Table of Contents

File 1978-0061

Date 8/25/00 Project Name: Omega Park – Revised Final

Present	Scanned	
		A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the ISYS retrieval system. In some instances, not all entries designated to be scanned are present in the file. There are also documents specific to certain files, not found on the standard list. For this reason, a checklist has been included. **Remaining items, (not selected for scanning), will be marked present on the checklist. This index can serve as a quick guide for the contents of each file.** **Files denoted with (**) are to be located using the ISYS Query System. Planning Clearance will need to be typed in full, as well as other entries such as Ordinances, Resolutions, Board of Appeals, and etc.**
X	X	***Summary Sheet – Table of Contents**
		Application form
		Receipts for fees paid for anything
		***Submittal checklist**
		***General project report**
		Reduced copy of final plans or drawings
		Reduction of assessor's map
		Evidence of title, deeds
X	X	***Mailing list**
		Public notice cards
		Record of certified mail
X		Legal description
		Appraisal of raw land
		Reduction of any maps – final copy
		***Final reports for drainage and soils (geotechnical reports)**
		Other bound or nonbound reports
		Traffic studies
		Individual review comments from agencies
		***Consolidated review comments list**
X	X	***Petitioner's response to comments**
		***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**
		***Letters and correspondence dated after the date of final approval (pertaining to change in conditions or expiration date)**

DOCUMENTS SPECIFIC TO THIS DEVELOPMENT FILE:

X	X	Follow-Up Form	X	X	Memo from Del Beaver to Ron Rish – 10/18/78
X		Review Sheets	X	X	Memo from Karl Metzner to Ron Rish – 4/26/79
X	X	Development Application	X	X	Site Plan
X	X	Power of Attorney	X		Elevations
X		Record of Final Plat Recording	X		Landscape Plan
X	X	Improvements Agreement – 8/25/81	X		Perspective View
X	X	Planning Commission Minutes – 4/28/81 - ** minutes of 4/28/81 re: tabled revocable permit and conditional use	X		Street & Parking Profile
X		Public Notice Posting			
X	X	Letter from Omega Investment to Planning Department – 4/1/81			
X		Request for Treasurer's Certificate of Taxes Due			
X	X	City Council Minutes - ** - 2/4/94, 5/24/94			
X	X	Ordinance No. 1770 - **			
X	X	Sign Clearance - **			
X	X	Final Plat Application			

Key to prime investments...

PAVLAKIS & COMPANY

5670 EAST EVANS • DENVER, COLORADO 80222 • PHONE 757-6441
700 FLORIDA AVE. • LONGMONT, COLORADO 80501 • PHONE 772-4886
115 N. 3RD AVE. • GRAND JUNCTION, COLORADO 81501 • PHONE 243-8430

OMEGA PARK

PROPOSED DEVELOPMENT SCHEDULE

It is proposed that OMEGA PARK will be built in phases over a five year period of time. Phase I consisting of Buildings #1 and #3 and related parking and open space is proposed to begin on or about September 30, 1978 and with an anticipated completion date of four months.

Each succeeding phase is proposed to consist of two buildings, each to be constructed each year and over four consecutive years beginning in 1979. This schedule could be accelerated based on the demand of the area. Adequate parking and open space will be provided as each phase is developed.

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115 N. 3RD AVE. • GRAND JUNCTION, COLORADO 81501 • PHONE 243-8430

PRELIMINARY PLAN PROPOSAL
OMEGA PARK 28 Road & Elm Avenue
May 30, 1978

ADJACENT PROPERTY OWNERS

Earl A. & Floy E. Young
2303 North First Street
Grand Junction, Colorado 81501

Village Land Co.
5670 E. Evans Avenue
Denver, Colorado 80222

Hubert Miracle
510 Court Road
Grand Junction, Colorado 81501

Helen M. Warren
1002 Bookcliff Avenue
Grand Junction, Colorado 81501

Carsen E. & Anna T. Loudermilk
2809 Elm Avenue
Grand Junction, Colorado 81501

Joseph H. & Freda R. Jones
Box 311
Clifton, Colorado 81520

Floyd W. & J. B. Jens
2804 Elm Avenue
Grand Junction, Colorado 81501

J. C. & V. J. Moore
2802 Elm Avenue
Grand Junction, Colorado 81501

Anna M. Syrja
6630 W. Nancy Road
Glendale, Arizona 85306

Thelma R. & Kristie L. Creel
2608 G Road
Grand Junction, Colorado 81501

R. G. & M. A. Walker
Rt. 1, Box 1353
Prineville, Oregon 97754

Key to prime investments...

PAYLAKIS & COMPANY

5670 EAST EVANS • DENVER, COLORADO 80222 • PHONE 757-6441
700 FLORIDA AVE. • LONGMONT, COLORADO 80501 • PHONE 772-4886
115 N. 3RD AVE. • GRAND JUNCTION, COLORADO 81501 • PHONE 243-8430

OMEGA PARK
FINAL PLAN
August 1, 1978

ADJACENT PROPERTY OWNERS

Earl A. & Floy E Young
2303 North First Street
Grand Junction, Colorado 81501

Village Land Co.
5670 E. Evans Avenue
Denver, Colorado 80222

Hubert Miracle
510 Court Road
Grand Junction, Colorado 81501

Helen M. Warren
1002 Bookcliff Avenue
Grand Junction, Colorado 81501

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2608 G Road
Grand Junction, Colorado 81501

R. G. & M. A. Walker
Rt. 1, Box 1353
Prineville, Oregon 97754

REVIEW COMMENTS FOR: #61-78 - Omega Park

AS OF AUGUST 22, 1978

Parks and Recreation: Approve

Police Department: Increase traffic flow at 28 Road and North Avenue; 28 Road and Elm Avenue will require eventual stop/go light 28 Road and Elm, Presently stop sign on Elm. Private parking accidents probable, no parking space dimensions.

City Public Works Engineer:

1. *Specifications submitted are a "Hodge Podge" of Mesa County Spec, outdated, 1976, City Specs, etal. When construction plans and specs are submitted for City Engineer approval, these must be corrected.*
2. *Please refer to previous comments. (Copy attached)*
3. *Will Court Road street imps. be connected to this site?*
4. *I strongly recommend against the proposed street plans. Internal streets are not to City Study. No provisions made for terminating Court Road into a public street. Classic example of circumventing required City Studies by use of "private" streets. I assume no maintenance responsibilities on these substandard streets. This MUST be discussed and resolved with Council! I see lots of future problems with this precedent.*

PREVIOUS COMMENTS AS MENTIONED ABOVE

1. *I assume from their drawings that all internal streets will be "private" and City will have no maintenance responsibility. This can cause problems for future owners. I recommend a public street from 28 Road to Court Road.*
2. *Existing wash on South line is very important. It drains back of North Avenue businesses all the way from 28 ½ Road and must be maintained as a drainway. Drainage scheme looks OK.*
3. *Somehow a culvert across the wash and an improved street connection to Court Road is needed. This has been discussed and I thought Development Department was going to insure this would happen. (Re access from South (Court Road)should be provided.)*
4. *One access only to 28 Road looks good for 28 Road but access to Court Road Should also be provided.*
5. *Developer should provide 17' mat and CG & SW on South side of Elm as part of Phase I construction.*

City Utilities Engineer: Trash container location must be addressed prior to construction. P.U.C. pipe not acceptable and Ute Water specifications not acceptable. 2" water line will not be allowed and should be 6" line taken south on to Court and property line. I have several other problems. Water and sewer line specification not acceptable.

Public Service: Public Service Company Gas and Electric: Will require a Blanket (exhibit) Easement. Developer to contact Public Service Company for meter, transformer,locations, etc.

Recommend Approval based on staff comments, Including public Street dedication (Court Rd extended) of 30' ROW w/no parking (parallel) and ~~adequate~~ (50' R.O.W.) to east from Ct. Rd along n. bank ditch,

June 12, 1978

Village Land Company
Attn. Harry P. Mavrakis
115 North 3rd Street
Grand Junction, CO 81501

Re: File #61-78 PRELINIMARY PLAN - OMEGA PARK

Dear Mr. Mavrakis:

In reviewing and processing of the preliminary plan for Omega Park we have discovered the following deficiencies:

1.) The area shown for the development encompasses more area than that zoned PD-B by the Outline Development Plan. A rezone petition must be submitted for all parcels not presently zoned PD-B prior to June 15, 1977.

2.) Since more than one parcel of land comprises the Planned Development a one lot subdivision plat must accompany the development plan. Such subdivision plat must meet all standards and requirements of the subdivision regulations. The plat and accompanying information must be received by our office not later than June 21, 1978.

3.) At Outline development stage a public road was proposed to connect to Court Road. This is still a desirable concept and should be included in your plan.

4.) A specific landscape plan is required with all planned developments. This plan should consist of specific name (genus, species), size (at planting) and location of all landscape features.

5.) You will be required to provide 1/2 street improvements on Elm Avenue during Phase One.

6.) Loop water line to 28 Road.

Please contact the Development Department as soon as possible if you have any questions concerning these requirements.

Sincerely,

Karl Metzner
Planner I

KGM;klf

CITY – COUNTY
DEVELOPMENT DEPT.

P.O. BOX 897 - GRAND JUNCTION, COLORADO - 81501
DIAL (303) 243-9200 ext. 343

Grand Junction Planning - Mesa County Planning - Building Department

June 29, 1978

Village Land Company
115 North 3rd Street
Grand Junction, Colorado 81501

Attn: Harry P. Mavrakis

Re: FILE #61-78 PRELIMINARY PLAN - OMEGA PARK

Dear Mr. Mavrakis:

The Grand Junction Planning Commission, at the regularly scheduled meeting of June 27, 1978, approved the preliminary plan for Omega Park. Approval was subject to the following stipulations:

a) one-half street improvements on Elm Avenue with Phase I
b) waterlines and fire hydrants as required by City Utilities and City Fire Department
c) public access from 28 Road to Court Road including crossing of the drain ditch which must be constructed upon completion of 60% of the proposed units
d) required rezoning petition and single lot subdivision plat to be submitted with final development plan. The subdivision plat will be the instrument used to record easements and dedications.
e) your engineer should contact Public Service Company and Mountain Bell for required easements

This item will be heard before the Grand Junction City Council on July 19, 1978.

Sincerely,

Karl G. Metzner
Planner I

KGM:cjr

cc: Colorado West Surveying
835 Colorado Avenue
Grand Junction, Colorado 81501

Lincoln DeVore

1000 West Fillmore St.
Colorado Springs, Colorado 80907
(303) 632-3593
Home Office

August 1, 1978

Atkins & Associates
835 Colorado Avenue
Grand Junction, Colorado 81501

Re: Omega Park

Gentlemen,

Following is a preliminary report concerning the subsurface soils conditions for Omega Park, located in the NW¼, SW¼, of section 7, T1S, R1E, of the Ute Meridian. A complete soils report will follow shortly.

The soils were found to be a lean clay with some silt. The upper portion of the profile is a dry crust and is typical of the soils profile in this portion of Grand Junction. A softer area was found in the Northeast portion of the tract. Following is a summary of the allowable bearings values for this tract.

For the majority of the tract, an allowable bearing capacity of 2000 psf maximum can be used for the upper 3 feet of the profile. If the foundation is placed below the 3 feet level, the allowable bearing value should be lowered to 1500 psf. In the upper 3 feet, a minimum bearing value of 700 should be maintained. The northeast corner of the tract is somewhat softer and a lower maximum bearing value of 1500 psf should be assumed..Excavations in this area should be inspected prior to placing concrete to insure that proper bearing will be achieved.

If any further questions should arise, please feel free to contact this laboratory.

Respectfully submitted,
LINCOLN DeVORE TESTING LAB.

Edward M. Morris

EMM/sjc
LDTL Job No.J-165

2700 Highway 50 West
Pueblo, Colo 81003
(303) 546-1150

P.O. Box 1427
Glenwood Springs, Colo 81601
(303) 945-6020

109 Rosemont Plaza
Montrose, Colo 81401
(303) 249-7838

P.O. Box 1882
Grand Junction, Colo 81501
(303) 242-8968

P.O. Box 1643
Rock Springs, Wyo 82901
(307) 382-2649

CITY AND COUNTY PLANNING & DEVELOPMENT PROCESSING—

CITY AND COUNTY BUILDING PERMIT & INSPECTION

61-78

City County Development Department

MEMORANDUM

Reply Requested

☐ YES ☐ NO

Date: 4/27/79

To: Don, John & Larry **From:** Karl

OMEGA PARK

Before issuing any building permits we must have ---

1. Subdivision plat conforming to approval requirements must be submitted and recorded.
2. Developmant plan conforming to approval requirements must be submitted and filed.
3. Ron must approve construction plans on streets for Phase I including ½ street improvements for Elm Avenue.
4. Utilities composite must be submitted, signed by all utilities serving the project.

File Omega Park (City File) P.D.

CITY OF GRAND JUNCTION, COLORADO

MEMORANDUM

File Omega Park

Reply Requested
Yes ☐ No ☐

61-78

Date
April 26, 1979

To: (From:) Karl Metzner From: (To:) Ron Rish RRR

Subject: Omega Park Street Plans

Phase I of Omega Park received final development plan approval from City Council on September 20, 1978, subject to the conditions of the Planning Commission. Attached are copies of the minutes from both the Council and the Commission meetings. Also attached is a copy of a memo dated October 18, 1978, which was in response to my request for clarification from your Department about the parking issue decisions. On that date I related to Del Beaver what street section was appropriate and that the resulting right of way width would be 35 feet.

I am very concerned about potential misunderstandings and the passage of time. We have had a discussion on other business with Pete Sigmund, the engineer for the project, and he related to Don Newton that they did not intend to submit detail construction plans for my approval prior to construction because they already had their "approval". Pete talked about 26 ft. mat and 2 ft. pans which are not what will be approved.

Short of starting a war, please try to clear up with the developer (1) 35 ft. of right of way is required; (2) 24 ft. mat with 5 ft. gutter pans is appropriate; and (3) detailed construction plans and pavement design calculations must be submitted and approved by the City Engineer prior to construction per Ordinance Section 27-4.3. Thanks for any help you can give to make sure we don't get into a "thing" on this is appreciated.

Enclosure

cc Gerald Ashby
John Kenney
Don Newton
Jim Patterson

CITY – COUNTY
DEVELOPMENT DEPT.

P.O. BOX 897 - GRAND JUNCTION, COLORADO - 81501
DIAL (303) 243-9200 ext. 343

Grand Junction Planning - Mesa County Planning - Building Department

MEMO

DATE: October 18, 1978
TO: Ron Rish
FROM: Del Beaver
SUBJECT: Omega Park

The First Phase of Omega Park was approved with the following conditions:

1. No parallel on-street parking.
2. 90° parking in proposed areas behind the gutter pans.
3. 30' R.O.W. for a Public Street (Court Road Extended).
4. Construction of the entire length of Court Road, including ditch crossing at the point of 60% buildout of the total project (To be done at end of constructing Phase II of five phases).
5. Providing sufficient R.O.W. to east along north side of ditch for a public street to serve properties to east.

No ROW work. need 24' mat, two 5' pans. at a minimum. need 5' min. RPR 10-18-78

3 What width of ROW? RPR 10-18-78 ↑ 50' per Del on 10-18-78

TABLE OF CONTENTS

TITLE	SECTION
Special Provisions	2
General Conditions	3
Trench Excavation & Backfill	4
Sewer Pipe	5
Manholes	6
Asphaltic Paving and Concrete Replacement	7
Portland Cement - Concrete	8
Technical Specifications for Streets	9
Technical Specifications for Water	10

SECTION 2

Special Provisions (Index)

Paragraph	Title	Page
A.	Description of Work	S. P. 1
B.	Review of Plans by Others	S. P. 1
C.	Conflict in Documents	S. P. 1
D.	Sales Tax Records	S. P. 1
E.	Method of Payment and Retained Percentage	S. P. 1
F.	Excess Cost of Administration, Inspection and field Engineering	S. P. 1
G.	Construction Stakes	S. P. 1
H.	Concrete	S. P. 1
I.	Structural Excavation and Backfill	S. P. 2
J.	Method of Award	S. P. 2
K.	Laws and Ordinances	S. P. 2
L.	Assignment and Subletting	S. P. 2
M.	Time and Order of Completion	S. P. 3
N.	Extension of Time	S. P. 3
O.	Hindrances and Delays	S. P. 3
P.	Permits and Regulations	S. P. 3
Q.	Protection of existing structures and facilities	S. P. 4
R.	Relation to Water Mains	S. P. 5
S.	Service Line Markers	S. P. 5
T.	Trench Compaction	S. P. 5
U.	Final Acceptance	S. P. 5
V.	Relation to Water Mains:	S. P. 5

SPECIAL PROVISIONS

A. DESCRIPTION OF WORK: THE WORK TO BE ACCOMPLISHED UNDER THIS CONTRACT INCLUDES CONSTRUCTION OF _____

_____

AND ALL APPURTENANCES NECESSARY TO CONSTRUCT THE SANITARY SEWER IMPROVEMENTS.

B. REVIEW OF PLANS BY OTHERS: THE DETAIL PLANS AND SPECIFICATIONS FOR THE WORK DESCRIBED UNDER THIS CONTRACT HAVE BEEN REVIEWED BY THE FOLLOWING AGENCIES AND THEIR RESPECTIVE REQUIREMENTS HAVE BEEN INCORPORATED IN THE PLANS.

1.
2. COLORADO DEPARTMENT OF PUBLIC HEALTH.
3. COLORADO WATER POLLUTION CONTROL COMMISSION.

