢	-	$\vdash$	⊢	$\vdash$	$\square$		+
	K	-	<u>.</u>	30	6	þ.	<u>;</u>	ľ		ľ	f		$\vdash$	$\vdash$	$\vdash$		ţ	$\square$				1						ŀ	$\vdash$	$\vdash$	$\vdash$		:	+
													<b>-</b>														1						:	
W	<b>11</b>	۱	00	d	hε	4		1		6	v	=		٦	94	'n	J	h.							7	<u>,</u>		2	1-				I	Τ
				;							L			1	1	6	<u>k (</u>	t					Į				2	T	L.	<u>ن</u>	5)		:	
-								i –					ŧ	ļı	72	0	2	5	2	ſ	6.					<b> </b>	z	1	<u>h1</u>	1	<u>3</u> 1	¥.		$\downarrow$
+	<u> </u>	_	$\vdash$	9.				-		-	-		1	-					ĺ-			-			_			1	Ļ	_	┞			╞
10	h	c b	<u>(</u>	ľ	t.,			-											$\vdash$	<u> </u>	-		-	<u> </u>		-	-		<b> </b>	┡		$\vdash$	i	+
	1	ſ	1	1	L	1	1	1 -	1	1	1	1	1	1	1	1	1	1	1		Ł	1	1	1			1	1	1		1	1		



Date: March

## Title: Slab Design (Steel TonK)

## Sheet <u>3</u> of <u>7</u>

11.2	40	di	ali	45	0			Cia:	<u>el</u> i	ari	-															-		[					-	-
$\downarrow$	И	*	-	4	1	ţ	¢,		9		٩	Ľ	0	16	3	فدو			G	<u>49</u>	. 7		25											
2)	A 1	0	J	5	ten	d:	ъ	ç!	i.e	<u>5</u> 5	7	fì,											••••••						 					
	F	, 4		1-1	6		5,	1	=		١.		5	07	Ŀr.	3		i.	4	1	13	, a	٩	25	i				-					
21	<b>F</b> 4	-	5	м			$\left  \right $	6	Ц	2		╞	<b>.</b>		>										i								<u> </u>	
				F	P	. =		ΪĽ	5,0	1			Ē																					
1	C			-			<u> </u>		-	<		-	-		-		1	-	<u>ا</u>	· ·	14							$\vdash$	$\vdash$				H	ŀ
	~~				<u></u>			14							-		İ			-				25		ν <u>ς</u> .								
$\square$		5	=	5	1	2	=	-	1	2	Īŋ	×		14	ìn				ŋ	5 Z		in	8											_
┥┤					-	<u>-</u>	╞		$\vdash$	<u> </u>		$\vdash$		4		. 										-		-		┢				+
5)	А	сd	<u>, i</u>	42		F	E	٦	s†	ci	ł,	<b>,</b>	Ē																	İ				1
+	$\mid$		£.			-			L	-1	Ľ.	$\vdash$													16.1					-				
			E (	3								,	-	5		101	1	24	• 14			-	ભા			ղղ	- 7	<u>n</u>	P	56				$\neg$
6)			 1	Ĩ	٥f		n,rı	Hi	A.,	I																								
+			1		L	• •	3	<u> </u> _				.	21	12		1	1	2 9	2	4		9										┝		+
							2			Ľ.	-		Ē	È		<u></u>	Ē																	
•	_	C			$\vdash$				 						C.							<b>.</b>				5			Π.			┝	<u>.                                    </u>	_
		<u></u>	6.6.	LE.	£.ş.,		Ľ		Ľ			3	2	<b>.</b>	10	Ł	0	d e	5	9 44		- VI	95 Y			10	<u> </u>	1010		07	<u> </u>			
<u> </u>						.			! !							:																		
	$\square$	41	00	40	<b>  -  </b>	¢	<u>.</u>	a	<u>.</u>	10	60	þ	Pe	1-	-		-										┝				$\vdash$	-		
			٩.	3	F	Ъ	5	2	$\mathbf{I}$	B	λ	k	5				 																	
-	$\square$		) 	=	<b>q</b>	9	25	6 1	μ	ć	ŀ	1		L 2	Þ	þ.	0	00	þ í	Ŧ		•	Ľ3	<u>}</u>	Γ.	25	-	. 				[		$\rightarrow$
				<u>F</u> !	M:		╞		50	<u>n</u> [			129		┢	7	80	00	l s	0 01	0		24	5		-	$\vdash$	$\vdash$	$\vdash$		$\vdash$			-
				Į.		(•	0	13	3	<b>.</b> (	٩	<u>}</u>		1	12	5	1							Ļ_	[									
+				$\vdash$	-	-	<u>-</u>	.	15	83	н	5	-		6/	FL		_	:	:		Pe	4	100	9	2	<u>₽</u>	k_	<b>*.</b>		Į,	<u> </u>		
			⊢_	L_	i	··		1	1	L		1	1			1	i				F	1		1	1			1	1	1		1		



Date: Marth

## Title: Slab Design (Steel Tonk)

## Sheet <u>4</u> of <u>7</u>

101	-	ła	éq.	4	6		<b>P</b>	in		<u>þ</u> le	11		of		Pe			_		_	_	_			:		-		-	┢	┝	┡	$\vdash$
	<u> </u>					· .				r .		-	-		2 1								- 7		55			Ľ	┝	·	⊢	┞	$\vdash$
F.	1	19	86	.2	2 3		7.7		6	15	6 T		5	1			1.0.0		급	00		-	3	ŀ					$\vdash$	┢	┢	⊢	$\left  \right $
	+		2	۵.	_	4	2	r		17	2	h	ר				1,918 i	24	12	01	2.3	ь		Ľ			$\vdash$		ŀ	┢	$\vdash$	┞	┝┼┤
			16. ·		-		╞	╢	-	ŧ	١.	23																	ŀ	$\vdash$	$\vdash$	$\vdash$	h
			2.	8	=	ł	z	T		17	20	•	1																1				Π
									ļ -	1	51°																						$\Box$
			Ŀ	2	9	<u>k</u>	<b>F</b>	ļ	ł	Γ.	19	<b> </b>	ļ.,	ļ												ļ		ļ	╞	Į	Ļ	$\vdash$	$\square$
	-				-	E	E	1	2.	21	Þ	in	ξĥ	5		<b> </b>								-		$\vdash$			╞	┞	-	╞	
	╞		-	┞─			$\vdash$			<u> </u>					<u>^</u>	-		_			_					$\vdash$			┝	┞	┡	Ł	$\vdash$
R1 C	1.1		s 1		.1			i.		c							F					) }	1	1	1	1				tr			
	1			<b>۲</b>	4		-	L.	61		15A.			7	۲				~~	7		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	4.							<u>  "</u>	1	Ē	$\square$
	$\square$					Ť			-																				T	$\square$	$\square$		$\square$
A,	gus	20		ŞI.	Ļ		۲h	id	<b>1</b> 17	15		Ę.		Z	Ц	744			<u>(</u>	)													
.́€ċ	=		<u>{0'</u>	<u>tc.</u>	3	22	i,	i					ļ	<u> </u>															1	$\vdash$	$\perp$	$\perp$	
ik	<u>ŧ</u>	3	þø	[7	<u>ki</u>			i –		L		_		Ĺ														┢	┞	┞	╞	╞	Ц
Fs	44	r	0		>	<u>h 1</u>	<u>e</u> 1	¥	=	Ľ	2.0	₽_		-	$\vdash$		-			$\vdash$				-	$\vdash$	ļ –	-	$\vdash$	┝	<u> </u>	┝	┝	┝╌┦
N					ļ			$\vdash$	h .		ł	5	h i			ţ	1.4							$\left  \right $	$\vdash$	i	ŀ	┢	┢	╈	╞	╞	$\left  \right $
	<u>ur</u>		<u>ov</u>	ſ	╞			-	16-0		ľ	- T		╞	$\vdash$		L .	1.010			-		<u> </u>		$\vdash$		$\vdash$		┼				
	4		4		ว	h			1	51	Ч	h	k	Þa		3		31	6		14		16	l f	Ľ	(	P	F		$\Box$	Ì	T	
		31	• 7	•	1		ļ																										
		.		$\vdash$								╞					 							Ļ					╞	╞	╞	╇	
.2.2	M	<u>k d</u>	4	45.		ſ	<u> </u> R	45	hr	Ł.	N	1-	-	<u> </u>	┝	╞╸.	<u> </u>				-			╞	-	+	╞	┝	╞	┥╾	┢	┢	$\left  \right $
	+			-		l r	-	-	┢	$\vdash$	+											h .	-	<u> </u>		$\vdash$	-	-	╞	+	+	+	
++	+	1 "	<u>l v</u>	F	<u> </u>	14	•	•	$\vdash$	-	r	+	ľ	20	3-1			-	6			*	<u> </u>	┞		$\vdash$	$\vdash$	1	┢	+	+	+	+
3)	A	n.,	1.0	U	Ł	R		An	14		1.	155	ļ		Į į	t				$\vdash$	-		$\vdash$	$\vdash$	$\vdash$	$\vdash$	$\vdash$	$\uparrow$	╀	+	t	+	$\left  \right $
		ſ			ſ				6	Γ			Γ	ľ	İ	<b>†</b>	<u> </u>							1	$\square$		$\square$	T	T	$\top$	Τ	$\top$	Π
		E	-		M	R			64	L	2	Ξ		3	20	1		<u>es</u>	Ļ														
	_				F	5				2					ļ			1						-					1	Ļ	╞	Ļ	$\vdash$
		1	-	Ļ			-	ι			-	-	$\vdash$					1	-						-			$\vdash$	+	Ļ	╀	1	+
41	<u>An a</u>	<u>du</u>	<u>lu</u>	<u></u>	4 <del>1</del>	1	10	<b>6</b> +	ik i	Y	$\vdash$	ŧ,			H	ilo i	<u> 114</u>	4	9	1				-	-		$\left  \right $	$\vdash$	+	+	╀	╉	+
·	15		+			∔	_	· ·	1	<b> </b>	-				'				à	Г		-	╂	╂			-	+	┢	┿╌	╀	╀	+



Date: March

#### Title: Slab Dogn (Sleel Tank)

#### Sheet <u>5</u> of <u>7</u>

Radius of Stiffness 61 (406,144,98)(24)3 Ec 13 125 1-23 R 12/1-,152)(300) 12(1-A2)K) 63.20 =| i e Critical Aisle width,  $\mathbf{D}$ War -2.209 (63.20) 2.209 4- = W. 1.63 ┢┲⋕ 2 Stationary Uniformly Distributed Live odd WLL (allow) b) 44 (allow) = 257.876 Fb 1 K t 257.876 (320.6) 300.24 3481.09 psF WILLANOW = 3481 09 NOTE > WILL = 3163 94 16/72 . OK Slab thickness from Li will govern (.609 m) System 24 hickness For . Slab on grade of thickness micmenti However Slab wall ! work without <u>24 in</u> <u>ef</u> <u>\$196</u> Reinforcement Keg our d have  $\mathbf{t}$ M2 mi terppenature Reinfortement Reinforcement Tomperature ( meter design strip) 2% Flg Astrop (min) = 10 = 1000 - 610 mm = (10000



Date: March

## Title: Slab Design (Steel Tank)

Sheet <u>6</u> of <u>7</u>





Date: March

#### Title: <u>Steel Tank-Foundation Design</u> Sheet <u>1</u> of <u>7</u>

ale L. Łŋ <u>r</u>dd. q e d 6 dk < oressure. ł. lile £ 4 shill be (+125) aud 510-11 ed de con cve. 5 Lig 5 Ь solt: h 44 للجير in Υ¢ m F a 65 flor or piers des \$ DT B S - Ci4 Geoterna Tufero ₩sc 2 VSDO XP --) thii x = 12-7 = Day Ca ble Bearing Ca Aubd F 6 inches Æ (SZam) . <u>i dùn</u> = (205 · Foundation Shal 14 formi de 40 46 11 ef 2 \$~ ŧι 5 lope **r**r. to 3.0m hirizontel For ground Foundation 2 supported | Fildt- batton The 4 kult ÷ε k 4  $\mathbf{z}|\mathbf{s}$ provided be FIL L botter bet μL, hι be 4 41 دالدالم ÷ į

## Appendix M



Date:	Harch	

Title: Slab to Shell Connection (Sted Tank)

Sheet <u>1</u> of <u>4</u>





Date: March

Title: Slab to Shell connection (Sheel Tank) Sheet 2 of 4





Date: March

#### Title: Slab to shell connection (Steel tank) Sheet 3 of 4

레 .4)(13·L)(350) 596 6 ¢ 649.67 24+2=26-01 .  $\sim$ 650 mm/ Balt spacing 8(26) nds Ę 650 49.0 ٩ ntl 41 m Nist (eplar Conter to 49+ 26= 75 m 2 Check 271 db 2 7(21)= 65-135 0 K d 5 Ł 49 sin δk 47 . sulfiki S 115 **†**Ø Side of angle mse boll 5 on the Base  $\sim$ Chieck polt group For effects Fund Ż KNIM 1= 1,76Kpa × 1-1.6m 25.696 = 38. 444 < 4 Hydrostatic Vr= 1.5(25.696) Priessure -Hhan the hydrostalic Ve wind Since Is druch Smaller pressure angle a4 14 t need to Check Shear hapty nal dol Цg down teli Check Batts Tension de - 75 db n A 5 F4 - 75 (8) (1) (470) 4 Por Boll 482 KN/m 3854 KN ~ z oK E E. Check Snepy Block Tear ł Tutte = OAn fu + 6 ORON TV (369)= = 9(1)(1)(4)(4)(+) ((1)(2)(7)) 234 8-19)


Date: March

## Title: Slab to shell Connection (Steel Tank)

Sheet 4 of 4





Date: March

Title: Shall to Roof Connection (Steel Tank) \_\_\_\_\_ Sheet 1. of b\_\_\_\_



SCMC

Date:

## Title: Shell to Roof Connection (Steel Tank) Sheet 2 of 6





Date:	March
L'EALU.	A 100 M 10

# Title: Shell to Root Connection (Steel Tank) Sheet 3 of 6

Vy= b Bay Fu	0.=11
509.11- 6(1) LY(350)(19	And = 11 L
L=	Fy= 350
+ 149 m m	
Solt spacing = 149-3(22)	20.9
Cto C= 2015+22=427	5
27 dl = 43.2 2/42.55	=) NotoK.
Change Ingle	
L LOZXIOZX G.Y	
809.11 = .6(6.4) (350).9 4= 255	
256 - 3(22) = 47.	s
Cib C + 47.5 + 22+6	95
2710 - 43.2 6695	ok
Min edge = 28 < 47.5	'ok
Check. Tension (Belt 1)	
TU = 175 & O A POSTA	
= +5(-8)(3)(3)(3)(2) =	SGB.9 5 309.11 . 0 K.
Check Shear Bloc Tean dud	
Tr + Vr = & Ant Tu + .60 An = .9(3)(6,47)(450)(45	2 Fy 3 7 + (.6)(9)(69)(2)(695)(3 0



Date: Mercha

# Title: Shell to Tank Commission (sleet Tonk)

Sheet <u>4</u> of <u>6</u>

							2		54	8	لم	-	<u>k</u> ,			4-	9	oγ	- 11	25		_			34	ন	LL_		0		
П	m	24	m		f	u	ич	<	11	<u>n</u>	A	n	Ī	-													-				
	1	<u> </u>		7		97	Ū	۰Ľ	2	3	5(	4	2	3	50	Σ	~		21	n.	Π	к			3	<u>°</u>	1.	L		۱.	No
Ner		_	_	_	30	4	1	-			5	ز مر	5	3	50	4	55	(3	50	51	-				-					_9	K.
	1						_	+	-	a										-											1
											24		M.	<b>~~</b>													   				
121	fine of	e		L	ίo	2	<u>×</u>	. 1		2	×	9	5				_	_													
2.0				4		_					1						~		1				. 				[				
	9- -		P		_												F	7		đ		 						<u></u> 			
Numb	~	0	6		8.	<u>it</u>	<u>Ļ</u>	4	ø	Ы	4		6	<u>Ľ</u>	5	p. (	1	•	2			ß	<u>  +</u>		g-	00	f		<b>1</b>	Ŀ	+
			* *			}	B	<u>el</u>		[																		-			-
	V	- 4 - 4	Y,	6		3	Ð	ا . ا	1	V	N.		<u></u>  •				•		_	[	       										1
			F								-				L.						: 			1			ŀ	E			
			K							A	p	ie.	d		09	<u>d</u>		2	ŀ.	6			] 	30	9	11	Ł	8			
		Į						 		   	ļ	-	<u> </u>	 					   		-			-		C	3	.0	4	ŀ	M
⊢⊀		Ū	7	F						 	] 				 	-				+-	∔ }	<u> </u>		-		1	F.				
								-			-		[												ļ	( 		-		[	
Abs	(Arr	L		1	A.	2.2		1	201	5		-	5		7	2	-	pe		Ŀ,	H		d	510		1.	r	÷			
	-	Ţ			),	~	R.		-5																	i. 				1	
	1			: 	h	23				5	=		1	2	9.	7	5		K							į  -					
	-							-	+										-	<u> </u> 			<del> </del> 1	-		╞	<b>†</b>		-		



Date: Auch

Title: Shall to Tank Connection (Steel Tank)

\_\_\_\_\_ Sheet <u>5</u> of <u>6</u>





Dote:	
Date.	

# Title: Shell to Tank Connection (Steel Tank) Sheet 6 of 6



# Appendix N



## Title: Steel Tank - Weld Connections Sheet | of 2





## Title: Steel Tank - Weld Connections

### Sheet <u>2</u> of <u>2</u>





# Title: <u>Steel Tank - Hatches & Open gs</u> Sheet 1 of 2

		 				 													0	2	~	ње	-		વ	ى	<b>1</b> 111	50							$\pm$
											,6	¥		:				-	2	IJ	<b>F</b>	2	١	Z	27	m	<b>.</b>			ļ	ļ.	<u> </u>	<b>_</b>	Ļ	
-	_	_		-	1				<b>,</b> , ,	¥	1							<b> </b>													+	<u> </u>	<b>  </b>		-+
			F	2		$\vdash$			7	<u>~</u>	•	1							A	: Iİ		t.		-	4	0.0	1				┢				╾┾
		1										1				1			ſ				1.24			CAL.		<u>сл.</u>		r.	$\uparrow$		[ ]		╧
	ſ													Ţ																Ĺ					
	4	<				3	6"	<b></b>	<u> </u>	; 			4																	-	1			$\vdash$	4
+	<u>s</u>	-					1							j. J								<b> </b>		+	 			<b> </b>	┞─	┞	+	┼	$\vdash$	-	-
	7	7			-					 !		-		7								$\vdash$								╞	+	+	H	$\vdash$	+
		1	•								2	)r	Ż								-		-						<b>h</b> .	1	+				
			1			۰				~	2	<i>.</i>																		Ĺ					
										-							-										-				+	$\vdash$	<u> </u>	!	$\downarrow$
	0				-					<b> </b> .	-			┟╴		┟╍┈		<u> </u>	$\vdash$			$\vdash$		$\vdash$		$\vdash$		$\vdash$	$\vdash$	╞	+	+	+	H	+
2	.1.1	Ę.	5.5	лe	••••	9.	<u>h</u>		<u>nt</u>	<u>en</u>		<u> </u>		Pn	<u>~</u>	╞─	1	100		00	hte	þm	1	$\vdash$		$\vdash$		$\vdash$	$\vdash$	┢	+	+	$\vdash$	╞┼┤	+
	H	eċ	. h	F		F		لى	a.t	e.r		-		Hr.	[   	10	.6	~	1	- 1	3.	4	L	· ·	-	$\vdash$	X			2	81	KI	11	5	,†
			3																								<b>H</b>	[		Ĺ					
2		P	-=	4	<u>_ </u>	3.	ч,	5	( 🤊	8,	1 1	Ч	In	3	)	=		[r	51	<b>k</b>	KF	-	Ц	ļ				_		ļ	1				
+		-			/		e e		$\left  \right $			Ŀ	-				5	i_						 i		$\vdash$		-	ŀ	$\left[ \right]$	╀	+	+	┝╌┼	•
		₽	F		Ŀ	1,	-7	1¥_	1.3	4	<b>n</b>	-	<u>-</u>		Lő	Te	₽	╀─	 	[	 			 	-	$\vdash$		╞	-		┼	+	$\vdash$	┝╋	+
	A	re	<b>.</b>		-	H	.+	c.h	-		5	1	٩	15	12	12-	7	1	0	6	6	5	2	1		<u> </u> .		<u> </u>		t	╈	†	<u>+</u>	+	-†
																Ľ.						Ľ		7						L	T				
	F	R	<b>\$</b>	(	1	64	Ľ	<u>µ/</u>	m 2	D.	Ľ	<u> </u>	6	m	1		ŀĮ	Įι	<u>89</u>	Ľ	Ņ	IJ								L	1	╞			
	·\.	-	Ļ		! 	$\vdash$	-			2		-	-	1	_,	<u> </u>	-	+	-	<u> </u>	<u> </u>	ľ,		X		-	.				+	+	╞	$\square$	+
-	2	<b>r</b>	20	211 -	i.r		<b>-</b>	39		<u>ə</u> ī			0	12	5	[		l f		2		<u>ю</u> м	E.	5)	╞	-'	a A	þ		2		<b>h</b> _	<u></u>	┝╍┾	-+
		7	5	2	0	.7	5	φı	A	Ь	F	ļ,							1	-	1		Ì				-		f	ľ	Ŧ	1	-	┢━╊	
				5	0	.7	5	6	8	Ň	16	7)										Ľ		:						T	1				
	L	T	~	3	1	20		Й	7	L.F	<u>e</u> t		0	t	•									-							1	1	1	$\square$	
					<u> </u>				<b></b>								1				-			-	_		$\vdash$				+	+-	! 		_
		,	Ļ		5		5	-							-	-		-	-		$\vdash$	-	$\vdash$	$\vdash$		$\vdash$	$\vdash$	$\vdash$		+	+	+	╞	$\left  + \right $	+
		1	<u>e</u> t		118	1	Ļъ	r-				$\vdash$				$\vdash$	$\vdash$		╞	╏╸		<del> </del>	<b> </b> -	+-		<b> </b>		1	$\vdash$	+	+	+	$\vdash$	$\vdash$	+



# Title: Steel Tank - Natches 2 Open nors

## Sheet 2 of 2



# Appendix O

Title	Additional	Expected Start	Planned End	January 2010	February 2010
	Title			WK 3, 1 WK 4, 1 WK 5, 2	WK 6, 3 WK 7, 0 WK 8, 1 WK 9, 2 V
🗂 3.8 M Litre Water Storage Tank Cost Analysis	i	14/01/10	06/04/10	-	
Research		20/01/10	28/01/10		
Environmental, Building Codes and Geotechnica	I	20/01/10	25/01/10		
Conventional Tank Design & Maintenance		24/01/10	28/01/10		
Brainstorming and Tank Selection		25/01/10	29/01/10		
Various Tank Options and Tank Design Schemes	5	25/01/10	29/01/10		
Submit Work Plan		29/01/10	29/01/10	$\diamond$	
Design and Structural Analysis		29/01/10	16/03/10		
Tank Option 1)		29/01/10	21/02/10		
Tank Option 2)		21/02/10	16/03/10		
Preliminary Drawings		05/02/10	22/03/10		
Midterm Progress Reports and Presentations		16/02/10	16/02/10		$\diamond$
Cost Estimating		22/02/10	29/03/10		
Quantity Estimation		22/02/10	23/03/10		
Productivity Analysis		22/03/10	29/03/10		
Benefit/Cost Analysis		15/03/10	05/04/10		
Final Report Submission		05/04/10	05/04/10		
Final Presentation		06/04/10	06/04/10		



# Appendix P



	SGMC	SG	MC Consult	ants
	Notes:			
	1. See Notes on	Drawing C-(	001-03	
		5		
_				
3				
03				
	100			
	J54 Consulting L	Engineers Limit	Issued for R	eview
	JSU Consulting E Approved by:	Engineers Limit	Issued for R Signature:	eview
	J30 Consulting b Approved by: Date of Approval:	Engineers Limit	Issued for R Signature:	eview
	Approved by: Date of Approval: 3.8 M Litre W	Ingineers Limit	d Issued for R Signature: age Tank Cost A	eview
	Approved by: Date of Approval: 3.8 M Litre W	Ater Stor City of St.	Issued for R Signature: age Tank Cost A John's NL	eview
	JSU Consulting I           Approved by:           Date of Approval:           3.8 M Litre W           Drawing:	Ater Stor City of St.	Issued for R Signature: age Tank Cost A John's NL	eview Analysis
	JSU Consulting I         Approved by:         Date of Approval:         3.8 M Litre W         Drawing:         Concrete	Engineers Limit Vater Stor City of St. e tank - C	Issued for R Signature: age Tank Cost A John's NL	eview Analysis
	JSU Consulting I         Approved by:         Date of Approval:         3.8 M Litre W         Drawing:         Concrete         Course	Ater Stor City of St.	Issued for R Signature: age Tank Cost A John's NL	eview Analysis
	JSU Consulting I         Approved by:         Date of Approval:         3.8 M Litre W         Drawing:         Concret         Course         Engineering         Group         No.	Ater Stor City of St. e tank - C	Issued for R Signature: age Tank Cost A John's NL Cross-section Vie Tite Civil Proje	eview Analysis ew
	JSU Consulting I         Approved by:         Date of Approval:         3.8 M Litre W         Drawing:         Course         Engineering         Group         No.       Group 4         Drawing By:	Ater Stor City of St. e tank - C	Issued for R Signature: age Tank Cost A John's NL Cross-section Vie Tite Civil Proje Instructor Dr. S Brunn Design By:	eview Analysis ew ct



	SGMC	SG	MC Consult	ants
	Notes:			
	1. See Notes on	Drawing C-(	001-03	
_				
ļ				
	fa a			
	JSU Consulting E	Engineers Limi	lssued for R	eview
	Approved by: Date of Approval:		Signature:	
	0.0 141 14-2 14/			
	3.8 M Litre Wa	ater Stora	ige Tank Cost A John's NL	naiysis
	Drawing:			
	0	Concrete	tank - Details	
	Course		Title	
	Engineering	8700	Civil Proje	ct
	No. Group 4		Dr. S Brun Deslan By:	eau
	Drawing Dy.	Drouter	e ongri ey.	Davi
	Project No. C-001	Drawing No.	001-02	Rev. A



SGMC Consultants	
 <ol> <li>Notes:</li> <li>All dimensions are in millimeters unless otherwise stated</li> <li>Concrete clear cover = 60 mm unless otherwise stated</li> <li>Use 35 MPa concrete</li> <li>Use Pneumatic Mortar to coat the exterior of the tank shell</li> <li>Use a 10 mm Neoprene Pad to support the dome roof on the tank shell</li> <li>Special shoring in the shape of the parabolic dome roof must be supplied by a vendor of the contractors choice. The shoring must be engineered to bear all loading applied to the roof.</li> </ol>	
Signature:	
3.8 M Litre Water Storage Tank Cost Analysis City of St. John's NL	
Concrete tank - Cross-section View       Course     Title       Engineering 8700     Civil Project       Group     Instructor       No.     Group 4       Drawing By:     Design By:	
Project No.         Drawing No.         Rev.           C-001         C-001-03         A	



	-			
	SGMC	SG	MC Consult	ants
	Notes: 1. See Notes on 2. Full penetratio 3. Use 35 MPa C	Drawing C-( on welds at a Concrete	001-06 Il steel wall joints	
3				
	JSa consulting b	Engineers Limit	ed Issued for F	Review
	Approved by: Date of Approval:	-	Signature:	
	3.8 M Litre W	/ater Stor City of St.	age Tank Cost / John's NL	Analysis
	Drawing: Concrete	e tank - C	ross-section Vie	ew
	Course	8700	Title Civil Proi	ect
	Group No. Group 4		Instructor Dr. S Brun	ieau
	Project No.	Drawing No.	Design by:	Rev.
	C-001		C-001-04	Α



SGMC	SG	MC Consul	tants
Notes:			
<ol> <li>See Notes on I</li> <li>Aluminum geod Ultraflote as pe loading.</li> </ol>	Drawing C-d desic roof to r provided	001-03 be designed and s dimensions and spe	upplied by cified
18a Consulting El	ngineers Limit	Issued for F	Review
approved by: ate of Approval:		Signature:	
3.8 M Litre Wa C	ater Stora ity of St.	age Tank Cost / John's NL	Analysis
Drawing:			
Ourse	oncrete	tank - Details ™	
	3700	Civil Proj	ect
rawing By:		Dr. S Brur Deslgn By:	neau
roject No. C-001	Drawing No.	C-001-05	Rev. A



## SGMC

### SGMC Consultants

#### Notes:

- All dimensions are in millimeters unless otherwise stated
- Concrete clear cover = 60 mm unless otherwise stated
   Use Sika Sealant to seal the shell to foundation connection. Ensure the sealant is 10 mm above the base of the interior wall of the shell and sloped for proper drainage
- All structural steel plates to conform to CSA G40.21, w/ a minimum yield strength of 350 MPa

5.	All welding shall be completed by qualified welders of
	companies in compliance w/ CSA standards W 47.1 and
	in accordance w/ CSA standard W 59

6. Paint tank shell with one coat primer and two coats epoxy paint

JSa Consulting E	Engineers Limited	Issued for R	eview
Approved by:		Signature:	
Date of Approval:			
3.8 M Litre Wa	ater Storag City of St. Jo	e Tank Cost A bhn's NL	nalysis
Drawing: Concre	te tank - C	ross-section Vi	ew
Course Engineering	8700	e Civil Proje	ct
Group No. Group 4	Ins	tructor Dr. S Brune	eau
Drawing By:	De	sign By:	
Project No. C-001	Drawing No.	C-001-06	Rev. D

# Appendix Q

### Slab-Concrete Tank fga Consultants

#### Paradise Newfoundland A1L-2X9 Data Release : Year 2010 Unit Cost Estimate

Quantity	LineNumber	Sourc	c SubCo	Description	Crew	Daily Output	Labor Hours	Unit	Material	Labor	Equipmer	nt Total		Ext. Mat.		Ext. Labor	E	Ext. Equip.	E	Ext. Total	l	Mat. O&P	Labor	0&P	Equip. C	)&P	Total O&P		Ext. Mat. O&P	Ext.	Labor O&I	P Ext	. Equip. O&	P E O	xt. Total	Labor Type	Da Re	ta Zip Code	Notes
216	312316130060			Excavating, trench or continuous footing, common earth, 0.38 m3 excavator, 300 m to 1200 mm deep, excludes sheeting or dewatering	m B11M	153	0.10	5 Bm3	\$ -	\$ 3.91	\$ 2.58	8 \$	6.49	\$		\$	844.56	s	557.28	\$ 1,4	401.84	\$	\$	5	5.94 \$	2.85	\$	8.79	s	- \$	1,28	33.04 \$	61	15.60	\$ 1,898.64	STD	Ye	ar 2010 C15	Excavation for slab on grade
108	312323200016			Cycle hauling(wait, load,travel, unload or dump & return) time per cycle, excavated borrow, loose cubic meters, 10 min wait/load/unload, 6.12 m3 truck, cycle 1.6 m 24km excludes bading equipment	or B34A	208	0.03	8 l m3	s -	\$ 125	\$ 1.97	7 \$	3 22	\$		\$	135.00	s	212 76	s	347 76	s		1	191 \$	2 16	5	4 07	s	- \$	20	16.28 \$	23	33.28	\$ 439.56	STD	Ye	ar 2010 C15	Haul excess from site, assumed half of excavation
										ψ 1.20		· •	0.22						212.70	<u> </u>		· · · · · · · · · · · · · · · · · · ·							-			,¢			•				Backfill around slab, assume half of
108	312323130015			Backfill, light soil, by hand, no compaction	1 Clab	10.7	0.74	7 Lm3	\$ -	\$ 24.06	ş -	\$	24.06	\$	-	\$	2,598.48	\$	-	\$ 2,5	598.48	\$.	\$	37	7.32 \$	-	\$	37.32	ş	- \$	4,03	30.56 \$	6	- :	\$ 4,030.56	STD	Ye	ar 2010 C15	Grading for
360	312216101100			Fine grading, fine grade for slab on grade, machine	, B11L	870	0.01	8 m2	\$ -	\$ 0.69	\$ 0.74	4 \$	1.43	\$		\$	248.40	s	266.40	\$ 5	514.80	\$	\$	1	1.04 \$	0.81	\$	1.85	\$	- \$	37	74.40 \$	29	91.60	\$ 666.00	STD	Ye	ar 2010 C15	slab on grade
37	031113653060			C.I.P. concrete forms, slab on grade, edge wood, over 305 mm, 4 use, includes precting, bracing, stripping and cleaning	e, C1	32.52	0.08	4 m2CA	\$ 630	\$ 23.87	\$	\$	30 17	¢	233.10	¢	883 10	¢		<b>S</b> 1	116 20	\$ 6	82 S	36	372 \$		¢	43.54	\$ 25	2 34 \$	1 34	58.64	2		\$ 1 610 98	STD	Ve	ar 2010 C15	Slab on grade forms
178	033105704300			Structural concrete, placing, slab on gradd direct chute, up to 150 mm thick, includes strike off & consolidation, excludes materi	e, al C6	84.11	0.57	'1 m3	s -	\$ 14.50	\$ 0.74	4 \$	15.24	s		s	2.581.00	s	131.72	\$ 2.	712.72	s ·	. \$	22	2.08 \$	0.81	\$	22.89	s	- 5	3.93	30.24 <b>\$</b>	14	14.18	\$ 4.074.42	STD	Ye	ar 2010 C15	Placing of slab concrete, assume ok for 600mm thick
178	033105350400			Structural concrete, ready mix, normal weight, 34 MPa, includes local aggregate, sand, Portland cement and water, delivered, excludes all additives and treatments				m3	\$ 246.53	\$ -	\$ -	s	246.53	\$ 4	43,882.34	s	-	\$	-	\$ 43,8	882.34	\$ 270.	67 \$		- \$		\$	270.67	\$ 48,17	9.26 \$		- 5	6	- 5	\$ 48,179.26	STD	Ye	ar 2010 C15	Concrete material for slab
5.47	032110600600			Reinforcing Steel, in place, slab on grade, #10 to #22, A615M, grade 400, incl labor 1 accessories, excl material for accessories	for 4 Rodm	2.09	15.33	6 Met. Ton	\$ 1,408.68	\$ 395.28	\$-	s	1,803.96	\$	7,705.48	\$	2,162.18	\$	-	\$ 9,8	867.66	\$ 1,542	84 \$	631	1.35 \$	-	\$	2,174.19	\$ 8.43	9.33 \$	3,45	53.48 \$	6	- 9	\$ 11,892.82	STD	Ye	ar 2010 C15	All rebar in place
296	033529300200			Concrete finishing, floors, basic finishing fi unspecified flatwork, bull float, manual floa & manual steel trowel, excludes placing, striking off & consolidating	or at C10	118	0.20	13 m2	<b>s</b> -	\$ 5.63	\$ -	\$	5.63	\$		\$	1,666.48	\$	-	\$ 1.6	666.48	s -	. s	8	3.32 \$		s	8.32	s	- \$	2,46	62.72	5		\$ 2,462.72	STD	Ye	ar 2010 C15	Wet finish, top of floor and slab
				Concrete finishing, walls, burlap rub with grout, includes breaking ties and patching																									_										Dry finish
37	033529600050			voids Curing, curing blankets, buy, minimum, 25	1 Ceti	41.81	0.19	1 m2	\$ 0.55	\$ 5.59	ş -	\$	6.14	Ş	20.35	\$	206.83	\$	-	\$ 2	227.18	\$ 0	.74 \$	8	3.17 \$	-	\$	8.91	\$ 2	.7.38 \$	30	02.29 5	6		\$ 329.67	STD	Ye	ar 2010 C15	on sides Curing to
296	033913500400			mm to 50 mm thick				m2	\$ 6.12	ş -	\$ -	\$	6.12	\$	1,811.52	\$	-	\$	-	\$ 1,8	811.52	\$ 6	.69 \$		- \$	-	\$	6.69	\$ 1,98	0.24 \$		- 5	5	- :	\$ 1,980.24	STD	Ye	ar 2010 C15	of slab Assumed fine for
455	031505357350			Insert, loop ferrule type, 22 mm diameter bolt	1 Carp	84	0.09	5 Ea.	\$ 16.40	\$ 2.42	\$ -	\$	18.82	\$	7,462.00	\$	1,101.10	\$	-	\$ 8,5	563.10	\$ 18	.06 \$	3	3.73 \$	-	\$	21.79	\$ 8,21	7.30 \$	1,69	97.15	5		\$ 9,914.45	STD	Ye	ar 2010 C15	24mm sleeves
272	071919100300			Silicone water repellants, sprayed on, 2 coat	1 Rofc	279	0.02	9 m2	\$ 7.34	\$ 0.61	\$-	\$	7.95	\$	1,996.48	\$	165.92	\$	-	\$ 2,	162.40	\$ 8	.04 \$	1	1.02 \$	-	\$	9.06	\$ 2,18	6.88 \$	27	77.44	6	- :	\$ 2,464.32	STD	Ye	ar 2010 C15	Protective coating
Total															£62111 27	e.	12502 14		1169 16	\$76	972 57								\$6029	2 72	\$1027	76 24	6120		690042 64				

### Shell - Concrete Tank fga Consultants

Paradise Newfoundland A1L-2X9

Data Release : Year 2010 Unit Cost Estimate

Quantity LineNumber	S	Sourc	Description	Crew I	Daily Labo	or Unit	Materi	al Labor	Equipmen	nt Total	E	Ext. Mat.	Ext. Labor	Ext. E	Equip. Ext.	Total	Mat. O&P	Labo	r O&P	Equip. O&P	То	tal O&P	Ext. Mat.	O&P Ext.	Labor O&P	Ext. Equip	. O&P Ext	. Total O&P	Labor Type	Data	Zip Cod	e Notes
																																Curved forms, one use because the wall is
1700 03111385400	00		C.I.P. concrete forms, wall, radial, smooth curved, plywood, to 2.44 m high, 1 use, includes erecting, bracing, stripping and cleaning	C2	22.76	2.109 m2C4	\$ 20	0.61 \$ 52.3	13 \$ -	s	72.94	\$ 35,037.00	\$ 88,961.0	00 \$	- \$	123,998.00	\$	22.38 \$	80.78	s	- 9	§ 103.16	5 <b>\$</b>	38,046.00 \$	137,326.00	\$	- \$	175,372.00	STD	Year 2010	) C15	assumed to be done in one pour.
1 03111385010	00		C.I.P. concrete forms, wail, box out for opening, to 405 mm thick, to 0.93 m2, includes erecting, bracing, stripping and cleaning	C2	24	2 Ea.	\$ 17	7.54 \$ 49.5	57 <b>\$</b> -	\$	67.11	\$ 17.54	\$ 49.5	57 \$	- \$	67.11	\$	19.31 \$	76.50	\$	- 4	§ 95.8 <sup>-</sup>	\$	19.31 \$	76.50	\$	- \$	95.81	STD	Year 2010	) C15	For access hatch
340 0331057015	50		Structural concrete, placing, elevated slab, with crane and bucket, 150 mm to 254 mm thick, includes strike off & consolidation, excludes material	C7	84.11	0.856 m3	s	- \$ 22.4	5 \$ 15.67	s	38.12	s -	\$ 7.633 (	00 \$	5.327.80 \$	12,960,80	s	- \$	34.22	s	17.20	514	s	- 5	11 634 80	s	5 848 00 \$	17 482 80	STD	Year 2010	) C15	Nothing for walls, assume similar pour
			Structural concrete, ready mix, normal weight, 34 MPa, includes local aggregate, sand, Portland cement and water, delivered, excludes all additives and										_				_								.,,							Material for
340 0331053504(	00		treatments			m3	\$ 246	5.53 \$ -	Ş -	Ş	246.53	\$ 83,820.20	<u> </u>	\$	- \$	83,820.20	\$	270.67 \$		\$	- 9	5 270.67	\$	92,027.80 \$		5	- \$	92,027.80	STD	Year 2010	) C15	Horizontal plus vertical
26678 0323055016	50		Prestressing steel, ungrouted strand, 60 m span, 135 metric ton	C4	771	0.042 kg	\$ 2	2.25 \$ 1.0	8 \$ 0.04	· \$	3.37	\$ 60,025.50	\$ 28,812.2	24 \$	1,067.12 \$	89,904.86	\$	2.48 \$	1.73	\$	0.04	\$ 4.25	5 \$	66,161.44 \$	46,152.94	s	1,067.12 \$	113,381.50	STD	Year 2010	) C15	prestressin g strand, 1/2" diameter
6 03352960060	00		Concrete finishing, walls, float finish, 1.6 mm thick	1 Cefi	27.87	0.287 m2	\$ 5	5.57 \$ 8.3	9 \$ -	\$	13.96	\$ 33.42	\$ 50.3	34 \$	- \$	83.76	\$	5.93 \$	12.25	s	- 4	§ 18.18	3 \$	35.58 \$	73.50	s	- \$	109.08	STD	Year 2010	) C15	Wet finish on top of wall
850 03352960070	00		Concrete finishing, walls, sandblast, light penetration	E11	102	0.314 m2	\$ 14	4.14 \$ 8.6	1 \$ 2.27	s	25.02	\$ 12,019.00	\$ 7,318.5	50 \$	1,929.50 \$	21,267.00	\$	15.60 \$	14.24	\$	2.50 \$	32.34	4 S	13,260.00 \$	12,104.00	s	2,125.00 \$	27,489.00	STD	Year 2010	) C15	Inside finish of tank walls
850 0335296000	50		grout, includes breaking ties and patching voids	1 Cefi	41.81	0.191 m2	\$ (	0.55 \$ 5.5	9 \$ -	\$	6.14	\$ 467.50	\$ 4,751.5	50 \$	- \$	5,219.00	\$	0.74 \$	8.17	s		\$ 8.9	ş	629.00 \$	6,944.50	s	- \$	7,573.50	STD	Year 2010	C15	Outside wall finish
6 03391350040	00		mm to 50 mm thick			m2	\$ 6	6.12 \$ -	\$ -	\$	6.12	\$ 36.72	\$-	\$	- \$	36.72	\$	6.69 \$	-	\$	-	\$ 6.69	\$	40.14 \$	-	s	- \$	40.14	STD	Year 2010	C15	Wall
59 03352935016	60		Control joint, concrete floor slab, sawcut in green concrete, 50 mm depth	C27	488	0.033 m	\$ 0	0.67 \$ 0.9	6 \$ 0.34	· \$	1.97	\$ 39.53	\$ 56.6	64 \$	20.06 \$	116.23	\$	0.74 \$	1.40	\$	0.37	\$ 2.5 <sup>.</sup>	\$	43.66 \$	82.60	\$	21.83 \$	148.09	STD	Year 2010	) C15	Constructi on joint between shell and slab
59 03352935020	00		Control joint, blow construction debris out of control joint	C28	1829	0.004 m	s	- \$ 0.1	3 \$ 0.01	s	0.14	s -	\$ 7.6	57 <b>\$</b>	0.59 \$	8.26	s	- \$	0.18	s	0.01	\$ 0.19	s	- \$	10.62	\$	0.59 \$	11.21	STD	Year 2010	) C15	Constructio n joint prep between shell and slab
44 0405133026	50		Mortar, pre-mixed, type S or N			m3	\$ 320	0.86 \$ -	\$ -	\$	320.86	\$ 14,117.84	\$	\$	- \$	14,117.84	\$	354.05 \$	-	s	- 9	354.05	s s	15,578.20 \$	-	s	- \$	15,578.20	STD	Year 2010	) C15	Pneumatic mortar, assumed
			High strength bolt, 25 mm dia x 200 mm L,																													Embedded , bent bolts, shell to slab
445 0505232515	50		A490, incl washer & nut	1 Sswk	85	0.094 Ea.	\$ 16	6.05 \$ 3.2	5 \$ -	\$	19.30	\$ 7,142.25	\$ 1,446.2	25 \$	- \$	8,588.50	\$	17.62 \$	5.72	\$	- 9	\$ 23.34	\$	7,840.90 \$	2,545.40	\$	- \$	10,386.30	STD	Year 2010	) C15	connection Embedded
28 0505232501	90		High strength bolt, 16 mm dia x 75 mm L, A325 Type 1, incl washer & nut	1 Sswk	115	0.07 Ea.	\$ 2	2.25 \$ 2.4	.1 \$ -	\$	4.66	\$ 63.00	\$ 67.4	48 \$	- \$	130.48	\$	2.48 \$	4.24	s		\$ 6.72	2 \$	69.44 \$	118.72	\$	- \$	188.16	STD	Year 2010	) C15	bent bolts for access hatch Interior
844 07191910030	00		Silicone water repellants, sprayed on, 2 coat	1 Rofc	279	0.029 m2	\$ 7	7.34 \$ 0.6	1 \$ -	\$	7.95	\$ 6,194.96	\$ 514.8	34 \$	- \$	6,709.80	\$	8.04 \$	1.02	s	-	\$ 9.06	s	6,785.76 \$	860.88	s	- \$	7,646.64	STD	Year 2010	C15	protective coating
Total												\$219014.46	\$139669.0	03	\$8345.07	\$367028.56							\$	240537.23	\$217930.46		\$9062.54 \$	467530.23				

### Edge Beam Saddle - Concrete Tank fga Consultants

#### Paradise Newfoundland A1L-2X9

Data Release : Year 2010 Unit Cost Estimate

Quantity	LineNumber	Sou	urc SubCo	Description	Crew	Daily Output	Labor Unit Hours	Material	Labor	Equipmen	nt Total	E	xt. Mat.	Ext. Lat	or E	ct. Equip.	Ext. To	otal N	lat. O&P	Labo	· 0&P	Equip. O&	:P 1	otal O&P	Ext.	Mat. O&P	Ext. Labo	or O&P	Ext. Equip.	O&P	Ext. Total O&P	Labor Type	Data Rele	a Zip Co ease	le Notes
58	031113201000			C.I.P. concrete forms, beams and girders, exterior spandrel, plywood, 460 mm wide, 1 use, includes shoring, erecting, bracing, stripping and cleaning	C2	23.23	2.067 m2CA	\$ 31	.23 \$ 51.1	0\$-	s	82.33	\$ 1,811.34	\$	2,963.80	\$-	\$	4,775.14	\$ 34.35	\$	78.95	Ş	-	\$ 11	3.30 \$	1,992.30	\$	4,579.10	\$	-	\$ 6,571.40	STD	Year	2010 C15	ring beam forms including sloped forms
15	033105350400			Structural concrete, ready mix, normal weight, 34 MPa, includes local aggregate, sand, Portland cement and water, delivered, excludes all additives and treatments			m3	\$ 246	.53 \$ -	s -	\$	246.53	\$ 3,697.95	\$	-	\$-	\$	3,697.95	\$ 270.67	\$	-	s	-	\$ 27	0.67 \$	4,060.05	s	-	\$	-	\$ 4,060.05	STD	Year	2010 C15	Concrete material for ring beam saddle
15	033105700250			Structural concrete, placing, beam, large, elevated, with crane and bucket, includes strike off & consolidation. excludes material	C7	49.7	1.449 m3	s .	- <b>\$</b> 38.2	7 \$ 26.55	i s	64 82	s -	s	574.05	\$ 398.25	s	972 30	s -	s	57.78	s	29.10	\$ 8	\$ 88 S	-	\$	866.70	s	436.50	\$ 1.303.20	STD	Year	2010 C15	Placing concrete material for ring beam saddle
58	033529600750			Concrete finishing, walls, sandblast, heavy penetration	E11	34.84	0.919 m2	\$ 28	.36 \$ 25.3	9 \$ 6.64	\$	60.39	\$ 1,644.88	\$	1,472.62	\$ 385.12	\$	3,502.62	\$ 31.20	s	41.58	\$	7.30	\$ 8	).08 \$	1,809.60	\$	2,411.64	s	423.40	\$ 4,644.64	STD	Year	2010 C15	Dry finish inside of ring beam saddle
25	033529300200			Concrete finishing, floors, basic finishing for unspecified flatwork, bull float, manual float & manual steel trowel, excludes placing, striking off & consolidating	C10	118	0.203 m2	\$	\$ 56	3 5 -	8	5.63	s -	\$	140 75	\$ -	\$	140 75	s -	8	8 32	s		s	32 5		s	208.00	\$		\$ 208.00	STD	Year	2010 C15	Wet finish at top of ringbeam saddle
25	033913500400			Curing, curing blankets, buy, minimum, 25 mm to 50 mm thick			m2	\$ 6	.12 \$ -	\$ -	\$	6.12	\$ 153.00	\$	-	\$ -	\$	153.00	\$ 6.69	\$	-	\$	-	\$	3.69 <b>\$</b>	167.25	s	-	\$	-	\$ 167.25	STD	Year	2010 C15	Top of ring beam saddle curing
266	033529350140			Control joint, concrete floor slab, sawcut in green concrete, 38 mm depth	C27	549	0.029 m	\$ 0	.52 \$ 0.8	5 \$ 0.30	) \$	1.67	\$ 138.32	s	226.10	\$ 79.80	\$	444.22	\$ 0.57	\$	1.24	\$	0.33	\$	2.14 \$	151.62	\$	329.84	\$	87.78	\$ 569.24	STD	Year	2010 C15	CJ Prep
266	033529350200			control joint, blow construction debits out of	C28	1829	0.004 m	\$ .	\$ 0.1	3 \$ 0.01	\$	0.14	\$-	\$	34.58	\$ 2.66	\$	37.24	\$ -	\$	0.18	\$	0.01	\$	0.19 \$	-	\$	47.88	\$	2.66	\$ 50.54	STD	Year	2010 C15	CJ prep
0.2	032110600100			Reinforcing Steel, in place, beams and girders, #10 to #22, A615M, grade 400, incl labor for accessories, excl material for accessories	4 Rodm	1.45	22.046 Met. Ton	\$ 1,475	.76 \$ 562.7	3\$-	\$	2,038.49	\$ 295.15	\$	112.55	\$-	\$	407.70	\$ 1,626.69	\$	905.85	s	-	\$ 2,53	2.54 \$	325.34	\$	181.17	\$	-	\$ 506.51	STD	Year	2010 C15	Saddle reinforcem ent
25	071353101300			Elastomeric sheet waterproofing, neoprene sheets, plain, 1.5 mm thick	2 Rofc	52.95	0.302 m2	\$ 28	.99 \$ 6.4	3\$-	\$	35.42	\$ 724.75	s	160.75	\$-	\$	885.50	\$ 31.79	ş	10.70	\$	-	\$ 4	2.49 \$	794.75	\$	267.50	\$	-	\$ 1,062.25	STD	Year	2010 C15	neoprene dome to ring beam softener
58	071919100300			Silicone water repellants, sprayed on, 2 coat	1 Rofc	279	0.029 m2	\$ 7	.34 \$ 0.6	1 <b>S</b> -	s	7.95	\$ 425.72	\$	35.38	\$ -	\$	461.10	\$ 8.04	s	1.02	s	-	\$	9.06 \$	466.32	\$	59.16	\$	-	\$ 525.48	STD	Year	2010 C15	Interior protective coating
Total													\$8891.11		\$5720.58	\$865.83		\$15477.52								\$9767.23		\$8950.99		\$950.34	\$19668.56				

Total

Quantity	LineNumber	Sourc	SubC	Description	Crew	Daily	Labor	Unit	Mat	erial	Labor	Equip	pment	Total		Ext. Ma	at.	Ext. La	bor	Ext. Eq	uip.	Ext. To	tal	Mat. O&	>	ľ
315	031113351600	e	Subci	C.I.P. concrete forms, elevated slab, flat plate, plywood, 6.2 m to 11 m high ceilings, includes shoring, erecting, bracing, stripping and cleaning	C2	41.8 <sup>-</sup>	1.14	8 m2	s	27.07	\$ 28.4	6 <b>\$</b>	-	\$	55.53	s	8,527.05	s	8,964.90	\$		\$	17,491.95	\$	29.67	
0.65	031113355000			C.I.P. concrete forms, elevated slab, box- out for wall openings, over 405 mm deep, 1 use, includes shoring, erecting, bracing, stripping and cleaning	C2	17.6	5 2.71	9 m2CA	s	40.60	\$ 67.3	2 \$	-	\$	107.92	s	26.39	s	43.76	s		s	70.15	\$	44.24	
33	031113357000			C.I.P. concrete forms, elevated slab, edge forms, to 150 mm high, 4 use, includes shoring, erecting, bracing, stripping and cleaning	C1	15	2 0.21	1 m	s	0.41	\$ 5.0	3 \$	-	s	5.49	s	13.53	s	167.64	\$	-	s	181.17	\$	0.45	
90	033105350400			Structural concrete, ready mix, normal weight, 34 MPa, includes local aggregate, sand, Portland cement and water, delivered, excludes all additives and treatments				m3	s	246.53	s -	s	-	\$	246.53	\$	22,187.70	\$		\$		\$	22,187.70	\$	270.67	ſ
90	033105701550			Structural concrete, placing, elevated slab, with crane and bucket, 150 mm to 254 mm thick, includes strike off & consolidation, excludes material	C7	84.1	1 0.85	6 m3	\$		\$ 22.4	5 \$ 1	15.67	s	38.12	\$		s	2,020.50	s	1,410.30	\$	3,430.80	s	-	
				Reinforcing Steel, in place, elevated slabs, #13 to #22, A615M, grade 400, incl labor fo	r																					

258.39 0.45 7.8 14.85 70.67 270.67 24,360.30 34.22 17.20 51.42 3,079.80 accessories, excl material for accessories 4 Rodm 2.63 12.163 Met. Ton \$ 1,568.00 \$ 312.93 \$ \$ 1,880.93 \$ 2,822.40 \$ 563.27 \$ 3,385.67 \$ 1.8 032110600400 \$ 1,718.93 502.34 2,221.27 3,094.07 904.21 Prestressing steel, ungrouted strand, 60 m span, 135 metric ton 620 032305501650 1,395.00 1,537.60 1,072.60 C4 0.042 2.2 \$ 1.08 0.04 3.37 669.60 24.80 2,089.40 2.48 1.73 0.04 4.25 Concrete finishing, floors, basic finishing for unspecified flatwork, bull float, manual float & manual steel trowel, excludes placing, striking off & consolidation 315 033529300200 striking off & consolidating 5.63 1,773.45 1,773.45 2,620.80 C10 0.203 5.63 8.32 8.32 increte finishing, walls, sandblast, heavy Concrete finishing, walls, burlap rub with grout, includes breaking ties and patching 315 8,933.40 7,997.85 19,022.85 9,828.00 13,097.70 33529600750 F11 34 : 0.91 28 25.3 60.39 2 091 60 31.20 41.58 7.30 80.08 33 3529600050 0.19 0.5 \$ 5.59 6.14 18.15 184.47 202.62 0.74 8.17 8.91 24.42 269.61 1 Cefi 41.8 Curing, curing blankets, buy, minimum, 25 mm to 50 mm thick 315 33913500400 6.12 1.927.80 1,927.80 6.69 6.69 2.107.35 6. High strength bolt, 16 mm dia x 75 mm L, A325 Type 1, incl washer & nut 20 50523250190 \$ 2.41 4.66 45.00 48.20 93.20 2.48 6.72 49.60 84.80 1 Sswk 0.0 2.2 4.24 Silicone water repellants, sprayed on, 2 315 1919100300 1 Rofe 73 0.61 7.95 2.312.10 192.15 2,504.25 8.04 1 02 9.06 2,532.60 321.30

Total

\$48208.52 \$22625.79

\$3526.70 \$74361.01 Labor O&P

43.76

104.04

Equip. O&P

Total O&P

73.43

148.28

Ext. Mat. O&P

9,346.05

28.76

\$

Ext. Labor O&P

13,784.40

67.63

\$52923.60 \$35561.24

Dome Roof - Concrete Tank fga Consultants

Paradise Newfoundland A1L-2X9

Ext. Equip. (	0&P	Ext. Total O&P	Labor Type	Data Release	Zip Code	Notes
\$		\$ 23,130.45	STD	Year 2010	C15	soffit forms for dome
\$		\$ 96.38	STD	Year 2010	C15	Blockout for access hatch
\$	-	\$ 273.24	STD	Year 2010	C15	outside of ring beam form
\$		\$ 24,360.30	STD	Year 2010	C15	Dome concrete material
\$1,	548.00	\$ 4,627.80	STD	Year 2010	C15	Dome concrete placing
\$		\$ 3,998.29	STD	Year 2010	C15	Temp reinforcem ent in dome
\$	24.80	\$ 2,635.00	STD	Year 2010	C15	ring beam prestressin g reinforcem ent
\$		\$ 2,620.80	STD	Year 2010	C15	top of dome wet finish
\$ 2.	299.50	\$ 25,225.20	STD	Year 2010	C15	Sandblast finish for inside of dome
\$	-	\$ 294.03	STD	Year 2010	C15	edge of ring beam finish
\$		\$ 2,107.35	STD	Year 2010	C15	Top of dome curing
\$		\$ 134.40	STD	Year 2010	C15	Bolts for access hatch
\$		\$ 2,853.90	STD	Year 2010	C15	Interior coating
\$3	872.30	\$92357.14				

## Shell to Slab Connection - Concrete Tank fga Consultants

#### Paradise Newfoundland A1L-2X9

Unit Cost Estimate Data Release : Year 2010

Quantity LineNumber	Sourc Description e SubCo	Crew	Daily Output	Labor Hours	Unit	Material	Labor	Equipme	nt Total		Ext. Mat.	Ext. L	abor	Ext. Equip.	E	xt. Total	Mat. O&	ιP	Labor O&	P	Equip. O&P		Total O&P	Ext.	Mat. O&P	Ext. Labo	or O&P	Ext. Equip. O&	P Ext	t. Total P	Labor Type	Data Rele	ase Zi	p Code	Notes
24 031113200500	C.I.P. concrete forms, beams and girders, exterior spandrel, plywood, 300 mm wide, 1 use, includes shoring, erecting, bracing, stripping and cleaning	I C2	20.9	9 2.29	96 m2CA	\$ 38.52	\$ 56.92	2 \$ -	\$	95.44	\$	924.48 \$	1,366.08	\$	- :	\$ 2,290.56	\$	42.16	s	87.52	\$	-	\$	129.68 \$	1,011.84	\$	2,100.48	\$	- \$	3,112.32	STD	Year	2010 C	:15	Concrete water stop casing
52 03310535040	Structural concrete, ready mix, normal weight, 34 MPa, includes local aggregate, sand, Portland cement and water, delivered, excludes all additives and treatments				m3	\$ 246.53	s -	s -	\$	246.53	\$ 12,	319.56 \$	-	\$		\$ 12,819.56	\$	270.67	\$		s	-	s	270.67 \$	14,074.84	s	-	\$	- \$	14,074.84	STD	Year	2010 C	.15	Water stop encaseme nt
52 03310570005	Structural concrete, placing, beam, small, elevated, pumped, includes strike off & consolidation, excludes material	C20	45.88	8 1.39	95 m3	s -	\$ 36.43	3 \$ 17.7	7 \$	54.20	\$	- \$	1,894.36	\$ 924	1.04	\$ 2,818.40	s	-	s	55.57	\$	19.55	s	75.12 \$	-	ş	2,889.64	\$ 1,01	6.60 \$	3,906.24	STD	Year	2010 C	15	Water stop encaseme nt
58 03151350060	D Waterstop, PVC, ribbed, with center bulb, 10 mm thick x 230 mm wide	1 Carp	38.	1 0.2	21 m	\$ 16.55	\$ 5.32	s -	\$	21.87	s e	959.90 \$	308.56	\$	- :	\$ 1,268.46	\$	18.17	s	8.23	s		\$	26.40 \$	1,053.86	\$	477.34	\$	- \$	1,531.20	STD	Year	2010 C	15	water stop
12 03352930020	Concrete finishing, floors, basic finishing for unspecified flatwork, bull float, manual float & manual steel trowel, excludes placing, striking of & consolidating	r C10	111	8 0.20	03 m2	s -	\$ 5.63	3 \$ -	\$	5.63	\$	- \$	67.56	\$	-	\$ 67.56	s		s	8.32	s	-	s	8.32 \$	-	\$	99.84	\$	- \$	99.84	STD	Year	2010 C	-15	wet finish
12 03352960070	Concrete finishing, walls, sandblast, light	F11	10	2 0.3	14 m2	\$ 14.14	\$ 8.61	\$ 22	7 \$	25.02	s	169.68 \$	103.32	\$ 27	24	\$ 300.24	s	15.60	s	14 24	s	2 50	s	32.34 \$	187 20	s	170.88	\$ 3	000 \$	388.08	STD	Year	2010 C	15	dry finish
12 03391350040	Curing, curing blankets, buy, minimum, 25 mm to 50 mm thick		10.	0.0	m2	\$ 6.12	\$ -	\$ -	\$	6.12	s	73.44 \$	-	\$	-	\$ 73.44	\$	6.69	\$	-	ş	-	s	6.69 \$	80.28	3 S	-	\$	- \$	80.28	STD	Year	2010 C	.15	water stop encaseme nt curing
445 05052325155	High strength bolt, 25 mm dia x 200 mm L, A490, incl washer & nut	1 Sswk	8:	5 0.09	94 Ea.	\$ 16.05	\$ 3.25	5 \$ -	\$	19.30	\$7,	142.25 \$	1,446.25	\$		\$ 8,588.50	\$	17.62	s	5.72	\$	-	\$	23.34 \$	7,840.90	) \$	2,545.40	\$	- \$	10,386.30	STD	Year	2010 C	15	Slab to shell connection
120 05122320030	Curb edging, structural steel angle w/ anchors, on concrete forms, 8.2 plf, 100x100 mm, shoor fabricated	E4	83.8	2 0.38	82 m	\$ 40.50	\$ 13.30	) \$ 1.7	8 \$	55.58	\$ 4.	360.00 \$	1.596.00	s 213	3.60	\$ 6,669,60	\$	44.82	s	23.52	\$	1.95	S	70.29 \$	5.378.40	s	2.822.40	\$ 23	1.00 <b>S</b>	8.434.80	STD	Year	2010 C	2 3 r 1 5	203x203x1 3 angle, multiplied 100x100 length by 2, adjust this for curvature
1 05122320030	Curb edging, structural steel angle or channel w'anchors, on concrete forms, shoo fabricated, for curved edding, add				m	\$ 14.18	\$ 1.33	3 5 -	s	15.51	\$ 1.	701.00 \$	159.60	\$		\$ 1.861.20	s	15.69	s	2.35	s	-	s	18.04 \$	1.882.44	s	282.24	\$	- s	2.164.80	STD	Year	2010 C	.15	[Adjusted by 051223202 000]
18 07135310040	Elastomeric sheet waterproofing, EPDM,	( 2 Rofe	52 0	5 0.30	02 m2	\$ 15.00	\$ 6.43		¢	22.33	<u>د</u>	286.20 \$	115 74	¢.		\$ 401.94	¢	17 53	e	10 70	- -		¢	28.23	315 54		192.60	¢		508 14	STD	Vear	2010 C		elastomeri c bearing pad for shell to slab
Total		2100	02.3	0.00		φ 13.50	. φ 0.40	,	. Ψ	22.00	\$28	937.11	\$7057.47	\$1164	1.88	\$37159.46	·Ψ	17.00		10.70	Ÿ	-	Ÿ	20.20 Ø	\$31825.66	ς, φ 5	\$11580.58	\$128	).60 \$	\$44686.84	0.5	Itea	2010 10		201 ALCOUNT

# Appendix R

#### Steel Tank (Shell)

#### Data Release : Year 2010 Unit Cost Estimate

Quantity	LinoNumbor	Sour	Description	Crow	Daily Output	Labor Hours	Unit	Matorial	Labor	Equipment	Total	Ext Mat	Ext Labo	Ext Equir	•	Ext Total	Mot ORP	Labor Of	P Equip (	080	Total O&P	Ext Mat ORD	Ext Labor O&P	Ext Equip Of	D Ext Total	Labor Type	Data Poloaco	Zin Codo	Notor
quantity	Linewumber	Sour	Description	CIEW	Daily Output	Labor Hours	Onit	Wateria	Labor	Equipment	TOtal		. Ext. Labo	Ext. Equip	μ.	EXt. TOtal	Wat. Oor	Labor Oc	xr Equip. (	Jar	TOTAL OCF	Ext. Wat. Our	EXI. Labor Odr	Ext. Equip. Oa		Labor Type	Data Release	Zip Code	NOLES
		Sub	bC																						Uap				
			Steel plate, structural, for connections																										
			& stiffeners, 13 mm 1, snop fabricated,											-										-					
446	051223650400		incl shop primer				m2	\$ 261.3	5 \$ -	ş -	\$ 26	.36 \$ 11	6,566.56 \$	- \$	-	\$ 116,566.56	\$ 287.2	8 \$	- \$	-	\$ 287.2	3 \$ 128,126.8	8 \$ -	\$-	\$ 128,126.88	STD	Year 2010	C15	
			Steel plate, structural, for connections & stiffeners, 25 mm T, shop fabricated.																										
446	051223650500		incl shop primer				m2	\$ 523.8	0\$-	\$ -	\$ 52	.80 \$ 23	3,614.80 \$	- \$	-	\$ 233,614.80	\$ 572.4	s (	- \$	-	\$ 572.4	\$ 255,290.4	0 \$ -	ş -	\$ 255,290.40	STD	Year 2010	C15	
			Weld rod, stainless steel, 3 mm dia,																										
50	050523902100		225 kg to 450 kg, type 316/316L				kg	\$ 16.7	6 \$ -	\$ -	\$ 1	.76 \$	838.00 \$	- \$	-	\$ 838.00	\$ 18.3	8 \$	- \$	-	\$ 18.3	3 \$ 919.0	0 \$ -	\$ -	\$ 919.00	STD	Year 2010	C15	
			Paints and protective coatings, epoxy																										
1784	099713236610		primer, sprayed	2 Psst	279	9 0.05	7 m2	\$ 2.8	4 \$ 1.34	\$ -	\$	.18 \$	5,066.56 \$ 2,	390.56 \$	-	\$ 7,457.12	\$ 3.0	8 \$	2.40 \$	-	\$ 5.4	\$ 5,494.7	2 \$ 4,281.60	ş -	\$ 9,776.32	STD	Year 2010	C15	2 Coats
			Paints and protective coatings, alkyd																										
892	099713236520		primer, sprayed	2 Psst	334	4 0.04	8 m2	\$ 0.7	2 \$ 1.12	\$ -	\$	.84 \$	642.24 \$	999.04 \$	-	\$ 1,641.28	\$ 0.8	3 \$	2.00 \$	-	\$ 2.8	3 \$ 740.3	6 \$ 1,784.00	s -	\$ 2,524.36	STD	Year 2010	C15	1 Coat
			Paints and protective coatings, organic zinc rich primer, epoxy,																										
1784	099713237010		sprayed	2 Psst	167	0.09	6 m2	\$ 2.4	9 \$ 2.23	\$ -	\$	.72 \$	4,442.16 \$ 3.	978.32 \$	-	\$ 8,420.48	\$ 2.8	4 \$	3.99 \$	-	\$ 6.8	\$ 5,066.5	6 \$ 7,118.16	\$ -	\$ 12,184.72	STD	Year 2010	C15	2 Coats
Total												\$30	61170.32 \$7	367.92	\$.00	\$368538.24						\$395637.9	2 \$13183.76	\$.0	0 \$408821.68				

#### Steel Tank (Connections)

Data Release : Year 2010 Unit Cost Estimate

Quantity	LineNumber	Description	Crew	Daily Output	Labor Hours	Unit	Material	L	abor	Equipment	Total	Ex	ct. Mat.	Ext. Labor	Ext. Equip.	Ext. To	otal M	lat. O&P	Labor O&P	E	Equip. O&P	Total O8	kP I	Ext. Mat. O&P	Ext. Labor	Ext.	Equip.	Ext. Total O&	P Labor Type	Data Release	Zip Code	Notes
177	050523250370	High strength bolt, 22 mm dia x 100 mm L, A325 Type 1, incl washer & 0 nut	1 Sswk	10	0.07	76 Ea.	s	5.20	\$ 2.63	s -	\$ 7	7.83 \$	920.40	\$ 465.51	s -	s ·	1.385.91	\$ 5.73	\$ 4	.65	\$-	\$	10.38	\$ 1.014.21	\$ 82	3.05 \$	_	\$ 1.837.2	3 STD	Year 2010	C15	Angle to Shell Connection (Top)
		High strength bolt, 22 mm dia x 200 mm L, A325 Type 1, incl washer &							<u> </u>												<u> </u>			<u> </u>				· · · · · · · · · · · · · · · · · · ·				Angle to Roof
177	050523250390	) nut	1 Sswk	g	90.08	9 Ea.	\$	10.32	\$ 3.08	\$ -	\$ 13	3.40 \$	1,826.64	\$ 545.16	\$-	\$ 3	2,371.80	\$ 11.35	\$ 5	.42	\$-	\$	16.77	\$ 2,008.95	\$ 95	9.34 \$	-	\$ 2,968.2	STD	Year 2010	C15	Connection
412	050522251450	bolt, 25 mm dia x 100 mm L, A490, incl	1 South			24 50	¢	7 51	¢ 202	¢	¢ 10	142 6	2 101 62	¢ 1 205 06	¢	¢	4 207 50	¢ 0.07	¢ 5	12	¢	¢	12.40	¢ 211551	¢ 0.11	¢ 0.9.0		¢ 5.524.2	STD	Yoor 2010	C15	Angle to Shell Connection
415	050525251450	High strength bolt, 25 mm dia x 200 mm L,	I		0.00	94 Ed.		7.51	φ 2.92	φ -		J.43 \$	3,101.03	φ 1,203.90	φ <u>-</u>		4,307.39	φ <u>0.27</u>	φ <u></u> .		φ -	φ	13.40	<u>\$ 3,413.31</u>	φ 2,11	<u>0.09                                   </u>		φ 0,004.2		Teal 2010		(Bottom)
472	050523251550	A490, Incl washer & nut	1 Sswk	8	35 0.09	94 Ea.	\$	16.05	\$ 3.25	\$ -	\$ 19	9.30 \$	7,575.60	\$ 1,534.00	\$-	\$ 9	9,109.60	\$ 17.62	\$ 5	.72	\$-	\$	23.34	\$ 8,316.64	\$ 2,69	9.84 \$	-	\$ 11,016.4	3 STD	Year 2010	C15	Connection
59	051223751900	Structural steel member, 90 metric ton project, 1 to 2 story building, W360x39, A992 steel, shop fabricated, incl shop primer, bolted connections	2 E2	30	0.18	35 m	\$ 1	111.24	\$ 6.21	\$ 5.	41 \$ 122	2.86 \$	6,563.16	\$ 366.39	\$ 319.19	\$	7,248.74	\$ 123.12	\$ 10.	1.51	\$ 5.9	7 \$ -	139.60	\$ 7,264.08	\$ 62	0.09 \$	352.23	\$ 8,236.4	) STD	Year 2010	C15	L 203x203x14 A=4990 mm^2 similar properties as W member selected.
59	051223750300	Structural steel member, 90 metric ton project, 1 to 2 story building, W200x15, A992 steel, shop fabricated, incl shop primer, bolted connections	2 E2	18	33 0.30	96 m	\$	42.66	\$ 10.25	\$ 8.	98 \$ 6'	1.89 \$	2,516.94	\$ 604.75	\$ 529.82	\$	3,651.51	\$ 46.98	\$ 17.	.27	\$ 9.8	5 \$	74.10	\$ 2,771.82	\$ 1,01	8.93 \$	581.15	\$ 4,371.9	) STD	Year 2010	C15	L 103x102x9.5 A = 1850 mm <sup>2</sup> 2 similar to the W section selected.
236	079116104500	Pre-formed join seals, joint gaskets, neoprene, closed cell, 6mm x 19mm, adhered	t 1 Bric	65.5	53 0.12	22 m	s	2.08	\$ 3.10	s -	s :	5.18 \$	490.88	\$ 731.60	\$ -	s ·	1.222.48	\$ 2.30	\$ 4	.68	<del>, 3.0</del> \$ -	Š V	6.98	\$ 542.80	\$ 1.10	4.48 \$		\$ 1.647.2	3 STD	Year 2010	C15	Seal for bolt connection area.
Total						•			, 5.10		• •	<u> </u>	\$22995.25	\$5453.37	\$849.01	\$2	9297.63							\$25334.01	\$934	4.42	\$933.38	\$35611.8	1			

Total

#### Steel Tank (Hatch)

#### Data Release : Year 2010 Unit Cost Estimate

Quantity LineNu	mber S c	Sour ce S	Description ubC	Crew	Daily Output	Labor Hours	Unit	Material	Labor	Equipment	Total	Ext. Mat.	Ext. Labor	Ext. Equip.	Ext. Total	Mat. O&P	Labor O&P	Equip. O&P	Total O&P	Ext. Mat. O&P	Ext. Labor O&P	Ext. Equip. O&P	Ext. Total O&P	Labor Type	Data Release	Zip Code	Notes
28 0505233	251500		High strength bolt, 25 mm dia x 150 mm L, A490, incl washer & nut	1 Sswk	g	0.089	9 Ea.	\$ 10.11	\$ 3	08 \$ -	\$ 13.19	\$ 283.08	\$ 86.24	\$ -	\$ 369.3	2 \$ 11.13	3 \$ 5.4	2\$-	\$ 16.55	\$ 311.64	\$ 151.76	\$ -	\$ 463.40	STD	Year 2010	C15	
4 079116 <sup>-</sup>	104500		Pre-formed joint seals, joint gaskets, neoprene, closed cell, 6mm x 19mm, adhered	1 Bric	65.5	i3 0.121	2 m	\$ 2.08	\$ 3	10 \$ -	\$ 5.18	\$ 8.32	\$ 12.40	)\$-	\$ 20.7	2 \$ 2.30	0 \$ 4.6	8\$-	\$ 6.98	\$ 9.20	\$ 18.72	s -	\$ 27.92	STD	Year 2010	C15	
Total												\$291.40	\$98.64	۱ \$.C	00 \$390.0	4				\$320.84	\$170.48	\$.00	\$491.32				

### Slab - Steel Tank fga Consultants

Paradise Newfoundland A1L-2X9

#### Data Release : Year 2010 Unit Cost Estimate

Quantity	LineNumber	Sou	urc SubC	Description c	Crew	Daily La Output H	abor ours	Unit	Material	Labor	Equipmer	nt Total		Ext. Mat.		Ext. Labor	I	Ext. Equip.	E	Ext. Total	'	Mat. O&P	Labor O&	P Eo	quip. O&P	Tota	I O&P	Ext. Mat	. O&P	Ext. Lab	or O&P	Ext. Equi	p. O&P	Ext. Total O&P	Labor	Туре	Data Zip Code Release	Notes
216	312316130060			Excavating, trench or continuous footing, common earth, 0.38 m3 excavator, 300 mr to 1200 mm deep, excludes sheeting or dewatering	n B11M	153	0.105	5 Bm3	\$-	\$ 3.91	\$ 2.58	3 \$	6.49	\$	-	\$	844.56	s	557.28	\$ 1,4	01.84	s -	\$	5.94	\$ 2	2.85 \$	8.7	e s	-	s	1,283.04	\$	615.60	\$ 1,898.64	STD		Year 2010 C15	Excavation for slab on grade
109	212222200016			Cycle hauling(wait, load,travel, unload or dump & return) time per cycle, excavated borrow, loose cubic meters, 10 min wait/load/unload, 6.12 m3 truck, cycle 1.6 m 24 mb overlude loading a quirement	pr 	208	0.029	8 I m2	¢	¢ 1.25	E 107	7 6	2.00			¢	125.00		010.76	¢ 2	47.76		¢	1.01	e	16 0	4.0	, .		¢	206.28	¢	222.20	¢ 430.50	STD		Voor 2010   C15	Haul excess from site, assumed half of
100	040000400045				4.01-1	200	0.000	7 1 0		¢ 1.25	φ 1.3 <i>1</i>	· •	0.1.00	φ		Ŷ	0.500.40	<u>ц</u>	212.70	<u> </u>	47.70	<u> </u>	Ŷ	1.51	¢ .		4.0				4 000 50	9	233.20	φ 4000 F0			Vers 2010 015	Backfill around slab, assume half of
108	312323130015			Eine grading, fine grade for slab on grade	1 Clab	10.7	0.747	7 Lm3	ð -	\$ 24.06	\$ -	\$	24.06	\$	-	\$	2,598.48	\$	-	\$ 2,5	98.48	s -	\$	37.32	\$	- 3	37.3	2 3	-	3	4,030.56	\$	-	\$ 4,030.56	510		Year 2010 C15	Grading for
360	312216101100			machine	B11L	870	0.018	8 m2	\$-	\$ 0.69	\$ 0.74	4 \$	1.43	\$		\$	248.40	\$	266.40	\$ 5	14.80	s -	\$	1.04	\$ (	).81 \$	1.8	5 \$	-	\$	374.40	\$	291.60	\$ 666.00	) STD		Year 2010 C15	grade
37	031113653060			C.I.P. concrete forms, slab on grade, edge, wood, over 305 mm, 4 use, includes erecting, bracing, stripping and cleaning	C1	32.52	0.984	4 m2CA	\$ 6.30	\$ 23.87	<b>\$</b> -	s	30.17	s	233.10	s	883.19	\$	-	\$ 1,1	16.29	\$ 6.8	2 \$	36.72	\$	- s	43.5	ı s	252.34	s	1,358.64	\$		\$ 1,610.98	S STD		Year 2010 C15	Slab on grade forms.
178	033105704300			Structural concrete, placing, slab on grade direct chute, up to 150 mm thick, includes	,	84 11	0.571	1 m3	¢	\$ 14.50	\$ 0.7	1 6	15 24	c		c	2 591 00	c	191 79	e 97	10 70	c	¢	22.08	e (	n 01 e	22.0			e	2 020 24	¢	144 19	\$ 4 074 42	STD		Year 2010 C15	Placing of slab concrete, assume ok for 600mm thick
178	033105350400			Structural concrete, ready mix, normal weight, 34 MPa, includes local aggregate, sand, Portland cement and water, delivered, excludes all additives and treatments		04.11	0.011	m3	\$ 246.53	\$ -	\$ -	\$	246.53	\$	43,882.34	ş	-	\$	-	\$ 43,8	82.34	\$ 270.6	7 \$	-	\$	- \$	270.6	9 9 5	48,179.26	\$	-	\$	-	\$ 48,179.26	STD		Year 2010 C15	Concrete material for slab
5.47	032110600600			Reinforcing Steel, in place, slab on grade, #10 to #22, A615M, grade 400, incl labor for accessories, excl material for accessories	or 4 Rodm	2.09	15.336	6 Met. Ton	\$ 1,408.68	\$ 395.28	\$-	s	1,803.96	\$	7,705.48	\$	2,162.18	\$	-	\$ 9,8	67.66	\$ 1,542.8	4 \$	631.35	\$	- \$	2,174.1	9 \$	8,439.33	s	3,453.48	\$		\$ 11,892.82	2 STD		Year 2010 C15	All rebar in place
296	033529300200			Concrete finishing, floors, basic finishing fo unspecified flatwork, bull float, manual floa & manual steel trowel, excludes placing, striking off & consolidating	r t C10	118	0.203	3 m2	\$-	\$ 5.63	\$-	\$	5.63	\$	-	\$	1,666.48	\$	-	\$ 1,6	66.48	\$ -	\$	8.32	\$	- \$	8.3	2 \$		s	2,462.72	\$	-	\$ 2,462.72	2 STD		Year 2010 C15	Wet finish, top of floor and slab
37	033529600050			Concrete finishing, walls, burlap rub with grout, includes breaking ties and patching voids	1 Cefi	41.81	0.191	1 m2	\$ 0.55	\$ 5.59	s -	s	6.14	s	20.35	s	206.83	s	-	\$ 2	27.18	\$ 0.7	4 \$	8.17	s	- 5	8.9	1 5	27.38	s	302.29	s		\$ 329.67	STD		Year 2010 C15	Dry finish on sides
296	033913500400			Curing, curing blankets, buy, minimum, 25 mm to 50 mm thick				m2	\$ 6.12	s -	\$ -	s	6.12	s	1.811.52	s	-	s	-	\$ 1.8	11.52	\$ 6.6	9 \$	-	s	- s	6.6	e s	1.980.24	s		s		\$ 1.980.24	STD		Year 2010 C15	Curing to of slab
455	031505357350			Insert, loop ferrule type, 22 mm diameter bolt	1 Carp	84	0.095	5 Ea.	\$ 16.40	\$ 2.42	\$ -	s	18.82	\$	7,462.00	\$	1,101.10	\$	_	\$ 8.5	63.10	\$ 18.0	6 \$	3.73	\$	- \$	21.7	9 \$	8,217.30	s	1,697.15	\$	-	\$ 9,914.45	5 STD		Year 2010 C15	Assumed fine for 24mm sleeves
272	071919100300			Silicone water repellants, sprayed on, 2 coat	1 Rofc	279	0.029	9 m2	\$ 7.34	\$ 0.61	\$ -	\$	7.95	\$	1,996.48	\$	165.92	\$	-	\$ 2,1	62.40	\$ 8.0	4 \$	1.02	\$	- \$	9.0	6 \$	2,186.88	\$	277.44	\$	-	\$ 2,464.32	STD		Year 2010 C15	Protective coating
Total															\$63111.27	s	12593.14	s	1168.16	\$768	72.57								\$69282.73		\$19376.24		\$1284.66	\$89943.64				

### Aluminum Dome Roof

Data Release: Year 2010 Unit Cost Estimate

Quanity	Description	Uniit	Materia	al	Total
	Geodesic Aluminum Dome				
	Aluminum plates, aluminum strut				
3390	connections.	S.F	\$	85.00	\$ 288,150.00

# Appendix S



Group 4 Richard Chambers Mark Sampson Nikita Gibbons Russell Murphy



### Cost Analysis

Steel Tank			Concrete Tank		
Item		Cost	Item		Cost
Shell	\$	408,822.00	Shell	\$	467,530.00
Connection	\$	40,612.00	Connection	\$	44,686.00
Hatch	\$	1,500.00	Hatch	\$	1,500.00
Slab	\$	89,943.64	Slab	\$	89,943.64
Roof	\$	288,000.00	Roof	\$	92,357.00
			Ring Beam	\$	19,669.00
Total	\$	828,877.64	Total	\$	715,685.64

Result

Concrete

#### **Maintenance analysis**

Steel Tank

Activity	Crew	Labour (hr.)	Rate(per/hr.)	Total	
Weld Testing	2	16	\$ 68.00	\$ 2,176.00	
Thickness Testing	2	16	\$ 68.00	\$ 2,176.00	
Paint/Epoxy Coating	/	/	/	\$ 20,000.00	
			Total	\$ 24,352.00	

For Lifetime (25 yr)

Activity	Cost	Occurance	Life Cost	Total
Weld Testing	\$ 2,176.00	25	\$ 54,400.00	
Thickness Testing	\$ 2,176.00	25	\$ 54,400.00	\$128,800.00
Paint/Epoxy Coating	\$ 20,000.00	1	\$ 20,000.00	

Note: Occurance refers to number of times activity must be conducted during the life span.

