



270 North Clark Street – Powell, Wyoming 82435
(307) 754-5106 – FAX (307) 754-5385

April 6, 2018

XXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXX
XXXXXXXXXXXXXXXXXX

SUBJECT: Chip Seal

Dear Mr.XXXXX:

This letter is your notification of the City of Powell's intent to request bids for the purpose of purchasing the supply and application of approximately fifty two thousand eight hundred (52,800) square yards of Chip Seal during the 2018 summer season.

Enclosed please find the following documents:

- Invitation to Bid
- Instructions to Bidders
- Material Specifications
- Bid Proposal
- Bid Sheet
- Contract
- Checklist

These forms will enable you to submit a bid for the above-mentioned bid. Should you require any additional information, please do not hesitate to contact me at the address and phone number listed below.

I thank you in advance for your interest in the City of Powell.

Sincerely,

Gary Butts DPW / Streets Superintendent
City of Powell
270 N Clark St.
Powell, WY 82435
307-754-6951



270 North Clark Street – Powell, Wyoming 82435
(307) 754-5106 – FAX (307) 754-5385

INVITATION TO BID

Sealed bids for the supply and application of approximately fifty two thousand eight hundred (52,800) square yards of Chip seal, for the City of Powell's 2018 summer season, will be received by the City of Powell at City Hall, 270 North Clark Street, Powell, Wyoming, 82435 until **10:15 AM, Tuesday, May 22, 2018.**

Mailed and hand delivered bids shall have “**Chip**” written on the outside of the envelope. The bids will be publicly opened, read and acknowledged at the above time and date and award will be made as soon thereafter as practicable.

Bids received after the time and date above will be rejected and returned unopened.

Copies of the details, requirements and specifications may be obtained from the City of Powell website at www.cityofpowell.com or at City Hall, 270 North Clark Street, Powell, Wyoming, free of charge.

The City of Powell reserves the right to reject any or all bids and to waive informality in any bid received.

BY ORDER OF THE CITY OF POWELL

John F. Wetzel
Mayor, City of Powell

Publish:	FIRST	Tuesday	April 17, 2018
	FINAL	Tuesday	April 24, 2018

CITY OF POWELL, WYOMING

1.0 INSTRUCTIONS TO BIDDERS

1.1 Purpose

The attached Bid Specifications are submitted to solicit bids from qualified vendors for the supply and application of approximately fifty two thousand eight hundred (52,800) square yards of Chip seal for the City of Powell Street Department.

1.2 Bid Submittal

Sealed bids (using the City of Powell Bid Forms) will be accepted at City Hall, City of Powell, 270 N. Clark Street, Powell, Wyoming, 82435, until 10:15 AM, Tuesday, May 22, 2018. The bids will be publicly opened, read and canvassed on the above time and date and award made as soon thereafter as practicable. It is the bidder's responsibility alone to ensure delivery of the sealed bids to the hands of the City of Powell prior to the bid opening time stipulated in the Invitation to Bid.

1.3 Preparation of Bid

All bids must be submitted on the required bid form. All blank spaces must be filled in, in ink or typewritten and the bid must be fully completed and executed when submitted. No alterations in the bid or in the printed forms will be acceptable.

2.0 GENERAL CONDITIONS

2.1 Bid Security

All bids must be accompanied by bid security in the form of a certified check, cashier's check or bid bond, payable without conditions to the City of Powell, in the amount of five hundred (\$500.00) dollars. The bid security will be retained by the City of Powell as liquidated damages should the successful bidder refuse or fail to enter into contract agreement within ten (10) days from the date of "Notice of Award".

2.2 Right to Reject Bids

The City of Powell reserves the right to reject any or all bids, to waive technicalities or informalities and to accept any bid deemed to be in the best interest of the City.

2.3 Wyoming State Preference

Preference is hereby given to materials, supplies, agricultural products, equipment, machinery and provisions produced, manufactured, supplied or grown in Wyoming, quality being equal to articles offered by the competitors outside of the state (16-6-106). It will be up to the successful bidder to comply with W.S. 16-6-201 through 16-6-206 Wyoming Preference Act of 1971.

2.4 Price Protection

Prices quoted in the bid shall be firm prices and not subject to increase during the term of any contractual agreement between the City and Vendor. All prices are to be F.O.B. point of delivery, less any federal excise and state sales taxes. Vendors must stipulate the expiration date of quoted prices.