C. CONFLICT OF DOCUMENTS: WHERE ANY CONFLICT ARISES BETWEEN THE GENERAL CONDITIONS AND ANY OTHER PORTION OF THE SPECIFICATIONS, THE GENERAL CONDITIONS WILL APPLY. WHERE ANY CONFLICT ARISES BETWEEN THE SPECIAL PROVISIONS AND ANY OTHER SECTIONS EXCEPT THE GENERAL CONDITIONS, THE SPECIAL PROVISIONS SHALL APPLY.

D. SALES TAX RECORDS: THE CONTRACTOR SHALL MAINTAIN A RECORD OF ALL PURCHASES UPON WHICH STATE SALES TAX WAS PAID. UPON COMPLETION OF THE WORK, BUT PRIOR TO THE PAYMENT OF THE FINAL ESTIMATE, THE CONTRACTOR SHALL SUBMIT TO THE OWNER A SUMMARY TABULATION, CERTIFIED TO BE TRUE, OF ALL PURCHASES UPON WHICH SALES TAXES WERE PAID. THIS SUMMARY IS TO BE USED BY THE OWNER AS EVIDENCE OF TAXES PAID FOR WHICH THE OWNER WILL BE REIMBURSED. THE REFUND WILL BE RETAINED BY THE OWNER AND WILL NOT BE REFUNDED TO THE CONTRACTOR.

E. METHOD OF PAYMENT AND RETAINED PERCENTAGE: THE RETAINED PERCENTAGE TO BE WITHHELD FROM THE PARTIAL PAYMENT ESTIMATES, AS DESCRIBED IN SECTION 3, PARAGRAPH 61 OF THESE SPECIFICATIONS SHALL BE 10 PERCENT.

F. EXCESS COST OF ADMINISTRATION, INSPECTION, AND FIELD ENGINEERING: A CHARGE OF FIFTY DOLLARS ($50) PER DAY SHALL BE DEDUCTED FROM MONIES DUE THE CONTRACTOR BY THE OWNER FOR EACH CALENDAR DAY THAT THE TIME OF CONSTRUCTION EXCEEDS THE TIME SET FORTH IN THE CONTRACTOR'S PROPOSAL, WITH ALLOWANCES FOR ANY VALID TIME EXTENSIONS APPROVED IN WRITING BY THE OWNER. THESE CHARGES ARE LIQUIDATED DAMAGES TO COVER THE EXCESS COST OF ADMINISTRATION, INSPECTION, FIELD ENGINEERING, OVERHEAD, AND THE LOSS OF REVENUE TO THE OWNER.

G. CONSTRUCTION STAKES: SECTION 3, PARAGRAPHS 44, 45 AND 46, ARE CALLED TO THE ATTENTION OF THE CONTRACTOR. THE ENGINEER SHALL FURNISH ALL STAKES FOR THE PROJECT AT THE EXPENSE OF THE OWNER. IF ANY RESTAKING IS NECESSARY DUE TO WILLFUL OR CARELESS DESTRUCTION OF THE STAKES BY THE CONTRACTOR OR HIS EMPLOYEES, THE FULL EXPENSE OF RESETTING AND REPLACEMENT WILL BE CHARGE TO THE CONTRACTOR.

H. CONCRETE: ALL STRUCTURAL CONCRETE USED IN THE CONSTRUCTION OF THE CONTRACT SHALL BE OF CLASS "A" AS DESCRIBED IN SECTION 6 OF THESE SPECIFICATIONS.

Type II cement shall be used instead of Type I, as described in Section 6 of these specifications unless otherwise approved by the Engineer.

The paragraph under "Concrete Material" in Section 6 shall be amended as follows:

Portland Cement

Non-air entraining Portland Cement shall conform to the latest requirement of ASTM Designation C 150 for Type II cement. Air entraining Portland Cement shall conform to the latest requirement of ASTM Designation C 175 for Type II cement.

I. Structural Excavation and Backfill: This item will not be paid for separately, but the cost of excavation and backfilling around structures will be paid for at the contract unit price for the structure involved and no additional compensation will be allowed.

J. Method of Award: If at the time of this contract is to be awarded, the lowest base bid submitted by a responsible bidder does not exceed the amount of funds than estimated by the Owner as available to finance the contract, the contract will be awarded on the base bid only. If such bid exceeds such amount, the Owner may reject all bids or may award the contract on the base bid combined with such deductible alternates applied in numerical order in which they are listed in the Form of Bid, as produced a net amount which is within the available funds.

K. Laws and Ordinances: The Contractor shal at all times observe and comply with all Federal, State, and local laws, ordinances and regulations, which in any manner affect the contract or the work, and shall idemnify and save harmless the Owner against any claim arising from the violation of any such laws, ordinances, and regulations whether by the Contractor or his employees, except where such violations are called for by the provisions of the Contract Documents. If the Contractor observes that the plans and specifications are at variance therewith, he shall promptly notify the Engineer in writing, and any necessary changes shall be adjusted as provided in the contract for changes in the work. If the Contractor performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such notice to the Engineer, he shall bear all costs arising therefrom. In case the Owner is a body politic and corporate, the law from which it derives its powers, insofar as the same regulates the objects for which, or the manner in which, or the conditions under which the Owner may enter into contract, shall be controling, and shall be considered as part of this Contract, to the same effect as though embodied herein.

L. Assignment and Subletting: The Contractor further agrees that he will retain personal attention to the fulfillment of this contract and that he will not assign by Power of Attorney, or otherwise, or sublet said contract without the written consent of the Owner, and that no part or feature of the work will be sublet to anyone objectionable to the Engineer or the Owner. The Contractor further agrees that the subletting of any portion or feature of the work, or materials required in the performance of this contract shall not relieve the Contractor from his full obligations to the Owner, as provided by this Agreement.

M. Time and Order of Completion: It is the meaning and intent of this Contract that the Contractor shall commence, prosecute, and complete the work diligently and expeditiously, in accordance with his construction schedules, and in accordance with the contract time of completion designated in the proposal; provided, also, that when the Owner is having other work done, either by contract or by his own force, the Engineer may direct the time and manner of constructing the work done under this Contract, so that conflicts will be avoided and the construction of the various works being done for the Owner shall be harmonized.

N. Extension of Time: The Contractor expressly covenants and agrees that in undertaking to complete the work within the Contract time hereinfixed, he has taken into consideration and amde allowances for all of the ordinary delays and hinderances incident to such work whether growing out of delays in securing material or workman, or otherwise.

If, however, during the progress of the work, weather conditions, or other circumstances beyond the control of the Contractor are on any day, not including a Sunday or a legal holiday, such that in his opinion he is entitled to have such day not counted against him in computing his performance time. The Contractor shall submit to the Engineer within ten(10) days after such day a request for a credit on the time of completion, designating the day or days for which he relies in making such claim.

The Engineer will review such request and such approval or disapproval thereof shall be final and binding. Approval of such request shall operate to exclude the day or days therein referred to from the count and calculation of the time consumed by the Contractor in performing the contract.

When, in the opinion of the Engineer, weather or other conditions are such that the utility of the project might be endagered if the work were continued, he may order cessation of work during such time. The Contractor shall be required to request a corresponding extension of time covering the period which he is directed to cease work, and the days on which he has been so ordered to cease or discontinue the work shall not be charged against his specified completion time.

O. Hindrances and Delays: No charges or claims for damages shall be made by the Contractor for any delays or hindrances, from any cause whatsoever, during the progress of the work. However, if delay is caused by specific orders of the Engineer for termporary stoppage of work, or by the performance of authorized extra work or by the failure of the owner to Provide required information, instruction or material, if any, which the Owner is obligated to provide, the Contractor will be entitled to an equivalent extension of time, application for which must be made in writing to the Engineer within ten (10) days after the occurence of the delay, in accordance with Paragraph N, "Extension of Time".

P. Permits and Regulations: The Contractor shall provide all necessary licenses and permits for construction under this Contract. The Contractor shall be responsible for conducting his operation in accordance with the provisions of such licenses and permits and shall be responsible for the compliance with all Federal, State and Local laws, codes and regulations in connection with the prosecution of the work.

Q. Protection of Existing Structures and Facilities: Existing facilities, utilities, pipelines, fences, roads, and all other surface and subsurface facilities and structures, whether or not made known to the Contractor prior to the start of work, shall be protected by the Contractor from damage during the course of operations, and if damage occurs, the Contractor shall accept all liabilities for all damages resulting from failure to so protect, and for interruption of any service or services, and will repair or replace all damaged facilities at his expense.

The Owner assumes no responsibility for failure to make known all existing structures and facilities, or to show them in their exact location. The Contractor agrees that this failure shall not constitute a basis for claims of any type for additional compensation or for increasing the pay quantities in any manner whatsoever, unless the facility or structure encountered necessitates changes in the alignment or grades, or requires the building of special work for which provisions are not made in the plans and specifications.

The Contractor shall not move or, in any way, change the property of public utilities or private service corporations without prior written consent of a responsible official of that service or public utility, and representatives of these utilities reserve the right to enter within the limits of this project for the purposes of maintaining their properties, or for making such changes or repairs to their property that may be considered necessary by performance of this contract.

Should any construction operations be required in the immediate vicinity of any existing pipelines or utilities, the Contractor shall notify the owners and/or operators of such utilities and pipelines of the nature of those construction operations that will be performed. A minimum of five (5) working days advance notice shall be given.

The Contractor shall be responsible for the removal of, or damage to, fences, roads, culverts, drainage ditches and channels, etc., during the course of operations for this project, and such damaged or removed facilities shall be repaired or replaced in their same location and left in a condition as good or better than that in which they were found, unless ordered otherwise by the Engineer. The Contractor shall not be held liable for damage to any crops within the contract work limits, but is responsible and liable for all damage to all facilities, structures, properties, livestock and crops outside the contract work limits.

The Contractor agrees that he has sole responsibility for the protection of facilities, structures, and properties outside the limits of operation and agrees to indemnify and hold harmless the Owner, The Engineer, and owners of adjoining and adjacent properties from and against any and all damages, claims, demands, suits, and judgements cost including attorney's fees and expenses for or on account of damage to property of any, person, firm, corporation, company, or government agency, or death of or injury to any person or persons (including property and employees of COLORADO WEST SURVEYING; R. L. Atkins, Engineering Consultant; the Contractor and employees of the Contractor), directly or indirectly arising from or caused by or in connection with the performance of failure to perform any work provided for hereunder by the Contractor, his subcontractors, or the Contractor's agents, servants or employees. It is agreed and understood that in the prosecution of work under the provisions therof, the Contractor is and shall continue to be an independent contractor.

R. Relation to Water Mains: Sewers shall be located a minimum of ten feet horizontally from existing or proposed water mains (centerline distance). Where sewer lines cross water mains, the sewer pipe shall be a minimum of 18 inches clear distance vertically below the water main. If this clear distance is not feasible, the crossing must be designated and constructed so as to protect the water main. Minimum protection shall consist of the installation of an impervious and structural sewer.

S. Service Line Markers: A 2" X 4" will be placed at the end of each service line, extending from the flow line of the service to 2' feet above the existing grownd surface.

T. Trench Compaction: Trench compaction within future roadways shall be to 95% of the maximum density obtainable by standared compaction tests or as otherwise directed by the Mesa County Road Department. Compaction tests will be supplied to the Engineer by the Contractor. Trench compaction and testing will be paid for at the lump sum price for this item. There will be no additional payment for retesting or recompaction.

U. Final Acceptance: All pipelines constructed of flexible materials shall be measured for vertical ring deflection within 15 days after completion of the backfill and again at least 8 months after installation, but no later than 30 days prior to final acceptance of the project. Maximum ring deflection of the pipeline under load shall be limited to 7 per cent of the vertical internal pipe diameter. All pipe exceeding this deflection shall be considered to have reached the limit of their serviceability and and shall be relaid or replaced by the contractor at no additional cost to the owner.

The cost of all deflection testing shall be borne by the contractor and shall be accomplished by using a defectometer, which will produce a continuous record of pipe deflection, or by pulling a mandrel, sphere, or pin-type go/no go device through the pipeline. The diameter of the go/no go device shall be 95 per cent of the undeflected inside diameter of the flexible pipe.

V. Relation to Water Mains: Sewers shall be located a minimum of ten feet horizontally from existing or proposed water mains (centerline distance).. Where sewer lines cross water mains, the sewer pipe shall be a minimum of 18 inches clear distance vertically below the water main. If this clear distance is not feasible, the crossing must be designated and constructed so as to protect the water main. Minimum protection shall consist of the installation of an impervious and structural sewer. For example:

a. One length of pipe at least 18 feet long centered over the water main. Joints between the sewer pipe and the special pipe shall be encased in a concrete collar at least 6 inches thick and extended at least 6 inches either side of the joint.

b. Concrete or vitrified clay sewer pipe with reinforced concrete encasement. Encasement shall be at least 6 inches thick and extend a distance of 10 feet either side of the water main.

In all cases, suitable backfill or other structural protection shall be provided to preclude settling and/or failure of the higher pipe.

SECTION 3

General Conditions
(Index)

Paragraph	Title	Page
1.	General	G. C. 1
2.	Definitions	G. C. 1
3.	Specification Requirements	G. C. 1
4.	Site Examination	G. C. 1
5.	Statement of Bidder's Plant & Financial Condition	G. C. 2
6.	Qualifying Conditions in Bidder's Proposal	G. C. 2
7.	Estimated Quantities	G. C. 2
8.	Copies of Documents	G. C. 3
9.	Data Sheets	G. C. 3
10.	Preparation of Proposals	G. C. 3
11.	Bid Security	G. C. 3
12.	Execution of Documents	G. C. 4
13.	Filing Bids	G. C. 4
14.	Alternates	G. C. 4
15.	Supplemental Unit Prices	G. C. 4
16.	Notice of Award	G. C. 5
17.	Definition of Notice	G. C. 5
18.	Execution of Contracts and Bonds	G. C. 5
19.	Performance Bond	G. C. 5
20.	Contractor's Insurance	G. C. 6
21.	Royalties and Patents	G. C. 6
22.	Permits, Surveys, and Compliances with laws	G. C. 6
23.	Subcontracting	G. C. 7
24.	Assignment of Contract	G. C. 7
25.	Other Contracts	G. C. 7
26.	Guarantees	G. C. [illegible]
27.	License or Royalty Fees	G. C. [illegible]
28.	Materials and Workmanship	G. C. [illegible]
29.	"Or Equal Clause" - Materials	G. C. [illegible]
30.	Convict-Made Materials	G. C. [illegible]
31.	Delivery of Material	G. C. [illegible]
32.	Intent of the Contract Documents	G. C. [illegible]
33.	Plans and Specifications	G. C. [illegible]
34.	Specifications and Plan Consistency	G. C. [illegible]
35.	Alleged Inaccuracies	G. C. [illegible]
36.	Interpretation of Proposed Contract Documents	G. C. [illegible]
37.	Shop Drawings	G. C. 10
38.	Engineer	G. C. 10
39.	Decisions of Engineer	G. C. 10
40.	Directions	G. C. 11
41.	Inspection	G. C. [illegible]
42.	Final Inspection	G. C. [illegible]
43.	Testing Material	G. C. [illegible]
44.	Lines and Grades	G. C. [illegible]
45.	Work Done Without Lines or Grades	G. C. [illegible]

46.	Preservation of Monuments and Stakes	G. C. 12
47.	Use of Job Site	G. C. 13
48.	Sanitary Convenience	G. C. 13
49.	Protection of Work-Watchmen, Lights, etc.	G. C. 13
50.	Accident Prevention	G. C. 13
51.	Care of Existing Structures and Property	G. C. 13
52.	Defects	G. C. 13
53.	Cutting and Patching	G. C. 14
54.	Employment Conditions	G. C. 14
55.	Qualifications for Employment	G. C. 14
56.	Employees and Equipment	G. C. 14
57.	Superintendence	G. C. 14
58.	Working Hours	G. C. 14
59.	Detailed Estimates - Breakdown	G. C. 20
60.	Construction Reports	G. C. 15
61.	Monthly Estimates - Payment	G. C. 15
62.	Final Estimate - Payment	G. C. 15
63.	Extra, Additional, or Omitted Work - Payment	G. C. 15
64.	Measurements and Quantities	G. C. 16
65.	Deduction for Uncorrected Work	G. C. 16
66.	Correction of Work After Final Payments	G. C. 16
67.	Approval of Work	G. C. 16
68.	Acceptance and Occupancy	G. C. 17
69.	Starting in Operation	G. C. 17
70.	Delays - Unavoidable	G. C. 17
71.	The Owner's Right to do Work	G. C. 17
72.	Completing Work	G. C. 17
73.	Work in Bad Weather	G. C. 17
74.	Properly Ordered Materials	G. C. 18
75.	Requests for Time Extensions	G. C. 18
76.	Liquidated Damages	G. C. 18
77.	Cleaning Up - Removal of Rubbish	G. C. 18
78.	Owner's Right to Withold Certain Amount and Make Application Thereof	G. C. 19
79.	Termination of Breach	G. C. 19

GENERAL CONDITIONS

1. General. The following specifications are general in scope and may refer to conditions which will not be encountered in performance of the work included in this Contract, and which are not applicable thereto. Any requirement, provision, specification, or other stipulation of these General Conditions which refers to non-existent condition, and is not applicable to the work to be performed under this Contract, shall be considered null and void and shall have no meaning in this Contract.

   In case of conflict between the General Conditions and the Special Provisions or Technical Specifications, the Special Provisions or Technical Specifications, the Special Provisions or Technical Specificatons shall govern.