Result (Maintenance cost per year) \$ 5,152.00



Group 4 Richard Chambers Mark Sampson Nikita Gibbons Russell Murphy



Concrete Tank

Activity	Crew	Labour (hr.)	Rate(per/hr.)	Total
Roof Blasting/Seal	/	/	/	\$ 5,000.00
Crack Inspection	2	16	\$ 68.00	\$ 2,176.00
			Total	\$ 7,176.00

For Lifetime (25 yr)

Activity	Cost	Occurance	Life Cost	Total	
Roof Blasting/Seal	\$ 5,000.00	2	\$ 10,000.00	¢ 64 400 00	
Crack Inspection	\$ 2,176.00	25	\$ 54,400.00	→ 04,400.00	

Note: Occurance refers to number of times activity must be conducted during the life span.

Result (Maintenance cost per year)\$2,576.00

Result Concrete
# Appendix T

Crew No.	Bai	re Costs	Sub	Incl. os O & P	Co Per Lat	ost oor-Hour
Crew A-1	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
g Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
oncrete saw, gas manual		63.20		69.52	7.90	8.69
.H., Daily Totals		\$316.00		\$461.52	\$39.50	\$57.69
					Bare	Incl.
Crew A-1A	Hr.	<b>Daily</b>	Hr.	506.00	Costs	0&P
Shot Blaster, 20"	Ş40.0J	217.80	Ş03.23	239.58	27.23	29.95
L.H., Daily Totals		\$544.60		\$745.58	\$68.08	\$93.20
					Bare	Incl.
Crew A-1B	Hr.	Daily	Hr.	Daily	Costs	0&P
Building Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
Concrete Saw		141.00		155.10	17.63	19.39
L.H., Daily Totals		\$393.80		\$547.10	\$49.23	Ş68.39
Crow A 1C	U.,	Daily	U.,	Deihr	Bare	Incl.
Crew A-IC	<b>nr.</b>	COED DO	Π <b>r</b> .	COD 00	COStS	C&P
Chain saw, gas, 18"	\$51.00	\$252.80 25.80	\$49.00	\$592.00 28.38	3.23	\$49.00 3.55
L.H., Daily Totals		\$278.60		\$420.38	\$34.83	\$52.55
,,					Bare	Incl
Crew A-1D	Hr.	Daily	Hr.	Daily	Costs	0&P
Building Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
Vibrating plate, gas, 18"		31.80		34.98	3.98	4.37
L.H., Daily Totals		\$284.60		\$426.98	\$35.58	\$53.37
					Bare	Incl.
Crew A-1E	Hr.	Daily	Hr.	Daily	Costs	0&P
L Building Laborer	\$31.60	\$252.80 30.20	\$49.00	\$392.00 13.12	\$31.60	\$49.00 5.30
R L.H., Daily Totals		\$292.00		\$435.12	\$36.50	\$54.39
Lin, bury rotais		QL92.00		Q 100.12	Bare	Incl.
Crew A-1F	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Building Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
L Rammer/tamper, gas, 8"		43.40		47.74	5.42	5.97
L.H., Daily Iotals		\$296.20		\$439.74	\$37.02	\$54.97
Crow A 1C	U.,	Deily	U.,	Daily	Bare	Incl.
Building Laborar	\$31.60	\$252.80	п. \$/0.00	\$302.00	\$31.60	\$10.00
Rammer/tamper, gas, 15"	\$51.00	49.40	Ş49.00	54.34	6.17	6.79
L.H., Daily Totals		\$302.20		\$446.34	\$37.77	\$55.79
-					Bare	Incl.
Crew A-1H	Hr.	Daily	Hr.	Daily	Costs	0&P
Building Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
Exterior Steam Cleaner		\$204.00		56.32	6.40 \$29.00	7.04 \$56.04
L.N., Dally Totals		ŞSU4.00		Ş440.3Z	\$36.00 Bara	\$00.04
Crew A-1J	Hr.	Dailv	Hr.	Dailv	Costs	INCI. 0&P
Building Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
Cultivator, Walk-Behind, 5 H.P.		57.05		62.76	7.13	7.84
L.H., Daily Totals		\$309.85		\$454.76	\$38.73	\$56.84
					Bare	Incl.
Crew A-1K	Hr.	Daily	Hr.	Daily	Costs	0&P
Building Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
L Cultivator, Walk-Behind, 8 H.P.		91.10		100.21	11.39	12.53
s L.H., Daily Iotals		\$343.90		\$492.21	\$42.99	\$61.53
Crew A-1M	Hr	Daily	Hr	Daily	Bare	inci. በደቦ
Ruilding Laborer	\$31.60	\$252.80	\$ <u>4</u> 0 nn	\$392.00	\$31.60	\$ <u>4</u> 0 00
Snow Blower, Walk-Behind		52.70	00.UT	57.97	6.59	7.25
B L.H., Daily Totals		\$305.50		\$449.97	\$38.19	\$56.25

Crew No.	Ва	re Costs	Sul	Incl. bs O & P	Co Per La	ost bor-Hour	Crew No.	Bare	Costs	In Subs	cl. 5 O & P	Cost Per Labor-Hour	
Crew A-3G	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew A-5	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Equip. Oper. (crane) 1 Truck Driver (heavy)	\$42.55 31.95	\$340.40 255.60	\$63.95 49.15	\$511.60 393.20	\$37.25	\$56.55	2 Laborers .25 Truck Driver (light)	\$31.60 30.95	\$505.60 61.90	\$49.00 47.65	\$784.00 95.30	\$31.53	\$48.85
1 Pickup truck, 4 x 4, 3/4 ton		128.20		141.02			.25 Flatbed Truck, Gas, 1.5 Ton		48.60		53.46	2.70	2.97
1 Truck Tractor, 6x4, 450 H.P.		581.20		639.32			18 L.H., Daily Totals		\$616.10		\$932.76	\$34.23	\$51.82
1 Lowbed Trailer, 75 Ton		203.00		223.30	57.02	62.73						Bare	Incl.
16 L.H., Daily Totals		\$1508.40		\$1908.44	\$94.28	\$119.28	Crew A-6	Hr.	Daily	Hr.	Daily	Costs	0&P
Curran A 211	1	Della		Deilu	Bare	Incl.	1 Instrument Man	\$40.85	\$326.80	\$63.25	\$506.00	\$39.73	\$60.80
	nr.		nr.	Dally	COSTS	0&P	1 Rodman/Chainman	38.60	308.80	58.35	466.80	4.00	1.00
1 Equip. Oper. (crane) 1 Hyd. crane, 12 Top. (daily)	\$42.55	\$340.40 1018.00	\$63.95	\$511.6U 1110.80	\$42.55	\$03.95 130.07	I Laser Transit/Level		/U.IU		//.II ¢1040.01	4.38	4.82
8 H Daily Totals		\$1358.40		\$1631.40	\$169.80	\$203.97	16 L.H., Daily lotais		\$705.70		\$1049.91	\$44.11	\$05.02
o E.n., Dally lotais		Ş1330. <del>4</del> 0		Ş1051. <del>4</del> 0	Para	9205.55	Crew A-7	Hr	Daily	Hr	Daily	Bare	Incl. O&P
Crew A-3I	Hr.	Daily	Hr.	Daily	Costs	Inci. 0&P	1 Chief Of Party	\$50.20	\$401.60	\$77.15	\$617.20	\$43.22	\$66.25
1 Equip Oper (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$42.55	\$63.95	1 Instrument Man	40.85	326.80	63.25	506.00	J4J.22	J00.2J
1 Hyd. crane, 25 Ton (daily)	Q 12.00	1054.00	000.50	1159.40	131.75	144.93	1 Rodman/Chainman	38.60	308.80	58.35	466.80		
8 L.H., Daily Totals		\$1394.40		\$1671.00	\$174.30	\$208.88	1 Laser Transit/Level		70.10		77.11	2.92	3.21
					Bare	Incl.	24 L.H., Daily Totals		\$1107.30		\$1667.11	\$46.14	\$69.46
Crew A-3J	Hr.	Daily	Hr.	Daily	Costs	0&P						Bare	Incl.
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$42.55	\$63.95	Crew A-8	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Hyd. crane, 40 Ton (daily)		1058.00		1163.80	132.25	145.47	1 Chief of Party	\$50.20	\$401.60	\$77.15	\$617.20	\$42.06	\$64.28
8 L.H., Daily Totals		\$1398.40		\$1675.40	\$174.80	\$209.43	1 Instrument Man	40.85	326.80	63.25	506.00		
					Bare	Incl.	2 Rodmen/Chainmen	38.60	617.60	58.35	933.60		
Crew A-3K	Hr.	Daily	Hr.	Daily	Costs	0&P	I Laser Transit/Level		/0.10		//.11	2.19	2.41
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$39.67	\$59.63	32 L.H., Daily Iotals		\$1416.10		\$2133.91	\$44.25	\$66.68
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40								Bare	Incl.
1 Hyd. crane, 55 Ton (daily)		1491.00		1640.10			Crew A-9	Hr.	Daily	Hr.	Daily	Costs	0&P
1 P/U Iruck, 3/4 Ion (daily)		137.80		151.58	101.80	111.98	1 Asbestos Foreman	\$44.60	\$356.80	\$69.90	\$559.20	\$44.16	\$69.20
16 L.H., Daily Totals		\$2263.60		\$2745.68	\$141.47	\$171.60	7 ASDESTOS WORKERS	44.10	2469.60	69.10	3869.60	¢44.16	¢60.20
Crean A 21	1	Della		Deilu	Bare	Incl.	04 L.n., Dally Totals		ŞZOZ0.4U		Ş4420.0U	\$44.10	\$09.20
1 Equip Oper (gropp)	CA2 55	¢240.40	нг. ¢ср.05	\$511.60	¢20.67	¢50.62	Crew A-10A	Hr	Daily	Hr	Daily	Bare Costs	Inci. 0&P
1 Equip. Oper. (craile) 1 Equip. Oper. Oiler	36.80	\$540.40 294.40	55 30	\$311.60 442.40	\$59.07	209.02	1 Ashestos Foreman	\$44.60	\$356.80	\$69.90	\$559.20	\$44.27	\$69.37
1 Hvd. crane. 80 Ton (daily)	00.00	1704.00	00.00	1874.40			2 Asbestos Vorkers	44.10	705.60	69.10	1105.60	Ş++.27	Q05.57
1 P/U Truck, 3/4 Ton (daily)		137.80		151.58	115.11	126.62	24 L.H., Daily Totals		\$1062.40		\$1664.80	\$44.27	\$69.37
16 L.H., Daily Totals		\$2476.60		\$2979.98	\$154.79	\$186.25						Bare	Incl
					Bare	Incl.	Crew A-10B	Hr.	Daily	Hr.	Daily	Costs	0&P
Crew A-3M	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Asbestos Foreman	\$44.60	\$356.80	\$69.90	\$559.20	\$44.23	\$69.30
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$39.67	\$59.63	3 Asbestos Workers	44.10	1058.40	69.10	1658.40		
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			32 L.H., Daily Totals		\$1415.20		\$2217.60	\$44.23	\$69.30
1 Hyd. crane, 100 Ton (daily)		2399.00		2638.90								Bare	Incl.
1 P/U Truck, 3/4 Ton (daily)		137.80		151.58	158.55	174.41	Crew A-10C	Hr.	Daily	Hr.	Daily	Costs	0&P
16 L.H., Daily Iotals		\$31/1.60		\$3/44.48	\$198.22	\$234.03	3 Asbestos Workers	\$44.10	\$1058.40	\$69.10	\$1658.40	\$44.10	\$69.10
					Bare	Incl.	1 Flatbed Truck, Gas, 1.5 Ton		194.40		213.84	8.10	8.91
Crew A-3N	Hr.	Daily	Hr.	Daily	Costs	0&P	24 L.H., Daily Totals		\$1252.80		\$1872.24	\$52.20	\$78.01
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$42.55	\$63.95						Bare	Incl.
1 lower crane (monthly)		1022.00		1124.20	127.75	140.53	Crew A-10D	Hr.	Daily	Hr.	Daily	Costs	0&P
o l.n., daily lotais		ŞI 30Z.4U		\$1033.8U	\$170.30	\$204.47	2 Asbestos Workers	\$44.10	\$705.60	\$69.10	\$1105.60	\$41.89	\$64.36
Crow A 2D	ш.	Daily	ц.	Daily	Bare	Incl.	1 Equip. Oper. (crane)		340.40	63.95	511.60		
1 Equip Oper Links	620.05	¢210.40	CE0 70	caco co	620.05	0&P	P 1 Equip. Oper. Oiler		294.40	55.30	442.40		00.15
1 Equip. Oper., Light 1 A T Forklift 12' lift	\$39.05	2212.40 1/16.00	\$38.70	2409.0U 100 ru	\$39.05 55.75	\$08.7U 61 22	1 Hyuraulic Urane, 33 Ion		010.0U		50000 00	20.09	20.15
8   H Daily Totals		\$758.40		\$960.00	\$94.80	\$120.03	32 L.H., Dally lotals		Ş2109.2U		\$Z90U.28	ې٥/.4/	392.91
o Lan, Duny IUtuis		<i>Ų1</i> JU.4U		φJ00.20	Dave	9120.0J	Crow A-11	Hr	Daily	H.	Daily	Bare	Incl.
Crew A-4	Hr.	Dailv	Hr.	Daily	Costs	Incl.	1 Achectes Eeroman	\$44.60	63256 00	00 032	\$550.20	\$1/11G	0007
2 Camenters	\$30.05	5630 20	\$61.05	\$991 20	\$28.27	\$58 88	7 Ashestos Workers	944.00 44.10	200.00 2069.60	209.90 60.10	3869 60	ې44.10 ا	Ş09.20
1 Painter, Ordinarv	35.20	281.60	52.75	422.00	\$30.37	÷10.00	2 Chip, Hammers, 12 Lb., Elec.	10.10	34.00	03.10	37.40	.53	.58
24 L.H., Daily Totals		\$920.80		\$1413.20	\$38.37	\$58.88	64 L.H., Daily Totals		\$2860.40		\$4466.20	\$44.69	\$69.78
, saily lotato		~JE0.00		Y- 110.20	ц \$00.07	÷00.00	or carry bury rotato		¥=000.TU		4.100.LU	¥11.05	y00.70

Cree 6.12         H:         Dayl         H:         Dayl         Bar         Red.           Addens from ur         54.60         355.60         659.70         54.16         569.70         54.16         569.70         54.16         569.70         54.16         569.70         54.16         569.70         54.16         569.70         55.00	Crew No.	Ba	re Costs	Sul	Incl. os O & P	Co Per Lal	ost bor-Hour	Crew No.	Bare	Costs	In Subs	cl. 5 O & P	& P Per l	
General Forman         64.00         959.00         559.00         54.15         590.20         54.15         590.20         54.16         590.20         54.16         590.20         54.16         590.20         54.16         590.20         54.16         590.20         54.16         590.20         54.16         590.20         54.16         590.20         54.16         590.20         54.16         590.20         54.16         590.20	Crew A-12	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew B-3C	Hr.	Daily	Hr.	Daily	Bare Cost	
Abenis Water         41.1         2496.9         61.20         308.00         11.20         Oce (mail)         41.50         307.20         41.50	Asbestos Foreman	\$44.60	\$356.80	\$69.90	\$559.20	\$44.16	\$69.20	3 Laborers	\$31.60	\$758.40	\$49.00	\$1176.00	\$34.0	
Itendit nuc. 2010 Gal         SS160         G17.8         Test         Te	7 Asbestos Workers	44.10	2469.60	69.10	3869.60			1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20		
Hinder Mark         197.0         212.4         11.8         13.05         556.05         557.05<	1 Trk-mtd vac, 14 CY, 1500 Gal.		561.60		617.76			1 Crawler Loader, 4 C.Y.		1450.00		1595.00	45.3	
KHL L, Day Indua         S128.80         S202.10	1 Flatbed Truck, 20,000 GVW		197.40		217.14	11.86	13.05	32 L.H., Daily Totals		\$2539.20		\$3268.20	\$79.3	
Crow 8-1         H         Bab         H         Bab         H         Bab         Cons <thcons< th=""> <thcons< th=""> <thcons< th=""></thcons<></thcons<></thcons<>	64 L.H., Daily Totals		\$3585.40		\$5263.70	\$56.02	\$82.25						Bare	
Oper Ar 13         Hr.         Duly         Fr.         Duly         Core         Difference         State						Bare	Incl.	Crew B-4	Hr.	Daily	Hr.	Daily	Cost	
Lapp, Graphy         Stable (Der (a) (2) (2) (2) (2) (2) (2) (2) (2) (2) (2	Crew A-13	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$31.9	
Interna         Status	1 Equip. Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$39.05	Ş58.70	4 Laborers	31.60	1011.20	49.00	1568.00		
International Autonomy         Internatenautonal Autonomy         Internatenational A	1 Irk-mtd vac, 14 CY, 1500 Gal.		561.60		61/./6	04.00	104.20	1 Truck Driver (heavy)	31.95	255.60	49.15	393.20		
B / L, Baly         Hr.         Daily         Hr.         Daily         Bare         Deck           Crew B -1         Hr.         Daily         Hr.         Daily         Bare         Deck	1 Flatbed Truck, 20,000 GVW		197.40		217.14	94.88	104.30	1 IFUCK IFACTOR, 220 H.P. 1 Elathad Trailor, 40 Tan		288.40		317.24 152.56	0	
Crew B-1         Hr.         Daily         Ph.         Daily         Cont.         Daily         Descr.	8 L.H., Dally Totals		\$1071.40		\$1304.50	\$133.93	\$163.06	1 Haweu Hallel, 40 Ion		\$1062.60		¢2040.00	¢.0	
Labor Forman         Like of F	Crow B-1	Hr	Daily	Нг	Daily	Bare	Incl.	40 L.A., Daily Iolais		\$1905.00		ŞZ040.0U	\$40.9 Bor	
Labor semantification         John Mark <td>1 Labor Foroman (outside)</td> <td>\$33.60</td> <td>\$268.80</td> <td>\$52.10</td> <td>\$416.80</td> <td>\$32.27</td> <td>\$50.03</td> <td>Crew B-5</td> <td>Hr.</td> <td>Dailv</td> <td>Hr.</td> <td>Dailv</td> <td>Cost</td>	1 Labor Foroman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$32.27	\$50.03	Crew B-5	Hr.	Dailv	Hr.	Dailv	Cost	
2R LH, Daly floats         37744.0	2 Laborers	31.60	505.60	49.00	784.00	\$32.27	200.02	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$34.6	
Crew B-1A         Hr.         Daby         Bare         Ind. Costs         Operation         41.35         66.60         62.15         99.44.01           Labors         31.60         555.60         452.16         522.27         550.03         12.40 <td>24 L.H., Daily Totals</td> <td>01100</td> <td>\$774.40</td> <td>10100</td> <td>\$1200.80</td> <td>\$32.27</td> <td>\$50.03</td> <td>4 Laborers</td> <td>31.60</td> <td>1011.20</td> <td>49.00</td> <td>1568.00</td> <td></td>	24 L.H., Daily Totals	01100	\$774.40	10100	\$1200.80	\$32.27	\$50.03	4 Laborers	31.60	1011.20	49.00	1568.00		
Crew B-1A         Hr.         Daily         Crew B-2A         Hr.         Daily         Crew B-2A         He.         Daily         Crew B-2A         He.         Daily         Crew B-2A         He.         Daily         Crew B-2A         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         He.         Daily         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         He.         Daily         He.         Daily         Crew B-2A         He.         Daily         He.         Daily         He.         Daily         He.         Daily         He.         Daily         He. <td>,,</td> <td></td> <td></td> <td></td> <td></td> <td>Para</td> <td>Inol</td> <td>2 Equip. Oper. (med.)</td> <td>41.35</td> <td>661.60</td> <td>62.15</td> <td>994.40</td> <td></td>	,,					Para	Inol	2 Equip. Oper. (med.)	41.35	661.60	62.15	994.40		
Labor forem         S33.60         S20.0         S41.60         S52.27         S50.3           Labores         31.60         505.60         49.00         77.2         8.49           Causers         151.20         165.32         7.72         8.49         20 Vir Headers, Paement, 6D         32.60         532.00         54278.74         553.20           Crew 8-18         Hr.         Daily         Hr.         Daily         Bare         Incl.         Crew 9-53         Hr.         Daily         44.00         72.2         64.00           Labores         31.60         556.80         93.00         534.64         533.51         533.61         538.60         521.20         542.00	Crew B-1A	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Air Compressor, 250 cfm		162.40		178.64		
Jacker (medial)         Jackbor (medial) <thjackbor (medial)<="" th=""> <thjackbor (medial)<="" td="" th<=""><td>1 Laboror Foroman</td><td>\$33.60</td><td>\$268.80</td><td>\$52.10</td><td>\$416.80</td><td>\$32.27</td><td>\$50.03</td><td>2 Breakers, Pavement, 60 lb.</td><td></td><td>16.40</td><td></td><td>18.04</td><td></td></thjackbor></thjackbor>	1 Laboror Foroman	\$33.60	\$268.80	\$52.10	\$416.80	\$32.27	\$50.03	2 Breakers, Pavement, 60 lb.		16.40		18.04		
Johnson Sacon         Johnson Sacon         Johnson Sacon         Jacon         Jacon         Jacon           2 dases         151.20         16.62         7.72         8.49         Status <t< td=""><td>2 Laborers</td><td>31.60</td><td>505.60</td><td>49.00</td><td>784.00</td><td>JJZ.27</td><td>ĴĴŬ.ŬĴ</td><td>2 -50' Air Hoses, 1.5"</td><td></td><td>12.60</td><td></td><td>13.86</td><td></td></t<>	2 Laborers	31.60	505.60	49.00	784.00	JJZ.27	ĴĴŬ.ŬĴ	2 -50' Air Hoses, 1.5"		12.60		13.86		
2 Gases         151.20         166.32         7.72         8.49           24 LH, Daily Totals         5599.60         51044.52         539.98         555.21           Crew B-1B         Hr.         Daily         Hr.         Daily         Crew B-3A         Hr.         Daily         Gases         0.49           1 Labors         33.60         526.86         552.10         541.68         534.64         553.51           1 Capio Oper, Iranel         42.55         340.40         63.95         511.60         -         -         61.090ers         31.60         511.20         49.15         772         84.9           2 Capios Oper, Iranel         42.55         340.40         63.95         511.60         -         -         71.20         72.22.22         2         -         11.40 cremessor, 35.60         20.81.9         31.05         511.20         49.15         78.60         -         2.000, Disc, Itel 1         41.35         50.00         -         2.000, Disc, Itel 1         41.35         50.00         -         2.000, Disc, Itel 1         41.35         50.60         50.27         54.84           2 Lubors         1 1.60, Crew B-3         Hr.         Daily         Prec         Disc, More Net         16.00         <	2 Cutting Torches	51.00	34.00	+5.00	37.40			1 Crawler Loader, 3 C.Y.		990.00		1089.00	21.1	
24 LH, Daily Induis         S999.60         S1404.52         S89.98         SSE S2           Crew B-1B         Hr.         Daily         Hr.         Daily         Ref         Ind.           1 Labore foreman         S33.60         S288.80         S52.10         S416.80         S34.84         S53.51         S31.60         S268.80         S52.10         S416.80         S34.84         S53.51           1 Labore foreman         S33.60         S288.80         S52.10         S416.80         S34.84         S53.51           1 Labore foreman         S33.60         S208.80         S52.10         S416.80         S34.84         S53.51           2 Camps forehos         3.40         S50.68         2.9.81         32.79         S20.85.63         S20.86.81         32.79           S2 LH, Daby Indais         S2068.80         S52.10         S416.80         S52.00         S40.65         S68.31           1 Labor foreman (ontiside)         S33.60         S20.80         S52.10         S416.80         S32.00         S40.62           1 Labor foreman (ontiside)         S33.60         S20.80         S52.10         S416.80         S32.70         S40.62           1 Labor foreman (ontiside)         S33.60         S28.80         S52.10	2 Gases		151.20		166.32	7.72	8.49	56 L.H., Daily Totals		\$3123.00		\$4278.74	\$55.7	
Crew B-18         Hr.         Daily         Hr.         Daily         Kr.         Daily         Costs         OLP           1 laborer foreman         533.60         528.80         552.10         541.68         533.51         568.60         552.10         541.68         544.60	24 L.H., Daily Totals		\$959.60		\$1404.52	\$39.98	\$58.52						Bare	
Crew B-1B         Hr.         Daily         Hr.         Daily         Costs         O&P           1 laborer foreman         \$33.60         \$268.80         \$52.10         \$41.68.00         \$34.64         \$53.51         \$268.80         \$52.10         \$41.68.00         \$34.64         \$53.51         \$26.00         \$41.55         \$61.60         \$62.15         \$94.40         \$22.04.00000         \$32.00         \$35.60         \$32.60						Bare	Incl.	Crew B-5A	Hr.	Daily	Hr.	Daily	Cost	
Laborer foreman         \$33.60         \$288.80         \$52.10         \$41.680         \$34.84         \$53.51           Laborers         31.60         505.60         49.00         724.00         537.60         43.55         661.60         62.15         994.40           2 clausers         31.60         505.60         49.00         734.00         37.40         39.05         312.40         58.70         469.00         232.23.2           2 Gases         151.20         166.32         99.81         52.79         20.10 (per. fined.)         11.640         18.04           1 Labor foreman fourbide         533.60         \$2068.80         \$2761.80         \$54.65         \$56.31           2 Indor foreman fourbide         \$33.60         \$268.80         \$52.10         \$41.680         \$32.00         \$49.62           1 Labor foreman fourbide         \$33.60         \$288.00         \$52.10         \$41.680         \$32.00         \$49.62           1 Labor foreman fourbide         \$33.60         \$52.10         \$41.680         \$32.00         \$49.62           1 Labor foreman fourbide         \$33.60         \$52.10         \$41.68         \$32.00         \$49.62           1 Labor foreman fourbide         \$33.60         \$53.60         \$52.20 <td>Crew B-1B</td> <td>Hr.</td> <td>Daily</td> <td>Hr.</td> <td>Daily</td> <td>Costs</td> <td>0&amp;P</td> <td>1 Foreman</td> <td>\$33.60</td> <td>\$268.80</td> <td>\$52.10</td> <td>\$416.80</td> <td>\$34.0</td>	Crew B-1B	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$34.0	
2 Labores         31.60         505.60         49.00         784.00	1 Laborer Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$34.84	\$53.51	6 Laborers	31.60	1516.80	49.00	2352.00		
I Equip. Oper. (crane)         42.55         30.40.0         63.95         51.10         11.60         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.60.0         1.80.0	2 Laborers	31.60	505.60	49.00	784.00			2 Equip. Oper. (med.)	41.35	661.60	62.15	994.40		
2 cuting froches         34.00         37.40	1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			1 Equip. Oper. (light)	39.05	512.40	58.70	469.60		
2 Cases         151.20         166.32         166.33         166.33         166.33         166.33         166.33         166.33         166.32         166.32         166.32         166.32         166.32         166.32         166.32         166.32         166.33         166.33         166.33         166.33         166.33         166.33	2 Cutting Torches		34.00		37.40			2 Iruck Drivers (neavy)	31.95	511.20 211.20	49.15	/80.40		
1 Hyd. Crane, 12 Ton         768.80         845.68         29.81         32.79           22 LH, Daily Totals         \$2068.80         \$2761.80         \$64.65         \$86.31         9.1         32.00         \$41.60         \$26.07         718.08         9.2           Crew B-2         Hr.         Daily         Hr.         Daily         Costs         04P         65.07         718.08         9.2         540.27         \$41.60         \$502.27         \$41.60         \$502.27         \$41.50         \$41.60         \$502.27         \$41.50         \$41.60         \$502.27         \$41.50         \$41.60         \$502.27         \$41.50         \$602.27         \$41.50         \$602.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.07         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$41.50         \$502.27         \$45.50         \$47.60         \$75.61         \$502.07         \$41.60 </td <td>2 Gases</td> <td></td> <td>151.20</td> <td></td> <td>166.32</td> <td></td> <td></td> <td>2 Breakers Pavement 60 lb</td> <td></td> <td>16.40</td> <td></td> <td>18.04</td> <td></td>	2 Gases		151.20		166.32			2 Breakers Pavement 60 lb		16.40		18.04		
32 L.H., Daily Totals         S2068.80         S2761.80         S64.65         S66.31           Crew B-2         Hr.         Daily         Hr.         Daily         Costs         OQP           1 Labor Foreman (outside)         S33.60         S228.80         S52.10         S416.80         S32.00         S49.62           4 Laborers         31.60         1011.20         49.00         1568.00         S49.62           Crew B-3         Hr.         Daily         Hr.         Daily         Costs         O4P           1 Labor Foreman (outside)         S33.60         S228.00         S52.10         S416.80         S33.67         S51.76           1 Labor Foreman (outside)         S33.60         S268.80         S52.10         S416.80         S33.67         S51.76           1 Labor Foreman (outside)         S33.60         S268.80         S52.10         S416.80         S33.67         S51.76           1 Cayler (nect)         41.35         S30.80         62.15         497.20         -         S31.60         S101.20         S33.60         S26.51         497.20           2 Dump Trucks 12 C.Y., 400 H.P.         1066.00         1172.60         42.83         47.12         S31.60         S30.60         S276.51         S98.82 </td <td>1 Hyd. Crane, 12 Ton</td> <td></td> <td>768.80</td> <td></td> <td>845.68</td> <td>29.81</td> <td>32.79</td> <td>8 -50' Air Hoses, 1"</td> <td></td> <td>32.80</td> <td></td> <td>36.08</td> <td></td>	1 Hyd. Crane, 12 Ton		768.80		845.68	29.81	32.79	8 -50' Air Hoses, 1"		32.80		36.08		
Crew B-2         Hr.         Daily         Hr.         Daily         Rare         Incl. Costs         O&P           11 Labor Foreman (nutside)         \$33.60         \$52.80         \$52.10         \$41.60         \$52.00         \$49.62         \$49.62         \$49.62         \$49.60         \$101.20         \$49.00         1568.00         \$32.00         \$49.62         \$49.62         \$40.LH., Daily Totals         \$512.80         \$52.20         \$49.62         \$49.62         \$53.60         \$62.25         \$90.60         \$52.20         \$49.62         \$53.60         \$62.25         \$90.60         \$53.60         \$62.25         \$90.40         \$53.60         \$62.25         \$90.40         \$53.60         \$62.55         \$90.40         \$53.60         \$62.55         \$90.40         \$53.60         \$62.55         \$90.40         \$53.60         \$12.990.00         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$177.900         \$187.90         \$187.90         \$187.90         \$187.90         \$177.900         \$187.90         \$187.90         \$187.90         \$187.90         \$187.90         \$187.90         \$187.9	32 L.H., Daily Totals		\$2068.80		\$2761.80	\$64.65	\$86.31	2 Dump Trucks, 8 C.Y., 220 H.P.		652.80		718.08	9.5	
Lower P-2         Int.         Daily         Int.         Daily         Loss         Osar           1 Labor foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.680.0         \$32.00         \$49.62           40 LH, Daily Totals         \$1280.00         \$1984.80         \$32.00         \$49.62           Crew B-3         Hr.         Daily         Hr.         Daily         Cost         \$49.62           Labor foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.68         Cost         \$49.62           Labor foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.68         Cost         O&P           Labor foreman (outside)         \$33.60         \$52.10         \$41.68         Cost         O&P           Labor foreman (outside)         \$33.60         \$52.10         \$41.68         \$33.67         \$51.76           Leaborers         33.160         \$501.20         49.15         788.40         176.80         221.20         22.32.2         45.5           Craw B-3A         Hr.         Daily         Hr.         Daily         Cost         0&P         2         31.60         \$758.40         \$49.00         \$1176.00         \$34.32 <t< td=""><td>Crow B 2</td><td>Ц.,</td><td>Deihr</td><td>U.,</td><td>Deihr</td><td>Bare</td><td>Incl.</td><td>96 L.H., Daily Totals</td><td></td><td>\$4184.00</td><td></td><td>\$6023.72</td><td>\$43.5</td></t<>	Crow B 2	Ц.,	Deihr	U.,	Deihr	Bare	Incl.	96 L.H., Daily Totals		\$4184.00		\$6023.72	\$43.5	
I addor Heritaria (futbole)         333.00         320.00         541.00 <td>1 Lohor Eoromon (outside)</td> <td>пг. ¢22.60</td> <td>coco on</td> <td>652.10</td> <td>¢416.90</td> <td>622.00</td> <td>¢40.62</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Bare</td>	1 Lohor Eoromon (outside)	пг. ¢22.60	coco on	652.10	¢416.90	622.00	¢40.62						Bare	
Hadders         Jacob         Horizan         Horizan         State	1 Labor Foreman (outside)	\$33.00 31.60	\$208.80 1011.20	\$52.10	5410.80 1568.00	\$32.00	\$49.0Z	Crew B-5B	Hr.	Daily	Hr.	Daily	Cost	
Vic Lit, uair hulas         31280.00         31280.00         31280.00         31280.00         31280.00         31280.00         31280.00         31280.00         41.35         661.60         62.15         994.40           Crew B-3         Hr.         Daily         Hr.         Daily         State         0.21         31.60         505.60         49.00         784.00         State         0.21         31.60         505.60         49.00         784.00         1775.8.90         1775.8.90         1775.8.90         1775.8.90         1775.8.90         1775.8.90         1775.8.90         22.32.32         45.5           1 Cawler Loader, S. C. Y.         39.00         62.15         497.20         42.83         47.12         32.000         5510.60         582.5         551.60         582.5         551.60         52.50         551.60         582.5         551.63         31.400 rotals         533.00         62.15         497.20         48.L.H., Daily         Hr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.	4 Laborers	51.00	\$1290.00	49.00	¢1004.00	\$22.00	\$10.62	1 Powderman	\$40.85	\$326.80	\$63.25	\$506.00	\$36.5	
Crew B-3         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Forman (outside)         \$33.60         \$268.80         \$\$2.10         \$41.60         \$33.67         \$51.76           1 Labor Forman (outside)         \$31.95         505.60         49.00         784.00         \$31.67         \$51.76           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         49.15         7176.80         49.15         7178.90           2 Truck Drivers (heavy)         31.95         511.20         49.15         786.40         210.20         223.22         45.9           2 Truck Drivers (heavy)         31.95         511.20         49.15         786.40         533.60         \$282.5           2 Truck Drivers (heavy)         31.95         511.20         49.15         786.40         \$31.60         \$758.40         \$49.00         \$1176.60         \$33.60         \$282.5           2 Dump Trucks 12 C.Y., 400 HP.         1066.00         1172.60         42.83         47.12         31.40         \$33.080         62.15         497.20         1176.60         \$34.50           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         1172.60	40 L.H., Dally Totals		Ş1200.00		Ş190 <del>4</del> .00	Ş32.00	J49.02	2 Equip. Oper. (med.)	41.35	661.60	62.15	994.40		
Crew B-S         III.         Daily         III.         Daily         Costs         Oter           1 Labor Foreman (outside)         \$33.60         \$52.10         \$41.68         \$33.67         \$51.76           1 Labor Foreman (outside)         \$41.35         \$30.80         62.15         497.20         1400 Foreman (outside)         \$396.80         \$396.120         \$22.222         45.5           2 Truck Drivers (heavy)         31.95         511.20         49.15         786.40         576.40         990.00         1089.00         1758.90         1758.90         1758.90         1758.90         1758.90         1758.90         1758.90         1758.90         531.60         \$396.120         \$510.60         \$82.5           2 Dump Trucks 12 C.Y. 400 H.P.         1066.00         1172.60         42.83         47.12         3 Laborers         \$31.60         \$758.40         \$49.00         \$1176.00         \$34.93           4 Laborers         \$31.60         \$1011.20         \$49.00         \$156.80         \$32.55         \$51.63         16uip. Oper. (med.)         41.35         330.80         62.15         497.20         126uip. Oper. (med.)         14.50         330.80         62.15         497.20         126uip. Oper. (med.)         14.35         330.80         62.1	Crow P 2	U.,	Daily	U.,	Daily	Bare	Inci.	3 Truck Drivers (heavy)	31.95	766.80	49.15	1179.60		
1 abor foreman (dutsde)         S33.60         S268.80         S22.10         S416.80         S33.67         S51.76         3 Unip (https; 12 C, 400 H.P.         1 399.00         1 798.90	Crew D-3	пг.		nr.		COSIS	O&P	1 F.E. Loader, W.M., 2.5 C.Y.		395.80		435.38		
2 Laborers       31.60       503.00       49.00       784.00       784.00       784.00       784.00       16.00       20.00       784.00       82.52       43.53         1 Equip. Oper. (med.)       31.95       511.20       49.15       786.40       82.62       16.00       107.00       1089.00       10089.00       10089.00       10089.00       10089.00       10089.00       1172.60       42.83       47.12       31.40       531.60       \$756.40       \$49.00       \$176.50       \$98.88       16.01       Crew B-SC       Hr.       Daily       Hr.       Daily       49.72       60.5       16.01       16.01       16.01       11.00       531.60       \$758.40       \$49.00       \$1176.00       \$34.5         4 Laborers       \$31.60       \$1011.20       \$49.00       \$1568.00       \$33.55       \$51.63       21.65       23.81       16.00       1172.60       12.00       12.00       12.00       12.00       21.00       12.00 <td>1 Labor Foreman (outside)</td> <td>\$33.60</td> <td>\$268.80 E05.60</td> <td>\$52.10</td> <td>\$416.80 794.00</td> <td>\$33.67</td> <td>Ş51./b</td> <td>3 Dump Trucks, 12 C.Y., 400 H.P.</td> <td></td> <td>1599.00</td> <td></td> <td>1/58.90</td> <td>15.0</td>	1 Labor Foreman (outside)	\$33.60	\$268.80 E05.60	\$52.10	\$416.80 794.00	\$33.67	Ş51./b	3 Dump Trucks, 12 C.Y., 400 H.P.		1599.00		1/58.90	15.0	
1 Lupp, Oper, (med.)       31.35       53.00       02.13       49.120       1089.00       1089.00       1089.00       1089.00       107.00       1172.60       42.83       47.12         2 Dump Trucks 12 C.Y., 400 H.P.       1066.00       1172.60       42.83       47.12       3 Laborers       \$31.60       \$758.40       \$49.00       \$1170.00       \$34.5         Crew B-3A       Hr.       Daily       Hr.       Daily       Costs       O&P       1160.1       Costs       330.80       62.15       497.20       S31.60       \$758.40       \$49.00       \$1170.00       \$34.5         4 Laborers       \$31.60       \$101.120       \$49.00       \$1568.00       \$33.55       \$51.63       15 quip. Oper. (medium)       41.35       330.80       62.15       497.20       2       16 quip. Oper. (medium)       41.35       330.80       62.15       497.20       2       16 quip. Oper. (medium)       41.35       330.80       62.15       497.20       2       16 quip. Oper. (medium)       41.35       330.80       62.15       497.20       2       10 Lup, Daily       42.40       2.55.30       442.40       2       2       10 Costs       0A       14 quip. Oper. (medium)       13.95       55.30       442.40       12 quip. Oper. (	2 Laborers	31.00 /1.35	330.80	62.15	/04.00			1 Air Compressor, 303 cim		¢2061.20		232.32	40.9	
Crew Index (story)         Crew 390,00         1089,00         1089,00         Crew 300,00         Crew 300,00         Hr.         Daily         Crew 300,00         Crew 300,00         Crew 300,00         Crew 300,00         Crew 300,00         Crew 300,00         State 300,00	2 Truck Drivers (heavy)	31.95	511 20	49.15	786.40			40 L.N., Daily Iolais		\$5901.20		\$3100.00	\$0Z.J	
2 Dump Trucks 12 C.Y., 400 H.P.         1066.00         1172.60         42.83         47.12           48 L.H., Daily Totals         \$3672.40         \$4746.00         \$76.51         \$98.88           Crew B-3A         Hr.         Daily         Hr.         Daily         Costs         O&P           4 Laborers         \$31.60         \$1011.20         \$49.00         \$1568.00         \$33.55         \$51.63         1Equip. Oper. (medium)         41.35         330.40         62.15         497.20         42.55         340.40         63.95         511.20         49.15         786.40         1Equip. Oper. (medium)         41.35         330.80         62.15         497.20         1Equip. Oper. (medium)         41.35         340.40         63.95         511.60         44.2.60           1 Lequip. Oper. (med.)         41.35         330.80         62.15         497.20         172.60         11	1 Crawler Loader, 3 C.Y.	01.50	990.00	15.10	1089.00			0	11.	Dailu	11.	Deilu	Bare	
AB L.H., Daily Totals         \$3672.40         \$4746.00         \$76.51         \$98.88           Crew B-3A         Hr.         Daily         Hr.         Daily         Costs         O&P           4 Laborers         \$31.60         \$1011.20         \$49.00         \$1568.00         \$33.55         \$51.63           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20           1 Hy. Excavator, 1.5 C.Y.         865.80         952.38         21.65         23.81           1 Equip. Oper. (med.)         141.35         330.80         62.15         497.20           1 Hy. Excavator, 1.5 C.Y.         865.80         952.38         21.65         23.81           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33           1 Equip. Oper. (med.)         11.35         330.80         62.15         497.20         1595.00           1 Equip. Oper. (med.)         11.35         330.80         62.15         497.20         1595.60           1 Equip. Oper. (med.) <td>2 Dump Trucks 12 C.Y., 400 H.P.</td> <td></td> <td>1066.00</td> <td></td> <td>1172.60</td> <td>42.83</td> <td>47.12</td> <td>Crew B-5C</td> <td>Hr.</td> <td>Dally</td> <td>Hr.</td> <td>Dally</td> <td>Cost</td>	2 Dump Trucks 12 C.Y., 400 H.P.		1066.00		1172.60	42.83	47.12	Crew B-5C	Hr.	Dally	Hr.	Dally	Cost	
Crew B-3A         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           4 Laborers         \$31.60         \$1011.20         \$49.00         \$1568.00         \$33.55         \$51.63           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20           1 Hyd. Excavator, 1.5 C.Y.         865.80         952.38         21.65         23.81           40 L.H., Daily Totals         \$2207.80         \$3017.58         \$55.20         \$75.44           Crew B-3B         Hr.         Daily         Hr.         Daily         Costs         O&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         Hr.         Daily         Hr.         Daily           2 Laborers         \$31.60         \$505.60         \$49.00         \$784	48 L.H., Daily Totals		\$3672.40		\$4746.00	\$76.51	\$98.88	3 Laborers	\$31.60	\$/58.40	\$49.00	\$11/6.00	\$34.9	
Crew B-3A         Hr.         Daily         Hr.         Daily         Costs         O&P           4 Laborers         \$31.60         \$1011.20         \$49.00         \$1568.00         \$33.55         \$51.63           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         \$52.38         21.65         23.81           40 L.H., Daily Totals         \$2207.80         \$3017.58         \$55.20         \$75.44         10c.tr         10c.tr         1172.60         1172.60           1 Hyd. Excavator, 1.5 C.Y.         865.80         952.38         21.65         23.81         10c.tr         10c.tr         10c.tr         1172.60         1172.60           1 Hyd. Excavator, 1.5 C.Y.         865.80         952.38         21.65         23.81         10c.tr         10c.tr         10c.tr         10c.tr         1172.60         1172.60           1 Hyd. Excavator, 1.5 C.Y.         865.80         \$52.00         \$75.44         08.P         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         10c.tr         08.P         10c.tr <t< td=""><td>· · · · · · ·</td><td> </td><td></td><td></td><td></td><td>Baro</td><td>Incl</td><td>1 Equip. Oper. (medium)</td><td>41.35</td><td>330.80 511.20</td><td>62.15</td><td>497.20</td><td></td></t<>	· · · · · · ·					Baro	Incl	1 Equip. Oper. (medium)	41.35	330.80 511.20	62.15	497.20		
Kaborers         \$31.60         \$101.20         \$49.00         \$1568.00         \$33.55         \$51.63           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         \$33.55         \$51.63         1 Equip. Oper. Olier         36.80         294.40         55.30         442.40           1 Hyd. Excavator, 1.5 C.Y.         865.80         952.38         21.65         23.81         1 Equip. Oper. Olier         36.80         294.40         55.30         442.40           40 L.H., Daily Totals         \$2207.80         \$3017.58         \$55.20         \$75.44         1 Crawler Loader, 4 C.Y.         1 450.00         1595.00           Crew B-3B         Hr.         Daily         Hr.         Daily         Costs         O&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.40         \$52.33         \$52.33         1 Equip. Oper. (med.)         1.35         330.80         62.15         497.20         \$34.13         \$52.33           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         \$34.13         \$52.33         \$31.60         \$505.60         \$49.00         \$784.00         \$34.00         \$34.00         \$34.00         \$32.18         12.2	Crew B-3A	Hr.	Daily	Hr.	Daily	Costs	0&P	2 ITUCK Drivers (iledvy) 1 Equip Oper (crane)	31.90 12.55	340.40	49.10	700.40 511.60		
I construction       Construlit       Constructin	4 Laborers	\$31.60	\$1011.20	\$49.00	\$1568.00	\$33.55	\$51.63	1 Equip. Oper. (clanc) 1 Equip. Oper. Oiler	36.80	294.40	55 30	442.40		
1 Hyd. Excavator, 1.5 C.Y.       865.80       952.38       21.65       23.81         40 L.H., Daily Totals       \$2207.80       \$3017.58       \$55.20       \$75.44         Crew B-3B       Hr.       Daily       Hr.       Daily       Costs       O&P         2 Laborers       \$31.60       \$505.60       \$49.00       \$784.00       \$52.33       \$52.33       \$52.33       \$52.33       \$64 L.H., Daily Totals       \$5468.00       \$6969.68       \$85.4         1 Crawler Loader, 4 C.Y.       1 Crawler Loader, 4 C.Y.       1 Crawler Loader, 4 C.Y.       1 450.00       \$6969.68       \$85.4         Crew B-3B       Hr.       Daily       Hr.       Daily       Costs       O&P         2 Laborers       \$31.60       \$505.60       \$49.00       \$784.00       \$34.13       \$52.33       \$2.165       \$31.60       \$505.60       \$49.00       \$784.00       \$34.00       \$2.165       \$2.160       \$1000000000000000000000000000000000000	1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20	\$00.00	Q01.00	2 Dump Trucks, 12 C.Y., 400 H.P.	00.00	1066.00	00.00	1172.60		
A0 L.H., Daily Totals         \$2207.80         \$3017.58         \$55.20         \$75.44           Crew B-3B         Hr.         Daily         Hr.         Daily         Incl. Costs         Incl. O&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         \$52.33         Crew B-6         Hr.         Daily         Hr.         Daily         Costs         Costs           1 S.P. Crane, 4x4, 25 Ton         716.80         \$5468.00         \$6969.68         \$85.40           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33           1 S.P. Crane, 4x4, 25 Ton         716.80         716.80         \$6969.68         \$85.40           1 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.00           1 Backhoe Loader, 80 H.P.         345.00         379.50         27.44         30.18         21.40         \$3111.80         \$1111.80         \$157.678         \$46.3           1 Dump Truck, 12 C.Y., 400 H.P.         533.00         586.30         27.44         30.18         21.41.4         30.18	1 Hyd. Excavator, 1.5 C.Y.		865.80		952.38	21.65	23.81	1 Crawler Loader, 4 C.Y.		1450.00		1595.00		
Crew B-3B         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. Osk         O&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33         Crew B-6         Hr.         Daily         Hr.         Daily         Costs         0&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33         Crew B-6         Hr.         Daily         Hr.         Daily         Costs         Costs         2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$784.00         \$784.00         \$784.00         \$784.00         \$784.00         \$784.00         \$784.00         \$784.00         \$784.00         \$784.00         \$30.55         312.40         \$8.70         469.60         1         1 Equip. Oper. (light)         39.05         312.40         \$8.70         469.60         1         12.40         18.40         323.18         12.42         12.40         323.18         12.42         12.40         \$111.80         \$1576.78         \$46.3	40 L.H., Daily Totals		\$2207.80		\$3017.58	\$55.20	\$75.44	1 S.P. Crane, 4x4, 25 Ton		716.80		788.48	50.5	
Crew B-3B         Hr.         Daily         Hr.         Daily         Kr.         Daily         Kr.         Daily         Bar         Bar           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33         I Equip. Oper. (med.)         41.35         330.80         62.15         497.20         -         -         -         -         -         -         -         -         -         Cost         2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33         2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$784.00         1 Equip. Oper. (light)         39.05         312.40         \$58.70         469.60         -         -         1 Backhoe Loader, 48 H.P.         293.80         323.18         12.2         12.2         1 Laborers         1 Backhoe Loader, 48 H.P.         293.80         323.18         12.2         1 Laborers         1 Backhoe Loader, 48 H.P.         293.80         323.18         12.2         1 Laborers         1 Backhoe Loader, 48 H.P.         293.80         323.18         12.2         1 Laborers         1 Laborers         1 Laborers         1 Laborers         1 Laborers         1 Laborers         1 Laborers         1 Labor	· · ·					Bare	Incl.	64 L.H., Daily Totals		\$5468.00		\$6969.68	\$85.4	
2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         2         2         Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.13         \$52.33           1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         2         Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.00         1         Equip. Oper. (light)         39.05         312.40         \$58.70         469.60         1         12.22         1         Backhoe Loader, 48 H.P.         293.80         323.18         12.22         12.23         12.40         \$111.80         \$1576.78         \$46.30	Crew B-3B	Hr.	Daily	Hr.	Daily	Costs	0&P					_	Bare	
1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20         2         2         2         2         absolute         \$<	2 Laborers	\$31.60	\$505.60	\$49.00	\$784.00	\$34.13	\$52.33	Crew B-6	Hr.	Daily	Hr.	Daily	Cost	
1 Truck Driver (heavy)         31.95         255.60         49.15         393.20           1 Backhoe Loader, 80 H.P.         345.00         379.50         1         1         Equip. Oper. (light)         39.05         312.40         58.70         469.60           1 Dump Truck, 12 C.Y., 400 H.P.         533.00         586.30         27.44         30.18         24 L.H., Daily Totals         \$1111.80         \$1576.78         \$46.30	1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20			2 Laborers	\$31.60	\$505.60	\$49.00	\$784.00	\$34.0	
1 Backhoe Loader, 80 H.P.         345.00         379.50         1         1         Backhoe Loader, 48 H.P.         293.80         323.18         12.2           1 Dump Truck, 12 C.Y., 400 H.P.         533.00         586.30         27.44         30.18         24 L.H., Daily Totals         \$1111.80         \$1576.78         \$46.55	1 Truck Driver (heavy)	31.95	255.60	49.15	393.20			1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
1 Dump Iruck, 12 C.Y., 400 H.P. 533.00 586.30 27.44 30.18 24 L.H., Daily Totals \$1111.80 \$1576.78 \$46.3	1 Backhoe Loader, 80 H.P.		345.00		379.50		~~ ~~	1 Backhoe Loader, 48 H.P.		293.80		323.18	12.2	
	1 Jump Truck, 12 C.Y., 400 H.P.		533.00		586.30	27.44	30.18	24 L.H., Daily Totals		\$1111.80		\$1576.78	\$46.3	

Cost Per Labor-Hour

Incl.

0&P

\$52.29

49.84

\$102.13

Incl. 0&P

\$49.54

9.81

\$59.35

Incl. 0&P

\$53.20

23.21

\$76.41

Incl.

0&P

\$52.28

10.46

\$62.75

Incl. 0&P

\$55.83

50.55

\$106.39

Incl. 0&P

\$53.34

55.56

\$108.90

Incl. 0&P

\$52.23

13.47 \$65.70

Crew No.	Bar	re Costs	Sut	Incl. os O & P	Co Per La	ost bor-Hour	Crew No.	Bare Co
Crew B-6A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew B-9B	Hr.
.5 Labor Foreman (outside)	\$33.60	\$134.40	\$52.10	\$208.40	\$35.90	\$54.88	2 Laborers	\$31.60
1 Laborer	31.60	252.80	49.00	392.00			1 Truck Driver (heavy)	31.95
1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20			2 -50' Discharge Hoses, 3"	
1 Vacuum Trk.,5000 Gal.		395.20		434.72	19.76	21.74	1 Water Tanker, 5000 Gal.	
20 L.H., Daily Totals		\$1113.20		\$1532.32	\$55.66	\$76.62	1 Truck Tractor, 220 H.P.	
Crew B-6B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	24 L.H., Daily Totals	
2 Labor Foremen (out)	\$33.60	\$537.60	\$52.10	\$833.60	\$32.27	\$50.03		
4 Laborers	31.60	1011.20	49.00	1568.00			Crew B-9D	Hr.
1 S.P. Crane, 4x4, 5 Ton		258.20		284.02			1 Labor Foreman (Outside)	\$33.60
1 Flatbed Truck, Gas, 1.5 Ton		194.40		213.84			4 Common Laborers	31.60
1 Butt Fusion Machine		199.80		219.78	13.59	14.95	1 Air Compressor, 250 cfm	
48 L.H., Daily Totals		\$2201.20		\$3119.24	\$45.86	\$64.98	2 -50' Air Hoses, 1.5"	
Crew B-7	Hr.	Dailv	Hr.	Dailv	Bare Costs	Incl. 0&P	2 Air Powered Tampers 40 L.H., Daily Totals	
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$33.56	\$51.71		
4 Laborers	31.60	1011.20	49.00	1568.00			Crew B-10	Hr.
1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20			1 Equip. Oper. (med.)	\$41.35
1 Brush Chipper, 12", 130 H.P.		225.60		248.16			.5 Laborer	31.60
1 Crawler Loader, 3 C.Y.		990.00		1089.00			12 L.H., Daily Totals	-
2 Chain Saws, Gas, 36" Long		75.60		83.16	26.90	29.59		
48 L.H., Daily Totals		\$2902.00		\$3902.32	\$60.46	\$81.30	Crew B-10A	Hr.
Crew B-7A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	1 Equip. Oper. (med.)	\$41.35
2 Laborers	\$31.60	\$505.60	\$19.00	\$78/1.00	\$34.08	\$52.23	1 Roller 2 Drum W.R. 75 H.P.	51.00
1 Fauin Oner (light)	39.05	312.40	58 70	469.60	ŞJ <del>1</del> .00	<i>JJL.LJ</i>	121 H. Daily Totale	
1 Rake w/Tractor	00100	257.70		283.47			12 E.H., Daily lotais	
2 Chain Saws, gas, 18"		51.60		56.76	12.89	14.18	Crow P 10P	U.,
24 L.H., Daily Totals		\$1127.30		\$1593.83	\$46.97	\$66.41	1 Equip Oper (med )	\$/1.25
					Bare	Incl.	.5 Laborer	31.60
Crew B-8	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Dozer, 200 H.P.	
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.02	\$53.50	12 L.H., Daily Totals	
2 Laborers	31.60	505.60	49.00	784.00				
2 Equip. Oper. (med.)	41.35	661.60	62.15	994.40			Crew B-10C	Hr.
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			1 Equip. Oper. (med.)	\$41.35
2 Truck Drivers (heavy)	31.95	511.20	49.15	786.40			.5 Laborer	31.60
1 Hyd. Crane, 25 Ion		/89.40		868.34			1 Dozer, 200 H.P.	
1 Crawler Loader, 3 C.Y.		990.00		1089.00		40.01	1 Vibratory Roller, Towed, 23 Tor	1
2 Dump Trucks, 12 C.Y., 400 H.P.		1066.00		11/2.60	44.46	48.91	12 L.H., Daily Totals	
04 L.H., Dally Totals		\$3087.00		Ş0003.94	\$79.48 <b>B</b> arra	\$102.41		
Crew B-9	Hr.	Daily	Hr.	Daily	Costs	O&P	Crew B-10D	Hr.
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$32.00	\$49.62	1 Equip. Oper. (med.)	\$41.35
4 Laborers	31.60	1011.20	49.00	1568.00			.5 Laborer	31.60
1 Air Compressor, 250 cfm		162.40		178.64			1 Dozer, 200 H.P.	
2 Breakers, Pavement, 60 lb.		16.40		18.04			1 Sheepsft. Roller, Towed	
2 -50' Air Hoses, 1.5"		12.60		13.86	4.79	5.26	12 L.H., Daily Totals	
40 L.H., Daily Totals		\$1471.40		\$2195.34	\$36.78	\$54.88	Crow P 10E	Ur.
Crow R-QA	Hr	Daily	Hr	Daily	Bare	Incl.	1 Equip. Oper. (med.)	\$41.35
21 shorars	\$31 GO	SEVE EU	\$40.00	\$781.00	¢21 70	\$10.05	.5 Laborer	31.60
1 Truck Driver (heave)	21 0E	2000.00	249.00 AO 15	3/04.00 202 20	\$31.72	Ş43.00	1 Tandem Roller, 5 Ton	
1 Water Tanker 5000 Cal	21.93	200.00	49.10	393.20 110.60			12 L.H., Daily Totals	1
1 water idliker, 200 U Gal.		130.00		149.0U 217.04				<u> </u>
1 ITUCK ITACIOF, ZZU H.P.		200.40		317.24	17.00	10.01	Crew B-10F	Hr
2 -JU DISCHARGE HOSES, 3"		3.3U		5.60	17.03	19.01	1 Equip Oper (med.)	\$11.2F
24 L.H., Dally lotals	[	\$1189.10		\$1047.89	\$49.55	Ş69'PQ	I Lyup. Oper. (med.)	241.50 21.00

Crew No.	Bare	Costs	Subs	ci. ; O & P	Per Labor-Hour		
					Bare	Incl.	
Crew B-9B	Hr.	Daily	Hr.	Daily	Costs	0&P	
2 Laborers	\$31.60 21.05	\$505.60 255.60	\$49.00	\$784.00	\$31.72	\$49.05	
2 -50' Discharge Hoses, 3"	51.95	3.50	49.15	3.85			
1 Water Tanker, 5000 Gal.		136.00		149.60			
1 Truck Tractor, 220 H.P.		288.40		317.24			
1 Pressure Washer		53.00		58.30	20.04	22.04	
24 L.H., Daily Totals		\$1242.10		\$1706.19	\$51.75	\$71.09	
Crew B-9D	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Labor Foreman (Outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$32.00	\$49.62	
4 Common Laborers	31.60	1011.20	49.00	1568.00			
1 Air Compressor, 250 cfm		162.40		178.64			
2 -50' Air Hoses, 1.5"		12.60		13.86	E EQ	6.10	
2 Air Powereu Tallipers		40.00		52230 10	0.00 \$37.58	0.15 \$55.75	
To E.m., Dully Totals		Ş1505.00		Q2200.10	Bare	Incl	
Crew B-10	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	
.5 Laborer	31.60	126.40	49.00	196.00			
12 L.H., Daily Totals		\$457.20		\$693.20	\$38.10	\$57.77	
Crew B-10A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	
.5 Laborer	31.60	126.40	49.00	196.00			
1 Roller, 2-Drum, W.B., 7.5 H.P.		145.20		159.72	12.10	13.31	
12 L.H., Daily Totals		\$602.40		\$852.92	\$50.20	\$71.08	
Crew B-10B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	
.5 Laborer	31.60	126.40	49.00	196.00			
1 Dozer, 200 H.P.		1082.00		1190.20	90.17	99.18	
12 L.H., Daily Totais		\$1539.20		\$1883.40	\$128.27	\$156.95	
Crew B-10C	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	
.5 Laborer	31.60	126.40	49.00	196.00			
1 Dozer, 200 H.P.		1082.00		1190.20	104.40	100.00	
I Vibratory Roller, Towed, 23 Ton		¢1050.20		452.10	124.42	136.86	
12 L.H., Dally Iolais		\$1900.20		\$2550.00	\$102.52	Ş194.05	
Crew B-10D	Hr.	Daily	Hr.	Daily	Bare Costs	inci. 0&P	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	
.5 Laborer	31.60	126.40	49.00	196.00			
1 Dozer, 200 H.P.		1082.00		1190.20	100.05	141.05	
1 Sneepsit. Koller, Iowed		405.40 \$2004.60		511.94 \$2305.34	128.95	\$100.61	
12 L.H., Dally Totals		Ş2004.00		92393.34	\$107.03 Bara	5155.01	
Crew B-10E	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	
.5 Laborer	31.60	126.40	49.00	196.00	11.40	10.00	
1 Iandem Koller, 5 Ion		137.80		151.58	11.48 \$40.59	12.63	
IZ L.II., Dally IUldIS		\$0 <b>3</b> 0.00		ې0 <del>44</del> .70	243.00	\$70.40	
Crew B-10F	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	
.5 Laborer 1 Tandem Roller, 10 Ton	31.60	126.40 233.00	49.00	196.00 256.20	19,12	21 36	
12 L.H., Daily Totals		\$690.20		\$949.50	\$57.52	\$79.13	
Lee cara, bany rotats	l	4030.20		γJ+J.JU	\$37.JL	Y/J.1J	

Crew No.	Ba	re Costs	Sut	Incl. os O & P	Co Per Lat	ost oor-Hour	Crew No.	Bare	Costs	In Subs	cl. 5 O & P	Per L
Crew B-10G	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew B-10P	Hr.	Daily	Hr.	Daily	Bare Costs
quip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10
aborer eepsft. Roll., 240 H.P.	31.60	126.40 1142.00	49.00	196.00 1256.20	95.17	104.68	.5 Laborer 1 Crawler Loader, 3 C.Y.	31.60	126.40 990.00	49.00	196.00 1089.00	82.50
H., Daily Totals		\$1599.20		\$1949.40	\$133.27	\$162.45	12 L.H., Daily Totals		\$1447.20		\$1782.20	\$120.60
Creary D 1011	11.	Deihi	11	Deihi	Bare	Incl.	0	11.	Deilu	11.	Deihi	Bare
uip Oper (med.)	пг. ¢41.35	\$330.80	пг. \$62.15	\$407.20	\$38.10	\$57.77	L Equip Oper (med.)	¢/1.25	\$330.80	<b>nr.</b>	\$407.20	¢38.10
Laborer	31.60	126.40	49.00	196.00	\$30.10	ŞJ1.11	.5 Laborer	31.60	126.40	49.00	196.00	, JJ0.10
Diaphragm Water Pump, 2"		63.20		69.52			1 Crawler Loader, 4 C.Y.		1450.00		1595.00	120.83
-20' Suction Hose, 2"		1.95		2.15			12 L.H., Daily Totals		\$1907.20		\$2288.20	\$158.93
-50' Discharge Hoses, 2"		2.20		2.42	5.61	6.17						Bare
Z L.H., Daliy Iolais		ŞUZ4.UU		\$707.20	\$45.71 Rare	202.94	Crew B-10R	641.25	coon on	Hr.	CADT 20	Costs
Crew B-10I	Hr.	Daily	Hr.	Daily	Costs	0&P	5 Laborer	\$41.35 31.60	\$330.80 126.40	\$02.15 49.00	\$497.20 196.00	\$38.10
Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	1 F.E. Loader, W.M., 1 C.Y.	01.00	239.00	10100	262.90	19.92
5 Laborer	31.60	126.40	49.00	196.00			12 L.H., Daily Totals		\$696.20		\$956.10	\$58.02
Diaphragm Water Pump, 4"		86.20		94.82								Bare
2 -20 Suction Hose, 4" 2 -50' Discharge Hoses, 4"		5.45 4,70		5.79 5.17	7,86	8,65	Crew B-10S	Hr.	Daily	Hr.	Daily	Costs
12 L.H., Daily Totals		\$551.55		\$796.99	\$45.96	\$66.42	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10
· •					Bare	Incl.	.5 Laborer 1 F.E. Loader, W.M., 1.5 C.Y.	31.00	328.20	49.00	196.00 361.02	27.35
Crew B-10J	Hr.	Daily	Hr.	Daily	Costs	0&P	12 L.H., Daily Totals		\$785.40		\$1054.22	\$65.45
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77						Bare
5 Laborer	31.60	126.40	49.00	196.00			Crew B-10T	Hr.	Daily	Hr.	Daily	Costs
L Centrilugal water Pump, 3"		69.40 3.05		76.34 3.36			1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10
2 -50' Discharge Hoses, 3"		3.50		3.85	6.33	6.96	.5 Laborer	31.60	126.40	49.00	196.00	22.00
12 L.H., Daily Totals		\$533.15		\$776.75	\$44.43	\$64.73	1 F.E. Lodder, W.W.,2.5 C.F.		\$853.00		\$1128.58	\$71.08
					Bare	Incl.			<i>\</i> 000.00		Q1120.00	Bare
Crew B-10K	Hr.	Daily	Hr.	Daily	Costs	0&P	Crew B-10U	Hr.	Daily	Hr.	Daily	Costs
5 Laborer	\$41.35 31.60	\$330.80 126.40	\$62.15 49.00	\$497.20 196.00	\$38.10	\$37.77	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10
L Centr. Water Pump, 6"	01.00	309.40	13.00	340.34			.5 Laborer	31.60	126.40	49.00	196.00	71.00
I -20' Suction Hose, 6"		11.90		13.09			1 F.E. Loader, W.M., 5.5 C.Y.		\$1311.60		939.84 \$1633.04	/1.20 \$100.30
2 -50' Discharge Hoses, 6"		12.60		13.86	27.82	30.61	12 E.H., Daily lotais		ŞIJII.00		Ş1055.0 <del>4</del>	Baro
12 L.H., Daily lotals		\$791.10		\$1060.49	\$65.92	\$88.37	Crew B-10V	Hr.	Daily	Hr.	Daily	Costs
Crew B-10I	Hr	Daily	Hr	Daily	Bare	Incl. 0&P	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	.5 Laborer	31.60	126.40	49.00	196.00	
.5 Laborer	31.60	126.40	49.00	196.00			1 Dozer, 700 H.P.		4232.00		4655.20	352.67
1 Dozer, 80 H.P.		399.20		439.12	33.27	36.59	12 L.H., Daily lotais		\$4089.20		\$3348.40	\$390.77
12 L.H., Daily Totals		\$856.40		\$1132.32	\$71.37	\$94.36	Crew B-10W	Hr.	Daily	Hr.	Daily	Bare Costs
Crow B-10M	Нг	Daily	Hr	Daily	Bare	Incl.	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10
1 Equip Oper (med.)	\$41.35	\$330.80	\$62.15	\$/197.20	\$38.10	\$57.77	.5 Laborer	31.60	126.40	49.00	196.00	
.5 Laborer	31.60	126.40	49.00	196.00	\$50.10	<i>Q01.11</i>	1 Dozer, 105 H.P.		600.60		660.66	50.05
1 Dozer, 300 H.P.		1423.00		1565.30	118.58	130.44	12 L.H., Daily Iotals		\$1057.80		\$1353.86	\$88.15
12 L.H., Daily Totals		\$1880.20		\$2258.50	\$156.68	\$188.21	Crow B-10Y	Hr	Daily	Hr	Daily	Bare
Crow B-10N	ц.	Daily	Hr.	Daily	Bare	Incl.	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10
1 Equip Oper (med.)	\$41.35	\$330.80	\$62.15	\$/197.20	\$38.10	\$57.77	.5 Laborer	31.60	126.40	49.00	196.00	
5 Laborer	31.60	126.40	49.00	196.00	\$50.10	Ş57.77	1 Dozer, 410 H.P.		1849.00		2033.90	154.08
1 F.E. Loader, T.M., 1.5 C.Y		367.00		403.70	30.58	33.64	12 L.H., Daily Totals		\$2306.20		\$2727.10	\$192.18
12 L.H., Daily Totals		\$824.20		\$1096.90	\$68.68	\$91.41	Crew B-10Y	Hr	Daily	Hr	Daily	Bare Costs
Crow P 100	ш.	Dailu	ш.	Daily	Bare	Incl.	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10
	пг. \$41.25	¢220.00	пг. \$62.15	\$/107.20	¢20 10	¢67 77	.5 Laborer	31.60	126.40	49.00	196.00	
.5 Laborer	31.60	126.40	49.00	196.00	\$30.10	<i>ŞJI.II</i>	1 Vibr. Roller, Towed, 12 Ton		469.60		516.56	39.13
1 F.E. Loader, T.M., 2.25 C.Y.		767.40		844.14	63.95	70.34	12 L.H., Daily Totals		\$926.80		\$1209.76	\$77.23
12 L.H., Daily Totals		\$1224.60		\$1537.34	\$102.05	\$128.11						

Cost Per Labor-Hour

Incl.