2.0 GENERAL CONDITIONS - continued

2.5 Variations to the Bid Specifications

Any variations to the bid specifications must be submitted at the time of the bid opening in writing so stating the exceptions. This includes not meeting minimum specifications, or making substitutions deemed by the vendor as being equal or superior to specifications. Vendor will be responsible for satisfying the City regarding substitutions.

3.0 SELECTION PROCESS

3.1 Evaluation

Appropriate city staff will review and evaluate all bids.

3.2 Selection

Following the evaluation process described above, the evaluation staff will present their recommendation to the City Administrator. The City will make all decisions regarding selection and awarding of contract. The decisions of the Mayor and Council will be considered final.

CITY OF POWELL

Performance Specifications for Emulsified Asphalt Chip Seal

1. DESCRIPTION

The Chip Seal shall consist of a mixture of an approved CHFRS-2P Polymer Modified emulsified asphalt, proportioned, mixed and uniformly spread over a properly prepared surface and covered with an approved aggregate, thoroughly rolled by proper equipment and broomed off afterwards to remove any loose chips remaining. The completed Chip Seal shall leave a mat, adhered firmly to the prepared surface, and have a friction resistant surface texture throughout its service life.

2. POLYMER MODIFIED EMULSION

The emulsified asphalt shall be **CHFRS-2P** as shown in Table 1 section 10. The polymer modified emulsion shall be compatible with the mix design developed for the conventional Chip Seal. Each shipment of emulsified asphalt shall be accompanied by a certificate of analysis / compliance from the manufacturer. The asphalt emulsion shall meet all applicable requirements of Section 10 "Chip Seal Specifications".

3. AGGREGATE

The aggregate shall be manufactured crushed stone that is free from dirt, organic matter, clay balls, adherent films of clay, dust, or other objectionable matter. The aggregate shall meet all applicable requirements of Section 11 "Aggregate Specifications".

4. WEATHER LIMITATIONS

The Chip Seal shall not be applied if either the pavement or air temperature is below 50°F (10°C) and falling, but may be applied when both pavement and air temperature are above 45°F (7°C) and rising. No Chip Seal shall be applied when there is danger that the finished product will freeze within 24 hours. The mixture shall be applied when weather conditions prolong opening to traffic beyond a reasonable time.

5. TRAFFIC CONTROL

The Chip Seal shall be applied to alternating streets to allow sufficient time for the bituminous material to set and bond to the existing street. Traffic will not be allowed on the newly placed bituminous material until, in the opinion of the Project Manager, the bituminous material has sufficiently set and bonded or the material has been allowed to set and bond for four (4) hours to prevent damage by such traffic. Areas subject to an increased rate of sharp-turning vehicles may require additional time to allow for a more complete cure of the Chip Seal mat to prevent damage.

6. Reserved for future use

7. Reserved for future use

8. Reserved for future use

9. CHIP SEAL MIXTURE

The Chip Seal shall consist of a mixture of CHFRS-2P emulsified asphalt and aggregate conforming to Sections 10 & 11, "Chip Seal Specifications" and "Aggregate Specifications". The mixture shall be proportioned, mixed and spread evenly on a prepared surface in accordance with these specifications or as directed by the Project Manager. The Chip Seal shall be rolled thoroughly using proper roller techniques to align the chips and set the chips completely. The completed Chip Seal shall leave a mat, adhered firmly to the prepared surface, and have a friction resistant surface texture throughout its service life.

The equipment, tools, and machines needed in the performance of the work shall be provided by the Contractor and shall be maintained in a satisfactory working condition at all times.

- (a) Job Mix Design. Sources of all materials shall be selected prior to the time when the mix design is prepared and the materials are required to be used in the work. Chip Seal mixture shall not be placed until the Project Manager has approved a mix design, submitted by the Contractor. The exact proportions of asphalt emulsion and aggregate, to be used in the preparation of the Chip Seal shall be as shown in these specifications. Design preparation and certification shall conform to Sections 10 & 11, "Chip Seal Specifications" and "Aggregate Specifications". The total aggregate and asphalt emulsion as well as all necessary equipment shall be at the expense of the Contractor.

The approved CHFRS-2P shall be a mixture, sufficiently stable during the entire spreading period so that the emulsion does not break before its intended purpose. The asphalt emulsion shall show no signs of premature breaking of emulsion when applied to the pavement surface.