2. Definitions. The following terms as used in these Contract Documents are respectively defined as follows:

   A. "Contractor" The person, firm, or corporation to whom the within Contract is awarded by the Owner and who is subject to the terms hereof.

   B. "Subcontractor" A person, firm, or corporation, other than a Contractor supplying labor and materials, or labor for work at the site of the project.

   C. "Project". The entire improvement proposed by the Owner to be constructed in part or in whole pursuant to the within Contract.

   D. "Owner". That body or person which has authorized the project and for whom that project is being constructed.

   E. "Work". Work to be performed, including work normally done, at the location of the project.

   F. "Surety". Any person, firm, or corporation that has executed, as surety the Contractor's performance bond securing the performance of the within Contract.

   G. "Engineer". The Engineer or Engineers selected by the Owner to represent the Owner in the supervision of the construction of the project.

3. Specification Requirements. All bidders shall base their bids on materials and equipment complying fully with these specifications, and in the event he names in his bid materials or equipment which, in the opinion of the Engineer, do not conform, he will be responsible for furnishing materials and equipment which fully conform at no increase in cost to the Owner.

4. Site Examination. Bidders shall visit the site of the proposed work and inform themselves of the conditions under which the work is to be performed. Their inspections shall cover the ground structures, obstacles which may be encountered, location of water table, and other matters relevant to the work both above and below ground. Where testing boring logs, indicating underground conditions, are shown on the plans, this data is for the bidder's information only and reflects only the conditions observed at the time and place of the drilling. Neither the Engineer or the Owner shall be held responsible for any variance or deviation from the data shown on the plans, as encountered during actual construction.

The successful bidder will not be allowed any extra compensation by reason of any matter or thing concerning which he could have fully informed himself, prior to the bidding.

5. Statement of Bidder's Plant and Financial Condition. Each bidder may be required to submit, on request of the Engineer or Owner, the following data:

   A. A statement that the bidder maintains a permanent place of business and the address thereof.

   B. A statement pertaining to the equipment which the bidder proposes to use on the project.

   C. A financial statement, fuly sworn in form approved by the Owner, listing all assets and liabilities.

   D. A statement listing projects of similar nature which the bidder has constructed or in the construction of which the bidder was actively engaged in a responsible capacity.

   Any bidder may be required by the Owner to submit additional data to satisfy the Owner that such bidder is prepared to properly complete the project if it is assigned to him.

6. Qualifying Conditions in Bidder's Proposal. A bidder shall not stipulate in his Proposal any conditions not contained in the Form of Proposal in the Contract Documents. Bidders are specifically advised that attachment of conditions to the bid may disqualify him as an acceptable bidder.

7. Estimated Quantities. The estimated quantities of the various types of work to be done on unit price contracts, and materials to be furnished on lump sum contracts are approximate only and are to be used as a basis for estimating the probable cost of the work and for comparing the bids offered on the work. The Contractor agrees that, during the progress of the work on unit price contracts, the Owner may vary the quantities or eliminate an item completely as may be deemed necessary and/or advisable without changing the unit bid prices shown in the Proposal. On lump sum contracts, the Contractor agrees that reasonable and normal variations in the work are to be expected, and theses changes will not be used as a basis for a claim for extra compensation.

   Bidders must satisfy themselves by personal inspection and examination of the plans and the work site and by such other means as he may prefer as to the correctness of any quantities listed in the Proposal or on the plans. The Contractor shall not, after submission of his bid, dispute or complain about irregularities in the quantities, or shall be assert or claim that there was any misunderstanding or misrepresentation as to the nature or amount of the work to be performed.

   The Contractor agrees that he will make no claim for damages, anticipated profits or losses on account of any differences between quantities of work actually performed and materials actually furnished and the estimated quantities.

8. Copies of Documents. Each bidder will be required to purchase at least one (1) complete set of plans, specifications, and related documents. A duplicate set of Proposal Forms will be furnished, and this form will be used for submission of sealed bids. If awarded the Contract, the submitted Proposal will be used to complete the signed Contract Documents, including the Proposal Form, and the original Proposal will be retained in the Owner's files.

9. Data Sheets. Where date sheets concerning equipment to be furnished in the work are included in the specification documents as part of the Proposal, the bidder shall furnish the required infomation by filling in the data sheets complete in every detail.

   In the event that the data sheets furnished are insufficient, or do not readily lend themselves to the correct description of the equipment, the bidder shall file with the bid additional statements setting out the necessary information.

   Failure to furnish such information as is required on the data sheets will be considered as grownds for rejecting the bid.

10. Preparation of Proposals. Each Proposal shall be firmly sealed in an envelope labled "Contract Proposal" and delivered to the office designated in the Advertisement for Bids.

    All bids are to be made only on the duplicate Proposal Form furnished by the Owner along with these specifications. An exact copy of this Proposal Form will be acceptable. Total bid prices are to be written both in words and by figures on lump sum contracts; in case of conflict, the written form will govern.

    On unit price contracts, the unit bid price will givern over the extensions. No bid will be accepted which does not contain adequate or reasonable prices for each and every item named in the bidding schedule. Unbalanced or irregular bids may be rejected.

    Only proposals which are prepared on the specified Proposal Form will be considered.

11. Bid Security. All bids must be accompanied by a certified check or bank draft drawn on a solvent bank, or a satisfactory bid bond executed by the bidder and an acceptable surety company, made payable to the Owner, as defined in the Advertisement for Bids, in an amount equal to five per cent (5%) of the total amount of the bid. The check or bid bond shall be held as security that, if the bid is accepted, the bidder will execute and file the proposed performance bond within ten(10) days from the date of the notification of award of Contract. On failure of the successful bidder to execute the contract and performance bond, he shall forfeit the deposit as agreed as liquidated damages.

The bid security of the three lowest bidders for each contract may be held for thirty (30) days, or until the Contract is executed and approved, whichever is the least, then they will be returned. The balance of the bid securities submitted will be returned within ten (10) days after the opening of bids.

12. Execution of Documents. The Contractor, is signing his bid on the whole or any portion of the work shall conform to the following requirements:

Bids which are not signed by individuals making them should have attached thereto a power of attorney evidencing authority to sign the bid in the name of the person for whom it is signed.

Bids which are signed for a partnership should be signed by all of the partners or by an attorney-in-fact. If signed by an attorney-in-fact, there should be attached to the bid a power of attorney evidencing authority to sign the bid, executed by the partners.

Bids which are signed for a corporation should have the correct corporate name thereof and the signature of the President or other authorized officer of the corporation manually written below the corporate name following the word "BY:_____".

If such a bid is manually signed by an official other than the President of the corporation, a certified copy of a resolution of the Board of Directors evidencing the authority of such officer to sign the bid should be attached to it. Such bid should also bear the attesting signature of the secretary of the corporation and the impression of the corporate seal.

The Contractor shall be deemed as having been awarded when formal notice of award shall have been duly served upon the intended awardee (i.e., the bidder to whom the Owner contemplates awarding the contract) by some officer or agent of the Owner duly authorized to give such notice.

13. Filing Bids. After bids are opened and read aloud, they shall be placed on file for public inspection and shall remain there as the property of the Owner. Any bidder may withdraw his bid at any time prior to the scheduled closing time for the receipt of bids, as stated in the Advertisement for Bids, but no bid shall be withdrawn for a period of thirty (30) days after the scheduled closing time for the receipt of bids.

14. Alternates. Proposals may be submitted on one or all of the Alternates, Items, and Units as shown in the Proposal Form at the bidder's option, unless otherwise directed elsewhere in these specifications.

Each bidder must submit such special data, if any, in respect such alternates, which any section of the Contract Documents requires to be submitted with each bid.

15. Supplemental Unit Prices. Where supplemental unit prices are shown in the Proposal on lump sum contracts, the Owner reserves the right to reject any or all supplemental unit prices which it deems to be excessive or unreasonable.

In cases where any part or all of the bidding is to be received on a unit price basis, the quantities stated on which prices are invited are approximate only, and each bidder is required to make his own estimates of the actual amounts and calculate his bid price accordingly. The estimated quantities shown, while made from the best information available, are approximate only, and payment of the Contract will be based on the actual number of units installed in the completed work.

Bids will be compared on the basis of the stated number of units in the Proposal Form.

16. Notice of Award. The Contract shall be deemed to have been awarded upon dispatch to the contractor by the Owner of the Notice of Award. The Notice of Award will be considered as dispatched when properly addressed and deposited in the U. S. Mails, or when handed in person to an authorized representative of the Contractor by the Owner or his Agent.

17. Definition of Notice. Where, in any section of the Contract Documents, there is a provision requiring the giving of a notice, such notice shall be deemed to have been given (to the Owner) when written notice shall be delivered to the Engineer or the Owner, or shall have been placed in the U. S. Mail addressed to the Chief Executive Official of the Owner at the place where the bids, or proposals, for the Contract were received; and(to the Contract) when a written notice shall be delivered to the Chief representative or superintendent at the site of the project to be constructed or when such notice is placed in the U.S. Mails addressed to the Contractor at the address of his permanent place of Business; (to the Surety) on the performance bond when a written notice is placed in the U.S. Mails addressed to the Surety at the home office of such Surety.

18. Execution of Contracts and Bonds. Each Contract must be executed in four (4) original counterparts, seven (7) original counter parts when the U.S. Government is participating, and there shall be executed original counterparts of the Contractor's performance bond in equal number to the original counterparts of the Contract. One copy of such executed documents will be retained by the Owner, the second will be delivered to the Contractor, the third will be delivered to the Surety, and the fourth to the Engineer. (When necessary, three (3) copies will be sent to the U.S. Governmental Agency.)

In addition to the performance bond, the Contractor may be required to furnish documents attesting to the required compensation insurance, public liability insurance, and property damage insurance required herein.

The entire cost of executing the bonds, the Contract, and the insurance, including all notarial fees and expenses, are to be paid by the Contractor.

19. Performance bond. The Contractor shall furnish a surety bond (form attached) in an amount at least equal to one hundred per cent (100%) of the Contract price as security for the faithful performance of this Contract and for the payment of all persons performing labor and furnishing materials in connection with this Contract.

20. Contractor's Insurance. The Contractor shall not commence work under this Contract until he has obtained all insurance required under this paragraph and such insurance has been approved by the Owner, nor shall the Contractor allow any Subcontractor to commence work on his subcontract until all similar insurance required of the Subcontractor has been so obtained and approved.

A. Proof of Carriage of Insurance. The Contractor shall furnish the Owner wirh satisfactory proof of carriage of the insurance required.

B. Compensation Insurance. The Contractor shall take out and maintain during the life of this Contract Workmen's compensation Insurance for all of his employees employed at the project and, in case any work is sublet, the Contractor shall require the Subcontrator similarly to provide Workman's Compensation Insurance for all of the latter'semployees unless such employees are covered by the protection afforded by the Contractor. In case any class of employees engaged in hazardous work under this Contract at the site of the project is not protected under the Workmen's Compensation statute, the Contractor shall provide, and shall cause such Subcontractor to provide adequate employer's liability insurance for the protection of his employees not otherwise protected.

C. Public Liability and Property Damage Insurance. The Contractor shall take out and maintain during the life of this Contract such Public Liability and Propertu Damage Insurance as shall protect him and any Subcontractor performing work civered by this Contract, from claims for damages for personal injury, including accidental death, as well as from claims for property damages, which may arise from operations under this Contract, whether such operations by himself or by any Subcontractor or by anyone directly or indirectly employed by either of them, and the amounts of such insurance shall be as follows:

Public Liability Insurance in an amount not less than $100,000 for injuries, including accidental death, to any one person and subject to the same limit for each person, in the amount not less than $300,000 on account of one accident, and Property Damage Insurance in an amount not less than $25,000.

21. Royalties and Patents. The Contractor shall pay for all roylaties and patents. The Contractor shall and will indemnify, save harmless and defend the said Owner from any and all suits actions, legal proceeding, claims, damages, demands, costs, expense and attorney's fees, incident to any infringement of any patent or patents, appliances or materials used by the Contractor in the work or installed or incorporated in the work or in any way connected therewith. The Owner shall pay for any license fee or royalties for processes.

22. Permits, Surveys, and Compliances with Laws. The Contractor shall pay for all permits and licenses necessary for the prosecution of the work unless otherwise specifically provided. The Contractor shall give al notices, pay all fees, and comply with all laws, ordinances, rules, and regulations beraring on the conduct of the work.

The Owner will furnish all site surveys, easements, permits, pipe line licenses, etc., necessary to authorize construction of ary permanent work required in the specifications, where such work is to be done on property other than the Owners,

Construed as including Contractor's contingent or Protective insurance if necessary to protect the Contractor from damage claims arising from operations under this contract.

23. Subcontracting. The Contractor shall not subcontract work to be performed or any materials to be furnished in the performance of this Contract without the written consent of the Owner. If the Contractor shall sublet any part of this Contract, the Contractor shall be as fully responsible to the Owner for the acts and omissions of his Subcontractor and of the persons either directly or indirectly employed by his Subcontractor, as he is for the acts and omissions of persons directly employed by himself. The Contractor agrees that this Contract obligation shall be in addition to the liability imposed by law upon the Contractor.

The Contractor shall notify the Owner in writing of the names of the Subcontractors proposed for the principal part of the work, and shall not employ any Subcontractor that the Owner or Engineer objects to as incompetent or unfit.

The Owner shall on request furnish to any Subcontractor, whenever practical, evidence of the amounts certified to or on his account.

Nothing contained in the Contract Documents shall create any contractual relationship between any Subcontractor and Owner.

24. Assignment of Contract. The Contractor shall not assign this Contract or any part herof without the written consent of the Owner. No assignment of this Contract shall be valid unless it shall contain a provision that the funds to be paid to the Assignee uner the assignment are subject to a prior lien for services rendered or materials supplied for the performance of the work called for in said Contract in favor of all persons firms, or corporations rendering such services or supplying such materials.

Such provisions, however, need not be inserted if the "assignment" technically constitutes a novation, i.e., the assignee not only acquires the benefits under the Contract but also assumes the obligations thereunder in place of the assignor.

25. Other Contracts. The Owner may award other contracts or additional work, and the Contractor shall fully cooperate with such other contractors and carefully fit his own work to that provided under other contracts as may be directed by the Engineer. The Contractor shall not commit or permit any act which will interfere with the performance of work by any other Contractor.

26. Guarantees. All work shall be constructed in accordance with the plans and these specifications and standard construction codes and must be guaranteed for a period of one (1) year from the date of final acceptance, or for such longer period as may be required in the Special Provisions.

In placing orders for equipment, the Contractor shall purchase same only under a formal and written guarantee from the respective manufacturers that the equipment supplied will function properly as an integral part of the completed project in accordance with the plans and these specifications.

The Contractor shall require that the manufacturer of proposed equipment agree in writing, at the time of placement of the order, to furnish, in cooperation with the Contractor, technical superintendence and mechanical labor and parts, that may be required during the installation or tune-up

period, to make the equipment function satisfactorily, even if same was not shown the plans or approved shop drawings.

27. License or Royalty Fees. If the project is designed so as to require or permit the use of a process or processes (as distinguished from articles, apparatus, or equipment), for which licenses or royalty fees will be charged, such fees for the use of such processes will be paid by the Contractor to the Patentee, Licensee, or Owner of such process, and the Contractor shall have included such fees in his bid. No claim for extra compensation for payment of said fees will be considered by the Owner.

28. Materials and Workmanship. Unless otherwise stipulated in the specifications, all workmanship, equipment, materials, and articles incorporated in the work covered by this Contract are to be new and of the best grade of their respective kinds for the purpose. The Contractor shall, if required, furnish such evidence as to kind and quality of materials. The Contractor shall furnish to the Owner, for approval, the name of the manufacturer of machinery, mechanical and other equipment, which he contempletes installing, together with their performance capacities and other pertinent information.

If not otherwise provided, materials or work called for in this Contract shall be furnished and performed in accordance with well-known established practice and standards recognized by architects, engineers, and the trade.

When required by the specifications, or when called for by the Engineer, the Contractor shall furnish the Engineer for approval full information concerning the material or articles which he contemplates incorporating in the work.

Samples of materials shall be submitted for approval when directed. Machinery, equipment, materials, and articles installed or used without such approval shall be at the risk of subsequent rejection.

In the selection of equipment for this proposed improvement, preference will be given:

A. To those units which are most easily adaptable to installation within the proposed building structures.

B. To those units which most readily adapt themselves with other equipment to be selected for the whole improvement.

29. "Or Equal Clause" - Materials. Whenever in any of the Contract Documents an article, material, or equipment is defined by describing a proprietary product, or by using the name of a manufacturer or vendor, the term "or equal" if not inserted, shall be implied. The specific article, material, or equipment mentioned shall be understood as indicating the type, function, minimum standard of design, efficiency, and quality desired, and shall not be construed in such a manner as to exclude manufacturer's products of comparable quality, design, and efficiency. The Contractor shall comply with the requirements of the Contract Documents relative to the Owner's approval of materials and equipment before they are incorporated in the project.

30. Convict-Made Materials. No materials manufactured or produced in a penal or correctional institution shall be incorporated in the project under this contract.

31. Delivery of Material. Material delivered on the sides of the street for use upon the street, or adjacent thereto, shall be neatly and compactly piled up along the sides of the roadway in such a manner as to cause the least inconvenience to the property owners and to the general public; private drives and street crossings are to be kept open. Shade trees and other improvements shall be protected by the Contractor from all damage. Fire hydrants are not to be obstructed at any time.