0&P

\$57.77

90.75

\$148.52

Incl. 0&P

\$57.77

132.92

\$190.68

Incl.

0&P

\$57.77

21.91

\$79.67

Incl.

0&P

\$57.77

30.09

\$87.85

Incl.

0&P \$57.77

36.28

\$94.05

Incl.

0&P

\$57.77

78.32

\$136.09

Incl.

0&P

\$57.77

387.93

\$445.70

Incl.

0&P \$57.77

55.06

\$112.82

Incl.

0&P

\$57.77

169.49

\$227.26

Incl.

0&P

\$57.77

43.05

\$100.81

Crew No.	Ba	re Costs	Su	Incl. bs O & P	Cc Per Lat	ost oor-Hour	Crew No.
Crew B-11A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew B-11R
1 Equipment Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$36.48	\$55.58	1 Equipment Operator (med
1 Laborer	31.60	252.80	49.00	392.00		74.00	.5 Laborer
1 Dozer, 200 H.P.		1082.00		\$2070.40	67.63	(1.39	I Dozer, 200 H.P.
IO L.N., Dally Iolais		\$1003.00		ŞZU79.40	\$104.10 Bara	\$129.90	12 L.⊓., Dally Tolais
Crew B-11B	Hr.	Daily	Hr.	Daily	Costs	0&P	Crew B-11S
1 Equipment Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$35.33	\$53.85	1 Equipment Operator (med
1 Laborer	31.60	252.80	49.00	392.00			.5 Laborer
1 Air Powered Tamper 1 Air Compressor 365 cfm		24.00 211.20		26.40 232 32			1 Dozer, 300 H.P. 1 Rinner beam & 1 shank
2 -50' Air Hoses, 1.5"		12.60		13.86	15.49	17.04	12 L.H., Daily Totals
16 L.H., Daily Totals		\$813.00		\$1134.18	\$50.81	\$70.89	
Crew B-11C	Hr	Daily	Hr	Daily	Bare Costs	Incl. 0&P	Crew B-11T
1 Equipment Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$36.48	\$55.58	.5 Laborer
1 Laborer	31.60	252.80	49.00	392.00			1 Dozer, 410 H.P.
1 Backhoe Loader, 48 H.P.		293.80		323.18	18.36	20.20	1 Ripper, beam & 2 shanks
16 L.H., Daily Totals		\$877.40		\$1212.38	\$54.84	\$75.77	12 L.H., Daily Totals
Crew B-11J	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew B-11U
1 Equipment Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$36.48	\$55.58	1 Equipment Operator (med
1 Laborer	31.60	252.80	49.00	392.00			.5 Laborer
1 Grader, 30,000 Lbs.		550.20		605.22 97.56	20.26	12 20	1 Dozer, 520 H.P.
16 L.H., Daily Totals		\$1213.40		\$1581.98	\$75.84	\$98.87	12 L.H., Daily Totals
		QILIO.IU		<i>Q1001.50</i>	Bare	Incl	Crew B-11V
Crew B-11K	Hr.	Daily	Hr.	Daily	Costs	0&P	3 Laborers
1 Equipment Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$36.48	\$55.58	1 Roller, 2-Drum, W.B., 7.5
1 Laborer	31.60	252.80	49.00	392.00	111.06	100.17	24 L.H., Daily Totals
16 L.H., Daily Totals		\$2360.60		\$2843.90	\$147.54	\$177.74	
		Q2000.00		Q2010.50	Bare	Incl	1 Equipment Operator (med
Crew B-11L	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Common Laborer
1 Equipment Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$36.48	\$55.58	10 Truck Drivers (hvy.)
1 Laborer	31.60	252.80	49.00	392.00	24.20	27.02	1 Dozer, 200 H.P.
1 Grader, 30,000 Lbs.		\$1133.80		\$1494.42	\$70.86	37.83 \$93.40	10 Dump Trucks, 8 C.Y., 22
TO E.H., Daily lotais		Ş1155.00		ŞI+J+.+Z	Baro	Jos.+0	96 L.H., Daily Totals
Crew B-11M	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Equipment Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$36.48	\$55.58	Crew B-11Y
1 Laborer	31.60	252.80	49.00	392.00	01.50	00 70	1 Labor Foreman (Outside)
I Backhoe Loader, 80 H.P.		\$45.00		\$1269.70	21.56	23.72	5 Common Laborers 3 Equipment Operators (me
TO L.H., Dally Totals		Ş920.00		\$1200.70	\$30.04 Bara	\$79.29	1 Dozer, 80 H.P.
Crew B-11N	Hr.	Daily	Hr.	Daily	Costs	0&P	2 Rollers, 2-Drum, W.B., 7.5
1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$34.22	\$52.37	4 Vibratory Plates, Gas, 21
2 Equipment Operators (med.)	41.35	661.60	62.15	994.40			72 L.H., Daliy Toldis
1 F.E. Loader, W.M., 5.5 C.Y.	31.90	1533.60 854.40	49.15	2359.20 939.84			Crew B-12A
1 Dozer, 410 H.P.		1849.00		2033.90			1 Equip. Oper. (crane)
6 Dump Trucks, Off Hwy., 50 Ton		9492.00		10441.20	169.38	186.32	1 Laborer
72 L.H., Daily Totals		\$14659.40		\$17185.34	\$203.60	\$238.69	1 Hyd. Excavator, 1 C.Y.
Crew B-11Q	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	TO L.H., Dally IOlais
1 Equipment Operator (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	Crew B-12B
.5 Laborer	31.60	126.40	49.00	196.00			1 Equip. Oper. (crane)
1 Dozer, 140 H.P.		682.00		750.20	56.83	62.52	1 Laborer
12 L.H., Dally lotals		\$1139.20		\$1443.40	\$94.93	\$120.28	1 Hyu. Excavalur, 1.5 U.Y.

Crew No.	Bare	Costs	In Sub:	cl. s O & P	Co Per Lab	ost oor-Hour
Crew B-11R	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Equipment Operator (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77
.5 Laborer	31.60	126.40	49.00	196.00		
1 Dozer, 200 H.P.		1082.00		1190.20	90.17	99.18
12 L.H., Daily Totals		\$1539.20		\$1883.40	\$128.27	\$156.95
Crew B-11S	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Equipment Operator (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77
.5 Laborer	31.60	126.40	49.00	196.00		
1 Dozer, 300 H.P. 1 Rinner heam & 1 shank		1423.00 79.60		1000.30 87.56	125 22	137 74
12 L.H., Daily Totals		\$1959.80		\$2346.06	\$163.32	\$195.51
Crow B-11T	Цг	Daily	H۳	Daily	Bare	Incl.
1 Equipment Operator (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77
.5 Laborer	31.60	126.40	49.00	196.00	\$30.10	Ş57.77
1 Dozer, 410 H.P.		1849.00		2033.90		
1 Ripper, beam & 2 shanks		89.40		98.34	161.53	177.69
12 L.H., Daily Totals		\$2395.60		\$2825.44	\$199.63	\$235.45
Crew B-11U	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Equipment Operator (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77
.5 Laborer	31.60	126.40	49.00	196.00	005 00	005 07
1 Dozer, 520 H.P.		2464.00		2/10.40	205.33	225.87
12 L.H., Dally Totals		\$2921.20		\$3403.00	\$243.43 <b>P</b> arra	\$283.03
Crew B-11V	Hr.	Daily	Hr.	Daily	Costs	0&P
3 Laborers	\$31.60	\$758.40	\$49.00	\$1176.00	\$31.60	\$49.00
1 Koller, Z-Drum, W.B., 7.5 H.P. 24 L H. Daily Totals		145.20 \$903.60		159.72 \$1335.72	0.05 \$37.65	0.00 \$55.66
24 Lin., Daily lotais		\$303.00		Ş1555.72	Bare	Job.00
Crew B-11W	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Equipment Operator (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$32.70	\$50.22
1 Common Laborer	31.60	252.80	49.00	392.00		
10 Truck Drivers (hvy.)	31.95	2556.00	49.15	3932.00		
1 Dozer, 200 H.P. 1 Vibratory Roller Towed 23 Ton		411.00		452 10		
10 Dump Trucks, 8 C.Y., 220 H.P.		3264.00		3590.40	49.55	54.51
96 L.H., Daily Totals		\$7896.60		\$10053.90	\$82.26	\$104.73
Crew B-11Y	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Labor Foreman (Outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.07	\$53.73
5 Common Laborers	31.60	1264.00	49.00	1960.00		
3 Equipment Operators (med.)	41.35	992.40	62.15	1491.60		
1 Dozer, 80 H.P.		399.20		439.12		
2 Kollers, 2-Drum, W.B., 7.5 H.P. 4 Vibratory Plates Gas 21"		290.40 156.80		319.44 172.48	11.76	12 93
72 L.H., Daily Totals		\$3371.60		\$4799.44	\$46.83	\$66.66
Crow R-124	Hr	Daily	Hr	Daily	Bare	Incl.
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.48
1 Laborer	31.60	252.80	49.00	392.00	,	
1 Hyd. Excavator, 1 C.Y.		669.20		736.12	41.83	46.01
16 L.H., Daily Totals		\$1262.40		\$1639.72	\$78.90	\$102.48
Crow R-12D	H۲	Daily	L	Daily	Bare	Incl.
1 Equip (per (grape)	rır. \$42.55	\$3/0 /0	¢63.05	\$511.60	\$37 DR	556 12
1 Laborer	31.60	252.80	49.00	392.00	\$J7.00	990.40
1 Hyd. Excavator, 1.5 C.Y.		865.80		952.38	54.11	59.52
16 L.H. Daily Totals		\$1459.00		\$1855.98	\$91.19	\$116.00

Crew No.	Ba	re Costs	Sut	Incl. os O & P	Co Per Lat	ost por-Hour	Crew No.	Bare Costs		Incl. Subs O & P		Cost Per Labor-Hour	
Crew B-12C	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Crew B-12L	Hr.	Daily	Hr.	Daily	Bare Costs	Incl 0&I
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.48	1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.4
L Laborer	31.60	252.80	49.00	392.00			1 Laborer	31.60	252.80	49.00	392.00		
I Hyd. Excavator, 2 C.Y.		1182.00		1300.20	73.88	81.26	1 Crawler Crane, 15 Ton		615.30		676.83		
16 L.H., Daily Totals		\$1775.20		\$2203.80	\$110.95	\$137.74	1 F.E. Attachment, .5 C.Y.		52.80		58.08	41.76	45.9
Crow B-12D	L.,	Daily	Hr.	Daily	Bare	Incl.	16 L.H., Daily Totals		\$1261.30		\$1638.51	\$/8.83	\$102.4
Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.48	Crew B-12M	Hr.	Daily	Hr.	Daily	Costs	0&
L Laborer	31.60	252.80	49.00	392.00			1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.4
1 Hyd. Excavator, 3.5 C.Y.		2162.00		2378.20	135.13	148.64	1 Laborer	31.60	252.80	49.00	392.00		
16 L.H., Daily Totals		\$2755.20		\$3281.80	\$172.20	\$205.11	1 Crawler Crane, 20 Ton		789.05		867.96		
					Bare	Incl.	1 F.E. Attachment, .75 C.Y.		58.20		64.02	52.95	58.3
Crew B-12E	Hr.	Daily	Hr.	Daily	Costs	0&P	16 L.H., Daily Totals		\$1440.45		\$1835.58	\$90.03	\$114.
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.48						Bare	Incl
1 Laborer	31.60	252.80	49.00	392.00			Crew B-12N	Hr.	Daily	Hr.	Daily	Costs	0&F
1 Hyd. Excavator, .5 C.Y.		394.60		434.06	24.66	27.13	1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.4
16 L.H., Daily Totals		\$987.80		\$1337.66	\$61.74	\$83.60	1 Laborer	31.60	252.80	49.00	392.00		
					Bare	Incl.	1 Crawler Crane, 25 Ton		1052.00		1157.20		
Crew B-12F	Hr.	Daily	Hr.	Daily	Costs	0&P	1 F.E. Attachment, 1 C.Y.		64.00		70.40	69.75	76.7
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.48	16 L.H., Daily Totals		\$1709.20		\$2131.20	\$106.83	\$133.2
1 Laborer	31.60	252.80	49.00	392.00			Crew D 120	11.	Deilu	11.	Deihi	Bare	Incl.
1 Hyd. Excavator, .75 C.Y.		598.60		658.46	37.41	41.15		nr.		nr.	Dally	COSTS	Ú&P
16 L.H., Daily Totals		\$1191.80		\$1562.06	\$74.49	\$97.63	1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.4
					Bare	Incl.	1 Laborer	31.60	252.80	49.00	392.00		
Crew B-12G	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Crawler Cralle, 40 IOII		74.20		01.62	70 50	77 6
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.48	1 F.E. Alldonnient, 1.3 C.T.		(1722.40		01.02	70.00 ¢107.65	¢124.1
1 Laborer	31.60	252.80	49.00	392.00			TO L.H., Dally Totals		\$1722.40		ŞZ14J.7Z	\$107.05	ŞIJ4.I
1 Crawler Crane, 15 Ton		615.30		676.83			Crow P 12P	Ur.	Daily	U.,	Daily	Bare	Inci.
1 Clamshell Bucket, .5 C.Y.	_	36.60		40.26	40.74	44.82		пі. ¢40.55	COAD AD	пг. ¢сэ.ог		CUSIS	COC A
16 L.H., Daily Totals		\$1245.10		\$1620.69	\$77.82	\$101.29	1 Equip. Oper. (crane)	\$42.55 21.60	\$340.40 252.90	\$03.95 40.00	202.00	\$37.08	\$30.4
					Bare	Incl.	1 Laborer 1 Crawler Crane 40 Ton	51.00	202.00	49.00	392.00 1160.50		
Crew B-12H	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Dragline Bucket 15 C.Y		32.80		36.08	67 99	74 7
1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.48	16 L.H., Daily Totals		\$1681.00		\$2100.18	\$105.06	\$131.2
1 Laborer	31.60	252.80	49.00	392.00			To En ing Stang Totalo		<b>VICO1100</b>		02100110	Pere	Inal
1 Crawler Crane, 25 Ion		1052.00		1157.20	C0 C4	75 50	Crew B-120	Hr	Daily	Hr	Daily	Costs	INCI. O&F
I Clamsnell Bucket, I C.Y.	_	46.20		50.82	6105.71	/5.50		\$42.55	\$240.40	¢62.05	\$511.60	¢27.00	¢56./1
16 L.H., Dally lotals		\$1691.40		\$2111.62	\$105.71	\$131.98	1 Light open (crane)	31.60	252 80	203.95 49.00	392.00	\$37.00	ŞJU.40
0 D 101		Dalla		D. I.	Bare	Incl.	1 Hvd. Excavator, 5/8 C.Y.	51.00	517.20	+5.00	568.92	32.33	35.5
Crew B-121	nr.	Daily	nr.	Dally	Costs	0&P	16 L.H., Daily Totals		\$1110.40		\$1472.52	\$69.40	\$92.0
I Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.48						Para	Inol
1 Laborer 1 Crawler Crane, 20 Ten	31.60	202.80 790.05	49.00	392.00			Crew B-12S	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Dragling Bucket 75 C V		20.00		22.00	50.57	55.62	1 Equip Oper (crane)	\$42.55	\$340.40	\$63.05	\$511.60	\$37.08	\$56.4
16 H Daily Totals		\$1/02.25		\$1793.56	\$87.64	\$112.10	1 Laborer	31.60	252.80	49.00	392.00	\$57.00	900. <del>-</del>
TO L.H., Dally Totals		Ş1402.2J		Ş1795.JU	.07.04	ŞIIZ.IU	1 Hvd. Excavator, 2.5 C.Y.	01.00	1619.00	13.00	1780.90	101.19	111.3
Crow B-121	Hr	Daily	Hr	Daily	Bare	Incl.	16 L.H., Daily Totals		\$2212.20		\$2684.50	\$138.26	\$167.7
1 Equip Oper (grape)	\$42.55	\$210.10	¢62.05	\$511.60	¢27.00	¢56.49						Bare	Incl
1 Lyup. Oper. (crane) 1 Laborer	31.60	\$340.40 252.80	49.00	392.00	\$37.00	ŞJ0.40	Crew B-12T	Hr.	Daily	Hr.	Daily	Costs	0&F
1 Gradall, 5/8 C.Y.	01.00	958.80	15.00	1054.68	59.92	65.92	1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.4
16 L.H., Daily Totals		\$1552.00		\$1958.28	\$97.00	\$122.39	1 Laborer	31.60	252.80	49.00	392.00	,	
, <b>,</b>					Rara	Inel	1 Crawler Crane, 75 Ton		1496.00		1645.60		
Crew B-12K	Hr.	Dailv	Hr.	Dailv	Costs	0&P	1 F.E. Attachment, 3 C.Y.		97.60		107.36	99.60	109.5
1 Equip. Oper. (crane)	\$42 55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.48	16 L.H., Daily Totals		\$2186.80		\$2656.56	\$136.68	\$166.0
1 Laborer	31.60	252.80	49.00	392.00	vo/.00	900iTU						Bare	Incl
1 Gradall, 3 Ton, 1 C.Y.		1130.00		1243.00	70.63	77.69	Crew B-12V	Hr.	Daily	Hr.	Daily	Costs	0&F
16 L.H., Daily Totals		\$1723.20		\$2146.60	\$107.70	\$134.16	1 Equip. Oper. (crane)	\$42.55	\$340.40	\$63.95	\$511.60	\$37.08	\$56.4
, , ,	-				ų <b>.</b>		1 Laborer	31.60	252.80	49.00	392.00		
							1 Crawler Crane 75 Ton	1	1496.00		1645 60		

1 Dragline Bucket, 3 C.Y.

16 L.H., Daily Totals

\$131.26

106.03

\$162.50

50.82

\$2600.02

46.20

\$2135.40

96.39

\$133.46

Crew No.	Ba	re Costs	Sut	Incl. os O & P	Cc Per Lal	ost oor-Hour	Crew No.	Bare	Costs
Crew B-13	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Crew B-13H	Hr.	Daily
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$34.19	\$52.48	1 Laborer	\$31.60	\$252.80
4 Laborers	31.60	1011.20	49.00	1568.00			1 Equip. Oper. (crane)	42.55	340.40
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			1 Gradall, 5/8 C.Y.		958.80
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			1 Trench Box		113.40
1 Hyd. Crane, 25 Ton		789.40		868.34	14.10	15.51	16 L.H., Daily Totals		\$1665.40
56 L.H., Daily Totals		\$2704.20		\$3807.14	\$48.29	\$67.98			
Crew B-13A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Crew B-13I	<b>Hr.</b> \$31.60	<b>Daily</b> \$252.80
1 Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$34.77	\$53.24	1 Equip. Oper. (crane)	42.55	340.40
2 Laborers	31.60	505.60	49.00	784.00			1 Gradall, 3 Ton, 1 C.Y.		1130.00
2 Equipment Operators (med.)	41.35	661.60	62.15	994.40			1 Trench Box		113.40
2 Truck Drivers (heavy)	31.95	511.20	49.15	786.40			16 L.H., Daily Totals		\$1836.60
1 Crawler Crane, 75 Ton		1496.00		1645.60					
1 Crawler Loader, 4 C.Y.		1450.00		1595.00			Crew B-13J	Hr.	Daily
2 Dump Trucks, 8 C.Y., 220 H.P.		652.80		718.08	64.26	70.69	1 Laborer	\$31.60	\$252.80
56 L.H., Daily Totals		\$5546.00		\$6940.28	\$99.04	\$123.93	1 Equip. Oper. (crane)	42.55	340.40
					Bare	Incl.	1 Hyd. Excavator, 2.5 C.Y.		1619.00
Crew B-13B	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Trench Box		113.40
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$34.19	\$52.48	16 L.H., Daily Totals		\$2325.60
4 Laborers	31.60	1011.20	49.00	1568.00					
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			Crew B-14	Hr.	Daily
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			1 Labor Foreman (outside)	\$33.60	\$268.80
1 Hyd. Crane, 55 Ion		1125.00		1237.50	20.09	22.10	4 Laborers	31.60	1011.20
56 L.H., Daily Totals		\$3039.80		\$4176.30	\$54.28	\$74.58	1 Equip. Oper. (light)	39.05	312.40
					Bare	Incl.	1 Backhoe Loader, 48 H.P.		293.80
Crew B-13C	Hr.	Daily	Hr.	Daily	Costs	0&P	48 L.H., Daily Totals		\$1886.20
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$34.19	\$52.48			
4 Laborers	31.60	1011.20	49.00	1568.00			Crew B-14A	Hr.	Daily
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			1 Equip. Oper. (crane)	\$42.55	\$340.40
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			.5 Laborer	31.60	126.40
1 Crawler Crane, 100 Ton		1611.00		1772.10	28.77	31.64	1 Hvd. Excavator. 4.5 C.Y.		2635.00
56 L.H., Daily Totals		\$3525.80		\$4710.90	\$62.96	\$84.12	12 L.H., Daily Totals		\$3101.80
Crew B-13D	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Crew B-14B	Hr	Daily
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$37.08	\$56.48		¢42.55	6240.40
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			E Laborar	\$42.55 21.60	\$340.40 1.26.40
1 Hyd. Excavator, 1 C.Y.		669.20		736.12			1 Hud Excavator 6 C V	51.00	3080.00
1 Trench Box		113.40		124.74	48.91	53.80	1 Hyu. Excavator, o c.r.		5000.00
16 L.H., Daily Totals		\$1375.80		\$1764.46	\$85.99	\$110.28	12 L.H., Daily Iolais		ŞSD40.0U
Crew B-13E	Hr.	Dailv	Hr.	Daily	Bare Costs	Incl. O&P	Crew B-14C	Hr.	Daily
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$37.08	\$56.48	1 Equip. Oper. (crane)	\$42.55	\$340.40
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60	\$57.00	QUU.40	.5 Laborer	31.60	126.40
1 Hvd. Excavator, 1.5 C.Y.	12.00	865.80	00.50	952.38			1 Hyd. Excavator, 7 C.Y.		3256.00
1 Trench Box		113.40		124.74	61.20	67.32	12 L.H., Daily Totals		\$3722.80
16 L.H., Daily Totals		\$1572.40		\$1980.72	\$98.28	\$123.80			
					Bare	Incl.	Crew B-14F	Hr.	Daily
Crew B-13F	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Equip. Oper. (crane)	\$42.55	\$340.40
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$37.08	\$56.48	.5 Laborer	31.60	126.40
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			1 Hyd. Shovel, 7 C.Y.		3090.00
1 Hyd. Excavator, 3.5 C.Y.		2162.00		2378.20			12 L.H., Daily Totals		\$3556.80
1 Trench Box		113.40		124.74	142.21	156.43			
16 L.H., Daily Totals		\$2868.60		\$3406.54	\$179.29	\$212.91	Crew B-14G	Hr.	Daily
					Bare	Incl.	1 Equip. Oper. (crane)	\$42.55	\$340.40
Crew B-13G	Hr.	Daily	Hr.	Daily	Costs	0&P	.5 Laborer	31.60	126.40
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$37.08	\$56.48	1 Hyd. Shovel, 12 C.Y.		4148.00
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60	Ç07.00	φυν.τυ	12 L.H., Daily Totals		\$4614.80
1 Hyd. Excavator75 C.Y.		598.60		658.46					
1 Trench Box		113.40		124.74	44.50	48.95			
16 L.H., Daily Totals		\$1305.20		\$1686.80	\$81.58	\$105.43			
, - any rotano	L	+-000120	L	+ - 200.00		+	1		

Incl.

Hr.

\$49.00

63.95

Hr.

\$49.00

63.95

Hr.

\$49.00

63.95

Hr.

\$52.10

49.00

58.70

Hr.

\$63.95

49.00

Hr.

\$63.95

49.00

Hr.

\$63.95

49.00

Hr.

\$63.95

49.00

Hr.

\$63.95

49.00

Subs O & P

Daily

\$392.00

511.60

1054.68

124.74

Daily

\$392.00

511.60

1243.00

124.74

Daily

\$392.00

511.60

1780.90

124.74

Daily

\$416.80

1568.00

469.60

323.18

Daily

\$511.60

196.00

2898.50

\$3606.10

Daily

\$511.60

196.00

3388.00

\$4095.60

Daily

\$511.60

196.00

3581.60

\$4289.20

Daily

\$511.60

196.00

3399.00

\$4106.60

Daily

\$511.60

196.00

4562.80

\$5270.40

\$2777.58

\$2809.24

\$2271.34

\$2083.02

Cost

Per Labor-Hour

Incl.

0&P

\$56.48

73.71

\$130.19

Incl.

0&P

\$56.48

85.48

\$141.96

Incl.

0&P

\$56.48

119.10

\$175.58

Incl.

0&P

\$51.13

6.73

\$57.87

Incl.

0&P

\$58.97

241.54

\$300.51

Incl.

0&P

\$58.97

282.33

\$341.30

Incl.

0&P

\$58.97

298.47

\$357.43

Incl.

0&P

\$58.97

283.25

\$342.22

Incl. 0&P

\$58.97

380.23

\$439.20

Bare

Costs

\$37.08

67.01

\$104.09

Bare

Costs

\$37.08

77.71

\$114.79

Bare

Costs

\$37.08

108.28

\$145.35 Bare

Costs

\$33.17

6.12

\$39.30

Bare

Costs

\$38.90

219.58

\$258.48

Bare

Costs

\$38.90

256.67

\$295.57

Bare

Costs

\$38.90

271.33

\$310.23

Bare

Costs

\$38.90

257.50

\$296.40

Bare

Costs

\$38.90

345.67

\$384.57

Crew No.	Ba	Bare Costs Su		Incl. os O & P	Co Per Lat	ost por-Hour	Crew No.	Bare	Costs	Su
Crew B-14J	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew B-19A	Hr.	Daily	Hr.
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	1 Pile Driver Foreman	\$40.50	\$324.00	\$65.7
.5 Laborer	31.60	126.40	49.00	196.00			4 Pile Drivers	38.50	1232.00	62.5
1 F.E. Loader, 8 C.Y.		1497.00		1646.70	124.75	137.22	2 Equip. Oper. (crane)	42.55	680.80	63.9
12 L.H., Daily Totals		\$1954.20		\$2339.90	\$162.85	\$194.99	1 Equip. Oper. Oiler	36.80	294.40	55.3
					Bare	Incl.	1 Crawler Crane, 75 Ton		1496.00	
Crew B-14K	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Lead, 90' high		118.80	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.10	\$57.77	1 Hammer, Diesel, 41k Ft-Lb		677.60	
.5 Laborer	31.60	126.40	49.00	196.00			64 L.H., Daily Totals		\$4823.60	
1 F.E. Loader, 10 C.Y.		2225.00		2447.50	185.42	203.96				
12 L.H., Daily Totals		\$2682.20		\$3140.70	\$223.52	\$261.73	Crew B-20	Hr.	Daily	Hr.
-					Bare	Incl.	1 Labor Foreman (out)	\$33.60	\$268.80	\$52.1
Crew B-15	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Skilled Worker	40.85	326.80	63.2
1 Equipment Oper (med)	\$41 35	\$330.80	\$62.15	\$497.20	\$34.59	\$52.84	1 Laborer	31.60	252.80	49.0
5 Laborer	31.60	126.40	49.00	196.00	QU4.00	QU2.04	24 L.H., Daily Totals		\$848.40	
2 Truck Drivers (heavy)	31.95	511.20	49.15	786.40						
2 Dump Trucks, 12 C.Y., 400 H.P.		1066.00		1172.60			Crew B-20A	Hr.	Daily	Hr.
1 Dozer, 200 H.P.		1082.00		1190.20	76.71	84.39	1 Labor Foreman	\$33.60	\$268.80	\$52.1
28 L.H., Daily Totals		\$3116.40		\$3842.40	\$111.30	\$137.23	1 Laborer	31.60	252.80	49.0
. , . ,					Baro	Incl	1 Plumber	48.75	390.00	73.1
Crew B-16	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Plumber Apprentice	39.00	312.00	58.5
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$32.10	\$/19.81	32 L.H., Daily Totals		\$1223.60	
2 Labor r oreman (outside)	31.60	505.60	49.00	784.00	Ş52.15	Q <del>4</del> 0.01				
1 Truck Driver (heavy)	31.95	255.60	49.15	393.20			Crew B-21	Hr.	Daily	Hr.
1 Dump Truck, 12 C.Y., 400 H.P.	01.00	533.00		586.30	16.66	18.32	1 Labor Foreman (out)	\$33.60	\$268.80	\$52.1
32 L.H., Daily Totals		\$1563.00		\$2180.30	\$48.84	\$68.13	1 Skilled Worker	40.85	326.80	63.2
oz zini, baily totalo		<b>VICCO</b>		\$2100.00	Derre	Junel	1 Laborer	31.60	252.80	49.0
Crew B-17	Hr.	Daily	Hr.	Daily	Costs	0&P	.5 Equip. Oper. (crane)	42.55	170.20	63.9
2 Laborers	\$31.60	\$505.60	\$49.00	\$784.00	\$33.55	\$51.46	.5 S.P. Crane, 4x4, 5 Ton		129.10	
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60			28 L.H., Daily Totals		\$1147.70	
1 Truck Driver (heavy)	31.95	255.60	49.15	393.20						
1 Backhoe Loader, 48 H.P.		293.80		323.18			Crew B-21A	Hr.	Daily	Hr.
1 Dump Truck, 8 C.Y., 220 H.P.		326.40		359.04	19.38	21.32	1 Labor Foreman	\$33.60	\$268.80	\$52.1
32 L.H., Daily Totals		\$1693.80		\$2329.02	\$52.93	\$72.78	1 Laborer	31.60	252.80	49.0
					Bare	Incl.	1 Plumber	48.75	390.00	73.1
Crew B-17A	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Plumber Apprentice	39.00	312.00	58.5
2 Laborer Foremen	\$33.60	\$537.60	\$52.10	\$833.60	\$34.05	\$52.78	1 Equip. Oper. (crane)	42.55	340.40	63.9
6 Laborers	31.60	1516.80	49.00	2352.00			1 S.P. Crane, 4x4, 12 Ton		601.80	
1 Skilled Worker Foreman	42.85	342.80	66.35	530.80			40 L.H., Daily Totals		\$2165.80	
1 Skilled Worker	40.85	326.80	63.25	506.00						
80 L.H., Daily Totals		\$2724.00		\$4222.40	\$34.05	\$52.78	Crew B-21B	Hr.	Daily	Hr.
					Bare	Incl.	1 Laborer Foreman	\$33.60	\$268.80	\$52.1
Crew B-18	Hr.	Daily	Hr.	Daily	Costs	0&P	3 Laborers	31.60	/58.40	49.0
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$32.27	\$50.03	1 Equip. Oper. (crane)	42.00	340.40 769.90	03.9
2 Laborers	31.60	505.60	49.00	784.00			1 Hyu. Grane, 12 Ion	<u> </u>	¢2126.40	
1 Vibratory Plate, Gas, 21"		39.20		43.12	1.63	1.80	40 L.H., Daily Iotais		ŞZ150.40	
24 L.H., Daily Totals		\$813.60		\$1243.92	\$33.90	\$51.83	Crow B-21C	Цг	Daily	Ци
					Bare	Incl.	1 Laborer Foreman	\$33.60	\$268.80	\$52.1
Crew B-19	Hr.	Daily	Hr.	Daily	Costs	0&P	4 Laborers	31.60	1011 20	49 0
1 Pile Driver Foreman	\$40.50	\$324.00	\$65.75	\$526.00	\$39.55	\$62.37	1 Equip. Oper (crane)	42 55	340.40	63.0
4 Pile Drivers	38.50	1232.00	62.50	2000.00			1 Equip. Oper. Oiler	36.80	294.40	55.3
2 Equip. Oper. (crane)	42.55	680.80	63.95	1023.20			2 Cutting Torches		34.00	0.0
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			2 Gases		151.20	
1 Crawler Crane, 40 Ton		1055.00		1160.50			1 Lattice Boom Crane. 90 Ton		1741.00	
1 Lead, 90' high		118.80		130.68			56 L.H., Daily Totals	+	\$3841.00	
1 Hammer, Diesel, 22k Ft-Lb		590.00		649.00	27.56	30.32	to any bully fotalo		400 11100	
64 L.H., Daily Totals		\$4295.00		\$5931.78	\$67.11	\$92.68				

Crew No.	Bare	Costs	In Subs	cl. 6 O & P	Cost Per Labor-Hour		
Crew B-19A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Pile Driver Foreman	\$40.50	\$324.00	\$65.75	\$526.00	\$39.55	\$62.37	
4 Pile Drivers	38.50	1232.00	62.50	2000.00			
2 Equip. Oper. (crane)	42.55	680.80	63.95	1023.20			
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			
1 Crawler Crane, 75 Ton		1496.00		1645.60			
1 Lead, 90' high		118.80		130.68			
1 Hammer, Diesel, 41k Ft-Lb		6//.60		/45.36	35.82	39.40	
64 L.H., Daily lotals		\$4823.60		\$6513.24	\$/5.3/	\$101.77	
Crew B-20	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Labor Foreman (out)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.35	\$54.78	
1 Skilled Worker	40.85	326.80	63.25	506.00			
1 Laborer	31.60	252.80	49.00	392.00			
24 L.H., Daily Totals		\$848.40		\$1314.80	\$35.35	\$54.78	
Crew B-20A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$38.24	\$58.20	
1 Laborer	31.60	252.80	49.00	392.00			
1 Plumber	48.75	390.00	73.15	585.20			
1 Plumber Apprentice	39.00	312.00	58.55	468.40	620.04	¢50.00	
32 L.H., Dally lotals		\$1223.60		\$1862.40	\$38.24	\$58.2U	
Crew B-21	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Labor Foreman (out)	\$33.60	\$268.80	\$52.10	\$416.80	\$36.38	\$56.09	
1 Skilled Worker	40.85	326.80	63.25	506.00			
1 Laborer	31.60	252.80	49.00	392.00			
.5 Equip. Oper. (crane)	42.55	1/0.20	63.95	255.80	4.61	E 07	
.5 S.P. Urane, 4x4, 5 100		129.10 ¢1147.70		142.01 ¢1710.01	4.01	0.07	
20 L.H., Dally IUlais		\$1147.70		Ş1712.01	\$40.99 Bara	301.10 Jual	
Crew B-21A	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$39.10	\$59.35	
1 Laborer	31.60	252.80	49.00	392.00			
1 Plumber	48.75	390.00	/3.15	585.20			
1 Plumber Apprentice	39.00	312.00	58.55 62.05	468.40			
1 S.P. Crane AvA 12 Ton	42.00	540.40 601.80	05.95	661.98	15.05	16 55	
40 L.H., Daily Totals		\$2165.80		\$3035.98	\$54.15	\$75.90	
					Bare	Incl.	
Crew B-21B	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Laborer Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$34.19	\$52.61	
3 Laborers	31.60	758.40	49.00	1176.00			
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60	10.00		
1 Hyd. Crane, 12 Ion		/68.80		845.68	19.22	21.14	
40 L.H., Dally lotals		\$2136.40		\$2950.08	\$53.41	\$/3./5	
Crew B-21C	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Laborer Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$34.19	\$52.48	
4 Laborers	31.60	1011.20	49.00	1568.00			
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			
2 Cutting Torches		34.00		3/.40			
2 UdSes 1 Lattice Room Crane OO Tor		151.20		100.32	2/ /0	27 Q <i>I</i>	
56   H Daily Totals		\$3841.00		\$5057.62	\$68.50	\$90 31	
oo cana buny iotais		A2041.00		90001.0Z	400.J3	410.JI	

Cree 52         H:         Day         H:         Day         See: Med.           11 date mere         5556         558.88         53.01         558.64         558.9         553.04         553.06         553.04           1 date mere         31.65         558.08         553.05         553.04         553.05         553.04         43.05         553.04         43.05         553.04         43.05         553.04         43.05         553.04         43.05         553.04         43.05         553.04         43.05         553.04         553.05         553.04         553.05         553.	Crew No.	Ba	re Costs	Sut	Incl. os O & P	Co Per Lat	ost oor-Hour		Crew No.	Bare	Costs	Ine Subs	cl. 6 O & P	Co Per Lat	ost oor-Hour
Lath Grann ban         S320         S322         S322         S324	Crew B-22	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P		Crew B-25B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
Liski Warr         40.6         320.0         42.5         95.00         42.5         92.00         42.5         92.00         42.5         92.00         42.5         92.00         42.5         92.00         42.5         92.00         42.5         92.00         42.5         92.00         42.5         92.00	1 Labor Foreman (out)	\$33.60	\$268.80	\$52.10	\$416.80	\$36.79	\$56.62		1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$35.02	\$53.64
Lakor         Bit Bit Scale, Out, Output         Bit Scale, Out, Output         Bit Scale, Out, Output         Bit Scale, Out, Output         Bit Scale, Out, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Bit Scale, Output         Scale, Output         Bit Scale, Output         Scale, Output	1 Skilled Worker	40.85	326.80	63.25	506.00				7 Laborers	31.60	1769.60	49.00	2744.00		
Si Suns for Lane         25 (2)         25.3         53.5         33.6         4.6         7.0           Bi Li Gui Tenta         5207.2         5201.12         540.2         520.2         52.5	1 Laborer	31.60	252.80	49.00	392.00				4 Equip. Oper. (medium)	41.35	1323.20	62.15	1988.80		
J. S. F. Ourse, eds. Sign         135.6         212.00         6-66         7.10           L. Davit, eds. Sign         Display         Ben         Ind.           L. Davit, eds. Sign         Display         Ben         Ind.           Like Control         State Sign	.75 Equip. Oper. (crane)	42.55	255.30	63.95	383.70				1 Asphalt Paver, 130 H.P.		1936.00		2129.60		
Bit R, Bug Tath         S107.5         S101.5         S201.5         S201.5         S201.7         S201.6 <t< td=""><td>.75 S.P. Crane, 4x4, 5 Ton</td><td></td><td>193.65</td><td></td><td>213.01</td><td>6.46</td><td>7.10</td><td></td><td>2 Tandem Rollers, 10 Ton</td><td></td><td>466.00</td><td></td><td>512.60</td><td></td><td></td></t<>	.75 S.P. Crane, 4x4, 5 Ton		193.65		213.01	6.46	7.10		2 Tandem Rollers, 10 Ton		466.00		512.60		
Ores 62/L         Hr.         Day,         Hr.         Day,         Bar.         Hu.           Lator Forman (and)         533.5         533.63         553.61         553.61         553.61         553.61         553.61         553.61         553.61         000           Lator Forman (and)         53.55         61.25         553.60         77.00         000         11.00         000         11.00         000         11.00         000         11.00         000         11.00         000         11.00         000         11.00         000         11.00         000         11.00         <	30 L.H., Daily Totals		\$1297.35		\$1911.52	\$43.24	\$63.72		1 Roller, Pneum. Whl, 12 Ton		307.80		338.58	28.23	31.05
Orew 8/20         Hr.         Day         Orew 9/20         Hr.         Day         Orew 9/20         Hr.         Day         Day         Orew 9/20         Hr.         Day<						Bare	Incl.		96 L.H., Daily Totals		\$6071.40		\$8130.38	\$63.24	\$84.69
Shark etwa min         40.8         33.80         53.51         79.60         10.00         10.00           2 Stargers         31.60         75.60         40.00         75.60         40.00         75.60         40.00         75.60         40.00         75.60         40.00         75.00         40.25         59.00         40.25         59.40         40.00         75.00         40.00         75.00         40.00         75.00         40.00         75.00         40.00         75.00         40.00         75.00         40.00         75.00         40.00         75.00         40.00         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.10         75.00         40.00         75.00         75.00         75.00         75.00         75.00         75.00         75.00         75.00         75.00         75.00	Crew B-22A	<b>Hr.</b>	5268.80	<b>Hr.</b>	5416.80	<b>Costs</b>	0&P		Crew B-25C	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
2 Labores 2 Labores	1 Skilled Worker	40.85	326.80	63.25	506.00	000.70	Q00.01		1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$35.18	\$53.90
2 Segundaria         42.95         22.83.0         42.95         22.83.0         42.95         22.93.0         42.95         22.93.0         42.95         22.93.0         43.90         22.93.0         43.90         22.93.0         43.90         22.93.0         43.90         22.93.0         43.90         22.93.0         43.90         22.93.0         43.90         43.90         22.93.0         43.90	2 Laborers	31.60	505.60	49.00	784.00				3 Laborers	31.60	758.40	49.00	1176.00	000.10	<i>\</i> 00.50
2 SS 0 more, det 5 fan Demetrin, 5 W         130.5         213.01 (and thor), fan S12.00         213.01 (and thor), fan S12.00         1.4.2         1.5.2           1 3.0.4 more, det 5 fan S12.00 (prints)         5179.15         55267.51         547.11         567.71         567.87         567.88 <td< td=""><td>.75 Equipment Oper. (crane)</td><td>42.55</td><td>255.30</td><td>63.95</td><td>383.70</td><td></td><td></td><td></td><td>2 Equip. Oper. (medium)</td><td>41.35</td><td>661.60</td><td>62.15</td><td>994.40</td><td></td><td></td></td<>	.75 Equipment Oper. (crane)	42.55	255.30	63.95	383.70				2 Equip. Oper. (medium)	41.35	661.60	62.15	994.40		
L Barterin Kork         41.20         44.22         L	.75 S.P. Crane, 4x4, 5 Ton		193.65		213.01				1 Asphalt Paver, 130 H.P.		1936.00		2129.60		
1 Bit From Number         199.01         213.78         11.14         12.55           SLL, Day Yosh         5179.05         527.07         547.1         557.10         547.10         577.10         547.10         547.10         547.10         547.10         547.10         547.10         547.10         547.10         547.10         547.10         547.10         547.10         547.10         547.10         547.10         557.10	1 Generator, 5 kW		40.20		44.22				1 Tandem Roller, 10 Ton		233.00		256.30	45.19	49.71
SELU, Daly Bah         STR0.15         STR0.15         STR0.15         Str0.11           Str	1 Butt Fusion Machine		199.80		219.78	11.41	12.55		48 L.H., Daily Totals		\$3857.80		\$4973.10	\$80.37	\$103.61
Crew 8/28         Hr.         Daily         Hr.         Daily         Costs         Odd           1 Suber winter         51.06         552.68         553.25         556.31         532.68         532.68         552.52         554.34         533.60         533.60         533.60         555.55         554.48           1 Dubrer         11.06         11.68         515.60         555.56         642.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         555.5         444.00         556.00         550.00         450.60         550.00 </td <td>38 L.H., Daily Totals</td> <td></td> <td>\$1790.15</td> <td></td> <td>\$2567.51</td> <td>\$47.11</td> <td>\$67.57</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>Bare</td> <td>Incl.</td>	38 L.H., Daily Totals		\$1790.15		\$2567.51	\$47.11	\$67.57							Bare	Incl.
Low of value         Int         Low         Low         Constant         Constant         Constant         State	Crow P 22P	U.,	Daily	U.,	Daily	Bare	Incl.		Crew B-26	Hr.	Daily	Hr.	Daily	Costs	0&P
Juster withold         State 8		nr.		nr.	Dally	COSIS	OGF 10		1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.34	\$54.48
1.1.000         1.1.00         2.2.00         392.00         322.00         91.00         322.00         92.00         322.00         92.00         322.00         92.00         322.00         92.00         322.00         92.00         322.00         92.00         322.00         92.00         322.00         92.00         32.00 </td <td>1 Skilled Worker</td> <td>\$40.85</td> <td>\$326.80</td> <td>\$63.25</td> <td>\$506.00</td> <td>\$36.23</td> <td>\$56.13</td> <td></td> <td>6 Laborers</td> <td>31.60</td> <td>1516.80</td> <td>49.00</td> <td>2352.00</td> <td></td> <td></td>	1 Skilled Worker	\$40.85	\$326.80	\$63.25	\$506.00	\$36.23	\$56.13		6 Laborers	31.60	1516.80	49.00	2352.00		
1 cecur make         1 cecur	1 Laborer	31.60	252.80	49.00	392.00	0.10	10.00		2 Equip. Oper. (med.)	41.35	001.00	02.15	592.00		
12 br. L. ubiy roles         5.63.0         3.00.0         100.0	1 Electro Fusion Machine		146.80		101.48	9.18	10.09		1 Rodman (reint.)	44.55	306.40	72.85	082.80		
Orew 8/23         Hr.         Daily         Hr.         Daily         Bare         Ind., Const.         OLF	16 L.H., Dally lotals		\$726.40		\$1059.48	\$45.40	\$66.22		1 Crader 30 000 Lbc	30.30	550.20	50.05	605.22		
Ocrew P23         Hr         Daily         Hr <t< td=""><td></td><td></td><td></td><td></td><td></td><td>Bare</td><td>Incl.</td><td></td><td>1 Grader, 50,000 Lbs.</td><td></td><td>2500.00</td><td></td><td>2750.00</td><td>34.66</td><td>28.12</td></t<>						Bare	Incl.		1 Grader, 50,000 Lbs.		2500.00		2750.00	34.66	28.12
Libbor foreman (natode)         S33.60         S22.00         S42.60         S32.00         S42.60         S42.00	Crew B-23	Hr.	Daily	Hr.	Daily	Costs	0&P		1 Faving Mach. & Equip.		\$6160.20		\$81/0.62	\$70.00	\$02.61
4 Labores         31.00         101.01         101.0	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$32.00	\$49.62		OD E.H., Daily Totals		<b>J0100.20</b>		J014J.02	\$70.00	JJZ.01
I unit encomment         Z43.00         Z42.60 <thz42.70< th=""> <t< td=""><td>4 Laborers</td><td>31.60</td><td>1011.20</td><td>49.00</td><td>1568.00</td><td></td><td></td><td></td><td>Crow B-26A</td><td>н.</td><td>Daily</td><td>Hr.</td><td>Daily</td><td>Bare</td><td>Inci.</td></t<></thz42.70<>	4 Laborers	31.60	1011.20	49.00	1568.00				Crow B-26A	н.	Daily	Hr.	Daily	Bare	Inci.
1 rates         1 rates         24.2.00         20.060         94.3.9         70.3.3           4 OLH, Day Totals         540550         55007.36         501.39         512.357         934.40         14.00         940.0         252.00         55.2         55.42           1 Labor Foreman (adade)         53.36         526.80         55.10         55.52         55.4.2         14.00         72.55         984.00         55.00         62.15         994.00         72.55         52.00         665.20         12.85         10.00         72.55         55.20         665.20         12.85         72.85         55.20         665.20         12.85         72.85         55.20         665.20         12.85         72.10.00         12.85         72.85         55.20         55.4.2         10.00 rest mode mode mode mode mode mode mode mode	1 Drill Rig, Truck-Mounted		2533.00		2/86.30	0.20	76.00			111. 600.00	coco oo	¢50.10	Cally	605.04	000F
4/L LT, Daily (rbas         SH05-b0         SU03/36         121.05	1 Flatbed Truck, Gas, 3 Ion		242.60		200.80	69.39	/0.33		1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80 2252.00	\$35.34	\$54.48
Crew P-23A         Hr.         Daily         Hr.         Daily         Hr.         Daily         Costs         OLP           1 Labor Forman (outside)         533.60         \$268.80         \$52.10         \$41.60         \$36.52         \$58.42           1 Labor Forman (outside)         33.60         \$268.80         \$252.00         \$28.85         \$26.00         \$276.30           1 Protey Truck, Y4 forn         116.60         112.848         110.41         121.45         \$550.120         \$58.30.42         \$56.05         \$443.90           1 Protey Truck, Y4 forn         116.60         122.84         \$110.41         121.45         \$58.30.120         \$58.30.42         \$57.40         \$94.37           24 LH, Daily Totals         \$550.20         \$47.00         \$16.53         \$17.57         \$81.H1, Daily Inter         \$33.60         \$268.80         \$52.10         \$44.69         \$16.00         \$16.80         \$49.00         \$250.00         \$55.12           1 Labor Forman (outside)         33.60         \$52.80         \$49.00         \$250.00         \$56.20         \$46.00         \$276.63         \$11.40 or Forman (outside)         \$33.60         \$268.80         \$52.10         \$41.65           1 Pokup Tuck, Y4 forn         116.80         \$277.90         1	40 L.H., Daily Totals		\$4055.60		\$5037.96	\$101.39	\$125.95		0 Laborers	31.00	1010.00	49.00	2302.00		
Crew B-23R         Hr.         Daily         Hr.         Daily         Costs         OBP           Labor Forman (utside)         \$33.60         \$528.80         \$521.0         \$51.68.00         \$35.2         \$54.42           Labor Forman (utside)         \$13.60         \$258.80         \$52.01         \$41.80         \$53.02         \$50.42         1         Genetit Finisher         \$38.03         \$50.20         \$61.65         \$48.40         \$50.22         \$50.00         \$62.52         \$10.00         \$55.02         \$60.52         \$10.00         \$50.20         \$60.52         \$10.00         \$60.55         \$60.00         \$50.20         \$60.52         \$60.52         \$10.00         \$50.20         \$60.52         \$10.00         \$50.20         \$60.52         \$10.00         \$50.20         \$60.59         \$60.37 <td></td> <td></td> <td></td> <td></td> <td></td> <td>Bare</td> <td>Incl.</td> <td></td> <td>1 Rodman (reinf)</td> <td>41.55</td> <td>356.40</td> <td>72.85</td> <td>582.80</td> <td></td> <td></td>						Bare	Incl.		1 Rodman (reinf)	41.55	356.40	72.85	582.80		
Labor foreman (udside)         S33.60         S58.80         S52.10         S416.80         S35.22         S54.42           1 Labor foreman (udside)         31.60         252.80         490.0         322.00         2785.30         2785.30         2785.30         2785.30         2785.30         10.01 flags, 30,000 lbs.         550.20         605.22         2700.00         155.10         36.26         38.89           Packup Tock, VA Ton         116.80         12.02.84         110.41         12.14.5         S50.20         5630.20         5630.20         2785.00         12.000 lbs.         10.000 lbs.	Crew B-23A	Hr.	Daily	Hr.	Daily	Costs	0&P		1 Cement Finisher	38 30	306.40	56.05	448.40		
1 Laborer       31.60       252.80       49.00       392.00       1         1 Eduip, Operator Imedium)       41.35       333.00       62.15       497.20       1         1 Pokup Track, 3/4 Ton       115.60       128.48       110.41       121.45         24 LH, Daly Totals       S3502.20       \$4420.078       \$145.93       \$175.87       0         1 Labor foreman (outside)       S33.60       \$266.80       \$52.10       \$416.80       \$55.52         1 Labor foreman (outside)       S33.60       \$266.80       \$52.10       \$416.80       \$55.12         1 Labor foreman (outside)       13.56       252.00       \$278.00       2786.00       \$210       \$416.80       \$55.12         1 Labor foreman (outside)       533.60       \$262.80       \$92.00       1516.80       \$32.60       \$55.12         1 Labor foreman (outside)       13.60       128.48       123.30       135.63       123.46       10.61       16.46.75         1 Centr. Water Pump, 6*       309.40       340.03       123.30       135.63       10.61       16.46.75       560.00       577.79       510.27         1 Centr. Water Pump, 6*       309.40       552.00       546.80       552.10       546.80       552.10	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.52	\$54.42		1 Grader, 30,000 Lbs.	50.50	550.20	00.00	605.22		
I Edga, Operator Intedum)       41.35       330.80       62.15       497.20       I Coursets       121145       141.00       155.10       36.26       39.89         24 LH, Daly Totals       S3502.20       S4220.78       S145.93       S17.87       I Coursets       S83.01.20       S83.04.72       S71.60       S94.37         Crew B-23B       Hr.       Daily       Hr.       Daily       Costs       0&P         1 Labor Foreman (outside)       S33.60       S26.88       S52.10       S41.680       S35.52       S54.42         1 Labor Foreman (outside)       S33.60       S26.88       S52.10       S41.680       S35.52       S54.42         1 Labor Foreman (outside)       S33.60       S26.88       S22.10       S41.680       S35.52       S54.42         1 Dirking, Tuxk-Mounted       253.300       C21.5       149.10       1156.80       449.40       Costs       O&P         1 Centr. Water Pump, 6'       30.94.01       30.44       123.30       135.63       S26.62       S55.17       S52.10       S41.680       S34.60       S27.00       1074.70       41.95       41.95       30.40         1 Cameret Finisher       S38.00       S30.64.0       S56.65       S448.40       S36.62       S55	1 Laborer	31.60	252.80	49.00	392.00				1 Paving Mach. & Equip.		2500.00		2750.00		
1 bml Rg, inck-Mouled         22/60 </td <td>1 Equip. Operator (medium)</td> <td>41.35</td> <td>330.80</td> <td>62.15</td> <td>497.20</td> <td></td> <td></td> <td></td> <td>1 Concrete Saw</td> <td></td> <td>141.00</td> <td></td> <td>155.10</td> <td>36.26</td> <td>39.89</td>	1 Equip. Operator (medium)	41.35	330.80	62.15	497.20				1 Concrete Saw		141.00		155.10	36.26	39.89
I Procupinder, 34 Ion         I 10:80         I 12:44 8         I 10:41         I 21:45         I 10:41         I 21:45         I 10:41         I 21:45         I 10:41         I 21:45         I 10:41         I 21:45         I 10:41         I 21:45         I 10:41         I 21:45         I 10:41         I 21:45         I 10:41         I 21:45         I 10:45	1 Drill Rig, Truck-Mounted		2533.00		2/86.30	110.41	101.45		88 L.H., Daily Totals		\$6301.20		\$8304.72	\$71.60	\$94.37
Laber Process         Hr.         Daily         Hr.         Daily         Bare function           1 Labor Foreman (outside)         \$33.60         \$28.80         \$52.10         \$41.60         \$35.52         \$54.42           1 Labor Foreman (outside)         \$33.60         \$28.80         \$52.10         \$41.60         \$35.52         \$54.42           1 Labor Foreman (outside)         \$33.60         \$228.80         \$252.00         \$41.68         \$35.52         \$54.42           1 Labor Foreman (outside)         \$33.60         \$228.80         \$252.00         \$41.68         \$35.64         \$32.00           1 Deign, Frack, Ag4 Tom         116.50         128.48         123.30         135.63         \$36.00         \$56.00         \$57.77.79         \$50.20           1 Certw. Water Pump, 6°         339.40         340.34         123.30         135.63         \$36.60         \$57.70         \$77.79         \$10.77.79           24 LH, Daily Totals         \$381.60         \$456.12         \$158.82         \$190.05         \$200.00         \$275.00         \$200.00         \$277.79         \$10.277.79         \$10.277.79         \$10.277.79         \$10.60         \$22.00         \$36.60         \$32.10         \$46.15         \$36.60         \$52.10         \$46.15         \$36	1 Pickup Truck, 3/4 Ion		116.80 \$2502.20		128.48	110.41 ¢145.02	121.45 ¢175.97		··· , · , ·					Bare	Incl
Crew B-23B         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.680         \$35.52         \$54.42           1 Labor Foreman (outside)         \$33.60         \$268.80         \$22.10         \$41.680         \$35.52         \$54.42           1 Labor Foreman (outside)         \$33.60         \$268.80         \$22.10         \$41.680         \$35.52         \$54.42           1 Labor Foreman (outside)         \$33.60         \$26.80         \$62.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.680         \$52.10         \$41.61           1 Cabor Foreman         \$33.60         \$38.61.12         \$13.60         \$160.00         \$37.680         \$10.27         \$10.27           1 Carenet Finisher         \$33.60         \$38.60         \$32.00	24 L.H., Daily Iolais		\$\$JUZ.20		\$4220.76	\$140.95 Bare	\$175.67		Crew B-26B	Hr.	Daily	Hr.	Daily	Costs	0&P
Labor Foreman (outside)       S33.60       S26.10       S416.80       S35.52       S54.42         Laborer       31.60       252.80       49.00       392.00       3Equip. Oper.(med.)       41.35       392.40       62.15       1491.60         1 Equip. Operator (medium)       41.35       330.80       62.15       497.02       3Equip. Oper.(med.)       41.35       336.40       72.85       S52.80       1491.60         1 Pickup Truck, 3/4 Ton       116.80       128.48       123.30       135.63       10 centr. Water Pump, 6'       309.40       340.34       123.30       135.63         24 L.H., Daily Totals       S3811.60       S4561.12       S158.82       S190.05       10 concrete Pump, 10' Boom       977.00       1074.70       41.95       46.15         1 Cament Finisher       33.60       S306.40       S56.05       S448.40       S36.62       S55.67         1 Laborer       31.60       252.80       49.00       392.00       31.60       S38.60       S52.10       S416.80       S36.62       S55.67         1 Laborer       31.60       S476.80       S22.80       49.00       392.00       12aborers       31.60       758.40       49.00       S31.10       S40.58         1 Laborer	Crew B-23B	Hr.	Daily	Hr.	Daily	Costs	0&P		1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.84	\$55.12
1 Laborer       31.60       252.80       49.00       332.00       41.35       992.40       62.15       1491.60         1 Equip. Operator (medum)       41.35       330.80       62.15       497.20       1       1       Rodman (reinf.)       44.35       356.40       72.85       582.80       1         1 Drill Rig. TruckMounted       2533.00       2786.30       128.48       1       1.60ment finisher       38.30       36.40       56.05       448.40       1       6.61.5       49.00       322.00       605.22       605.22       605.22       1       91.445.5       356.40       72.85       582.80       1       1.60ment finisher       38.30       306.40       56.05       448.40       1       Grader, 30,000 Lbs.       15.00       777.79       510.27       605.22       1.77.79       510.27       1074.70       41.95       46.15         Crew B-24       Hr.       Daily       Bare       Incl.       Oak       S36.60       S484.84       S36.62       S55.77       S56.67       S448.40       S36.60       S484.84       S36.60       S22.10       S416.80       S32.10       S44.84       S33.60       S26.82       S52.10       S416.80       S32.44       S32.67       S33.60       S26.88.00 <td>1 Labor Foreman (outside)</td> <td>\$33.60</td> <td>\$268.80</td> <td>\$52.10</td> <td>\$416.80</td> <td>\$35.52</td> <td>\$54.42</td> <td>1</td> <td>6 Laborers</td> <td>31.60</td> <td>1516.80</td> <td>49.00</td> <td>2352.00</td> <td></td> <td></td>	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.52	\$54.42	1	6 Laborers	31.60	1516.80	49.00	2352.00		
1 Equip. Operator (medium)       41.35       330.80       62.15       497.20       2726.30       1000000000000000000000000000000000000	1 Laborer	31.60	252.80	49.00	392.00				3 Equip. Oper. (med.)	41.35	992.40 25.6.40	62.15	1491.60		
1 Drill Rig, Truck-Mounted       2533.00       2786.30       2786.30       128.48       128.48       128.48       123.30       135.63       500       500.20       605.22       605.22         1 Centr. Water Pump, 6'       309.40       340.34       123.30       135.63       136.63       10 centr. Water Pump, 6'       2500.00       2750.00       1074.70       41.95       46.15         24 L.H., Daily Totals       538.30       \$306.40       \$56.05       \$448.40       \$36.62       \$55.67         1 Corrent Finisher       31.60       252.80       49.00       392.00       1       1.00       536.62       \$56.67         1 Laborer       31.60       252.80       49.00       392.00       536.62       \$55.67       1.16.0       Costs       0&P         1 Laborer       31.60       526.20       \$416.80       \$32.10       \$446.40       \$32.10       \$446.80       \$32.10       \$49.77         1 Labor Foreman       33.60       \$268.80       \$52.10       \$446.80       \$32.10       \$446.80       \$32.10       \$40.58       \$59.10         1 Labor Foreman       \$33.60       \$268.80       \$52.10       \$416.80       \$32.10       \$446.80       \$32.10       \$40.58       \$59.10	1 Equip. Operator (medium)	41.35	330.80	62.15	497.20				1 Rooman (reini.)	44.00	300.40	72.80	06.260		
1 Pickup Truck, 3/4 Ton       116.80       128.48       123.30       135.63         1 Centr. Water Pump, 6"       309.40       340.34       123.30       135.63         24 L.H., Daily Totals       S3811.60       S456.11.2       \$158.82       \$190.05       2500.00       2750.00       2750.00         Crew B-24       Hr.       Daily       Hr.       Daily       Costs       O&P       O       10 Generit Pump, 10' Boom       977.00       1074.70       41.95       46.15         1 Cemert Finisher       S38.0       S306.40       \$56.05       \$448.40       \$36.62       \$55.67       Hr.       Daily       Hr.       Daily       S36.62       \$55.67         1 Laborer       31.60       252.80       49.00       392.00       S31.36.00       \$36.62       \$55.67         1 Laborer       33.60       \$287.80       \$1336.00       \$36.62       \$55.67       Bare       Incl.         24 L.H., Daily Totals       \$878.80       \$1336.00       \$36.62       \$55.67       Bare       Incl.         1 Laborer       31.60       1769.60       \$416.80       \$32.10       \$41.680       \$32.10       \$40.58       \$52.10       \$44.68       \$9.33       \$21.0       \$41.45       \$9.50.10 <td>1 Drill Rig, Truck-Mounted</td> <td></td> <td>2533.00</td> <td></td> <td>2786.30</td> <td></td> <td></td> <td></td> <td>1 Centent Finisher</td> <td>30.30</td> <td>500.40</td> <td>50.05</td> <td>440.40 605.22</td> <td></td> <td></td>	1 Drill Rig, Truck-Mounted		2533.00		2786.30				1 Centent Finisher	30.30	500.40	50.05	440.40 605.22		
1 Centr. Water Pump, 6"       309.40       340.34       123.30       135.63       240.53       2305.05       2700       21074.70       41.95       46.15         24 L.H., Daily Totals       \$3811.60       \$4561.12       \$158.82       \$190.05       024       0174.70       1074.70       1074.70       1074.70       1074.70       41.95       46.15         Crew B-24       Hr.       Daily       Hr.       Daily       Costs       024       024       025       96 L.H., Daily Totals       \$7468.00       \$9721.52       \$77.79       \$101.27         1 Comeret Finisher       \$33.60       \$30.640       \$56.05       \$444.84       \$36.62       \$55.67       14000       120000       1074.70       41.95       46.15         1 Carpenter       33.60       \$262.80       49.00       392.00       10000       296.L.H., Daily Totals       \$2100.00       \$416.80       \$32.10       \$49.77         1 Labor Foreman       \$33.60       \$268.80       \$52.10       \$416.80       \$32.10       \$49.77         1 Labor Foreman       \$33.60       \$268.80       \$52.10       \$416.80       \$34.44       \$52.87         1 Labor Foreman       \$33.60       \$268.80       \$52.10       \$416.80       \$34.44	1 Pickup Truck, 3/4 Ton		116.80		128.48				1 Grader, 50,000 Lbs.		2500.00		2750.00		
24 L.H., Daily Totals       \$\$3811.60       \$\$4561.12       \$\$158.82       \$\$190.05         Crew B-24       Hr.       Daily       Hr.       Daily       Bare Costs       Incl. Costs       O&P         1 Cement Finisher       \$38.30       \$306.40       \$\$56.05       \$448.40       \$36.62       \$\$55.67         1 Laborer       31.60       252.80       49.00       392.00       I       I       Laborer       31.60       \$\$268.80       \$\$2.10       \$\$416.80       \$\$32.10       \$\$49.77         24 L.H., Daily Totals       \$\$878.80       \$\$1336.00       \$\$36.62       \$\$55.67       \$\$1       \$\$100.07       \$\$31.60       758.40       \$\$22.10       \$\$416.80       \$\$32.10       \$\$49.77         1 Labor Foreman       \$\$33.60       \$\$268.80       \$\$52.10       \$\$44.8.0       \$\$34.62       \$\$55.67         Crew B-25       Hr.       Daily       Hr.       Daily       Costs       O&P         1 Labor Foreman       \$\$33.60       \$\$268.80       \$\$52.10       \$\$416.80       \$\$34.44       \$\$52.87         1 Laborer Foreman       \$33.60       \$\$268.80       \$\$2.10       \$\$41.60       \$\$34.44       \$\$52.87         1 Laborer S       31.60       1769.60       49.00	1 Centr. Water Pump, 6"		309.40		340.34	123.30	135.63		1 Concrete Pump 110' Room		2300.00 977.00		1074 70	/1 95	/615
Crew B-24         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           1 Cement Finisher         \$38.30         \$306.40         \$56.05         \$448.40         \$36.62         \$55.67           1 Laborer         31.60         252.80         49.00         332.00         \$36.62         \$55.67           1 Laborer         33.60         \$258.80         \$52.10         \$416.80         \$32.10         \$49.77           24 L.H., Daily Totals         \$878.80         \$1336.00         \$36.62         \$55.67         Item Machine         271.40         298.54         8.48         9.33           24 L.H., Daily Totals         \$878.80         \$1336.00         \$36.62         \$55.67         Item Machine         271.40         298.54         8.48         9.33           1 Labor Foreman         \$33.60         \$268.80         \$52.10         \$41.68.0         \$34.44         \$52.87           1 Labor Foreman         \$33.60         \$268.80         \$25.10         \$41.60.0         \$40.00         217.60         200.00         \$61.95         \$991.20         \$37.17         \$57.63           1 Labor Foreman         \$33.60         \$268.80         \$22.5         \$40.00         212.96.0         212.96.0         <	24 L.H., Daily Totals		\$3811.60		\$4561.12	\$158.82	\$190.05		96 L.H., Daily Totals		\$7468.00		\$9721.52	\$77.79	\$101.27
Crew D-2.4         Int.         Daily         Int.         Daily         Costs         Oder           1 Cement Finisher         \$38.30         \$306.40         \$56.05         \$448.40         \$36.62         \$55.67           1 Laborer         31.60         252.80         49.00         392.00         -	Crow B-24	LI.	Daily	LI.	Daily	Bare	Incl.							Bare	Incl.
1 Construction       <	1 Cement Finisher	\$38.30	\$306.40	\$56.05	\$448.40	\$36.62	\$55.67		Crew B-27	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Carpenter       39.95       319.60       61.95       495.60         1 Carpenter       39.95       319.60       61.95       495.60	1 Laborer	31.60	252.80	49.00	392.00		<i>vooio</i> ,		1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$32.10	\$49.77
24 L.H., Daily Totals         \$878.80         \$1336.00         \$36.62         \$55.67           Crew B-25         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.44         \$52.87           7 Laborers         31.60         1769.60         49.00         2744.00         \$34.44         \$52.87           1 Asphalt Paver, 130 H.P.         1936.00         2192.60         -	1 Carpenter	39.95	319.60	61.95	495.60				3 Laborers	31.60	758.40	49.00	1176.00		
Crew B-25         Hr.         Daily         Hr.         Daily         Solution (Costs)         O&P           1 Labor Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.44         \$52.87           7 Laborers         31.60         1769.60         49.00         2744.00         Foreman         \$30.95         \$639.20         \$61.95         \$991.20         \$37.17         \$57.63           3 Equip. Oper. (med.)         41.35         992.40         62.15         1491.60         Foreman         \$31.60         252.80         49.00         392.00         \$37.17         \$57.63           1 Asphalt Paver, 130 H.P.         1936.00         2129.60         Foreman         \$30.96         \$892.00         \$1383.20         \$37.17         \$57.63           1 Roller, Pneum. Whil, 12 Ton         307.80         338.58         28.15         30.96         \$88.24.1         \$30.96         \$88.24.1         \$30.96         \$31.60         \$1383.20         \$37.17         \$57.63	24 L.H., Daily Totals		\$878.80		\$1336.00	\$36.62	\$55.67		1 Berm Machine		\$1208.60		298.54 \$1801.34	8.48 \$40.58	9.33 \$50.10
Crew 5-23         Hr.         Daily         Hr.         Daily         Costs         Oder           1 Labor Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.44         \$52.87           7 Laborers         31.60         1769.60         49.00         2744.00         \$52.15         1491.60         \$268.80         \$52.15         1491.60         \$268.80         \$31.60         252.80         \$61.95         \$991.20         \$37.17         \$57.63           1 Asphalt Paver, 130 H.P.         1936.00         2129.60	Crow P 25	Ц.,	Dailu	L.,	Dailu	Bare	Incl.		SZ E.H., Dany Totais		Q1230.00		Ş1051.5 <del>4</del>	Bare	Incl.
2 Labor rotation       30.00       2 Loto of 17.000       971.000 <t< td=""><td>1 Labor Foreman</td><td><b>ה</b>ר. \$33.60</td><td>\$268.80</td><td><b>nr.</b> \$52.10</td><td>\$416.80</td><td>\$34.M</td><td>552.87</td><td></td><td>Crew B-28</td><td>Hr.</td><td>Daily</td><td>Hr.</td><td>Daily</td><td>Costs</td><td>0&amp;P</td></t<>	1 Labor Foreman	<b>ה</b> ר. \$33.60	\$268.80	<b>nr.</b> \$52.10	\$416.80	\$34.M	552.87		Crew B-28	Hr.	Daily	Hr.	Daily	Costs	0&P
3 Equip. Oper. (med.)       41.35       992.40       62.15       1491.60         1 Asphalt Paver, 130 H.P.       1936.00       2129.60         1 Tandem Roller, 10 Ton       233.00       256.30         1 Roller, Pneum. Whl, 12 Ton       307.80       338.58       28.15       30.96         88 L.H., Daily Totals       \$5507.60       \$7376.88       \$62.59       \$83.83	7 Laborers	31.60	1769.60	49.00	2744 00	0.1.11	992.07		2 Carpenters	\$39.95	\$639.20	\$61.95	\$991.20	\$37.17	\$57.63
1 Asphalt Paver, 130 H.P.         1936.00         2129.60           1 Tandem Roller, 10 Ton         233.00         256.30           1 Roller, Pneum. Whl, 12 Ton         307.80         338.58         28.15         30.96           88 L.H., Daily Totals         \$5507.60         \$7376.88         \$62.59         \$83.83	3 Equip. Oper. (med.)	41.35	992.40	62.15	1491.60				1 Laborer	31.60	252.80	49.00	392.00		
1 Tandem Roller, 10 Ton         233.00         256.30           1 Roller, Pneum. Whl, 12 Ton         307.80         338.58         28.15         30.96           88 L.H., Daily Totals         \$5507.60         \$7376.88         \$62.59         \$83.83	1 Asphalt Paver, 130 H.P.		1936.00		2129.60				24 L.H., Daily Totals		\$892.00		\$1383.20	\$37.17	\$57.63
1 Roller, Pneum. Whl, 12 Ton         307.80         338.58         28.15         30.96           88 L.H., Daily Totals         \$5507.60         \$7376.88         \$62.59         \$83.83	1 Tandem Roller, 10 Ton		233.00		256.30										
88 L.H., Daily Totals \$5507.60 \$7376.88 \$62.59 \$83.83	1 Roller, Pneum. Whl, 12 Ton		307.80		338.58	28.15	30.96								
	88 L.H., Daily Totals		\$5507.60		\$7376.88	\$62.59	\$83.83	1							