- (b) Sampling and Testing. Suitable sized samples of aggregate and asphalt emulsion shall be submitted, when requested by the Project Manager, for approval not less than ten (10) days before the work starts. The Contractor at his expense shall supply all samples of materials, and all tests necessary to determine conformance with requirements specified. Additional samples of materials shall be furnished as directed by the Project Manager during progress of the work. The Contractor will notify the Owner immediately if any test fails to meet the specifications.

If it is established that a satisfactory Chip Seal mixture meeting the requirements specified herein cannot be produced from the materials furnished, the materials shall be rejected and the Contractor shall submit new samples.

- (c) Preparation of Surface. Prior to application of the Chip Seal, the existing pavement surface shall be cleaned of all silt deposits, oil spots, vegetation, and all loose or objectionable material. Traffic paint on the surface to be treated, which is not tightly bonded to the surface, shall be removed. Loose material in cracks and on the pavement surface shall be removed by sweeping and vacuuming operations. Water flushing may be required, but shall not be permitted in areas where considerable cracks are present in the pavement surface. The surface shall be cleaned using a self-propelled pick-up sweeper.

The Project Manager shall give final approval that the surface has been properly prepared prior to the application of the Chip Seal; this approval shall not relieve the Contractor from responsibility as outlined above.

Manholes, valve boxes, drop inlets, and other service entrances shall be protected from the Chip Seal by placing Fibreen Grade 208-SD-10 reinforced, waterproof, all-purpose paper as manufactured by the Fortifiber Corporation or other suitable material approved by the Project Manager. The paper shall be held in place with spray glue and removed within 24 hours after the Chip Seal has cured.

- (d) Spray Unit. The asphalt emulsion shall be applied with a machine designed and manufactured to lay a continuous flow, capable of delivering accurately predetermined proportions of asphalt emulsion. The machine shall be equipped with a pressure system and fog type spray bar. The machine shall be capable of spraying materials at preset proportions regardless of the speed of the machine and without changing machine settings.

Each unit to be used in performance of the work shall be calibrated prior to construction. Previous calibration documentation covering the exact materials to be used may be accepted, provided it was made during the current calendar year. The documentation shall include an individual calibration of each material at various settings, which can be related to the machine metering device(s).

- (e) Preparation. The Contractor shall insure that all oversize aggregate and other objectionable matter are removed from the aggregate utilized in the Chip Seal mixture. Screening shall be required at the stockpile if there are problems created by oversize materials in the mixture.

(f) Application.

CHFRS-2P shall be applied at the rate of .57 gals. (+/- .02 gals) per sq. yd. (hot) to obtain uniform coverage and aggregate adherence.

Sufficient quantities of the aggregate shall be fed into the spreader so that uniform and complete coverage of the CHFRS-2P and pavement is obtained. The aggregate spreader machine shall be operated at such a speed that the aggregate in the spreader shall remain essentially constant. The aggregate shall be placed at a rate of 40 pounds per square yard using ½" gradation. The unit weight of the aggregate, the gradation of the aggregate, and the condition of the surface to which the Chip Seal is applied may affect application rates. Lower application rates of aggregate may be allowed if evidence of sufficient coverage using a lower application rate shows consistent workability.

No streaks shall be caused by oversized aggregate particles or buildup of Chip in the spreader .

The Contractor shall have a foreman / supervisor on site during spreading of the Chip Seal. The foreman / supervisor will have experience with Chip Seal and a working knowledge of the equipment, materials, and application procedures.

- (g) Joints. The longitudinal joint between adjacent lanes shall have no visible lap, pinholes, or uncovered areas. Thick application caused by overlapping shall be smoothed immediately before the Chip Seal mixture breaks. When possible, longitudinal joints shall be placed on lane lines. The Contractor shall provide suitable spreading equipment to minimize the number of longitudinal joints. Overlays that occur at transverse joints shall be smoothed before the Chip Seal mixture breaks, so that a uniform surface is obtained.
- (h) Production. The Contractor shall have the capability to average a minimum of 10,000 square yards of Chip Seal application per working day.
- (i) Lines. Care shall be taken to insure straight lines along curbs and shoulders. No runoff on these areas will be permitted. Lines at intersections shall be kept straight to provide a good appearance.
- (j) Handwork. Approved techniques, shall be used to spread Chip in areas not accessible to the Chip spreader box. Care shall be exercised in leaving no unsightly appearance from handwork.
- (k) Curing. Treated areas will be allowed to cure from four (4) to twenty-four (24) hours or until the treated pavement will not be damaged by traffic. The Contractor will protect the area for the full curing period with suitable barricades or markers. Areas damaged, as a result of insufficient cure within 24 hours or prior to moving to a new map area shall be repaired at the Contractor's expense.
- (l) Storage of Equipment and Materials. Written authorization to use private property to store equipment and materials shall be obtained from the property owner and submitted prior to mobilization and use.