No material will be allowed to be delivered on any street except by permission of the Owner; and any material delivered without such permission shall, upon due notice to the Contractor to that effect, be immediately removed from the street; and, upon failure of the Contractor so to do, the Owner is herby authorized and directed to cause such material to be removed and the cost thereof charged to the Contractor.

32. Intent of the Contract Document. The Contract Documents are complementary, and what is called for by any one shall be as binding as if called for by all. The intention of the Contract Documents is to include in the contract price the cost of all labor and materials, water, fuel, tools, plant equipment, power, light, transportation, and all other expense as may be necessary for the proper execution of the work involved including items not mentioned but necessary to make a complete project from beginning of operations until the work involved has been finally accepted by the said Owner.

The Contractor shall complete the work in accordance with this expressed intent and shall make all temporary or permanent connections of every kind and to all services and equipment (water, power, etc.) at his own expense and to the satisfaction of the Engineer.

In interpreting the Contract Documents, words describing material or work which have a well-known technical or trade meaning unless otherwise specifically defined in the Contract Documents, shall be construed in accordance with such well known meaning recognized by architects, engineers and the trade

33. Plans and Specifications. The work shall be executed in strict conformity with the plans and specifications, and the Contract shall do no work without proper drawings and instructions.

The plans as prepared by the Engineers for this proposed improvement are in sufficient detail to give the general layout of the work as contemplated and to show clearances available. The Owner, through its Engineer, reserves the right to alter the details of the plans upon the selection of the particular units proposed to be furnished, or whenever necessary to insure the completion of the project in accordance with the intent of the Owner.

The Engineer will furnish the Contractor, free of charge,all copies of drawings and specifications reasonably necessary to properly carry out the work.

Figured dimensions on the plans may be assumed correct but shall be checked by the Contractor before starting construction. All errors, omissions, and discrepancies shall be brought to the attention of the Engineer, and his decision therein shall be final. All notes on the plans shall be followed. Discovery of an error, omission, or other discrepancy shall not be considered as a basis for improper work, and the Engineer shall make the necessary corrections for the proper execution of the work.

34. Specification and Plan Consistency. The several parts of the specifications and the said plans and profiles included therewith, shall be taken and construed together to explain each other and make the whole consistent. Figured dimensions shall take precedence over scaled dimensions.

35. Alleged Inaccuracies. The Contractor will thoroughly acquaint himself before commencing the work as to the meaning and correctness of the specifications, plans and profiles, and stakes and marks set to indicate the same, and no claim will be entertained or paid by said Owner for or on account of any alleged inaccuracies.

36. Interpretation of Proposed Contract Document. If any person contemplating submission of a bid for this Contract is in doubt as to the true meaning of any part of the plans, specifications, or other proposed Contract Documents, he may submit to the Engineer a written request for an interpretation thereof. Any interpretation of the proposed documents, prior to opening bids will be made by addendum only, duly issued to each person receiving a set of bid documents. The Owner will not be responsible for any other interpretation or explanation of the proposed Contract Documents.

37. Shop Drawings. The Contractor shall submit to the Engineer all shop or setting drawings and schedules required for the work, including those pertaining to structural and reinforcing steel. The Contractor shall make any corrections in the drawings required by the Engineer, and resubmit same without delay. The Contractor shall furnish sufficient copies of complete working drawings of all equipment, finally selected to be installed, for approval by the Engineer, before being placed in the work. The Engineer will require two (2) sets of these drawings for his files, and the actual number to be furnished are those required for the Contractor's purposes plus two (2) sets.

The merits of the materials and equipment offered will be decided to a great extent upon the information furnished. The Contractor shall make this information as complete and comprehensive as possible.

The Contractor shall keep at the site of the work an approved or conformed copy of the drawings and specifications, and shall at all times, give the Owner access thereto. In case of differences between the drawings and specifications, the specifications shall govern.

38. Engineer. The Engineer shall make all necessary explanations as to the meaning and intention of the plans and specifications, shall give all necessary orders and directions, acting within the scope of the particular duties properly assigned to him by the Owner; shall also make all corrections of errors or omissions in the plans and specifications when necessary for the proper fulfillment of the intention thereof; the effect of such construction to date from the time said Engineer gives due notice thereof to said Contractor.

39. Decisions of Engineer. The decision of the Engineer, acting within the scope of the duties reasonably assigned to him, will be final and the signing of the Contract for construction shall be considered as the Contractor's agreement to accept the Engineer decisions as final in all such matters as may reasonably require engineering decisions, such as the quality of workmanship, the suitability of materials for inclusion in the work, the performance of equipment, and the fulfillment of the guarantees therein.

40. Directions. The directions and orders given by the Owner, or its authorized representative, shall be received by and obeyed by the Contractor, or in the Contractor's foreman or person in charge of the work and shall be obeyed the same as if given to the Contractor. There shall be at all times a competent and responsible person available to represent the Contractor in his absence.

41. Inspection. The Owner and its representative shall, at all times have access to the work whenever it is in preparation or progress, and the Contractor shall provide proper facilities for such access and inspection.

The Owner shall have the right to reject materials and workmanship which are defective, or require their correction. Rejected workmanship shall be satisfactorily corrected, and rejected materials shall be removed from the premises without charge to the Owner. If the Contractor does not correct such condemned work and remove rejected materials within a reasonable time, fixed by written notice, the Owner may remove them and charge the expense to the Contractor.

Should it be considered necessary or advisable by the Owner at any time before final acceptance of the entire work to make an examination of work already completed, by removing or tearing out same, the Contractor shall on request promptly furnish all necessary facilities, labor, and materials. If such work is found to be defective in any material respect, due to fault of the Contractor or his Subcontractors, he shall defray all the expense of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of this Contract, the actual cost of labor and material necessarily involved in the examination and replacement, plus fifteen per cent (15%), shall be allowed the Contractor.

42. Final Inspection. Upon the completion of the whole work by the Contractor, the Owner and its Engineers will make a final inspection of the work to determine the workmanship and the adaptability for the purposes intended, and its compliance with the plans and specifications therefor.

The Contractor shall provide all assistance and equipment necessary for such testing and final inspection as a part of the Contract price bid in his formal Proposal.

After the plant or improvement is completed, tested, and in operation, the Contractor, when requested to do so, shall provide the services of a skilled operator to remain at the plant or improvement site for an additional period of the (10) days to assist the operators of the Owner. Such assistance shall be furnished at no extra cost to the Owner.

43. Testing Material. Attention of the Contractor is directed to the materials tests required in this Contract. All laboratory tests shall be made by an approved testing laboratory. The specific test requirements are set out in the various standard specifications of this Contract which described the various materials or apparatus to be tested and the mathos of testing to be used. The Contractor shall furnish the materials to be tested and shall pay all packaging and transportation charges on any samples required to be submitted to the laboratory.

Where certified test reports are required to be furnished by the manufacturer, the Contractor shall furnish duplicate copies of the reports before the material will be approved for use.

UNLESS OTHERWISE SPECIFIED IN THE SPECIAL PROVISIONS, THE CONTRACTOR SHALL PAY THE COST OF ALL LABORATORY TESTING AND SHALL FURNISH INCIDENTAL MATERIALS AND LABOR AT THE SITE IN CONNECTION WITH THE TESTS.

44. LINES AND GRADES. ALL CONTROLLING LINES AND GRADES WILL BE ESTABLISHED BY THE ENGINEER, AND ALL OBJECTS AND MARKS DEFINING LINES AND GRADES SHALL BE CAREFULLY PRESERVED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER A REASONABLE TIME IN ADVANCE OF THE DATE AND LOCATION THAT HE INTENDS TO WORK IN ORDER THAT LINES AND GRADES MAY BE FURNISHED.

45. WORK DONE WITHOUT LINES OR GRADES. ANY WORK DONE WITHOUT HAVING BEEN PROPERLY LOCATED AND ESTABLISHED BY BASE LINES, OFFSET STAKES, BENCH MARKS, OR OTHER BASIC REFERENCE POINTS LOCATED, ESTABLISHED, OR CHECKED BY THE ENGINEER, AND FOUND TO BE IMPROPER, MAY BE ORDERED REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER SUFFICIENTLY IN ADVANCE OF HIS OPERATIONS TO ENABLE THE ENGINEER TO SET THE REQUIRED CONTROL STAKES AND MARKS.

46. PRESERVATION OF MONUMENTS AND STAKES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF ALL MONUMENTS, BENCH MARKS, REFERENCE POINTS, AND STAKES LOCATED IN OR NEAR THE WORK, AND SHALL TAKE THOSE STEPS OR ACTIONS NECESSARY TO PRESERVE AND PROTECT THESE STAKES AND MARKS. IN CASE OF WILLFUL OR CARELESS DESTRUCTION OF THE STAKES BY THE CONTRACTOR OR HIS EMPLOYEES, THE FULL EXPENSE OF RESETTING AND REPLACEMENT WILL BE CHARGED TO THE CONTRACTOR, AND HE SHALL BE RESPONSIBLE FOR ANY MISTAKES OR LOSS OF TIME THAT MAY BE CAUSED BY THIS UNNECESSARY DISTURBANCE. IN THE CASE OF ANY PERMANENT MONUMENTS OF BENCH MARKS WHICH MUST, OF NECESSITY, BY REMOVED OR DISTURBED IN THE CONSTRUCTION OF THE WORK, THE CONTRACTOR SHALL CAREFULLY PROTECT AND PRESERVE THE SAME UNTIL THEY CAN BE PROPERLY REFERENCED FOR RELOCATION.

UNLESS OTHERWISE SPECIFIED IN THE SPECIAL PROVISIONS, THE ENGINEER SHALL FURNISH RODMEN, CHAINMEN, STAKEMEN, AND ALL WOOD AND METAL STAKES REQUIRED IN THE STAKING AND MARKING OF THE WORK FOR THE CONTRACTOR.

47. Use of Job Site. The Contractor shall confine his equipment, apparatus, the storage of materials and operation of his workmen to limits indicated by law, ordinances, permits or directions of the Owner and shall not needlessly encumber the premises or adjacent streets or property with his materials.

The Contractor shall make satisfactory arrangements to store his material and equipment after delivery, and before and during construction. The Owner can assume no responsibility prior to the completion and final acceptance of the installation. The Contractor shall not load or permit any part of the structure to be loaded with a weight that will endanger its safety. The Contractor shall enforce the Engineer's instructions regarding signs, advertisements, fires, and smoke.

48. Sanitary Convenience. Necessary sanitary conveniences for the use of laborers on the work, properly secluded from public observation, shall be erected and maintained by the Contractor in such manner and at such points as shall be approved by the municipality, or other governing body affected, and their use shall be strictly enforced.

49. Protection of Work - Watchmen, Lights, Etc. The Contractor shall continuously maintain adequate protection of all his work from damage and shall protect the Owner's and adjacent property from injury arising in connection with his contract.

Colored lights and flares, and if required, watchmen, are to be maintained by the Contractor when necessary to prevent accident.

Night watchmen, or Sunday watchmen, are to be maintained by the Contractor when necessary, to prevent accident, theft or property damage.

50. Accident Prevention. Precaution shall be exercised at all times for the protection of persons (including employees) and property. The safety provisions of applicable laws, building and construction codes shall be observed. Machinery, equipment, and all hazards shall be guarded or elimination in accordance with the safety provisions of the Manual of Accident Prevention in Construction, published by the Associated General Contractors of America, to the extent that such provisions are not in contradiction of applicable law.

51. Care of Existing Structures and Property. All poles, trees, shrubbery, fences, sewer, water, gas, or other pipes, wires, conduits, and manholes, steam, electric, and street railway structures and tracks, tunnels, tunnel shafts, buildings, and all structures and property along the route of said proposed improvement shall be supported and protected from injury by the Contractor during the construction and until the completion of said improvement and appurtenances. The Contractor shall be liable for all damages to such structures and property and shall save and keep the Owner and Engineer harmless from any liability or expense for injuries, damages, or repairs to same.

52. Defects. All settlements, defects, or damages in any portion of the improvement caused by public travel, settlement of foundation, defective material or workmanship, before the final acceptance of the work by the Owner shall be repaired and made good at the Contractor's expense before the final inspection and payment are made.

53. Cutting and Patching. The Contractor shall do all cutting, fitting, or patching of his work that may be required to make its several parts fit together or to receive the work of other Contractors shown upon, or reasonably implied by, the plans and specifications for the completed structures, and he shall make good after them as may be directed by the Engineer.

The Contractor shall not endanger any work by cutting, digging, or otherwise and shall not cut or alter the work of any other contractor without the consent of the Engineer.

54. Employment Conditions. The Contractor shall fully inform himself of all the laws, decrees, rules, regulations, and all ordinances which will prevail, relating to the imployment of labor and labor rates and payment thereof, and he shall be governed thereby and shall comply fully therewith.

Local labor, either skilled or common, shall have the preference, insofar as it may be procticable.

55. Qualifications for Employment. No person under the age of sixteen (16) years and no person currently serving sentence in a penal or correctional institution shall be employed to perform any work on the project under this Contract. No person whose age or physical condition is such as to make his emplyment dangerous to his health or safety, or to the health and safety of others, shall be employed to perform any work on the project under this Contract; provided, that this sentence shall not operate against the employment of physically handicapped persons otherwise employable, where such persons may be safely assigned to work which they can ably perform.

56. Employees and Equipment. All employees of the Contractor shall have such skill and experience as will enable them to properly perform the duties assigned them. Any person employed by the Contractor or a Subcontractor who, in the opinion of the Engineer, does not perform his work in a proper and skillfull manner, or who is disrespectful, intemperate, disorderly, or otherwise objectionable, shall at the written request of the Engineer, be forthwith discharged and shall not be employed again on any portion of the work without the written consent of the Engineer. The Contractor or a Subcontractor shall furnish such suitable machinery, equipment, and construction forces as may be necessary in the opinion of the Engineer, for the proper prosecution of the work, and failure to do so may cause the Engineer to withhold all estimates which have or may become due, or the Engineer may suspend the work until his requests are complied with.

57. Superintendence. The Contractor shall give his personal superintendence to the work or have at the site of the work at all times a competent foreman, superintendent, or other representative satisfactory to the Owner and Engineer and having complete authority to act for the Contractor.

Insofar as it is practicable, the individual who has been selected to represent the Contractor shall so act, and shall follow without delay instruction of the Engineer in the prosecution of the work in conformity with the Contract.

58. Working Hours. The work shall be done in the presence of an Engineer or inspectors appointed by the Owner, and unless Special arrangements are made with the Engineer, work shall only be done during regularly and commonly accepted or prescribed working hours. No work shall be done nights or Sundays unless special permission shall be given by the Engineer.

59. Detailed Estimate - Breakdown. The Contractor may be required, within ten (10) days following the award of Contract, to furnish to the Engineer a detailed estimate and breakdown of the Contractor's estimate of cost conforming to the Contractor's bid, which estimate or breakdown shall be the basis of estimating periodic payments to the Contractor. This estimate shall be subject to a full crew when Saturday work is intended.

Night work or Sunday work, in residence areas, must be conducted with a minimum amount of noise and disturbance.

In general, Saturday work shall be at the Contractor's option however, the Engineer or inspector shall be notified on each Friday when the Contractor intends to perform work on Saturday. The Contractor shall make every effort to schedule a full crew when Saturday work is intended.

60. Construction Reports. The Contractor, as the work progresses, shall submit to the Engineer schedules of actual unit costs, which schedules shall be in such form and shall be supported as to correctness by such of the estimates upon which they are based, as to permit the preparation or revision of monthly estimates for partial payment.

61. Monthly Estimates - Payment. The Engineer, upon the first day of each month, or as early as is practical thereafter, will make an approximate estimate in writing of the materials incorporated into the work, the amount of work performed, and the value thereof at the contract unit prices. From the total amount so ascertained will be deducted such percentage as is outlined in the Special Provisions of this Contract, said percentate to be retained until after the completion of the entire work to the satisfaction of the Owner and the remaining percentage of the amount so ascertained will be paid to the Contractor. In addition to the above and upon presentation of certified copies of invoices and freight bills, an estimate shall be made for payment of ninety per cent (90%) of the value of acceptable storable places, and which have not been used in the work prior to such estimate.

No estimate other than a final estimate will be made where the value of the work performed since the last preceding estimate is less than $1,000.00.

Not later than the 15th day of each month, the Owner will make payment to the Contractor on the basis of a duly certified estimate as prescribed above.

62. Final Estimate - Payment. The Engineer's final estimate shall be based upon a careful detailed estimate of the materials and equipment furnished and installed in the completed improvement according to the provisions of these specifications. Final payment shall be made to the Contractor for any amount remaining due upon the final inspection, testing, and formal acceptance of completion and the acceptance of the work.

63. Extra, Additional, or Omitted Work - Payment. The Owner, upon proper action by its governing body, may authorize changes, in additions to, or deductions from the work to be performed or the materials to be furnished pursuant to the provisions of the contract or any other contract documents.

The Owner reserves the right to increase or decrease the contract quantity of minor bid items, and such additions and/or deductions shall not be a basis for claims for extra compensation other than that provided in the Proposal and these specifications.

The Owner further reserves the right to increase or decrease the contract quantity or major bid items by an amount not to exceed twenty percent (20%) without altering the unit price bid shown in the proposal. Change in the quantity of each bid item in excess of twenty per cent (20%) may be accomplished only after a satisfactory unit price has been negotiated between the Contractor and the Owner.

A major bid item is defined as any bid item whose total dollar extension

on the original contract equals more than ten per cent (10%) of the total contract amount.