Crew No.	Bai	re Costs	Sut	Incl. os O & P	Co Per Lat	ost bor-Hour	Crew No.	Bare	Costs	In Subs	cl. 5 O & P	Pe
Crew B-29	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Crew B-33B	Hr.	Daily	Hr.	Daily	Ba Co
abor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$34.19	\$52.48	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38
aborers	31.60	1011.20	49.00	1568.00			.5 Laborer	31.60	126.40	49.00	196.00	
Equip. Oper. (crane)	42.55	340.40	63.95	511.60			.25 Equip. Oper. (med.)	41.35	82.70	62.15	124.30	
Equip. Oper. Oiler	36.80	294.40	55.30	442.40			1 Scraper, Towed, 10 C.Y.		153.60		168.96	
Gradall, 5/8 C.Y.		958.80		1054.68	17.12	18.83	1.25 Dozers, 300 H.P.		1778.75		1956.63	138
ό L.H., Daily Totals	<u> </u>	\$2873.60		\$3993.48	\$51.31	\$71.31	14 L.H., Daily Totals		\$2472.25		\$2943.09	\$176
Crew B-30	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Crew B-33C	Hr.	Daily	Hr.	Daily	Ba Co
Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$35.08	\$53.48	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38
Truck Drivers (heavy)	31.95	511.20	49.15	786.40			.5 Laborer	31.60	126.40	49.00	196.00	
Hyd. Excavator, 1.5 C.Y.		865.80		952.38			.25 Equip. Oper. (med.)	41.35	82.70	62.15	124.30	
Dump Trucks, 12 C.Y., 400 H.	P.	1066.00		1172.60	80.49	88.54	1 Scraper, Towed, 15 C.Y.		168.80		185.68	
L.H., Daily Totals		\$2773.80		\$3408.58	\$115.58	\$142.02	1.25 Dozers, 300 H.P.		1778.75		1956.63	139
		J			Bare	Incl.	14 L.H., Daily Totals		\$2487.45		\$2959.80	\$177
Crew B-31	Hr.	Daily	Hr.	Daily	Costs	0&P	Crow B-33D	ц.	Daily	Ни	Daily	Ba
.abor Foreman (outside)	\$33.60 21.60	\$268.80 759.40	\$52.10	\$416.80 1176.00	\$33.67	\$52.21	1 Equip Oper (med.)	¢/1 25	¢220.00	\$62.15	\$/107.20	00 ¢00
Carpontor	20.05	210 CO	45.00	102 60			5 Laborer	21 EU	126 AU	10 00	,9497.20 106.00	<sup>,,,0</sup>
Air Compressor 250 ofm	33.35	162 /0	01.90	490.00 170 GA			25 Equip Oper (med.)	J1.00	120.40 Q2 70	49.00 62.15	10.00	
Sheeting Driver		102.40 5.75		۲ / ۵.04 ۲ / ۵.04			1 S.P. Scraner 1/ C.V	41.33	1500 00	02.10	1650 00	
-50' Air Hoses 1 5"		12.60		13 26	1 52	1 97	25 Dozer 300 H P		255 75		201 22	122
L.H., Daily Totals	+	\$1527.55		\$2287.22	\$38.19	\$57.18	14 L.H., Daily Totals		\$2404.65		\$2868.72	\$171
, , , ,					Bare	Incl.						Ba
Crew B-32	Hr.	Daily	Hr.	Daily	Costs	0&P	Crew B-33E	Hr.	Daily	Hr.	Daily	Co
Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$38.91	\$58.86	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38
.quip. Oper. (med.)	41.35	992.40	62.15	1491.60			.5 Laborer	31.60	126.40	49.00	196.00	
Grader, 30,000 Lbs.		550.20		605.22			.25 Equip. Oper. (med.)	41.35	82.70	62.15	124.30	
Tandem Roller, 10 Ion		233.00		256.30	E	64.10	1 S.P. Scraper, 21 C.Y.		1924.00		2116.40	1.00
Dozer, 200 H.P.	<u> </u>	1082.00		1190.20	58.29	64.12	.25 Dozer, 300 H.P.		355./5		391.32	162
L.H., Dally lotals	÷	\$3110.40		\$393 <u>3</u> .32	\$97.20 Bara	\$122.98	14 L.H., Daily Totais		\$2819.00		Ş3320.22	\$201 <b>P</b> a
Crew B-32A	Hr.	Daily	Hr.	Daily	Costs	0&P	Crew B-33F	Hr.	Daily	Hr.	Daily	Co
aborer	\$31.60	\$252.80	\$49.00	\$392.00	\$38.10	\$57.77	1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38
zquip. Oper. (medium)	41.35	661.60	62.15	994.40			.5 Laborer	31.60	126.40	49.00	196.00	
Frader, 30,000 Lbs.		550.20		605.22			.25 Equip. Oper. (med.)	41.35	82.70	62.15	124.30	
Roller, Vibratory, 25 Ion		594.60		654.06	47.70	52.47	1 Elev. Scraper, 11 C.Y.		1095.00		1204.50	1.00
L.H., Daily Iotals		\$2059.20		\$2645.68	\$85.80	\$110.24	.25 Dozer, 300 H.P.		300.70		391.32 \$2/13.32	103 \$142
Crew B-32B	Hr.	Daily	Hr.	Daily	Bare Costs	inci. 0&P	2. E, Surg Totald		¥=330.00		4- 110.0L	Ba
Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$38.10	\$57.77	Crew B-33G	Hr.	Daily	Hr.	Daily	Co
quip. Oper. (medium)	41.35	661.60	62.15	994.40			1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38
lozer, 200 H.P.		1082.00		1190.20			.5 Laborer	31.60	126.40	49.00	196.00	
Roller, Vibratory, 25 Ton		594.60		654.06	69.86	76.84	.25 Equip. Oper. (med.)	41.35	82.70	62.15	124.30	
L.H., Daily Totals		\$2591.00		\$3230.66	\$107.96	\$134.61	1 Elev. Scraper, 22 C.Y.		2127.00		2339.70	
Crew D 200	п.,	D-11-	п.,	D.9	Bare	Incl.	.25 Dozer, 300 H.P.		355./5		391.32 \$3548.53	\$215
ahor Foreman	¢33.60	COLO ON	<b>Hr.</b>	\$416.00	\$26.01	556 00	יד בווו, טמוא וטנמוס		40075'00		Ψ.Ο <b>.</b> ΤΟ.ΟΟ	R
aborers	31 60	200.00 505 60	49.00	3410.00 784.00	\$30.01	200.0a	Crew B-33H	Hr.	Daily	Hr.	Daily	Co
Equip, Oper. (medium)	41.35	992 40	62.15	1491 60			.5 Laborer	\$31.60	\$126.40	\$49.00	\$196.00	\$38
Grader, 30,000 Lbs		550.20	1	605.22			1 Equipment Operator (med.)	41.35	330.80	62.15	497.20	
andem Roller. 10 Ton		233.00		256.30			.25 Equipment Operator (med.)	41.35	82.70	62.15	124.30	
Dozer, 200 H.P.		1082.00		1190.20	38.86	42.74	1 S.P. Scraper, 44 C.Y.	.1.00	3452.00	02.10	3797.20	
L.H., Daily Totals	+	\$3632.00		\$4744.12	\$75.67	\$98.84	.25 Dozer, 410 H.P.		462.25		508.48	279
-	<u>+</u>				Bare	Incl.	14 L.H., Daily Totals		\$4454.15		\$5123.18	\$318
Crew B-33A	Hr.	Daily	Hr.	Daily	Costs	0&P	Charle D 221	11.	Daihi	11.	Dailu	Ba
-quip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.56	\$58.39	Lifew D-33J	пr.	¢220.00	<b>Π</b> Γ.		C0
_duorer	31.6U	120.40	49.00	124.20			1 Equipment Operator (med.)	Q41.35	3330.80 1500.00	əo2.15	\$497.20 1650.00	\$41 100
J LYUID. ODEL (ILIEQ.)	41.50	02.70	02.10	124.30	11		1 S.F. SUIDPER, 14 U.Y.		1003.00		1003'30	1 100
Scraper Towed 7 C V	1100	102 20		112/2			Q L LL Doily Totale		¢1000.00		C015710	ćono
Scraper, Towed, 7 C.Y.	11.00	102.20 1778 75		112.42	12/1 25	1/17 70	8 L.H., Daily Totals		\$1839.80		\$2157.10	\$229

\$210.22

\$269.64

Crew No.	Bai	re Costs	Sut	Incl. os O & P	Co Per Lat	st oor-Hour
Crew B-33K	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Equipment Operator (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$38.56	\$58.39
.25 Equipment Operator (med.)	41.35	82.70	62.15	124.30		
.5 Laborer	31.60	126.40	49.00	196.00		
1 S.P. Scraper, 31 C.Y.		2878.00		3165.80	220 50	0C0 4E
.25 Dozer, 410 H.P.		402.20		508.48 ¢4401.77	238.59	202.40
14 L.H., Daily Totals		\$3880.15		\$4491.77	\$277.15	\$320.84
Crew B-34A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Truck Driver (heavy)	\$31.95	\$255.60	\$49.15	\$393.20	\$31.95	\$49.15
Dump Truck, 8 C.Y., 220 H.P.		326.40		359.04	40.80	44.88
S L.H., Daily Totals		\$582.00		\$752.24	\$72.75	\$94.03
Crew B-34B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
L Truck Driver (heavy)	\$31.95	\$255.60	\$49.15	\$393.20	\$31.95	\$49.15
Dump Truck, 12 C.Y., 400 H.P.		533.00		586.30	66.63	73.29
B L.H., Daily Totals		\$788.60		\$979.50	\$98.58	\$122.44
				]	Bare	Incl.
Crew B-34C	Hr.	Daily	Hr.	Daily	Costs	0&P
Truck Driver (heavy)	\$31.95	\$255.60	\$49.15	\$393.20	\$31.95	\$49.15
L IRUCK IRACTOR, 6X4, 380 H.P.		4/8.80		526.68 127.16	7/1 30	81 73
R I H Daily Totals		\$850.00		\$1047.04	\$106.25	\$130.88
		Ş030.00		Q1047.04	Pere	Junel
Crew B-34D	Hr.	Daily	Hr.	Daily	Costs	0&P
Truck Driver (heavy)	\$31.95	\$255.60	\$49.15	\$393.20	\$31.95	\$49.15
Truck Tractor, 6x4, 380 H.P.		478.80		526.68	76.10	00.74
L Dump Trailer, 20 C.Y.		130.20		143.22 ¢1062.10	/0.13	6122.00
5 L.H., Dally Totals		Ş004.00		\$1005.10	\$106.06	\$132.09
Crew B-34E	Hr.	Daily	Hr.	Daily	Costs	0&P
T I D' // )	\$31.95	\$255.60	\$49.15	\$393.20	\$31.95	\$49.15
Iruck Driver (heavy)	Q01.50				1 1 0 0 0 0	170 00
Truck Driver (heavy) Dump Truck, Off Hwy., 25 Ton	Q01.50	1280.00		1408.00	160.00	176.00
LITUCK Driver (heavy) Dump Truck, Off Hwy., 25 Ton L.H., Daily Totals	Ç01.50	1280.00 \$1535.60		1408.00 \$1801.20	\$191.95	\$225.15
L Truck Driver (neavy) L Dump Truck, Off Hwy., 25 Ton B L.H., Daily Totals Crew B-34F	Hr.	1280.00 \$1535.60 Daily	Hr.	1408.00 \$1801.20 Daily	\$191.95 Bare Costs	\$225.15 Incl. 0&P
Truck Driver (neavy) Dump Truck, Off Hwy., 25 Ton L.H., Daily Totals Crew B-34F Truck Driver (heavy)	Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60	<b>Hr.</b> \$49.15	1408.00 \$1801.20 Daily \$393.20	\$191.95 Bare Costs \$31.95	\$225.15 Incl. 0&P \$49.15
Truck Driver (neavy) Dump Truck, Off Hwy., 25 Ton 8 L.H., Daily Totals Crew B-34F Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton	Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00	<b>Hr.</b> \$49.15	1408.00 \$1801.20 Daily \$393.20 1258.40	\$191.95 Bare Costs \$31.95 143.00	\$225.15 Incl. 0&P \$49.15 157.30
Truck Unver (neavy) Dump Truck, Off Hwy., 25 Ton I L.H., Daily Totals Crew B-34F Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton I L.H., Daily Totals	Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60	<b>Hr.</b> \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60	160.00           \$191.95           Bare           Costs           \$31.95           143.00           \$174.95	\$225.15 Incl. 0&P \$49.15 157.30 \$206.45
I ruck Driver (heavy) I. Dump Truck, Off Hwy., 25 Ton 3 L.H., Daily Totals Crew B-34F I. Truck Driver (heavy) I. Dump Truck, Off Hwy., 35 Ton 3 L.H., Daily Totals Crew R-34C	Hr. \$31.95	1280.00 \$1535.60 Daily \$255.60 1144.00 \$1399.60 Daily	Hr. \$49.15 Hr	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b>	160.00           \$191.95           Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P
I ruck Driver (heavy) Dump Truck, Off Hwy., 25 Ton L Dump Truck, Off Hwy., 25 Ton L H., Daily Totals Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton L H., Daily Totals Crew B-34G Truck Driver (heavy) Truck Driver (heavy)	Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60	Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20	160.00           \$191.95           Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           \$33.95           \$31.95           \$31.95           \$31.95           \$31.95           \$31.95	176.00 \$225.15 <b>Incl.</b> <b>0&amp;P</b> \$49.15 157.30 \$206.45 <b>Incl.</b> <b>0&amp;P</b> \$49.15
Truck Unver (neavy) Dump Truck, Off Hwy., 25 Ton i L.H., Daily Totals  Crew B-34F  Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton i L.H., Daily Totals  Crew B-34G  Truck Driver (heavy) Dump Truck, Off Hwy., 50 Ton	Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00	Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20	160.00           \$191.95           Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53
I ruck Driver (heavy) L Dump Truck, Off Hwy., 25 Ton 3 L.H., Daily Totals Crew B-34F Truck Driver (heavy) L Dump Truck, Off Hwy., 35 Ton 3 L.H., Daily Totals Crew B-34G L Truck Driver (heavy) L Dump Truck, Off Hwy., 50 Ton 3 L.H., Daily Totals	Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60	Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40	\$191.95 Bare Costs \$31.95 143.00 \$174.95 Bare Costs \$31.95 197.75 \$229.70	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68
1 Iruck Driver (heavy) 1 Dump Truck, Off Hwy., 25 Ton 3 L.H., Daily Totals Crew B-34F 1 Truck Driver (heavy) 1 Dump Truck, Off Hwy., 35 Ton 3 L.H., Daily Totals Crew B-34G 1 Truck Driver (heavy) 1 Dump Truck, Off Hwy., 50 Ton 3 L.H., Daily Totals Crew B-34H	Hr. \$31.95 Hr. \$31.95 Hr.	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b>	нг. \$49.15 нг. \$49.15 Нг.	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b>	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P
Truck Driver (neavy) Dump Truck, Off Hwy., 25 Ton L Dump Truck, Off Hwy., 25 Ton Crew B-34F Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton L H., Daily Totals Crew B-34G Truck Driver (heavy) Dump Truck, Off Hwy., 50 Ton L H., Daily Totals Crew B-34H Truck Driver (heavy)	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b> \$255.60	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b> \$393.20	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15
Truck Unver (neavy) Dump Truck, Off Hwy., 25 Ton L.H., Daily Totals Crew B-34F Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton L.H., Daily Totals Crew B-34G Truck Driver (heavy) Dump Truck, Off Hwy., 50 Ton L.H., Daily Totals Crew B-34H Truck Driver (heavy) Dump Truck, Off Hwy., 65 Ton	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b> \$255.60 1594.00	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b> \$393.20 1753.40	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 219.18
I rruck Driver (neavy) I Dump Truck, Off Hwy., 25 Ton I L. Dump Truck, Off Hwy., 25 Ton I Truck Driver (heavy) I Dump Truck, Off Hwy., 35 Ton I L.H., Daily Totals I Truck Driver (heavy) Dump Truck, Off Hwy., 50 Ton I L.H., Daily Totals I Crew B-34H I Truck Driver (heavy) Dump Truck, Off Hwy., 65 Ton I L.H., Daily Totals I L.H., Daily Totals I L.H., Daily Totals I L.H., Daily Totals I L.H., Daily Totals I L.H., Daily Totals I Truck Driver (heavy) I Dump Truck, Off Hwy., 65 Ton I L.H., Daily Totals I L.H.H.H.H., Daily Totals I L.H.H.H.H.H.H.H.H.H.H.H.H.H.H.H.H.H.H.H	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b> \$255.60 1594.00 \$1849.60	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b> \$393.20 1753.40 \$2146.60	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$231.20	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 217.53 \$266.58 Incl. 0&P
1 Iruck Driver (heavy) 1 Dump Truck, Off Hwy., 25 Ton 3 L.H., Daily Totals Crew B-34F 1 Truck Driver (heavy) 1 Dump Truck, Off Hwy., 35 Ton 3 L.H., Daily Totals Crew B-34G 1 Truck Driver (heavy) 1 Dump Truck, Off Hwy., 50 Ton 8 L.H., Daily Totals Crew B-34H 1 Truck Driver (heavy) 1 Dump Truck, Off Hwy., 65 Ton 3 L.H., Daily Totals	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b> \$255.60 1594.00 \$1849.60	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b> \$393.20 1753.40 \$2146.60	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$231.20           Bare	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P
I Truck Driver (heavy) L Dump Truck, Off Hwy., 25 Ton L Dump Truck, Off Hwy., 25 Ton L Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton L H., Daily Totals Crew B-34G Truck Driver (heavy) Dump Truck, Off Hwy., 50 Ton L H., Daily Totals Crew B-34H Truck Driver (heavy) Dump Truck, Off Hwy., 65 Ton L H., Daily Totals Crew B-34J Crew B-34J	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr.	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b> \$255.60 1594.00 \$1849.60 <b>Daily</b>	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr.	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b> \$393.20 1753.40 \$2146.60 <b>Daily</b>	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P
Truck Driver (heavy) Dump Truck, Off Hwy., 25 Ton Crew B-34F Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton L.H., Daily Totals Crew B-34G Truck Driver (heavy) Dump Truck, Off Hwy., 50 Ton L.H., Daily Totals Crew B-34H Truck Driver (heavy) Dump Truck, Off Hwy., 65 Ton L.H., Daily Totals Crew B-34J Truck Driver (heavy) Dump Truck, Off Hwy., 65 Ton L.H., Daily Totals Crew B-34J Truck Driver (heavy)	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b> \$255.60 1594.00 \$1849.60 <b>Daily</b>	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b> \$393.20 1753.40 \$2146.60 <b>Daily</b> \$393.20	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           \$231.20           Bare           Costs           \$31.95           \$31.95           \$31.95           \$31.95	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P
I rruck Driver (heavy) L Dump Truck, Off Hwy., 25 Ton 3 L.H., Daily Totals Crew B-34F Truck Driver (heavy) L Dump Truck, Off Hwy., 35 Ton 3 L.H., Daily Totals Crew B-34G L Truck Driver (heavy) L Dump Truck, Off Hwy., 50 Ton 3 L.H., Daily Totals Crew B-34H Truck Driver (heavy) L Dump Truck, Off Hwy., 65 Ton 3 L.H., Daily Totals Crew B-34J L Truck Driver (heavy) L Dump Truck, Off Hwy., 100 Ton	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b> \$255.60 1594.00 \$1849.60 <b>Daily</b> \$255.60 255.60	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b> \$393.20 1753.40 \$2146.60 <b>Daily</b> \$393.20 201753.40	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$2231.20           Bare           \$31.95           \$25.85	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P
I Truck Driver (heavy) I Dump Truck, Off Hwy., 25 Ton 3 L.H., Daily Totals Crew B-34F I Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton 3 L.H., Daily Totals Crew B-34G I Truck Driver (heavy) Dump Truck, Off Hwy., 50 Ton 3 L.H., Daily Totals Crew B-34H I Truck Driver (heavy) Dump Truck, Off Hwy., 65 Ton 3 L.H., Daily Totals Crew B-34J . Truck Driver (heavy) Dump Truck, Off Hwy., 100 Ton 3 L.H., Daily Totals	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b> \$255.60 1594.00 \$1849.60 <b>Daily</b> \$255.60 2047.00 \$2302.60	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b> \$393.20 1753.40 \$2146.60 <b>Daily</b> \$393.20 2251.70 \$2644.90	160.00           \$191.95           Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           255.88           \$287.82	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P
Iruck Driver (neavy)     I Dump Truck, Off Hwy., 25 Ton     3 L.H., Daily Totals     Crew B-34F     Truck Driver (heavy)     1 Dump Truck, Off Hwy., 35 Ton     8 L.H., Daily Totals     Crew B-34G     Truck Driver (heavy)     1 Dump Truck, Off Hwy., 50 Ton     8 L.H., Daily Totals     Crew B-34H     Truck Driver (heavy)     1 Dump Truck, Off Hwy., 65 Ton     8 L.H., Daily Totals     Crew B-34J     Truck Driver (heavy)     1 Dump Truck, Off Hwy., 100 Ton     8 L.H., Daily Totals     Crew B-34J     Truck Driver (heavy)     1 Dump Truck, Off Hwy., 100 Ton     8 L.H., Daily Totals     Crew B-34J	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr.	1280.00 \$1535.60 <b>Daily</b> \$255.60 1144.00 \$1399.60 <b>Daily</b> \$255.60 1582.00 \$1837.60 <b>Daily</b> \$255.60 1594.00 \$1849.60 <b>Daily</b> \$255.60 2047.00 \$2302.60	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 \$393.20 1258.40 \$1651.60 Daily \$393.20 1740.20 \$2133.40 \$2133.40 \$2134.60 \$2146.60 Daily \$393.20 2251.70 \$2644.90 Daily	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           255.88           \$287.82           Bare           Costs	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 281.46 \$330.61 Incl. 0&P
I Truck Driver (heavy) I Dump Truck, Off Hwy., 25 Ton 3 L.H., Daily Totals Crew B-34F I Truck Driver (heavy) I Dump Truck, Off Hwy., 35 Ton 3 L.H., Daily Totals Crew B-34G I Truck Driver (heavy) I Dump Truck, Off Hwy., 50 Ton 3 L.H., Daily Totals Crew B-34H I Truck Driver (heavy) I Dump Truck, Off Hwy., 65 Ton 3 L.H., Daily Totals Crew B-34J I Truck Driver (heavy) Dump Truck, Off Hwy., 100 Ton 3 L.H., Daily Totals Crew B-34J I Truck Driver (heavy) Dump Truck, Off Hwy., 100 Ton 3 L.H., Daily Totals Crew B-34K I Truck Driver (heavy)	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 Daily \$255.60 1144.00 \$1399.60 \$255.60 1582.00 \$1837.60 Daily \$255.60 1594.00 \$1849.60 Daily \$255.60 2047.00 \$2302.60 Daily \$255.60	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 Daily \$393.20 1258.40 \$1651.60 Daily \$393.20 1740.20 \$2133.40 \$2133.40 \$393.20 1753.40 \$2146.60 Daily \$393.20 2251.70 \$2644.90 Daily \$393.20	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           255.88           \$287.82           Bare           Costs           \$31.95           255.88           \$287.82           Bare           Costs           \$31.95	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 281.46 \$330.61 Incl. 0&P \$49.15 281.46 \$330.61 Incl. 0&P
Truck Unver (neavy) Dump Truck, Off Hwy., 25 Ton L.H., Daily Totals Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton L.H., Daily Totals Crew B-34G Truck Driver (heavy) Dump Truck, Off Hwy., 50 Ton L.H., Daily Totals Crew B-34H Truck Driver (heavy) Dump Truck, Off Hwy., 65 Ton L.H., Daily Totals Crew B-34J Truck Driver (heavy) Dump Truck, Off Hwy., 100 Ton L.H., Daily Totals Crew B-34K Truck Driver (heavy) Truck Driver (heavy) Truck Driver (heavy) Truck Driver (heavy) Truck Driver (heavy) Truck Truck Tractor, 6x4, 450 H.P.	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 Daily \$255.60 1144.00 \$1399.60 Daily \$255.60 1582.00 \$1837.60 Daily \$255.60 1594.00 \$1849.60 Daily \$255.60 2047.00 \$2302.60 Daily \$255.60	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 <b>Daily</b> \$393.20 1753.40 \$2146.60 <b>Daily</b> \$393.20 2251.70 \$2644.90 <b>Daily</b> \$393.20 2251.70	Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           255.88           \$287.82           Bare           Costs           \$31.95           255.88           \$287.82           Bare           Costs	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 281.46 \$330.61 Incl. 0&P \$49.15 281.46 \$330.61 Incl. 0&P
Truck Driver (heavy) Dump Truck, Off Hwy., 25 Ton 3 L.H., Daily Totals Truck Driver (heavy) Dump Truck, Off Hwy., 35 Ton 3 L.H., Daily Totals Crew B-34G Truck Driver (heavy) Dump Truck, Off Hwy., 50 Ton 3 L.H., Daily Totals Crew B-34H Truck Driver (heavy) Dump Truck, Off Hwy., 65 Ton 3 L.H., Daily Totals Crew B-34J Truck Driver (heavy) Dump Truck, Off Hwy., 100 Ton L.H., Daily Totals Crew B-34K Truck Driver (heavy) T	Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95 Hr. \$31.95	1280.00 \$1535.60 Daily \$255.60 1144.00 \$1399.60 Daily \$255.60 1582.00 \$1837.60 Daily \$255.60 1594.00 \$1849.60 Daily \$255.60 2047.00 \$2302.60 Daily \$255.60 2047.00	Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr. \$49.15 Hr. \$49.15	1408.00 \$1801.20 <b>Daily</b> \$393.20 1258.40 \$1651.60 <b>Daily</b> \$393.20 1740.20 \$2133.40 \$2133.40 <b>Daily</b> \$393.20 1753.40 \$2146.60 <b>Daily</b> \$393.20 2251.70 \$2644.90 <b>Daily</b> \$393.20 2251.70	160.00           \$191.95           Bare           Costs           \$31.95           143.00           \$174.95           Bare           Costs           \$31.95           197.75           \$229.70           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           199.25           \$231.20           Bare           Costs           \$31.95           255.88           \$287.82           Bare           Costs           \$31.95           98.03	176.00 \$225.15 Incl. 0&P \$49.15 157.30 \$206.45 Incl. 0&P \$49.15 217.53 \$266.68 Incl. 0&P \$49.15 219.18 \$268.32 Incl. 0&P \$49.15 219.18 \$281.46 \$330.61 Incl. 0&P \$49.15 219.18 \$49.15 219.18 \$106 \$49.15 219.18 \$49.15 219.18 \$49.15 210.46 \$30.61 Incl. 0&P \$49.15 \$40.15 \$

Crew No.	Bare	Costs	In Subs	cl. : O & P	Co Per Lat	ost oor-Hour
Crew B-34L	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Equip. Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$39.05	\$58.70
8 L.H., Daily Totals		\$506.80		\$683.44	\$63.35	\$85.43
Crew B-34N	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Truck Driver (heavy)	\$31.95	\$255.60	\$49.15	\$393.20	\$31.95	\$49.15
1 Dump Truck, 8 C.Y., 220 H.P. 1 Elathed Trailer, 40 Ton		326.40 139.60		359.04 153.56	58 25	64.08
8 L.H., Daily Totals		\$721.60		\$905.80	\$90.20	\$113.22
Creary D 24D	U.	Deily	U.,	Deily	Bare	Incl.
1 Pipe Fitter	пг. \$49.35	\$394.80	лг. \$74.05	\$592.40	\$40.55	\$61.28
1 Truck Driver (light)	30.95	247.60	47.65	381.20	¢ loloo	ŶŨĨĿĹŎ
1 Equip. Oper. (medium)	41.35	330.80	62.15	497.20		
1 Flatbed Truck, Gas, 3 Ion		242.60		266.86 323.18	22 35	2/ 59
24 L.H., Daily Totals		\$1509.60		\$2060.84	\$62.90	\$85.87
Crew B-34Q	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Pipe Fitter	\$49.35	\$394.80	\$74.05	\$592.40	\$40.95	\$61.88
1 Truck Driver (light)	30.95	247.60	47.65	381.20		
1 Eqip. Oper. (crane)	42.55	340.40	63.95	511.60		
1 Plated Trailer, 25 Toll 1 Dump Truck, 8 C.Y., 220 H.P.		326.40		359.04		
1 Hyd. Crane, 25 Ton		789.40		868.34	50.74	55.82
24 L H Daily Totals		¢0000.00		60004 70	CO1 CO	¢117.70
24 E.H., Dally Totals		\$2200.00		\$2824.78	\$91.69	\$117.70
Crew B-34R	Hr.	\$2200.60 Daily	Hr.	\$2824.78 Daily	S91.69 Bare Costs	Incl. 0&P
Crew B-34R	<b>Hr.</b> \$49.35	\$2200.80 Daily \$394.80	<b>Hr.</b> \$74.05	\$2824.78 Daily \$592.40	\$91.69 Bare Costs \$40.95	\$117.70 Incl. 0&P \$61.88
Crew B-34R 1 Pipe Fitter 1 Truck Driver (light) 1 Foin Oper (crane)	<b>Hr.</b> \$49.35 30.95 42.55	\$2200.60 Daily \$394.80 247.60 340.40	<b>Hr.</b> \$74.05 47.65 63.95	\$2824.78 Daily \$592.40 381.20 511.60	\$91.69 Bare Costs \$40.95	Incl. 0&P \$61.88
Crew B-34R 1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton	<b>Hr.</b> \$49.35 30.95 42.55	Daily           \$394.80           247.60           340.40           102.00	<b>Hr.</b> \$74.05 47.65 63.95	\$2824.78 Daily \$592.40 381.20 511.60 112.20	\$91.69 Bare Costs \$40.95	Incl. 0&P \$61.88
Crew B-34R 1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P.	<b>Hr.</b> \$49.35 30.95 42.55	Daily           \$394.80           247.60           340.40           102.00           326.40	<b>Hr.</b> \$74.05 47.65 63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04	S91.69           Bare           Costs           \$40.95	Incl. 0&P \$61.88
Crew B-34R 1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Livid Evaporter, 1 C V	<b>Hr.</b> \$49.35 30.95 42.55	Daily           \$394.80           247.60           340.40           102.00           326.40           789.40	<b>Hr.</b> \$74.05 47.65 63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 726.12	\$91.69 Bare Costs \$40.95	\$61.88
Crew B-34R 1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals	<b>Hr.</b> \$49.35 30.95 42.55	Daily           \$394.80           247.60           340.40           102.00           326.40           789.40           669.20           \$2869.80	<b>Hr.</b> \$74.05 47.65 63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90	\$91.69 Bare Costs \$40.95 78.63 \$119.58	\$61.88 \$61.88 86.49 \$148.37
Crew B-34R 1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals Crew B-34S	Hr. \$49.35 30.95 42.55 Hr.	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b>	Hr. \$74.05 47.65 63.95 Hr.	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b>	\$91.09 Bare Costs \$40.95 78.63 \$119.58 Bare Costs	S117.70           Incl.           O&P           \$61.88           86.49           \$148.37           Incl.           O&P
Crew B-34R  1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters	Hr. \$49.35 30.95 42.55 Hr. \$49.35	Daily           \$394.80           247.60           340.40           102.00           326.40           789.40           669.20           \$2869.80           Daily           \$789.60	Hr. \$74.05 47.65 63.95 Hr. \$74.05	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80	\$91.09 Bare Costs \$40.95 78.63 \$119.58 Bare Costs \$43.30	S117.70           Incl.           O&P           \$61.88           86.49           \$148.37           Incl.           O&P           \$65.30
Crew B-34R 1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals Crew B-34S 2 Pipe Fitters 1 Truck Driver (heavy)	Hr. \$49.35 30.95 42.55 Hr. \$49.35 31.95	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60	Hr. \$74.05 47.65 63.95 Hr. \$74.05 49.15	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20	\$91.09         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30	S117.70           Incl.           O&P           \$61.88           86.49           \$148.37           Incl.           O&P           \$65.30
Crew B-34R  1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Elethed Twiler, 40 Tep.	Hr. \$49.35 30.95 42.55 42.55 <b>Hr.</b> \$49.35 31.95 42.55	Daily           \$394.80           247.60           340.40           102.00           326.40           789.40           669.20           \$2869.80           Daily           \$789.60           255.60           340.40	Hr. \$74.05 47.65 63.95 Hr. \$74.05 49.15 63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56	\$91.09         Bare           Costs         \$40.95           78.63         \$119.58           Bare         Costs           \$43.30         \$43.30	S117.70           Incl.           O&P           \$61.88           86.49           \$148.37           Incl.           O&P           \$65.30
Crew B-34R         1 Pipe Fitter       1 Truck Driver (light)         1 Eqip. Oper. (crane)       1 Flatbed Trailer, 25 Ton         1 Dump Truck, 8 C.Y., 220 H.P.       1 Hyd. Crane, 25 Ton         1 Hyd. Crane, 25 Ton       1 Hyd. Excavator, 1 C.Y.         24 L.H., Daily Totals       Crew B-34S         2 Pipe Fitters       1 Truck Driver (heavy)         1 Eqip. Oper. (crane)       1 Flatbed Trailer, 40 Ton         1 Truck Tractor, 6x4, 380 H.P.       1 Truck Tractor, 6x4, 380 H.P.	Hr. \$49.35 30.95 42.55 Hr. \$49.35 31.95 42.55	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80	Hr. \$74.05 47.65 63.95 Hr. \$74.05 49.15 63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68	\$91.69         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30	S117.70           Incl.           O&P           \$61.88           86.49           \$148.37           Incl.           O&P           \$65.30
Crew B-34R  1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 1 Hyd. Crane, 80 Ton	Hr. \$49.35 30.95 42.55 Hr. \$49.35 31.95 42.55	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80 1296.00	Hr. \$74.05 47.65 63.95 <b>Hr.</b> \$74.05 49.15 63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60	\$91.09         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30	S117.70           Incl.           O&P           \$61.88           86.49           \$148.37           Incl.           O&P           \$65.30
Crew B-34R  1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 1 Hyd. Crane, 80 Ton 1 Hyd. Excavator, 2 C.Y.	Hr. \$49.35 30.95 42.55 42.55 Hr. \$49.35 31.95 42.55	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80 1296.00 1482.00	Hr. \$74.05 47.65 63.95 Hr. \$74.05 49.15 63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60 1425.60 1425.60	S91.09         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30           96.76         \$10.90	S117.70           Incl.           0&P           \$61.88           86.49           \$148.37           Incl.           0&P           \$65.30           106.44
Crew B-34R  1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 1 Hyd. Crane, 80 Ton 1 Hyd. Excavator, 2 C.Y. 32 L.H., Daily Totals	Hr. \$49.35 30.95 42.55 Hr. \$49.35 31.95 42.55	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80 1296.00 1182.00 \$4482.00	Hr. \$74.05 47.65 63.95 Hr. \$74.05 49.15 63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60 1300.20 \$5495.64	\$91.69 Bare Costs \$40.95 78.63 \$119.58 Bare Costs \$43.30 96.76 \$140.06	S117.70           Incl.           O&P           \$61.88           86.49           \$148.37           Incl.           O&P           \$65.30           106.44           \$171.74
Crew B-34R  1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 1 Hyd. Crane, 80 Ton 1 Hyd. Excavator, 2 C.Y. 32 L.H., Daily Totals  Crew B-34T	Hr. \$49.35 30.95 42.55 42.55 Hr. \$49.35 31.95 42.55 Hr.	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80 1296.00 1182.00 \$4482.00 <b>Daily</b>	Hr. \$74.05 47.65 63.95 Hr. \$74.05 49.15 63.95 Hr.	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60 1300.20 \$5495.64 <b>Daily</b>	S91.09         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30           96.76         \$140.06           Bare Costs         \$255	S117.70           Incl.         0&P           \$61.88         86.49           \$148.37         Incl.           0&P         \$65.30           106.44         \$171.74           Incl.         0&P
Crew B-34R  1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 1 Hyd. Crane, 80 Ton 1 Hyd. Excavator, 2 C.Y. 32 L.H., Daily Totals  Crew B-34T 2 Pipe Fitters	Hr. \$49.35 30.95 42.55 Hr. \$49.35 31.95 42.55 Hr. \$49.35 21.05	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80 1296.00 1182.00 \$4482.00 <b>Daily</b> \$789.60 255.62	Hr. \$74.05 47.65 63.95 Hr. \$74.05 49.15 63.95 Hr. \$74.05 49.15	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60 1300.20 \$5495.64 <b>Daily</b> \$1184.80	\$91.69         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30           96.76         \$140.06           Bare Costs         \$43.30	S117.70           Incl.           O&P           \$61.88           86.49           \$148.37           Incl.           O&P           \$65.30           106.44           \$171.74           Incl.           O&P           \$65.30
Crew B-34R  Pipe Fitter Truck Driver (light) Eqip. Oper. (crane) Flatbed Trailer, 25 Ton Dump Truck, 8 C.Y., 220 H.P. Hyd. Crane, 25 Ton Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 1 Hyd. Crane, 80 Ton 1 Hyd. Excavator, 2 C.Y. 32 L.H., Daily Totals  Crew B-34T 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane)	Hr. \$49.35 30.95 42.55 42.55 Hr. \$49.35 31.95 42.55 Hr. \$49.35 31.95 42.55	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80 1296.00 1182.00 <b>\$4482.00</b> <b>Daily</b> \$789.60 255.60 340 40 478.90 255.60 340 40 478.90 255.60 340 40 478.90 255.60 340 40 478.90 255.60 340 40 478.90 255.60 240 255.60 240 255.60 240 255.60 240 255.60 240 255.60 255.60 255.60 240 255.60 250 250 250 250 250 250 250 25	Hr. \$74.05 47.65 63.95 Hr. \$74.05 49.15 63.95 Hr. \$74.05 49.15 63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60 1300.20 \$5495.64 <b>Daily</b> \$1184.80 393.20 511.60	S91.09         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30           96.76         \$140.06           Bare Costs         \$43.30	S117.70           Incl.           0&P           \$61.88           86.49           \$148.37           Incl.           0&P           \$65.30           106.44           \$171.74           Incl.           0&P           \$65.30
Crew B-34R  1 Pipe Fitter 1 Truck Driver (light) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 25 Ton 1 Dump Truck, 8 C.Y., 220 H.P. 1 Hyd. Crane, 25 Ton 1 Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 1 Hyd. Crane, 80 Ton 1 Hyd. Excavator, 2 C.Y. 32 L.H., Daily Totals  Crew B-34T 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 1 Hyd. Crane, 80 Ton 1 Hyd. Excavator, 2 C.Y. 32 L.H., Daily Totals  Crew B-34T 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton	Hr. \$49.35 30.95 42.55 42.55 Hr. \$49.35 31.95 42.55 Hr. \$49.35 31.95 42.55	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80 1296.00 1182.00 \$4482.00 <b>Daily</b> \$789.60 255.60 340.40 139.60	Hr.           \$74.05           47.65           63.95           63.95           Hr.           \$74.05           49.15           63.95           Hr.           \$74.05           49.15           63.95           Hr.           \$74.05           49.15           63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60 1300.20 \$5495.64 <b>Daily</b> \$1184.80 393.20 \$11.60 153.56	S91.09         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30           96.76         \$140.06           Bare Costs         \$43.30	S117.70           Incl.         0&P           \$61.88         86.49           \$148.37         Incl.           0&P         \$65.30           106.44         \$171.74           Incl.         0&P           \$65.30         \$65.30
Crew B-34R         1 Pipe Fitter       1 Truck Driver (light)         1 Eqip. Oper. (crane)         1 Flatbed Trailer, 25 Ton         1 Dump Truck, 8 C.Y., 220 H.P.         1 Hyd. Excavator, 1 C.Y.         24 L.H., Daily Totals         Crew B-34S         2 Pipe Fitters         1 Truck Driver (heavy)         1 Eqip. Oper. (crane)         1 Flatbed Trailer, 40 Ton         1 Truck Tractor, 6x4, 380 H.P.         1 Hyd. Excavator, 2 C.Y.         32 L.H., Daily Totals         Crew B-34T         2 Pipe Fitters         1 Truck Driver (heavy)         1 Eqip. Oper. (crane, 80 Ton         1 Hyd. Excavator, 2 C.Y.         32 L.H., Daily Totals         Crew B-34T         2 Pipe Fitters         1 Truck Driver (heavy)         1 Eqip. Oper. (crane)         1 Flatbed Trailer, 40 Ton         1 Truck Driver (heavy)         1 Eqip. Oper. (crane)         1 Flatbed Trailer, 40 Ton         1 Truck Tractor, 6x4, 380 H.P.         1 Flatbed Trailer, 40 Ton         1 Truck Tractor, 6x4, 380 H.P.	Hr. \$49.35 30.95 42.55 42.55 Hr. \$49.35 31.95 42.55 Hr. \$49.35 31.95 42.55	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80 1296.00 1182.00 \$4482.00 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80	Hr.           \$74.05           47.65           63.95           Hr.           \$74.05           49.15           63.95           Hr.           \$74.05           49.15           63.95           63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60 1300.20 \$5495.64 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.63	S91.09         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30           96.76         \$140.06           Bare Costs         \$43.30	S117.70           Incl.         0&P           \$61.88         86.49           \$148.37         Incl.           0&P         \$65.30           106.44         \$171.74           Incl.         0&P           \$65.30         \$65.30
Crew B-34R  Pipe Fitter Truck Driver (light) Eqip. Oper. (crane) Flatbed Trailer, 25 Ton Dump Truck, 8 C.Y., 220 H.P. Hyd. Crane, 25 Ton Hyd. Excavator, 1 C.Y. 24 L.H., Daily Totals  Crew B-34S 2 Pipe Fitters Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 1 Hyd. Excavator, 2 C.Y. 32 L.H., Daily Totals  Crew B-34T 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Hyd. Excavator, 2 C.Y. 32 L.H., Daily Totals  Crew B-34T 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 1 Truck Tractor, 6x4, 380 H.P. 2 Pipe Fitters 1 Truck Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 2 Pipe Fitters 1 Truck Tractor, 6x4, 380 H.P. 2 Pipe Trailer, 80 Ton 2 Tube Driver (heavy) 1 Eqip. Oper. (crane) 1 Flatbed Trailer, 40 Ton 2 Tube Driver (heavy) 1 Eqip. Oper. (crane) 2 Pipe Fitters 2 Pipe Fitters 2 Pipe Fitters 2 Pipe Fitters 2 Pipe Fitters 2 Pipe Fitters 2 Pipe Fitters 2 Pipe Fitters 2 Pipe Fitters 2 Pipe Fitters 3 Pipe Fitters 3 Pipe Fitters 3 Pipe Fitters 3 Pipe Fitters 3 Pipe Pipe Pipe Fitters 3 Pipe Fitters 3 Pipe Fitters 3 Pipe Fitters 3 Pipe Pipe Fitters 3 Pipe Pipe Pipe Pipe Pipe Pipe Pipe Pipe	Hr.           \$49.35           30.95           42.55           Hr.           \$49.35           31.95           42.55           Hr.           \$49.35           31.95           42.55	\$2200.60 <b>Daily</b> \$394.80 247.60 340.40 102.00 326.40 789.40 669.20 \$2869.80 <b>Daily</b> \$789.60 255.60 340.40 139.60 478.80 1296.00 \$4482.00 <b>Daily</b> \$789.60 255.60 340.40 139.60 255.60 340.40 139.60 255.60 340.40 139.60 255.60 340.40 139.60 255.60 340.40 139.60 255.60 340.40 139.60 255.60 340.40 139.60 255.60 340.40 139.60 255.60 340.40 139.60 255.60 340.40 139.60 255.60 340.40 255.60 340.40 255.60 340.40 255.60 340.40 255.60 340.60 255.60 340.40 255.60 340.80 255.60 340.80 255.60 340.80 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 266.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 256.00 267.00 266.00 266.00 266.00 267.00 267.00 267.00 267.00 267.00 267.00 267.00 267.00 267.00 267.00 267.00 267.00 267.00 267.00 267.00 276.00 2	Hr.           \$74.05           47.65           63.95           Hr.           \$74.05           49.15           63.95           Hr.           \$74.05           49.15           63.95	\$2824.78 <b>Daily</b> \$592.40 381.20 511.60 112.20 359.04 868.34 736.12 \$3560.90 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60 1300.20 \$5495.64 <b>Daily</b> \$1184.80 393.20 511.60 153.56 526.68 1425.60 511.60 153.56 526.68 512.668 512.668 512.668 512.668 512.60	S91.09         Bare Costs           \$40.95         \$40.95           78.63         \$119.58           Bare Costs         \$43.30           96.76         \$140.06           Bare Costs         \$43.30           96.76         \$140.06           Bare Costs         \$43.30           \$9.83         \$103.10	S117.70           Incl.         0&P           \$61.88         86.49           \$148.37         Incl.           0&P         \$65.30           106.44         \$171.74           Incl.         0&P           \$65.30         \$65.30           106.44         \$171.74           Incl.         0&P           \$65.30         \$65.30

Crew No.	Bai	re Costs	Sut	Incl. os O & P	Co Per Lat	ost oor-Hour
Crew B-35	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Laborer Foreman (out)	\$33.60	\$268.80	\$52.10	\$416.80	\$39.02	\$59.46
1 Skilled Worker	40.85	326.80	63.25	506.00		
1 Welder (plumber)	48.75	390.00	73.15	585.20		
1 Laborer	31.60	252.80	49.00	392.00		
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60		
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40		
1 Welder, electric, 300 amp		55.70		61.27		
1 Hyd. Excavator, .75 C.Y.		598.60		658.46	13.63	14.99
48 L.H., Daily Totals		\$2527.50		\$3573.73	\$52.66	\$74.45
Crew B-35A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Laborer Foreman (out)	\$33.60	\$268.80	\$52.10	\$416.80	\$37.96	\$57.96
2 Laborers	31.60	505.60	49.00	784.00		
1 Skilled Worker	40.85	326.80	63.25	506.00		
1 Welder (plumber)	48.75	390.00	73.15	585.20		
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60		
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40		
1 Welder, gas engine, 300 amp		134.20		147.62		
1 Crawler Crane, 75 Ton		1496.00		1645.60	29.11	32.02
56 L.H., Daily Totals		\$3756.20		\$5039.22	\$67.08	\$89.99
Crew B-36	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.90	\$54.88
2 Laborers	31.60	505.60	49.00	784.00		
2 Equip. Oper. (med.)	41.35	661.60	62.15	994.40		
1 Dozer, 200 H.P.		1082.00		1190.20		
1 Aggregate Spreader		35.00		38.50		
1 Tandem Roller, 10 Ton		233.00		256.30	33.75	37.13
40 L.H., Daily Totals		\$2786.00		\$3680.20	\$69.65	\$92.00
Crew B-36A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$37.46	\$56.96
2 Laborers	31.60	505.60	49.00	784.00		
4 Equip. Oper. (med.)	41.35	1323.20	62.15	1988.80		
1 Dozer, 200 H.P.		1082.00		1190.20		
1 Aggregate Spreader		35.00		38.50		
1 Tandem Roller, 10 Ton		233.00		256.30		
1 Roller, Pneum. Whl, 12 Ton		307.80		338.58	29.60	32.56
56 L.H., Daily Totals		\$3755.40		\$5013.18	\$67.06	\$89.52
Crew B-36B	Hr	Daily	Hr	Daily	Bare Costs	Incl. 0&P
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$/16.80	\$36.77	\$55.98
2 Laborers	31.60	505.60	49.00	784.00	\$50.77	QUU.JU
4 Equip. Oper. (medium)	41.35	1323.20	62.15	1988.80		
1 Truck Driver. Heavy	31.95	255.60	49.15	393.20		
1 Grader, 30,000 Lbs.		550.20		605.22		
1 F.E. Loader, crl, 1.5 C.Y.		463.00		509.30		
1 Dozer, 300 H.P.		1423.00		1565.30		
1 Roller, Vibratory, 25 Ton		594.60		654.06		
1 Truck Tractor, 6x4, 450 H.P.		581.20		639.32		
1 Water Tanker, 5000 Gal.		136.00		149.60	58.56	64.42
64 L.H., Daily Totals		\$6101.20		\$7705.60	\$95.33	\$120.40

Crew 8-36C         Hr.         Daily         Bare Data         Ind. Obs           1 Labor Forman (outside)         33.50         S20.00         S51.00         S10.00         S37.00         S57.54           1 Fuck Driver, Heary         31.95         255.60         49.15         333.20         S57.54           1 Forder, 3000 Lb.         550.20         49.15         333.20         S57.54           1 Coder, 3000 Lb.         142.00         1565.30         100.00         S1.00         S60.22           1 Doker, Maray, 257.00         1.42.00         1565.30         10.00         S1.00         S1.00           1 Prock Fractor, 64, 450 HP.         1.00         10.00         S40.00         S1.00         S1.00         S1.00           1 Labor Forman (outside)         33.00         S26.00         S21.00         S41.60         S31.10         S1.13           1 Labor Forman (outside)         33.00         S20.00         S21.00         S41.60         S31.60         S26.00         S21.00         S41.60         S31.40           1 Labor Forman (outside)         S33.60         S20.80         S22.10         S41.60         S31.74         S61.91           1 Labor Forman (outside)         S33.60         S20.80         S22.10         <	Crew No.	Bare	Costs	In Subs	cl. 5 O & P	Co Per Lat	ost oor-Hour
Crew B-36C         Hr.         Daily         Fr.         Daily         Costs         002P           1 Labor Foreman (outside)         \$33.60         \$52.80         \$52.10         \$41.60         \$37.92         \$57.54           1 Truck Thork, releasy         31.95         \$25.60         49.15         \$393.20         1         559.20         1         1         1         1         559.20         1         559.20         1         90.34           1 Ruler, Wartany, 25 Ton         1         589.20         1         559.151.01         \$120.05         \$147.80           1 Truck Tractor, 64, 640 H2         581.00         1         581.20         559.151.01         \$120.05         \$147.80           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.680         \$33.17         \$51.13           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.680         \$33.60         \$260.59         \$35.05         \$54.19           1 Labor Foreman (outside)         \$33.60         \$268.80         \$2.13         \$1.60         \$1.60         \$1.60         \$1.60         \$1.60         \$1.60         \$1.60         \$1.60         \$1.60         \$1.60         \$1.60         \$1.60						Bare	Incl.
1 Labor Toerman (outside)         S33.60         S262.80         S22.10         S31.60         S27.54           1 Truck Driver, Heavy         11.35         992.40         C21.5         1410.60         S33.20           1 Frack, 30.000 Lis.         1550.20         605.22         605.22         605.22           1 Robler, Waratory, 25 Tron         142.300         15650.30         140.60         82.13         90.34           40 LH, Daly Totals         254801.80         559151.01         S12.005         S147.80         80.21           1 Labor Foreman (outside)         S33.60         S26.00         S21.00         S01.600         S01.71         S51.31           1 Labor Foreman (outside)         S33.60         S26.80         S52.10         S01.600         S04.800         S02.91           1 Labor Foreman (outside)         S33.60         S26.80         S52.10         S01.600         S04.900         S04.900           1 Labor Foreman (outside)         S33.60         S26.80         S52.10         S01.600         S04.900         S04.900         S04.900         S04.900         S04.900         S04.900           1 Labor Foreman (outside)         S33.60         S26.800         S22.10         S04.600         S04.190         S04.900         S04.900	Crew B-36C	Hr.	Daily	Hr.	Daily	Costs	0&P
3 Equip. Oper. (medium)         1430         992.40         0.21.3         199.10.0           1 Grader, 30,000 Lbs.         3195         255.00         491.5         393.20           1 Darker, 30,000 Lbs.         1423.00         1565.30         605.22           1 Darker, 30,000 Lbs.         1423.00         1565.30         1495.00         82.13         90.34           A DLH, Dapi Totals         54801.00         1495.00         82.13         90.34           A DLH, Dapi Totals         54801.00         1495.00         82.13         90.34           A DLH, Dapi Totals         31.00         1011.20         49.00         5456.00         81.13           1 Labor Foreman (outside)         33.60         522.10         5416.80         53.13         541.85         2.87         31.60           1 Labor Foreman (outside)         33.60         522.10         541.60         53.44         554.19         2.865.98         554.4         554.19           1 Labor Foreman (outside)         33.60         522.10         541.60         53.64         556.19         665.60         62.48         62.51         489.50           1 Equip. Oper. (nethurn)         14.35         33.00         52.605.80         52.210         541.60         55.16 </td <td>1 Labor Foreman (outside)</td> <td>\$33.60</td> <td>\$268.80</td> <td>\$52.10</td> <td>\$416.80</td> <td>\$37.92</td> <td>\$57.54</td>	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$37.92	\$57.54
11.00.0000, Integry (1.000, Integry (1	3 Equip. Oper. (mealum)	41.35	992.40 255.60	62.15 40.15	202.20		
1 Dozer, 30 Hz.         1 14200         1565.30           1 Rolle, Vibratory, 25 Ton         594.60         654.06           1 Truck Tractor, 64, 450 H.P.         381.20         149.60         82.13         90.34           40 L.H., Daly Totals         54801.80         55915.10         \$120.05         \$147.88           Crew B-37         Hr.         Daly         Hr.         Daly         Bare         Incl.           1 Labor Foreman (outside)         33.60         526.80         \$52.10         \$41.630         \$33.17         \$51.13           1 Labor Foreman (outside)         39.05         312.40         \$40.0         1568.00         111.20         49.00         1568.00         111.20         49.00         1568.00         111.20         49.00         1568.00         111.20         49.00         1568.00         52.10         \$41.630         \$52.429           1 Labor Foreman (outside)         33.60         \$52.68         \$52.10         \$41.630         \$53.44         \$54.19           1 Labor Foreman (outside)         33.60         \$52.60         \$49.20         182.40         \$62.15         \$62.52           1 Equip. Oper. (light)         39.05         312.40         \$62.15         \$61.63         \$62.15	1 Grader 30 000 Lbs	51.95	550.20	49.15	605.20		
1 Roler, Wbratory, 25 Ton 1 Truck Tractor, 64, 450 HP.         594,60         654,06         393,22           1 Truck Tractor, 64, 450 HP.         581,20         5915,10         \$12,00         \$149,00         82,13         90,34           40 LH, Daly Totals         54801,80         55215,10         \$12,00         \$149,00         82,13         90,34           1 Labor Foreman (outside)         \$33,60         522,800         \$52,10         \$46,80         \$33,17         \$51,13           1 Labor Foreman (outside)         \$33,60         522,800         \$52,10         \$46,90         \$53,10         \$51,13           1 Labor Foreman (outside)         \$33,60         \$52,800         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$52,10         \$46,900         \$62,11         \$28,73           1 Labor Foreman (outside)         \$33,60         \$52,600         \$52,10         \$46,800         \$62,11         \$28,73	1 Dozer. 300 H.P.		1423.00		1565.30		
1 Tuck Tractor, 64, 450 H.P.         S81.20         33.00         39.32           1 Water Tarker, 5000 Gal.         34.001.80         S915.10         S120.05         S147.88           Crew B-37         Hr.         Daily         Hr.         Daily         Bare         Inc.           1 Labor Foreman (outside)         33.60         S268.80         552.10         S416.80         S3.17         S51.13           1 Labor Foreman (outside)         33.60         S268.80         552.10         S416.80         S3.17         S51.13           1 Tandem Roller, 5 Ton         137.80         -         S15.88         2.87         3.16           48 L.H, Daily Totals         S33.60         S268.80         552.10         S416.80         S34.4         S54.19           1 Labor Foreman (outside)         S33.60         S268.80         552.10         S416.80         S34.4         S54.19           2 Laborers         31.60         S55.01         S416.80         S34.4         S54.19           1 Equip. Oper. (light)         41.35         330.80         62.15         497.20         S33.16         S63.30           1 Equip. Oper. (light)         14.35         S34.00         S52.10         S416.80         S33.17         S51.13      <	1 Roller, Vibratory, 25 Ton		594.60		654.06		
1 Water Tanker, 5000 Gal.         136.00         149.60         82.13         90.34           40 LH, Daly Totals         \$400.80         5515.10         \$120.05         \$147.80           Crew B-37         Hr.         Daily         Hr.         Daily         Cests         024           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.60         \$33.17         \$51.13           1 Equip. Oper (ight)         39.05         312.40         \$57.00         \$649.60         \$33.17         \$51.13           1 Tandem Roller, 5 Ton         137.80         Fr.         Daily         Cests         027           1 Labor Foreman (outside)         \$33.60         \$526.80         \$52.10         \$41.680         \$35.44         \$554.19           1 Labor Foreman (outside)         \$33.60         \$505.60         49.00         784.00         \$251.10         \$46.80         \$28.74           1 Labor Foreman (outside)         33.60         \$52.10         \$46.80         \$31.41         \$28.92           1 Labor Foreman (outside)         \$33.60         \$268.00         \$62.15         497.20         \$31.66         \$80.20         \$51.13           1 Equip. Oper. (inght)         39.05         312.40         \$87.74	1 Truck Tractor, 6x4, 450 H.P.		581.20		639.32		
40 L.H., Daily Totals         S4801.80         S915.10         S120.05         S147.88           Crew B-37         Hr.         Daily         Hr.         Daily         Hr.         Daily         S41.00         S12.00         S147.88           1 Labor Foreman (lotside)         333.60         S268.80         S52.10         S416.80         S33.17         S51.13           1 Labor Foreman (lotside)         31.60         1011.20         49.00         1568.00         S33.60         S28.80         S27.0         469.60         S36.05         S54.29           Tandem Roller, STon         1373.02         S2605.98         S36.05         S54.29         S66.05         S49.0         S46.05         S54.29           Crew B-38         Hr.         Daily         Hr.         Daily         Hr.         Daily         S46.05         S54.29           Labor Foreman (outside)         S33.60         S268.80         S51.10         S416.80         S33.44         S54.19           1 Eduip, Oper, finght         39.05         312.40         S87.0         469.60         168.30         112.80         S53.10         S416.80         S33.18         S51.19           1 Eduip, Oper, finght         39.05         312.40         S58.70         469.60	1 Water Tanker, 5000 Gal.		136.00		149.60	82.13	90.34
Crew B-37         Hr.         Daily         Hr.         Daily         Hr.         Daily         Bare         Dock           1 Labor Forman (outside)         \$31.60         1011.0         49.00         1568.00         \$31.10         51.13           1 Eapin, Oper, light)         39.05         312.40         58.70         449.60         53.60         554.29           1 Tandem Roller, 5 Tom         1.37.80         F.         Daily         449.60         53.60         554.29           1 Labor Foreman (outside)         \$33.60         5268.80         552.10         541.680         53.64         554.19           1 Labor Foreman (outside)         \$33.60         552.68.80         52.10         541.680         53.64         554.19           1 Labor Foreman (outside)         \$33.60         552.68         62.15         497.20         1           1 Equip, Oper, (light)         39.05         312.40         58.70         496.90         1           1 Equip, Oper, (light)         39.05         312.40         58.70         62.48         26.11         28.37           1 Bachone Laber (48 HP.)         1         58.00         1         62.48         26.11         28.37           1 Padt. Hem, Bucket         58.30	40 L.H., Daily Totals		\$4801.80		\$5915.10	\$120.05	\$147.88
1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$33.17         \$51.13           4 Laborers         33.60         1011.20         49.00         1568.00         1           1 Equip. Oper. (light)         39.05         312.40         151.58         2.87         3.16           4 Laborers         137.80         137.80         151.58         2.87         3.16           2 Laborers         \$33.60         \$268.80         \$20.52.10         \$416.80         \$33.44         \$54.19           2 Laborers         33.60         \$268.80         62.15         472.00         53.70         469.60         49.00         784.00         53.64         \$54.19         24.11         28.73         340.00         55.10         51.10         51.10         51.10         51.10         51.10         51.10         51.10         24.11         28.73         340         24.11         28.73         340         24.11 <th>Crew B-37</th> <th>Hr.</th> <th>Daily</th> <th>Hr.</th> <th>Daily</th> <th>Bare Costs</th> <th>Incl. O&amp;P</th>	Crew B-37	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
4 Laborers         31.60         1011.20         49.00         1568.00           1 Equip. Oper. (light)         33.05         332.40         55.70         469.60         33.05         356.29           ABL.H., Dally Totals         137.80         S205.93         S35.05         S54.29           Crew B-38         Hr.         Dally         Hr.         Dally         Bare Costs         Incl.           1 Labor Foreman (outside)         533.60         \$268.80         \$52.10         \$416.80         \$35.44         \$56.19           2 Laborers         31.60         505.60         49.00         784.00         1         56.70         469.60         1         56.70         56.70         56.70         56.70         56.70         56.70         56.70         56.70         56.70         56.70         56.70         56.70         56.70         56.70         56.70         56.15         58.292           1 Padt Amer, Dauket         55.40         5246.20         533.16         561.16         561.56         582.92           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$33.17         \$51.13           1 Labor Foreman (outside)         \$33.60         \$266.80         \$52.10	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$33.17	\$51.13
I Equip, Oper, light)         39.05         312.40         58.70         469.60           1 Tandem Roller, 5 Ton         137.80         151.58         2.87         3.16           48 L.H., Daily Totals         S1730.20         S2605.98         S36.05         S54.29           Crew B-38         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Labor Foreman (outside)         S33.60         S268.80         S52.10         S416.80         S35.44         S54.19           2 Laborers         31.60         505.60         469.60         32.318         S44.00         S57.0         469.60           1 Equip, Oper, (medium)         41.35         330.80         62.15         497.20         S47.00           1 Bachtne Loader, 48 H.P.         293.80         323.18         S51.50         S82.92           I E.L Loader, MM, 4 C.Y.         541.00         555.10         541.680         S63.17         S51.31           1 Labor Foreman (utside)         S33.60         S268.80         S52.10         S416.80         S33.17         S51.13           1 Labor Foreman (utside)         S33.60         S268.40         S57.10         S416.80         S39.9         4.39           2 Breakers, Pavement, 60 lb	4 Laborers	31.60	1011.20	49.00	1568.00		
1 Tandem Roller, 5 Ton         137.80         151.58         2.87         3.16           48 L.H., Daily Totals         \$1730.20         \$2605.98         \$536.05         \$54.29           Crew B-38         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$35.44         \$54.19           1 Labor Foreman (outside)         33.60         \$203.80         \$32.18         \$35.44         \$54.19           1 Equip. Oper. (medium)         41.35         330.80         \$22.15         \$497.20         \$472.00           1 Backhe Loader, 48 H.P.         153.00         1663.30         \$51.10         \$475.00         \$62.48         \$51.15         \$82.92           1 Part. Rm. Bucket         561.00         \$264.80         \$55.10         \$416.80         \$33.17         \$51.13           1 Labor Foreman (outside)         \$33.60         \$22.68         \$55.10         \$416.80         \$33.17         \$51.13           1 Labor Foreman (outside)         \$33.60         \$22.642.20         \$56.75         \$52.60         \$55.52           1 Labor Foreman (outside)         \$33.60         \$22.40         \$56.75         \$52.60 <td< td=""><td>1 Equip. Oper. (light)</td><td>39.05</td><td>312.40</td><td>58.70</td><td>469.60</td><td></td><td></td></td<>	1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
48 L.H., bally Iotals         S17/30.20         S260.9.98         S36.05         S34.29           Crew B-38         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Labor Foreman (utside)         S33.60         S268.80         S52.10         S41.60         S34.4         S54.19           2 Laborers         31.60         505.60         49.00         784.00         S44.80         S54.4         S54.19           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         Incl.         S44.80         S44.9           1 Backhee Loader, 48 H.P.         29.80         322.318         Incl.         S44.80         S44.80         S44.9           1 Labor Foreman (utside)         S36.05         S2642.20         S331.66         S61.56         S82.92           1 Labor Foreman (utside)         S36.00         S2642.20         S331.66         S33.17         S51.33           1 Labor Foreman (utside)         S33.60         S268.80         S52.10         S416.80         S33.17         S51.33           1 Labor Foreman (utside)         S33.60         S2642.20         178.64         S37.16         S55.52           1 Labor Foreman (utside)         S41.60         S41.80 <td>1 Tandem Roller, 5 Ton</td> <td></td> <td>137.80</td> <td></td> <td>151.58</td> <td>2.87</td> <td>3.16</td>	1 Tandem Roller, 5 Ton		137.80		151.58	2.87	3.16
Crew B-38         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.60         \$35.44         \$54.19           1 Labor Foreman (outside)         33.06         \$55.60         49.00         784.00         \$35.44         \$54.19           1 Equip. Oper. (inedium)         41.35         330.80         62.15         497.20         1         58.70         469.60         1         1         1         1         1         1         1         2         2         3         2         2         1         2         7.3         1         1         1         1         1         1         1         1         1         1         1         1         1         2         1         2         2         1         2         3         1         2         2         7.3           1 Labor Foreman (outside)         S33.60         \$268.80         \$52.10         \$416.80         \$33.17         \$51.13         1         2         1         3         0         2         0         2         3         0         2         0         2         0         2	48 L.H., Daily Iotals		\$1730.20		\$2605.98	\$36.05	\$54.29
I Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.60         \$35.44         \$54.19           2 Laborers         31.60         505.60         49.00         784.00         535.44         \$54.19           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         49.00         784.00           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         32.318         144.15         330.80         62.15         497.20         32.318         144.15         32.318         144.15         32.318         144.14         56.80         62.15         497.20         32.18         144.14         14.35         330.60         56.80         62.48         26.11         28.73           40 LH, Daily Totals         52462.20         53316.66         \$61.65         \$82.92         14.00         1568.00         1568.00         14.14         14.20         17.864         186.00         12.40         12.40         17.864         186.40         18.04         2.50/47         55.52           Crew B-40         Hr.         Daily         Hr.         Daily         186.0         55.52         562.37         562.37         562.37           1 Pie Driver Fo	Crew B-38	Hr.	Daily	Hr.	Dailv	Bare Costs	Incl. 0&P
2 Laborers         31.60         505.60         49.00         784.00           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60           1 Equip. Oper. (medium)         41.35         330.80         62.15         497.20           1 Backhoe Loader, 48 H.P.         293.80         323.18         168.30           1 Hyd.Hammer, (1200 lb.)         153.00         168.30         595.10         26.11         28.73           40 L.H., Daily Totals         52462.20         53316.66         \$61.56         \$82.92           Crew B-39         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         52648.20         \$41.680         \$33.17         \$51.13           4 Laborers         31.60         1011.20         49.00         1568.00         1568.00         1568.00           1 Air Compressor, 250 cfm         162.40         178.64         25.75         \$55.52         \$55.52           Crew B-40         Hr.         Daily         Hr.         Daily         \$62.57         \$52.60.01         \$39.55         \$62.37           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$55.30         442.	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.44	\$54.19
1 Equip. Oper. (light)         39.05         312.40         58.70         469.60           1 Equip. Oper. (medium)         41.35         330.80         62.15         497.20           1 Backhoe Loader, 48 H.P.         293.80         323.18         1           1 Hyd.Hammer, (1200 h.)         153.00         168.30         1         1           1 Pavt. Rem. Bucket         56.80         62.48         26.11         28.73           40 L.H., Daly Totals         \$2462.20         \$3316.66         \$61.56         \$82.92           Terew B-39         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Labor Foreman (outside)         \$31.60         1011.20         49.00         1568.00         33.17         \$51.13           1 Labor Foreman (outside)         \$31.60         1011.20         49.00         1568.00         162.40         178.64           2 Breakers, Pavement, 60 lb.         162.40         178.64         55.52         55.52           42.50 Air Hoses, 1.5"         12.60         13.86         3.99         4.39           48 L.H., Daily Totals         \$1783.80         \$2664.94         \$37.16         \$55.52           1 Pile Driver Foreman (out)         \$40.50         <	2 Laborers	31.60	505.60	49.00	784.00		
I Equip. Oper. (medium)         41.35         330.80         62.15         497.20           I Backhoe Loader, 48 H.P.         293.80         323.18           1 Hyd.Hammer, (1200 lb.)         153.00         168.30           1 F.L. Loader, W.M., 4 C.Y.         561.00         595.10           1 Pavt. Rem. Bucket         56.80         62.48         26.11         28.73           40 L.H., Daily Totals         \$2462.20         \$3316.66         \$51.56         \$82.92           Labor Foreman (outside)         \$33.60         \$2268.80         \$52.10         \$41.680         \$33.17         \$51.13           1 Labor Foreman (outside)         \$33.60         \$268.80         \$55.70         \$469.60         \$33.17         \$51.13           1 Ari Compressor, 250 cfm         162.40         178.64         18.04         \$3.99         4.39           4 L.H., Daily Totals         \$1783.80         \$2664.94         \$37.16         \$55.52           Crew B-40         Hr.         Daily         Her.         Daily         Costs         0&2           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$65.75         \$526.00         \$39.55         \$62.37           1 Pile Driver Foreman (out)         \$40.50	1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
Backhoe Loader, 48 H.P.         293.80         323.18           1 Hyd.Hammer, (1200 lb.)         153.00         168.30           F.E. Loader, W.M., 4 C.Y.         541.00         595.10           Pavt. Ren. Bucket         56.80         62.48         26.11         28.73           40 L.H., Daily Totals         \$2462.20         \$3316.66         \$61.56         \$82.92           Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$33.17         \$51.13           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$469.60         178.64         28 reakers, Pavement, 60 lb.         166.40         178.64         250' Air Hoses, 1.5'         12.60         13.86         3.99         4.39           4 L.H., Daily Totals         \$1783.80         \$2664.94         \$37.16         \$55.52           Crew B-40         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$65.75         \$526.00         \$39.55         \$62.37           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$55.30         442.40         10.50.0         1160.50         2482.70         51.75	1 Equip. Oper. (medium)	41.35	330.80	62.15	497.20		
1 Hyd.nammer, (1200 lb.)         13.3.00         168.30         168.30           1 F.E. Loader, W.M., 4 C.Y.         541.00         595.10         128.73           40 L.H., Daily Totals         \$2462.20         \$3316.66         \$61.56         \$82.92           Crew B-39         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$33.17         \$51.13           4 Laborers         31.60         1011.20         49.00         1568.00         1         164.60         18.04           2 Breakers, Pavement, 60 lb.         164.40         18.04         3.99         4.39           48 L.H., Daily Totals         \$1783.80         \$2664.94         \$37.16         \$55.52           Crew B-40         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$65.75         \$526.00         \$39.55         \$62.37           1 Pile Driver Soreman (out)         \$40.50         \$324.00         \$65.75         \$526.00         \$39.55         \$62.37           1 Pile Driver Soreman (out)         \$40.50         \$324.00	1 Backhoe Loader, 48 H.P.		293.80		323.18		
1 Part. Rem. Bucket         391.00         391.00         62.48         26.11         28.73           40 L.H., Daily Totals         \$2462.20         \$3316.66         \$61.56         \$82.92           Crew B-39         Hr.         Daily         Hr.         Daily         Bare Costs         0.82           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$33.17         \$51.13           4 Laborers         31.60         1011.20         49.00         1568.00         \$33.17         \$51.13           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         178.64           2 Forwards, Pavement, 60 lb.         16.40         18.04         18.04         2.50'         \$33.16         \$55.52           Crew B-40         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$65.75         \$526.00         \$39.55         \$62.37           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$65.75         \$526.00         \$39.55         \$62.37           1 Puie Driver Foreman (out)         \$40.50         \$324.00         \$62.50         2000.00 <td>1 Hyd.Hammer, (1200 lb.)</td> <td></td> <td>153.00 541.00</td> <td></td> <td>168.30</td> <td></td> <td></td>	1 Hyd.Hammer, (1200 lb.)		153.00 541.00		168.30		
1 Hur. Hullin Buddel,         2010         2011	1 F.E. LUduer, W.W., 4 C.T. 1 Pavt Rom Ruckat		56.80		62.48	26.11	28 73
Iterative daily rotatic         United of the second s	40 L H Daily Totals		\$2462.20		\$3316.66	\$61.56	\$82.92
Crew B-39         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$33.17         \$51.13           4 Laborers         31.60         1011.20         49.00         1568.00         \$33.17         \$51.13           1 Equip. Oper, (light)         39.05         312.40         58.70         469.60         178.64           2 Breakers, Pavement, 60 lb.         162.40         178.64         18.04         18.04         3.99         4.39           48 L.H., Daily Totals         \$1783.80         \$2664.94         \$37.16         \$55.52           Crew B-40         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$65.75         \$526.00         \$39.55         \$62.37           4 Pile Drivers         38.50         1232.00         62.50         2000.00         242.40         102.30         \$119.29           1 Equip. Oper. Crane)         42.55         680.80         63.95         1023.20         \$1.75         56.92           64 L.H., Daily Totals         \$5843.20         \$7634.80         \$91.30 <td>To E.H., Duny lotuis</td> <td></td> <td>ŞEHOL.LU</td> <td></td> <td>Ş3310.00</td> <td>Bare</td> <td>Incl</td>	To E.H., Duny lotuis		ŞEHOL.LU		Ş3310.00	Bare	Incl
1 Labor Foreman (outside)       \$33.60       \$268.80       \$52.10       \$416.80       \$33.17       \$51.13         4 Laborers       31.60       1011.20       49.00       1568.00       1       \$31.60       1011.20       49.00       1568.00       1       1       1       1       58.70       469.60       1       1       1       1       2       50.70       162.40       178.64       1       2       50.70       1       1.64.0       18.04       1       2.50' Air Hoses, 1.5"       12.60       13.86       3.99       4.39         48 L.H., Daily Totals       \$1783.80       \$2664.94       \$37.16       \$55.52       55.52         Crew B-40       Hr.       Daily       Hr.       Daily       Costs       0&P         1 Pile Driver Foreman (out)       \$40.50       \$324.00       \$65.75       \$526.00       \$39.55       \$62.37         4 Pile Driver Foreman (out)       \$40.50       \$324.00       \$65.75       \$52.60       \$30.00       \$31.60       75       56.92       \$442.40       1023.20       \$1.75       \$66.92       \$416.80       \$31.60       \$1.92       \$1.92       \$1.92       \$1.92       \$1.92       \$1.92       \$1.92       \$1.92       \$1.92	Crew B-39	Hr.	Daily	Hr.	Daily	Costs	0&P
4 Laborers       31.60       1011.20       49.00       1568.00         1 Equip. Oper. (light)       39.05       312.40       58.70       469.60         1 Air Compressor, 250 cfm       162.40       178.64       18.04         2 Breakers, Pavement, 60 lb.       16.40       18.04       18.04         2-50' Air Hoses, 1.5"       12.60       13.86       3.99       4.39         48 L.H., Daily Totals       \$1783.80       \$2664.94       \$37.16       \$55.52 <b>Crew B-40 Hr. Daily Hr. Daily</b> S37.16       \$55.52         1 Pile Drivers Foreman (out)       \$40.50       \$324.00       \$65.75       \$526.00       \$39.55       \$62.37         4 Pile Drivers       38.50       1232.00       62.50       2000.00       2       2       56.30       442.40       1       160.50       1106.50       1       1       120.20       51.75       \$56.92       56.42       51.75       \$56.92       54.42.40       157.5       56.92         1 Carwler Crane, 40 Ton       1055.00       1160.50       1160.50       1       119.29       1       10.5       51.75       \$464.80       \$31.63       \$51.46.80       \$31.63       \$52.10	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$33.17	\$51.13
1 Equip. Oper. (lignt)       39.05       312.40       58.70       499.60         1 Air Compressor, 250 cfm       162.40       178.64       178.64         2 Breakers, Pavement, 60 lb.       16.40       18.04       18.04         2-50' Air Hoses, 1.5"       12.60       13.86       3.99       4.39         48 L.H., Daily Totals       \$1783.80       \$2664.94       \$37.16       \$55.52 <b>Crew B-40 Hr. Daily Hr. Daily Secondary Bare</b> Incl.         1 Pile Drivers       38.50       1232.00       62.50       2000.00       539.55       \$62.37         2 Equip. Oper. (crane)       42.55       680.80       63.95       1023.20       1023.20       1023.20       1023.20       1023.20       106.50       1160.50       1106.50       1106.50       1106.50       1106.50       1106.50       1106.50       1109.29       51.75       56.92       64 L.H., Daily Totals       \$5843.20       \$7634.80       \$91.30       \$119.29         Crew B-40B       Hr.       Daily       Hr.       Daily       \$461.80       \$34.63       \$53.06         1 Laborer Foreman       \$33.60       \$268.80       \$52.10       \$416.80       \$34.63       \$53	4 Laborers	31.60	1011.20	49.00	1568.00		
1 Air Confignesson, 230 clini       102.40       174.04       174.04         2 Breakers, Pavement, 60 lb.       16.40       18.04       18.04         2-50' Air Hoses, 1.5"       12.60       13.86       3.99       4.39         48 L.H., Daily Totals       \$1783.80       \$2664.94       \$37.16       \$55.52 <b>Crew B-40</b> Hr.       Daily       Hr.       Daily       Bare Costs       0&P         1 Pile Driver Foreman (out)       \$40.50       \$324.00       \$65.75       \$526.00       \$39.55       \$62.37         4 Pile Drivers       38.50       1232.00       62.50       2000.00       2       51.75       56.92         1 Cawler Crane, 40 Ton       1055.00       1160.50       1160.50       1160.50       119.29 <b>Crew B-40B</b> Hr.       Daily       Hr.       Daily       S1.75       56.92 <b>Crew B-40B</b> Hr.       Daily       Hr.       Daily       S1.75       56.92 <b>Crew B-40B</b> Hr.       Daily       Hr.       Daily       S1.60       \$34.63       \$53.06         3 Laborers       31.60       758.40       49.00       1176.00       S446.80       \$34.63       \$53	1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
2 Incarrets, Laverline, or II.         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.40         10.86         3.99         4.39           48 L.H., Daily Totals         \$1783.80         \$2664.94         \$37.16         \$55.52           Crew B-40         Hr.         Daily         Hr.         Daily         Rare Costs         Incl. 0&P           1 Pile Drivers         38.50         1232.00         \$65.75         \$526.00         \$39.55         \$62.37           2 Equip. Oper. (crane)         42.55         680.80         63.95         1023.20         1023.20         1023.20         1023.20         1023.20         1023.20         1023.20         1160.50         1160.50         1160.50         1160.50         1160.50         1160.50         1160.50         1160.50         1160.50         1160.50         119.29         129         12482.70         \$1.75         \$56.92         \$442.40         \$37.65         \$31.60         \$268.80         \$52.10         \$416.80         \$34.63         \$53.06               1 Labor Foreman             533.60 <td>2 Broakers Payament 60 lb</td> <td></td> <td>162.40</td> <td></td> <td>170.04</td> <td></td> <td></td>	2 Broakers Payament 60 lb		162.40		170.04		
Los or kin hoses, rise         12.80         13.80         10.80         10.80         0.89 </td <td>2 JECANEIS, LAVEINEIL, OU ID.</td> <td></td> <td>12.40</td> <td></td> <td>13.86</td> <td>3 99</td> <td>4 39</td>	2 JECANEIS, LAVEINEIL, OU ID.		12.40		13.86	3 99	4 39
Crew B-40         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. 0&P           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$65.75         \$526.00         \$39.55         \$62.37           4 Pile Drivers         38.50         1232.00         62.50         2000.00         \$62.37         \$62.37           1 Equip. Oper. (crane)         42.55         680.80         63.95         1023.20         \$62.37           1 Crawler Crane, 40 Ton         1055.00         1160.50         \$1160.50         \$119.29           64 L.H., Daily Totals         \$5843.20         \$7634.80         \$91.30         \$119.29           Crew B-40B         Hr.         Daily         Hr.         Daily         \$442.40           1 Laborer Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.63         \$53.06           3 Laborers         31.60         758.40         49.00         1176.00         \$42.55         30.41           1 Latice Boom Crane, 40 Ton         1327.00         1459.70         27.65         30.41           4 L.H., Daily Totals         \$2989.00         \$4006.50         \$62.27         \$83.47           I Latice Boom Crane, 40 Ton         1327.00	48 L.H., Daily Totals		\$1783.80		\$2664.94	\$37.16	\$55.52
Crew B-40         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Pile Driver Foreman (out)         \$40.50         \$324.00         \$65.75         \$526.00         \$39.55         \$62.37           4 Pile Drivers         38.50         1232.00         62.50         2000.00           \$62.37           2 Equip. Oper. (crane)         42.55         680.80         63.95         1023.20           \$62.37           1 Crawler Crane, 40 Ton         1055.00         1160.50         1160.50           \$10.75         \$56.92           64 L.H., Daily Totals         2257.00         2482.70         \$11.75         \$56.92           64 L.H., Daily Totals         2257.00         \$7634.80         \$91.30         \$119.29           Page Page Page Page Page Page Page Page						Bare	Incl.
1 Pile Driver Foreman (out)       \$40.50       \$324.00       \$65.75       \$526.00       \$39.55       \$62.37         4 Pile Drivers       38.50       1232.00       62.50       2000.00       2	Crew B-40	Hr.	Daily	Hr.	Daily	Costs	0&P
4 Pile Drivers       38.50       1232.00       62.50       2000.00         2 Equip. Oper. (crane)       42.55       680.80       63.95       1023.20         1 Equip. Oper. Oiler       36.80       294.40       55.30       442.40         1 Crawler Crane, 40 Ton       1055.00       1160.50       1160.50         1 Vibratory Hammer & Gen.       2257.00       2482.70       51.75       56.92         64 L.H., Daily Totals       \$5843.20       \$7634.80       \$91.30       \$119.29 <b>Rew B40B Hr. Daily Hr. Daily</b> Costs <b>0&amp;P</b> 1 Laborer Foreman       \$33.60       \$268.80       \$52.10       \$416.80       \$34.63       \$53.06         3 Laborers       31.60       758.40       49.00       1176.00       126.00       11459.70       27.65       30.41         4 Lattice Boom Crane, 40 Ton       1327.00       1459.70       27.65       30.41         4 L.H., Daily Totals       \$2989.00       \$4006.50       \$62.27       \$83.47 <b>Crew B-41 Hr. Daily Hr. Daily Costs 0&amp;P</b> 1 Labor Foreman (outside)       \$33.60       \$268.80       \$5	1 Pile Driver Foreman (out)	\$40.50	\$324.00	\$65.75	\$526.00	\$39.55	\$62.37
2 Equip. Oper. (crane)         42.55         680.80         63.95         1023.20           1 Equip. Oper. Oiler         36.80         294.40         55.30         442.40           1 Crawler Crane, 40 Ton         1055.00         1160.50         1160.50           1 Vibratory Hammer & Gen.         2257.00         2482.70         51.75         56.92           64 L.H., Daily Totals         \$5843.20         \$7634.80         \$91.30         \$119.29           Crew B-40B         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Laborer Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.63         \$53.06           3 Laborers         31.60         758.40         49.00         1176.00         1         51.75         30.41           1 Equip. Oper. Clier         36.80         294.40         55.30         442.40         1         1         1459.70         27.65         30.41           4 L.H., Daily Totals         \$2989.00         \$4006.50         \$62.27         \$83.47           4 Laborers         31.60         1011.20         49.00         1568.00         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80	4 Pile Drivers	38.50	1232.00	62.50	2000.00		
I Edujo, Oper. Olier       30.80       294.40       55.30       442.40         1 Crawler Crane, 40 Ton       1055.00       1160.50       2482.70       51.75       56.92         64 L.H., Daily Totals       \$5843.20       \$7634.80       \$91.30       \$119.29         Crew B-40B       Hr.       Daily       Hr.       Daily       Costs       0&P         1 Laborer Foreman       \$33.60       \$268.80       \$52.10       \$446.80       \$34.63       \$53.06         3 Laborers       31.60       758.40       49.00       1176.00       1160.50       51.75       \$53.06         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       51.75       \$53.06         1 Lattice Boom Crane, 40 Ton       1327.00       1459.70       27.65       30.41         48 L.H., Daily Totals       \$2989.00       \$4006.50       \$62.27       \$83.47         Crew B-41       Hr.       Daily       Hr.       Daily       Costs       0&P         1 Labor Foreman (outside)       \$33.60       \$268.80       \$52.10       \$416.80       \$32.70       \$50.53         1 Labor Foreman (outside)       \$33.60       \$268.80       \$52.10       \$416.80       \$32.70 <td< td=""><td>2 Equip. Oper. (crane)</td><td>42.55</td><td>680.80</td><td>63.95</td><td>1023.20</td><td></td><td></td></td<>	2 Equip. Oper. (crane)	42.55	680.80	63.95	1023.20		
I change of alle, 40 form         1003300         1100300         1100300           1 Vibratory Hammer & Gen.         2257.00         2482.70         51.75         56.92           64 L.H., Daily Totals         \$5843.20         \$7634.80         \$91.30         \$119.29           Crew B-40B         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Laborer Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.63         \$53.06           3 Laborers         31.60         758.40         49.00         1176.00         1         50.06           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         50.06 <t< td=""><td>1 Equip. Oper. Oller</td><td>30.80</td><td>294.40</td><td>55.30</td><td>442.40 1160.50</td><td></td><td></td></t<>	1 Equip. Oper. Oller	30.80	294.40	55.30	442.40 1160.50		
Handley Hamile & Com         Her.         Daily         Hr.         Daily         S7634.80         \$91.30         \$119.29           Crew B-40B         Hr.         Daily         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Laborer Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.63         \$53.06           3 Laborers         31.60         758.40         49.00         1176.00         \$468.80         \$53.06           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         \$42.95         30.41           1 Lattice Boom Crane, 40 Ton         1327.00         1459.70         27.65         30.41           48 L.H., Daily Totals         \$2989.00         \$4006.50         \$62.27         \$83.47           Crew B-41         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$32.70         \$50.53           4 Laborers         31.60         1011.20         49.00         1568.00         \$25.53         \$50.53           4 Laborers         31.60         1011.20         49.00	1 Vibratory Hammer & Gen.		2257.00		2482.70	51.75	56.92
Crew B-40B         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. 0&P           1 Laborer Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.63         \$53.06           3 Laborers         31.60         758.40         49.00         1176.00         1176.00         112600         553.06         551.60         5446.80         \$34.63         \$53.06           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         51.160         112600         112600         11459.70         27.65         30.41           1 Lattice Boom Crane, 40 Ton         1327.00         1459.70         27.65         30.41           48 L.H., Daily Totals         \$2989.00         \$4006.50         \$62.27         \$83.47           Crew B-41         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$32.70         \$50.53           4 Laborers         31.60         1011.20         49.00         1568.00         \$25.93         \$20.53         \$20.53           25 Equip. Oper. (crane)         42.55         85.10         63.95	64 L.H., Daily Totals		\$5843.20		\$7634.80	\$91.30	\$119.29
Crew B-40B         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Laborer Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.63         \$53.06           3 Laborers         31.60         758.40         49.00         1176.00         \$1176.00         \$1176.00         \$112000         \$110000         \$110000         \$110000         \$110000         \$110000         \$110000         \$110000         \$110000         \$110000         \$110000         \$110000         \$110000         \$1100000         \$1100000         \$1100000         \$1100000         \$1100000         \$11000000         \$11000000         \$110000000         \$110000000         \$11000000000         \$1100000000000						Bare	Incl.
1 Laborer Foreman         \$33.60         \$268.80         \$52.10         \$416.80         \$34.63         \$53.06           3 Laborers         31.60         758.40         49.00         1176.00         1         1         Function         1         Function         Funct	Crew B-40B	Hr.	Daily	Hr.	Daily	Costs	0&P
3 Laborers       31.60       758.40       49.00       1176.00         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60         1 Equip. Oper. Oiler       36.80       294.40       55.30       442.40         1 Lattice Boom Crane, 40 Ton       1327.00       1459.70       27.65       30.41         48 L.H., Daily Totals       \$2989.00       \$4006.50       \$62.27       \$83.47         Crew B-41       Hr.       Daily       Hr.       Daily       Costs       0&P         1 Labor Foreman (outside)       \$33.60       \$268.80       \$52.10       \$416.80       \$32.70       \$50.53         4 Laborers       31.60       1011.20       49.00       1568.00       \$50.53       \$50.53         2.55 Equip. Oper. (crane)       42.55       85.10       63.95       127.90       \$50.53         .25 Equip. Oper. Oiler       36.80       73.60       55.30       110.60       \$5.99       6.59	1 Laborer Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$34.63	\$53.06
I Equip. Oper. (crane)       42.55       340.40       63.95       511.60         I Equip. Oper. Oiler       36.80       294.40       55.30       442.40         I Lattice Boom Crane, 40 Ton       1327.00       1459.70       27.65       30.41         48 L.H., Daily Totals       \$2989.00       \$4006.50       \$62.27       \$83.47         Crew B-41       Hr.       Daily       Hr.       Daily       Costs       O&P         1 Labor Foreman (outside)       \$33.60       \$268.80       \$52.10       \$416.80       \$32.70       \$50.53         4 Laborers       31.60       1011.20       49.00       1568.00       \$252.50       \$416.80       \$22.70       \$50.53         .25 Equip. Oper. (crane)       42.55       85.10       63.95       127.90       \$50.53       \$52.30       110.60         .25 Equip. Oper. Oiler       36.80       73.60       55.30       110.60       \$5.99       6.59	3 Laborers	31.60	758.40	49.00	1176.00		
L'étype         30.80         294.40         55.30         442.40           1 Lattice Boom Crane, 40 Ton         1327.00         1459.70         27.65         30.41           48 L.H., Daily Totals         \$2989.00         \$4006.50         \$62.27         \$83.47           Crew B-41         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$32.70         \$50.53           4 Laborers         31.60         1011.20         49.00         1568.00         \$25 Equip. Oper. (crane)         42.55         85.10         63.95         127.90         \$50.53           .25 Equip. Oper. Olier         36.80         73.60         55.30         110.60         \$5.99         6.59	1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60		
I Latuce Boolin Graine, 40 foin         1327.00         14327.00         27.03         30.41           48 L.H., Daily Totals         \$2989.00         \$4006.50         \$62.27         \$83.47           Crew B-41         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$32.70         \$50.53           4 Laborers         31.60         1011.20         49.00         1568.00         \$52.50         \$40.63.95         127.90           .25 Equip. Oper. (crane)         42.55         85.10         63.95         127.90         \$50.53           .25 Equip. Oper. Oiler         36.80         73.60         55.30         110.60         \$5.99         6.59	1 Equip. Oper. Oller	30.80	294.40	55.30	442.40	27.65	20.41
Crew B-41         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$32.70         \$50.53           4 Laborers         31.60         1011.20         49.00         1568.00         \$52.510         \$416.80         \$252.40         \$50.53           .25 Equip. Oper. (crane)         42.55         85.10         63.95         127.90	48 L.H., Daily Totals		\$2989.00		\$4006.50	\$62.27	\$83.47
Older D-91         TH.         Daily         TH.         Daily         TH.         Daily         COSts         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$32.70         \$50.53           4 Laborers         31.60         1011.20         49.00         1568.00         \$52.52         \$50.53           .25 Equip. Oper. (crane)         42.55         85.10         63.95         127.90         \$5.99         6.59           .25 Crawler Crane, 40 Ton         263.75         290.13         5.99         6.59	Crow D #1	LLr.	Daily	U۳	Deilu	Bare	Incl.
4 Laborers         31.60         1011.20         49.00         1568.00           .25 Equip. Oper. (crane)         42.55         85.10         63.95         127.90           .25 Equip. Oper. Oiler         36.80         73.60         55.30         110.60           .25 Crawler Crane, 40 Ton         263.75         290.13         5.99         6.59	1 Labor Foreman (outside)	533.60	\$268.80	<b>nr.</b> \$52.10	\$416.80	\$32.70	550 52
.25 Equip. Oper. (crane)         42.55         85.10         63.95         127.90           .25 Equip. Oper. Oiler         36.80         73.60         55.30         110.60           .25 Crawler Crane, 40 Ton         263.75         290.13         5.99         6.59	4 Laborers	31.60	1011.20	49.00	1568.00	↓JL./U	çJU.JJ
.25 Equip. Oper. Oiler 36.80 73.60 55.30 110.60 .25 Crawler Crane, 40 Ton 263.75 290.13 5.99 6.59	.25 Equip. Oper. (crane)	42.55	85.10	63.95	127.90		
.25 Crawler Crane, 40 Ton 263.75 290.13 5.99 6.59	.25 Equip. Oper. Oiler	36.80	73.60	55.30	110.60		
	.25 Crawler Crane, 40 Ton		263.75		290.13	5.99	6.59
44 L.H., Daily Totals \$1702.45 \$2513.43 \$38.69 \$57.12	44 L.H., Daily Totals		\$1702.45		\$2513.43	\$38.69	\$57.12