(m) Cleanup. All material swept or blown onto the sidewalks, all trash, all discarded Chip Seal material, or other refuse shall be collected on a daily basis, removed from the site and disposed of to a site approved by the Project Manager. Areas Chip Sealed shall be broomed off of loose chips either onto an area approved by the Owner or picked up and removed.

10. CHIP SEAL SPECIFICATIONS

CHFRS-2P and its components shall conform to the requirements of Table 1 when tested in accordance with AASHTO, and ASTM procedures.

**TABLE 1
CHFRS-2P**

PROPERTY	SPECIFICATION		AASHTO TEST #.
	Min.	Max.	
Viscosity, Saybolt-Furol at 122 °F. sec.	100	400	T-59
Storage Stability Test, 24 hours, percent		1.0	T-59
Sieve Test, percent		0.1	T-59
Demulsibility, 35 ml 0.8% Sodium Diocetyl Sulfosuccinate %	60		T-59
Particle Charge Test	Positive		T-59
Distillation Test: (1)			
Oil distillate by volume of emulsion %		0.5	T-59
Residue % by Wt,	65		T-59
Test on Distillation Residue:			
Polymer Content, wt. % (solids basis)	3.0		TEX-533-C
Softening Point °F	130		T-53
Penetration 77 °F., 100 gr., 5 sec.,	80	130	T-49
Float Value at 140 °F, sec.	1800		T-50

Viscosity @ 140 °F, Poise	1300	T-51
Solubility in Trichloroethylene, percent	95	T-44
Elastic Recovery @ 10 °C 50 °F., %(2)	55	T-301

- (1) Exception to AASHTO T-59: Bring the temperature on the lower thermometer slowly to 350 °F plus or minus 10 °F. Maintain at this temperature for 20 minutes. Complete total distillation in 60 plus or minus 5 minutes from first application of heat.
- (2) Elastic Recovery @ 10 °C (50 °F): Hour glass sides, pull 20 cm, hold 5 minutes then cut, let sit 1 hour.

11. AGGREGATE SPECIFICATIONS

Sampling of the aggregate shall conform to AASHTO T2 / ASTM D75 methods. All aggregates shall be from the same source. No field blending will be allowed.

The aggregate shall meet the requirements of Table 2 when tested in accordance with AASHTO and ASTM methods or Table 803.8-1. Both Tables are below;

**TABLE 2
MINERAL AGGREGATES**

Materials used for the production of the half (1/2") cover coat aggregate shall be stone, ledge rock or boulders of such size that prior to crushing, not more than five percent will pass a half inch screen. The materials produced shall be well graded from coarse to fine within the following gradation requirements.

	Sieve Size Opening in Inches	Percent Passing
3/4 inch	0.750	100
1/2 inch	0.500	95 - 100
3/8 inch	0.3750	0 - 15
Number 4	0.1870	0 - 10
Number 8	0.0937	0 - 3.0
Number 200	0.0029	0 - 2.0

The use of Type C Gradation Aggregate Chip will also be an allowed use for this project. See Table 803.8-1 below.

**Table 803.8-1
Gradation Requirements: Chip Seal**

Sieve	% Passing					
	Type					
	B	C	D	E	K	S
1 in [25.0 mm]	–	–	–	–	–	–
¾ in [19.0 mm]	100	–	100	100	–	–
½ in [12.5 mm]	95 to 100	100	95 to 100	95 to 100	100	100
⅜ in [9.5 mm]	40 to 70	90 to 100	–	–	95 to 100	95 to 100
No. 4 [4.75 mm]	0 to 15	0 to 10	0 to 15	35 to 70	0 to 35	85 to 100
No. 8 [2.36 mm]	0 to 7	0 to 5	–	–	0 to 20	–
No. 200 [75 µm]	0 to 2	0 to 2	0 to 10	0 to 10	0 to 3	0 to 5

12. ADDITIONAL REQUIREMENTS

The City of Powell will require approximately fifty two thousand eight hundred (52,800) square yards of CHFRS-2P Chip Seal applied to its streets during the 2018 summer season. The final actual amount will be based on pricing and budget restrictions.