Adjustments, if any, in the amounts to be paid to the Contractor by reason of any such change, addition, or deduction, shall be deemed by one or more of the following methods:

A. By unit prices contained in the Contractor's original bid and incorporated in the construction contract.

B. By a supplemental schedule of prices contained in the Contractor's original bid and incorporated in the construction contract.

C. By an acceptable lump sum proposal from the Contractor.

D. On a cost-plus basis. A cost-plus basis is defined as the cost of the labor, materials and/or equipment which will be incorporated into the completed work, rental of construction equipment, and insurance plus fifteen per cent (15%) of said cost to cover all other miscellaneous expenses and profit.

E. By negotiated changes in unit prices.

No claim for an addition to the contract sum shall be valid unless authorized by official order of the Engineer or Owner prior to the accomplishment of the work.

64. Measurements and Quantities. All measurements and determination of quantities shall be made by the Owner, through its proper officers, and these measurements shall be final and conclusive between the parties and nothing contained herein shall be construed as to deprive the Owner of any remedy or defense it may have under the same for any violation of the terms or conditions of this agreement.

65. Deduction for Uncorrected Work. If the Owner deems it expedient to accept work injured or not done in accordance with the contract, the difference in value, together with a fair allowance for the damages, shall be deducted.

66. Correction of Work after Final Payment. Neither the final payment nor any provisons in the contract documents shall relieve the Contractor of the responsibility for negligence of faulty materials or workmanship within the extent and period provided by law and, upon written notice, he shall remove any defects due thereto and pay for any damage due to other work resulting therefrom, which shall appear within one (1) year after date of completion and acceptance.

67. Approval of Work. The authorized and herein described project shall be completed in all respects, and all materials used in its construction and all work thereon shall be in strict accordance with the specifications set forth herein and in full compliance with the said detailed plans therefor, attached hereto, and made a part hereof. All work shall be done in a first class workmanlike manner, under the direction, and to the satisfaction, of the Engineer and Owner, prior to being approved and accepted by the Owner.

68. Acceptance and Occupancy. Should it, in the judgment of the Owner, be deemed advisable and to the best interests of the public, to place in use or in service any prtion or portions of the work prior to the completion and acceptance of the whole work, such completed portion or portions as may be ordered in writing by the Owner shall be placed in use or service and the Contractor shall agree thereto. Such action on the part of the Owner and the Contractor shall not be construed as a final acceptance of any pr.ion or portions of the work by the Owner, nor shall such action relieve the Contractor from his liability to complete the whole of the work in accordance with the plans, specifications, and construction contract. The contractor shall make no claim upon the Owner for any amount of extra compensation because of such action, but the said owner shall not require the Contractor to pay the costs of operation of any portion of the work so placed in use or operation and the said Owner shall not, by its action, subject the Contractor to unreasonable expense in preparing separate portions of the work for use and service prior to the completion of the whole of the work.

69. Starting in Operation. The Contractor shall furnish a skilled operator to adjust and start all of the equipment erected and to put it in successful operation. After the equipment has been satisfactorily adjusted, the operator sahll instruct the Owner's operators as to the proper methods of starting, adjusting, and caring for the equipment furnished and installed under these specifications.

70. Delays - Unavoidable. If the Contractor is delayed in the completion of the work by any act or neglect to the Owner or by any other Contractor employed by the Owner, or by strikes, lockouts, fire, unavoidable causalties, or any causes beyond the Contractor's control, then the time of completion may be extended for a reasonable time, such reasonable time as the Owner may decide. The Contractor shall, within five(5) days from the beginning of any such delay, notify the Owner in writing of the cause of such delay.

71. Owner's Right to to Work. If the Contractor should neglect to prosecute the work properly or fail to perform any provisions of this contract, the Owner, after (3) days written notice to the Contractor and his surety, may, without prejudice to any other remedy he may have, make good such deficiencies and may deduct the cost thereof from the payment due the Contractor.

72. Completion of Work. The Contractor shall commence work specified herein within ten (10) calendar days after date of the Notice to Proceed issued by the Owner to the Contractor and shall complete the work as specified, ready for use. within the time specified in the Contract Proposal Form. In the event no written Notice to Proceed is issued by the Owner, the contract time as specified in the Proposal Form shall be counted from the first day of actual work on the project.

All work shall be prosecuted in an orderly and diligent manner. The Contractor shall cooperate with the conform to requests of the Owner to expedite particular portions of the work or to suspend or transfer his operation on any portion of the work or to suspend or transfer his operations on any portion of the work where such alteration of the Contractor's operations is deemed advisable by the Owner.

73. Work in Bad Weather. No construction work shall be done during stormy, freezing, or inclement weather, except that which can be done satisfactorily, and in a manner to secure first-class construction throughout, and then only subject to the permission of the Engineer.

A normal amount of inclement weather shall not constitute a basis for an extension of time under this Contract. A day lost due to inclement weather shall be defined as a day on which the Contractor is unable to work four (4) or more hour on a major item of construction.

Delay due to bad weather shall not be considered as a basis for time extensions unless the total bad weather time exceeds ten (10%) per cent of the specified Contract time shown in the Proposal Form.

Records concerning bad weather will be maintained by the Engineer and it is this record that shall be used as a basis for any time extensions to be granted.

74. Properly Ordered Materials. To be considered properly ordered materials, the materials must be ordered from an acceptable supplier within fifteen (15) calendar days from the award of the contract date. The order must call for delivery to meet the construction schedule required to complete the project within the specified time.

No extensions of time will be considered for delays resulting from late delivery of materials unless those materials were properly ordered.

75. Requests for Time Extensions. The Contractor shall submit a statement of the number of days lost each calendar month which he may intend using as a basis for a claim for time extension. Said statement shall be filed in duplicate with the Engineer at the same time the partial payment estimate is submitted by the Contractor. The Engineer shall return one (1) copy of the claim for time estension to the Contractor with appropriate comments. The Engineer's comments shall not be construed as a formal time extension, but will indicate the recommendations of the Engineer to the Owner.

76. Liquidated Damages. In the event that the Contract has not been completed within the specified time (including approved time extensions), the cost of excess engineering services shall be deducted from monies due the Contractor as Liquidated Damages.

The amount of liquidated damages chargeable per day shall be as shown in the Special Provisions and includes only actual payroll costs plus all payroll overhead items.

On contracts where no regular resident engineer is assigned, the Contractor shall be charged the daily rate shown in the Special Provisions for trips required of an engineer to make inspections after the stated completion date.

No other liquidated damages will be charged for non-compliance within the specified time unless specifically stated in the Special Provisions.

77. Cleaning Up - Removal of Rubbish. The Contractor shall at all times keep the premises free from accumulations of waste materials or rubbish caused by his employees or work. Rubbish and surplus material which may accumulate during and by reason of the work herein provided for shall be removed from the roadway, sidewalks, in intersecting street by the Contractor within three hundred (300) feet of the finished improvement, as fast as the improvement is completed, upon any part or section of the street and such portion of the street left clean and in good condition.

The Contractor will be required to remove all existing structures, foundations, rubbish and debris as a part of his Contract, and shall dispose of same to the satisfaction of the Engineer and such useful materials shall remain the property of the Owner.

At the completion of the work, the Contractor shall remove all his rubbish from and about the building and all his tools, equipment, scaffolding, and surplus materials and shall leave his work clean and ready for use. In case of dispute, the Owner may remove the rubbish and surplus materials and charge the cost to the Contractor or the several contractors in proportion to the amounts as shall be determined to be just.

78. Owner's Right to Withhold Certain Amount and Make Application Thereof. In addition to the payment to be retained by the Owner under the preceding provisions of these General Conditions, the Owner may withhold a sufficient amount of any Payment otherwise due to the Contractor to cover:

A. Payments that may be earned or due for just claims for labor or materials furnished in and about the performance of the work on the project under this Contract.

B. For defective work not remedied.

C. For failure of the Contractor ro make proper payments to his subcontractor.

D. Evidence of damage to another contractor.

E. Payment of liquidated damages as specified within these General Conditions and Special Provisions of this Contract.

F. Reasonable doubt that the Contract can be completed for the balance then unpaid.

The Owner shall disburse and shall have the right to act as agent for the Contractor in disbursing such funds as have been withheld pursuant to this paragraph to the party or parties who are entitled to payment therfrom. The Owner shall render to the Contractor a proper accounting of all such funds disbursed in behalf of the Contractor.

79. Termination of Breach. In the event that any of the provisions of this Contract are violated by the Contractor or by any of his subcontractors, the Owner may serve written notice upon the Contractor and the Surety of its intention to terminat such Contract, such notice to contain the reasons for such intention to terminate the Contract, and unless within the ten (10) days after the serving of such notice upon the Contractor, such violation shall cease and satisfactory arrangements for correction be made, the Contract shall, upon the expiration of said ten (10) days, cease and terminate. In the event of such termination, the Owner may take over the work and prosecute the same to completion by contract for the account and at the expense of the Contractor, and the Contractor and his Surety shall be liable to the Owner for any excess cost occasioned the Owner therby, and in such event the Owner may take possession of and utilitze in completing the work, such materials, appliances, and plant as may be on the site of the work and necessary therefor.

SECTION 4

SPECIFICATIONS FOR

TRENCH EXCAVATION AND BACKFILL
(Index)

Paragraph	Title	Page
A.	General	T.E.D. 1
B.	Grades	T.E.D. 1
C.	Excavation	T.E.D. 1
D.	Blasting	T.E.D. 2
E.	Sheeting and Bracing	T.E.D. 2
F.	Foundations	T.E.D. 2
G.	Backfill	T.E.D. 3
H.	Test for Displacement	T.E.D. 3
I.	Underground Obstruction	T.E.D. 4
J.	Private Utilities	T.E.D. 4
K.	Drainage	T.E.D. 4
L.	Dewatering	T.E.D. 4
M.	Trench Maintenance	T.E.D. 4
N.	Measurement and Payment	T.E.D. 4

SPECIFICATIONS FOR TRENCH EXCAVATION AND BACKFILL

A. General. The Contractor shall furnish all labor and materials, tools and equipment, and do all work necessary to make the required excavations and backfills, and to perform the required grading of whatever character necessary for the proper construction and completion of Sewers, watermains, and other conduits, all in accordance with the plans and these specifications.

The work shall include clearing the site of the work, loosening, loading, removing, transporting, and disposing of all materials, wet or dry, necessary to be removed for purposes of construction; all sheeting and bracing, all draining and dewatering, all backfill of trenches, excavations, and pits; the restoration of existing curbs, gutters, sidewalks, grassed areas, and all incidental work thereto.

B. Grades. The grade or flow line is assumed herein to mean the inside bottom, or invert, of the pipe or conduit. All necessary lines, levels, and grades shall be set by the Engineer. The Contractor shall furnish to the Engineer all necessary stakes and manual assistance as may be required to properly mark and stake the work. The Contractor shall preserve in their proper places, all stakes set for the lines and grades until authorized for removal by the Engineer. Any expense incurred in replacing stakes which are destroyed as a result of the Contractor's neglect or carelessness shall be borne by the Contractor.

C. Excavation. The ground shall be excavated in open trenches, except where tunneling is considered necessary or proper by the Engineer, or is indicated on the Plans. Trenches shall be excavated to the depth required for the bedding and foundations of the pipe and appurtenances shown on the plans and profile, and, where conditions make it necessary, to such additional depths as may be directed by the Engineer.

When excavating trenches in streets or across sidewalks, the Contractor shall make provisions at all cross streets and sidewalks for free passage of vehicles and foot traffic, either by bridging or otherwise. No streets or sidewalks will be closed without the approval of the Engineer and/or the Owner

The material excavated from the trench, which is suitable for backfill shall be piled in an orderly manner a sufficient distance from the banks of the trench to avoid overloading and to prevent slides or cave-ins.

The excavation of the trench shall not advance more than six hundred feet (600') ahead of the completed pipe work, except where, in the opinion of the Engineer, it is necessary or desurable for drainage or other purposes.

The Contractor must assume the risk of meeting quicksand, hardpan, boulders, rubbish, unforeseen obstacles, underground conduits, etc. No extra claim, in any amount of money, will be entertained or allowed on account of the character of the excavations or obstacles encountered. Where abandoned pipes, conduits, or sewers are removed from the trench, leaving dead ends in the ground, such ends shall be carefully plugged or bulkheaded with brick and mortar by the Contractor, without additional compensation.

Generally, banks of trenches shall be kept as nearly vertical as possible and shall be properly sheeted and braced as may be necessary to prevent caving. In sand areas where traffic conditions and proximity of structures will permit,

THE SIDE SLOPES MAY BE SLOPED. TRENCH WIDTHS IN PAVED STREETS OR IN AREAS WHERE PROXIMITY TO OTHER STRUCTURES REQUIRES VERTICAL BANKS SHALL BE KEPT NO WIDER THAN IS REQUIRED FOR PROPER HANDLING, JOINTING, AND BEDDING OF PIPE.

BLASTING. SHOULD ANY BLASTING BE REQUIRED IN TRENCHES OR OTHER EXCAVATION, THE CONSTRACTOR MUST USE ALL PRECAUTIONS AGAINST ACCIDENT OR DAMAGE ON ACCOUNT OF THE EXPLOSIONS OR THE USE AND STORAGE OF THE EXPLOSIVES. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ANY DAMAGE RESULTING FROM THE USE OF EXPLOSIVES AND SHALL KEEP THE OWNER FREE OF ANY CLAIM FOR DAMAGES RESULTING FROM THE CONTRACTOR'S BLASTING OPERATIONS. IF, IN THE JUDGMENT OF THE ENGINEER, THE SITUATION OR THE CONTRACTOR'S METHODS INDICATE THAT IT IS UNSAFE TO DO BLASTING, THE ENGINEER MAY ORDER THE BLASTING TO BE STOPPED AND THE EXCAVATION COMPLETED IN A SAFER MANNER.

SHEETING AND BRACING. THE CONSTRACTOR SHALL DO ALL SHORING, BRACING, AND TIGHT SHEETING REQUIRED TO PREVENT CAVING AND TO PROTECT THE WORKMEN AND ADJACENT PROPERTY AND STRUCTURES.

WHEN, IN THE JUDGMENT OF THE ENGINEER, THE SHORING OR BRACING PROVIDED IS UNSAFE OR INADEQUATE, HE MAY ORDER ADDITIONAL SHORING OR BRACING WHICH THE CONTRACTOR SHALL INSTALL AT NO ADDITIONAL EXPENSE TO THE OWNER. FAILURE ON THE PART OF THE ENGINEER TO ORDER ADDITIONAL SHORING OR BRACING SHALL IN NO WAY RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO KEEP THE WORK AND WORKMEN SAFE AND UNHARMED.

NO EXTRA PAYMENT WILL BE MADE FOR THESE ITEMS, THE COST THEREBEING MERGED WITH AND CONSIDERED A PART OF EXCAVATION COSTS.

FOR SHEETING AND BRACING WHICH IS SPECIFICALLY SHOWN ON THE DRAWINGS TO BE LEFT IN PLACE, THE CONTRACTOR SHALL RECIEVE NO PAYMENT, IT BEING UNDERSTOOD AND AGREED THAT HIS COMPENSATION THEREFOR IS INCLUDED IN THE BID PRICE FOR COMPLETED PIPE.

PIPE EMBEDMENT MATERIAL. PIPE EMBEDMENT MATERIAL SHALL BE CRUSHED OR RIVER GRAVEL AND SHALL MEET THE FOLLOWING GRADATION:

SIEVE SIZE	PERCENT BY WEIGHT PASSING SQUARE MESH SIEVE
1 INCH	100
3/4 INCH	40-100
1/2 INCH	10-50
No. 200	0-10

FOUNDATIONS AND PIPE BEDDING. SHOULD THE TRENCH BE EXCAVATED TO A DEPTH GREATER THAN THAT REQUIRED BY THE PLANS AND PROFILES, THE CONSTRACTOR SHALL REFILL SUCH EXCESS EXCAVATION WITH SELECTED GRANULAR MATERIAL TO THE PROPER LINES AND GRADES AND PROPERLY COMPACTED READY FOR PLACEMENT OF THE PIPE. THIS ITEM WILL BE PAYED FOR AT THE UNIT PRICE AS BID BY THE CONTRACTOR.

WHEN THE EXCAVATION IS COMPLETE, THE BOTTOM OF THE TRENCH SHALL HAVE THE SHAPE AND DIMENSIONS SHOWN ON THE PLANS OR AS SPECIFIED HEREIN. GENERALLY, TRENCHES BELOW THE TOP OF THE PIPE SHALL BE NOT LESS THAN TEN INCHES (10") NOR MORE THAN SIXTEEN INCHES (16") WIDER THAN THE OUTSIDE DIAMETER OF THE PIPE.

THE BOTTOM OF THE TRENCHES SHALL BE ACCURATELY GRADED TO LINE AND GRADE AND TO PROVIDE UNIFORM BEARING AND SUPPORT FOR EACH SECTION OF THE PIPE ON UNDISTURBED SOIL OR ON SPECIFICALLY PLACED BEDDING MATERIAL, AT EVERY POINT ALONG ITS ENTIRE LENGTH. BELL HOLES AND DEPRESSIONS FOR JOINTS SHALL BE DUG AFTER THE TRENCH BOTTOM HAS BEEN GRADED, AND SHALL BE ONLY OF SUCH LENGTH, DEPTH, AND WIDTH AS REQUIRED FOR PROPERLY MAKING THE PARTICULAR TYPE JOINT. CARE SHALL BE TAKEN NOT TO EXCAVATE BELOW THE REQUIRED DEPTHS. WHERE SOFT, SPONGY, OR OTHERWISE UNSTABLE

material is encountered, which will not provide a firm foundation for the pipe, the Engineer will direct the extent to which removal and replacement with suitable material shall be made. Where rock excavation is encountered, the rock shall be excavated to a minimum overdepth of four inches (4") below the outside wall of the pipe to be used. The overdepth rock excavation shall be backfilled with suitable granular material.