Crew B-42 1 Labor Foreman (outside)		e Costs	Sub	Incl. os O & P	Co Per Lat	ost oor-Hour
1 Labor Foreman (outside)	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
	\$33.60	\$268.80	\$52.10	\$416.80	\$35.51	\$55.88
4 Laborers	31.60	1011.20	49.00	1568.00		
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60		
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40		
1 Welder	44.70	357.60	79.65	637.20		
1 Hyd. Crane, 25 Ton		789.40		868.34		
1 Welder, gas engine, 300 amp		134.20		147.62		
1 Horz. Boring Csg. Mch.		444.20		488.62	21.37	23.51
54 L.H., Daily Totals		\$3640.20		\$5080.58	\$56.88	\$79.38
Crow B-43	Hr	Daily	Hr	Daily	Bare	Incl.
	¢22.60	6000 00	ČE 0.10	¢410.00	624.62	652.0C
L Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$34.63	\$53.06
3 Laborers	31.60	/58.40	49.00	F11.CO		
Equip. Oper. (crane)	42.00	340.40	03.90	00.110		
Luquip. Oper. Oller Drill Rig. Truck Mounted	30.00	234.40 2522.00	00.00	442.40 2786 20	52 77	50 NF
18 L.H., Daily Totals	+	\$4195.00		\$5333.10	\$87.40	\$111.11
					Bare	Incl.
Crew B-44	Hr.	Daily	Hr.	Daily	Costs	0&P
l Pile Driver Foreman	\$40.50	\$324.00	\$65.75	\$526.00	\$38.90	\$61.58
Pile Drivers	38.50	1232.00	62.50	2000.00		
2 Equip. Oper. (crane)	42.55	680.80	63.95	1023.20		
L Laborer	31.60	252.80	49.00	392.00		
L Crawler Crane, 40 Ton		1055.00		1160.50		
Lead, 60' high		69.60		76.56		
L Hammer, diesel, 15K FtLbs.		578.60		636.46	26.61	29.27
54 L.H., Daily Totals		\$4192.80		\$5814.72	\$65.51	\$90.86
Crew B-45	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$36.65	\$55.65
I Truck Driver (heavy)	31.95	255.60	49.15	393.20		
Dist. Tanker, 3000 Gallon		304.20		334.62		
Truck Tractor, 6x4, 380 H.P.		478.80		526.68	48.94	53.83
6 L.H., Daily Totals	1	\$1369.40		\$1751.70	\$85.59	\$109.48
		Daily	Цк	Daily	Bare	Incl.
Crew R-46	Hr	Daily				
Crew B-46	Hr.	¢224.00	¢65.75	\$526.00	¢2E 20	¢EE 20
Crew B-46 Pile Driver Foreman	Hr. \$40.50	\$324.00	\$65.75	\$526.00	\$35.38	\$56.29
Crew B-46 Pile Driver Foreman Pile Drivers	Hr. \$40.50 38.50 31.60	\$324.00 616.00 758.40	\$65.75 62.50	\$526.00 1000.00	\$35.38	\$56.29
Crew B-46 Pile Driver Foreman Pile Drivers Laborers Chain Saw Cas 36" Long	Hr. \$40.50 38.50 31.60	\$324.00 616.00 758.40 37.80	\$65.75 62.50 49.00	\$526.00 1000.00 1176.00 41.58	\$35.38	\$56.29
Crew B-46 Pile Driver Foreman Pile Drivers Laborers Chain Saw, Gas, 36" Long 8 L.H., Daily Totals	Hr. \$40.50 38.50 31.60	\$324.00 616.00 758.40 37.80 \$1736.20	\$65.75 62.50 49.00	\$526.00 1000.00 1176.00 41.58 \$2743.58	\$35.38 .79 \$36.17	\$56.29 .87 .87
Crew B-46 Pile Driver Foreman Pile Drivers B Laborers L Chain Saw, Gas, 36" Long IS L.H., Daily Totals	Hr. \$40.50 38.50 31.60	\$324.00 616.00 758.40 37.80 \$1736.20	\$65.75 62.50 49.00	\$526.00 1000.00 1176.00 41.58 \$2743.58	.79 \$36.17 Bare	.87 \$57.16
Crew B-46 Pile Driver Foreman Pile Drivers Laborers Chain Saw, Gas, 36" Long 8 L.H., Daily Totals Crew B-47	Hr. \$40.50 38.50 31.60 Hr.	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b>	\$65.75 62.50 49.00 <b>Hr.</b>	\$526.00 1000.00 1176.00 41.58 \$2743.58 Daily	\$35.38 \$36.17 Bare Costs	.87 \$56.29 \$57.16 Incl. 0&P
Crew B-46 Pile Driver Foreman Pile Drivers Laborers Chain Saw, Gas, 36" Long 8 L.H., Daily Totals Crew B-47 Blast Foreman	Hr. \$40.50 38.50 31.60 Hr. \$33.60	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80	\$65.75 62.50 49.00 <b>Hr.</b> \$52.10	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80	\$35.38 .79 \$36.17 Bare Costs \$34.75	\$56.29 .87 \$57.16 Incl. 0&P \$53.27
Crew B-46 Pile Driver Foreman Pile Drivers Laborers Chain Saw, Gas, 36" Long R L.H., Daily Totals Crew B-47 Blast Foreman Driller	Hr. \$40.50 38.50 31.60 Hr. \$33.60 31.60	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80	\$65.75 62.50 49.00 <b>Hr.</b> \$52.10 49.00	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00	\$35.38 .79 \$36.17 Bare Costs \$34.75	\$56.29 .87 \$57.16 Incl. 0&P \$53.27
Crew B-46 Pile Driver Foreman Pile Drivers Lohain Saw, Gas, 36" Long Chain Saw, Gas, 36" Long Lohain Saw, Gas, 36" Long Crew B-47 Blast Foreman Driller Equip. Oper. (light)	Hr. \$40.50 38.50 31.60 Hr. \$33.60 31.60 39.05	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40	\$65.75 62.50 49.00 <b>Hr.</b> \$52.10 49.00 58.70	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60	\$35.38 \$35.38 \$36.17 Bare Costs \$34.75	.87 \$56.29 \$57.16 Incl. 0&P \$53.27
Crew B-46 Pile Driver Foreman Pile Drivers Laborers Chain Saw, Gas, 36" Long R. L.H., Daily Totals Crew B-47 Blast Foreman Driller Equip. Oper. (light) Air Track Drill, 4"	Hr.           \$40.50           38.50           31.60           Hr.           \$33.60           31.60	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40 850.60	\$65.75 62.50 49.00 <b>Hr.</b> \$52.10 49.00 58.70	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60 935.66	.79           \$36.17           Bare           Costs           \$34.75	\$56.29 .87 \$57.16 <b>Incl.</b> \$53.27
Crew B-46 Pile Driver Foreman Pile Driver Foreman Pile Drivers Laborers Chain Saw, Gas, 36" Long Rather Legal Complexity Crew B-47 Blast Foreman Driller Equip. Oper. (light) Air Track Drill, 4" Air Compressor, 600 cfm	Hr.           \$40.50           38.50           31.60           Hr.           \$33.60           31.60	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40 850.60 434.40	\$65.75 62.50 49.00 <b>Hr.</b> \$52.10 49.00 58.70	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60 935.66 477.84	\$35.38 79 \$36.17 Bare Costs \$34.75	\$56.29 .87 \$57.16 Incl. 0&P \$53.27
Crew B-46 Pile Driver Foreman Pile Driver Foreman Pile Drivers Laborers Chain Saw, Gas, 36" Long Laborers Crew B-47 Blast Foreman Driller Equip. Oper. (light) Air Track Drill, 4" Air Compressor, 600 cfm 2-50' Air Hoses, 3"	Hr.           \$40.50           38.50           31.60           Hr.           \$33.60           31.60	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40 850.60 434.40 32.40	\$65.75 62.50 49.00 <b>Hr.</b> \$52.10 49.00 58.70	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60 935.66 477.84 35.64	535.38 ,79 \$36.17 Bare Costs \$34.75 54.89	\$56.29 .87 \$57.16 Incl. 0&P \$53.27
Crew B-46  Pile Driver Foreman Pile Drivers Lohain Saw, Gas, 36" Long Chain Saw, Gas, 36" Long Lohain Saw, Gas, 36" Long Crew B-47 Crew B-47 Blast Foreman Driller Equip. Oper. (light) LAir Track Drill, 4" LAir Compressor, 600 cfm 2-50' Air Hoses, 3" Cet L.H., Daily Totals	Hr.           \$40.50           38.50           31.60           Hr.           \$33.60           31.60           39.05	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40 850.60 434.40 32.40 \$2151.40	\$65.75 62.50 49.00 <b>Hr.</b> \$52.10 49.00 58.70	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60 935.66 477.84 35.64 \$2727.54	535.38 ,79 \$36.17 Bare Costs \$34.75 54.89 \$89.64	60.38 \$13.65
Crew B-46 Pile Driver Foreman Pile Driver S Laborers Chain Saw, Gas, 36" Long Chain Saw, Gas, 36" Long Crew B-47 Blast Foreman Driller Equip. Oper. (light) Air Track Drill, 4" Air Compressor, 600 cfm 2-50' Air Hoses, 3" Crew B-47A	Hr.           \$40.50           38.50           31.60           Hr.           \$33.60           31.60           39.05           Hr.	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40 850.60 434.40 32.40 \$2151.40 <b>Daily</b>	\$65.75 62.50 49.00 Hr. \$52.10 49.00 58.70 Hr.	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60 935.66 477.84 35.64 \$2727.54 <b>Daily</b>	\$35.38 ,79 \$36.17 <b>Bare</b> <b>Costs</b> \$34.75 54.89 \$89.64 <b>Bare</b> <b>Costs</b>	
Crew B-46 1 Pile Driver Foreman 2 Pile Drivers 3 Laborers 1 Chain Saw, Gas, 36" Long 48 L.H., Daily Totals Crew B-47 1 Blast Foreman 1 Driller 1 Equip. Oper. (light) 1 Air Track Drill, 4" 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 24 L.H., Daily Totals Crew B-47A 1 Drilling Foreman	Hr.           \$40.50           38.50           31.60           Hr.           \$33.60           31.60           39.05           Hr.           \$33.60           \$\$3.60           \$\$40.50	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40 850.60 434.40 32.40 \$2151.40 <b>Daily</b> \$268.80	\$65.75 62.50 49.00 Hr. \$52.10 49.00 58.70 Hr. \$52.10	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60 935.66 477.84 35.64 \$2727.54 <b>Daily</b> \$416.80	\$35.38 ,79 \$36.17 <b>Bare</b> <b>Costs</b> \$34.75 54.89 \$89.64 <b>Bare</b> <b>Costs</b> \$37.65	
Crew B-46  Pile Driver Foreman Pile Drivers L Chain Saw, Gas, 36" Long L Chain Saw, Gas, 36" Long Crew B-47 L Blast Foreman L Driller L Equip. Oper. (light) L Air Track Drill, 4" L Air Compressor, 600 cfm 2-50' Air Hoses, 3" Pile L H., Daily Totals Crew B-47A Drilling Foreman L Equip. Oper. (heavy)	Hr.           \$40.50           38.50           31.60           Hr.           \$33.60           31.60           9.05           Hr.           \$33.60           42.55	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40 850.60 434.40 32.40 \$2151.40 <b>Daily</b> \$268.80 340.40	\$65.75 62.50 49.00 Hr. \$52.10 49.00 58.70 Hr. \$52.10 63.95	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60 935.66 477.84 35.64 \$2727.54 <b>Daily</b> \$416.80 511.60	Social           \$35.38           .79           \$36.17           Bare           Costs           \$34.75           54.89           \$89.64           Bare           Costs           \$37.65	
Crew B-46  Pile Driver Foreman Pile Drivers L Chain Saw, Gas, 36" Long L Chain Saw, Gas, 36" Long Crew B-47 L Blast Foreman L Driller L Equip. Oper. (light) L Air Track Drill, 4" L Air Compressor, 600 cfm 2-50' Air Hoses, 3" Pile L H., Daily Totals Crew B-47A Drilling Foreman L Equip. Oper. (heavy) L Oiler	Hr.           \$40.50           38.50           31.60           Hr.           \$33.60           31.60           39.05           Hr.           \$33.60           42.55           36.80	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40 850.60 434.40 32.40 \$2151.40 <b>Daily</b> \$268.80 340.40 294.40	\$65.75 62.50 49.00 Hr. \$52.10 49.00 58.70 Hr. \$52.10 63.95 55.30	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60 935.66 477.84 35.64 \$2727.54 <b>Daily</b> \$416.80 511.60 442.40	Social           \$35.38           .79           \$36.17           Bare           Costs           \$34.75           54.89           \$89.64           Bare           Costs           \$37.65	
Crew B-46 Pile Driver Foreman Pile Drivers Laborers Chain Saw, Gas, 36" Long L.H., Daily Totals Crew B-47 Blast Foreman Driller Equip. Oper. (light) Air Track Drill, 4" Air Compressor, 600 cfm -50' Air Hoses, 3" 4 L.H., Daily Totals Crew B-47A Drilling Foreman Equip. Oper. (heavy) Oiler Air Track Drill, 5"	Hr.           \$40.50           38.50           31.60           Hr.           \$33.60           31.60           9.05           Hr.           \$33.60           42.55           36.80	\$324.00 616.00 758.40 37.80 \$1736.20 <b>Daily</b> \$268.80 252.80 312.40 850.60 434.40 32.40 \$2151.40 <b>Daily</b> \$268.80 340.40 294.40 974.00	\$65.75 62.50 49.00 <b>Hr.</b> \$52.10 49.00 58.70 <b>Hr.</b> \$52.10 63.95 55.30	\$526.00 1000.00 1176.00 41.58 \$2743.58 <b>Daily</b> \$416.80 392.00 469.60 935.66 477.84 35.64 \$2727.54 <b>Daily</b> \$416.80 511.60 442.40 1071.40	Social           \$35.38           .79           \$36.17           Bare           Costs           \$34.75           54.89           \$89.64           Bare           Costs           \$37.65           40.58	

Crew No.	Bare	Costs	lne Subs	cl. 6 O & P	Co Per Lat	ost oor-Hour
Crew B-47C	Hr.	Dailv	Hr.	Dailv	Bare Costs	Incl. 0&P
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$35.33	\$53.85
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60	<b>\$00100</b>	<i><b>Q</b></i> <b>QQQQ</b>
1 Air Compressor, 750 cfm		439.60		483.56		
2 -50' Air Hoses, 3"		32.40		35.64		
1 Air Track Drill, 4"		850.60		935.66	82.66	90.93
16 L.H., Daily Totals		\$1887.80		\$2316.46	\$117.99	\$144.78
Crew B-47E	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Laborer Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$32.10	\$49.77
3 Laborers	31.60	758.40	49.00	1176.00		
1 Flatbed Truck, Gas, 3 Ton		242.60		266.86	7.58	8.34
32 L.H., Daily Totals		\$1269.80		\$1859.66	\$39.68	\$58.11
Crew B-47G	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Laborer Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$33.96	\$52.20
2 Laborers	31.60	505.60	49.00	784.00		
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
1 Air Track Drill, 4"		850.60		935.66		
1 Air Compressor, 600 cfm		434.40		4//.84		
2 - JU AII FIUSES, J		52.40 166.40		50.04 183.04	16 37	51.01
32 L.H., Daily Totals		\$2570.60		\$3302.58	\$80.33	\$103.21
		<i>\$2070100</i>		\$0002.000	Bare	Incl
Crew B-48	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.26	\$53.86
3 Laborers	31.60	/58.40	49.00	II/6.00		
1 Equip. Oper. (crane)	42.00	340.40 20/ //	55 30	011.60 112.10		
1 Equip. Oper. (light)	39.05	312.40	58 70	442.40		
1 Centr. Water Pump. 6"	55.05	309.40	50.70	340.34		
1 -20' Suction Hose, 6"		11.90		13.09		
1 -50' Discharge Hose, 6"		6.30		6.93		
1 Drill Rig, Truck-Mounted		2533.00		2786.30	51.08	56.19
56 L.H., Daily Totals		\$4835.00		\$6163.06	\$86.34	\$110.05
Crew B-49	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$36.65	\$56.48
3 Laborers	31.60	758.40	49.00	1176.00		,
2 Equip. Oper. (crane)	42.55	680.80	63.95	1023.20		
2 Equip. Oper. Oilers	36.80	588.80	55.30	884.80		
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
2 Pile Drivers	38.50	616.00	62.50	1000.00		
1 Hyd. Crane, 25 Ion		/89.40		868.34		
1 centr. water Fullip, o		309.40 11.90		13.09		
1 -50' Discharge Hose 6"		6 30		6.93		
1 Drill Rig, Truck-Mounted		2533.00		2786.30	41.48	45.63
88 L.H., Daily Totals		\$6875.20		\$8985.40	\$78.13	\$102.11
					Bare	Incl.
2 Pile Driver Foremon	<b>Hr.</b>	Seve of	<b>Hr.</b>	<b>Daily</b>	Costs	0&P
6 Pile Drivers	38 50	1848 00	62 50	3000.00	\$57.70	203.10
2 Equip. Oper. (crane)	42.55	680.80	63.95	1023.20		
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40		
3 Laborers	31.60	758.40	49.00	1176.00		
1 Crawler Crane, 40 Ton		1055.00		1160.50		
1 Lead, 60' high		69.60		76.56		
1 Hammer, diesel, 15K FtLbs.		578.60		636.46		
1 Air Compressor, 600 cfm		434.40		477.84		
2 -50' Air Hoses, 3"		32.40		35.64	10.71	01.00
1 Unain Saw, Gas, 36" Long		37.80		41.58	19./1	21.08 601.4F
IIZ L.N., Dally IOLAIS	1	QU437.40	1	2217771Q	J ⇒07.40	Q01.40

Crew No.	Bai	re Costs	Sut	Incl. os O & P	Co Per Lat	st oor-Hour
Crew B-51	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$31.82	\$49.29
4 Laborers	31.60	1011.20	49.00	1568.00		
1 Truck Driver (light)	30.95	247.60	47.65	381.20		
1 Flatbed Truck, Gas, 1.5 Ton		194.40		213.84	4.05	4.46
48 L.H., Daily Totals		\$1722.00		\$2579.84	\$35.88	Ş53.75
Crew B-52	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Carpenter Foreman	\$41.95	\$335.60	\$65.05	\$520.40	\$36.85	\$56.79
1 Carpenter	39.95	319.60	61.95	495.60		
3 Laborers	31.60	758.40	49.00	1176.00		
1 Cement Finisher	38.30	306.40	56.05	448.40		
.5 Rodman (reinf.)	44.55	178.20 165.40	/2.85	291.40		
5 Equip. Oper. (mea.) 5 Crawler Leader 3 C V	41.35	165.40	62.15	248.60 544.50	8.81	0.72
56 L H Daily Totals		\$2558.60		\$372/L90	0.04 \$45.69	9.72 \$66.52
oo E.m., Dully lotalo		Q2000.00		Q0724.50	Bare	Incl.
Crew B-53	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Equip. Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$39.05	\$58.70
1 Trencher, Chain, 12 H.P.		59.60		65.56	/.45	8.20
8 L.H., Daily Iotals		\$372.00		Ş535.16	\$46.50	\$66.89
Crew B-54	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Equip. Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$39.05	\$58.70
1 Trencher, Chain, 40 H.P.		301.00		331.10	37.63	41.39
8 L.H., Daily Totals		\$613.40		\$800.70	\$76.67	\$100.09
Crew B-54A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
.17 Labor Foreman (outside)	\$33.60	\$45.70	\$52.10	\$70.86	\$40.22	\$60.69
1 Equipment Operator (med.)	41.35	330.80	62.15	497.20		
1 Wheel Trencher, 67 H.P.		1009.00		1109.90	107.80	118.58
9.36 L.H., Daily Totals		\$1385.50		\$1677.96	\$148.02	\$179.27
Crew B-54B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P
.25 Labor Foreman (outside)	\$33.60	\$67.20	\$52.10	\$104.20	\$39.80	\$60.14
1 Equipment Operator (med.)	41.35	330.80	62.15	497.20		
1 Wheel Trencher, 150 H.P.		1753.00		1928.30	175.30	192.83
10 L.H., Daily Totals		\$2151.00		\$2529.70	\$215.10	\$252.97
Crew B-54C	Hr.	Daily	Hr.	Dailv	Bare Costs	Incl. 0&P
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$36.48	\$55.58
1 Equipment Operator (med.)	41.35	330.80	62.15	497.20		÷20100
1 Wheel Trencher, 67 H.P.		1009.00		1109.90	63.06	69.37
16 L.H., Daily Totals		\$1592.60		\$1999.10	\$99.54	\$124.94
Crew B-55	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
2 Laborers	\$31.60	\$505.60	\$49.00	\$784.00	\$31.38	\$48.55
1 Truck Driver (light)	30.95	247.60	47.65	381.20		
1 Truck-mounted earth auger		706.60		777.26		
1 Flatbed Truck, Gas, 3 Ton		242.60		266.86	39.55	43.51
24 L.H., Daily Totals		\$1702.40		\$2209.32	\$70.93	\$92.06
Crew B-56	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$35.33	\$53.85
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
1 Air Track Drill, 4"		850.60		935.66		
1 Air Compressor, 600 cfm		434.40		477.84		
1 -50' Air Hose, 3"		16.20		17.82	81.33	89.46
16 L.H., Daily Totals		\$1866.40		\$2292.92	\$116.65	\$143.31

Crew No.	Bare	Costs	Ine Subs	cl. 6 O & P	Co Per Lat	ost oor-Hour
Crew B-57	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.87	\$54.67
2 Laborers	31.60	505.60	49.00	784.00		
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60		
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40		
1 Crawler Crane, 25 Ion		1052.00		1157.20		
1 Clamshell Bucket, 1 C.Y.		46.20		240.24		
1 -20' Suction Hose 6"		11 90		13.09		
20 -50' Discharge Hoses, 6"		126.00		138.60	32.20	35.42
48 L.H., Daily Totals		\$3267.10		\$4324.45	\$68.06	\$90.09
Crew B-58	Hr	Daily	Hr	Daily	Bare	Incl. O&P
2 Lahorers	\$31.60	\$505.60	\$49.00	\$784.00	\$34.08	\$52.23
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60	ŞJ <del>1</del> .00	ΨJZ.2J
1 Backhoe Loader, 48 H.P.	05100	293.80		323.18		
1 Small Helicopter, w/pilot		2587.00		2845.70	120.03	132.04
24 L.H., Daily Totals		\$3698.80		\$4422.48	\$154.12	\$184.27
Crew B-59	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Truck Driver (heavy)	\$31.95	\$255.60	\$49.15	\$393.20	\$31.95	\$49.15
1 Truck Tractor, 220 H.P.		288.40		317.24		
1 Water Tanker, 5000 Gal.		136.00		149.60	53.05	58.35
8 L.H., Daily Totals		\$680.00		\$860.04	\$85.00	\$107.51
Crew B-59A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
2 Laborers	\$31.60	\$505.60	\$49.00	\$784.00	\$31.72	\$49.05
1 Truck Driver (heavy)	31.95	255.60	49.15	393.20		
1 Water Tanker, 5000 Gal.		136.00		149.60		
1 Truck Tractor, 220 H.P.		288.40		317.24	17.68	19.45
24 L.H., Daily Iotals		\$1185.60		\$1644.04	\$49.40	\$68.50
Crew B-60	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$36.32	\$55.25
2 Laborers	31.60	505.60	49.00	784.00		
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60		
2 Equip. Oper. (light)	39.05	624.80	58.70	939.20		
1 Equip. Oper. Oller	36.80	294.40	55.30	442.40		
1 Lead. 60' high		69.60		76.56		
1 Hammer, diesel, 15K FtLbs.		578.60		636.46		
1 Backhoe Loader, 48 H.P.		293.80		323.18	35.66	39.23
56 L.H., Daily Totals		\$4031.00		\$5290.70	\$71.98	\$94.48
Crew B-61	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$33.49	\$51.56
3 Laborers	31.60	758.40	49.00	1176.00		
I Equip. Oper. (light)	39.05	312.40	58.70	469.60		
1 Cernent Wixer, 2 C.r. 1 Air Compressor 160 cfm		187.80		200.08	816	8 98
40 L.H., Daily Totals		\$1666.20		\$2421.66	\$41.66	\$60.54
Cuow D 60	U.,	Daile	LLr.	Della	Bare	Incl.
	co1.co	CEDE CO	<b>nr.</b>	6704.00	624.00	0 <b>67</b>
2 Laborers	20 UE	210.0U 210.0U	249.00 52 70	\$784.00 760.60	\$34.UX	Ş02.23
1 Loader, Skid Steer, 30 H.P., øag	23.00	149.20	30.70	164.12	6.22	6.84
24 L.H., Daily Totals		\$967.20		\$1417.72	\$40.30	\$59.07
		40071E0		Y	÷	

Crew No.	Ba	re Costs	Sut	Incl. os O & P	Co Per Lat	ost Dor-Hour	Crew N
Crew B-63	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Cre
4 Laborers	\$31.60	\$1011.20	\$49.00	\$1568.00	\$33.09	\$50.94	1 Labor Forer
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60			3 Laborers
1 Loader, Skid Steer, 30 H.P., gas		149.20		164.12	3.73	4.10	3 Equip. Oper
40 L.H., Daily Totals		\$1472.80		\$2201.72	\$36.82	\$55.04	1 Grader, 30,
					Bare	Incl.	1 Ripper, bea
Crew B-64	Hr.	Daily	Hr.	Daily	Costs	0&P	1 F.E. Loader.
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.27	Ş48.33	56 L.H., Daily
1 Truck Driver (light)	30.95	247.60	47.65	381.20			
1 Fower Mulcher (Small) 1 Flathed Truck Gas 1.5 Ton		194.40		213.84	20.69	22.76	Cre
16 L.H., Daily Totals		\$831.40		\$1137.30	\$51.96	\$71.08	1 Laborer
		çooino		<i><b></b></i>	Baro	Incl	4 Equip. Oper
Crew B-65	Hr.	Dailv	Hr.	Dailv	Costs	0&P	1 Grader, 40,
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.27	\$48.33	1 F.E. Loader,
1 Truck Driver (light)	30.95	247.60	47.65	381.20	VOIL2	<i>v</i> 10100	1 Dozer, 80 H
1 Power Mulcher (large)		271.80		298.98			1 Roller, Pneu
1 Flatbed Truck, Gas, 1.5 Ton		194.40		213.84	29.14	32.05	40 L.H., Daily
16 L.H., Daily Totals		\$966.60		\$1286.02	\$60.41	\$80.38	
Crew B-66	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	1 Labor Forer
1 Equip. Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$39.05	\$58.70	3 Laborers
1 Loader-Backhoe		231.20		254.32	28.90	31.79	3 Equip. Oper
8 L.H., Daily Totals		\$543.60		\$723.92	\$67.95	\$90.49	1 Road Swee
					Bare	Incl.	1 F.E. Loader
Crew B-67	Hr.	Daily	Hr.	Daily	Costs	0&P	56 L.H., Daily
1 Millwright	\$41.60	\$332.80	\$61.05	\$488.40	\$40.33	\$59.88	
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60			Cre
1 Forklift, R/T, 4,000 Lb.		281.20		309.32	17.57	19.33	1 Labor Forer
16 L.H., Daily Iotals		\$926.40		\$1267.32	\$57.90	\$79.21	3 Laborers
Onen D CO		Deilu		Delle	Bare	Incl.	4 Equip. Oper
Crew B-68	Hr.	Daily	Hr.		COSTS	0&P	1 Pvmt. Profil
2 MillWrights 1 Equip Oper (light)	\$41.60 30.05	\$005.00 312.40	\$61.05 58.70	3970.80 460.60	\$40.75	\$60.27	1 Hammermii 1 Windrow Lo
1 Equip. Oper. (light) 1 Forklift R/T 4 000 l h	39.05	281.20	56.70	309.32	11 72	12.89	1 Mix Paver 1
24 L.H., Daily Totals		\$1259.20		\$1755.72	\$52.47	\$73.16	1 Roller, Pneu
2.1 Zin ii, Daily Totalo		VIE001E0		VI. OUL	Bare	Incl.	64 L.H., Daily
Crew B-69	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$34.63	\$53.06	
3 Laborers	31.60	/58.40	49.00	E11.00			1 Labor Forer
1 Equip Oper. (crane)	42.55	340.40 204.40	55 30	511.60			2 Laborers 5 Equip Oper
1 Hvd. Crane. 80 Ton	50.00	1296.00	55.50	1425.60	27.00	29.70	1 Road Mixer.
48 L.H., Daily Totals		\$2958.00		\$3972.40	\$61.63	\$82.76	1 Tandem Rol
		,			Rare	Incl	1 Hammermil
Crew B-69A	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Grader, 30,
1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$34.67	\$52.88	.5 F.E. Loader
3 Laborers	31.60	758.40	49.00	1176.00	, vo nor	<i>vo</i> 2.00	.5 Truck Tract
1 Equip. Oper. (medium)	41.35	330.80	62.15	497.20			.5 Water Tank
1 Concrete Finisher	38.30	306.40	56.05	448.40			64 L.H., Daily
1 Curb/Gutter Paver, 2-Track		754.40		829.84	15.72	17.29	
48 L.H., Daily Totals		\$2418.80		\$3368.24	\$50.39	\$70.17	
Crew B-69B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	
1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$34.67	\$52.88	
3 Laborers	31.60	758.40	49.00	1176.00			
1 Equip. Oper. (medium)	41.35	330.80	62.15	497.20			
1 Cement Finisher	38.30	306.40	56.05	448.40			
1 Curb/Gutter Paver, 4-Track		855.80		941.38	17.83	19.61	
48 L.H., Daily Totals		\$2520.20		\$3479.78	\$52.50	\$72.50	

Crew B-70         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. 0&P           1 labor forman (outside)         \$33.60         \$5268.00         \$42.10         \$41.05         \$992.40         62.15         1491.60         \$56.08         356.06         \$55.02         1491.60         560.22         1         176.00         36.00         \$55.020         605.22         1         1         1         560.72         1         1         560.72         1         1         560.72         1         1         560.72         1         1         560.72         1         1         560.72         1         1         560.72         1         1         560.72         30.64         550.20         547.99.56         563.91         565.71           Thead Sweeper, S.P., 8' wide         Fild         Daily         Hr.         Daily         Hr.         Daily         1         837.00         533.40         559.52         1         59.52         1         1         50.75         399.20         539.20         539.40         559.52         1         56.75         399.20         539.00         \$116.27         1         1         1         1         1         1         1         1	Crew No.	Bare	Costs	In Subs	cl. s O & P	Co Per Lab	ost oor-Hour
1 Labor Foreman (outside)         \$33.60         \$258.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         \$36.06         \$55.08           3 Equip. Oper. (med.)         41.35         992.40         62.15         1491.60         605.22           1 Riper, beam & 1 shank         79.60         87.56         605.22         30.64           1 F.E. Loader, W.M., 1.5 C.Y.         328.20         361.02         27.85         30.64           56 L.H., Daily Totals         \$31.60         \$252.80         \$4799.96         \$53.31         \$85.71           Crew B-70A         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$39.40         \$59.52           4 Equip. Oper. (med.)         41.35         1323.20         62.15         1088.01         1057.10           1 F.E. Loader, W.M., 2.5 C.Y.         395.80         435.38         51.59         56.75           40 L.H., Daily Totals         \$336.00         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           1 baor Foreman (stride) <th>Crew B-70</th> <th>Hr.</th> <th>Daily</th> <th>Hr.</th> <th>Daily</th> <th>Bare Costs</th> <th>Inci. 0&amp;P</th>	Crew B-70	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P
3 Laborers         31.60         758.40         49.00         1176.00           3 Equip. Oper. (med.)         41.35         992.40         62.15         1491.60           1 Grader, 30,000 Lbs.         550.20         605.22         1491.60           1 Roder, Man, 1.5 C.Y.         328.20         361.02         27.85         30.64           56 L.H., Daly Totals         53579.20         \$4799.96         \$63.91         \$85.71           Crew B-70A         Hr.         Daily         Hr.         Daily         Cots         04P           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$39.40         \$59.52           4 Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80         102e,r         04P         338.58         51.59         56.75           40 LH, Daily Totals         \$3639.80         \$4650.98         \$91.00         \$116.27           1 Roller, Pneum. Will, 12 Ton         307.80         338.58         51.59         56.75           40 LH, Daily Totals         \$336.00         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$36.06	\$55.08
3 Equip. Oper. (med.)         41.35         992.40         62.15         1491.60           1 Grader, 30,000 Lbs.         550.20         605.22         1           1 Ripper, beam & 1 shank         79.60         87.56         1           1 Road Sweeper, S.P., 8 wide         601.60         661.76         27.85         30.64           56 L.H., Daily Totals         \$3579.20         \$4799.96         \$63.91         \$85.71           Crew B-70A         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$39.40         \$59.52         4           1 Grader, 40,000 Lbs.         961.00         1057.10         1         51.59         56.75           40 L.H., Daily Totals         \$3639.80         \$4650.98         \$91.00         \$116.27            31.60         758.40         \$261.0         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         \$21.0         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         \$10160.48         \$150.94         \$181.44           1 Labor Foreman	3 Laborers	31.60	758.40	49.00	1176.00		
1 Grader, 30,000 Lbs.         550.20         605.22           1 Ripper, beam & 1 shank         79.60         87.56           1 Road Sweeper, S.P., 8' wide         601.60         661.76           1 E. Loader, M.M., 15 C.Y.         328.20         361.02         27.85         30.64           56 L.H., Daily Totals         \$3579.20         \$4799.96         \$63.91         \$85.71           Crew B-70A         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Laborer         \$31.60         \$252.80         \$49.00         \$39.40         \$59.52         4           1 Grader, 40,000 Lbs.         1961.00         1057.10         1         1         55.75         4         1         55.75         4         5.1.59         56.75           1 Dozer, 80 H.P.         399.20         439.12         1         1         1         1         1         1         1         1         1         6         6         6         5 <td< td=""><td>3 Equip. Oper. (med.)</td><td>41.35</td><td>992.40</td><td>62.15</td><td>1491.60</td><td></td><td></td></td<>	3 Equip. Oper. (med.)	41.35	992.40	62.15	1491.60		
1 Ripper, beam & 1 shank         79.60         87.56           1 Road Sweeper, S.P., 8' wide         601.60         661.76           1 F.E. Loader, W.M., 1.5 C.Y.         328.20         361.02         27.85         30.64           56 L.H., Daily Totals         \$3579.20         \$4799.96         \$63.91         \$85.71           Crew B-70A         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Laborer         \$31.60         \$252.80         \$49.00         \$339.40         \$59.52         4 Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80         1         559.52           1 Grader, 40,000 Lbs.         961.00         1057.10         1         F.E. Loader, W.M., 2.5 C.Y.         399.20         439.12         1         1         1         1         51.59         56.75           40 L.H., Daily Totals         \$3360         \$268.80         \$52.10         \$41.60         \$661.76         1         1         1         1         2         5450.9         55.83         3         3         36.00         \$55.08         3         36.00         \$55.08         3         3         1         50.20         \$41.80         176.00         3         56.10<	1 Grader, 30,000 Lbs.		550.20		605.22		
1 Road Sweeper, S.P., 8' wide         601.60         661.76         76           1 F.E. Loader, W.M., 1.5 C.Y.         328.20         361.02         27.85         30.64           56 L.H., Daily Totals         \$3579.20         \$4799.96         \$63.91         \$85.71           Crew B-70A         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$39.40         \$59.52           4 Equip. Oper. (med.)         41.35         123.20         62.15         1988.80         1         Docrest         0&         107.10         17.67         56.75           1 Roler, Pmeum. Wil, 12 Ton         307.80         338.58         51.59         56.75         40 L.H., Daily         Hr.         Daily         Kosts         0&         20.83         0         \$16.27           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$4450.98         \$91.00         \$116.27           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$41.80         \$36.06         \$55.08         31.60         756.40         49.00         117.60.0         14.87         126.36         56 L.H., Daily	1 Ripper, beam & 1 shank		79.60		87.56		
I F.E. Loader, W.M., 1.5 C.Y.         328.20         361.02         27.85         30.64           56 L.H., Daily Totals         \$3579.20         \$4799.96         \$63.91         \$85.71           Crew B-70A         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Laborer         \$31.60         \$252.80         \$49.00         \$394.0         \$59.52         4           4 Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80         \$59.52           1 Grader, 40,000 Lbs.         961.00         1057.10         1         56.75         1           1 Roller, Pneum. Whi, 12 Ton         307.80         338.58         51.59         56.75           40 L.H., Daily Totals         \$336.0         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         117.60.0         \$114.87         126.36           56 L.H., Daily Detr. (med.)         41.35         992.40         62.15         1498.80         \$150.94         \$181.44           Costs <td< td=""><td>1 Road Sweeper, S.P., 8' wide</td><td></td><td>601.60</td><td></td><td>661.76</td><td></td><td></td></td<>	1 Road Sweeper, S.P., 8' wide		601.60		661.76		
S6 L.H., Daily Totals         S3579.20         S4799.96         S63.91         S85.71           Crew B-70A         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$39.40         \$59.52           4 Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80         \$59.52           1 Grader, 40,000 Lbs.         961.00         1057.10         1057.10         1         1           1 F.E. Loader, W.M., 25 C.Y.         395.80         435.38         1         1         2         56.75           40 L.H., Daily Totals         \$3669.80         \$52.10         \$41.60         \$116.27           Mather Preum. Will, 12 Ton         307.80         \$52.10         \$41.60         \$61.61           1 Labor Foreman (outside)         \$33.60         \$52.10         \$41.60         \$62.15         1491.60           1 Pwnt. Profiler, 750 H.P.         5503.00         6053.30         1         14.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$114.47           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         <	1 F.E. Loader, W.M., 1.5 C.Y.		328.20		361.02	27.85	30.64
Crew B-70A         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           1 Laborer         \$31.60         \$252.80         \$49.00         \$39.40         \$59.52           4 Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80         \$39.40         \$59.52           1 Grader, 40,000 Lbs.         961.00         1057.10         1057.10         1057.10         \$38.58         51.59         56.75           1 Dozer, 80 H.P.         399.20         439.12         \$38.58         \$51.59         56.75           40 L.H., Daily Totals         \$3639.80         \$4650.98         \$91.00         \$116.27           Crew B-71         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         \$14.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Costs         0&2	56 L.H., Daily Totals		\$3579.20		Ş4799.96	\$63.91	\$85.71
Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$39.40         \$59.52           4 Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80         -	Crew B-70A	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P
4 Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80           1 Grader, 40,000 Lbs.         961.00         1057.10         157.10           1 F.E. Loader, W.M.,2.5 C.Y.         395.80         435.38           1 Dozer, 80 H.P.         399.20         439.12           1 Roller, Pneum. Whl, 12 Ton         307.80         338.58         51.59         56.75           40 L.H., Daily Totals         \$3639.80         \$4650.98         \$91.00         \$116.27           Crew B-71         Hr.         Daily         Hr.         Daily         Costs         02.P           1 Labor Foreman (outside)         \$33.60         \$252.80         \$52.10         \$41.680         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         \$36.06         \$55.08           3 Laborers         31.60         758.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.00         \$251.0         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40 <td>1 Laborer</td> <td>\$31.60</td> <td>\$252.80</td> <td>\$49.00</td> <td>\$392.00</td> <td>\$39.40</td> <td>\$59.52</td>	1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$39.40	\$59.52
1 Grader, 40,000 Lbs.       961.00       1057.10         1 F.E. Loader, W.M., 2.5 C.Y.       395.80       435.38         1 Dozer, 80 H.P.       399.20       439.12         1 Roller, Pneum. Whi, 12 Ton       307.80       338.58       51.59       56.75         40 L.H., Daily Totals       \$3639.80       \$4650.98       \$91.00       \$116.27         Crew B-71       Hr.       Daily       Hr.       Daily       Costs       0&P         1 Labor Foreman (outside)       \$33.60       \$268.80       \$52.10       \$416.80       \$36.06       \$55.08         3 Laborers       31.60       758.40       49.00       1176.00       \$36.06       \$55.08         3 Laborers       31.60       758.40       49.00       114.87       126.36         56 L.H., Daily       41.35       992.40       62.15       1491.60       114.87       126.36         56 L.H., Daily Totals       \$8452.40       \$10160.48       \$150.94       \$181.44         Crew B-72       Hr.       Daily       Hr.       Daily       Costs       0&P         1 Labor Foreman (outside)       \$33.60       \$268.80       \$52.10       \$416.80       \$36.73       \$55.96         1 Labor Forem	4 Equip. Oper. (med.)	41.35	1323.20	62.15	1988.80		
1 F.E. Loader, W.M., 2.5 C.Y.         395.80         435.38           1 Dozer, 80 H.P.         399.20         439.12           1 Roller, Pneum, Whl, 12 Ton         307.80         338.58         51.59         56.75           40 L.H., Daily Totals         \$3639.80         \$4650.98         \$91.00         \$116.27           Crew B-71         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         56.75           1 Porth. Profiler, 750 H.P.         550.30.00         6061.30         14.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         62.15         1988.80         199.50	1 Grader, 40,000 Lbs.		961.00		1057.10		
1 Dozer, 80 H.P.         399.20         439.12           1 Roller, Pneum. Whl, 12 Ton         307.80         338.58         51.59         56.75           40 L.H., Daily Totals         \$3639.80         \$4650.98         \$91.00         \$116.27           Crew B-71         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         \$50.30         \$621.5         1491.60         \$55.08           1 Porth Profiler, 750 H.P.         55003.00         6061.76         1         1         126.36         \$114.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         \$400.50         \$160.50         \$169.59         <	1 F.E. Loader, W.M., 2.5 C.Y.		395.80		435.38		
1 Roller, Pneum. Whi, 12 Ton         307.80         338.58         51.59         56.75           40 L.H., Daily Totals         \$3639.80         \$4650.98         \$91.00         \$116.27           Crew B-71         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         \$36.06         \$55.08           1 Road Sweeper, S.P., 8' wide         601.60         661.76         114.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           <	1 Dozer, 80 H.P.		399.20		439.12		
40 L.H., Daily Totals         \$3639.80         \$4650.98         \$91.00         \$116.27           Crew B-71         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         \$36.06         \$55.08           1 Pornt. Profiler, 750 H.P.         5503.00         6053.30         \$14.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         136.70         \$36.73         \$55.96           1 P	1 Roller, Pneum. Whl, 12 Ton		307.80		338.58	51.59	56.75
Crew B-71         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         \$36.06         \$55.08           3 Equip. Oper. (med.)         41.35         992.40         62.15         1491.60         \$41.87         126.36           1 Road Sweeper, S.P., 8' wide         601.60         661.76         \$45.09         \$114.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         \$36.73         \$55.96           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           1 Pwrtt. Profiler, 750 H.P.         1503.00         6053.30         \$36.73 <t< td=""><td>40 L.H., Daily Totals</td><td></td><td>\$3639.80</td><td></td><td>Ş4650.98</td><td>\$91.00</td><td>\$116.27</td></t<>	40 L.H., Daily Totals		\$3639.80		Ş4650.98	\$91.00	\$116.27
1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.06         \$55.08           3 Laborers         31.60         758.40         49.00         1176.00         3         3         3         1         1         3         992.40         62.15         1491.60         1         1         1         1         1         1         1         3         992.40         62.15         1491.60         1	Crew B-71	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
3 Laborers         31.60         758.40         49.00         1176.00           3 Equip. Oper. (med.)         41.35         992.40         62.15         1491.60           1 Pvmt. Profiler, 750 H.P.         5503.00         6053.30         10           1 Road Sweeper, S.P., 8' wide         601.60         661.76         114.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Same         Incl.           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         4Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80         144.44           1 Pvmt. Profiler, 750 H.P.         5503.00         6053.30         14mmermill, 250 H.P.         1850.00         2035.00         146.55           1 Mindrow Loader         1197.00         1316.70         1346.70         146.55         64 L.H., Daily         Keep -59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51<	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$36.06	\$55.08
3 Equip. Oper. (med.)         41.35         992.40         62.15         1491.60           1 Pvmt. Profiler, 750 H.P.         5503.00         6053.30         1           1 Road Sweeper, S.P., 8' wide         601.60         661.76           1 F.E. Loader, W.M., 1.5 C.Y.         328.20         361.02         114.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         4         4Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80         1	3 Laborers	31.60	758.40	49.00	1176.00		
1 Pvmt. Profiler, 750 H.P.         5503.00         6053.30           1 Road Sweeper, S.P., 8' wide         601.60         661.76           1 F.E. Loader, W.M., 1.5 C.Y.         328.20         361.02         114.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         S36.73         \$55.96           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         4         44.1.35         1323.20         66.15         1988.80         1         1         14.87         126.35         14           1 Hammermil, 250 H.P.         1850.00         2035.00         1         1316.70         1         1         1         146.55         169.59         186.55         169.59         186.55         169.59         186.55         64 L.H., Daily         Hr.         Daily         Hr.         Daily         12550.78         \$206.32         \$242.51           1 Mindrow Loader         1197.00         1316.70         136.55         64 L.H., Daily	3 Equip. Oper. (med.)	41.35	992.40	62.15	1491.60		
I Road Sweeper, S.P., 8 wide         601.00         661.76           I F.E. Loader, W.M., 1.5 C.Y.         328.20         361.02         114.87         126.36           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         4Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80         1         1           1 Windrow Loader         1197.00         1316.70         1         1         1307.80         338.58         169.59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51           Crew B-73         Hr.         Daily         Hr.         Daily         S37.94         \$57.61           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00	1 Pvmt. Profiler, 750 H.P.		5503.00		6053.30		
1 F.E. L0ader, W.M., 1.5 C.Y.         328.20         301.02         114.87         126.30           56 L.H., Daily Totals         \$8452.40         \$10160.48         \$150.94         \$181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         \$36.73         \$55.96           1 Pvmt. Profiler, 750 H.P.         5503.00         6053.30         1         14.87         14.85         \$18.64           1 Mindrow Loader         1197.00         1316.70         1         146.55         169.59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51           Crew B-73         Hr.         Daily         Hr.         Daily         Bare Costs         0&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94 <t< td=""><td>1 Road Sweeper, S.P., 8' wide</td><td></td><td>601.60</td><td></td><td>661./6</td><td>114.07</td><td>100.00</td></t<>	1 Road Sweeper, S.P., 8' wide		601.60		661./6	114.07	100.00
Sb L.H., Daily Iotals         S8452.40         S10100.48         S1010.94         S181.44           Crew B-72         Hr.         Daily         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         \$36.73         \$55.96           1 Pumt. Profiler, 750 H.P.         5503.00         6053.30         1         1         1316.70           1 Hammermill, 250 H.P.         1850.00         2035.00         1         169.59         186.55           1 Roller, Pneum. Whi, 12 Ton         307.80         338.58         169.59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51           Crew B-73         Hr.         Daily         Hr.         Daily         \$37.94         \$57.61           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$37.94         \$57.61<	1 F.E. Loader, W.M., 1.5 C.Y.		328.20		361.02	114.8/	126.36
Crew B-72         Hr.         Daily         Hr.         Daily         Gosts         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$36.73         \$55.96           3 Laborers         31.60         758.40         49.00         1176.00         \$46.00         \$36.73         \$55.96           1 Labor Foreman (outside)         \$41.35         1323.20         62.15         1988.80         \$57.96         \$55.96           1 Pvmt. Profiler, 750 H.P.         5503.00         6053.30         \$55.96         \$503.00         1316.70           1 Windrow Loader         1197.00         1316.70         \$506.00         2195.60         \$169.59         186.55           1 Roller, Pneum. Whi, 12 Ton         307.80         338.58         169.59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51           Crew B-73         Hr.         Daily         Hr.         Daily         \$37.94         \$57.61           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.	56 L.H., Daily Totals		\$8452.40		\$10160.48	\$150.94	\$181.44
1 Labor Foreman (outside)       \$33.60       \$268.80       \$52.10       \$416.80       \$36.73       \$55.96         3 Laborers       31.60       758.40       49.00       1176.00       4Equip. Oper. (med.)       41.35       1323.20       62.15       1988.80       1         1 Pvmt. Profiler, 750 H.P.       5503.00       6053.30       6053.30       1	Crew B-72	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P
3 Laborers         31.60         758.40         49.00         1176.00           4 Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80           1 Pvmt. Profiler, 750 H.P.         5503.00         6053.30         1           1 Hammermill, 250 H.P.         1850.00         2035.00         1           1 Windrow Loader         1197.00         1316.70         1           1 Mix Paver 165 H.P.         1996.00         2195.60         1           1 Roller, Pneum. Whi, 12 Ton         307.80         338.58         169.59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51           Crew B-73         Hr.         Daily         Hr.         Daily         S37.94         \$57.61           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$37.94         \$57.61           1 Road Mixer, 310 H.P.         1896.00         2085.60         1         2085.60         1           1 Hardmermill, 250 H.P.         1850.00         2035.00         1         2035.00 <t< td=""><td>1 Labor Foreman (outside)</td><td>\$33.60</td><td>\$268.80</td><td>\$52.10</td><td>\$416.80</td><td>\$36.73</td><td>\$55.96</td></t<>	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$36.73	\$55.96
4 Equip. Oper. (med.)         41.35         1323.20         62.15         1988.80           1 Pvmt. Profiler, 750 H.P.         5503.00         6053.30         1           1 Hammermill, 250 H.P.         1850.00         2035.00         1           1 Windrow Loader         1197.00         1316.70         1           1 Mix Paver 165 H.P.         1996.00         2195.60         1           1 Roller, Pneum. Whl, 12 Ton         307.80         338.58         169.59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51           Crew B-73         Hr.         Daily         Hr.         Daily         S37.94         \$57.61           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$37.94         \$57.61           1 Rodel Mixer, 310 H.P.         1896.00         2085.60         1         2085.60         1           1 Tandem Roller, 10 Ton         233.00         256.30         1         1         1           1 Harmermill, 250 H.P.         1850.00         2035.00         1	3 Laborers	31.60	758.40	49.00	1176.00		
Promit. Profiler, 750 H.P.         5503.00         6053.30           1 Hammermill, 250 H.P.         1850.00         2035.00           1 Windrow Loader         1197.00         1316.70           1 Mix Paver 165 H.P.         1996.00         2195.60           1 Roller, Pneum. Whi, 12 Ton         307.80         338.58         169.59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51           Crew B-73         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$37.94         \$57.61           1 Road Mixer, 310 H.P.         1896.00         2085.60         1         1         1         1           1 Tandem Roller, 10 Ton         233.00         256.30         1         1         1         1           1 Harmermill, 250 H.P.         1850.00         2035.00         1         1         1	4 Equip. Oper. (med.)	41.35	1323.20	62.15	1988.80		
1 Hammermill, 250 H.P.       1850.00       2035.00         1 Windrow Loader       1197.00       1316.70         1 Mix Paver 165 H.P.       1996.00       2195.60         1 Roller, Pneum. Whl, 12 Ton       307.80       338.58       169.59       186.55         64 L.H., Daily Totals       \$13204.20       \$15520.78       \$206.32       \$242.51         Crew B-73       Hr.       Daily       Hr.       Daily       Bare       Incl.         1 Labor Foreman (outside)       \$33.60       \$268.80       \$52.10       \$416.80       \$37.94       \$57.61         2 Laborers       31.60       505.60       49.00       784.00       \$37.94       \$57.61         1 Road Mixer, 310 H.P.       1896.00       2085.60       1       2056.30       1       1         1 Hammermill, 250 H.P.       1850.00       2035.00       1       1       1       1	1 Pvmt. Profiler, 750 H.P.		5503.00		6053.30		
I windfow Loader         1197.00         1316.70           1 Mix Paver 165 H.P.         1996.00         2195.60           1 Roller, Pneum. Whl, 12 Ton         307.80         338.58         169.59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51           Crew B-73         Hr.         Daily         Hr.         Daily         Soft Costs         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$37.94         \$57.61           1 Road Mixer, 310 H.P.         1896.00         2085.60         1         2085.60         1           1 Tandem Roller, 10 Ton         233.00         256.30         1         1         1           1 Harmermill, 250 H.P.         1850.00         2035.00         1         1         1	1 Hammermill, 250 H.P.		1850.00		2035.00		
I wik Pader 165 H.P.         1990.00         2195.00         1995.00           1 Roller, Pneum. Whl, 12 Ton         307.80         338.58         169.59         186.55           64 L.H., Daily Totals         \$13204.20         \$15520.78         \$206.32         \$242.51           Crew B-73         Hr.         Daily         Hr.         Daily         Eare         Incl.           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$37.94         \$57.61           1 Road Mixer, 310 H.P.         1896.00         2085.60         1         2085.60         1           1 Tandem Roller, 10 Ton         233.00         256.30         1         1           1 Harmermill, 250 H.P.         1850.00         2035.00         1	1 Windrow Loader		1197.00		1316.70		
Index, medin, me, rendin, min, rendin         307.00         305.00         105.35 <th1< td=""><td>1 WIX FAVEL TOD FLF. 1 Pollor Proum Whi 12 Ton</td><td></td><td>1990.00 307.80</td><td></td><td>2190.00</td><td>160 50</td><td>186 55</td></th1<>	1 WIX FAVEL TOD FLF. 1 Pollor Proum Whi 12 Ton		1990.00 307.80		2190.00	160 50	186 55
Crew B-73         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. OS           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$37.94         \$57.61           1 Road Mixer, 310 H.P.         1896.00         2085.60         1         11 andem Roller, 10 Ton         233.00         256.30           1 Hammermill, 250 H.P.         1850.00         2035.00         1         1	64 L.H., Daily Totals		\$13204.20		\$15520.78	\$206.32	\$242.51
Crew B-73         Hr.         Daily         Hr.         Daily         Gosts         O&P           1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$37.94         \$57.61           1 Road Mixer, 310 H.P.         1896.00         2085.60         \$36.00         \$266.30         \$37.94         \$57.61           1 Tandem Roller, 10 Ton         233.00         2265.30         \$35.00         \$35.00         \$35.00           1 Hammernill, 250 H.P.         1850.00         2035.00         \$35.00         \$35.00         \$35.00	or Enriq Bany rotato		\$1020 HE0		<i>Q10020110</i>	Bare	Incl
1 Labor Foreman (outside)         \$33.60         \$268.80         \$52.10         \$416.80         \$37.94         \$57.61           2 Laborers         31.60         505.60         49.00         784.00         \$52.10         \$416.80         \$37.94         \$57.61           5 Equip. Oper. (med.)         41.35         1654.00         62.15         2486.00         1 <t< th=""><th>Crew B-73</th><th>Hr.</th><th>Daily</th><th>Hr.</th><th>Daily</th><th>Costs</th><th>0&amp;P</th></t<>	Crew B-73	Hr.	Daily	Hr.	Daily	Costs	0&P
2 Laborers         31.60         505.60         49.00         784.00           5 Equip. Oper. (med.)         41.35         1654.00         62.15         2486.00           1 Road Mixer, 310 H.P.         1896.00         2085.60         1           1 Tandem Roller, 10 Ton         233.00         256.30           1 Hammermill, 250 H.P.         1850.00         2035.00	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$37.94	\$57.61
5 Equip. Oper. (med.)         41.35         1654.00         62.15         2486.00           1 Road Mixer, 310 H.P.         1896.00         2085.60           1 Tandem Roller, 10 Ton         233.00         256.30           1 Hammermill, 250 H.P.         1850.00         2035.00	2 Laborers	31.60	505.60	49.00	784.00		
I Road Mixer, 310 H.P.         1896.00         2085.60           1 Tandem Roller, 10 Ton         233.00         256.30           1 Hammermill, 250 H.P.         1850.00         2035.00	5 Equip. Oper. (med.)	41.35	1654.00	62.15	2486.00		
1 Iandem Koller, 10 Ion 233.00 256.30 1 Harmermill, 250 H.P. 1850.00 2035.00	1 Road Mixer, 310 H.P.		1896.00		2085.60		
1 Hammermill, 250 H.P. 1850.00 2035.00	1 landem Koller, 10 Ion		233.00		256.30		
1 October 20 000 Ltv EE0 00 L	1 Hammermill, 250 H.P.		1850.00		2035.00		
1 Grauer, 30,000 L0S. 300.20 605.22	I Grader, 30,000 LDS.		000.20		005.22		
.0 T.L. LUduel, W.M., 1.0 U.T. 104.10 180.01	5 T.E. LUduer, W.M., 1.3 U.Y.		104.10		160.01		
.5 Water Tanker, 5000 Gal. 68.00 74.80 76.65 84.31	.5 Water Tanker, 5000 Gal		68.00		74.80	76.65	84.31
64 L.H., Daily Totals         \$7333.90         \$9082.85         \$114.59         \$141.92	64 L.H., Daily Totals		\$7333.90		\$9082.85	\$114.59	\$141.92