The City will prep all streets for surface cleaning, cracks, potholes, and other surface and sub-surface deficiencies as the City deems fit before the Chip Seal is applied. The successful contractor will be responsible for final cleaning and preparation for the Chip Seal as specified in 9 (c) above.

The Contractor will be responsible for all materials, design and application in accordance with the Recommended Performance Guidelines for Emulsified Asphalt Chip Seal.

The Contractor shall warranty the materials and workmanship of the Chip Seal for a period of 2 years from the date of application and shall repair defects identified during the warranty period, in conformance with these special provisions. During the warranty period, should an area of Chip Seal be found to be defective, the Streets Superintendent will notify the Contractor in writing of the areas to be repaired. The Contractor shall complete the repairs within 60 days from the date of the notification letter, unless the Streets Superintendent determines that weather conditions are unsuitable.

DUE TO OTHER ACTIVITIES IN POWELL NO CHIP SEAL WILL TAKE PLACE JULY 22 THROUGH JULY 29, 2018.

Pricing will be for CHFRS-2P emulsified asphalt with ½” aggregate Chip Seal per square yard.

Approved: April 6, 2018.

A handwritten signature in blue ink, appearing to read "Gary Butts". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Gary Butts, DPW / Streets Superintendent

CITY OF POWELL, WYOMING

BID PROPOSAL

The undersigned certifies that they have personally examined and read the requirements of the attached Invitation to Bid, Instructions to Bidders, General Conditions, Bid Specifications, the Proposed Contract and this Proposal and thoroughly understands the intent and stipulations therein and hereby proposes supply, transfer, sell and apply approximately fifty two thousand eight hundred (52,800) square yards of CHFRS-2P Chip Seal, to the City of Powell, Powell, Wyoming for its 2018 summer street project.

Bids received after the time and date of Tuesday May 22, 2018, 10:15 AM, will be returned unopened.

All bids will be F. O. B. , the City of Powell, Powell, Wyoming.

Any variations to the bid specifications must be submitted at the time of the bid opening, in writing, so stating the exceptions. This includes not meeting minimum specifications, or making substitutions deemed by the vendor as being equal or superior to specifications. Vendors will be responsible for satisfying the City regarding substitution. No substitutions will be considered unless approved in writing by the City.

The undersigned supplier certifies that he/she has read the above requirements and has submitted with their bid all information that the City of Powell has required.

Supplier: _____

By: _____
Original Signature

By: _____
Printed/Typed of Signature above

Title: _____

Phone #: _____

CITY OF POWELL, WYOMING

Bid Sheet

We hereby submit the following bid for the supply and application of approximately fifty two thousand eight hundred (52,800) square yards of CHFRS-2P Chip Seal for the City of Powell Street Department. ***Bids will be opened on Tuesday, May 22, 2018, at 10:15 AM.***

Bid for CHFRS-2P Chip Seal - *per square yard* \$ _____

We further include the following information:

1. The above price will be firm for _____ days.

Date

Company

Phone number

Signature

Title

CITY OF POWELL

CHFRS-2P EMULSIFIED ASPHALT CHIP SEAL CONTRACT

THIS CONTRACT made and entered into this _____ day of _____, 2018, by and between the City of Powell, Wyoming, hereinafter called CITY and _____ of _____, _____, hereinafter called SUPPLIER.

1. The SUPPLIER shall sell and deliver approximately fifty two thousand eight hundred (52,800) square yards of CHFRS-2P Chip Seal, on an as needed basis and shall be available for use as may be required or designated by the CITY for use at any and all scheduled times and in any and all conditions.

2. SUPPLIER shall maintain such insurance as will protect SUPPLIER from claims under all applicable workman's compensation laws. SUPPLIER shall maintain public liability and property damage insurance as will protect SUPPLIER from any claims for injury or death of any person, or any property damage which may arise from operations under this Contract, whether such operation be by SUPPLIER or by any subcontractor, laborers, equipment operators or any one directly or indirectly employed by SUPPLIER or any subcontractors. SUPPLIER shall maintain liability and property damage insurance in an amount not less than \$100,000.00/\$300,000.00.