Imported material for pipe bedding may be sand or sand gravel, but shall not have any stones or rock in excess of two inches (2") in any dimension. The material shall be free of excessive fine material and shall be subject to the approval or rejection of the Engineer.

G. Backfill. After pipes have been laid, tested, and accepted by the Engineer the open trench shall be backfilled to the level required by the Engineer, the trench backfilling shall not be left unfinished more than three hundred feet (300') behind the completed pipe work.

1. Backfill Material.

a. Around Pipe. The backfill material to be placed around and over the pipes to a depth of at least one foot (1') shall be excavated or borrow materials consisting of clay, loam, sand, gravel, soft shale, or other suitable material, free from debris and stones larger than three inches (3") in any dimension.

b. Remainder of Backfill. The remainder of the backfill shall be the same as that around the pipe except that the inclusion of a limited amount of stones and rock wil be permitted. Stones and rock shall in no case be larger than fifty (50) pounds, and they shall be so placed that each piece is completely surrounded with compaction as determined by the Engineer.

c. Backfill in Roadways. In areas where pavement is to be replaced or in streets which are to be paved, no rocks or stones in excess of three (3") in diameter shall be included in the top one foot (1') of the trench.

2. Compaction.

a. Bedding and backfill materials shall be carefully deposited in layers not more than six inches (6") in compacted thickness, wetted to optimum moisture content and uniformly compacted to at least ninety-five per cent (95%) of the maximum density obtainable as determined by standard compaction tests taken under the direction of the Engineer.

b. Compaction by inundation will be permitted only when, in the judgment of the Engineer, the backfill material is sufficiently granular to insure a uniform settlement and compaction. The ninety-five per cent (95%) of maximum density is a requirement to be met by and method used by the Contractor. If, in the judgment of the Engineer, the trench shows signs of being improperly backfilled, or if settlement occurs, the trenches will be reopened to a depth required for proper compaction, refilled, and recompacted, all in accordance with these specifications and the satisfaction of the Engineer.

H. Test for Displacement. Pipe lines will be checked by the Engineer to determine whether any displacement or other damage has occurred after the trench has

been backfilled approximately two feet (2') alignment, broken, or otherwise damaged, the defects will be properly corrected by the Contractor at his expense.

I. Underground Obstruction. The Contractor shall preserve intact any underground pipes or other utilities encountered during construction (except as hereinafter specified), provided they do not interfere with new pipe lines or structures being installed. In case any such utilities or other structures are accidentally broken, they shall be immediately replaced ina condition at least equal to that in which they were found, all at the Contractor's expense.

Existing water services and mains which interfere with trenching operations may be cut and replaced at the Contractor's option and at his expense, provided that water users from such lines are notified personally of the loss of service at least two (2) hours in advance and provided further that the use of such services shall in no case be interrupted for more than four (4) hours, unless specifically authorized by the user.

J. Private Utilities. Privately owned utilities, such as gas mains, underground electrical circuits, etc., required to be moved to make way for the construction will be moved by others. The Contractor shall be responsible for proper notification of the utility owner to insure as nearly uninterrupted service as is reasonably proper. The Contractor can claim no extra compensation of time extensions due to delays resulting from moving public or private utilities.

K. Drainage. The Contractor shall control the grading in the vicinity of the trenches and structures as much as possible so that ground surface water is prevented from running into the excavated areas. When water does get into excavations, the Contractor shall take immediate steps to remove the water and stabilize the foundations prior to continuing with the work.

L. Dewatering. When ground water is encoutered in the excavations, the Contractor shall provide all necessary pumps and other equipment necessary to completely remove the water such that the foundations can be prepared and the pipe laid in the "dry". The cost of dewatering operations, including installation and operation of well point systems, will not be paid for separately, but shall be merged with and considered a part of the trenching cost.

M. Trench Maintenance. The Contractor shall, for a period of one(1) year after completion and acceptance of the work, maintain and repair any trench settlement which may occur and shall make suitable repairs to any pavement, sidewalks, or other structures which may be damaged as a result of backfill settlement.

If the Contractor elects to perform such maintenance and repairs by subcontract with the Owner, or others, he shall furnish the Owner and the Engineer a copy of such Subcontract or authorization as evidence of his faithful intention to perform the work. In any case the Contractor shall, prior to final payment, furnish the Owner a statement of method of maintenance he proposes to use. Final acceptance and payment will not be made without such evidence.

N. Measurement and Payment. The cost of excavation, pavement removal, sheeting and bracing, backfill, and all other items of work incidental to trench excavation and backfill shall be merged with the cost of furnishing and laying pipe, with the exception that compaction of backfill material shall be paid for separately.

SECTION 5

SPECIFICATIONS FOR

SANITARY SEWER PIPE
(Index)

Paragraph	Title	Page
A.	General----------	S. S. P. 1
B.	Materials----------	S. S. P. 1
C.	Sewer Pipe Jointing----------	S. S. P. 1
D.	Sewer Pipe Laying----------	S. S. P. 1
E.	Infiltration & Exfiltration----------	S. S. P. 2
F.	Earth Excavation----------	S. S. P. 2
G.	Removal of Water----------	S. S. P. 2
H.	Bracing and shoring----------	S. S. P. 2
I.	Obstructions----------	S. S. P. 2
J.	Replacing of Existing Sewers----------	S. S. P. 2
K.	Pavement Replacement----------	S. S. P. 3
L.	Barricades and Barriers----------	S. S. P. 3
M.	Basis of Payment----------	S. S. P. 3

SPECIFICATIONS FOR SANITARY SEWER PIPE

A. General. Sanitary Sewers shall be constructed of vitrified clay sewer pipe, asbestos-cement pipe, or P.V.C. pipe as called for in the Bid Proposal.

B. Materials.

1. Extra Strength Clay Pipe. Extra strength clay pipe shall conform to the requirements of A.S.T.M. Designation C200-75.

2. P.V.C. Sewer Pipe. P.V.C. sewer pipe shall be manufactured in accordance with A.S.T.M. Designation SDR-35 or D3034.

C. Sewer Pipe Jointing. All joints for vitrified clay pipe sewers shall conform to the requirements of A.S.T.M. Designation C425-75.

Joints for Asbestos-Cement sewer pipe and P.V.C. sewer pipe shall comply with manufacturer's recommendations.

Prior to submitting a bid, the Contractor shall obtain the approval of the Engineer for the type of joint he proposes to use.

D. Sewer Pipe Laying. All sewers shall be laid true to line and grade with bells upgrade. The sections of the pipe shall be laid and fitted together so that when complete, the sewer will have a smooth and uniform invert. The pipe shall be kept thoroughly clean and dry so that the jointing compounds will adhere. Each pipe shall be inspected for defects before lowered into the trench.

The excavation trenches shall be fully completed a sufficient distance in advance of the laying of the sewer and the exposed end of pipe shall be fully protected with other substances from entering the pipe.

The interior of the sewer shall be carefully freed of all dirt, joint compound and superfluous materials of every description as the work progresses. For this purpose a disc mold or swab filling the entire bore of the pipe, and attached to a rod sufficiently long to pass two (2) joints from the end of the pipe last laid shall be used, as the laying process.

Excavations of trench shall start at the lowest outlet level in the work and proceed upgrade. A firm bed must be prepared for each pipe and the material hollowed out underneath the bell so that the body of the pipe shall be supported for its entire length upon the bed so prepared. Where rock conditions are encountered, pipe shall be laid on a compacted six (6) inch sand cushion.

In all cases, the mouth of the pipe shall be protected by a board or other stopper fitted to the pipe so as to prevent earth or other substances from entering.

All water must be kept out of the bell hole until the joint is completed and water shall not be allowed to rise in or about the pipe until the trench has been filled at least two (2) foot above the pipe. No length of pipe shall be laid until the previous length has had sufficient back-filling placed about it to hold it securely in place. If, in making any joint, previous lengths are disturbed, such lengths must be uncovered and the joints remade.

Before leaving the work for the night, or during a storm, or for any reason, care must be taken that the unfinished end of the sewer is securely closed with a tightly fitting iron or wooden plug. Any earth or other materials that may find entrance into the sewer must be removed by the Contractor at his own expense.

E. Infiltration and Exfiltration. The finished sewers shall be of such tightness that leakage will not exceed 200 gallons per day per inch of diameter per mile, when field tested by actual infiltration or exfiltration conditions.

Any line or section of line not meeting the above limits shall be corrected by the Contractor at his expense.

F. Earth Excavation. The Contractor shall do all excavation of whatever substances encountered to depth shown on drawings. Excavated materials not required for backfill shall be removed from site as directed by the Engineer.

Excavation. The Contractor shall do all excavation of whatever substances encountered to depth shown on drawings. Excavated materials not required for backfill shall be removed from site as directed by the Engineer.

Excavation for manholes and other accessories to have a 12 inch minimum clearance on all sides.

Excavation shall not be carried below the required level. Excess excavation below required level shall be backfilled at the Contractor's expense with earth, sand, gravel, or concrete, as directed by the Engineer, and thoroughly tamped.

G. Removal of Water. The Contractor shall remove any water accumulated in the excavation at his own expense and shall at all times during construction, provide and maintain ample pumping facilities to promptly remove and dispose of all water entering the trenches or excavation.

H. Bracing and Shoring. The Contractor shall do all bracing, sheathing and shoring necessary to perform and protect all excavation as indicated on the plans, as required to provide safe working conditions, or as directed by the Engineer, or to conform to governing safety laws.

Any damage to structures occuring through settlement, water or earth pressure, slides, caves or other causes, due to improper sheathing, bracing or shoring, or through negligence or fault of the Contractor, shall be repaired by the Contractor at his own expense.

I. Obstructions. Sewer mains and services, water mains and service, and gas mains and services, which obstruct the inside cross-sectional area of the sewer, which in the opeion of the Engineer constitute obstruction which must be removed, shall be taken up and replaced without cost to the Contractor. The Contractor will not be entitled to additional compensation caused by delays reasonable necessary to making said changes.

J. Replacing of Existing Sewers. Where shown on the plans existing sewers shall be

replaced with the new savitary sewer line. The Contractor shall make every effort to minimize the length of time that sewer service is interrupted and at the end of every working day, temporary connections from the old line to the new line shall be installed to handle the sewage flow. No additional compensation shall be allowed the Contractor for this work.

K. Pavement Replacement. The Contractor shall encounter areas where pavement replacement is required:

1. The trench backfill and pavement replacement shall conform to the drawings.

2. The Contractor shall include the cost of pavement replacement in his overall bid and shall not be allowed additional compensation.

L. Barricades and Barriers. The Contractor shall erect such barriers as may be necessary to effectually guard the public from accidents, both day and night and he will be held responsible for accidents which arise in this connection.

All barriers, open ditches, and other work shall be properly marked at night time with proper lights by the Contractor.

M. Basis of Payment. Price bid per lineal foot of sewer shall include all cost of labor, excavation, material, backfilling, and clean up. Compaction of backfill shall be paid for at the contract unit price per lineal foot of trench. Service Connections (including tap, saddle and bend) shall also be paid for separately at the contract unit price per each service connection.

SECTION 6

SPECIFICATIONS FOR

MANHOLES
(Index)

Paragraph	Title	Page
A.	Manholes----------	M. 1
B.	Frames, Covers and Steps----------	M. 1
C.	Measurements and Payment----------	M. 2

SPECIFICATIONS FOR MANHOLES

A. MANHOLES: MANHOLES SHALL BE CONSTRUCTED OF PRECAST CONCRETE WITH CAST-IRON FRAMES AND COVERS AS SHOWN ON THE PLANS.

BARREL AND CONES OF PRE-CAST CONCRETE MANHOLES SHALL HAVE A MINIMUM WALL THICKNESS OF 5 INCHES OF 3000 P.S.I. (MINIMUM) CONCRETE AND HAVING REINFORCING EQUAL TO COMPARABLE DIAMETER REINFORCED CONCRETE PIPE CLASS II AS SPECIFIED IN ASTM DESIGNATION C-76-57T. HOLES FOR PIPE CUT INTO MANHOLES SHALL BE CUT AND GROUTED BACK IN AN APPROVED MANNER. MANHOLE JOINTS SHALL BE CAULKED WITH AN APPROVED MATERIAL TO EXCLUDE ALL GROUND WATER. MANHOLES SHALL BE ABSOLUTELY WATERTIGHT BOTH IN THE FLOOR AND FOR THE FULL HEIGHT OF THE WALK.

JOINTS BETWEEN MANHOLE SECTIONS MAY BE SEALED BY A FULL MORTAR JOINT, OR BY "RAM-NEK" PRE-FORMED GASKETS, AS MANUFACTURED BY K. T. SNYDER COMPANY, INCORPORATED, HOUSTON, TEXAS, OR APPROVED EQUAL. CEMENT MORTAR FOR JOINTING SHALL CONSIST OF ONE PART PORTLAND CEMENT, TYPE II, OR BETTER, AND THREE PARTS OF SAND.

INVERT CHANNELS SHALL BE SMOOTH, ACCURATELY SHAPED, AND IN ACCORDANCE WITH THE PLANS.

INVERT MAY BE FORMED DIRECTLY IN CONCRETE OF THE MANHOLE BASE; BE BUILT UP OF BRICKWORK AND MORTAR; CONSIST OF HALF TILE LAID IN THE CONCRETE BASE; OR BE CONSTRUCTED BY LAYING FULL SECTION SEWER PIPE STRAIGHT THROUGH THE MANHOLE AND CUTTING OUT THE TOP HALF AFTER THE CONCRETE BASE IS CONSTRUCTED AND SUFFICIENTLY SET.

NO HORIZONTAL SURFACES SHALL BE LEFT ON THE OF THE MANHOLE FLOOR; THE FLOOR SHALL BE SHAPED TO THE FLOOR CHANNEL.

1. CAST-IRON STEPS SHALL BE INSTALLED AS SHOWN ON THE PLANS. CAST-IRON SHALL CONFORM TO A.S.T.M. SPECIFICATION A-48.

MANHOLES SHALL BE BUILT SO THAT THE FRAME AND COVER WHEN PLACED WILL BE AT THE ESTABLISHED REQUIRED GRADE, EXCEPT THAT MANHOLES LOCATED IN UNCONSTRUCTED STREETS SHALL BE INSTALLED SUCH THAT THE TOP OF CONE ELEVATION IS WITHIN 3 INCHES PLUS OR MINUS, OF THE TOP OF SUBGRADE ELEVATION. IN SUCH CASES THE FRAM AND COVER SHALL BE PROVIDED BUT NOT INSTALLED.

MORTAR FOR LAYING BRICK SHALL BE COMPOSED OF 1 PART OF CEMENT TO 2 PARTS SAND, WITH APPROXIMATELY 20 LB HYDRATED LIME ADDED FOR EACH SACK OF CEMENT.

THE OUTSIDE AND INSIDE OF BRICK MANHOLES SHALL BE PLASTERED AND TROWLED SMOOTH WITH $\frac{1}{2}$" OF MORTAR COMPOSED OF 1 PART CEMENT TO 2 PARTS SAND WHERE WATER CONDITIONS EXIST.

BRICK MANHOLES OVER 12.0 FEET IN VERTICAL DEPTH SHALL BE CONSTRUCTED WITH DOUBLE WALL THICKNESS BELOW THE 12.0 FEET DEPTH MARK.

B. FRAMES, COVERS, STEPS: FRAMES, COVERS AND STEPS SHALL BE OF THE TYPE AND DUTY SHOWN ON THE PLANS. IRON CASTINGS SHALL CONFORM TO THE STANDARD SPECIFICATION FOR IRON CASTINGS, A. S. T. M. SPECIFICATION A-48-46 CLASS 30.

ALL CASTING SHALL BE TRUE TO PATTERN IN FORM AND DIMENSIONS, FREE FROM FAULTS, SPONGINESS, CRACKS, BLOWHOLES, AND OTHER DEFECTS AFFECTING THEIR STRENGTH.

BEARING SURFACES BETWEEN CAST FRAMES, COVERS AND GRATES SHALL BE MACHINED, FITTED TOGETHER, AND MATCHED MARKED TO PREVENT ROCKING.

C. MEASUREMENT AND PAYMENT: PRICE BID PER MANHOLE SHALL INCLUDE ALL LABOR AND MATERIAL COSTS NECESSARY TO INSTALL THE MANHOLE. THE COST OF EXCAVATION AND BACKFILL AROUND THE MANHOLE SHALL BE MERGED WITH THE COST OF FURNISHING AND LAYING PIPE.

SECTION 7

Specifications for

ASPHALTIC PAVING AND CONCRETE REPLACEMENT

Paragraph	Title	Page
A.	Asphaltic Paving Replacement----------	A. P. - 1
B.	Concrete Replacement ----------	A. P. - 3
C.	Measurement and Payment ----------	A. P. - 3

Specifications for

Asphaltic Paving and Concrete Replacement

A. Asphaltic Paving Replacement: Details of the asphaltic pavement replacement shall be in accordance with the standard contained herein. The edge of the existing pavement shall be cut to a neat straignt line by means of a spade bitted air hammer.