Crew No.	Bai	e Costs	Sub	Incl. os O & P	Cost Per Labor-Hour		
Crew B-74	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$36.81	\$56.00	
1 Laborer	31.60	252.80	49.00	392.00			
4 Equip. Oper. (med.)	41.35	1323.20	62.15	1988.80			
2 Truck Drivers (heavy)	31.95	511.20	49.15	786.40			
1 Grader, 30,000 Lbs.		550.20		605.22			
1 Ripper, beam & 1 shank		79.60		87.56			
2 Stabilizers, 310 H.P.		2688.00		2956.80			
1 Flatbed Truck, Gas, 3 Ton		242.60		266.86			
1 Chem. Spreader, Towed		48.00		52.80			
1 Roller, Vibratory, 25 Ton		594.60		654.06			
1 Water Tanker, 5000 Gal.		136.00		149.60			
1 Truck Tractor, 220 H.P.		288.40		317.24	72.30	79.53	
64 L.H., Daily Totals		\$6983.40		\$8674.14	\$109.12	\$135.53	
Crew B-75	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$37.51	\$56.98	
1 Laborer	31.60	252.80	49.00	392.00			
4 Equip. Oper. (med.)	41.35	1323.20	62.15	1988.80			
1 Truck Driver (heavy)	31.95	255.60	49.15	393.20			
1 Grader, 30,000 Lbs.		550.20		605.22			
1 Ripper, beam & 1 shank		79.60		87.56			
2 Stabilizers, 310 H.P.		2688.00		2956.80			
1 Dist. Tanker, 3000 Gallon		304.20		334.62			
1 Truck Tractor, 6x4, 380 H.P.		478.80		526.68			
1 Roller, Vibratory, 25 Ton		594.60		654.06	83.85	92.23	
56 L.H., Daily Totals		\$6795.80		\$8355.74	\$121.35	\$149.21	
Crew B-76	Hr	Daily	Hr	Daily	Bare Costs	Incl. 0&P	
		Duny		Dully			
1 Dock Builder Foreman	\$40.50	\$324.00	\$65.75	\$526.00	\$39.43	\$62.38	
1 Dock Builder Foreman 5 Dock Builders	\$40.50 38.50	\$324.00 1540.00	\$65.75 62.50	\$526.00 2500.00	\$39.43	\$62.38	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane)	\$40.50 38.50 42.55	\$324.00 1540.00 680.80	\$65.75 62.50 63.95	\$526.00 2500.00 1023.20	\$39.43	\$62.38	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler	\$40.50 38.50 42.55 36.80	\$324.00 1540.00 680.80 294.40	\$65.75 62.50 63.95 55.30	\$526.00 2500.00 1023.20 442.40	\$39.43	\$62.38	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton	\$40.50 38.50 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00	\$65.75 62.50 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00	\$39.43	\$62.38	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton	\$40.50 38.50 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40	\$65.75 62.50 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04	\$39.43	\$62.38	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs.	\$40.50 38.50 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60	\$65.75 62.50 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46	\$39.43	\$62.38	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high	\$40.50 38.50 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60	\$65.75 62.50 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56	\$39.43	\$62.38	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm	\$40.50 38.50 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40	\$65.75 62.50 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84	\$39.43	\$62.38	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3"	\$40.50 38.50 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60	\$65.75 62.50 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14	\$39.43 41.27 \$80.70	\$62.38 45.40	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K FtLbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals	\$40.50 38.50 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60	\$65.75 62.50 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14	\$39.43 \$39.43 41.27 \$80.70 <b>Bare</b>	\$62.38 45.40 \$107.78	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K FtLbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A	\$40.50 38.50 42.55 36.80 Hr.	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b>	\$65.75 62.50 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 <b>Daily</b>	41.27 \$80.70 Bare Costs	\$62.38 45.40 \$107.78 Incl. O&P	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K FtLbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman	\$40.50 38.50 42.55 36.80 Hr. \$33.60	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80	\$65.75 62.50 63.95 55.30 Hr. \$52.10	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 <b>Daily</b> \$416.80	41.27 \$80.70 Bare Costs \$33.87	\$62.38 45.40 \$107.78 Incl. 0&P \$52.04	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K FtLbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers	\$40.50 38.50 42.55 36.80 Hr. \$33.60 31.60	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00	\$65.75 62.50 63.95 55.30 Hr. \$52.10 49.00	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 <b>Daily</b> \$416.80 1960.00	41.27 \$80.70 Bare Costs \$33.87	\$62.38 45.40 \$107.78 Incl. 0&P \$52.04	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K FtLbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers 1 Equip. Oper. (crane)	\$40.50 38.50 42.55 36.80 Hr. \$33.60 31.60 42.55	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40	\$65.75 62.50 63.95 55.30 <b>Hr.</b> \$52.10 49.00 63.95	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 <b>Daily</b> \$416.80 1960.00 511.60	41.27 \$80.70 Bare Costs \$33.87	\$62.38 45.40 \$107.78 Incl. 0&P \$52.04	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K FtLbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler	\$40.50 38.50 42.55 36.80 Hr. \$33.60 31.60 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40	\$65.75 62.50 63.95 55.30 <b>Hr.</b> \$52.10 49.00 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 <b>Daily</b> \$416.80 1960.00 511.60 442.40	41.27 \$80.70 Bare Costs \$33.87	\$62.38 45.40 \$107.78 Incl. 0&P \$52.04	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton	\$40.50 38.50 42.55 36.80 Hr. \$33.60 31.60 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00	\$65.75 62.50 63.95 55.30 <b>Hr.</b> \$52.10 49.00 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 <b>Daily</b> \$416.80 1960.00 511.60 442.40 1221.00	41.27 \$80.70 Bare Costs \$33.87	\$62.38 45.40 \$107.78 Incl. 0&P \$52.04	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton	\$40.50 38.50 42.55 36.80 <b>Hr.</b> \$33.60 31.60 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00 746.40	\$65.75 62.50 63.95 55.30 <b>Hr.</b> \$52.10 49.00 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 \$7760.14 \$7760.14 \$416.80 1960.00 511.60 442.40 1221.00 821.04	41.27 \$80.70 Bare Costs \$33.87 29.01	\$62.38 45.40 \$107.78 Incl. 0&P \$52.04 31.91	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K FtLbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 64 L.H., Daily Totals	\$40.50 38.50 42.55 36.80 <b>Hr.</b> \$33.60 31.60 42.55 36.80	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00 746.40 \$4024.00	\$65.75 62.50 63.95 55.30 <b>Hr.</b> \$52.10 49.00 63.95 55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 <b>Daily</b> \$416.80 1960.00 511.60 442.40 1221.00 821.04 \$5372.84	41.27 \$39.43 41.27 \$80.70 <b>Bare</b> <b>Costs</b> \$33.87 \$33.87 29.01 \$62.88	\$62.38 45.40 \$107.78 <b>Incl.</b> <b>0&amp;P</b> \$52.04 31.91 \$83.95	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 64 L.H., Daily Totals Crew B-77	\$40.50 38.50 42.55 36.80 Hr. \$33.60 31.60 42.55 36.80 Hr.	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00 746.40 \$4024.00	\$65.75 62.50 63.95 55.30 Hr. \$52.10 49.00 63.95 55.30 Hr.	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 <b>Daily</b> \$416.80 1960.00 511.60 442.40 1221.00 821.04 \$5372.84	41.27 \$39.43 41.27 \$80.70 <b>Bare</b> Costs \$33.87 29.01 \$62.88 <b>Bare</b> Costs	\$62.38 45.40 \$107.78 Incl. 0&P \$52.04 31.91 \$83.95 Incl. 0&P	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 64 L.H., Daily Totals Crew B-77 1 Labor Foreman	\$40.50 38.50 42.55 36.80 Hr. \$33.60 31.60 42.55 36.80 Hr. \$33.60	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00 746.40 \$4024.00 <b>Daily</b> \$268.80	\$65.75 62.50 63.95 55.30 <b>Hr.</b> \$52.10 49.00 63.95 55.30 <b>Hr.</b> \$52.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 \$7760.14 \$7760.14 \$416.80 1960.00 511.60 442.40 1221.00 821.04 \$5372.84 <b>Daily</b> \$416.80	41.27 \$39.43 41.27 \$80.70 <b>Bare</b> <b>Costs</b> \$33.87 29.01 \$62.88 <b>Bare</b> <b>Costs</b> \$31.87	\$62.38 45.40 \$107.78 Incl. 0&P \$52.04 31.91 \$83.95 Incl. 0&P \$49.35	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 64 L.H., Daily Totals Crew B-77 1 Labor Foreman 3 Laborers	\$40.50 38.50 42.55 36.80 <b>Hr.</b> \$33.60 31.60 <b>Hr.</b> \$33.60 31.60	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00 746.40 \$4024.00 <b>Daily</b> \$268.80 758.40	\$65.75 62.50 63.95 55.30 <b>Hr.</b> \$52.10 49.00 63.95 55.30 <b>Hr.</b> \$52.10 49.00	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 \$35.64 \$7760.14 \$416.80 1960.00 511.60 442.40 1221.00 821.04 \$5372.84 <b>Daily</b> \$416.80 1176.00	41.27 \$39.43 41.27 \$80.70 <b>Bare</b> <b>Costs</b> \$33.87 29.01 \$62.88 <b>Bare</b> <b>Costs</b> \$31.87	\$62.38 45.40 \$107.78 <b>Incl.</b> <b>0&amp;P</b> \$52.04 31.91 \$83.95 <b>Incl.</b> <b>0&amp;P</b> \$49.35	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 64 L.H., Daily Totals Crew B-77 1 Labor Foreman 3 Laborers 1 Truck Driver (light)	\$40.50 38.50 42.55 36.80 <b>Hr.</b> \$33.60 31.60 42.55 36.80 <b>Hr.</b> \$33.60 31.60 31.60 30.95	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00 746.40 \$4024.00 <b>Daily</b> \$268.80 758.40 247.60	Hr.           \$65.75           62.50           63.95           55.30             Hr.           \$52.10           49.00           63.95           55.30             Hr.           \$52.10           49.00           63.95           55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 \$35.64 \$7760.14 \$416.80 1960.00 511.60 442.40 1221.00 821.04 \$5372.84 <b>Daily</b> \$416.80 1176.00 381.20	41.27 \$39.43 41.27 \$80.70 <b>Bare</b> <b>Costs</b> \$33.87 29.01 \$62.88 <b>Bare</b> <b>Costs</b> \$31.87	\$62.38 45.40 \$107.78 <b>Incl.</b> <b>0&amp;P</b> \$52.04 31.91 \$83.95 <b>Incl.</b> <b>0&amp;P</b> \$49.35	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 64 L.H., Daily Totals Crew B-77 1 Labor Foreman 3 Laborers 1 Truck Driver (light) 1 Crack Cleaner, 25 H.P.	\$40.50 38.50 42.55 36.80 <b>Hr.</b> \$33.60 31.60 42.55 36.80 <b>Hr.</b> \$33.60 31.60 31.60 31.60 31.60 31.60 30.95	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00 746.40 \$4024.00 \$4024.00 <b>Daily</b> \$268.80 758.40 247.60 54.80	Hr.           \$65.75           62.50           63.95           55.30             Hr.           \$52.10           49.00           63.95           55.30             Hr.           \$52.10           49.00           63.95           55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 \$35.64 \$7760.14 <b>Daily</b> \$416.80 1960.00 511.60 442.40 1221.00 821.04 \$5372.84 <b>Daily</b> \$416.80 1176.00 381.20 60.28	41.27 \$39.43 41.27 \$80.70 <b>Bare</b> <b>Costs</b> \$33.87 29.01 \$62.88 <b>Bare</b> <b>Costs</b> \$31.87	\$62.38 45.40 \$107.78 <b>Incl.</b> <b>0&amp;P</b> \$52.04 31.91 \$83.95 <b>Incl.</b> <b>0&amp;P</b> \$49.35	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K Ft-Lbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 64 L.H., Daily Totals Crew B-77 1 Labor Foreman 3 Laborers 1 Truck Driver (light) 1 Crack Cleaner, 25 H.P. 1 Crack Filler, Trailer Mtd.	\$40.50 38.50 42.55 36.80 <b>Hr.</b> \$33.60 31.60 42.55 36.80 <b>Hr.</b> \$33.60 31.60 31.60 31.60 31.60 31.60	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00 746.40 \$4024.00 <b>Daily</b> \$268.80 758.40 247.60 54.80 194.20	Hr.           \$65.75           62.50           63.95           55.30             Hr.           \$52.10           49.00           63.95           55.30             Hr.           \$52.10           49.00           63.95           55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 \$35.64 \$7760.14 \$16.80 1960.00 511.60 442.40 1221.00 821.04 \$5372.84 <b>Daily</b> \$416.80 1176.00 381.20 60.28 213.62	41.27 \$39.43 41.27 \$80.70 <b>Bare</b> <b>Costs</b> \$33.87 29.01 \$62.88 <b>Bare</b> <b>Costs</b> \$31.87	\$62.38 45.40 \$107.78 <b>Incl.</b> <b>0&amp;P</b> \$52.04 31.91 \$83.95 <b>Incl.</b> <b>0&amp;P</b> \$49.35	
1 Dock Builder Foreman 5 Dock Builders 2 Equip. Oper. (crane) 1 Equip. Oper. Oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 1 Hammer, diesel, 15K FtLbs. 1 Lead, 60' high 1 Air Compressor, 600 cfm 2 -50' Air Hoses, 3" 72 L.H., Daily Totals Crew B-76A 1 Laborer Foreman 5 Laborers 1 Equip. Oper. (crane) 1 Equip. Oper. (oiler 1 Crawler Crane, 50 Ton 1 Barge, 400 Ton 64 L.H., Daily Totals Crew B-77 1 Labor Foreman 3 Laborers 1 Truck Driver (light) 1 Crack Cleaner, 25 H.P. 1 Crack Filler, Trailer Mtd. 1 Flatbed Truck, Gas, 3 Ton	\$40.50 38.50 42.55 36.80 <b>Hr.</b> \$33.60 31.60 42.55 36.80 <b>Hr.</b> \$33.60 31.60 31.60 31.60 31.60 31.60	\$324.00 1540.00 680.80 294.40 1110.00 746.40 578.60 69.60 434.40 32.40 \$5810.60 <b>Daily</b> \$268.80 1264.00 340.40 294.40 1110.00 746.40 \$4024.00 \$4024.00 <b>Daily</b> \$268.80 758.40 247.60 54.80 194.20 242.60	Hr.           \$65.75           62.50           63.95           55.30             Hr.           \$52.10           49.00           63.95           55.30             Hr.           \$52.10           49.00           63.95           55.30	\$526.00 2500.00 1023.20 442.40 1221.00 821.04 636.46 76.56 477.84 35.64 \$7760.14 \$35.64 \$7760.14 <b>Daily</b> \$416.80 1960.00 511.60 442.40 1221.00 821.04 \$5372.84 <b>Daily</b> \$416.80 1176.00 381.20 60.28 213.62 266.86	41.27 \$39.43 41.27 \$80.70 <b>Bare</b> <b>Costs</b> \$33.87 29.01 \$62.88 <b>Bare</b> <b>Costs</b> \$31.87 12.29	\$62.38 45.40 \$107.78 <b>Incl.</b> <b>0&amp;P</b> \$52.04 31.91 \$83.95 <b>Incl.</b> <b>0&amp;P</b> \$49.35	

Crew No.	Bare	Costs	In Subs	cl. 6 O & P	Co Per Lab	ost or-Hour
Crew B-78	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$31.82	\$49.29
4 Laborers	31.60	1011.20	49.00	1568.00		
1 Truck Driver (light)	30.95	247.60	47.65	381.20		
1 Paint Striper, S.P.		147.00		161.70		
1 Flatbed Truck, Gas, 3 Ion		242.60		266.86	10.55	11.61
1 FICKUP TRUCK, 5/4 TOTT		\$203/ 00		120.40 \$2923.04	\$10.00	11.01 \$60.90
TO E.H., Daily lotais		Ş203 <del>4</del> .00		Ş∠J23.0 <del>4</del>	042.00 Bara	Juel
Crew B-78A	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Equip. Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$39.05	\$58.70
1 Line Rem. (metal balls) 115 H.P.		828.60		911.46	103.58	113.93
8 L.H., Dally lotals		\$1141.00		\$1381.06	\$142.63 <b>D</b> arra	\$172.03
Crew B-78B	Hr.	Daily	Hr.	Daily	Costs	inci. 0&P
2 Laborers	\$31.60	\$505.60	\$49.00	\$784.00	\$32.43	\$50.08
.25 Equip. Oper. (light)	39.05	78.10	58.70	117.40		
1 Pickup Truck, 3/4 Ton		116.80		128.48		
1 Line Rem., 11 H.P., walk behind 25 Pood Sweeper S.P. 8' wide		54.00 150.40		59.40 165.44	17.04	10.62
18   H Daily Totals		\$904.90		\$1254.72	\$50.27	\$69.71
TO EARL, Dully Totals		ŞJ04.J0		Q1204.72	Bare	Incl
Crew B-79	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$31.87	\$49.35
3 Laborers	31.60	758.40	49.00	1176.00		
1 Truck Driver (light)	30.95	247.60	47.65	381.20		
1 Hiermo, Surper, I.W. 1 Flathed Truck Gas 3 Ton		242.60		266.86		
2 Pickup Trucks, 3/4 Ton		233.60		256.96	29.48	32.43
40 L.H., Daily Totals		\$2454.20		\$3271.34	\$61.35	\$81.78
Crew B-79A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1.5 Equip. Oper. (light)	\$39.05	\$468.60	\$58.70	\$704.40	\$39.05	\$58.70
.5 Line Remov. (grinder) 115 H.P.		440.20		484.22		
1 Line Rem. (metal balls) 115 H.P.		828.60		911.46	105.73	116.31
12 L.H., Daily Totals		\$1737.40		\$2100.08	\$144.78	\$175.01
Crew B-80	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$33.80	\$51.86
1 Laborer	31.60	252.80	49.00	392.00		
1 Truck Driver (light)	30.95	247.60	47.65	381.20		
I Equip. Oper. (light)	39.05	312.40	58.70	469.60		
1 Flatbeu Truck, Gas, 5 Toll 1 Farth Auger Truck-Mtd		242.00 412.00		200.00 453.20	20.46	22 50
32 L.H., Daily Totals		\$1736.20		\$2379.66	\$54.26	\$74.36
					Bare	Incl.
Crew B-80A	Hr.	Daily	Hr.	Daily	Costs	0&P
3 Laborers 1 Flatbed Truck, Gas. 3 Ton	\$31.60	\$758.40 242.60	\$49.00	\$1176.00 266.86	\$31.60 10.11	\$49.00 11.12
24 L.H., Daily Totals		\$1001.00		\$1442.86	\$41.71	\$60.12
Crew B-80B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
3 Laborers	\$31.60	\$758.40	\$49.00	\$1176.00	\$33.46	\$51.42
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
1 Crane, Flatbed Mounted, 3 Ton		225.00		247.50	7.03	7.73
32 L.H., Daily Totals		\$1295.80		\$1893.10	\$40.49	\$59.16

Crew B-80C         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$31.38         \$48.55           1 Fraked Fruck, Gas, 1.5 fon I Rahaal fence post ager, gas         7.40         8.14         8.41         9.25           24 LH, Daily Totals         S995.00         \$1387.18         \$39.79         \$57.80           Crew B-81         Hr.         Daily         Hr.         Daily         Costs         0.8P           1 Equip. Oper, (med.)         41.25         330.80         62.15         497.20         \$34.97         \$53.43           1 Truck True (heav)         31.95         255.60         49.915         393.20         \$35.33         \$53.33           1 Truck True (heav)         31.95         255.60         \$1919.74         \$59.11         \$79.99           Crew B-82         Hr.         Daily         Hr.         Daily         Costs         0.8P           1 Laborer         \$31.60         \$252.80         \$49.00         \$33.20         \$35.33         \$53.33         \$53.35           1 Laborer         \$31.60         \$252.80         \$49.00         \$39.20         \$35.33         \$53.3	Crew No.	Bar	re Costs	Sut	Incl. os O & P	Co Per Lat	ost bor-Hour
2 Laborers         \$31.60         \$506.60         \$49.00         \$784.00         \$31.38         \$48.55           1 Inuck Direv light)         30.95         24.760         47.65         381.20         581.20         581.20           1 Manual feore post auger, gas         7.40         81.44         8.41         9.25         57.80           Crew B-81         Hr.         Daily         Hr.         Daily         Costs         0.29           1 Laborer         531.60         \$252.80         \$49.00         \$332.00         533.43         \$53.43           1 caborer         1.31.95         225.66         4921.0         393.20         \$33.497         \$53.43           1 ruck Tractor, 200 H.P.         288.40         5141.860         5191.74         \$59.11         \$77.99           1 caborer         531.60         \$252.80         \$49.00         \$332.00         \$35.33         \$53.38           1 caborer         531.60         \$252.80         \$49.00         \$39.05         \$32.40         \$8.70         469.60         \$35.33         \$53.38         \$53.38         \$53.38         \$53.38         \$53.38         \$53.38         \$53.38         \$53.38         \$53.33         \$53.33         \$53.33         \$53.33         \$53.33	Crew B-80C	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Tuck. Driver fight)         30.95         247.60         47.65         381.20           1 Flatbed Truck, Gas, 15 Ton         194.40         213.84         539.79         557.80           1 Rubal freeto post auger, gas         7.40         51387.18         539.79         557.80           1 Laborer         531.60         S252.80         549.00         S392.00         15.48         0.84           1 Laborer         531.60         S252.80         549.00         S392.00         13.39.97         553.43           1 Foub, Doper, fined.1         41.35         533.80         62.15         497.20         333.90         553.43           1 Fuck Driver (heav)         31.95         255.60         49.15         393.20         553.33         553.35           1 Fuck Driver (heav)         31.95         255.60         49.00         S191.74         559.11         579.99           Crew B-82         Hr.         Daily         Hr.         Daily         Rev         Bare         Incl.           1 Laborer         S31.60         S252.80         S49.00         S39.200         S35.33         S53.35           1 Laborer         S31.60         S252.80         S49.00         S39.20         S55.33         S53.36	2 Laborers	\$31.60	\$505.60	\$49.00	\$784.00	\$31.38	\$48.55
I Fatbed Truck, Gas, 1.5 Ton         19.440         21.3.84         8.14         8.41         9.25           I Manual fence post auger, gas         7.40         8.14         8.14         8.41         9.25           Crew B-81         Hr.         Daily         Kaster         535.70         0         0.42           Laborer         \$31.60         \$252.80         \$49.00         \$32.00         334.97         \$55.43           I Futbo Truck Tractor, 220 H.P.         288.40         317.24         24.14         26.56           Veydomicher, IM.         291.00         31.95         255.60         49.15         393.20         1         77.99.99           Crew B-82         Hr.         Daily         Hr.         Daily         Costs         0.82           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85	1 Truck Driver (light)	30.95	247.60	47.65	381.20		
Manual fence post auger, gas         7.40         8.14         8.41         9.25           Z4 LH, Daily Totals         S955.00         S1387.18         S39.79         S57.80           Crew P-81         Hr.         Daily         Hr.         Daily         Costs         0&P           1 laborer         S31.60         S525.80         S49.00         S392.00         S34.97         S53.43           1 ruck Tractory (theway)         31.95         2255.60         497.20         320.10<	1 Flatbed Truck, Gas, 1.5 Ton		194.40		213.84		
24 L.H., Daly Totals         S955.00         \$1387.18         \$39.79         \$57.80           Crew B-81         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$34.97         \$53.43           1 func, Diver (head)         31.35         330.80         62.15         497.20         497.20           1 ruck Tractor, 220 H.P.         288.40         317.24         24.14         26.56         Q&P           24 L.H., Daily Totals         \$1418.60         \$1919.74         \$59.11         \$79.99         \$79.99           Crew B-82         Hr.         Daily         Hr.         Daily         Costs         Q&P           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$35.33         \$53.85           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         \$25.18         1.85         \$48.00         \$392.00         \$35.33         \$53.85           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         \$40.17         \$59.19           1 Equip. Oper. (light)         39.05         312.40         \$48.00 <td>1 Manual fence post auger, gas</td> <td></td> <td>7.40</td> <td></td> <td>8.14</td> <td>8.41</td> <td>9.25</td>	1 Manual fence post auger, gas		7.40		8.14	8.41	9.25
Crew B-81         Hr.         Daily         Hr.         Daily         Bare         Incl. Costs         OORP           1 laborer         531.60         S252.80         549.00         S32.00         S34.97         S53.43           1 ruck Druer (heay)         31.95         225.60         49.15         393.20         S30.10           1 ruck Tractor, 220 H.P.         288.40         317.24         24.14         26.56           24 L.H, Daily Totals         S1418.60         S392.00         S35.33         S53.85           1 laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Laborer         S31.60         S262.80         S49.00         S392.00         S35.35         S38.55           1 Laborer         S31.60         S505.60         S49.00         S34.08         S52.23           1 Laborer <td>24 L.H., Daily Totals</td> <td></td> <td>\$955.00</td> <td></td> <td>\$1387.18</td> <td>\$39.79</td> <td>\$57.80</td>	24 L.H., Daily Totals		\$955.00		\$1387.18	\$39.79	\$57.80
Laborer         \$31.60         \$252.80         \$49.00         \$332.00         \$34.97         \$53.43           I cupio. Oper. (med.)         31.95         255.60         49.15         333.20         24.14         26.55           I ruck Driver (heavy)         31.95         255.60         49.15         333.20         24.14         26.55           I ruck Tractor, 220 H.P.         288.40         317.24         24.14         26.56         0.87           I hydromicher, T.M.         291.10         5391.00         \$392.00         \$35.33         \$55.36         0.87           I cupio. Oper. (light)         39.05         312.40         58.70         469.60         4.85         5.34           I cupio. Oper. (light)         39.05         312.40         58.70         469.60         4.85         5.34           I cupio. Oper. (light)         39.05         312.40         58.70         469.60         504.17         559.19           I cupio. Oper. (light)         39.05         312.40         58.70         469.60         53.33         \$53.38         \$53.35           I cupio. Oper. (light)         39.05         312.40         58.70         469.60         104.20         0.80.80         \$51.31.85         \$561.3         \$12.20<	Crew B-81	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20           1 Truck Driver (heavy)         31.95         225.60         49.15         393.20           1 Truck Driver (heavy)         31.95         225.60         49.15         393.20           1 Truck Draver, (heavy)         2281.40         321.7.4         24.14         26.56           24 LH, Daily Totals         S1418.60         S1919.74         S59.11         S79.99           Crew B-82         Hr.         Daily         Hr.         Daily         Costs         0AP           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         Costs         0AP           1 Laborer         S31.60         S252.80         S440.00         S392.00         S35.33         S53.85           1 Equip. Oper. (light)         39.05         312.40         FAR         Costs         0AP           1 Horiz. Dr.71         S9.919         Ear         Incl.         Costs         0AP           1 Laborer         S31.60         S505.60         S49.00         S784.09         S51.83         S52.23 <td>1 Laborer</td> <td>\$31.60</td> <td>\$252.80</td> <td>\$49.00</td> <td>\$392.00</td> <td>\$34.97</td> <td>\$53.43</td>	1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$34.97	\$53.43
1 Truck Driver (heavy)         31.95         255.60         49.15         339.20           1 Hydromicher, T.M.         291.00         320.10         320.10           1 Truck Tractor, 220 H.P.         288.40         317.24         24.14         26.56           Crew B-82         Hr.         Daily         Hr.         Daily         S59.11         S79.99           L aborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Crew B-82A         Hr.         Daily         Hr.         Daily         Costs         0&P           1 caborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Equip. Oper. (light)         39.05         312.40         S8.70         469.60         1002.00           1 Fabed Traite, Z5 Ton         10102.00         112.20         60.80         66.88           16 L.H., Daily Totals         S15.60         S494.00         S34.08         S52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60           1 Fabed	1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20		
1 Hydromucher, T.M.         291.00         320.10         317.24         24.14         265.5           24 L.H., Daily Totals         \$1418.60         \$1919.74         \$59.11         \$79.90           Crew B-82         Hr.         Daily         Hr.         Daily         Gase         Ind.           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$35.33         \$53.85           1 Equip. Oper. light)         39.05         312.40         \$58.70         469.60         \$425         \$5.34           1 Horiz. Borer, 6 H.P.         77.60         \$83.6         \$425         \$5.33         \$53.85         \$53.85           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$35.33         \$53.85           1 Laborer         \$31.60         \$252.80         \$49.00         \$32.00         \$35.33         \$53.85           1 Laborer         \$31.60         \$252.80         \$49.00         \$39.05         \$12.40         58.70         469.60           1 Horiz Dr.Pill, 20k Ib. thrust         628.20         691.02         60.80         66.88         106.1           1 Horiz Dr.Pill, 20k Ib. thrust         628.20         \$49.00         \$784.00         \$34.08         <	1 Truck Driver (heavy)	31.95	255.60	49.15	393.20		
1 Truck Tractor, 220 H.P.         288.40         317.24         24.14         26.56           24 L.H., Daily Totals         \$1418.60         \$1919.74         \$59.11         \$77.99           Crew B-82         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Laborer         \$31.60         \$252.80         \$49.00         \$332.00         \$335.33         \$53.85           1 Laborer         S11.60         \$252.80         \$49.00         \$396.60         4.85         5.34           16 LH, Daily Totals         \$642.80         \$946.96         \$40.17         \$59.19           I aborer         \$31.60         \$252.80         \$49.00         \$332.00         \$35.33         \$53.85           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$35.33         \$53.85           1 Equip. Oper. (light)         39.05         312.40         \$8.70         469.60         102.00           1 Habed Trailer, 25 Ton         102.00         112.20         60.80         66.88         16 LH, Daily         Hr.         Daily         Hr.         Daily         Bare         Incl.           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00	1 Hydromulcher, T.M.		291.00		320.10		
24 L.H., Daily Totals         S1418.60         S1919.74         S59.11         S79.99           Crew B-82         Hr.         Daily         Hr.         Daily         Eare Costs         Incl. 08P           1 aborer         S31.60         S522.80         S49.00         S392.00         S35.33         S53.85           1 faite.         Daily         Fr.         Daily         Fr.         Daily         S57.04         S59.60         S40.17         S59.19           Crew B-82A         Hr.         Daily         Hr.         Daily         Hr.         Daily         S31.60         S252.80         S40.00         S392.00         S35.33         S53.85         S53.85           1 caborer         S31.60         S252.80         S40.00         S392.00         S35.33         S53.85         S53.85           1 fathed Trailer, 25 Ton         102.00         112.20         60.80         66.88           16 LH, Daily Totals         S1538.00         S1931.68         S96.13         S12.07           2 laborers         S31.60         S505.60         S49.00         S784.00         S34.08         S52.23           1 fathed Trailer, 25 Ton         102.00         122.00         266.86         109.02         109.02         10	1 Truck Tractor, 220 H.P.		288.40		317.24	24.14	26.56
Crew B-82         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           1 laborer         S31.60         \$252.80         \$49.00         \$39.05         \$35.33         \$53.85           1 cquip. Oper. (light)         39.05         \$12.40         \$8.70         469.60         \$40.17         \$59.19           Crew B-82A         Hr.         Daily         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 laborer         \$31.60         \$525.80         \$49.00         \$392.00         \$35.33         \$53.85           1 laborer         \$31.60         \$525.80         \$49.00         \$392.00         \$35.33         \$53.85           1 laborer         \$31.60         \$525.80         \$49.00         \$392.00         \$31.240           1 habed Trailer, 25 Ton         102.00         112.20         60.80         66.88           16 LH, Daily Totals         \$242.60         \$266.86         \$296.13         \$12.073           2 laborers         \$31.60         \$505.60         \$49.00         \$744.00         \$34.08         \$52.23           1 fatbed Trailer, 25 Ton         102.00         112.20         104.20         114.20         104.20	24 L.H., Daily Totals		\$1418.60		\$1919.74	\$59.11	\$79.99
Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         4.85         5.34           16 L.H., Daily Totals         S642.80         S946.96         S40.17         S59.19           Crew B-82A         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Laborer         S31.60         S252.80         S49.00         S392.00         S35.33         S53.85           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         Costs         Ode           1 Fatbed Track, Gas, 3 Ton         242.60         242.60         266.86         102.00         112.20         60.80         66.88           16 L.H., Daily Totals         S1538.00         S1931.68         S96.13         S120.73           2 Laborers         S31.60         S505.60         S49.00         S784.00         S34.08         S52.23           1 Fatbed Track, Gas, 3 Ton         242.60         242.60         266.86         102.00         112.20           1 Habed Track, Gas, 3 Ton         242.60         S49.00         S784.00         S34.08         S52.23<	Crew B-82	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Equip. Oper. (light)         39.05         312.40         58.70         469.60           1 Horiz. Borer, 6 H.P.         77.60         85.36         4.85         5.34           16 L.H., Daily Totals         \$642.80         \$946.96         \$40.17         \$59.19           Bare Incl. Costs         Incl.           1 Laborer         \$31.60         \$252.80         \$49.00         \$39.200         \$35.33         \$53.33         \$53.35           1 Fatbed Truck, Gas, 3 Ton         242.60         266.86         1         12.20         60.80         66.88           16 L.H., Daily Totals         \$1538.00         \$1931.68         \$96.13         \$12.073           Crew B-82B         Hr.         Daily         Hr.         Daily         Costs         O&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         489.60           1 Fatbed Truck, Gas, 3 Ton         102.00         112.20         116.20         04.89         52.23           1 Fatbed Truck, Gas, 3 Ton         20.20         \$2618.92         \$858.00         \$109.12 <td< td=""><td>1 Laborer</td><td>\$31.60</td><td>\$252.80</td><td>\$49.00</td><td>\$392.00</td><td>\$35.33</td><td>\$53.85</td></td<>	1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$35.33	\$53.85
1 Horiz. Barer, 6 H.P.         77.60         85.36         4.85         5.34           16 L.H., Daily Totals         \$642.80         \$946.96         \$40.17         \$59.19           Crew B-82A         Hr.         Daily         Hr.         Daily         S35.33         \$53.83         \$53.83         \$53.83         \$53.83         \$53.83         \$53.83         \$53.85         10cl.           1 Laborer         1 Laborer         \$31.60         \$252.80         \$49.00         \$39.200         \$35.33         \$53.83         \$53.83         \$53.85           1 Flatbed Truck, Gas, 3 Ton         102.00         112.20         60.80         66.88         16 L.H., Daily Totals         \$1538.00         \$1931.68         \$96.13         \$120.73           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         60.80         66.88           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         60.80         \$52.23           1 Habed Truck, Gas, 3 Ton         242.60         266.86         117.20         56.89         102.00         112.20         104.00         102.00         112.20         104.00         60.80         \$52.23           1 Fabbed Trailer, 25 Ton         102.00	1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
16 L.H., Daily Totals         \$642.80         \$946.96         \$40.17         \$59.19           Crew B-82A         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$35.33         \$53.83         \$53.85           1 Equip. Oper. (light)         39.05         312.40         \$26.86         \$69.02         \$60.80         \$66.88           1 Habed Trailer, 25 Ton         102.00         112.20         \$60.80         \$66.88         \$1538.00         \$1931.68         \$96.13         \$120.73           L caborers         \$31.60         \$505.60         \$49.00         \$34.08         \$52.23         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         \$34.08         \$52.23           1 Fatbed Truck, Gas, 3 Ton         242.60         266.86         \$1.72         56.89         \$109.12           1 Horiz. Dir. Drill, 30k lb. thrust         896.60         \$986.26         \$1.72         56.89         \$109.12           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Fatbed Trailer, 25 T	1 Horiz. Borer, 6 H.P.		77.60		85.36	4.85	5.34
Crew B-82A         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           1 Laborer         \$31.60         \$252.80         \$49.00         \$392.00         \$35.33         \$53.85           1 Equip. Oper. (light)         39.05         312.40         \$8.70         469.60         \$35.33         \$53.85           1 Habed Trailer, Z5 Ton         102.00         112.20         691.02         60.80         66.88           16 L.H., Daily Totals         \$1538.00         \$1931.68         \$96.13         \$120.73           Crew B-82B         Hr.         Daily         Hr.         Daily         \$39.05         \$32.40           1 Equip. Oper. (light)         39.05         312.40         \$49.00         \$784.00         \$34.08         \$52.23           1 Habed Trailer, 25 Ton         102.00         112.20         \$49.60         \$49.60         \$49.60           1 Habed Trailer, 25 Ton         102.00         112.20         \$48.60         \$86.26         \$11.72         \$56.89           24 L.H., Daily Totals         \$2059.20         \$2618.92         \$878.00         \$32.23         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         \$49.00         \$784.00	16 L.H., Daily Totals		\$642.80		\$946.96	\$40.17	\$59.19
Laborer         S31.60         S252.80         S49.00         S392.0         S35.33         S53.85           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.86         266.26         266.86         266.26         266.86         266.86         266.26         266.86         266.26         266.86         266.26         266.86         266.26         266.86	Crew B-82A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Equip. Oper, (light)         39.05         312.40         58.70         469.60           1 Flabbed Truck, Gas, 3 Ton         102.00         112.20         60.80         66.88           1 Habed Trailer, 25 Ton         102.00         112.20         60.80         66.88           16 L.H., Daily Totals         \$1538.00         \$1931.68         \$96.13         \$120.73           Crew B-82B         Hr.         Daily         Hr.         Daily         Costs         0&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Flatbed Truck, Gas, 3 Ton         102.00         112.20         266.86         112.20         1407.20F         56.70         469.60         \$34.08         \$52.23           1 Flatbed Truck, Gas, 3 Ton         102.00         112.20         1407.20F         56.70         469.60         \$34.08         \$52.23           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Flatbed Truck, Gas, 3 Ton         1102.00         112.20         1407.20F	1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$35.33	\$53.85
1 Flatbed Truck, Gas, 3 Ton         242.60         266.86           1 Flatbed Trailer, 25 Ton         102.00         112.20           1 Horiz, Dr. Drill, 20k lb. thrust         628.20         691.02         60.80         66.88           16 L.H., Daily Totals         \$1538.00         \$1931.68         \$96.13         \$12.07.3           Crew B-82B         Hr.         Daily         Hr.         Daily         Costs         0&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Flatbed Truck, Gas, 3 Ton         102.00         112.20         266.86         112.20         112.20           1 Habted Truck, Gas, 3 Ton         102.00         112.20         266.86         112.20         112.20           1 Habted Truck, Gas, 3 Ton         102.00         112.20         266.86         112.20         114.01           1 Habted Truck, Gas, 3 Ton         102.00         112.20         266.86         102.00         112.20           1 Horiz, Dir, Drill, 30k Ib. thrust         896.60         986.26         51.72         56.89           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Flatbed Tr	1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
1 Flatbed Trailer, 25 Ton         102.00         112.20         60.80         66.88           16 L.H., Daily Totals         \$1538.00         \$1931.68         \$96.13         \$120.73           Crew B-32B         Hr.         Daily         Hr.         Daily         Bare         Incl.           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Fatbed Trailer, 25 Ton         102.00         112.20         58.70         469.60         112.20           1 Flatbed Trailer, 25 Ton         102.00         112.20         \$34.08         \$52.23           1 Flatbed Trailer, 25 Ton         102.00         112.20         \$56.80         \$109.12           1 Horiz. Dir. J. 30k lb. thrust         896.60         986.26         \$1.72         56.89           24 L.H., Daily Totals         \$2059.20         \$2618.92         \$85.80         \$109.12           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         \$8.70         469.60         \$34.08         \$52.23           1 Harbed Truck, Gas, 3 Ton         242.60         266.86         \$97.73	1 Flatbed Truck, Gas, 3 Ton		242.60		266.86		
1 Horiz. Dir. Drill, 20k Ib. thrust         628.20         691.02         60.80         66.88           16 L.H., Daily Totals         \$1538.00         \$1931.68         \$96.13         \$120.73           Crew B-82B         Hr.         Daily         Hr.         Daily         Costs         0&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Faibed Trailer, 25 Ton         102.00         112.20         112.20         112.20           1 Horiz. Dir. Drill, 30k Ib. thrust         896.60         986.26         51.72         56.89           24 L.H., Daily Totals         \$2059.20         \$2618.92         \$85.80         \$109.12           Crew B-82C         Hr.         Daily         Hr.         Daily         Costs         0&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         128.20         0.242.60         0.266.86         102.00         112.20         104.72.01         0.242.60         266.86         102.00         112.20         104.02.01         114.02.01         130.30         63.65	1 Flatbed Trailer, 25 Ton		102.00		112.20		
16 L.H., Daily Totals         \$1538.00         \$1931.68         \$96.13         \$120.73           Crew B-82B         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         266.86         1           1 Habed Trailer, 25 Ton         102.00         112.20         51.72         56.89         51.72         56.89           24 L.H., Daily Totals         \$2059.20         \$2618.92         \$85.80         \$109.12           Crew B-82C         Hr.         Daily         Hr.         Daily         63.40.8         \$52.23           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         \$40.08         \$52.23           1 Flatbed Truck, Gas, 3 Ton         102.00         112.20         112.20         \$34.08         \$52.23           1 Habed Truiler, 25 Ton         102.00         112.20         \$34.08         \$52.23           1 Equip.	1 Horiz. Dir. Drill, 20k lb. thrust		628.20		691.02	60.80	66.88
Crew B-82B         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. 0&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         266.86           1 Flatbed Trailer, 25 Ton         102.00         112.20         112.20         51.72         56.89           24 L.H., Daily Totals         \$2059.20         \$2618.92         \$85.80         \$109.12           Crew B-82C         Hr.         Daily         Hr.         Daily         Costs         0&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         266.86           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         261.892         82.00         \$78.00         \$34.08         \$52.23           1 Faltbed Trailer, 25 Ton         102.00         112.20         112.20         114.12         1183.00         1301.30         63.65         70.02           24 L.H., Daily Totals         \$239.05 </td <td>16 L.H., Daily Totals</td> <td></td> <td>\$1538.00</td> <td></td> <td>\$1931.68</td> <td>\$96.13</td> <td>\$120.73</td>	16 L.H., Daily Totals		\$1538.00		\$1931.68	\$96.13	\$120.73
Junit         Junit <th< td=""><td>Crew B-82B</td><td>Hr</td><td>Daily</td><td>Hr</td><td>Daily</td><td>Bare Costs</td><td>Incl. 0&amp;P</td></th<>	Crew B-82B	Hr	Daily	Hr	Daily	Bare Costs	Incl. 0&P
Laborto         Control <t< td=""><td>2 Laborers</td><td>\$31.60</td><td>\$505.60</td><td>\$49.00</td><td>\$784.00</td><td>\$34.08</td><td>\$52.23</td></t<>	2 Laborers	\$31.60	\$505.60	\$49.00	\$784.00	\$34.08	\$52.23
I - quip, Span. Night         Solve<	1 Equip Oper (light)	39.05	312.40	58 70	469.60	Ç01.00	QUL.LU
Harting         Harting         Harting         Harting         Harting           1 Flatbed Trailer, 25 Ton         102.00         112.20         986.26         51.72         56.89           24 L.H., Daily Totals         \$2059.20         \$2618.92         \$85.80         \$109.12           Crew B-82C         Hr.         Daily         Hr.         Daily         Costs         0&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         469.60           1 Flatbed Track, Gas, 3 Ton         242.60         266.86         112.20         112.20         112.20           1 Horiz. Dir. Drill, 50k lb. thrust         1183.00         1301.30         63.65         70.02           24 L.H., Daily Totals         \$2345.60         \$2933.96         \$97.73         \$122.25           Crew B-82D         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70<	1 Flatbed Truck, Gas. 3 Ton	05.00	242.60	00.70	266.86		
I Horiz. Dir. Drill, 30k lb. thrust         896.60         986.26         51.72         56.89           24 L.H., Daily Totals         \$2059.20         \$2618.92         \$85.80         \$109.12           Crew B-82C         Hr.         Daily         Hr.         Daily         Costs         0&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         1         1         1         1         2         2         63.65         70.02         1	1 Flatbed Trailer, 25 Ton		102.00		112.20		
24 L.H., Daily Totals         \$2059.20         \$2618.92         \$85.80         \$109.12           Crew B-82C         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         266.86           1 Flatbed Trailer, 25 Ton         102.00         112.20         63.65         70.02           24 L.H., Daily Totals         \$2345.60         \$2933.96         \$97.73         \$122.25           Crew B-82D         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$55.87	1 Horiz. Dir. Drill, 30k lb. thrust		896.60		986.26	51.72	56.89
Crew B-82C         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         \$34.08         \$52.23           1 Flatbed Truck, Gas, 3 Ton         242.60         266.86         \$112.20         \$102.00         \$112.20         \$102.00         \$112.20         \$102.00         \$112.20         \$102.00         \$112.20         \$102.00         \$112.20         \$100.02         \$122.25         \$2933.96         \$97.73         \$122.25         \$122.25         \$2933.96         \$97.73         \$122.25         \$24 L.H., Daily Totals         \$2345.60         \$2933.96         \$97.73         \$122.25         \$24 L.H., Daily Totals         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Mud Trailer for HDD, 1500 gallon         283.20         \$781.12         \$74.45         \$97.64           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20 <t< td=""><td>24 L.H., Daily Totals</td><td></td><td>\$2059.20</td><td></td><td>\$2618.92</td><td>\$85.80</td><td>\$109.12</td></t<>	24 L.H., Daily Totals		\$2059.20		\$2618.92	\$85.80	\$109.12
2 Laborers         \$31.60         \$505.60         \$49.00         \$784.00         \$34.08         \$52.23           1 Equip. Oper. (light)         39.05         312.40         58.70         469.60         246.86         70.02	Crew B-82C	Hr.	Dailv	Hr.	Dailv	Bare Costs	Incl. 0&P
I Equip. Oper. (light)         39.05         312.40         58.70         469.60         469.60           I Flatbed Truck, Gas, 3 Ton         102.00         112.20         112.20         112.20         112.20           I horiz. Dir. Drill, 50k lb. thrust         1183.00         1301.30         63.65         70.02           24 L.H., Daily Totals         \$2345.60         \$2933.96         \$97.73         \$122.25           Crew B-82D         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Mud Trailer for HDD, 1500 gallor         283.20         311.52         35.40         38.94           8 L.H., Daily Totals         \$595.60         \$781.12         \$74.45         \$97.64           Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Hand         31.60         252.80         49.00         392.00         11.80         11.80           1 Tugboat, 250 H.P.	2 Laborers	\$31.60	\$505.60	\$49.00	\$784.00	\$34.08	\$52.23
I Flatbed Truck, Gas, 3 Ton         242.60         266.86           1 Flatbed Trailer, 25 Ton         102.00         112.20           1 Horiz. Dir. Drill, 50k lb. thrust         1183.00         1301.30         63.65         70.02           24 L.H., Daily Totals         \$2345.60         \$2933.96         \$97.73         \$122.25           Crew B-82D         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Mud Trailer for HDD, 1500 gallor         283.20         311.52         35.40         38.94           8 L.H., Daily Totals         \$595.60         \$781.12         \$74.45         \$97.64           Crew B-83         Hr.         Daily         Hr.         Daily         Bare Costs         O&P           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat, 250 H.P.         663.40         729.74         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84 <thhr.< th="">         Daily         <thhr.< th=""></thhr.<></thhr.<>	1 Equip. Oper. (light)	39.05	312.40	58.70	469.60		
1 Flatbed Trailer, 25 Ton         102.00         112.20           1 Horiz. Dir. Drill, 50k lb. thrust         1183.00         1301.30         63.65         70.02           24 L.H., Daily Totals         \$2345.60         \$2933.96         \$97.73         \$122.25           Crew B-82D         Hr.         Daily         Hr.         Daily         Bare Costs         0&P           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Mud Trailer for HDD, 1500 gallor         283.20         311.52         35.40         38.94           8 L.H., Daily Totals         \$595.60         \$781.12         \$74.45         \$97.64           Tigboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Laptin         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Laptin         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Laptin         \$14.00 <td< td=""><td>1 Flatbed Truck, Gas, 3 Ton</td><td></td><td>242.60</td><td></td><td>266.86</td><td></td><td></td></td<>	1 Flatbed Truck, Gas, 3 Ton		242.60		266.86		
1 Horiz. Dir. Drill, 50k lb. thrust         1183.00         1301.30         63.65         70.02           24 L.H., Daily Totals         \$2345.60         \$2933.96         \$97.73         \$122.25           Crew B-82D         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Mud Trailer for HDD, 1500 gallon         283.20         311.52         35.40         38.94           8 L.H., Daily Totals         \$595.60         \$781.12         \$74.45         \$97.64           Crew B-83         Hr.         Daily         Hr.         Daily         Bare Costs         O&P           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat, 250 H.P.         663.40         729.74         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Equip. Oper. (med.)         \$41.35         \$330.80         \$62	1 Flatbed Trailer, 25 Ton		102.00		112.20		
24 L.H., Daily Totals         \$2345.60         \$2933.96         \$97.73         \$122.25           Crew B-82D         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Mud Trailer for HDD, 1500 gallon         283.20         311.52         35.40         38.94           8 L.H., Daily Totals         \$595.60         \$781.12         \$74.45         \$97.64           Crew B-83         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat, 250 H.P.         663.40         729.74         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Equip. Oper. (med.)         \$41.35         \$330.80	1 Horiz. Dir. Drill, 50k lb. thrust		1183.00		1301.30	63.65	70.02
Crew B-82D         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           1 Mud Trailer for HDD, 1500 gallon         283.20         311.52         35.40         38.94           8 L.H., Daily Totals         \$595.60         \$781.12         \$74.45         \$97.64           Crew B-83         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Hand         31.60         252.80         49.00         392.00         41.46         45.61           1 Tugboat, 250 H.P.         663.40         729.74         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Equip. Oper. (med.)         \$41.35	24 L.H., Daily Totals		\$2345.60		\$2933.96	\$97.73	\$122.25
I Equip. Oper. (light)         \$39.05         \$312.40         \$58.70         \$469.60         \$39.05         \$58.70           I Mud Trailer for HDD, 1500 gallon         283.20         311.52         35.40         38.94           8 L.H., Daily Totals         \$595.60         \$781.12         \$74.45         \$97.64           Crew B-83         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Land         31.60         252.80         49.00         392.00         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62	Crew B-82D	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Mud Trailer for HDD, 1500 gallon         283.20         311.52         35.40         38.94           8 L.H., Daily Totals         \$595.60         \$781.12         \$74.45         \$97.64           Crew B-83         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Hand         31.60         252.80         49.00         392.00         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Rotary Mower/Tractor         273.40         300.74         34.17         37.59           1 H. Daily Totals         \$60.40         \$70.70         \$70.70         \$70.70	1 Equip. Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$39.05	\$58.70
8 L.H., Daily Totals         \$595.60         \$781.12         \$74.45         \$97.64           Crew B-83         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat, 250 H.P.         663.40         729.74         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Rotary Mower/Tractor         273.40         300.74         34.17         37.59           8 L H. Daily Totals         \$60.40         \$77.94         \$62.15         \$497.20         \$41.35         \$62.15	1 Mud Trailer for HDD, 1500 gallon		283.20		311.52	35.40	38.94
Crew B-83         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Captain         \$1.60         252.80         49.00         392.00         41.46         45.61           1 Tugboat, 250 H.P.         663.40         729.74         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Rotary Mower/Tractor         273.40         300.74         34.17         37.59           1 H. Daily Totals         S604.20         \$707.04         \$71.59         \$62.15	8 L.H., Daily Totals		\$595.60		\$781.12	\$74.45	\$97.64
Tugboat Captain         \$41.35         \$330.80         \$62.15         \$497.20         \$36.48         \$55.58           1 Tugboat Hand         31.60         252.80         49.00         392.00         41.46         45.61           1 Tugboat, 250 H.P.         663.40         729.74         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Rotary Mower/Tractor         273.40         300.74         34.17         37.59           1 H. Daily Totals         \$60.40         \$77.94         \$60.70         \$75.52         \$60.70	Crew B-83	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
I Tugboat Hand         31.60         252.80         49.00         392.00         41.46         45.61           1 Tugboat, 250 H.P.         663.40         729.74         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Rotary Mower/Tractor         273.40         300.74         34.17         37.59         \$0.76	1 Tugboat Captain	\$41.35	\$330.80	\$62.15	\$497.20	\$36.48	\$55.58
I Tugboat, 250 H.P.         663.40         729.74         41.46         45.61           16 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Rotary Mower/Tractor         273.40         300.74         34.17         37.59           81 H. Daily Totals         \$60.20         \$707.04         \$75.52         \$00.74	1 Tugboat Hand	31.60	252.80	49.00	392.00		,
I6 L.H., Daily Totals         \$1247.00         \$1618.94         \$77.94         \$101.18           Crew B-84         Hr.         Daily         Hr.         Daily         Costs         0&P           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Rotary Mower/Tractor         273.40         300.74         34.17         37.59           81 H. Daily Totals         \$60.40         \$707.04         \$75.52         \$00.74	1 Tugboat, 250 H.P.		663.40		729.74	41.46	45.61
Crew B-84         Hr.         Daily         Hr.         Daily         Bare Costs         Incl.           1 Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Rotary Mower/Tractor         273.40         300.74         34.17         37.59           8 L H. Daily Totals         \$60.20         \$70.704         \$75.52         \$60.75	16 L.H., Daily Totals		\$1247.00		\$1618.94	\$77.94	\$101.18
I Equip. Oper. (med.)         \$41.35         \$330.80         \$62.15         \$497.20         \$41.35         \$62.15           1 Rotary Mower/Tractor         273.40         300.74         34.17         37.59           8 L H Daily Totals         \$604.20         \$707.04         \$75.52         \$00.74	Crew B-84	Hr.	Dailv	Hr.	Dailv	Bare Costs	Incl. 0&P
I comp. opc. (mod.)         OTLOG         ODCLOG         ODCLOG         OTTLOG         ODCLOG         OTTLOG         ODCLOG         ODCLOG         OTTLOG         ODCLOG         ODCLOG         OTTLOG         ODCLOG         ODCLOG         OTTLOG         ODCLOG         ODCLOG         OTTLOG         ODCLOG         ODCLOG         OTTLOG         ODCLOG <thoclog< th="">         ODCLOG         &lt;</thoclog<>	1 Equip Oper (med.)	\$41.25	\$330.80	\$62.15	\$497.20	\$41.35	\$62.15
Image: Second second	1 Rotary Mower/Tractor		273.40	, , J , L , L , J	300.74	34.17	37.59
	8   H Daily Totale		\$60/ 20		\$797.0/	\$75.52	\$99.7/

Crew No.	Bare Costs		Ine Subs	cl. 6 O & P	Cost Per Labor-Hour		
Crew B-85	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
3 Laborers	\$31.60	\$758.40	\$49.00	\$1176.00	\$33.62	\$51.66	
1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20			
1 Truck Driver (heavy)	31.95	255.60	49.15	393.20			
1 Aerial Lift Truck, 80 1 Brush Chipper 12" 130 H P		640.40 225.60		704.44 248.16			
1 Pruning Saw, Rotary		6.50		7.15	21.81	23.99	
40 L.H., Daily Totals		\$2217.30		\$3026.15	\$55.43	\$75.65	
Crew B-86	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$41.35	\$62.15	
1 Stump Chipper, S.P.		201.10		221.21	25.14	27.65	
8 L.H., Daily Totals		\$531.90		\$718.41	\$66.49	\$89.80	
Crew B-86A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Equip. Oper. (medium)	\$41.35	\$330.80	\$62.15	\$497.20	\$41.35	\$62.15	
1 Grader, 30,000 Lbs.		\$550.20		605.22	68.78	75.65 ¢127.90	
o L.n., Dally Iulais		Ş001.UU		Ş1102.42	\$110.15 Para	\$157.00	
Crew B-86B	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Equip. Oper. (medium)	\$41.35	\$330.80	\$62.15	\$497.20	\$41.35	\$62.15	
1 Dozer, 200 H.P. 8 I. H. Daily Totals		\$1412.00		\$1687.40	135.25 \$176.60	148.78 \$210.93	
		Ş1+12.00		Q1007.40	Bare	Incl	
Crew B-87	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Laborer 4 Equip Oper (med.)	\$31.60 41.35	\$252.80 1323.20	\$49.00 62.15	\$392.00 1088.80	\$39.40	\$59.52	
2 Feller Bunchers, 100 H.P.	41.55	1122.80	02.15	1235.08			
1 Log Chipper, 22" Tree		588.40		647.24			
1 Dozer, 105 H.P.		600.60		660.66			
1 Chain Saw, Gas, 36" Long		37.80		41.58	58.74	64.61	
40 L.H., Dally lotals		\$3925.60		\$4965.36	\$98.14	\$124.13	
Crew B-88	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P	
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$39.96	\$60.27	
6 Equip. Oper. (med.) 2 Faller Runchers 100 H P	41.35	1984.80 1122.80	62.15	2983.20 1235.08			
1 Log Chipper, 22" Tree		588.40		647.24			
2 Log Skidders, 50 H.P.		1795.20		1974.72			
1 Dozer, 105 H.P.		600.60		660.66		01.40	
1 Chain Saw, Gas, 36" Long		37.80 \$6382.40		41.58 \$7934.48	/4.01 \$113.97	\$1.42	
		,			Bare	Incl.	
Crew B-89	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Equip. Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$35.00	\$53.17	
1 Truck Driver (light) 1 Flatbod Truck, Cas. 3 Ton	30.95	247.60	47.65	381.20			
1 Concrete Saw		141.00		155.10			
1 Water Tank, 65 Gal.		18.45		20.30	25.13	27.64	
16 L.H., Daily Totals		\$962.05		\$1293.06	\$60.13	\$80.82	
Crew B-89A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Skilled Worker	\$40.85	\$326.80	\$63.25	\$506.00	\$36.23	\$56.13	
1 Laborer	31.60	252.80	49.00	392.00	C 00	7 50	
1 Cure Drill (large)		110.20		121.22 \$1010.22	0.89 \$/2.11	07.52	
IO L.I.I., Daily IOldis		9003'QN		\$1019.ZZ	ə49.11	202.7U	

Crew No.	Bare Costs		Sut	Incl. os O & P	Cost Per Labor-Hour		
Crew B-89B	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Equip. Oper. (light)	\$39.05	\$312.40	\$58.70	\$469.60	\$35.00	\$53.17	
1 Truck Driver, Light	30.95	247.60	47.65	381.20			
1 Wall Saw, Hydraulic, 10 H.P.		96.00		105.60			
1 Generator, Diesel, 100 kW		327.20		359.92			
1 Water Tank, 65 Gal.		18.45		20.30	40.77	47.04	
1 Flatbed Truck, Gas, 3 Ion		242.60		266.86	42.//	47.04 \$100.22	
16 L.H., Daily lotais		\$1244.25		\$1603.47	\$/1.//	\$100.22	
Crew B-90	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P	
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$33.80	\$51.85	
3 Laborers	31.60	758.40	49.00	1176.00			
2 Equip. Oper. (light)	39.05	624.80	58.70	939.20			
2 Iruck Drivers (heavy)	31.95	511.20	49.15	/86.40			
1 Road Wixer, 310 H.P. 1 Dist Truck 2000 Cal		277.20		2080.00	33.06	27 25	
64 L H Daily Totals		\$4336.40		\$5708.92	\$67.76	\$89.20	
of Life, Dully Totals		QT000.TU		\$3700.5£	Baro	Juci	
Crew B-90A	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$37.46	\$56.96	
2 Laborers	31.60	505.60	49.00	784.00			
4 Equip. Oper. (medium)	41.35	1323.20	62.15	1988.80			
2 Graders, 30,000 LDS. 1 Tandom Pollor, 10 Tan		222.00		1210.44 256.20			
1 Idilueiii Ruilei, 10 Iuli 1 Pollor Proum Whi 12 Ton		203.00		200.00	20.31	32.24	
56 L H Daily Totals		\$3738.80		\$4994.92	\$66.76	\$89.19	
oo Lini, Duily lotaio		<i>QUI 00.00</i>		\$1331.3E	Bare	Incl.	
Crew B-90B	Hr.	Daily	Hr.	Daily	Costs	0&P	
I Labor Foreman	\$33.60	\$268.80	\$52.10	\$416.80	\$36.81	\$56.09	
2 Laborers	31.60	505.60	49.00	/84.00			
1 Tandom Pollor, 10 Tan	41.30	992.40 233.00	02.15	256 30			
1 Roller Pneum Whl 12 Ton		307.80		230.30			
1 Road Mixer, 310 H.P.		1896.00		2085.60	50.77	55.84	
48 L.H., Daily Totals		\$4203.60		\$5372.88	\$87.58	\$111.94	
Crew B-91	Hr	Daily	Hr	Daily	Bare Costs	Incl. O&P	
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$36.77	\$55.98	
2 Laborers	31.60	505.60	49.00	784.00	\$50.77	QUU.JU	
4 Equip. Oper. (med.)	41.35	1323.20	62.15	1988.80			
1 Truck Driver (heavy)	31.95	255.60	49.15	393.20			
1 Dist. Tanker, 3000 Gallon		304.20		334.62			
1 Truck Tractor, 6x4, 380 H.P.		478.80		526.68			
1 Aggreg. Spreader, S.P.		855.20		940.72			
1 Roller, Pneum. Whl, 12 Ton		307.80		338.58			
1 landem Roller, 10 Ion		233.00		256.30	34.05	37.45	
64 L.H., Daily lotals		\$4532.20		\$5979.70	\$70.82 Bara	\$93.43	
Crew B-92	Hr.	Daily	Hr.	Daily	Costs	Inci. 0&P	
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$32.10	\$49.77	
3 Laborers	31.60	758.40	49.00	1176.00			
1 Crack Cleaner, 25 H.P.		54.80		60.28			
1 Air Compressor, 60 cfm		122.60		134.86			
1 Iar Kettle, I.M.		83.15		91.4/	15 70	17 20	
1 FIATDED IFUCK, GAS, 3 ION		242.60		200.80 \$2146.26	15./2 \$47.82	17.30 \$67.07	
or entry bury totals		ÅT 200.00		YLITU.LU	Bare	Incl	
Crew B-93	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Equip. Oper. (med.)	\$41.35	\$330.80	\$62.15	\$497.20	\$41.35	\$62.15	
1 Feller Buncher, 100 H.P.		561.40		617.54	70.17	77.19	
8 L.H., Daily Totals		\$892.20		\$1114.74	\$111.53	\$139.34	

Crew No.	Bare Costs		Ine Subs	cl. 6 O & P	Co Per Lab	ost oor-Hour
Crew B-94A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
1 Diaphragm Water Pump, 2"		63.20		69.52		
1 -20' Suction Hose, 2" 2 50' Discharge Hoses 2"		1.95		2.15	8.12	0.26
8 L.H., Daily Totals		\$320.15		\$466.08	\$40.02	\$58.26
					Bare	Incl.
Crew B-94B	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
1 Diaphragm water Pump, 4" 1 -20' Suction Hose, 4"		80.20 3.45		94.82 3.79		
2 -50' Discharge Hoses, 4"		4.70		5.17	11.79	12.97
8 L.H., Daily Totals		\$347.15		\$495.79	\$43.39	\$61.97
Crow B-94C	L.	Daily	Ци	Daily	Bare	Incl.
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
1 Centrifugal Water Pump, 3"	\$51.00	69.40	Q-13.00	76.34	Q31.00	Q+3.00
1 -20' Suction Hose, 3"		3.05		3.36		
2 -50' Discharge Hoses, 3"		3.50		3.85	9.49	10.44
8 L.H., Daily Iotals		\$328.75		\$475.55	\$41.09	\$59.44
Crew B-94D	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P
1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	\$31.60	\$49.00
1 Centr. Water Pump, 6"		309.40		340.34		
1 -20' Suction Hose, 6"		11.90		13.09	41.74	45.01
2 -50 Discharge Hoses, o		\$586.70		\$759.29	\$73.34	40.91 \$94.91
		<i>\\</i>		¢703.23	Bare	Incl.
Crew C-1	Hr.	Daily	Hr.	Daily	Costs	0&P
3 Carpenters	\$39.95	\$958.80	\$61.95	\$1486.80	\$37.86	\$58.71
32 L.H., Daily Totals	31.00	\$1211.60	49.00	392.00 \$1878.80	\$37.86	\$58.71
					Bare	Incl.
Crew C-2	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	\$38.89	\$60.31
4 Carpenters	39.95	1278.40 252.80	61.95 49.00	1982.40 392.00		
48 L.H., Daily Totals	01.00	\$1866.80	15.00	\$2894.80	\$38.89	\$60.31
					Bare	Incl.
Crew C-2A	Hr.	Daily	Hr.	Daily	Costs	0&P
1 Carpenter Foreman (out)	\$41.95 30.05	\$335.60 958.80	\$65.05 61.05	\$520.40 1486.80	\$38.62	\$59.33
1 Cement Finisher	38.30	306.40	56.05	448.40		
1 Laborer	31.60	252.80	49.00	392.00		
48 L.H., Daily Totals		\$1853.60		\$2847.60	\$38.62	\$59.33
Crew C-3	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P
1 Rodman Foreman	\$46.55	\$372.40	\$76.10	\$608.80	\$40.88	\$65.53
4 Rodmen (reinf.)	44.55	1425.60	72.85	2331.20		
1 Equip. Oper. (light)	39.05	312.40 505.60	58.70 19.00	469.60 784.00		
3 Stressing Equipment	51.00	27.60	45.00	30.36		
.5 Grouting Equipment		75.80		83.38	1.62	1.78
64 L.H., Daily Totals		\$2719.40		\$4307.34	\$42.49	\$67.30
Crew C-4	Hr.	Dailv	Hr.	Dailv	Bare Costs	Incl. 0&P
1 Rodman Foreman	\$46.55	\$372.40	\$76.10	\$608.80	\$45.05	\$73.66
3 Rodmen (reinf.)	44.55	1069.20	72.85	1748.40		
3 Stressing Equipment		27.60		30.36	.86	.95
32 L.H., Daily lotals		Ş1469.20		\$Z387.90	\$45.91	Ş/4.bl

	_			Incl.	Co	st				In	cl.	1
Crew No.	ва	re Costs	Sut	DS O & P	Per Lat	oor-Hour	Crew No.	Bare	Costs	Subs	5 O & P	
Crew C-5	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew C-8	Hr.	Daily	Hr.	Daily	
. Rodman Foreman	\$46.55	\$372.40	\$76.10	\$608.80	\$43.44	\$69.54	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	
Rodmen (reinf.)	44.55	1425.60	72.85	2331.20			3 Laborers	31.60	758.40	49.00	1176.00	
Equip. Oper. (crane)	42.55	340.40	63.95	511.60			2 Cement Finishers	38.30	612.80	56.05	896.80	
Equip. Oper. Oiler	36.80	294.40	55.30	442.40			1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20	
Hyd. Crane, 25 Ton		789.40		868.34	14.10	15.51	1 Concrete Pump (small)		737.80		811.58	
L.H., Daily Totals		\$3222.20		\$4762.34	\$57.54	\$85.04	56 L.H., Daily Totals		\$2708.60		\$3798.38	
Crew C-6	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew C-8A	Hr.	Daily	Hr.	Daily	
Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$33.05	\$50.69	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	
Laborers	31.60	1011.20	49.00	1568.00			3 Laborers	31.60	758.40	49.00	1176.00	
Cement Finisher	38.30	306.40	56.05	448.40			2 Cement Finishers	38.30	612.80	56.05	896.80	
Gas Engine Vibrators		52.00		57.20	1.08	1.19	48 L.H., Daily Totals		\$1640.00		\$2489.60	
3 L.H., Daily Totals		\$1638.40		\$2490.40	\$34.13	\$51.88						
					Bare	Incl.	Crew C-8B	Hr.	Daily	Hr.	Daily	
Crew C-7	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	
.abor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$34.23	\$52.29	3 Laborers	31.60	758.40	49.00	1176.00	
.aborers	31.60	1264.00	49.00	1960.00			1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20	
Cement Finisher	38.30	306.40	56.05	448.40			1 Vibrating Power Screed		70.35		77.39	
quip. Oper. (med.)	41.35	330.80	62.15	497.20			1 Roller, Vibratory, 25 Ton		594.60		654.06	
Equip. Oper. (oiler)	36.80	294.40	55.30	442.40			1 Dozer, 200 H.P.		1082.00		1190.20	
Gas Engine Vibrators		52.00		57.20			40 L.H., Daily Totals		\$3104.95		\$4011.65	
Joncrete Bucket, 1 C.Y.		20.20		22.22	10.02	10.00						
tyd. Urane, 55 Ion		£2001.00		1237.30	10.03	10.29	Crew C-8C	Hr.	Daily	Hr.	Daily	
L.H., Dally Totals		\$3001.00		\$3081.72	\$30.80	\$70.58	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	1
0		D.I.		D. I.	Bare	Incl.	3 Laborers	31.60	758.40	49.00	1176.00	
Crew C-7A	Hr.	Dally	Hr.	Dally	Costs	0&P	1 Cement Finisher	38.30	306.40	56.05	448.40	
abor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$31.94	\$49.42	1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20	
aborers	31.60	1264.00	49.00	1960.00			1 Shotcrete Rig, 12 C.Y./Hr		237.80		261.58	
ruck Drivers (Heavy)	31.95	511.20	49.15	/86.40	07.70	20.47	48 L.H., Daily Totals		\$1902.20		\$2799.98	
onc. Iransit Mixers		£2016.00		1950.08	27.70	30.47						
L.N., Dally Totals		\$3010.0U		\$3115.20	\$09.04	\$/9.09	Crew C-8D	Hr.	Daily	Hr.	Daily	
Crow C 7P	U.,	Daily	U.,	Daily	Bare	Incl.	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	
	(1).	coco oo	¢E0.10	¢416.00	6003L3	CED 04	1 Laborer	31.60	252.80	49.00	392.00	
DOL FOREITION (OUTSIDE)	\$33.6U	\$208.8U	\$52.10	\$410.8U	\$33.87	Ş0Z.U4	1 Cernent Finisher	38.30	300.40	50.05	448.40	
uicis iinment Oper (crane)	12 55	2/04.00	49.00	511 60			1 Light Compressor 250 cfm	39.00	162.40	00.70	409.00 179.64	
nipment Oiler	36.80	294.40	55 30	442 40			2 -50' Air Hoses 1"		8 20		9 02	
nc. Bucket. 2 C.Y.	00.00	32.00	00.00	35.20			32 L.H., Daily Totals		\$1311.00		\$1914.46	$\vdash$
ttice Boom Crane, 165 Ton		2240.00		2464.00	35.50	39.05	or any bury rotato		÷1011.00		¥191 IITU	
H., Daily Totals		\$4439.60		\$5830.00	\$69.37	\$91.09	Crew C-8E	Hr.	Daily	Hr.	Daily	
Crew C-7C	Hr	Daily	Hr	Daily	Bare	inci. በይP	1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	
ahar Foraman (autoida)	\$22.60	¢ 760 00	\$50.10	¢/16.00	\$24.20	¢£0.67	1 Laborer	31.60	202.80	49.00	392.00 110 10	
abor i ureman (UULSIUE)	31 60	2200.00 126/L00	302.10	2410.00 1960.00	\$34.29	\$97'01	1 Equipment Oper (light)	30.30	212 /0	58 70	440.40 160.60	
nuinment Onerators (medium)	41 35	661.60	62 15	994.40			1 Air Compressor 250 cfm	35.00	162.40	30.70	409.00 178.64	
Loaders WM A∩V	-1.55	1082.00	02.13	1190.20	16 91	18.60	2.50' Air Hoses 1"		x 20		9 N2	
H Daily Totale		\$2076.40		\$4561.40	\$51.10	\$71.00	1 Concrete Plimn (email)		737 20		811 58	
.n., Dally IUlais		ŞJZ/0.4U		Ş4001.40	101.13	ې۱۱.۲ <i>۱</i>	32 L.H., Daily Totals		\$2048.80		\$2726.04	$\vdash$
Crew C-7D	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	SE E.H., Duny Totals		γ <b>∟</b> υ-†0.00		VL1 LU.UT	
Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$33.28	\$51.32	Crew C-10	Hr.	Daily	Hr.	Daily	
aborers	31.60	1264.00	49.00	1960.00			1 Laborer	\$31.60	\$252.80	\$49.00	\$392.00	
quip. Oper. (med.)	41.35	330.80	62.15	497.20			2 Cement Finishers	38.30	612.80	56.05	896.80	
oncrete Conveyer		179.00		196.90	3.20	3.52	24 L.H., Daily Totals		\$865.60		\$1288.80	
H., Daily Totals		\$2042.60		\$3070.90	\$36.48	\$54.84						
							Crew C-10B	Hr.	Daily	Hr.	Daily	
							3 Laborers	\$31.60	\$758.40	\$49.00	\$1176.00	