3. The CITY shall pay the SUPPLIER the sum of _____ Dollars xx/100 (\$_____) per square yard, which SUPPLIER shall receive and accept as full compensation for everything furnished and done under the contract, and for all loss of damage arising out of the nature of the work, the action of the elements or from unforeseen contingencies or difficulties encountered in the prosecution of the work.

4. SUPPLIER agrees to indemnify and safe harmless the CITY from and against all losses and all claims, demands, payments, suits, actions, recoveries and judgments or every nature and description brought or recovered against CITY, by reason of negligent act or omission of said SUPPLIER, his agents or employees, in execution of the work.

5. SUPPLIER shall not assign any part of the performance of this Contract or of any funds to be received thereunder by the SUPPLIER from CITY, and no assignment will be recognized by CITY unless such assignment has had the prior written approval of CITY.

6. SUPPLIER shall not sublet this Contract or any part thereof without the written consent of the CITY. In the event this Contract or any portion thereof is sublet by SUPPLIER, with the written consent of the CITY, all obligations of the original SUPPLIER under this Contract shall remain in full force and effect. All subcontractors must be pre-approved by CITY before subcontractors may begin working.

7. The Instructions to Bidders, General Conditions, Bid Proposal, and Bid Specifications are all essential documents of the Agreement and made a part hereof as if written herein.

8. Preference is hereby given to materials, supplies, agricultural products, equipment, machinery and provisions produced, manufactured, supplied or grown in Wyoming, quality being equal to articles offered by the competitors outside of the state (16-6-106).

9. The CITY of Powell, its officers, employees, appointees and representatives, do hereby reserve their governmental or sovereign immunity from tort liability of any kind or nature and nothing herein shall be considered a waiver of immunity as provided by law. City specifically retains all immunities and defenses available to it as a sovereign or governmental entity pursuant to state law, including Wyoming Statute 1-39-101, et seq.

10. This Agreement shall inure to the benefit of and be binding upon the legal representatives and successors of the CITY and the SUPPLIER respectfully.

IN WITNESS WHEREOF, the CITY and SUPPLIER have executed this Agreement as of the day and year first above written.

CITY OF POWELL

ATTEST:

By: _____
Mayor, John Wetzel

City Clerk, Tiffany Brando

CONTRACTOR

By: _____

STATE OF)
) SS
COUNTY OF)

The foregoing Contract was acknowledge before me by _____
for _____, this _____ day of _____, 2018.

WITNESS by my hand and official seal.

(SEAL)

Notary Public

My Commission Expires:

CITY OF POWELL

Bid Checklist

The following items will be required for a qualified bid on the supply and application of approximately fifty two thousand eight hundred (52,800) square yards of CHFRS-2P Chip Seal for the City of Powell Street Department. Bid opening date of May 22, 2018 at 10:15 AM, City of Powell, 270 North Clark Street, Powell, Wyoming.

- _____ \$500.00 bid security in the form of a bond or cashiers check
- _____ Properly executed ***Bid Proposal***
- _____ Properly executed ***Bid Sheets***
- _____ Concise breakdown of material being bid.
- _____ Properly executed ***Bid Checklist.***


I have submitted the above referenced forms, as required, with my bid submittal package.

By: _____
Authorized Signature

Print above signature

The City of Powell appreciates the time and effort that you have devoted.



 2018 Chip Seal

Chip Seal 2018

STREET CHIP	LENGTH	WIDTH	SQ.YDS.
Bent(S):Monroe-RR X-ING	1450.00	44.00	7088.89
Day(S):South-RR X-ING	380.00	44.00	1857.78
Division(S):Monroe-North	600.00	33.00	2200.00
Fair(S):Coulter-RR X-ING	150.00	53.00	883.33
Ferris(S):South-North	200.00	44.00	977.78
Gilbert(S):South-North	200.00	44.00	977.78
Ingalls(S):South-North	200.00	40.00	888.89
Madison(S):Fair-Division	1350.00	28.00	4200.00
Monroe(S):Fair-Division	1255.00	37.00	5159.44
North(S):Jones-Fair	4500.00	44.00	22000.00
North(S):Fair-Watershop	2112.00	28.00	6570.67
			52804.56