The crushed gravel used for construction of the base course shall consist of clean, hard, durable particles which conform to the following gradations:

Per Cent Passing by Weight

Sieve sizes	Minimum	Maximum
3/4 inch	--	100
No. 4	30	65
No. 10	20	50
No. 200	5	12

The base course material, when tested in accordance with AASHO T-96 (Los Angeles Abrasion Test), shall have a percentage of wear of not more than 50 percent.

The base course material passing the No. 40 sieve shall have a plasticity index of not greater than six, as determined by AASHO Methods T89-60, T90-56, and T91-54.

Of the particles retained on a No. 4 sieve, at least 60 percent by weight shall have one or more fractured faces.

The gravel shall be free of lumps or balls of clay and contain a maximum of five per cent of soft particles that can be disintegrated between the fingers.

The base course shall be placed on a previously prepared sub-grade in the proper quantities to conform to the cross-sections as required. The crushed material shall be watered as necessary to obtain the proper moisture content and mixed until a uniform mixture is obtained.

No base course material shall be placed until the subgrade or subbase has been checked and approved by the Engineer. Under no circumstances shall pavement or base material be placed on a muddy subgrade. The entire base course shall be compacted to a dry density of at least 95 per cent of the maximum dry density as determined by AASHO Method T99-57 Method C.

The finished base course shall be smooth and free of ruts and irregularities and true to grade.

The prime coat shall be placed by means of an approved pressure distributor. The prime coat shall be applied at a rate of less than 0.20 gallons per square yard nor more than 0.35 gallons per square yard as directed by the Engineer. Prior to placement, the bituminous material shall be heated to the proper application temperature as recommended by the various publications of the Asphalt Institute, and shall be maintained within + 10° F. Care shall be taken to insure that the temperature never exceeds 175° F.

The primed surface shall be allowed to cure for at least 24 hours before placing any bituminous pavement. The primed surface shall be maintained by the Contractor until the bituminous pavement is placed. All vertical contact surfaces shall be primed by painting with a hot bituminous material of the same grade being used in the prime coat. The prime coat material shall be MC-70.

The asphaltic pavement shall be hot mixed at a central plant. It shall consist of mineral aggregated, uniformly mixed with asphalt cement and lain upon a prepared base to the required finished thickness.

The mineral aggregate shall consist of clean, hard, durable, stone particles which have been crushed, screened and otherwise processed to meet the following requirements:

	Per Cent Passing by Weight	
Sieve Size	Minimum	Maximum
3/4 Inch	100	100
1/2 Inch	75	100
3/8 Inch	60	90
No. 4	45	65
No. 10	30	55
No. 40	15	30
No. 80	6	15
No. 200	4	10
Asphalt Cement	5-7% by weight of batch	

Of the particles retained on the No. 4 sieve, at least sixty percent by weight shall have one or more fractured faces.

The crushed gravel, when tested in accordance with AASHO Standard Designation T96, shall have a percentage of wear of not more than 50 per cent.

The material passing the No. 40 sieve shall have a liquid limit of not more than 25, and a plasticity index of not more than six, when tested in accordance with AASHO Test Methods T-89 and T-91.

Determination of the effect of water on the cohesian (stripping resistance) of asphaltic concrete composed of the proposed mineral aggregares shall be made in conformance with AASHO Test Method T-165. Retained strength shall be a minimum of 75. The use of an anti-stripping admixture to improve the retained strength characteristics shall be permitted only with the written permission of the Engineer.

The asphalt cement shall be uniform in characteristic and character, free from water and shall not foam when heated to 347° F. It shall meet the following requirements for penetration: Penetration at 77° F., 100g., 5 sec., 85-100.

The asphalt cement shall conform to all of the following requirements of the AASHO Standard Specifications for Asphalt Cement, M 20-60:

Flash Point, Cleveland open cup, F	450 Minimum
Ductility at 77°F., 5 cm, per min., cm.	100 Minimum
Loss on heating test, 325°F., 5 hr	
Loss, per cent	1.0 Maximum
Penetration of residue, per cent of orig.	75 Minimum

SECTION 8

SPECIFICATIONS FOR

PORTLAND CEMENT CONCRETE
(Index)

Paragraph	Title	Page
A	General ----------	P.C. 1
B	Classification----------	P. C. 1
C	Concrete Materials----------	P.C. 1
D	Mixing ----------	P.C. 3
E.	Testing ----------	P.C. 4

Solubility in carbon tetrachloride, per cent	99 Minimum
Ash, per cent	1.0 Maximum
Oliensis Spot Test	
Naptha Xylene Solvent, 10 per cent Xylene	Negative

The Contractor shall submit a report from a recognized testing laboratory certifying the mix design and materials as being in conformance with these specifications.

The mixture shall be laid only when the base is dry, and only when weather conditions are suitable. The mixture shall be laid only when atmospheric temperatures are above 40°F., and rising, and when no frost exists in the base or subgrade. The temperature requirement may be waived only by specific permission of the Engineer.

After spreading, the misture shall be thoroughly and uniformly compressed by a power driven roller. Rolling equipment shall consist of steel wheel rollers and pneumatic-tired rollers. After final compaction, the finished surface course shall at no point have a density less than 92 per cent of the maximum density possible to obtain in a void less pavement composed of the same materials in like proportions.

B. Concrete Replacement. Concrete replacement shall conform to the size and shape of that removed.

C. Measurement and Payment. Measurement of all replacement work described in this section shall be made along the centerline of the pipe, for all pipe covered by asphaltic pavement or concrete. Payment will be made only for surfacing which is actually removed by the Contractor. No distinction shall be made between asphaltic pavement and concrete as far as pay items are concerned and all replacement shall be paid for under the bid items in the Proposal Form for "Asphaltic Pavement Replacement". Payment will be made at the Contract unity price per linear foot.

SPECIFICATIONS FOR

PORTLAND CEMENT CONCRETE

A. General. All of the concrete used in the various structures and appurtenances shall consist of a mixture of an approved Portland Cement, Type 1 or 1A, water, fine aggregate and coarse aggregate mixed in accordance with the specifications and placed as shown on the plans. The concrete work provided for herein shall include all concrete structures and necessary supports and foundations, all as shown in detail on the plans.

B. Classification. The following classes of concrete are included in these specifications and shall be used where specified herein or called for on the plans:

Class of Concrete	"A"	"B"
Minimum Sacks (94lbs) Amount per cubic yard of Concrete	6	5
Minimum Water Cement Ration	6.5 gal./sack	7.5 gal./sack
Per Cent Entrained Air	3%-6%	3%-5%
Minimum 7 day compressive strength	1800 lbs./sq. inch	1400 lbs./sq. inch
Minimum 28 day Compressive strength	3000 lbs./sq.inch	2200 lbs./sq. inch

C. Concrete Materials.

1. Portland Cement. Non air-entraining Portlend cement shall conform to the latest requirements of ASTM Designation C-150 for Type 1 cement. Air entraining Portland Cement shall conform to the latest requirements of ASTM Designation C-175 for type 1 A Cement.

   Manufacturer's certificate of compliance with the above mantioned specifications will be required.

   All Portland cement shall be dry and free from lumps and all foreign material at the time of mixing as determined by the Engineer.

2. Fine Aggregate. Fine aggregate shall consist of clean, hard durable uncoated grains of sand, free from lumps, alkali, organix matter or other deleterious substances and shall be washed when necessary to obtain conformity with these specifications and shall meet the following specific requirements:

   a. Gradation. Fine aggregate shall be well graded from coarse to fine and when tested by means of laboratory sieves (U.S. Standard) shall conform to the following requirements:

Sieve Designation	Percent Passing Min.	Max.
3/8 Inch	--	100
No. 4	95	100
No. 8	70	90

No. 16	45	80
No. 30	25	55
No. 50	10	30
No. 100	0	10
No. 200	0	3

b. Deleterious Substances. The maximum percentages of deleterious substances shall not exceed the following values.:

Clay lumps	1%
Coal and Lignite	1/2%
Shale, Alkali, mica, coated grains, soft and flaky particles	1%
Material floating on a liquid of Specific gravity of 1.95	0.5%

c. Organic Impurities. Fine aggregate subjected to the colorimetric test for organic impurities and producing a color darker than the standard shall be rejected unless it passes a mortar strength test acceptable to the Engineer.

3. Coarse Aggregate. Coarse aggregate shall consist of crushed rock or gravel having hard, strong, durable pieces, free from vegetable matter or adherent coatings and shall be washed when necessary to obtain conformity with these specifications and shall meet the following specific requirements:

a. Gradation. Coarse aggregate shall be well graded to the following gradation limits using U.S. Standard Sieves.

	Per Cent passing by Weight			
	1-1½" to 3/4"		3/4" to No. 4	
Seive Designation	Min.	Max.	Min.	Max.
2 inch Sieve	--	100	--	--
1-½ Inch Sieve	90	100	--	--
1 inch Seive	20	55	--	100
3/4 inch Seive	0	30	90	100
3/8 inch Sieve	0	5	20	55
No. 4 Sieve	--	--	0	10
No. 8 Sieve	--	--	0	5

b. Deleterious Substances. Deleterious substances in Coarse aggregate shall not exceed the following Percentages by weight:

Total Material Passing the No. 200 Sieve (Wash)	3.00%
Clay Lumps	0.50%
Soft Friable Pieces	2.50%
Sticks (Wet)	0.10%
Coal	0.50%
Materials floating on a liquid having a spcific gravity of 1.95	1.00%
Shale	1.00%

c. Soundness and Abrasion. The coarse aggregate shall be satisfactory to the Engineer when tested by standard abrasion and soundness tests.

4. Water for Concrete. Water that has been approved for drinking purposes or household use by the State or local Health Department may be used without being tested. Water from other sources shall be tested as required by the Engineer.

5. Admixtures. The Contractor may elect to use and air-entraining or other admixture provided the admixture is specifically approved by the Engineer. Admixture, to be approved, either for plasticising, densifying, air entrainment, or acceleration of hardening of concrete shall, when added to the mixture, produce a concrete of specified strength in both 7 and 28 day tests. Documentary evidence of acceptability will be required when new or unknown admixtures are proposed for usage.

6. Storage of Materials. Cement and aggregates shall be stored at the work in such a manner as to prevent deterioration or intrusion of foreign matter. Any material which has deteriorated or which has been damaged in storage shall not be used for concrete even though it may have been previously approved by the Engineer.

7. Proportioning. Propo-tioning the "dry" constituents of all concrete mixtures shall be accomplished by weighing. The Contractor shall provide adequate and accurate scales for this work. There will be no variance permitted in the minimum cement factor (sacks per cubic yard) as specified for the classes of concrete. The total quantity of mixing water per sack of cement in including free water in the aggregates shall in no case exceed the maximum specified herein.

The Contractor shall be responsible for developing the proper proportions of aggregates, cement and water that will conform to the various requirements of these specifications.

The proportions as developed shall be submitted to the Engineer along with at least two sets of certified 7 day test results for review and approval. No concrete will be incorporated into the work until the proportions are approved by the Engineer.

The Proportions for the concrete mixture approved by the Engineer shall not be modified without the specific approval of the Engineer and then only as may be required to provide the proper consistence and workability.

D. Mixing. The concrete shall be mixed in a batch type mixer of a type approved by the Engineer. The volume of the mixed material for each batch shall not exceed the manufacturer's rated capacity of the mixer, and the speed in revolutions of the mixer drum shall be in accordance with the manufacturer's recommendations.

1. General. Hand mixing will not be prmitted except with the permission of the Engineer and then only in very small quantities or in the case of an emergency.

In the event that the Contractor elects to use air-entraining admixture with Type 1 Portland cement for air-entraining concrete, the mixer shall be equipped with a suitable automatice dispensing device which will proportion

the air-entraining admixture accurately to each batch of concrete. The device shall be calibrated and adjusted to deliver to each batch of concrete the quantity of admixture required to produce the specified air content in the concrete.

2. Truck Mixing. Truck mixers, unless otherwise authorized, shall be of the revolving drum type, watertight, and so constructed that the concrete can be mixed to assure a uniform distribution of materials throughout the mass. All solid materials for the concrete shall be accurately measured in accordance with the approved mix proportions and charged into the drum at the proportioning plant. Except as subsequently provided, the truck mixer shall be equipped with a tank for carrying mixing water. Only the prescribed amount of water shall be placed in the tank unless the tank is equipped with a device by which the quantity of water added can be readily verified. The mixing water may be added directly to the batch, in which case a tank will not be required. Truck mixers may be required to be provided with means by which the mixing time can be readily verified by the Engineer. Mixing shall begin within thirty minutes after the cement has been added either to water or aggregate.

   Concrete transported in a truck mixer or agitator shall be discharged at the job and placed in its final position in the forms within 1-1½ hours after the introduction of the mixiing water to the cement and aggregate, or cement to the aggregate, except that in hot weather or under conditions contributing to the quick stiffening or setting of the concrete, the maximum allowable time shall be reduced by the Engineer.

   Concrete shall be delivered at a rate such that no time intervals between two consecutive batches or loads shall exceed 45 minutes, unless otherwise permitted by the Engineer.

   The volume of the mixed material for each batch shall not exceed the manufacturer's rated capacity of the mixer, and the speed in revolutions of the mixer drum shall be in accordance with the manufactuer's recommendations.

3. Job Mixing. All Concrete shall be mixed for a period of not less than 1½ minutes after all materials, including water, are in the mixer.

   The entire contents of the mixer shall be removed from the frum before materials for the succeeding batch are placed therein. No mixer shall be operated above its rated capacity and no mixer of a rated capacity of less than one sack shall be used.

   Concrete shall be mixed only in such quantities as are required for immediate use and shall be placed while fresh, before initial set has occurred. Any concrete in which initial set has begun shall be wasted. Retempering of concrete will not be allowed.

E. Testing. Test specimens of the concrete will be taken by the Contractor under the direction of the Engineer to establish compliance with these specifications. These test speciments shall be made according to the latest requirements of ASTM Designation C 39.

   In General, not less than two test speciments shall be made each day concrete is poured. The number of specimens required for each day's pouring shall be as follows:

25 cubic yards to 100 cubic yards - 4 specimens
100 cubic yards or more - 6 specimens

For the purpose of representing the strength and quality of the concrete in the structures, the test speciment shall be cured adjacent to, and in the same manner as the concrete in the structure for the first seventy-two hours.

Test specimens shall be shipped to an accredited testing laboratory for testing and the results of the tests shall be transmitted directly to the Engineer. Tests shall be made at the ages of 7 and 28 days, respectively.

All testing equipment including test specimen molds, slump cones, entrained-air measuring meters, and volume measuring devices shall be furnished by the Contractor. All costs in connection with making quality tests, transporting test speciments, payment for laboratory testing shall be a Contractor's responsibility and these costs shall be included in the bid price shown in the Proposal Form.

SECTION 9

TECHNICAL SPECIFICATIONS FOR STREETS

DETAILED STREET AND STORM DRAINAGE CONSTRUCTION SPECIFICATIONS

CITY OF GRAND JUNCTION, COLORADO
DEPARTMENT OF PUBLIC WORKS AND UTILITIES
ENGINEERING DIVISION
1976

GENERAL: Sections 200 through 700 of the Standard Specifications for Road and Bridge Construction of the State Department of Highways, Division of Highways, State of Colorado, as supplemented or amended by these specifications shall govern the work and shall be considered as part of the Contract Documents. In cases of any conflicts of meaning between the above-referenced Standard Specifications and these Specifications, the supplements and amendments listed below shall govern.

SECTION 201 CLEARING AND GRUBBING: This work shall consist of clearing, grubbing, removing and disposing of all vegetation and debris within the limits of the proposed grading areas. This work shall also include the preservation from injury or defacement of all vegetation and objects designated to remain.

Construction Requirements.

All vegetation such as brush, heavy sod, heavy growth of grass, decayed vegetable matter, rubbish and other unsuitable material within the area of excavation or upon which embankment is to be placed shall be stripped or otherwise removed to a depth of three (3) inches. All such materials shall be wasted or spread outside the construction area or disposed of as directed by the Engineer. In no case shall such objectionable material be allowed in or under embankemnt. No separate payment will be made for stripping or disposing of such materials, but the yardage removed and disposed of shall be paid for at the contract unit price per cubic yard for "Unclassified Excavation".

Ordinarily, the clearing of growth shall not extend more than eight (8) feet beyond the toes of fills or the tops of cut slopes as treated nor outside of City right of way. Contractor shall give residents at least 10 days notice to allow them to transplant items from the right of way. Except in areas to be excavated, stump holes and other holes from which obstructions are removed shall be backfilled with suitable material and compacted.

Measurement and Payment.

Clearing and grubbing will not be measured or paid for as separate items but shall be considered as incidental to the grading operations and the cost thereof included in the contract unit price per cubic yard of "Unclassified Excavation".

SECTION 202 REMOVAL OF STRUCTURES AND OBSTRUCTIONS:

Protection of Utilities

The Contractor shall at all times take extreme and proper precautions for the protection of utility lines encountered during construction. The Contractor shall be responsible for the repair of any damaged service or utility lines, and any utility line damaged by construction operations shall be repaired at the Contractor's expense.

SECTION 203 EXCAVATION AND EMBANKMENT:

All excavation will be "unclassified".

Unclassified excavation shall consist of the excavation of all materials of whatever character encountered in the work, including surface boulders. Unclassified excavation shall include excavation for ditches or channels and shall also include stripping. Stripping shall consist of removing unsuitable overburden material before removal of other material for use in the roadway.

Construction Requirements.