2 Cement Finishers

40 L.H., Daily Totals

1 Concrete Mixer, 10 C.F.

2 Trowels, 48" Walk-Behind

38.30

612.80

155.20

84.80

\$1611.20

56.05

896.80

170.72

93.28

\$2336.80

6.00

\$40.28

6.60

\$58.42

C10C         H         Daily         Ber         Body           S31.60         S525.80         548.00         S382.00         S36.07         S33.7           es         33.30         612.00         66.55         98.80         1.77         1.94           tata         S58.66         S58.60         S58.74         S58.66         1.77         1.94           ctata         S58.66         S52.80         96.00         S58.74         4.76         9.72.55         5.81.64         1.07         1.04         4.135         5.33.60         5.62.80         9.66.7         9.86.07         S58.74         1.04.64         1.04.7         7.25         2.21.78         2.04.07         7.26.00	Crew No.	Ва	re Costs	Sul	Incl. os O & P	Co Per La	ost bor-Hour	Crew No.	Bare	Costs	In Sub	s O & P	
sill 0         Sill 0<	Crew C-10C	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Crew C-14A	Hr.	Daily	Hr.	Daily	
ses         38.30         61.20         50.50         568.80         1.77         1.94           ctabe         4.2.40         66.64         1.77         1.94         1.80         55.05         67.00           ctabe         531.80         55.280         540.00         528.20         538.70         538.70         538.70         538.70         538.70         538.70         538.70         538.70         538.70         538.70         538.70         538.70         538.70         538.70         538.70         538.77         538.76         553.70	oorer	\$31.60	\$252.80	\$49.00	\$392.00	\$36.07	\$53.70	1 Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	ŀ
aik beam         4.2.40         4.6.64         1.77         1.94           aba         5916.00         5135.44         573.8         555.64           C100         Hr.         Daily         Hr.         Daily         Cats         OAP           S13.0         5125.24         S51.05         S55.07         Cats         OAP         OAP           S13.0         5125.25         S51.07         S51.07         Cats         OAP         OAP           S13.0         5122.26         S61.05         S77.38         Cats         OAP         OAP         OAP           S13.0         S122.26         S61.05         S14.02.28         S61.75         S57.70         S11.58         Cats         OAP         S11.58         Cats         S01.75         S11.58         Cats         S01.75         S01.71         S01.76         S92.77         S01.77	ement Finishers	38.30	612.80	56.05	896.80			16 Carpenters	39.95	5113.60	61.95	7929.60	
chais         System </td <td>rowel, 48" Walk-Behind</td> <td></td> <td>42.40</td> <td></td> <td>46.64</td> <td>1.77</td> <td>1.94</td> <td>4 Rodmen (reinf.)</td> <td>44.55</td> <td>1425.60</td> <td>72.85</td> <td>2331.20</td> <td></td>	rowel, 48" Walk-Behind		42.40		46.64	1.77	1.94	4 Rodmen (reinf.)	44.55	1425.60	72.85	2331.20	
Hr.         Daily         Hr.         Daily         Corts         OLP           S14.00         S222.00         S49.00         S520.00         S537.00           ser Served         33.30         61.00         S57.00         S537.00           sheBeind         42.40         46.64         4.70         S17.38         S11.88           C100         Hr.         Daily         Bare         <	L.H., Daily Totals		\$908.00		\$1335.44	\$37.83	\$55.64	2 Laborers	31.60	505.60	49.00	784.00	
C-100         Hz         Daily         Hz         Daily         Core         OZ           stil 60         5252.80         5490.0         5392.00         553.7         533.7         10.000         28.00         28.00         811.88           ef Streed         3         0.035         77.39         4.70         51.7         77.30         811.88           c102         Hz         Daily         Hz         Daily         Bare         No.1         533.004         6.215         4.45.9         535.00         85.05         533.004         6.215         4.45.9         535.00         85.05         533.004         6.215         4.70         51.10         10.000         773.00         811.08         51.330.90         6.215         4.70         51.7         7.80						Bare	Incl.	1 Cement Finisher	38.30	306.40	56.05	448.40	
S31.60         S252.80         549.00         S392.00         S58.70         S53.70           es Soread         70.35         77.39         77.30         81.158           es Soread         4.2.40         4.6.64         4.70         51.7           etais         S978.35         S141.283         Monte feeling         S31.60         S527.04           c10E         Hr.         Daaly         Hr.         Daaly         Cost         OA           s33.60         S32.60         S520.40         550.40         10.65.67         550.40           ers Soread         70.35         77.39         87         10.85         10.45.60         522.80           sty S6 MacOn         166.60         183.26         98.7         10.86         10.80.60         22.85.0           sty S6 MacOn         166.60         183.26         556.05         99.87         10.86         10.80.60         22.85.0         12.19.19.10.10         2.10.97.20         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50         2.28.50<	Crew C-10D	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20	
Bits of the second of	l aborer	\$31.60	\$252.80	\$49.00	\$392.00	\$36.07	\$53.70	1 Gas Engine Vibrator		26.00		28.60	
err         Creat         Tr. 33         Tr. 33         Common Processor         State State State         State	Cement Finishers	38.30	612.80	56.05	896.80		<i>v</i> oon o	1 Concrete Pump (small)		737.80		811.58	
aik Behmid         Image:	Vibrating Power Screed		70.35		77.39			200 L.H., Daily Totals		\$8781.40		\$13350.98	
oblis         S978.35         S1412.83         S40.76         S98.87           C10C         Hr.         Daily         Hr.         Daily         Costs         Odd           S31.60         S252.81         S49.00         S39.00         S36.07         S53.70           g. 95 Anden         165.60         182.25         9.87         10.86           g. 95 Anden         165.60         182.25         9.87         10.86           oreran         S41.00         S53.00         S65.05         866.00           chable         S110.02.55         S1549.44         S45.94         S64.56           chable         S110.02.55         S1549.44         S64.56         16.85         Correre Control         20.00	Trowel, 48" Walk-Behind		42.40		46.64	4.70	5.17						Ι
Loto         Hr.         Daily         Hr.         Daily         Bare         Incl.           C-10E         Hr.         Daily         Careet         0.43         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.45         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.45         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.45         0.56         55         0.44         0.55         0.44         0.55         0.44         0.55         0.44         0.45         0.55         0.44         0.45         0.56         55         0.44         0.56         0.55         0.44         0.	4 L.H., Daily Totals		\$978.35		\$1412.83	\$40.76	\$58.87	Crew C-14B	Hr.	Daily	Hr.	Daily	
C-10E         Hr.         Daily         Hr.         Daily         Case.         OAP           vers         \$31.60         \$522.80         \$49.00         \$550.70         \$53.70         \$40.00         \$40.00         \$505.60         \$60.00         \$77.39         \$20.00         \$56.07         \$53.70         \$21.00         \$20.00         \$56.07         \$53.70         \$21.00         \$20.00         \$56.07         \$40.00						Bare	Incl	1 Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	
Sal A0         SS2 A0         SA9 A00         SS2 A00         SS6 A07         SS3 A0           ers         33.30         612.80         56.05         896.80         784.00         320.6           atl. 967 Ride On         166.60         118.26         9.97         10.86         31.60         56.05         896.80           atl. 967 Ride On         166.60         118.26         9.87         10.86         10.55         56.05         896.80           ct11         Hr         Daily         Hr.         Daily         Cests         0.42         50.0         2.86.0           Corrent         Site on the interimation of the interima	Crew C-10E	Hr.	Daily	Hr.	Daily	Costs	0&P	16 Carpenters	39.95	5113.60	61.95	7929.60	
Bit Not         Science         Processe         Science         Processe         Science		\$21.60	¢252.90	\$40.00	¢202.00	\$26.07	¢52.70	4 Rodmen (reinf.)	44.55	1425.60	72.85	2331.20	
as.         36.30         0.02.00         0.00	Camont Einichard	20 20	\$252.00 61.2.90	56.05	\$392.00	\$30.07	\$03.70	2 Laborers	31.60	505.60	49.00	784.00	
abelen         17.33         17.33         9.87         10.86           1 Se TrinkeOn         1 Gas Engine Whater         26.00         22.00         28.00           ctail         S1102.55         S1549.44         S45.54         S64.56         1 Gas Engine Whater         1 Gas Engine Whater         26.00         28.00           cranel         44.70         2145.60         79.65         382.30         566.50         543.99.38         201.14         1 Gan Engine Whater         201.90         26.25         28.86           Oranel         225.5         340.40         55.30         442.40         26.25         28.88           Oranel         1000         1990.00         26.25         28.88         100.62         2079.00         26.25         28.88           Crane         16.02         17.62         16.02         17.62         28.00         101.10         49.00         1568.00           10 Carpeter foreman (out)         33.95         958.80         61.95         1496.80         10.22         17.62           2 Initic         225.5         340.40         53752.80         537.20         10.28         532.00         12.17.62         12.17.62           2 Initic         1.25.55.36         51.00	Vibrating Dower Screed	30.30	70.25	50.05	77 20			2 Cement Finishers	38.30	612.80	56.05	896.80	
A. B. Borcold         Lobid	Compart Trowal 96" Ride On		166.60		183.26	9.87	10.86	1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20	
Uabs         3 110:2.39         3 12:39         3 12:39         3 12:39         3 12:39         3 11:58         3 11:58           C C11         Hr.         Daily         Hr.         Daily         Bare         Incl.         Costs         0.82           Crane         42.55         340.40         63.95         511.60         Stat.81         S75.59           Dier         36.80         294.40         55.30         442.45         Totals         S335.60         S65.05         S520.40           C12         Hr.         Daily         Cests         0.88         280.44         53.30         442.65         712.80         570.06         S104.47           Crane louti         S41.95         S335.60         S65.00         S20.40         S33.3         S60.64           Crane louti         S41.95         S335.60         S65.00         S52.44         S33.3         S60.64           2 non         768.80         445.68         16.02         17.62         A43.09         S335.60         S65.54         S52.34           2 not         778.80         439.66         S375.64         S55.34         S78.26         S335.60         S65.55         S52.04           2 not         768.80	1 H. Doily Totala		¢1102.55		¢1640.44	5.07 ¢45.04	CC / EC	1 Gas Engine Vibrator		26.00		28.60	
Hr.         Daily         Hr.         Daily         Costs         OAP           oreman         \$46.70         \$373.60         \$83.20         \$665.60         \$43.81         \$75.59           Oreman         \$47.70         \$245.55         340.40         63.95         \$51.160            Crew C-14C         Hr.         Daily         Hr.         Daily         Crew C-14C         Hr.         Daily         Hr.         Daily         61.95         \$335.60         \$56.05         \$52.04.0           Crew C-14C         Hr.         Daily         Hr.         Daily         Crew C-14C         Hr.         Daily         61.95         297.560         \$26.50         \$20.40         50.50         \$20.40         50.50         \$20.40         50.50         \$20.40         50.50         \$20.40         50.50         \$20.40         10.25         28.60         101.120         49.00         1568.00         10.62	+ L.N., Dally Iolais		\$1102.00		\$1049.44	\$40.94	Ş04.30	1 Concrete Pump (small)		737.80		811.58	
Cr11         Tr.         Daily         Tr.         Daily         Costs         Odar           Vorkers         44.70         2145.60         79.65         382.32         565.60         553.04         553.04         553.04         553.04         553.04         553.04         65.05         552.04         63.05         29.95         1917.60         61.95         2973.60         272.85         116.50         553.04         42.40         44.70         24.55         30.04.00         55.05         552.04         553.04         56.05         552.04         10.11.02         49.00         1568.00         10.11.02         49.00         1568.00         10.11.02         49.00         1568.00         10.11.02         49.00         1568.00           Cranel         31.60         525.26         528.04         555.34         576.26         555.34         576.26         10.11.02         49.00         1568.00           2 form         31.60         525.26         528.04         555.34         576.26         555.34         576.26         676.05         557.04         10.28         10.28         575.28         61.95         9892.80         10.16         10.29         12.14.10.20         14.55         71.2.20         72.85         10.65.05	Onen 0 11	1	Delle		Deller	Bare	Incl.	208 L.H., Daily Totals		\$9087.80		\$13799.38	I
Ortenan         S4B./0         S37.80         S82.20         S40.70         S43.80         S75.29           Cranel         42.55         340.40         63.95         511.60         -         -         -         -         S38.00         294.40         55.30         442.40         -	Crew C-11	nr.	Dally	Hr.	Dally	Costs	0&P						
Orderets         44,70         2145.00         79.80         382.30         116           Diler         36.80         294.40         55.30         442.40         2079.00         26.25         28.88           Otals         S5044.00         S7521.80         S70.6         S104.47         33.95         116.6         116.20         128.20           Otals         S5044.00         S7521.80         S70.6         S104.47         33.30         366.40         56.05         442.80           C12         Hr.         Daily         Hr.         Daily         Costs         O&P         28.60         1011.20         49.00         1568.00           1 Carpenter Foreman (out)         S41.95         S335.60         S65.05         S52.04         S53.33         S60.64         1011.20         49.00         1568.00           1 Carpenter Foreman (out)         S41.95         S335.60         S65.05         S52.04         1011.20         49.00         1568.00           2 Tom         Traces         34.00         G.535.34         S77.26         16.02         17.62           Cr13         Hr.         Daily         Hr.         Daily         Costs         O&P         10 corneter finisher         38.30         306	Struc. Steel Foreman	\$46.70	\$3/3.60	\$83.20	\$665.60	\$43.81	\$/5.59	Crew C-14C	Hr.	Daily	Hr.	Daily	
drame         42.35         340,40         63.95         9197.60         61.95         2973.60           Crane, 150 Ton         1890.00         2079.00         26.25         28.88         1         44.55         712.80         72.85         1165.60           otals         \$5044.00         \$7521.80         \$70.06         \$104.47         44.55         712.80         101.00         49.00         1568.00           crane         39.95         958.80         61.95         1486.80         S50.40         S39.33         \$60.64         16.02         17.20         112.0         49.00         1568.00           crane         34.05         252.65         49.00         39.95         116.0         26.00         26.00         26.00         26.00         26.00         26.00         26.00         26.00         26.00         26.00         26.00         26.00         10.00         10.00         10.00         10.00         11.20         49.00         56.05         552.04.00         39.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00         10.00	Struc. Steel Workers	44.70	2145.60	/9.65	3823.20			1 Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	
Jale         Job         294,40         293,00         294,40         30.00         2079,00         26.25         28.88           talis         \$5044,00         \$7521,80         \$70.06         \$104,47         \$16,60         1011,20         49,00         1686,00           tc.12         Hr.         Daily         Hr.         Daily         Costs         08,P         16,60         30,640         56,05         484,80           aman (out)         \$41,95         \$335,60         \$56,50         \$520,00         \$39,33         \$60,64         10 and the finither         38,30         30,640         \$6,05         448,40           12 In         Kr.         Daily         Hr.         Daily         Kr.         Daily         Hr.         Daily         Hr.         Daily         16,660         Crew C-14D         Hr.         Daily         Hr.         Daily         16,660         Crew C-14D         Hr.         Daily         Hr.         Daily         Hr.         Daily         Hr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily         Kr.         Daily <td< td=""><td>quip. Oper. (crane)</td><td>42.55</td><td>340.40</td><td>63.95</td><td>511.60</td><td></td><td></td><td>6 Carpenters</td><td>39.95</td><td>1917.60</td><td>61.95</td><td>2973.60</td><td></td></td<>	quip. Oper. (crane)	42.55	340.40	63.95	511.60			6 Carpenters	39.95	1917.60	61.95	2973.60	
Urane, 180100         20/39.00         20.79.00	quip. Oper. Oller	30.80	294.40	55.30	442.40		00.00	2 Rodmen (reinf.)	44.55	712.80	72.85	1165.60	
Otalis         S5044.00         S72L80         S70.05         S104.47           rc12         Hr.         Daily         Hr.         Daily         Bare         Incl.           39.95         S335.60         S65.05         S520.40         S39.33         S60.64           39.95         998.80         61.95         148.80         S55.34         S70.26           2 Ton         768.80         845.68         16.02         17.62           2 Ton         768.80         845.68         16.02         17.62           Cr13         Hr.         Daily         Hr.         Daily         Rare         Incl.           10 corrent Finisher         38.30         336.40         55.05         S520.40           2 Ton         768.80         845.68         16.02         17.62         Start         Start         Start           Cr13         Hr.         Daily         Hr.         Daily         Costs         OR         Start         Start           righte, 300 amp         134.20         147.62         Start         Start         Start         Start         Start           righte, 300 amp         134.20         Start         Star         Start         Start <td< td=""><td>Lattice Boom Crane, 150 Ion</td><td></td><td>1890.00</td><td></td><td>2079.00</td><td>20.25</td><td>28.88</td><td>4 Laborers</td><td>31.60</td><td>1011.20</td><td>49.00</td><td>1568.00</td><td></td></td<>	Lattice Boom Crane, 150 Ion		1890.00		2079.00	20.25	28.88	4 Laborers	31.60	1011.20	49.00	1568.00	
Image: constraint out)         Fr.         Daily         Bare         Incl.           Cots         O&P           S41.95         \$335.60         \$56.05         \$522.04         \$33.33         \$60.64           39.95         995.80         61.95         1486.80         \$39.33         \$60.64           Cranel         42.55         340.40         63.95         511.60         \$39.33         \$60.64           Cranel         42.55         340.40         63.95         511.60         \$3756.48         \$55.34         \$78.26           Atal         Second         \$3756.48         \$55.34         \$78.26         \$2 hoorers         31.60         505.60         42.05         \$30.00         \$61.95         \$8920.80           I Crane finitizer         39.95         5752.80         61.95         \$8920.80         \$2 hoorers         31.60         505.60         49.00         784.00           I Carse Engine Worstor         2.600         10 concret Parisher         38.0         366.40         56.05         484.70           39.95         51917.62         54.97.0         55.59         6.15         58707.80         \$31176.58           Cc14         Hr.         Daily         Cots         O&P	L.H., Daily Totals		\$5044.00		\$7521.80	\$70.06	\$104.47	1 Cement Finisher	38.30	306.40	56.05	448.40	
Hr.         Daily         Hr.         Daily         Costs         OUP           39.95         \$33.5.0         \$65.05         \$520.40         \$33.3         \$60.64           39.95         958.80         61.95         1486.80         -         -           2 Ton         768.80         -         845.68         16.02         17.62           otals         \$2656.40         \$3756.48         \$553.3         \$782.80         49.95         \$5752.80         61.95         8920.80           rC-13         Hr.         Daily         Hr.         Daily         Costs         OAP         10 Carpenter forema fout)         \$44.55         712.80         72.85         166.00           rC-13         Hr.         Daily         Hr.         Daily         Costs         OAP         12 Laborers         31.60         505.60         44.00         72.85         165.60         148.40         12 Laborers         31.60         50.05         44.40         12 capanetres         38.30         306.40         56.05         448.40           1 capaip         93.95         319.60         61.95         495.60         26.00         26.00         26.00         26.00         26.00         26.00         26.00         26		l		l		Bare	Incl.	1 Gas Engine Vibrator		26.00		28.60	
eman (out)         S41.95         S33.60         S52.0.40         S39.33         S60.64           39.95         956.80         61.95         1486.80         -         -           crane)         42.55         340.40         63.95         511.60         -<	Crew C-12	Hr.	Daily	Hr.	Daily	Costs	0&P	112 L.H., Daily Totals		\$4309.60		\$6704.60	
33.95         99.8.80         61.95         1486.80         r         r         Daily         Hr.         Daily           2 Ton         42.55         340.40         63.95         511.60         17.62           2 Ton         768.80         845.68         16.02         17.62           otals         \$2656.40         \$3756.48         \$55.34         \$78.26           otals         \$2656.40         \$37756.48         \$55.34         \$78.26           Vorker         \$44.70         \$537.60         \$79.65         \$637.20         \$43.12         \$73.75           39.95         319.60         61.95         494.60         748.00         16ac Engine Vibrator         26.00         280.00           Vorker         \$44.70         \$357.60         \$79.55         637.20         \$43.12         \$73.75         44.50         126.00         737.80         811.58           aga p5         139.90         61.95         4945.60         126.00         100.112.0         490.0         158.00           rC-14         Hr.         Daily         Hr.         Daily         Costs         084           131.60         1011.20         490.00         1568.00         127.20         128.46.01	Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	\$39.33	\$60.64						
$ \begin{array}{c cranel} 31.80 & 222.80 & 49.00 & 392.00 \\ cranel & 42.55 & 340.40 & 63.95 & 511.60 \\ 76.80 & 76.80 & 845.68 & 16.02 & 17.62 \\ tals & $2656.40 & $3756.48 & $55.34 & $78.26 \\ tals & $2656.40 & $3756.48 & $55.34 & $78.26 \\ \hline \end{tabular} tabula$	Jarpenters	39.95	958.80	61.95	1486.80			Crew C-14D	Hr.	Daily	Hr.	Daily	ĺ
Crane)         42.55         340.40         65.95         511.00         16.02         17.62           2 Ton         768.80         845.68         16.02         17.62         2 Rodmen (reinf.)         44.55         712.80         72.85         116.60           otals         \$2656.40         \$3756.48         \$55.34         \$78.26         39.95         \$752.80         61.95         8920.80           rC-13         Hr.         Daily         Hr.         Daily         Costs         0&P           Vorker         \$44.70         \$357.60         \$79.65         \$637.20         \$43.12         \$73.75           44.70         357.60         79.65         637.20         \$49.10         1 Equip. Oper. (med.)         41.35         330.80         62.15         497.20           1 Gas Engine Warator         2.600         1 Concrete Pump (smail)         737.80         \$115.80           vortals         \$1169.00         \$1917.62         \$48.71         \$79.90         1 Carpenter Foreman (out)         \$41.95         \$335.60         \$65.05         \$520.40           vortals         \$1169.00         \$1917.62         \$48.71         \$79.90         1 Carpenter Foreman (out)         \$41.95         \$335.60         \$65.05         \$520.40<	Laborer	31.60	252.80	49.00	392.00			1 Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	ĺ
2 10n         768.80         643.88         10.02         17.02           otals         \$2656.40         \$3756.48         \$55.34         \$78.26           r C-13         Hr.         Daily         Hr.         Daily         Costs         O&P           VC-13         Hr.         Daily         Hr.         Daily         Costs         O&P           Vorker         \$44.70         \$357.60         \$79.65         \$637.20         \$43.12         \$73.75         Costs         O&P         1 Gas Engine Vibrator         28.00         26.00         28.60           1 Concrete Number         339.95         319.60         61.95         495.60         Costs         O&P         200 LH, Daily Totals         \$8707.80         \$13176.58           otals         \$1169.00         \$1917.62         \$48.71         \$79.90         Costs         O&P         200 LH, Daily Totals         \$8707.80         \$13176.58           otals         \$1169.00         \$1917.62         \$48.71         \$79.90         Crew C-14E         Hr.         Daily         Hr.         Daily         Hr.         Daily         Hr.         Daily         Hr.         Daily         Hr.         Daily         Hr.         Daily         Hr.         Daily	Equip. Oper. (crane)	42.55	340.40	63.95	511.60	10.00	17.00	18 Carpenters	39.95	5752.80	61.95	8920.80	ĺ
Otals         Sz656.40         S3756.48         S39.34         S78.26           r.C-13         Hr.         Daily         Hr.         Daily         Costs         0&P           Vorker         \$44.70         \$357.60         \$79.65         \$637.20         \$43.12         \$73.75           44.70         357.60         79.65         \$637.20         \$43.12         \$73.75         1 Gas Engine Vibrator         2.6.00         2.860           1 Concrete Pump (small)         134.20         147.62         5.59         6.15         30.95         \$8707.80         \$1176.58           rc-14         Hr.         Daily         Hr.         Daily         Costs         O&P         \$39.95         \$335.60         \$65.05         \$520.40           rc-14         Hr.         Daily         Hr.         Daily         Costs         O&P         \$39.95         \$335.60         \$65.05         \$520.40           rc-14         Hr.         Daily         Hr.         Daily         Costs         O&P         \$39.95         \$39.90         \$39.95         \$335.60         \$65.05         \$520.40           rc-14         Hr.         Daily         Hr.         Daily         Costs         O&P         \$39.91 <td< td=""><td>Hyd. Crane, 12 Ion</td><td></td><td>/08.80</td><td></td><td>60756.40</td><td>10.02</td><td>17.02</td><td>2 Rodmen (reinf.)</td><td>44.55</td><td>712.80</td><td>72.85</td><td>1165.60</td><td>ĺ</td></td<>	Hyd. Crane, 12 Ion		/08.80		60756.40	10.02	17.02	2 Rodmen (reinf.)	44.55	712.80	72.85	1165.60	ĺ
r C-13         Hr.         Daily         Hr.         Daily         Costs         O&P           Vorker         \$44.70         \$357.60         \$79.65         \$637.20         \$43.12         \$73.75           44.70         357.60         79.65         637.20         \$43.12         \$73.75           39.95         319.60         61.95         495.60         -         -           otals         \$1169.00         \$1147.62         5.59         6.15           otals         \$1169.00         \$117.62         \$48.71         \$79.90           r C-14         Hr.         Daily         Hr.         Daily         Costs         O&P           ag.95         1598.00         61.95         2478.00         S39.01         \$60.75         \$520.40           ag.95         1598.00         61.95         2478.00         S39.01         \$60.75         \$40.07         144.55         1425.60         72.85         2331.20           ag.0         1011.20         49.00         1568.00         -         -         -         -         -         26.00         26.05         26.05         26.05         26.05         26.05         26.05         26.05         26.06         26.06         2	s L.H., Dally Totals		\$2636.40		\$3/56.48	\$55.34	\$78.26	2 Laborers	31.60	505.60	49.00	784.00	I
IC-13         Hr.         Daily         Hr.         Daily         Costs         O&P           Vorker         \$44.70         \$357.60         \$79.65         \$637.20         \$43.12         \$73.75           939.5         319.60         61.95         637.20         \$43.12         \$73.75         1 Equip. Oper. (med.)         141.35         330.80         62.15         28.60           1 concrete Pump (small)         737.80         26.00         \$111.58           200 L.H., Daily Totals         \$8707.80         \$13176.58           ngine, 300 amp         1147.62         5.59         6.15           r C-14         Hr.         Daily         Hr.         Daily         Hr.         Daily           r C-14         Hr.         Daily         Hr.         Daily         Costs         0&P           i.j         44.55         \$335.60         \$65.05         \$520.40         \$39.95         639.20         61.95         991.20           eman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.01         \$60.75         31.60         758.40         49.00         1176.00           i.j         44.55         1425.60         72.85         2331.20         31.60						Bare	Incl.	1 Cement Finisher	38.30	306.40	56.05	448.40	
Vorker         \$44.70         \$357.60         \$79.65         \$637.20         \$43.12         \$73.75           44.70         357.60         79.65         637.20         1         559         6.15           otals         \$1169.00         \$1917.62         \$48.71         \$79.90           r C-14         Hr.         Daily         Hr.         Daily         Costs         O&P           200 L.H., Daily Totals         \$810.50         \$520.40         \$39.95         \$335.60         \$65.05         \$520.40         \$39.01         \$60.75           reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.01         \$60.75         \$48.01         200 L.H., Daily Totals         \$39.95         639.20         61.95         991.20           reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.01         \$60.75         \$38.30         61.85         991.20           i:)         44.55         1425.60         72.85         2331.20         \$31.60         758.40         49.00         1176.00           i:i)         44.55         1425.60         72.85         2331.20         \$38.30         306.40         56.05         \$48.0           iCaren	Crew C-13	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20	
44.70         357.60         79.65         637.20         811.58           39.95         319.60         61.95         495.60         200 L.H., Daily Totals         \$8707.80         \$13176.58           otals         \$1169.00         \$1917.62         \$48.71         \$79.90         Crew C-14E         Hr.         Daily         Hr.         Daily         Hr.         Daily         Costs         O&P           reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.91         \$60.75         44.55         1425.60         72.85         2331.20           10         39.95         1598.00         61.95         2478.00         \$48.01         \$60.75         31.60         758.40         49.00         1176.00           11.50         31.60         1011.20         49.00         1568.00         \$60.75         31.60         758.40         49.00         1176.00           11.51         34.00         1011.20         49.00         1568.00         \$60.75         \$38.30         306.40         56.05         \$44.40           10 Gor ant 200.00         14425.60         72.85         2331.20         \$38.30         306.40         56.05         \$44.40           10 Gas Engine Vibrator	Struc. Steel Worker	\$44.70	\$357.60	\$79.65	\$637.20	\$43.12	\$73.75	1 Gas Engine Vibrator		26.00		28.60	
39.95         319.60         61.95         495.60         200         LH, Daily Totals         \$8707.80         \$13176.58           otals         \$1169.00         \$1917.62         \$48.71         \$79.90         \$100 <td>Welder</td> <td>44.70</td> <td>357.60</td> <td>79.65</td> <td>637.20</td> <td></td> <td></td> <td>1 Concrete Pump (small)</td> <td></td> <td>737.80</td> <td></td> <td>811.58</td> <td></td>	Welder	44.70	357.60	79.65	637.20			1 Concrete Pump (small)		737.80		811.58	
ngine, suo amp         134.20         147.62         5.59         6.15           otals         \$1169.00         \$1917.62         \$48.71         \$79.90           r C-14         Hr.         Daily         Hr.         Daily         Costs         O&P           reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.95         639.20         61.95         991.20           reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.01         \$60.75         4.60men (reinf.)         44.55         1425.60         72.85         2331.20           i:)         44.55         1425.60         72.85         2331.20         10 Genert Finisher         38.30         306.40         56.05         448.40           i:)         44.55         1425.60         72.85         2331.20         10 Genert Finisher         38.30         306.40         56.05         448.40           i:as Engine Vibrator         26.00         28.60         28.60         28.60         28.60         28.10         28.60         28.60         28.60         28.60         28.60         28.60         28.60         28.60         28.60         28.60         28.60         28.60         28.60	Carpenter	39.95	319.60	61.95	495.60		<i></i>	200 L.H., Daily Totals		\$8707.80		\$13176.58	
Otals         \$1169.00         \$191/.62         \$48./1         \$7/9.90           r. C-14         Hr.         Daily         Hr.         Daily         Bare         Incl.           (C-14         Hr.         Daily         Hr.         Daily         Costs         O&P           reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.95         G39.20         61.95         991.20           aman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$30.01         \$60.75         4.8.01         2.01         44.55         1425.60         72.85         2.331.20           i:)         44.55         1425.60         72.85         2.331.20         1.02         1.02         44.00         1176.00           iers         38.30         612.80         56.05         896.80         - <td< td=""><td>weider, gas engine, 300 amp</td><td> </td><td>134.20</td><td></td><td>147.62</td><td>5.59</td><td>6.15</td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	weider, gas engine, 300 amp		134.20		147.62	5.59	6.15						
Incl.         Daily         Hr.         Daily         Hr.         Daily         Incl.         Ocsts         O&P           reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$0&P         2 Carpenters         39.95         639.20         61.95         991.20           reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.01         \$60.75         4 Rodmen (reinf.)         44.55         1425.60         72.85         2331.20           1.1         2 aborers         31.60         758.40         49.00         1176.00           1.2         4 4.55         1425.60         72.85         2331.20         1 Cement Finisher         38.30         306.40         56.05         448.40           1 Gas Engine Vibrator         26.00         28.60<	L.H., Daily Iotals		\$1169.00		\$1917.62	\$48.71	\$79.90	Crew C-14E	Hr.	Daily	Hr.	Daily	
Hr.         Daily         Hr.         Daily         Costs         O&P           reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.91         \$60.75           39.95         1598.00         61.95         2478.00         -         -         -           31.60         1011.20         49.00         1568.00         -         -         -           1.)         44.55         1425.60         72.85         2331.20         -         -           1.)         44.55         1425.60         72.85         2331.20         -         -           rers         38.30         612.80         56.05         896.80         -					<b>.</b>	Bare	Incl.	1 Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	
reman (out)         \$41.95         \$335.60         \$65.05         \$520.40         \$39.01         \$60.75           39.95         1598.00         61.95         2478.00         1 <td>Crew C-14</td> <td>Hr.</td> <td>Daily</td> <td>Hr.</td> <td>Daily</td> <td>Costs</td> <td>0&amp;P</td> <td>2 Carpenters</td> <td>39.95</td> <td>639.20</td> <td>61.95</td> <td>991.20</td> <td></td>	Crew C-14	Hr.	Daily	Hr.	Daily	Costs	0&P	2 Carpenters	39.95	639.20	61.95	991.20	
39.95         1598.00         61.95         2478.00         31.60         758.40         49.00         1176.00           1.0         31.60         1011.20         49.00         1568.00         1 <td>arpenter Foreman (out)</td> <td>\$41.95</td> <td>\$335.60</td> <td>\$65.05</td> <td>\$520.40</td> <td>\$39.01</td> <td>\$60.75</td> <td>4 Rodmen (reinf.)</td> <td>44.55</td> <td>1425.60</td> <td>72.85</td> <td>2331.20</td> <td></td>	arpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	\$39.01	\$60.75	4 Rodmen (reinf.)	44.55	1425.60	72.85	2331.20	
31.60         1011.20         49.00         1568.00           i.)         44.55         1425.60         72.85         2331.20           vers         38.30         612.80         56.05         896.80           crane)         42.55         340.40         63.95         511.60           Diler         36.80         294.40         55.30         442.40           10 Totals         \$6914.00         \$10174.00         \$48.01         \$70.65           6 Cement Einisher         38.30         306.40         56.05         448.40           1 Gas Engine Vibrator         26.00         28.60           88 L.H., Daily Totals         \$3491.20         \$5495.80           Crew C-14F         Hr.         Daily         Hr.         Daily           1 Laborer Foreman (out)         \$33.60         \$268.80         \$52.10         \$416.80           2 Laborers         31.60         505.60         49.00         784.00           6 Cement Einishers         38.30         1838.40         56.05         2690.40	Carpenters	39.95	1598.00	61.95	2478.00			3 Laborers	31.60	758.40	49.00	1176.00	l
1.1       44.55       1425.60       72.85       2331.20       1 Gas Engine Vibrator       26.00       28.60         vers       38.30       612.80       56.05       896.80       88 L.H., Daily Totals       \$3491.20       \$5495.80         Olier       36.80       294.40       55.30       442.40       9.00       9.90       9.90         10 Totals       \$6914.00       \$10174.00       \$48.01       \$70.65       31.60       505.60       49.00       784.00         2 Laborers       31.60       505.60       49.00       784.00       2 Laborers       38.30       1838.40       56.05       2690.40	Laborers	31.60	1011.20	49.00	1568.00			1 Cement Finisher	38.30	306.40	56.05	448.40	
state         38.30         612.80         56.05         896.80         88 L.H., Daily Totals         \$3491.20         \$5495.80           crane)         42.55         340.40         63.95         511.60               \$5495.80             \$5495.80          \$5495.80           \$500          \$500          \$5100           \$5100           \$5100         \$5100          \$500         \$5100          \$500 <td>Rodmen (reinf.)</td> <td>44.55</td> <td>1425.60</td> <td>72.85</td> <td>2331.20</td> <td></td> <td></td> <td>1 Gas Engine Vibrator</td> <td></td> <td>26.00</td> <td></td> <td>28.60</td> <td></td>	Rodmen (reinf.)	44.55	1425.60	72.85	2331.20			1 Gas Engine Vibrator		26.00		28.60	
dz.55         340.40         63.95         511.60           Diler         36.80         294.40         55.30         442.40           N0 Ton         1296.00         1425.60         9.00         9.90           Totals         \$6914.00         \$10174.00         \$48.01         \$70.65           6 Cement Enishers         38.30         1838.40         56.05         2690.40	Cement Finishers	38.30	612.80	56.05	896.80			88 L.H., Daily Totals		\$3491.20		\$5495.80	ĺ
Crew C-14F         Hr.         Daily         Hr.         Daily           1296.00         1296.00         1425.60         9.00         9.90           Totals         \$6914.00         \$10174.00         \$48.01         \$70.65           6 Cement Finishers         38.30         1838.40         56.05         2690.40	Equip. Oper. (crane)	42.55	340.40	63.95	511.60								
x0 ion         1296.00         1425.60         9.00         9.90           Totals         \$6914.00         \$10174.00         \$48.01         \$70.65           2 Laborers         31.60         505.60         49.00         784.00           6 Cement Enishers         38.30         1838.40         56.05         2690.40	Equip. Oper. Oiler	36.80	294.40	55.30	442.40			Crew C-14F	Hr.	Daily	Hr.	Daily	
Totals         \$6914.00         \$10174.00         \$48.01         \$70.65         2 Laborers         31.60         505.60         49.00         784.00         6 Cement Enishers         38.30         1838 40         56.05         2690 40         784.00	Hyd. Crane, 80 Ton		1296.00		1425.60	9.00	9.90	1 Laborer Foreman (out)	\$33.60	\$268.80	\$52.10	\$416.80	ĺ
6 Cement Einishers 38.30 1838 40 56.05 2690 40	44 L.H., Daily Totals		\$6914.00		\$10174.00	\$48.01	\$70.65	2 Laborers	31.60	505.60	49.00	784.00	
								6 Cement Finishers	38.30	1838.40	56.05	2690.40	

1 Gas Engine Vibrator

72 L.H., Daily Totals

26.00

\$2638.80

28.60

\$3919.80

.36

\$36.65

.40

\$54.44

Crew No.	Bai	re Costs	Sut	Incl. os O & P	Co Per Lat	ost por-Hour	Crew No.	Bare	Costs
Crew C-14G	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Crew C-17C	Hr.	Daily
1 Laborer Foreman (out)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.71	\$53.47	2 Skilled Worker Foremen	\$42.85	\$685.60
2 Laborers	31.60	505.60	49.00	784.00			8 Skilled Workers	40.85	2614.40
4 Cement Finishers	38.30	1225.60	56.05	1793.60			.375 Equip. Oper. (crane)	42.55	127.65
1 Gas Engine Vibrator		26.00		28.60	.46	.51	.375 Hyd. Crane, 80 Ton		486.00
56 L.H., Daily Totals		\$2026.00		\$3023.00	\$36.18	\$53.98	83 L.H., Daily Totals		\$3913.65
Crew C-14H	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew C-17D	Hr.	Daily
1 Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	\$39.38	\$61.14	2 Skilled Worker Foremen	\$42.85	\$685.60
2 Carpenters	39.95	639.20	61.95	991.20			8 Skilled Workers	40.85	2614.40
1 Rodman (reinf.)	44.55	356.40	72.85	582.80			.5 Equip. Oper. (crane)	42.55	170.20
1 Laborer	31.60	252.80	49.00	392.00			.5 Hyd. Crane, 80 Ton		648.00
1 Cement Finisher	38.30	306.40	56.05	448.40			84 L.H., Daily Totals		\$4118.20
1 Gas Engine Vibrator		26.00		28.60	.54	.60			
48 L.H., Daily Totals		\$1916.40		\$2963.40	\$39.92	\$61.74	Crew C-17E	Hr.	Daily
Crew C-14L	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	2 Skilled Worker Foremen 8 Skilled Workers	\$42.85 40.85	\$685.60 2614.40
1 Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	\$37.20	\$57.40	1 Hyd. Jack with Rods		85.70
6 Carpenters	39.95	1917.60	61.95	2973.60			80 L.H., Daily Totals		\$3385.70
4 Laborers	31.60	1011.20	49.00	1568.00					
1 Cement Finisher	38.30	306.40	56.05	448.40			Crew C-18	Hr.	Daily
1 Gas Engine Vibrator		26.00		28.60	.27	.30	.125 Labor Foreman (out)	\$33.60	\$33.60
96 L.H., Daily Totals		\$3596.80		\$5539.00	\$37.47	\$57.70	1 Laborer	31.60	252.80
Crew C-15	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	1 Concrete Cart, 10 C.F.		55.20
1 Carpenter Foreman (out)	\$41.95	\$335.60	\$65.05	\$520.40	\$37.53	\$57.88	9 L.H., Dally Totals		Ş341.00
2 Carpenters	39.95	639.20	61.95	991.20			Crow C 10	U.,	Daily
3 Laborers	31.60	758.40	49.00	1176.00				600.00	coo co
2 Cement Finishers	38.30	612.80	56.05	896.80			.125 Labor Foreman (out)	\$33.60	\$33.0U 252.00
1 Rodman (reinf.)	44.55	356.40	72.85	582.80			1 Laborer 1 Concrete Cart 18 C F	31.00	202.80
72 L.H., Daily Totals		\$2702.40		\$4167.20	\$37.53	\$57.88	9 L.H., Daily Totals		\$372.80
Crew C-16	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P			
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$37.27	\$57.67	Crew C-20	nr.	Dally
3 Laborers	31.60	758.40	49.00	1176.00			1 Labor Foreman (outside)	\$33.60	\$268.80
2 Cement Finishers	38.30	612.80	56.05	896.80			5 Laborers	31.60	1264.00
1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20			1 Cement Finisher	38.30	300.40
2 Rodmen (reinf.)	44.55	712.80	72.85	1165.60			2 Cas Engine Vibrators	41.50	52.00
1 Concrete Pump (small)		737.80		811.58	10.25	11.27	1 Concrete Pump (small)		737.80
72 L.H., Daily Totals		\$3421.40		\$4963.98	\$47.52	\$68.94	64 L.H., Daily Totals		\$2959.80
Crew C-17	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	0. 21 Crew 0. 21	lle	Deilu
2 Skilled Worker Foremen	\$42.85	\$685.60	\$66.35	\$1061.60	\$41.25	\$63.87	1 Labor Foreman (outside)	\$33.60	\$268.80
8 Skilled Workers	40.85	2614.40	63.25	4048.00 \$51.09.60	\$41.25	\$63.87	5 Laborers	31.60	1264.00
oo E.n., Duily lotuis		Q0000.00		Ş310 <u>3</u> .00	Dawa	çoo.or	1 Cement Finisher	38.30	306.40
Crew C-17A	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P	1 Equip. Oper. (med.) 2 Gas Engine Vibrators	41.35	330.80 52.00
2 Skilled Worker Foremen	\$42.85	\$685.60	\$66.35	\$1061.60	\$41.27	\$63.87	1 Concrete Conveyer		179.00
8 Skilled Workers	40.85	2614.40	63.25	4048.00			64 L.H., Daily Totals		\$2401.00
.125 Equip. Oper. (crane)	42.55	42.55	63.95	63.95					
.125 Hyd. Crane, 80 Ton		162.00		178.20	2.00	2.20	Crew C-22	Hr.	Daily
81 L.H., Daily Totals		\$3504.55		\$5351.75	\$43.27	\$66.07	1 Rodman Foreman	\$46.55	\$372.40
Crow C 17P	Ц.,	Dailu	ш.	Dailu	Bare	Incl.	4 Rodmen (reinf.)	44.55	1425.60
CLEM P-T\R	пř.		nr.		COSTS	U&P	.125 Equip. Oper. (crane)	42.55	42.55
2 Skilled Worker Foremen	\$42.85	\$685.60	\$66.35	\$1061.60	\$41.28	Ş63.8/	.125 Equip. Oper. Oiler	36.80	36.80
o Skilled Workers	40.85	2014.40	63.25	4048.00			.125 Hyd. Crane, 25 Ion		98.6/
.25 Equip. Uper. (crane)	42.55	324 00	03.95	127.90 356 AD			42 L.H., Daily Iotals		\$19/6.03
25 Trowel 48" Walk-Rahind		324.00 10.60		11 66	1 08	110			
821 H Daily Totals		\$3710.70		\$5605 56	4.00	4.47 268 26			
UZ L.H., Dally TOLAIS		JJ/12./U		20000.00	940.00	Ŷ00'90			

Incl.

Hr.

\$66.35

63.25

63.95

Hr.

\$66.35

63.25

63.95

Hr.

\$66.35

63.25

Hr.

\$52.10

49.00

Hr.

\$52.10

49.00

**Hr.** \$52.10

49.00

56.05 62.15

Hr.

\$52.10 49.00

56.05

62.15

Hr.

\$76.10

72.85 63.95

55.30

Subs O & P

Daily

\$1061.60

4048.00

191.85

534.60

Daily

\$5836.05

\$1061.60

4048.00

255.80 712.80

\$6078.20

\$1061.60

4048.00 94.27

\$5203.87

Daily

\$52.10

392.00 60.72

\$504.82

Daily

\$52.10

392.00 95.04

\$539.14

Daily

\$416.80

1960.00

448.40

497.20 57.20 811.58

\$4191.18

Daily

\$416.80

1960.00

448.40

497.20 57.20 196.90

\$3576.50

Daily

\$608.80

2331.20

63.95

55.30

108.54

\$3167.79

Daily

Cost

Per Labor-Hour

Incl.

0&P

\$63.87

6.44

\$70.31

Incl. 0&P

\$63.87

8.49

\$72.36

Incl.

0&P

\$63.87

1.18

\$65.05

Incl.

0&P

\$49.34

6.75

\$56.09

Incl.

0&P

\$49.34

10.56

\$59.90

Incl.

0&P

\$51.91

13.57 \$65.49

> Incl. 0&P

\$51.91

3.97

\$55.88

Incl. 0&P

\$72.84

2.58

\$75.42

Bare

Costs

\$41.30

5.86

\$47.15

Bare

Costs

\$41.31

7.71

\$49.03 Bare

Costs

\$41.25

1.07

\$42.32

Bare

Costs

\$31.82

6.13

\$37.96

Bare

Costs

\$31.82

9.60

\$41.42

Bare

Costs

\$33.91

12.34

\$46.25 Bare

Costs

\$33.91

3.61

\$37.52

Bare

Costs

\$44.70

2.35

\$47.05

Crew No.	Ba	re Costs	Sul	Incl. bs O & P	Co Per Lal	ost bor-Hour	Crew No.	Bare	Costs	In Subs	cl. 5 O & I
Crew C-23	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew D-4	Hr.	Daily	Hr.	
2 Skilled Worker Foremen	\$42.85	\$685.60	\$66.35	\$1061.60	\$41.02	\$63.15	1 Bricklayer	\$40.50	\$324.00	\$61.45	\$491
Skilled Workers	40.85	1960.80	63.25	3036.00			2 Bricklayer Helpers	32.15	514.40	48.75	780
Equip. Oper. (crane)	42.55	340.40	63.95	511.60			1 Equip. Oper. (light)	39.05	312.40	58.70	469
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			1 Grout Pump, 50 C.F./Hr.		126.80		139
1 Lattice Boom Crane, 90 Ton		1741.00		1915.10	21.76	23.94	32 L.H., Daily Totals		\$1277.60		\$1880
80 L.H., Daily Totals		\$5022.20		\$6966.70	\$62.78	\$87.08					
Curry C 224	Un	Deilu	Un	Deilu	Bare	Incl.	Crew D-5	Hr.	Daily	Hr.	D
	пг.		<b>nr.</b>		COSTS	06P	1 Bricklayer	\$40.50	\$324.00	\$61.45	\$491
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$35.23	\$53.87	8 L.H., Daily Iotals		\$324.00		\$491
2 Laborers	31.60	240.40	49.00	/84.00 E11.00							
1 Equip. Oper. (crane)	42.00	340.40	03.90	00.11C			Crew D-6	Hr.	Daily	Hr.	D
1 Equip. Oper. Olier	36.80	294.40	55.30	442.40			3 Bricklayers	\$40.50	\$972.00	\$61.45	\$1474
1 Crawler Crane, 100 Ion		1611.00		1//2.10	FE 05	co oo	3 Bricklayer Helpers	32.15	771.60	48.75	1170
3 Conc. Buckets, 8 C.Y.		603.00		663.30	55.35	60.88	.25 Carpenter	39.95	79.90	61.95	123
40 L.H., Daily Totals		\$3623.20		\$4590.20	\$90.58	\$114.76	50 L.H., Daily Totals		\$1823.50		\$2768
0	11.	Deihi	114	Deihi	Bare	Incl.					
Crew C-24	пг.	COF CO	<b>пг.</b>	c1001.00	COSTS	0&P	Crew D-7	Hr.	Daily	Hr.	D
2 Skilled Worker Foremen	\$42.85	\$685.60	\$66.35	\$1061.60	\$41.02	\$63.15	1 Tile Layer	\$38.10	\$304.80	\$55.80	\$446
6 Skilled Workers	40.85	1960.80	63.25	3036.00			1 Tile Layer Helper	30.05	240.40	44.00	352
I Equip. Oper. (crane)	42.55	340.40	63.95	511.60			16 L.H., Daily Totals		\$545.20		\$798
I Equip. Oper. Oiler	36.80	294.40	55.30	442.40		05.00					
1 Lattice Boom Crane, 150 Ion		1890.00		20/9.00	23.63	25.99	Crow D-8	Hr	Daily	Hr	п
80 L.H., Daily Iotals		\$51/1.20		\$/130.60	\$64.64	\$89.13	3 Bricklavars	\$40.50	\$972.00	\$61.45	\$1,174
Crow C-25	Hr	Daily	Hr	Daily	Bare	Incl.	2 Bricklayer Helpers	32.15	514.40	48.75	780
2 Rodman (rainf )	\$44.55	\$712.80	\$72.85	\$1165.60	\$3/ 05	\$57.77	40 L.H., Daily Totals		\$1486.40		\$2254
2 Rodmen Helpers	25.35	405.60	42.70	683.20	JJ4.3J	ŞJ1.11					
2 L.H., Daily Totals		\$1118.40		\$1848.80	\$34.95	\$57.77	Crew D-9	Hr.	Daily	Hr.	D
					Bare	Incl.	3 Bricklayers	\$40.50	\$972.00	\$61.45	\$1474
Crew C-27	Hr.	Daily	Hr.	Daily	Costs	0&P	3 Bricklayer Helpers	32.15	771.60	48.75	1170
2 Cement Finishers	\$38.30	\$612.80	\$56.05	\$896.80	\$38.30	\$56.05	48 L.H., Daily Totals		\$1743.60		\$2644
1 Concrete Saw		141.00		155.10	8.81	9.69					
16 L.H., Daily Totals		\$753.80		\$1051.90	\$47.11	\$65.74	Crew D-10	Hr.	Daily	Hr.	D
					Bare	Incl.	1 Bricklayer Foreman	\$42.50	\$340.00	\$64.45	\$515
Crew C-28	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Bricklayer	40.50	324.00	61.45	491
1 Cement Finisher	\$38.30	\$306.40	\$56.05	\$448.40	\$38.30	\$56.05	1 Bricklayer Helper	32.15	257.20	48./5	390
1 Portable Air Compressor, Gas		19.10		21.01	2.39	2.63	1 Equip. Oper. (crane)	42.55	340.40	63.95	511
8 L.H., Daily Totals		\$325.50		\$469.41	\$40.69	\$58.68	1 S.P. Urane, 4x4, 12 ION		601.80		605.70
					Bare	Incl.	32 L.H., Dally Totals		\$1803.40		\$2570
Crew D-1	Hr.	Daily	Hr.	Daily	Costs	0&P	Crew D-11	Hr	Daily	Hr	D
1 Bricklayer	\$40.50	\$324.00	\$61.45	\$491.60	\$36.33	\$55.10	1 Bricklaver Foreman	\$42.50	\$340.00	\$64.45	\$515
1 Bricklayer Helper	32.15	257.20	48.75	390.00			1 Bricklaver	40.50	324.00	61.45	491
16 L.H., Daily Totals		\$581.20		\$881.60	\$36.33	\$55.10	1 Bricklaver Helper	32.15	257.20	48.75	390
					Bare	Incl.	24 L.H., Daily Totals		\$921.20		\$1397
Crew D-2	Hr.	Daily	Hr.	Daily	Costs	0&P					
3 Bricklayers	\$40.50	\$972.00	\$61.45	\$14/4.80	\$37.41	\$56.88	Crew D-12	Hr.	Daily	Hr.	D
∠ Bricklayer Helpers	32.15	514.40	48./5	/80.00			1 Bricklayer Foreman	\$42.50	\$340.00	\$64.45	\$515
.5 Carpenter	39.95	159.80	61.95	247.80	4.0= 11	450.00	1 Bricklayer	40.50	324.00	61.45	491
44 L.H., Daily Iotals		\$1646.20		\$2502.60	\$37.41	\$56.88	2 Bricklayer Helpers	32.15	514.40	48.75	780
Crow D-3	Hr	Daily	H.	Daily	Bare	Incl.	32 L.H., Daily Totals		\$1178.40		\$1787
3 Bricklavors	лі. \$40.50		\$61.45	\$1/17/1 QO	\$37.20	556 61					
2 Bricklaver Holpers	20.15	3312.00 514.40	101.43 10 7F	21474.00 780.00	\$31.29	QU0.04	Crew D-13	Hr.	Daily	Hr.	D
25 Carpontor	30.05	70.00	40.75 61.0F	100.00			1 Bricklayer Foreman	\$42.50	\$340.00	\$64.45	\$515
	37.90	(15.30	01.90	123.30	607.00	ĆEC CA	1 Bricklayer	40.50	324.00	61.45	491
42 L.H., Dally lotals		\$1300.3U		\$Z3/8./U	\$37.29	<b></b>	2 Bricklayer Helpers	32.15	514.40	48.75	780
							1 Carpenter	39.95	319.60	61.95	495

Cost

Per Labor-Hour

Incl.

0&P

\$54.41

4.36

\$58.77

Incl. 0&P

\$61.45

\$61.45

Incl.

0&P

\$55.37

\$55.37

Incl.

0&P

\$49.90

\$49.90

Incl. 0&P

\$56.37

\$56.37

Incl. 0&P

\$55.10

\$55.10

Incl. 0&P

\$59.65

20.69

\$80.34

Incl. 0&P

\$58.22

\$58.22

Incl.

0&P

\$55.85

\$55.85

Incl.

0&P

\$58.22

13.79

\$72.01

Bare

Costs

\$35.96

3.96

\$39.92

Bare

Costs \$40.50

\$40.50

Bare

Costs

\$36.47

\$36.47 Bare

Costs

\$34.08

\$34.08

Bare

Costs

\$37.16

\$37.16

Bare

Costs

\$36.33

\$36.33

Bare

Costs

\$39.42

18.81

\$58.23

Bare

Costs

\$38.38

\$38.38 Bare

Costs

\$36.83

\$36.83

Bare

Costs

\$38.30

12.54

\$50.84

Daily

\$491.60

780.00

469.60 139.48

\$1880.68

Daily

\$491.60

\$491.60

Daily

\$1474.80

1170.00 123.90

\$2768.70

Daily

\$446.40

352.00 \$798.40

Daily

\$1474.80

780.00 \$2254.80

Daily

\$1474.80

1170.00 \$2644.80

Daily

\$515.60

491.60 390.00 511.60 661.98

\$2570.78

Daily

\$515.60

491.60

390.00

Daily

\$515.60 491.60

780.00 \$1787.20

Daily

\$515.60

491.60 780.00

495.60

511.60

661.98

\$3456.38

1 Equip. Oper. (crane)

48 L.H., Daily Totals

1 S.P. Crane, 4x4, 12 Ton

42.55

340.40

601.80

\$2440.20

63.95

\$1397.20

Crew E-1         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Weder forman         546.70         5373.60         582.20         5665.60         543.43         573.26           1 Weder         43.70         337.60         792.65         637.20         1         1.0         <	Crew No.	Bare Costs		Sut	Incl. os O & P	Co Per La	ost bor-Hour	Cre
1 Weder Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$43.48         \$73.85           1 Weder         39.05         \$31.240         \$87.0         \$49.60         \$30.60           1 Weder         39.05         \$31.240         \$87.0         \$49.60         \$59         6.15           24 LH, Daly Totals         \$1177.80         \$192.02         \$49.08         \$500.00         \$40.60         \$24.55         6.15           1 Strue. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.50         \$43.55         \$74.44         Wedee           1 Equip. Oper. (oreal         42.55         304.00         63.95         \$11.60         1         Equip. Oper. (oreal         42.55         304.00         \$30.93         \$42.44         \$10.01         10.11.10         31.09         34.20         \$508.50         \$46.44         \$100.11         10.11.10         \$10.93         \$20.02         \$20.02         \$10.02	Crew E-1	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Weder         44.70         357.60         79.65         637.20         1         4         4         5         7         4         3         0         5         5         5         7         4         3         0         5         5         5         7         4         4         0         1 <td>1 Welder Foreman</td> <td>\$46.70</td> <td>\$373.60</td> <td>\$83.20</td> <td>\$665.60</td> <td>\$43.48</td> <td>\$73.85</td> <td>1 Struc.</td>	1 Welder Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$43.48	\$73.85	1 Struc.
1 Equip. Ope: hight         39.05         31.24.0         58.70         4695.00           24 LH, Day Tota's         5197.80         51920.02         549.08         580.00           24 LH, Day Tota's         5177.80         51920.02         549.08         580.00           1 Stro.: Stel foreman         546.70         533.60         563.20         5656.00         583.55         574.44         Weder           4 Stro.: Stel foreman         546.70         573.60         5248.80         104	1 Welder	44.70	357.60	79.65	637.20			4 Struc.
1 Weber, gas engine, 300 amp         134.20         147.62         5.99         6.15           24 LH, Daily Totals         \$1177.800         \$1202.02         \$549.08         \$80.00           1 Struc. Steef Foreman         \$46.70         \$373.60         \$82.00         \$455.00         \$47.62           1 Struc. Steef Foreman         \$46.70         \$373.60         \$83.20         \$566.50         \$43.35         \$74.44           1 Lablez Boom Crane, 90 Ton         174.00         1915.10         31.09         34.20           1 Lablez Boom Crane, 90 Ton         174.00         1915.10         31.09         34.20           1 Struc. Steef Foreman         \$46.70         3373.60         \$83.20         \$5665.00         \$45.37         \$80.83           1 Struc. Steef Foreman         \$44.70         357.60         79.65         \$37.20         120.90         120.90           1 Weber, gas engine, 300 amp         134.20         147.62         \$49.39         \$85.15           2 Kur. Steef Foreman         \$44.70         1373.60         \$33.20         \$5665.00         \$45.37         \$80.83           1 Weber, gas engine, 300 amp         134.20         147.62         \$4.99         \$61.51           2 Kur. Daal Toremata         \$44.70         1378.00 </td <td>1 Equip. Oper. (light)</td> <td>39.05</td> <td>312.40</td> <td>58.70</td> <td>469.60</td> <td></td> <td></td> <td>1 Welder</td>	1 Equip. Oper. (light)	39.05	312.40	58.70	469.60			1 Welder
22 L.P., Jayi Iolais         S177.80         S122/02         S192/02 <td>1 Welder, gas engine, 300 amp</td> <td></td> <td>134.20</td> <td></td> <td>147.62</td> <td>5.59</td> <td>6.15</td> <td>4 Welder</td>	1 Welder, gas engine, 300 amp		134.20		147.62	5.59	6.15	4 Welder
Crew E-2         Hr.         Daily         Hr.         Daily         Cords         Observation         1 Supp.           1 Struc. Steel Foreman         44.70         1430.00         79.55         2548.80         531.55         \$74.44         Welder           1 Struc. Steel Foreman         44.75         340.40         55.30         442.40         31.09         34.20           1 Equip. Oper. onler         36.80         294.40         55.30         442.40         31.09         34.20           56 LH, Daily Totals         54179.80         56083.50         \$74.54         \$108.83         Welder           1 Struc. Steet Worker         44.70         357.60         79.65         637.20         \$45.37         \$80.83           1 Welder, gas engine, 300 amp         134.20         147.62         5.59         6.15         1441.14           1 Welder, gas engine, 300 amp         134.20         147.62         549.39         \$86.10           2 LH, Daily Totals         51580.60         52224.02         \$40.99         \$76.3         144.70           3 Struc. Steel Foreman         546.70         \$74.70         107.80         79.65         133.10         \$44.09         \$14.60           1 Welder, gas engine, 300 amp         134.20	24 L.H., Daily Totals		\$1177.80		\$1920.02	\$49.08	\$80.00	1 Equip.
1 Struc. Steel Foreman       \$46.70       \$373.60       \$83.20       \$665.60       \$43.55       \$74.44       Wede         4 Struc. Steel Workers       44.70       11430.40       79.65       \$2548.00       \$43.55       \$74.44       Wede         1 Equip. Oper. Cleranel       36.80       294.40       55.30       442.40       11.100       31.09       34.20         1 Latice Boom Crae, 90 Ton       37.110.00       1915.10       31.09       34.20         So ELH, Daji Totals       \$41.70       357.60       782.20       \$50.60       \$45.37       \$80.83         1 Weder       44.70       357.60       79.65       637.20       147.62       5.59       6.15         1 Weder, gas engine, 300 amp       134.20       147.62       5.50       6.15       11.100         24 LH, Daily Totals       \$1223.00       \$2087.62       \$50.96       \$88.98       33.00       \$360.33       \$37.60       \$32.20       \$665.60       \$45.20       \$80.51         1 Struc. Steel Foreman       \$46.70       \$317.80       \$83.20       \$131.20       \$47.62       \$14.00       \$128.10         2 Struc. Steel Foreman       \$46.70       \$174.20       \$38.20       \$131.20       \$44.09       \$76.35	Crew E-2	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	1 Equip. 1 Equip.
4 Struc. Steel Workers         44.70         1430.40         79.65         2548.80         11	1 Struc. Steel Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$43.55	\$74.44	1 Lattice
1 Equip. Oper. Clarel         42.55         340.40         63.95         511.60         1         1         1         1         Equip. Oper. Clarel         36.80         294.40         55.30         442.40         1	4 Struc. Steel Workers	44.70	1430.40	79.65	2548.80			
I Lapto, Dyer. Uler         36.80         294.40         55.30         442.40         111.10.10         31.09         34.20           56 L.H., Daly Totals         541.79.80         \$6083.50         \$74.64         \$108.63         \$5.00         \$5.0	1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			104 L.H.
Lattice boom Crane, 90 in         1/41.00         191.10         191.10         191.00         51.03         54.03           SELH, Daily Totals         \$41.79.80         \$6083.50         \$76.46         \$108.63         \$08.47           Stur. Steel Foreman         \$46.70         \$537.60         \$537.60         \$637.20         \$45.37         \$80.83           1 Weider, gas engine, 300 amp         134.20         147.62         5.59         6.15           24 L.H., Daily Totals         \$1223.00         \$2087.62         \$50.59         \$65.89           Crew E.4         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Struc. Steel Foreman         \$46.70         \$573.60         \$83.20         \$665.60         \$45.20         \$80.54           1 Struc. Steel Foreman         \$46.70         \$573.60         \$2224.82         \$49.33         \$851.16           1 Weider, gas engine, 300 amp         134.20         147.62         4.19         4.61         Weide           2 Struc. Steel Foremen         \$46.70         \$747.20         \$83.20         \$133.10         \$44.09         \$76.36           2 Struc. Steel Workers         44.70         357.60         79.65         537.20         147.62         23.44 <td>1 Equip. Oper. Oiler</td> <td>36.80</td> <td>294.40</td> <td>55.30</td> <td>442.40</td> <td>21.00</td> <td>24.20</td> <td></td>	1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40	21.00	24.20	
3h L.H., Ually futures         3pr. 17.8.0	I Lallice Boom Grane, 90 Ion		1/41.00 ¢4170.00		1910.10	\$74.64	\$4.20	2 Struc
Crew E-3         Hr.         Daily         Hr.         Daily         Hr.         Daily         Costs         0.80           1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$45.37         \$80.83         18 words           1 Struc. Steel Worker         44.70         357.60         79.65         637.20         1         1.6 Junc. Steel Worker         44.70         357.60         79.65         637.20         1         1.6 Junc. Steel Worker         44.70         357.60         79.65         637.20         1.1 Junc. Steel Worker         44.70         1.6 Junc. Steel Workers         0.8 Junc. Steel Workers         0.8 Junc. Steel Workers         44.70         1072.80         79.65         191.60         1.1 Wede         1.1 Wede           1 Weder, gas engine, 300 amp         1.134.20         1.147.62         4.19         4.61         180.01         1.2 Stur. Steel Workers         44.70         1.7 Stae.00         5.83.20         Stae.0         0.8 P         1.1 Wede           2 LHL, Daily Totals         S1580.00         S272.48.2         549.39         S85.15         0.8 P           2 Struc. Steel Foremen         546.70         S174.20         S38.20         S18.00         1.8 Jund         1.1 Junc         1.8 Jund         1.1 Junc	JO L.H., Dally Totals		\$4179.00		\$0065.0U	\$74.04	\$100.05	5 Struc.
1 Struc. Steel Foreman         S46.70         S373.60         S33.20         S665.60         S45.37         S80.83           1 Struc. Steel Worker         44.70         357.60         79.65         637.20         1         1         Equip.           1 Wider         44.70         357.60         79.65         637.20         1         1         Equip.         1         Equip.         1         1         Equip.         1         Equip.         1         Equip.         1         Equip.         550.96         S86.98         1         1         Equip.         Equip.         1         Equip.         1         Equip.         1         Equip.         1         Equip.         Equip.         44.70         1072.80         79.65         1911.60         1         1         Wede           1 Weder         44.70         173.60         79.65         131.60         1         Wede         1         Wede           2 Struc. Steel Workers         44.70         178.00         79.65         1318.60         1         Equip.         1         Wede         1         Heide         1         Heide         1         1         1         Equip.         1         1         1         1         1 <td>Crew E-3</td> <td>Hr.</td> <td>Daily</td> <td>Hr.</td> <td>Daily</td> <td>Bare Costs</td> <td>Incl. 0&amp;P</td> <td>1 Welder</td>	Crew E-3	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	1 Welder
1 Struc. Steel Worker         44.70         357.60         79.65         637.20         1 Gapp.           1 Weder         300 amo         134.20         559         6.15           24 LH, Daily Totals         S1223.00         S2087.62         \$50.96         \$86.98           Crew E-4         Hr.         Daily         Res         Incl.           1 Struc. Steel Foreman         \$46.70         \$373.60         \$82.00         \$665.60         \$44.10           1 Weder, gas engine, 300 amo         134.20         147.62         4.19         4.61           32 LH, Daily Totals         S1580.60         \$2724.82         \$49.39         \$85.15           Crew E-5         Hr.         Daily         Hr.         Daily         Bare         Incl.           2 Struc. Steel Workers         44.70         1778.00         \$318.00         \$44.09         \$76.36           5 Struc. Steel Workers         44.70         357.60         79.65         511.60         Iequip.           1 Weder         44.70         357.60         79.65         511.60         Iequip.           1 Equip. Oper. Clera         36.80         294.40         55.30         442.40         Iequip.           1 Equip. Oper. Clera         36.80	1 Struc. Steel Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$45.37	\$80.83	5 Welder
1 Welder 1 Welder, gas engine, 300 amp         44.70         357.60         79.65         637.20         147.62         5.59         6.15           24 L.H., Daily Totals         S1223.00         S2087.62         \$50.96         586.98         Welder           1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$45.20         \$80.54           1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$45.20         \$80.54           1 Welder, gas engine, 300 amp         134.20         147.62         \$44.9         4.61         1           1 Welder, gas engine, 300 amp         134.20         147.62         \$44.9         5.50         \$42.40         \$44.70         1072.80         \$3131.20         \$44.09         \$76.36           2 Struc. Steel Foremen         \$44.70         1788.00         79.65         3131.20         \$44.09         \$76.30         \$44.20         147.62         23.44         25.78           1 Welder, gas engine, 300 amp         134.20         147.62         23.44         25.78         \$44.09         \$76.53         \$102.14           1 Equip, Oper. Oler         36.80         294.40         55.30         442.40         147.62         23.44         2	1 Struc. Steel Worker	44.70	357.60	79.65	637.20			1 Equip.
1 Weder, gas engine, 300 amp         134.20         147.62         5.59         6.15           24 LH, Daily Totals         51223.00         \$2087.62         \$50.96         \$86.98           24 LH, Daily Totals         51223.00         \$2087.62         \$50.96         \$86.98           Crew E-4         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Struc. Steel Foreman         \$46.70         \$373.60         \$88.20         \$665.60         \$44.09         4.61           3 Struc. Steel Workers         44.70         1072.80         79.65         1911.60         1         1           2 Struc. Steel Foreman         \$46.70         \$747.20         \$83.20         \$131.20         \$44.09         \$7.63           2 Struc. Steel Foremen         \$46.70         \$747.20         \$83.20         \$131.20         \$44.09         \$7.63           1 Weder         44.70         1788.00         79.65         637.20         1         1         1           1 Equip. Oper. (Carae)         42.55         340.40         53.90         442.40         1         1         1         1         1         1         1         1         1         1         1         1         1	1 Welder	44.70	357.60	79.65	637.20			1 Equip.
24 L.H., Daily lotals         S122.300         S2087.62         S00.96         S80.98           Crew E-4         Hr.         Daily         Hr.         Daily         Bare         Incl.           1 Struc. Steel Foreman         \$46.70         \$337.60         \$83.20         \$665.60         \$41.20         147.62         4.19         4.61           1 Welder, gas engine, 300 amp         134.20         147.62         4.19         4.61           1 Welder, gas engine, 300 amp         51580.60         \$2724.82         \$49.39         \$85.15           Crew E-5         Hr.         Daily         Hr.         Daily         Costs         0&P           2 Struc. Steel Workers         44.70         \$777.60         79.65         5318.00         544.09         \$76.36           5 Struc. Steel Workers         44.70         357.60         79.65         537.20         147.62         23.44         25.78           1 Welder, gas engine, 300 amp         134.20         147.62         23.44         25.78         3102.14           1 Welder, gas engine, 300 amp         134.20         147.62         23.44         25.78         3102.14           1 Welder, gas engine, 300 amp         134.20         147.62         147.62         344.09 <t< td=""><td>1 Welder, gas engine, 300 amp</td><td></td><td>134.20</td><td></td><td>147.62</td><td>5.59</td><td>6.15</td><td>1 Lattice</td></t<>	1 Welder, gas engine, 300 amp		134.20		147.62	5.59	6.15	1 Lattice
Crew E-4         Hr.         Daily         Hr.         Daily         Gosts         O&P           1 Struc. Steel Korkers         44.70         1072.80         79.65         1911.60         545.20         \$80.54           1 Welder, gas engine, 300 amp         134.20         147.62         4.19         4.61           32 LH., Daly Totals         51580.60         \$2724.82         \$49.39         \$85.15           Crew E-5         Hr.         Daily         Hr.         Daily         Costs         OAP           2 Struc. Steel Korkers         44.70         1788.00         79.65         3186.00         576.36           5 Struc. Steel Workers         44.70         1788.00         79.65         637.20         544.09         \$76.36           1 Latice Boom Crane, 90 Ton         1741.00         1915.10         147.62         23.44         25.78           1 Latice Boom Crane, 90 Ton         1741.00         1915.10         147.62         23.44         25.78           3 Struc. Steel Korkers         44.70         321.840         79.65         637.20         147.62           1 Welder, gas engine, 300 amp         134.20         147.62         23.44         25.78           3 Struc. Steel Foremen         \$46.70         \$	24 L.H., Daily lotals		\$1223.00		\$2087.62	\$50.96	\$86.98	5 Welder
1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$45.20         \$80.54           3 Struc. Steel Workers         44.70         1072.80         79.65         1911.60         4.19         4.61           1 Welder, gas engine, 300 amp         134.20         147.62         \$49.39         \$85.15           Crew E-5         Hr.         Daily         Hr.         Daily         Bare         Incl.           2 Struc. Steel Foremen         \$46.70         \$747.20         \$83.20         \$1331.20         \$44.09         \$76.36           5 Struc. Steel Workers         44.70         1778.00         79.65         3186.00         16 L.H.,           1 Welder         44.70         357.60         79.65         517.60         174.100         1915.10           1 Welder, gas engine, 300 amp         134.20         147.62         23.44         25.78           80 L.H., Daily Totals         \$5402.80         \$817.112         \$67.53         \$102.14           Yelder, gas engine, 300 amp         134.20         147.62         23.44         25.78           3 Struc. Steel Foremen         \$46.70         \$1120.80         \$83.20         \$1996.80         \$44.09         \$76.50           9 Struc. Steel Fore	Crew E-4	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	128 L.H.
3 Struc. Steel Workers       44.70       1072.80       79.65       1911.60         1 Welder, gas engine, 300 amp       134.20       147.62       4.19       4.61         32 L.H., Daly Totals       S1580.60       S2724.82       \$49.39       \$85.15         Crew E-5       Hr.       Daily       Hr.       Daily       Costs       O&P         2 Struc. Steel Workers       44.70       1788.00       79.65       3186.00       \$44.09       \$76.36         5 Struc. Steel Workers       44.70       1788.00       79.65       637.20       \$44.40       \$4.09       \$76.36         1 Welder       44.70       357.60       79.65       637.20       \$42.40       \$4.09       \$76.53       \$102.14         1 Lattice Boom Crane, 90 Ton       1741.00       1915.10       \$57.53       \$102.14       \$3.80         3 Struc. Steel Foremen       \$46.70       \$1120.80       \$83.20       \$1996.80       \$44.09       \$76.50         3 Struc. Steel Foremen       \$46.70       \$1120.80       \$83.20       \$1996.80       \$44.09       \$76.50         3 Struc. Steel Foremen       \$46.70       \$120.80       \$83.20       \$1996.80       \$44.09       \$76.50         1 Equip. Oper. (light)	1 Struc. Steel Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$45.20	\$80.54	
1 Welder, gas engine, 300 amp       134.20       147.62       4.19       4.61         32 L.H., Daily Totals       \$1580.60       \$2724.82       \$49.39       \$85.15         Crew E-5       Hr.       Daily       Hr.       Daily       Costs       0&P         2 Struc. Steel Foremen       \$46.70       \$747.20       \$83.20       \$1331.20       \$44.09       \$76.36         1 Welder       44.70       1788.00       79.65       3186.00       1       1       Leuip. Oper. (crane)       42.55       340.40       63.95       511.60       1       Equip. Oper. (crane, 90 Ton       1741.00       1915.10       1       Here       1       Welder       1       Arto       35.80       294.40       55.30       442.40       1       1       Arto       1       Satur. Steel Foremen       36.60       294.40       55.30       442.40       1       1       Arto       1       Satur. Steel Foremen       \$46.70       \$112.08       \$83.20       \$199.68       \$44.09       \$76.50       328.40       92.55       324.40       55.30       442.40       1       Welde       1       Welde       1       Welde       1       Welde       1       1 <welde< td="">       1       1       2</welde<>	3 Struc. Steel Workers	44.70	1072.80	79.65	1911.60			1 Woldow
32 L.H., Daily Totals         \$1580.60         \$2724.82         \$49.39         \$85.15           Crew E-5         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           2 Struc. Steel Workers         44.70         1788.00         79.65         3186.00         \$44.09         \$76.36           1 Welder         44.70         357.60         79.65         637.20         2         44.00         180.01           1 Welder         44.70         357.60         79.65         637.20         1         41.61         Bail           1 Welder, Gase agine, 300 amp         134.20         147.62         23.44         25.78         S102.14           80 L.H., Daily Totals         \$5402.80         \$8171.12         \$67.53         \$102.14           1 Struc. Steel Workers         44.70         3218.40         79.65         5734.80         1         1 Set S2           3 Struc. Steel Workers         44.70         321.840         79.65         53.20         1         1 Welder           1 Equip. Oper. (Cirane)         \$46.70         \$1120.80         \$83.20         \$1996.80         \$44.09         \$76.50           9 Struc. Steel Workers         44.70         3312.40         58.30         442.4	1 Welder, gas engine, 300 amp		134.20		147.62	4.19	4.61	1 Welder
Crew E-5         Hr.         Daily         Hr.         Daily         Bare Costs         Incl. O&P           2 Struc. Steel Workers         44.70         3747.20         \$83.20         \$1313.20         \$44.09         \$76.36           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         Image: Cost of the c	32 L.H., Daily Totals		\$1580.60		\$2724.82	\$49.39	\$85.15	1 Welder
2 Struc. Steel Foremen         \$46.70         \$74.20         \$83.20         \$131.20         \$44.09         \$76.36           5 Struc. Steel Workers         44.70         1788.00         79.65         3186.00         2         2         2         Painte         1         2         Painte         1         1         2         Painte         1         1         2         Painte         1         1         1         1         2         Painte         1         1         1         1         1         2         2         3         1         2         Painte         1         3	Crew E-5	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	1 Flatber
5 Struc. Steel Workers       44.70       1788.00       79.65       3186.00       2       2       Painte         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       2       2       Painte         1 Equip. Oper. Oller       36.80       294.40       55.30       442.40       1       Equip. Oper. Oller       36.80       294.40       55.30       442.40       1       Equip. Oper. Oller       36.80       294.40       55.30       442.40       1       1       Equip. Oper. Oller       36.80       294.40       55.30       442.40       1       1       Gorden       1       Adv       25.78       S102.14       1       S67.53       S102.14       1       S67.53       S102.14       1       S67.50       0&P       1       Sandb       1       Set S2       S2.44       25.78       S102.14       S67.50       0       S44.09       S76.50       0       S2       1       Sandb       S2       L.H.,       Daily       Costs       0&P       1       Welder       44.70       3218.40       79.65       5734.80       1       1       Welder       1       Welder       1       S0.50       312.40       55.30       442.40       1       1	2 Struc. Steel Foremen	\$46.70	\$747.20	\$83.20	\$1331.20	\$44.09	\$76.36	10 E.m.,
1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       Image: Stress of the stress o	5 Struc. Steel Workers	44.70	1788.00	79.65	3186.00			
1 Welder       44.70       357.60       79.65       637.20       1       1       1       1       1       1       1       36.80       294.40       55.30       442.40       1       1       1       Buildin       1	1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			2 Painter
1 Equip. Oper. Oller       36.80       294.40       55.30       442.40       1         1 Lattice Boom Crane, 90 Ton       1741.00       1915.10       147.62       23.44       25.78         80 L.H., Daily Totals       \$5402.80       \$8171.12       \$67.53       \$102.14         80 L.H., Daily Totals       \$5402.80       \$8171.12       \$67.53       \$102.14         9 Struc. Steel Foremen       \$46.70       \$1120.80       \$83.20       \$1996.80       \$44.09       \$76.50         9 Struc. Steel Workers       44.70       3218.40       79.65       5734.80       1       1         1 Equip. Oper. (light)       39.05       312.40       58.70       469.60       1       1         1 Equip. Oper. (light)       39.05       312.40       58.70       469.60       1       1         1 Welder       32.80       152.68       15.99       17.59       1       1         1 Welder, gas engine, 300 amp       134.20       147.62       1       1       1       Welder         1 Air Compressor, 160 cfm       138.80       152.68       15.99       17.59       1       Welder         2 Impact Wrenches       32.40       55.30       442.40       44.09       \$76.36	1 Welder	44.70	357.60	79.65	637.20			1 Buildin
1 Lattice Boom Grane, 90 Ion       1741.00       1915.10       147.62       23.44       25.78         1 Welder, gas engine, 300 amp       134.20       147.62       23.44       25.78       180         80 L.H., Daily Totals       \$5402.80       \$8171.12       \$67.53       \$102.14         Bare Incl. Costs       084         0 Struc. Steel Foremen       \$46.70       \$1120.80       \$83.20       \$1996.80       \$44.09       \$76.50         9 Struc. Steel Workers       44.70       3218.40       79.65       5734.80       1       Welder         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       1       Welder         1 Equip. Oper. (light)       39.05       312.40       58.70       469.60       1       1       Welder         1 Air Compressor, 160 cfm       138.80       152.68       15.99       17.59       1       1       Welde         1 Equip. Oper. (light)       39.05       312.40       58.70       469.60       1       1       Welde         1 Melde foreman       \$46.70       \$373.60       \$83.20       \$660.08       \$94.09       1       1       Welde         1 Equip. Oper. Oiler       36.80       294.40	1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			1 Equip.
I Weider, gas engine, 300 amp         134.20         147.02         2.3.44         2.3.78         1 Sandb           80 L.H., Daily Totals         \$5402.80         \$8171.12         \$67.53         \$102.14           Bare         Incl.         Ose	1 Lattice Boom Grane, 90 Ion		1/41.00		1915.10	22.14	25.79	1 Air Co
Iteration         Iteration <thiteration< th=""> <thiteration< th=""> <thi< td=""><td>1 Welder, gas engline, 500 amp</td><td></td><td>\$5/02.80</td><td></td><td>\$8171.12</td><td>23.44 \$67.53</td><td>\$102.14</td><td>1 Sandb</td></thi<></thiteration<></thiteration<>	1 Welder, gas engline, 500 amp		\$5/02.80		\$8171.12	23.44 \$67.53	\$102.14	1 Sandb
Crew E-6         Hr.         Daily         Hr.         Daily         Costs         O&P           3 Struc. Steel Foremen         \$46.70         \$1120.80         \$83.20         \$1996.80         \$44.09         \$76.50           9 Struc. Steel Workers         44.70         3218.40         79.65         5734.80         \$44.09         \$76.50           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         1         1         Welder           1 Equip. Oper. Oiler         36.80         294.40         55.30         442.40         1         1         Welde         1         Equip. Oper. (light)         39.05         312.40         58.70         469.60         1         1         Welde         1         Lequip. Oper. (light)         39.05         312.40         58.70         469.60         1         1         Welde         1         Lequip. Oper. (light)         39.05         312.40         58.70         469.60         1         1         Welde         1         Welde         1         Welde         1         Welde         1         Welde         1         Welde         1         Welde         5.50         1         1         Welde         1         Welde         1	OU L.H., Daily Totals		ŞJ402.00		Ş0171.1Z	.507.55 Dama	\$102.14	1 Set Sa
3 Struc. Steel Foremen         \$46.70         \$1120.80         \$83.20         \$1996.80         \$44.09         \$76.50           9 Struc. Steel Workers         44.70         3218.40         79.65         5734.80         1         1         Welder           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         1         Welder           1 Equip. Oper. (light)         39.05         312.40         55.30         442.40         1         Welder           1 Lattice Boom Crane, 90 Ton         1741.00         1915.10         1         Welder         1         Welder           1 kir Compressor, 160 cfm         138.80         152.68         15.99         17.59         1         1         Welder           1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$44.09         \$76.36           4 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$44.09         \$76.36           1 Equip. Oper. (light)         36.80         294.40         55.30         442.40         1         1         Welder           1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$44.09         \$	Crew E-6	Hr.	Daily	Hr.	Daily	Costs	0&P	32 L.H.,
9 Struc. Steel Workers       44.70       3218.40       79.65       5734.80       1       1       Welder         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       1       Equip.       1       Equip.       1       Equip.       1       Equip.       1       Equip.       1       Welder       1       Equip.       1       Equip.       1       Welder       1       Equip.       1       Welder       1       Equip.       1       Welder       1       Equip.       1       Welder       1       Welder       1       Equip.       1       Welder       1       Welder       1       Welder       1       Welder       1       Welder       1       Welder       1       Welder       1       Welder       1       1       Welder       1       1       Welder       1       1       Welder       1       1       Welder       1       1       Welder       1       1       Welder       1       1       1       Welder       1       1       Welder       1       1       1       Welder       1       1       1       Welder       1       1       1       1       Welder       1       <	3 Struc. Steel Foremen	\$46.70	\$1120.80	\$83.20	\$1996.80	\$44.09	\$76.50	
1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       1 Holder         1 Welder       44.70       357.60       79.65       637.20       1 Equip. </td <td>9 Struc. Steel Workers</td> <td>44.70</td> <td>3218.40</td> <td>79.65</td> <td>5734.80</td> <td></td> <td></td> <td>1 Welder</td>	9 Struc. Steel Workers	44.70	3218.40	79.65	5734.80			1 Welder
1 Welder       44.70       35.760       79.65       637.20       1 Welder         1 Equip. Oper. Oiler       36.80       294.40       55.30       442.40       1 Welde         1 Equip. Oper. (light)       39.05       312.40       58.70       469.60       1 Lattice Boom Crane, 90 Ton       1741.00       1915.10         1 Welder, gas engine, 300 amp       134.20       147.62       1       1 Welde       1 Welde         2 Impact Wrenches       32.40       35.64       15.99       17.59       1 Welde         1 28 L.H., Daily Totals       \$7690.40       \$12043.44       \$60.08       \$94.09         1 Struc. Steel Foreman       \$46.70       \$373.60       \$83.20       \$665.60       \$44.09       \$76.36         4 Struc. Steel Workers       44.70       1430.40       79.65       2548.80       1       1 Welde         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       1       1 Welde         1 Equip. Oper. Oiler       36.80       294.40       55.30       442.40       1       1 Welde         1 Equip. Oper. Oiler       36.80       294.40       55.30       442.40       1       8 L.H., T         1 Welder Foreman       46.70       373.60 </td <td>1 Equip. Oper. (crane)</td> <td>42.55</td> <td>340.40</td> <td>63.95</td> <td>511.60</td> <td></td> <td></td> <td>1 Equip.</td>	1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			1 Equip.
11 Equip. Oper. (light)       39.05       312.40       53.30       442.40       16 L.H.,         1 Equip. Oper. (light)       39.05       312.40       58.70       469.60       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       11111       111111       11111       111111       1111111	1 Welder	44.70	357.60	/9.65	637.20			1 Welder
1 Lattice Boom Crane, 90 Ton       1312.40       1915.10       1915.10         1 Lattice Boom Crane, 90 Ton       134.20       147.62       1         1 Welder, gas engine, 300 amp       134.20       147.62       1         1 Air Compressor, 160 cfm       138.80       152.68       1       1 Welder         2 Impact Wrenches       32.40       35.64       15.99       17.59         128 L.H., Daily Totals       \$7690.40       \$12043.44       \$60.08       \$94.09         128 L.H., Daily Totals       \$7690.40       \$12043.44       \$60.08       \$94.09         1 Struc. Steel Foreman       \$46.70       \$373.60       \$83.20       \$665.60       \$44.09       \$76.36         4 Struc. Steel Workers       44.70       1430.40       79.65       2548.80       1       1       Welder         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       1       1       Welder         1 Equip. Oper. Oiler       36.80       294.40       55.30       442.40       1       8 L.H., D         1 Welder Foreman       46.70       373.60       83.20       665.60       2       1       1       Welder         2 Welders       44.70       715.20       7	1 Equip. Oper. Oller 1 Equip. Oper. (light)	30.00	294.40	58 70	442.40			16 L.H.,
1 Welder, gas engine, 300 amp       134.20       147.62         1 Air Compressor, 160 cfm       138.80       152.68         2 Impact Wrenches       32.40       35.64       15.99       17.59         128 L.H., Daily Totals       \$7690.40       \$12043.44       \$60.08       \$94.09         1 Struc. Steel Foreman       \$46.70       \$373.60       \$83.20       \$665.60       \$44.09       \$76.36         4 Struc. Steel Workers       44.70       1430.40       79.65       2548.80       1       1       Welder         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       1       Welder         1 Welder Foreman       46.70       373.60       83.20       665.60       \$44.09       \$76.36         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       1       Welder         1 Welder Foreman       46.70       373.60       83.20       665.60       4       1       Welder         2 Welders       44.70       175.20       79.65       1274.40       1       1       Welder         1 Lattice Boom Crane, 90 Ton       1741.00       1915.10       2       2       140.40       1       Welder	1 Lattice Boom Crane, 90 Ton	55.05	1741.00	50.70	1915.10			
1 Air Compressor, 160 cfm         138.80         152.68         15.99         17.59           2 Impact Wrenches         32.40         35.64         15.99         17.59           128 L.H., Daily Totals         \$7690.40         \$12043.44         \$60.08         \$94.09           1 Welder         S7690.40         \$12043.44         \$60.08         \$94.09           1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$44.09         \$76.36           4 Struc. Steel Workers         44.70         1430.40         79.65         2548.80         1         1         Welder           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         1         1         Welder           1 Welder Foreman         46.70         373.60         83.20         665.60         2         8         8 L.H., T           1 Welder S         44.70         715.20         79.65         1274.40         1         1         1 Welder           2 Welders         44.70         1741.00         1915.10         1         1         1 Welder           2 Welders, gas engine, 300 amp         268.40         295.24         25.12         27.63         1         Welder	1 Welder, gas engine, 300 amp		134.20		147.62			
2 Impact Wrenches         32.40         35.64         15.99         17.59           128 L.H., Daily Totals         \$7690.40         \$12043.44         \$60.08         \$94.09           Crew E-7         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$44.09         \$76.36           4 Struc. Steel Workers         44.70         1430.40         79.65         2548.80         1         1         Welder           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         1         Welder           1 Welder Foreman         46.70         373.60         83.20         665.60         4         8 L.H., D           2 Welders         44.70         175.20         79.65         1274.40         1         1         Welder           1 Lattice Boom Crane, 90 Ton         1741.00         1915.10         2         25.12         27.63         1         Welder           80 L.H., Daily Totals         \$5537.00         \$8318.74         \$69.21         \$103.98         1         Welder	1 Air Compressor, 160 cfm		138.80		152.68			1 Welder
128 L.H., Daily Totals         \$7690.40         \$12043.44         \$60.08         \$94.09           Crew E-7         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$44.09         \$76.36           4 Struc. Steel Workers         44.70         1430.40         79.65         2548.80         1	2 Impact Wrenches		32.40		35.64	15.99	17.59	.5 Equip.
Crew E-7         Hr.         Daily         Hr.         Daily         Costs         O&P           1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$44.09         \$76.36           4 Struc. Steel Workers         44.70         1430.40         79.65         2548.80         1         1 Welder           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         1         1 Welder           1 Equip. Oper. Oiler         36.80         294.40         55.30         442.40         1         8 L.H., L           1 Welder Foreman         46.70         373.60         83.20         665.60         1         1         Welder           2 Welders         44.70         715.20         79.65         1274.40         1         1         1         Welder           1 Lattice Boom Crane, 90 Ton         1741.00         1915.10         1         1         1         Welder         1         Welder         1         Welder         1         Welder         1         Welder         1         Welder         1         Welder         1         Welder         1         Welder         1         Welder         1         Welder         1	128 L.H., Daily Totals		\$7690.40		\$12043.44	\$60.08	\$94.09	1 Welder
1 Struc. Steel Foreman         \$46.70         \$373.60         \$83.20         \$665.60         \$44.09         \$76.36           4 Struc. Steel Workers         44.70         1430.40         79.65         2548.80         1         1 Welder           1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         1         Welder           1 Equip. Oper. Oiler         36.80         294.40         55.30         442.40         8 L.H., I         1           1 Welder Foreman         46.70         373.60         83.20         665.60         1         1           2 Welders         44.70         715.20         79.65         1274.40         1         1         1         Welder           1 Lattice Boom Crane, 90 Ton         1741.00         1915.10         1         1         1         Welder           2 Welders, gas engine, 300 amp         268.40         295.24         25.12         27.63         1         Welder           80 L.H., Daily Totals         \$5537.00         \$8318.74         \$69.21         \$103.98         1         Welder	Crew E-7	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	12 L.H.,
4 Struc. Steel Workers       44.70       1430.40       79.65       2548.80       1 Welder         1 Equip. Oper. (crane)       42.55       340.40       63.95       511.60       1 Welder         1 Equip. Oper. Oiler       36.80       294.40       55.30       442.40       8 L.H., L         1 Welder Foreman       46.70       373.60       83.20       665.60       1 Welder         2 Welders       44.70       715.20       79.65       1274.40       1       1 Welder         1 Lattice Boom Crane, 90 Ton       1741.00       1915.10       1       1 Welder       1 Welder         80 L.H., Daily Totals       \$5537.00       \$8318.74       \$69.21       \$103.98       1 Welder	1 Struc. Steel Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$44.09	\$76.36	
1 Equip. Oper. (crane)         42.55         340.40         63.95         511.60         1 Welder           1 Equip. Oper. Oiler         36.80         294.40         55.30         442.40         8 L.H., [1]           1 Welder Foreman         46.70         373.60         83.20         665.60         8 L.H., [1]           2 Welders         44.70         715.20         79.65         1274.40         1         1 Welder           1 Lattice Boom Crane, 90 Ton         1741.00         1915.10         2         25.12         27.63         1 Welder           80 L.H., Daily Totals         \$5537.00         \$8318.74         \$69.21         \$103.98         1 Welder	4 Struc. Steel Workers	44.70	1430.40	79.65	2548.80			1 Welder
I Equip. Oper. Oller         36.80         294.40         55.30         442.40         8 L.H., [           1 Welder Foreman         46.70         373.60         83.20         665.60         44.70         1124.40         124.40         124.40	1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			1 Welder
1 metuer orientati         40.70         37.300         63.20         603.00           2 Welders         44.70         715.20         79.65         1274.40         1           1 Lattice Boom Crane, 90 Ton         1741.00         1915.10         1         1         1 Welder           2 Welders, gas engine, 300 amp         268.40         295.24         25.12         27.63         1 Welder           80 L.H., Daily Totals         \$5537.00         \$8318.74         \$69.21         \$103.98         1 Welder	1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			8 L.H., C
I Lattice Boom Crane, 90 Ton         11.2.40         75.05         12.74.40         1           2 Welders, gas engine, 300 amp         268.40         295.24         25.12         27.63         1         Welders, 90.10         1         1         Welders, 90.10	1 weider Foreman 2 Welders	40.70	3/3.6U 715 20	03.20 70.65	005.0U			
2 Welders, gas engine, 300 amp         268.40         295.24         25.12         27.63         1 Welder           80 L.H., Daily Totals         \$5537.00         \$8318.74         \$69.21         \$103.98         1 Welder	1 Lattice Boom Crane Of Ton	44./0	115.20 1741 00	19.00	1274.40 1915 10			
1         1         Welder           80 L.H., Daily Totals         \$5537.00         \$8318.74         \$69.21         \$103.98         1	2 Welders, gas engine. 300 amn		268.40		295.24	25.12	27.63	1 Welder
	80 L.H., Daily Totals		\$5537.00		\$8318.74	\$69.21	\$103.98	1 Welder

Crew No.	Bare	Costs	Incl. Subs O & P		Cost Per Labor-Hour		
Crew E-8	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Struc. Steel Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$43.80	\$75.50	
4 Struc. Steel Workers	44.70	1430.40	79.65	2548.80			
1 Welder Foreman	46.70	373.60	83.20	665.60			
4 Welders	44.70	1430.40	79.65	2548.80			
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			
1 Equip. Oper. Oller	30.00	294.40	58 70	442.40			
1 Lattice Boom Crane, 90 Ton	55.05	1741.00	50.70	1915.10			
4 Welders, gas engine, 300 amp		536.80		590.48	21.90	24.09	
104 L.H., Daily Totals		\$6833.00		\$10357.98	\$65.70	\$99.60	
					Bare	Incl.	
Crew E-9	Hr.	Daily	Hr.	Daily	Costs	0&P	
2 Struc. Steel Foremen	\$46.70	\$/4/.20	\$83.20	\$1331.20	\$44.09	\$76.50	
1 Wolder Foreman	44.70	273.60	79.00	5100.00			
5 Welders	40.70	1788.00	79.65	3186.00			
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			
1 Equip. Oper. Oiler	36.80	294.40	55.30	442.40			
1 Equip. Oper. (light)	39.05	312.40	58.70	469.60			
1 Lattice Boom Crane, 90 Ton		1741.00		1915.10			
5 Welders, gas engine, 300 amp		671.00		738.10	18.84	20.73	
128 L.H., Daily Totals		\$8056.00		\$12445.60	\$62.94	\$97.23	
Crew E-10	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Welder Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$45.70	\$81.42	
1 Welder	44.70	357.60	79.65	637.20	-		
1 Welder, gas engine, 300 amp		134.20		147.62			
1 Flatbed Truck, Gas, 3 Ton		242.60		266.86	23.55	25.91	
16 L.H., Daily Totals		\$1108.00		\$1717.28	\$69.25	\$107.33	
	1						
Crew E-11	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	
Crew E-11 2 Painters, Struc. Steel	<b>Hr.</b> \$36.00	<b>Daily</b> \$576.00	<b>Hr.</b> \$65.35	<b>Daily</b> \$1045.60	Bare Costs \$35.66	Incl. 0&P \$59.60	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer	<b>Hr.</b> \$36.00 31.60	<b>Daily</b> \$576.00 252.80	<b>Hr.</b> \$65.35 49.00	<b>Daily</b> \$1045.60 392.00	Bare Costs \$35.66	Incl. 0&P \$59.60	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light)	<b>Hr.</b> \$36.00 31.60 39.05	<b>Daily</b> \$576.00 252.80 312.40	<b>Hr.</b> \$65.35 49.00 58.70	<b>Daily</b> \$1045.60 392.00 469.60	Bare Costs \$35.66	Incl. 0&P \$59.60	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm	<b>Hr.</b> \$36.00 31.60 39.05	<b>Daily</b> \$576.00 252.80 312.40 162.40	<b>Hr.</b> \$65.35 49.00 58.70	<b>Daily</b> \$1045.60 392.00 469.60 178.64	Bare Costs \$35.66	Incl. 0&P \$59.60	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F.	<b>Hr.</b> \$36.00 31.60 39.05	<b>Daily</b> \$576.00 252.80 312.40 162.40 20.60	<b>Hr.</b> \$65.35 49.00 58.70	<b>Daily</b> \$1045.60 392.00 469.60 178.64 22.66	Bare Costs \$35.66	Incl. 0&P \$59.60	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories	<b>Hr.</b> \$36.00 31.60 39.05	<b>Daily</b> \$576.00 252.80 312.40 162.40 20.60 12.75	<b>Hr.</b> \$65.35 49.00 58.70	<b>Daily</b> \$1045.60 392.00 469.60 178.64 22.66 14.03	Bare Costs \$35.66 6.12	Incl. 0&P \$59.60 6.73	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals	<b>Hr.</b> \$36.00 31.60 39.05	<b>Daily</b> \$576.00 252.80 312.40 162.40 20.60 12.75 \$1336.95	<b>Hr.</b> \$65.35 49.00 58.70	<b>Daily</b> \$1045.60 392.00 469.60 178.64 22.66 14.03 \$2122.53	Bare Costs \$35.66 6.12 \$41.78	Incl. 0&P \$59.60 6.73 \$66.33	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12	Hr. \$36.00 31.60 39.05 Hr.	Daily \$576.00 252.80 312.40 162.40 20.60 12.75 \$1336.95 Daily	Hr. \$65.35 49.00 58.70 Hr.	Daily \$1045.60 392.00 469.60 178.64 22.66 14.03 \$2122.53 Daily	Bare Costs \$35.66 6.12 \$41.78 Bare Costs	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman	Hr. \$36.00 31.60 39.05 Hr. \$46.70	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60	Hr. \$65.35 49.00 58.70 Hr. \$83.20	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60	Bare Costs \$35.66 6.12 \$41.78 Bare Costs \$42.88	Incl. O&P \$59.60 6.73 \$66.33 Incl. O&P \$70.95	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light)	Hr. \$36.00 31.60 39.05 Hr. \$46.70 39.05	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40	Hr. \$65.35 49.00 58.70 Hr. \$83.20 58.70	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           469.60	Bare         Costs           \$35.66         \$35.66           6.12         \$41.78           Bare         Costs           \$42.88         \$42.88	Incl. O&P \$59.60 6.73 \$66.33 Incl. O&P \$70.95	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp	нг. \$36.00 31.60 39.05 нг. \$46.70 39.05	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20	Hr. \$65.35 49.00 58.70 Hr. \$83.20 58.70	Daily \$1045.60 392.00 469.60 178.64 22.66 14.03 \$2122.53 \$2122.53 Daily \$665.60 469.60 147.62	Bare         Costs           \$35.66         6.12           \$41.78         Bare           Costs         \$42.88           \$.39         6.12	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals	Hr. \$36.00 31.60 39.05 Hr. \$46.70 39.05	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20	Hr. \$65.35 49.00 58.70 Hr. \$83.20 58.70	Daily \$1045.60 392.00 469.60 178.64 22.66 14.03 \$2122.53 \$2122.53 Daily \$665.60 469.60 147.62 \$1282.82	Bare Costs \$35.66 6.12 \$41.78 Bare Costs \$42.88 8.39 \$51.26	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23 \$80.18	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13	нг. \$36.00 31.60 39.05 <b>нг.</b> \$46.70 39.05 <b>нг.</b>	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20	Hr. \$65.35 49.00 58.70 Hr. \$83.20 58.70 Hr.	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           469.60           147.62           \$1282.82           Daily	Bare           Costs           \$35.66           6.12           \$41.78           Bare           Costs           \$42.88           8.39           \$51.26           Bare           Costs	Incl. O&P \$59.60 6.73 \$66.33 Incl. O&P \$70.95 9.23 \$80.18 Incl. O&P	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman 1 Welder Foreman	Hr. \$36.00 31.60 39.05 Hr. \$46.70 39.05 Hr. \$46.70 \$46.70	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60	Hr. \$65.35 49.00 58.70 Hr. \$83.20 58.70 Hr. \$83.20 \$83.20	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           469.60           147.62           \$1282.82           Daily           \$665.60	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23 \$80.18 Incl. 0&P \$75.03	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light)	Hr.           \$36.00           31.60           39.05             Hr.           \$46.70           39.05   Hr.           \$46.70           39.05	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60           156.20	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           147.62           \$1282.82           Daily           \$665.60           234.80	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23 \$80.18 Incl. 0&P \$75.03	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light) 1 Welder, gas engine, 300 amp	Hr.           \$36.00           31.60           39.05             Hr.           \$46.70           39.05   Hr.	Daily \$576.00 252.80 312.40 162.40 20.60 12.75 \$1336.95 Daily \$373.60 312.40 134.20 \$820.20 Daily \$373.60 156.20 134.20 	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70	Daily \$1045.60 392.00 469.60 178.64 22.66 14.03 \$2122.53 \$2122.53 Daily \$665.60 469.60 147.62 \$1282.82 Daily \$665.60 234.80 234.80 147.62	Bare Costs \$35.66 6.12 \$41.78 Bare Costs \$42.88 8.39 \$51.26 Bare Costs \$44.15 \$44.15 11.18	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23 \$80.18 Incl. 0&P \$75.03 12.30	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 12 L.H., Daily Totals	нг. \$36.00 31.60 39.05 Нг. \$46.70 39.05 Нг. \$46.70 39.05	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60           156.20           134.20           \$664.00	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           469.60           147.62           \$1282.82           Daily           \$665.60           234.80           147.62	Bare           Costs           \$35.66           6.12           \$41.78           Bare           Costs           \$42.88           8.39           \$51.26           Bare           Costs           \$44.15           11.18           \$55.33	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23 \$80.18 Incl. 0&P \$75.03 12.30 \$87.33	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 12 L.H., Daily Totals Crew E-14	Hr.           \$36.00           31.60           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           332.40           Sale           Daily           \$373.60           156.20           134.20           \$664.00           Daily	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           Hr.           \$83.20           Hr.           \$83.20           Hr.	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           147.62           \$1282.82           Daily           \$665.60           234.80           147.62           \$1282.82           Daily           \$665.60           234.80           147.62           \$1048.02           \$1048.02	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15           11.18           \$55.33           Bare Costs	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23 \$80.18 Incl. 0&P \$75.03 12.30 \$87.33 Incl. 0&P	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 12 L.H., Daily Totals Crew E-14 1 Welder Foreman	Hr.           \$36.00           31.60           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           \$9.05           Hr.           \$46.70           \$9.05	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60           156.20           134.20           \$664.00           \$373.60	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           \$83.20           \$83.20           \$83.20           \$8.70	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           449.82           S1282.82           Daily           \$665.60           234.80           147.62           \$1282.82           Daily           \$665.60           234.80           147.62           \$1048.02           \$1048.02           \$665.60	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15           11.18           \$55.33           Bare Costs           \$46.70	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23 \$80.18 Incl. 0&P \$75.03 12.30 \$87.33 Incl. 0&P \$87.33	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 12 L.H., Daily Totals Crew E-14 1 Welder Foreman 1 Welder, gas engine, 300 amp	Hr.           \$36.00           31.60           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           \$46.70           \$46.70	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60           156.20           134.20           \$664.00           Daily           \$373.60           134.20           \$664.00           Daily           \$373.60           134.20	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           \$83.20           \$83.20           \$83.20           \$83.20           \$83.20	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           147.62           \$1282.82           Daily           \$665.60           147.62           \$1282.82           Daily           \$665.60           147.62           \$1048.02           \$1048.02           \$665.60           147.62           \$1048.02	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15           11.18           \$55.33           Bare Costs           \$46.70           16.77	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23 \$80.18 Incl. 0&P \$75.03 12.30 \$87.33 Incl. 0&P \$83.20 18.45	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 12 L.H., Daily Totals Crew E-14 1 Welder Foreman 1 Welder, gas engine, 300 amp	Hr.           \$36.00           31.60           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           \$46.70	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60           156.20           134.20           \$664.00           \$373.60           134.20           \$664.00           \$373.60           134.20           \$373.60           134.20           \$664.00           \$373.60           134.20           \$507.80	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70	Daily \$1045.60 392.00 469.60 178.64 22.66 14.03 \$2122.53 \$ 2122.53 \$ 232 \$ 242.53 \$ 242.55 \$ 234.80 147.62 \$ 1048.02 \$ 234.80 147.62 \$ 1048.02 \$ 20 \$ 20 \$ 20 \$ 20 \$ 20 \$ 20 \$ 20 \$	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15           11.18           \$55.33           Bare Costs           \$46.70           16.77           \$63.48	Incl. O&P \$59.60 6.73 \$66.33 Incl. O&P \$70.95 9.23 \$80.18 Incl. O&P \$75.03 12.30 \$87.33 Incl. O&P \$83.20 18.45 \$101.65	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 12 L.H., Daily Totals Crew E-14 1 Welder Foreman 1 Welder, gas engine, 300 amp 8 L.H., Daily Totals Crew E-16	Hr.           \$36.00           31.60           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           \$46.70           Hr.           \$46.70           Hr.           \$46.70           Hr.	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60           156.20           134.20           \$664.00           Daily           \$373.60           134.20           \$664.00           Daily           \$373.60           134.20           \$664.00           Daily           \$373.60           134.20           \$507.80           Daily	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           Hr.           \$83.20           Hr.           \$83.20           Hr.	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           147.62           \$1282.82           Daily           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$1048.02           Daily	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15           11.18           \$55.33           Bare Costs           \$46.70           16.77           \$63.48           Bare Costs	Incl. 0&P \$59.60 6.73 \$66.33 Incl. 0&P \$70.95 9.23 \$80.18 Incl. 0&P \$75.03 12.30 \$87.33 Incl. 0&P \$83.20 18.45 \$101.65 Incl. 0&P	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 12 L.H., Daily Totals Crew E-14 1 Welder Foreman 1 Welder, gas engine, 300 amp 8 L.H., Daily Totals Crew E-16 1 Welder Foreman	нг. \$36.00 31.60 39.05 нг. \$46.70 39.05 нг. \$46.70 39.05 нг. \$46.70 39.05	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60           156.20           134.20           \$664.00           \$664.00           Daily           \$373.60           134.20           \$507.80           Daily           \$373.60           134.20           \$507.80           Daily           \$373.60           134.20           \$507.80	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           S83.20	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           469.60           147.62           \$1282.82           Daily           \$665.60           147.62           \$1048.02           Cally           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$813.22           Daily           \$665.60           147.62           \$813.22           Daily	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15           11.18           \$55.33           Bare Costs           \$46.70           16.77           \$63.48           Bare Costs           \$45.70	Incl. O&P \$59.60 6.73 \$66.33 Incl. O&P \$70.95 9.23 \$80.18 Incl. O&P \$75.03 12.30 \$87.33 Incl. O&P \$83.20 18.45 \$101.65 Incl. O&P \$83.20 18.45 \$101.65	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-13 1 Welder Foreman .5 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 12 L.H., Daily Totals Crew E-14 1 Welder Foreman 1 Welder F	Hr.           \$36.00           31.60           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           \$46.70           \$46.70           \$46.70           \$46.70           \$46.70	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60           156.20           134.20           \$664.00           \$373.60           134.20           \$507.80           Daily           \$373.60           134.20           \$507.80           Daily	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           9.65	Daily           \$1045.60           392.00           469.60           178.64           22.66           14.03           \$2122.53           Daily           \$665.60           469.60           147.62           \$1282.82           Daily           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$1048.02           Daily           \$665.60           147.62           \$1048.02	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15           11.18           \$55.33           Bare Costs           \$46.70           16.77           \$63.48           Bare Costs           \$45.70	Incl. O&P \$59.60 6.73 \$66.33 Incl. O&P \$70.95 9.23 \$80.18 Incl. O&P \$75.03 12.30 \$87.33 Incl. O&P \$83.20 18.45 \$101.65 Incl. O&P \$83.20 18.45 \$101.65	
Crew E-11 2 Painters, Struc. Steel 1 Building Laborer 1 Equip. Oper. (light) 1 Air Compressor, 250 cfm 1 Sandblaster, portable, 3 C.F. 1 Set Sand Blasting Accessories 32 L.H., Daily Totals Crew E-12 1 Welder Foreman 1 Equip. Oper. (light) 1 Welder, gas engine, 300 amp 16 L.H., Daily Totals Crew E-14 1 Welder Foreman 1 Welder, gas engine, 300 amp 8 L.H., Daily Totals Crew E-16 1 Welder Foreman 1 Welder 1 Welder, gas engine, 300 amp	Hr.           \$36.00           31.60           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           39.05           Hr.           \$46.70           \$46.70           \$46.70           \$46.70           \$46.70           \$46.70           \$46.70	Daily           \$576.00           252.80           312.40           162.40           20.60           12.75           \$1336.95           Daily           \$373.60           312.40           134.20           \$820.20           Daily           \$373.60           156.20           134.20           \$664.00           \$373.60           134.20           \$507.80           Daily           \$373.60           134.20           \$507.80           Daily           \$373.60           134.20           \$507.80           Daily	Hr.           \$65.35           49.00           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           58.70           Hr.           \$83.20           9.00           Hr.           \$83.20           9.65	Daily \$1045.60 392.00 469.60 178.64 22.66 14.03 \$2122.53 \$ 2122.53 \$ 232 \$ 24.80 147.62 \$ 1282.82 \$ 234.80 147.62 \$ 1048.02 \$ 234.80 147.62 \$ 1048.02 \$ 234.80 147.62 \$ 1048.02 \$ 234.80 147.62 \$ 1048.02 \$ 20 20 20 20 20 20 20 20 20 20 20 20 20	Bare Costs           \$35.66           6.12           \$41.78           Bare Costs           \$41.78           Bare Costs           \$42.88           8.39           \$51.26           Bare Costs           \$44.15           11.18           \$55.33           Bare Costs           \$44.70           16.77           \$63.48           Bare Costs           \$45.70           8.39	Incl. O&P \$59.60 6.73 \$66.33 Incl. O&P \$70.95 9.23 \$80.18 Incl. O&P \$75.03 12.30 \$87.33 Incl. O&P \$83.20 18.45 \$101.65 \$101.65 Incl. O&P \$81.42 9.23	

Crew No.	Bai	re Costs	Sul	Incl. os O & P	Cost Per Labor-Hour		
Crew E-17	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
. Structural Steel Foreman . Structural Steel Worker	\$46.70 44.70	\$373.60 357.60	\$83.20 79.65	\$665.60 637.20	\$45.70	\$81.42	
6 L.H., Daily Totals		\$731.20		\$1302.80	\$45.70	\$81.42	
					Bare	Incl.	
Crew E-18	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Structural Steel Foreman	\$46.70	\$373.60 1072.90	\$83.20	\$665.60	\$44.43	\$76.86	
Equipment Operator (med.)	44.70	330.80	62.15	497.20			
Lattice Boom Crane, 20 Ton	1100	1080.00	02.120	1188.00	27.00	29.70	
0 L.H., Daily Totals		\$2857.20		\$4262.40	\$71.43	\$106.56	
Crew E-19	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	
Structural Steel Worker	\$44.70	\$357.60	\$79.65	\$637.20	\$43.48	\$73.85	
Structural Steel Foreman	46.70	373.60	83.20	665.60			
L Equip. Oper. (light)	39.05	312.40	58.70	469.60 1188.00	15.00	10 50	
24 L.H., Daily Totals		\$2123.60		\$2960.40	\$88.48	\$123.35	
0		Dalla		Delle	Bare	Incl.	
Crew E-20	<b>nr.</b>	\$373.60	<b>nr.</b>	SEES ED	\$13.60	\$75.00	
5 Structural Steel Workers	44.70	3373.00 1788.00	79.65	3186.00	\$45.09	\$75.09	
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			
Oiler	36.80	294.40	55.30	442.40			
Lattice Boom Crane, 40 Ton		1327.00		1459.70	20.73	22.81	
4 L.H., Daily Iotals		\$4123.40		\$6265.30	\$64.43	\$97.90	
Crew E-22	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P	
Skilled Worker Foreman	\$42.85	\$342.80	\$66.35	\$530.80	\$41.52	\$64.28	
Skilled Workers	40.85	653.60	63.25	1012.00	641.50	664.00	
4 L.H., Daily Totals		\$996.40		\$1542.80	\$41.52	\$64.28	
Crew E-24	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
Structural Steel Workers	\$44.70	\$1072.80	\$79.65	\$1911.60	\$43.86	\$75.28	
Equipment Operator (medium)	41.35	330.80	62.15	497.20			
Hyd. Crane, 25 Ton		789.40		868.34	24.67	27.14	
2 L.H., Daily Totals		\$2193.00		\$3277.14	\$68.53	\$102.41	
Crew E-25	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
Welder Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$46.70	\$83.20	
Cutting Torch		17.00		18.70			
Gases		75.60		83.16	11.57	12.73	
L.H., Daily lotals		\$466.20		\$/6/.46	\$58.27	\$95.93	
Crew F-3	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	
Carpenters	\$39.95	\$1278.40	\$61.95	\$1982.40	\$40.47	\$62.35	
Equip. Oper. (crane)	42.55	340.40	63.95	511.60			
Hyd. Crane, 12 Ton		768.80		845.68	19.22	21.14	
U L.H., Daily Iotals		\$2387.60		\$3339.68	\$59.69	\$83.49	
Crew F-4	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
Carpenters	\$39.95	\$1278.40	\$61.95	\$1982.40	\$39.86	\$61.17	
Equip. Oper. (crane)	42.55	340.40	63.95	511.60			
Equip. Oper. Oiler	36.80	294.40	55.30	442.40	22.44	0F 70	
8 L.H., Daily Totals		\$3038.20		\$4173.90	23.44 \$63.30	20.78 \$86.96	
		,			Bare	Incl.	
Crew F-5	Hr.	Daily	Hr.	Daily	Costs	0&P	
Carpenter Foreman	\$41.95	\$335.60	\$65.05	\$520.40	\$40.45	\$62.73	
Carpenters	39.95	958.80	61.95	1486.80	CAO 45	600 70	
32 L.H., Daily Iotals		\$1294.40		\$2007.20	\$40.45	\$62.73	

Crew No.	Bare	Costs	lne Subs	ci. O & P	Cost Per Labor-Hour			
Crew F-6	Hr.	Daily	Hr.	Dailv	Bare Costs	Incl. 0&P		
2 Carpenters	\$39.95	\$639.20	\$61.95	\$991.20	\$37.13	\$57.17		
2 Building Laborers	31.60	505.60	49.00	784.00	00000	<i>vonin</i>		
1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60				
1 Hyd. Crane, 12 Ton		768.80		845.68	19.22	21.14		
40 L.H., Daily Totals		\$2254.00		\$3132.48	\$56.35	\$78.31		
Orean E 7	11	Deilu	11	Deilu	Bare	Incl.		
Crew F-7	<b>nr.</b>	ccon on	<b>пг.</b>		COSTS	CEE 10		
2 Building Laborers	31.60	5059.20 505.60	49.00	\$991.20 784.00	\$50.77	ŞUU.40		
32 L.H., Daily Totals		\$1144.80		\$1775.20	\$35.77	\$55.48		
Crow C 1	U.,	Daily	Цv	Daily	Bare	Incl.		
1 Roofer Foreman	нг. \$36.25	\$290.00	561 10	\$488.80	\$31.00	\$53.90		
4 Roofers, Composition	34.25	\$250.00 1096.00	57.70	1846.40	Ş51.55	ŞJJ.JU		
2 Roofer Helpers	25.35	405.60	42.70	683.20				
1 Application Equipment		173.20		190.52				
1 Tar Kettle/Pot		97.20		106.92				
1 Crew Truck		169.60		186.56	7.86	8.64		
56 L.H., Daily Totals		\$2231.60		\$3502.40	\$39.85	\$62.54		
Crew G-2	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P		
1 Plasterer	\$36.15	\$289.20	\$54.55	\$436.40	\$33.35	\$50.77		
1 Plasterer Helper	32.30	258.40	48.75	390.00				
1 Building Laborer	31.60	252.80	49.00	392.00	E 20	E 01		
24 L H Daily Totals		\$027.20		139.40 \$1357.88	0.20 \$38.63	0.01 \$56.58		
24 L.H., Dally lotals		Ş921.20		ŞIJJ7.00	Para	930.30		
Crew G-2A	Hr.	Daily	Hr.	Daily	Costs	0&P		
1 Roofer, composition	\$34.25	\$274.00	\$57.70	\$461.60	\$30.40	\$49.80		
1 Roofer Helper	25.35	202.80	42.70	341.60				
1 Building Laborer	31.60	252.80	49.00	392.00				
1 Foam spray rig, trailer-mto.		488.20		537.02 129.49	25.21	27 72		
24 L H Daily Totals		\$1334.60		\$1860.70	\$55.61	\$77.53		
21 2111, 2011, 10010		<i>Q100 1100</i>		¢1000000	Bare	Incl		
Crew G-3	Hr.	Daily	Hr.	Daily	Costs	0&P		
2 Sheet Metal Workers	\$47.20	\$755.20	\$72.65	\$1162.40	\$39.40	\$60.83		
2 Building Laborers	31.60	505.60	49.00	/84.00	¢20.40	¢c0.02		
JZ L.Π., Dally IUlais		\$1200.00		\$1940.40	\$39.40 <b>B</b> arra	300.03		
Crew G-4	Hr.	Daily	Hr.	Daily	Costs	0&P		
1 Labor Foreman (outside)	\$33.60	\$268.80	\$52.10	\$416.80	\$32.27	\$50.03		
2 Building Laborers	31.60	505.60	49.00	784.00				
1 Flatbed Truck, Gas, 1.5 Ion		194.40		213.84	12.00	15.07		
24 LH Daily Totals		\$1107.60		102.08 \$1567.32	\$46.15	15.27 \$65.31		
24 E.H., Duly lotuis		Q1107.00		Ş1307.32	Bare	Incl		
Crew G-5	Hr.	Daily	Hr.	Daily	Costs	0&P		
1 Roofer Foreman	\$36.25	\$290.00	\$61.10	\$488.80	\$31.09	\$52.38		
2 Rooters, Composition	34.25	548.00	5/./U	923.20				
2 Notice Therpers	20.30	403.00	42.70	190 52	4 33	4 76		
40 L.H., Daily Totals		\$1416.80		\$2285.72	\$35.42	\$57.14		
-					Bare	Incl.		
Crew G-6A	Hr.	Daily	Hr.	Daily	Costs	0&P		
2 Roofers Composition	\$34.25	\$548.00	\$57.70	\$923.20	\$34.25	\$57.70		
2 Small Compressor, Electric 2 Pneumatic Nailors		11.35 12.20		12.48	2 /1	2 75		
16   H Daily Totale		43.20		47.02 \$083.01	\$27.66	5.75 \$61.45		
IO L.I.I., Dally IULAIS		2002.00		2303.CI	- JJ1.00	QU1.40		

Crew No.	Crew No. Bare Costs		Incl. Cost Subs O & P Per Labor-Hour			ost bor-Hour	Crew No.	Bare	Costs	In Subs	cl. s O & P	Cost Per Labor-Hour		
Crew G-7	Hr	Daily	Hr	Daily	Bare Costs	Incl.	Crew   -2	Hr	Daily	Hr	Daily	Bare Costs	Incl. 0&P	
1 Carpenter	\$39.95	\$319.60	\$61.95	\$495.60	\$39.95	\$61.95	1 Carpenter	\$39.95	\$319.60	\$61.95	\$495.60	\$35.13	\$54.38	
1 Small Compressor, Electric 1 Pneumatic Nailer		21.60		23.76	4.12	4.53	16 L.H., Daily Totals	30.30	\$562.00	40.80	\$870.00	\$35.13	\$54.38	
8 L.H., Daily Totals		\$352.55		\$531.85	\$44.07 Bare	\$66.48	Crew L-3	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
Crew H-1	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Carpenter	\$39.95	\$319.60	\$61.95	\$495.60	\$43.52	\$66.63	
2 Glaziers 2 Struc. Steel Workers	\$38.60 44.70	\$617.60 715.20	\$58.35 79.65	\$933.60 1274.40	\$41.65	\$69.00	.5 Electrician .5 Sheet Metal Worker	47.00 47.20	188.00 188.80	69.95 72.65	279.80 290.60			
32 L.H., Daily Totals		\$1332.80		\$2208.00	\$41.65	\$69.00	16 L.H., Daily Totals		\$696.40		\$1066.00	\$43.52	\$66.63	
Crew H-2	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew L-3A	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
2 Glaziers 1 Building Laborer	\$38.60 31.60	\$617.60 252.80	\$58.35 49.00	\$933.60 392.00	\$36.27	\$55.23	1 Carpenter Foreman (outside .5 Sheet Metal Worker	) \$41.95 47.20	\$335.60 188.80	\$65.05 72.65	\$520.40 290.60	\$43.70	\$67.58	
24 L.H., Daily Totals		\$870.40		\$1325.60	\$36.27	\$55.23	12 L.H., Daily Totals		\$524.40		\$811.00	\$43.70	\$67.58	
Crow H 2	U۳	Daily	Ur.	Daily	Bare	Incl.	Crow I A	U.,	Daily	U.,	Daily	Bare	Incl.	
1 Glazier	\$38.60	\$308.80	\$58.35	\$466.80	\$34.45	\$52.58	2 Skilled Workers	\$40.85	\$653.60	\$63.25	\$1012.00	\$37.33	\$57.77	
1 Helper	30.30	242.40	46.80	374.40	624.45	650.50	1 Helper	30.30	242.40	46.80	374.40	617.11	¢57 77	
16 L.H., Daily Totals		\$551.20		\$841.20	\$34.45 Bare	\$52.58	24 L.H., Daily lotals		\$896.00		\$1386.40	\$37.33 Bare	\$57.77	
Crew J-1	Hr.	Daily	Hr.	Daily	Costs	0&P	Crew L-5	Hr.	Daily	Hr.	Daily	Costs	0&P	
3 Plasterers	\$36.15	\$867.60	\$54.55	\$1309.20	\$34.61	\$52.23	1 Struc. Steel Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$44.68	\$77.91	
1 Mixing Machine, 6 C.F.	32.30	516.80 126.60	48.75	139.26	3.17	3.48	1 Equip. Oper. (crane)	44.70	340.40	63.95	511.60			
40 L.H., Daily Totals		\$1511.00		\$2228.46	\$37.77	\$55.71	1 Hyd. Crane, 25 Ton		789.40		868.34	14.10	15.51	
Crew J-2	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	56 L.H., Daily lotais	_	\$3291.40		\$5231.54	\$58.// Bare	\$93.42	
3 Plasterers	\$36.15	\$867.60	\$54.55	\$1309.20	\$34.77	\$52.29	Crew L-5A	Hr.	Daily	Hr.	Daily	Costs	0&P	
2 Plasterer Helpers	32.30	516.80 284.40	48.75	780.00			1 Structural Steel Foreman 2 Structural Steel Workers	\$46.70	\$373.60	\$83.20	\$665.60	\$44.66	\$76.61	
1 Mixing Machine, 6 C.F.	55.55	126.60	52.00	139.26	2.64	2.90	1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60			
48 L.H., Daily Totals		\$1795.40		\$2649.26	\$37.40	\$55.19	1 S.P. Crane, 4x4, 25 Ton	_	716.80		788.48	22.40	24.64	
Crew J-3	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	32 L.H., Daily lotais		\$2146.00		\$3240.08	\$67.06 Bare	\$101.25	
1 Terrazzo Worker	\$37.70	\$301.60	\$55.20	\$441.60	\$34.27	\$50.17	Crew L-5B	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Terrazzo Helper	30.85	246.80	45.15	361.20			1 Structural Steel Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$45.35	\$72.19	
1 Terrazzo Mixer		171.60		188.76	15.82	17.41	2 Structural Steel Workers 2 Electricians	44.70	715.20	69.95	1274.40			
16 L.H., Daily Totals		\$801.60		\$1081.32	\$50.10	\$67.58	2 Steamfitters/Pipefitters	49.35	789.60	74.05	1184.80			
					Bare	Incl.	1 Equip. Oper. (crane)	42.55	340.40	63.95 55.30	511.60 442.40			
Crew K-1	Hr.	Contraction Contraction	Hr.	CADE 60	Costs	0&P	1 Hyd. Crane, 80 Ton	50.00	1296.00	55.50	1425.60	18.00	19.80	
1 Carpenter 1 Truck Driver (light)	\$39.95 30.95	\$319.60 247.60	47.65	\$495.60 381.20	\$30.40	Ş04.8U	72 L.H., Daily Totals		\$4561.20		\$6623.60	\$63.35	\$91.99	
1 Flatbed Truck, Gas, 3 Ton		242.60		266.86	15.16	16.68	Crew L-6	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
TO L.H., Daily Totals		2003.00		ŞII45.00	Bare	Incl.	1 Plumber	\$48.75	\$390.00	\$73.15	\$585.20	\$48.17	\$72.08	
Crew K-2	Hr.	Daily	Hr.	Daily	Costs	0&P	.5 Electrician	47.00	188.00	69.95	279.80 \$865.00	\$48.17	\$72.08	
1 Struc. Steel Foreman 1 Struc. Steel Worker	\$46.70 44.70	\$373.60 357.60	\$83.20 79.65	\$665.60 637.20	\$40.78	\$/0.1/			<i>QUICIOU</i>		¢cccicc	Bare	Incl.	
1 Truck Driver (light)	30.95	247.60	47.65	381.20			Crew L-7	Hr.	Daily	Hr.	Daily	Costs	0&P	
1 Flatbed Truck, Gas, 3 Ton 24 L H. Daily Totals		242.60 \$1221.40		266.86 \$1950.86	10.11	\$81.29	2 Carpenters 1 Building Laborer	\$39.95 31.60	\$639.20 252.80	\$61.95 49.00	\$991.20 392.00	\$38.57	\$59.39	
		¥1221.TV		÷->00.00	Bare	Incl.	.5 Electrician	47.00	188.00	69.95	279.80	<u> </u>	¢50 20	
Crew L-1 1 Electrician	Hr. \$47.00	Daily \$376.00	Hr. \$69.95	<b>Daily</b> \$559.60	<b>Costs</b> \$47.88	0&P \$71.55	20 L.H., Daily IUldis		\$1000.0U		91002.00	Bare	JUB.39	
1 Plumber	48.75	390.00	73.15	585.20			Crew L-8	Hr.	Daily	Hr.	Daily	Costs	0&P	
16 L.H., Daily Totals		\$766.00		\$1144.80	\$47.88	\$71.55	2 Carpenters .5 Plumber	\$39.95 48.75	\$639.20 195.00	\$61.95 73.15	\$991.20 292.60	\$41.71	\$64.19	
							20 L.H., Daily Totals		\$834.20		\$1283.80	\$41.71	\$64.19	

Crew No.	Bare Costs		Sul	Incl. os O & P	Co Per La	ost bor-Hour	Crew No.	Bare	Costs	Incl. s Subs O & P			Cost Per Labor-Ho	
Crew L-9	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	Crew Q-1C	Hr.	Daily	Hr.	Daily	Bare Costs		
L Labor Foreman (inside)	\$32.10	\$256.80	\$49.80	\$398.40	\$36.33	\$58.32	1 Plumber	\$48.75	\$390.00	\$73.15	\$585.20	\$43.03		
2 Building Laborers	31.60	505.60	49.00	784.00			1 Plumber Apprentice	39.00	312.00	58.55	468.40			
1 Struc. Steel Worker	44.70	357.60	79.65	637.20			1 Equip. Oper. (medium)	41.35	330.80	62.15	497.20			
.5 Electrician	47.00	188.00	69.95	279.80			1 Trencher, Chain Type, 8' D		1777.00		1954.70	74.04		
36 L.H., Daily Totals		\$1308.00		\$2099.40	\$36.33	\$58.32	24 L.H., Daily Totals		\$2809.80		\$3505.50	\$117.08		
					Bare	Incl.						Bare	_	
Crew L-10	Hr.	Daily	Hr.	Daily	Costs	0&P	Crew Q-2	Hr.	Cally	Hr.	Contraction Daily	Costs		
1 Structural Steel Foreman	\$46.70	\$3/3.0U	\$83.20 70.05	\$005.00 627.00	544.65	\$75.60	2 Plumbers	\$48.75	\$780.00	\$/3.15	\$1170.40	\$45.50		
1 Structural Steel Worker	44.70	337.00	/9.05	037.20 511.00			1 Plumber Apprentice		312.00	38.33	408.40	4.15.50		
1 Equip. Oper. (crane)	42.55	340.40	63.95	045.00	20.02	25.04	24 L.H., Daily Iotals		\$1092.00		\$1638.80	\$45.50		
1 Hyd. Crane, 12 Ion		/68.80		845.68	32.03	35.24						Bare		
24 L.H., Daily Totals		\$1840.40		\$2660.08	\$76.68	\$110.84	Crew Q-3	Hr.	Daily	Hr.	Daily	Costs		
Crew L-11	Hr.	Dailv	Hr.	Dailv	Bare Costs	Incl. 0&P	1 Plumber Foreman (inside)	\$49.25	\$394.00 780.00	\$73.90 73.15	\$591.20 1170.40	\$46.44		
2 Wrockorc	\$21.60	¢505.60	¢54.15	01, 3392	\$26.20	\$57.74	1 Plumber Approntice	20.00	212.00	59.55	1170.40			
2 WIECKEIS 1 Equip Oper (erene)	331.00	210.10	\$04.10 62.05	\$000.40 511.60	\$30.20	ŞJ1.14			\$140C.00	00.00	400.40	CAC 44		
1 Equip. Oper. (Cralle)	42.00	240.40 21.2 AO	50 70	011.00			32 L.M., Dally Iotals	<u> </u>	\$1480.UU		ŞZZ3U.UU	ə4b.44		
1 Lyulp. Oper. (ligit)	33.00	312.4U	01.80	409.00								Bare		
I NYU. EXCOVOLOF, 2.3 U.Y. 1 Loader Skid Steer 78 H.P.		720 EU 1013'00		1780.90 285 56	59 71	61 58	Crew Q-4	Hr.	Daily	Hr.	Daily	Costs		
221 L. Doily Totala		¢2027.00		¢2014.06	\$04.01	04.J0 ¢100.01	1 Plumber Foreman (inside)	\$49.25	\$394.00	\$73.90	\$591.20	\$46.44		
32 L.H., Dally Totals		\$3037.00		\$3914.00	\$94.91	\$122.31	1 Plumber	48.75	390.00	73.15	585.20			
					Bare	Incl.	1 Welder (plumber)	48.75	390.00	73.15	585.20			
Crew M-1	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Plumber Apprentice	39.00	312.00	58.55	468.40			
3 Elevator Constructors	\$56.60	\$1358.40	\$84.30	\$2023.20	\$53.77	\$80.09	1 Welder, electric, 300 amp		55.70		61.27	1.74		
1 Elevator Apprentice	45.30	362.40	67.45	539.60			32 L.H., Daily Totals		\$1541.70		\$2291.27	\$48.18		
5 Hand Tools		57.00		62.70	1.78	1.96						Bare	-	
32 L.H., Daily Totals		\$1777.80		\$2625.50	\$55.56	\$82.05	Crew Q-5	Hr.	Daily	Hr.	Daily	Costs		
					Bare	Incl.	1 Steamfitter	\$49.35	\$394.80	\$74.05	\$592.40	\$44.42		
Crew M-3	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Steamfitter Apprentice	39.50	316.00	59.30	474.40			
1 Electrician Foreman (out)	\$49.00	\$392.00	\$72.90	\$583.20	\$45.37	\$68.04	16 L.H., Daily Totals		\$710.80		\$1066.80	\$44.42		
1 Common Laborer	31.60	252.80	49.00	392.00				1				Bare	_	
.25 Equipment Operator, Medium	41.35	82.70	62.15	124.30			Crew 0-6	Hr.	Dailv	Hr.	Dailv	Costs		
1 Elevator Constructor	56.60	452.80	84.30	674.40			2 Steamfitters	\$49.35	\$789.60	\$74.05	\$1184.80	\$46.07		
1 Elevator Apprentice	45.30	362.40	67.45	539.60			1 Steamfitter Apprentice	39.50	316.00	59 30	474.40	Q+0.07		
.25 S.P. Crane, 4x4, 20 Ton		175.15		192.66	5.15	5.67	24 L H Daily Totals		\$1105.60	55.50	\$1650.20	\$46.07		
34 L.H., Daily Totals		\$1717.85		\$2506.17	\$50.52	\$73.71	24 L.H., Dally Totals	<u> </u>	\$1105.00		\$1059.20	,940.07	_	
Crew M-4	Hr	Daily	Hr	Daily	Bare	Incl.	Crew Q-7	Hr.	Daily	Hr.	Daily	Costs		
	ć 40.00	6200.00	670.00	ćrop op	C00313	CC7.44	1 Steamfitter Foreman (inside)	\$49.85	\$398.80	\$74.80	\$598.40	\$47.01		
1 Electrician Foreman (out)	\$49.00	\$392.00	\$72.90	\$583.20	544.96	\$67.44	2 Steamfitters	49.35	789.60	74.05	1184.80			
I Common Laborer	31.60	252.80	49.00	392.00			1 Steamfitter Apprentice	39.50	316.00	59.30	474.40			
25 Equipment Operator, Crane	42.55	85.10	63.95	127.90			32 L.H., Daily Totals		\$1504.40		\$2257.60	\$47.01	-	
.25 Equipment Operator, Oiler	36.80	/3.60	55.30	110.60				+				Deve	_	
1 Elevator Constructor	56.60	452.80	84.30	6/4.40			Crow O 9	U.,	Daily	L.	Daily	Costo		
1 Elevator Apprentice	45.30	362.40	67.45	539.60			Crew Q-o	пг.	Dally	nr.	Dally	Costs		
.25 S.P. Crane, 4x4, 40 Ion		234.30		257.73	6.51	/.16	1 Steamfitter Foreman (inside)	\$49.85	\$398.80	\$/4.80	\$598.40	\$47.01		
36 L.H., Daily Totals		\$1853.00		\$2685.43	\$51.47	\$74.60	1 Steamhtter	49.35	394.80	/4.05	592.40			
					Bare	Incl.	1 Welder (steamfitter)	49.35	394.80	74.05	592.40			
Crew Q-1	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Steamfitter Apprentice	39.50	316.00	59.30	474.40			
1 Plumber	\$48.75	\$390.00	\$73.15	\$585.20	\$43.88	\$65.85	1 Welder, electric, 300 amp	<u> </u>	55.70		61.27	1.74		
1 Plumber Apprentice	39.00	312.00	58.55	468.40			32 L.H., Daily Totals	<u> </u>	\$1560.10		\$2318.87	\$48.75		
6 L.H., Daily Totals		\$702.00		\$1053.60	\$43.88	\$65.85	Crow O Q	L.	Daily	L.	Daily	Bare		
					Bare	Incl.	1 Sheet Metal Worker	\$47.20	\$377.60	\$72.65	\$581.20	\$42.48	-	
Crew Q-1A	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Sheet Metal Annrentice	37 75	302.00	58.10	464.80	γ <del>1</del> 2.40		
.25 Plumber Foreman (out)	\$50.75	\$101.50	\$76.20	\$152.40	\$49.15	\$73.76	16 H Daily Totale		\$670.60	50.10	\$1016.00	\$10.10	_	
	1 10 75	390.00	73.15	585.20			TO L.I., Daily IULAIS	<u></u>	JU12.00	<u> </u>	\$1040.00		_	
L Plumber	40.75	050100									1			
L Plumber LO L.H., Daily Totals	40.73	\$491.50		\$737.60	\$49.15	\$73.76	Crew 0-10	H۳	Daily	H۳	Daily	Bare Costs		

1 Sheet Metal Apprentice

24 L.H., Daily Totals

37.75

302.00

\$1057.20

\$67.80

464.80

\$1627.20

\$44.05

58.10

Crew No.	Bare Costs		Incl. Subs O & P		Cost Per Labor-Hour		Crew No.		Costs	Incl. Subs O & P		
Crew 0-11	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P	Crew 0-20	Hr.	Daily	Hr.	Daily	
neet Metal Foreman (inside)	\$47.70	\$381.60	\$73.40	\$587.20	\$44.96	\$69.20	1 Sheet Metal Worker	\$47.20	\$377.60	\$72.65	\$581.20	t
eet Metal Workers	47.20	755.20	72.65	1162.40			1 Sheet Metal Apprentice	37.75	302.00	58.10	464.80	
heet Metal Apprentice	37.75	302.00	58.10	464.80			.5 Electrician	47.00	188.00	69.95	279.80	
L.H., Daily Totals	-	\$1438.80		\$2214.40	\$44.96	\$69.20	20 L.H., Daily Totals		\$867.60		\$1325.80	T
	<u> </u>				Bare	Incl.						
Crew Q-12	Hr.	Daily	Hr.	Daily	Costs	0&P	Crew Q-21	Hr.	Daily	Hr.	Daily	
Sprinkler Installer	\$48.15	\$385.20	\$72.25	\$578.00	\$43.33	\$65.03	2 Steamfitters	\$49.35	\$789.60	\$74.05	\$1184.80	
Sprinkler Apprentice	38.50	308.00	57.80	462.40			1 Steamfitter Apprentice	39.50	316.00	59.30	474.40	
L.H., Daily Totals		\$693.20		\$1040.40	\$43.33	\$65.03	1 Electrician	47.00	376.00	69.95	559.60	
					Bare	Incl.	32 L.H., Daily Totals		\$1481.60		\$2218.80	
Crew Q-13	Hr.	Daily	Hr.	Daily	Costs	0&P						
Sprinkler Foreman (inside)	\$48.65	\$389.20	\$73.00	\$584.00	\$45.86	\$68.83	Crew Q-22	Hr.	Daily	Hr.	Daily	
Sprinkler Installers	48.15	770.40	72.25	1156.00			1 Plumber	\$48.75	\$390.00	\$73.15	\$585.20	
Sprinkler Apprentice	38.50	308.00	57.80	462.40			1 Plumber Apprentice	39.00	312.00	58.55	468.40	
? L.H., Daily Totals	<u> </u>	Ş1467.60		\$2202.40	\$45.86	Ş68.83	1 Hyd. Crane, 12 Ion		/68.80		845.68	
0		D. I.		D. il.	Bare	Incl.	16 L.H., Daily lotals		\$1470.80		\$1899.28	
Crew Q-14	Hr.	Cally	Hr.	CEED OD	Costs	0&P	Crew 0-22A	Hr	Daily	Hr	Daily	
SDESTOS WORKER	\$44.10 35.30	\$352.80 282.40	55 30	\$552.80 112.10	\$39.70	\$62.20	1 Plumbar	\$18.75	\$390.00	\$73.15	\$585.20	
A Daily Totals	- 33.30	\$635.20	55.50	\$005.20	\$30.70	\$62.20	1 Plumber Apprentice	39.00	312.00	58 55	468.40	'
J L.H., Dally Totals		Ş0JJ.20		Ş <del>33</del> 3.20	Ş <b>3</b> 9.70	JUZ.20	1 Laborer	31.60	252.80	49.00	392.00	
Crow 0-15	н.	Daily	Hr	Daily	Bare	Inci.	1 Equip. Oper. (crane)	42.55	340.40	63.95	511.60	
Ciew Q-15	C 40.75	2000.00	пг. 670.15		CUSIS		1 Hyd. Crane, 12 Ton		768.80		845.68	
Plumber Plumber Approntice	\$48.75	\$390.00 21.2.00	\$/3.15	\$385.20 468.40	\$43.88	Ş03.83	32 L.H., Daily Totals		\$2064.00		\$2802.88	
Welder electric 300 amn	39.00	55 70	36.55	61 27	3.48	3.83						
5 L.H., Daily Totals		\$757.70		\$1114.87	\$47.36	\$69.68	Crew Q-23	Hr.	Daily	Hr.	Daily	
					Bare	Incl	1 Plumber Foreman	\$50.75	\$406.00	\$76.20	\$609.60	1
Crew 0-16	Hr.	Dailv	Hr.	Dailv	Costs	0&P	1 Plumber	48.75	390.00	73.15	585.20	
Plumbers	\$48.75	\$780.00	\$73.15	\$1170.40	\$45.50	\$68.28	1 Equip. Oper. (medium)	41.35	330.80	62.15	497.20	
Plumber Apprentice	39.00	312.00	58.55	468.40		,	1 Lattice Boom Crane, 20 Ton		1080.00		1188.00	
Welder, electric, 300 amp		55.70		61.27	2.32	2.55	24 L.H., Daily Totals		\$2206.80		\$2880.00	
4 L.H., Daily Totals		\$1147.70		\$1700.07	\$47.82	\$70.84	0 P 1		Della		Daiha	
					Bare	Incl.	Crew R-1	Hr.	Contraction Contraction	Hr.	Daily	$\vdash$
Crew Q-17	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Electrician Foreman 3 Electricians	\$47.50	\$380.00 1128.00	\$70.70	\$305.00 1678.80	
Steamfitter	\$49.35	\$394.80	\$74.05	\$592.40	\$44.42	\$66.67	2 Holnors	30.30	1120.00	16.80	7/8.80	
Steamfitter Apprentice	39.50	316.00	59.30	474.40			48 L H Daily Totals	50.50	\$1992.80	+0.00	\$2993.20	+
Welder, electric, 300 amp	<u> </u>	55.70		61.27	3.48	3.83			\$155 <u>2</u> .00		\$2550i20	
o L.H., Daliy Iolais	───	\$700.00		\$1128.07	\$47.91	\$70.50	Crew R-1A	Hr.	Daily	Hr.	Daily	
Crew 0-17A	Hr.	Dailv	Hr.	Daily	Costs	INCI. 0&P	1 Electrician	\$47.00	\$376.00	\$69.95	\$559.60	
Steamfitter	\$49 35	\$394.80	\$74.05	\$592.40	\$43.80	\$65.77	1 Helper	30.30	242.40	46.80	374.40	
Steamfitter Apprentice	39.50	316.00	59.30	474.40	\$10.00	yuu.i i	16 L.H., Daily Totals		\$618.40		\$934.00	
Equip. Oper. (crane)	42.55	340.40	63.95	511.60								
Hyd. Crane, 12 Ton		768.80		845.68			Crew R-2	Hr.	Daily	Hr.	Daily	
Welder, electric, 300 amp		55.70		61.27	34.35	37.79	1 Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	
L.H., Daily Totals		\$1875.70		\$2485.35	\$78.15	\$103.56	3 Electricians	47.00	1128.00	69.95	1678.80	
					Bare	Incl.	2 Helpers	30.30	484.80	46.80	/48.80	
Crew Q-18	Hr.	Daily	Hr.	Daily	Costs	0&P	1 Equip. Uper. (crane)	42.55	340.40 258 20	63.95	011.60 284.02	
Steamfitters	\$49.35	\$789.60	\$74.05	\$1184.80	\$46.07	\$69.13	561 H. Daily Totale		\$2501 //0		204.02 \$3788.80	$\vdash$
Steamfitter Apprentice	39.50	316.00	59.30	474.40			JU L.H., Dally IU(a)S		92J31.4U		J100.02	
Welder, electric, 300 amp	<u> </u>	55.70		61.27	2.32	2.55	Crew R-3	Hr	Daily	Hr	Daily	
4 L.H., Daily Iotals	<b></b>	\$1161.30		\$1/20.47	\$48.39	\$/1.69	1 Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	
	u.	Daily	ш.	Daily	Bare	Incl.	1 Electrician	47.00	376.00	69.95	559.60	'
Crow 0.10	<u>т</u> п(.	Daily	nr.	Dally	CUSIS		.5 Equip. Oper. (crane)	42.55	170.20	63.95	255.80	
Crew Q-19	¢40.05	CO0 1 00	C74 OF	CEU0 40	0 0 0 0 0	0, 1 1 1	1					
Crew Q-19 Steamfitter	\$49.35	\$394.80	\$74.05	\$592.40	\$45.28	\$67.77	.5 S.P. Crane, 4x4, 5 Ton		129.10		142.01	
Crew Q-19 Steamfitter Steamfitter Apprentice	\$49.35 39.50	\$394.80 316.00	\$74.05 59.30	\$592.40 474.40	\$45.28	\$67.77	.5 S.P. Crane, 4x4, 5 Ton 20 L.H., Daily Totals		129.10 \$1055.30		142.01 \$1523.01	

Crew No.	Bai	re Costs	Sut	Incl. os O & P	Cost Per Labor-Hour		
Crew R-4	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Struc. Steel Foreman	\$46.70	\$373.60	\$83.20	\$665.60	\$45.56	\$78.42	
3 Struc. Steel Workers	44.70	1072.80	79.65	1911.60			
1 Electrician	47.00	376.00	69.95	559.60			
1 Welder, gas engine, 300 amp		134.20		147.62	3.36	3.69	
40 L.H., Daily Totals		\$1956.60		\$3284.42	\$48.91	\$82.11	
					Bare	Incl.	
Crew R-5	Hr.	Daily	Hr.	Daily	Costs	0&P	
Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	\$40.97	\$61.60	
Electrician Linemen	47.00	1504.00	69.95	2238.40			
Electrician Operators	47.00	752.00	69.95	1119.20			
Electrician Groundmen	30.30	969.60	46.80	1497.60			
L Crew Truck		169.60		186.56			
1 Flatbed Truck, 20,000 GVW		197.40		217.14			
L Pickup Truck, 3/4 Ton		116.80		128.48			
2 Hyd. Crane, 55 Ton		225.00		247.50			
2 Hyd. Crane, 12 Ton		153.76		169.14			
2 Earth Auger, Truck-Mtd.		82.40		90.64			
Tractor w/Winch		354.80		390.28	14.77	16.25	
88 L.H., Daily Totals		\$4905.36		\$6850.54	\$55.74	\$77.85	
Crew R-6	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P	
1 Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	\$40.97	\$61.60	
1 Electrician Linemen	47.00	1504.00	69.95	2238.40	Q 10.57	Q01.00	
2 Electrician Operators	47.00	752.00	60.05	1110.20			
1 Electrician Operators	30.30	060.60	16.80	1/07.60			
1 Crow Truck	30.30	160.60	40.00	186.56			
1 Flathad Truck 20 000 GVW		105.00		217.14			
1 Dickup Truck, 20,000 GWW		116.90		120 / 0			
2 Hud Crana 55 Tan		225.00		247.50			
2 Hyd. Grane, 12 Ton		152.76		160.17			
2 Flyu. Glane, 12 Ton 2 Forth Augar Truck Mtd		92.40		00.64			
1. Traatar w Minah		254.00		200.04			
1 Tractor W/ Willen		504.00 E 21.20		590.20			
5 Gable Trailers		175.20		102.00			
5 Terisioning Rig		1/0.50		192.00	24.72	20.20	
3 Gable Pulling Rig		\$6661.51		1104.40 \$8782.30	34.73 \$75.70	38.20 \$99.80	
JO L.H., Daily Totals		<b>J</b> 0001.31		Q0702.30	Bare	Incl.	
Crew R-7	Hr.	Daily	Hr.	Daily	Costs	0&P	
L Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	\$33.17	\$50.78	
5 Electrician Groundmen	30.30	1212.00	46.80	1872.00			
Crew Truck		169.60		186.56	3.53	3.89	
18 L.H., Daily Totals		\$1761.60		\$2624.16	\$36.70	\$54.67	
Crew R-8	Hr.	Dailv	Hr.	Dailv	Bare Costs	Incl. 0&P	
L Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	\$41.52	\$62.36	
Electrician Linemen	47.00	1128.00	69.95	1678.80			
Electrician Groundmen	30.30	484.80	46.80	748.80			
Pickup Truck, 3/4 Ton		116.80		128.48			
Crew Truck		169.60		186 56	5 97	6 56	
8   H Daily Totals		\$2270.20		¢3308.00	\$ <u>17</u> <u>1</u> 2	\$68.00	
יס בווו, שמוץ וטנמוס		YLLI J.LU		.JJUU.24	Bare	Juci	
Crew R-9	Hr.	Daily	Hr.	Daily	Costs	0&P	
	\$47.50	\$380.00	\$70.70	\$565.60	\$38.71	\$58.47	
. Electrician Foreman	J47.JU				1		
1 Electrician Foreman 1 Electrician Lineman	47.00	376.00	69.95	559.60			
1 Electrician Foreman 1 Electrician Lineman 2 Electrician Operators	47.00 47.00	376.00 752.00	69.95 69.95	559.60 1119.20			
L Electrician Foreman L Electrician Lineman 2 Electrician Operators 4 Electrician Groundmen	47.00 47.00 30.30	376.00 752.00 969.60	69.95 69.95 46.80	559.60 1119.20 1497.60			
L Electrician Foreman L Electrician Lineman 2 Electrician Operators 4 Electrician Groundmen L Pickup Truck, 3/4 Ton	47.00 47.00 30.30	376.00 752.00 969.60 116.80	69.95 69.95 46.80	559.60 1119.20 1497.60 128.48			
Electrician Foreman Electrician Lineman Electrician Operators Electrician Groundmen Pickup Truck, 3/4 Ton Crew Truck	47.00 47.00 30.30	376.00 752.00 969.60 116.80 169.60	69.95 69.95 46.80	559.60 1119.20 1497.60 128.48 186.56	4.47	4.92	

Crew No.	Bare	Costs	Ine Subs	cl. 5 O & P	Cost Per Labor-Hour			
Crew R-10	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P		
1 Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	\$44.30	\$66.22		
4 Electrician Linemen	47.00	1504.00	69.95	2238.40				
1 Electrician Groundman	30.30	242.40	46.80	374.40				
1 Crew Truck		169.60		186.56				
3 Tram Cars		380.55		418.61	11.46	12.61		
48 L.H., Daily Totals		\$2676.55		\$3783.57	\$55.76	\$78.82		
					Bare	Incl.		
Crew R-11	Hr.	Daily	Hr.	Daily	Costs	0&P		
1 Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	\$44.24	Ş66.21		
4 Electricians	47.00	1504.00	69.95	2238.40				
1 Equip. Oper. (crane)	42.00	340.40	03.90	202.00				
1 Crew Truck	51.00	169.60	49.00	186 56				
1 Hvd. Crane, 12 Ton		768.80		845.68	16.76	18.43		
56 L.H., Daily Totals		\$3415.60		\$4739.84	\$60.99	\$84.64		
		<i>vo</i> 120100		¢ 17 0510 1	Bare	Incl		
Crew R-12	Hr.	Daily	Hr.	Daily	Costs	0&P		
1 Carpenter Foreman	\$40.45	\$323.60	\$62.75	\$502.00	\$37.52	\$58.94		
4 Carpenters	39.95	1278.40	61.95	1982.40				
4 Common Laborers	31.60	1011.20	49.00	1568.00				
1 Equip. Oper. (med.)	41.35	330.80	62.15	497.20				
1 Steel Worker	44.70	357.60	/9.65	637.20				
1 Dozer, 200 H.P.		116.90		1190.20	12.62	1/ 09		
1 FICKUP ITUCK, 5/4 IOII		\$4500.40		120.40 \$6505.49	15.02 ¢51.14	14.90 ¢72.02		
OO L.N., Daliy Iulais		\$4000.40		Ş0000.46	\$01.14	\$75.95		
Crew R-13	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P		
1 Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	\$44.94	\$67.02		
3 Electricians	47.00	1128.00	69.95	1678.80				
.25 Equip. Oper. (crane)	42.55	85.10	63.95	127.90				
1 Equipment Oiler	36.80	294.40	55.30	442.40	4.07	E 20		
.25 Hydraulic Urane, 33 Ion		204.70		220.17 ¢20.20.97	4.87 ¢40.91	0.30		
42 L.I.I., Daliy IOldis		Ş2092.20		Ş3039.07	\$49.01 Demo	\$72.30		
Crew R-15	Hr.	Daily	Hr.	Daily	Costs	Inci. 0&P		
1 Electrician Foreman	\$47.50	\$380.00	\$70.70	\$565.60	\$45.76	\$68.20		
4 Electricians	47.00	1504.00	69.95	2238.40				
1 Equipment Oper. (light)	39.05	312.40	58.70	469.60				
1 Aerial Lift Truck		328.80		361.68	6.85	/.54		
48 L.H., Daily lotais		\$2525.20		\$3635.28	\$52.61	\$/5./3		
Crew R-18	Hr.	Daily	Hr.	Daily	Bare Costs	Inci. 0&P		
.25 Electrician Foreman	\$47.50	\$95.00	\$70.70	\$141.40	\$36.76	\$55.76		
1 Electrician	47.00	376.00	69.95	559.60				
2 Helpers	30.30	484.80	46.80	748.80				
26 L.H., Daily Totals		\$955.80		\$1449.80	\$36.76	\$55.76		
Crew R-19	1				Bare	Incl.		
.5 Electrician Foreman	Hr.	Daily	Hr.	Daily	Costs	0&P		
	<b>Hr.</b> \$47.50	<b>Daily</b> \$190.00	<b>Hr.</b> \$70.70	<b>Daily</b> \$282.80	<b>Costs</b> \$47.10	0&P \$70.10		
2 Electricians	<b>Hr.</b> \$47.50 47.00	<b>Daily</b> \$190.00 752.00	<b>Hr.</b> \$70.70 69.95	<b>Daily</b> \$282.80 1119.20	\$47.10	<b>0&amp;P</b> \$70.10		
2 Electricians 20 L.H., Daily Totals	<b>Hr.</b> \$47.50 47.00	<b>Daily</b> \$190.00 752.00 \$942.00	<b>Hr.</b> \$70.70 69.95	<b>Daily</b> \$282.80 1119.20 \$1402.00	Costs           \$47.10           \$47.10	0&P \$70.10 \$70.10		
2 Electricians 20 L.H., Daily Totals Crew R-21	Hr. \$47.50 47.00 Hr.	Daily \$190.00 752.00 \$942.00 Daily	Hr. \$70.70 69.95 Hr.	Daily           \$282.80           1119.20           \$1402.00           Daily	Costs \$47.10 \$47.10 Bare Costs	0&P \$70.10 \$70.10 Incl. 0&P		
2 Electricians 20 L.H., Daily Totals Crew R-21 1 Electrician Foreman	Hr. \$47.50 47.00 Hr. \$47.50	Daily           \$190.00           752.00           \$942.00           Daily           \$380.00	Hr. \$70.70 69.95 Hr. \$70.70	Daily           \$282.80           1119.20           \$1402.00           Daily           \$565.60	Costs           \$47.10           \$47.10           Bare           Costs           \$46.98	0&P \$70.10 \$70.10 Incl. 0&P \$69.94		
2 Electricians 20 L.H., Daily Totals Crew R-21 1 Electrician Foreman 3 Electricians	Hr. \$47.50 47.00 Hr. \$47.50 47.00	Daily           \$190.00           752.00           \$942.00           Daily           \$380.00           1128.00	Hr. \$70.70 69.95 Hr. \$70.70 69.95	Daily           \$282.80           1119.20           \$1402.00           Daily           \$565.60           1678.80	Costs           \$47.10           \$47.10           Bare           Costs           \$46.98	O&P           \$70.10           \$70.10           Incl.           O&P           \$69.94		
2 Electricians 20 L.H., Daily Totals Crew R-21 1 Electrician Foreman 3 Electricians .1 Equip. Oper. (med.)	Hr.           \$47.50           47.00           Hr.           \$47.50           47.00           41.35	Daily           \$190.00           752.00           \$942.00           Daily           \$380.00           1128.00           33.08	Hr. \$70.70 69.95 Hr. \$70.70 69.95 62.15	Daily           \$282.80           1119.20           \$1402.00           Daily           \$565.60           1678.80           49.72	Costs           \$47.10           \$47.10           Bare           Costs           \$46.98	O&P           \$70.10           \$70.10           Incl.           O&P           \$69.94		
2 Electricians 20 L.H., Daily Totals Crew R-21 1 Electrician Foreman 3 Electricians .1 Equip. Oper. (med.) .1 S.P. Crane, 4x4, 25 Ton	Hr.           \$47.50           47.00           Hr.           \$47.50           47.00           41.35	Daily           \$190.00           752.00           \$942.00           Daily           \$380.00           1128.00           33.08           71.68	Hr. \$70.70 69.95 Hr. \$70.70 69.95 62.15	Daily           \$282.80           1119.20           \$1402.00           Daily           \$565.60           1678.80           49.72           78.85	Costs           \$47.10           \$47.10           Bare           Costs           \$46.98           2.19	0&P \$70.10 \$70.10 Incl. 0&P \$69.94 2.40		

Crew No.	Bare	Costs	In Subs	cl. O & P	Cost Per Labor-Hour				
Crew R-22	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P			
.66 Electrician Foreman	\$47.50	\$250.80	\$70.70	\$373.30	\$39.90	\$60.12			
2 Helpers	30.30	484.80	46.80	748.80					
2 Electricians	47.00	752.00	69.95	1119.20					
37.28 L.H., Daily Totals		\$1487.60		\$2241.30	\$39.90	\$60.12			
Crew R-30	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P			
.25 Electrician Foreman (out)	\$49.00	\$98.00	\$72.90	\$145.80	\$37.68	\$57.28			
1 Electrician	47.00	376.00	69.95	559.60					
2 Laborers, (Semi-Skilled)	31.60	505.60	49.00	784.00					
26 L.H., Daily Totals		\$979.60		\$1489.40	\$37.68	\$57.28			
Crew R-31	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. 0&P			
1 Electrician	\$47.00	\$376.00	\$69.95	\$559.60	\$47.00	\$69.95			
1 Core Drill, Electric, 2.5 H.P.		52.95		58.24	6.62	7.28			
8 L.H., Daily Totals		\$428.95		\$617.85	\$53.62	\$77.23			
Crew W-41E	Hr.	Daily	Hr.	Daily	Bare Costs	Incl. O&P			
.5 Plumber Foreman (out)	\$50.75	\$203.00	\$76.20	\$304.80	\$42.29	\$64.10			
1 Plumber	48.75	390.00	73.15	585.20					
1 Laborer	31.60	252.80	49.00	392.00					
20 L.H., Daily Totals		\$845.80		\$1282.00	\$42.29	\$64.10			