General. The excavation and embankments for the roadway and ditches shall be finished to reasonably smooth and uniform surfaces. Variation from the subgrade plane shall not be more than 1" in soil. Excavation operations shall be conducted so that material outside of the limits of slopes will not be disturbed. Prior to beginning grading operations in any area, all necessary clearing and grubbing in that area shall have been performed. The Contractor shall not excavate beyond the dimensions and elevations established, and material shall not be removed prior to the staking.

Excavation.

Unclassified Excavation.

All suitable material from project excavations shall be used to construct project embankments as shown on the Plans or designated by the Engineer. All excess material beyond that needed to construct project embankments shall be placed by the Contractor at other locations to be designated by the Engineer. All material excavated and subsequently placed at those designated locations shall be placed and compacted by the Contractor in accordance with the moisture and density requirements for embankment construction as shown under "Embankment Construction" of these Specifications.

Unsuitable Material.

If excavation to the finished graded section encounters a subgrade or slopes of spongy material, vegetable matter or trash pockets, the Engineer may require the Contractor to remove the unsuitable materials and backfill to the finished graded section with suitable material. Subgrade stabilization material (703.03 Class 3) may be used to backfill the excavations of unsuitable material. The Engineer may designate as unsuitable those soils or materials that are in his

judgment detrimental to the finished roadway. All unsuitable material shall be disposed of as directed by the Engineer.

Borrow.

The Contractor shall not bring any material onto the project from a borrow pit without prior written approval of the Engineer.

Embankment Construction.

Maximum dry density of all soil types encountered or to be used will be determined in accordance with AASHTO T-99. The relative compaction of each lift of all embankment construction shall be not less than 90% of the maximum density as determined by AASHTO T-99. The top six (6) inches of subgrade under pavements shall be compacted to not less than 95% of AASHTO T-99 maximum density.

Roadway embankment of earth material shall be placed in horizontal layers each not to exceed 8 inches in thickness and each layer shall be compacted as specified above before the next layer is placed. Effective spreading equipment shall be used on each lift to obtain uniform thickness prior to compacting. As the compaction of each layer progresses, continuous leveling and manipulating will be required to assure uniform density. Water shall be added or removed if necessary, in order to obtain the required density. Sprinkling shall be done in such a manner that areas of dry material alternated with areas of saturated material or pools of water will be avoided.

During the construction of the roadway, the roadbed shall be maintained in such condition that it will be well drained at all times.

All embankment construction shall be with moisture and density control for the full depth. The moisture content of the soil at the time of compaction shall be within $\pm$ 2% of the optimum moisture content as determined by the City's materials lab.

The natural ground under the full width of embankment section to a minimum depth of six (6) inches and cut sections for the full width of the roadbed to a minimum depth of six (6) inches below subgrade elevation shall be thoroughly scarified. The moisture content shall be increased or reduced, as necessary, to bring it to optimum. This scarified layer then shall be compacted to at least 90 percent of AASHO T-99 maximum density. If necessary, as determined by the Engineer, subgrade stabilization material (703.03 Class 3) may be used to achieve the specified compaction. The amount of water to be used in embankment construction shall be of sufficient quantity for the soil to be at optimum moisture content, as determined by laboratory and field tests, in order to obtain the required percent of relative compaction as specified above.

Method of Measurement.

All accepted excavation shall be measured in its original position by field survey cross-sectioning, which measurements will include

over-breakage or slides, not attributable to carelessness of the Contractor, and authorized excavation of unsuitable material. Volumes will be computed from the cross-section measurements by the average end area method.

Basis of Payment.

The accepted quantities will be paid for at the contract unit price per cubic yard of "Unclassified Excavation". This price shall be full compensation for all labor, equipment, tools, and materials and all costs for water, compaction, haul and any other incidental items that may be required in connection with excavation and embankment construction including clearing and grubbing.

Payment will be made under:

Pay Item	Pay Unit
Unclassified Excavation (Haul, water & compaction)	Cubic Yard

SECTION 204 HAUL:

Delete this section. Haul will not be paid for separately but shall be considered as incidental to the grading operations and the cost thereof included in the contract unit price per cubic yard of "Unclassified Excavation".

SECTION 206 EXCAVATION AND BACKFILL FOR STRUCTURES:

Trenching and backfilling for pipes shall be in accordance with the Standard Detail shown on the plans. All materials and compaction requirements shall be as shown on the Standard Detail.

Backfilling around structures other than pipes shall consist of placing suitable materials in layers of not more than six (6) inches and compacting them to not less than 90% of AASHTO T-99 maximum density before successive layers are placed.

Measurement and Payment.

Structure excavation and structure backfill will not be paid for separately but shall be considered as incidental to the various items and the cost thereof included in the contract unit prices of those items of work which require structure excavation and structure backfill.

SECTION 207 TOPSOIL:

Topsoil shall meet all material requirements of Section 207.02. Haul or water will not be measured and paid for separately but shall be included in the contract unit price per cubic yard of "Topsoil". Topsoil shall not be compacted.

SECTION 209 WATERING:

Wetting or water will not be paid for separately but shall be considered as incidental to the various items and the cost thereof

included in the contract unit prices of thoseitems of work which require water.

SECTION 210 RESET STRUCTURES AND FENCES:

Mailboxes shall be reset in accordance with the Standard Pavement Details sheet in the plans. "Reset" shall normally denote horizontal location change. "Adjust" shall normally denote vertical location change or other required adjustments to a structure which is to remain in place.

Prior to resetting or adjusting any utility structure (manhole, valve box, hydrant, meter, etc.) the contractor shall notify the agency which owns and operates the utility, shall insure the compatibility of any material or equipment to be installed and shall coordinate any service disruptions with that agency.

SECTION 212 SEEDING:

All seed mixture formulae and rates of application shall be as approved by the Department of Parks and Recreation of the City of Grand Junction.

SECTION 213 MULCHING:

All mulching materials, method and rates of application shall be as approved by the Department of Parks and Recreation of the City of Grand Junction.

SECTION 214 PLANTING:

All trees, shrubs and other plant material shall be as approved by the Department of Parks and Recreation of the City of Grand Junction.

SECTION 304 AGGREGATE BASE COURSE:

With the approval of the Engineer, existing bituminous pavement material designated for removal may be scarified into pieces not to exceed six (6) inches in greatest dimension and then reused as subbase course or subgrade stabilization material. The broken pavement aggregates shall be thoroughly mixed and stockpiled in designated locations until it is placed on the roadbed. The compaction requirements for the reused pavement aggregates are the same as those designated on the plans for layers in which it is placed.

The following specified aggregates shall be used;

Aggregate Base Course	703.03 Class 6
Aggregate Subbase Course	703.03 Class 4
Subgrade Stabilization Material	703.03 Class 3*

*Class 3 aggregate shall not exceed 6 inches in greatestdimension.

The source of aggregates is not designated. Approval of the aggregates source will be contingent upon material meeting the specified requirements of Section 703.03 and having a resistance value of not less than 78 when tested by the Hveem Stabilometer method.

The top six (6) inches of subgrade soil under all paved areas shall be compacted to a density of not less than 95% of the maximum density determined in accordance with AASHTO T-99. All soft, yielding subsoil and other unsuitable material shall be removed as directed by the Engineer and replaced with Subgrade Stabilization Material.

Maximum dry density of the base and subbase courses will be determined in accordance with AASHTO T-180 Method D. The relative compaction required will be not less than 95% for Aggregate Base Course (Class 6) and 90% for Aggregate Subbase Course (Class 4).

Haul or water will not be measured and paid for separately but shall be included in the contract unit prices per ton of the aggregate base course items.

Where existing bituminous pavement material is used for subbase or subgrade stabilization, it will be paid for at the contract unit price per ton of "Aggregate Subbase Course" or "Subgrade Stabilization Material".

Water used in the mixing plant to bring mixture to optimum moisture will be included in the weight for payment. The weight of any water in excess of optimum moisture content will be deducted from the scale weight of the mixture.

Payment will be made only for the actual guantities constructed in accordance with the plan dimensions. All excess material placed on the project will be at the Contractor's expense.

Payment will be made under:

Pay Item	Pay Unit
Aggregate Base Course (Class 6)(haul & water)	Ton
Aggregate Subbase Course (Class 4)(haul & water)	Ton
Subgrade Stabilization Material (Class 3)(haul & water)	Ton

SECTION 401 PLANT MIX PAVEMENTS - GENERAL:

Plant Mix Pavements - General.

Description.

These specifications include general requirements that are applicable to all bituminous pavements of the plant mix type irrespective of gradation of aggregate, kind and amount of bituminous material, or pavement use. Deviations from these general requirements will be indicated in the specific requirements for each type.

This work shall consist of one or more courses of bituminous mixture constructed on the prepared foundation in accordance with these Specifications and the specific requirements of the type under contract, and in conformity with the lines, grades, thicknesses, and typical cross sections shown on the Plans or established.

Composition of Mixtures.

The bituminous plant mix shall be composed of a mixture of aggregate, filler, and bituminous material. The several aggregate fractions shall be sized, uniformly graded and combined in such proportions that the resulting mixture meets the grading requirements of the job-mix formula.

The job-mix formula for each mixture shall be in effect unless modified in writing by the Engineer.

Dryer-drum mixtures shall be between 220°F. and 280° F. at the dryer discharge.

All mixtures furnished for the project shall conform to the job-mix formula within the following ranges of tolerances:

Passing No. 8 and Larger Sieves*	± 8 percent
Passing Sieves Smaller than No. 8 to Larger than No. 200	± 6 percent
Passing No. 200 Sieve	± 3 percent
Bitumen	± 0.5 percent
Temperature of Mixture When Emptied from Pugmill Mixers	± 20° F.

* Exclusive of the maximum size designated in the job-mix formulas.

The bituminous mix, when tested, using the immersion-compression test procedure, shall yield a wet-dry stability ratio of not less than 0.75.

The Contractor will be permitted to use an additive in order to meet the requirement for index of retained strength. The acceptable additives and minimum amounts are as follows:

(a) Hydrated lime - 0.5% on a dry aggregate, weight basis, or

(b) Portland Cement Type 1 - 1.0% on a dry aggregate weight basis, or

(c) Standard heat-stable, refinery grade, anti-stripping additive - 0.5% on an asphalt cement, weight basis.

After the project is under contract, requests made in writing by the Contractor for changes in the job-mix formula will be considered.

Bituminous Materials.

Asphalt Cements.

Asphalt cements shall conform to the requirements of AASHTO M-226.

In addition, the spot test shall be negative for all grades when performed with a naptha-xylene solvent containing not more than 10 percent xylene by volume.

Liquid Asphaltic Materials.

Liquid asphaltic materials shall conform to the requirements of AASHTO M-81, M-82, and M-141 for the designated types and grades. In addition, the spot test shall be negative for all types and grades when performed with a naptha-xylene solvent containing not more than 10 percent xylene by volume.

Emulsified Asphalts.

Emulsified asphalts shall conform to AASHTO M-140 and M-208 for the designated types and grades.

Filler.

Filler shall conform to the requirements of AASHTO M-17.

Hydrated Lime.

Hydrated lime shall conform to the requirements of ASTM C-207, Type N. In addition, the residue retained on a 200-mesh sieve shall not exceed 10% when determined in accordance with Standard Methods of Physical Testing of Quicklime and Hydrated Lime, ASTM C-110. (Drying of the residues in an atmosphere free carbon dioxide will not be required.)

Construction Requirements.

Weather Limitations.

Bituminous plant mix shall be placed only on properly constructed and accepted layers that are free from water, snow, frost, or ice. The bituminous mixtures shall be placed within the air temperature limitations of the following table and only when weather conditions otherwise permit the pavement to be properly placed and finished. The judgement of the Engineer shall govern operations during marginal weather conditions.

PLACEMENT TEMPERATURE LIMITATIONS

Top Layer of the Completed Pavement			Layers Below the Top Layer of Completed Pavement		
Compacted Thickness	Min. Placement Air Temp.		Compacted Thickness	Min. Placement Air Temp.	
	Mix Temp. >234°	Mix Temp.* 200 -234°		Mix Temp. >234°	Mix Temp.* 200°-234°
<1"	60°F.	70° F.	<2"	40°F.	50° F.
1"-2-1/2"	50°F.	55° F.	2"-3"	30°F.	40° F.
>2-1/2"	40°F.	45°F.	3-1/4"-4"	25°F.	30° F.
			>4"	20°F.	20° F.

*Applies only to materials produced from dryer drum mixing plants.

Bituminous Mixing Plant.

The storage yard shall be maintained neat and orderly and the aggregates shall be readily accessible for sampling. Accommodations for storing any required filler or binder shall be provided.

The Contractor will be permitted to use the type of bituminous mixing plant he considers best suited on this project, provided the requirement of this Specification are met.

Requirements for all plants.

Mixing plants shall be of sufficient capacity and coordinated to adequately handle the proposed bituminous construction.

Storage Time.

Hot mixtures shall not be stored longer than the times listed in the following table:

	Maximum Storage Time
Untreated asphalt cement, air in bin	9 hrs.
Treated* asphalt cement, air in bin; or Untreated asphalt cement inert gas in bin	24 hrs.
Treated* asphalt cement inert gas in bin	72 hrs.

* Treated with liquid silicone (Dow Corning Fluid DC-200 or approved equal) at the rate of approximately 1 oz. per 5000 gallons of asphalt cement.

Bituminous Pavers.

Bituminous pavers shall be self-contained, power-propelled units, provided with an activated screed or strike-off assembly, heated if necessary, and capable of spreading and finishing courses of bituminous plant mix material in widths applicable to the specified typical section and thicknesses shown on the Plans.

The paver shall be equipped with a receiving hopper having sufficient capacity for a uniform spreading operation. The hopper shall be equipped with a distribution system to place the mixture uniformly in front of the screed.

The paving machine shall be equipped with an automatic control system which will control the elevation of the screed and which is automatically actuated by a system of sensor-operated devices which sense and follow reference lines or surfaces on one or both sides of the machine as required.

The screed shall be maintained at the proper elevation at each end by controlling the elevation of one end and automatically controlling the transverse slope or by controlling the elevation of each end independently, as directed.

The screed or strike-off assembly shall effectively produce a finished surface of the required evenness and texture without tearing, shoving or gouging the mixture.

When laying mixtures, the paver shall be capable of being operated at forward speeds consistent with satisfactory laying of the mixture.

Rollers.

Rollers shall be of the steel wheel, vibratory, pneumatic tire type, or combination and shall be in good condition, capable of reversing without backlash.

Mixing.

The aggregates shall be combined in the mixer in the amount of each fraction of aggregates required to meet the job-mix formula. The bituminous material shall be measured or gauged and introduced into the mixer in the amount specified by the job-mix formula.

After the required amounts of aggregate and bituminous material have been introduced into the mixer the materials shall be mixed until a complete and uniform coating of the particles is secured.

The bituminous material and aggregate for pugmill mixtures shall be introduced into the mixer within 35° F. of each other.

Pugmill mixtures shall not be delivered for use on the road at less than 235° F. Should the temperature be too high for proper compaction, the Contractor will be required to wait until the mixture has cooled to a reasonable rolling temperature.

Dryer-drum mixtures at the dryer discharge shall be from 220° F. to 280° F. The Engineer may require variation in the discharge temperature as necessary in order to obtain proper mixing and compaction. The mixture shall not be delivered for use on the road at less than 200° F.

Spreading and Finishing.

The mixture shall be laid upon an approved surface, spread and struck off to the grade and elevation established. Bituminous pavers shall be used to distribute the mixture either over the entire width or over such partial width as may be practicable.

The longitudinal joint in one layer shall offset that in the layer immediately below by approximately 6 inches; however the joints in the top layer shall be located as follows:

> For 2-lane roadways, at the center line of the pavement and at the outside edge of the travel lanes.

On areas where irregularities or unavoidable obstacles make the use of mechanical spreading and finishing equipment impracticable, the mixture shall be spread, raked and luted by hand tools. For such areas the mixture shall be dumped, spread and screeded to give the required compacted thickness.

The bituminous mixture shall be transported and placed on the roadway in such manner as to minimize segregation. All segregated areas behind the paver shall be removed immediately at the time of discovery.

It is the intent of this Specification that the segregated material shall be replaced with specification material before the initial rolling has taken place. If more than 50 square feet of segregated pavement is ordered removed and replaced in any continuous 500 linear feet of paver width laydown, paving operations with the paving machine involved shall be discontinued until the source of the segregation has been found and corrected.

The Engineer will determine by judgment the extent of segregated areas.

The Contractor will not be allowed additional compensation for correction of segregated areas.

Compaction.

Where called for on the plans, the bituminous pavement may be required to be placed in lifts or layers of specified thickness.

Immediately after the asphaltic concrete mixture has been placed, it shall be thoroughly and uniformly compacted as follows:

a. When paving a single width, the first lane placed should be rolled in the following order:

    1. Transverse joints.
    2. Outside edge.
    3. Initial breakdown rolling, beginning on the low side and progressing toward the high side.
    4. Intermediate rolling, same as (3) above.
    5. Finish rolling.

b. When paving in echelon or abutting a previously placed lane, the mix should be rolled in the following order:

    1. Transverse joints.
    2. Longitudinal joints.
    3. Outside edge.
    4. Initial or breakdown rolling, same as (3) "a" above.
    5. Intermediate rolling, same as (3) "a" above.
    6. Finish rolling.

Breakdown rolling, as required in (3) "a" and (4) "b" above, shall commence while the mix has a temperature above 220° F., and may be performed with a steel-wheel roller weighing not less than ten (10) tons. This roller shall be operated with the drive wheel forward, in the direction of paving, at a speed not in excess of three (3) miles per hour. During rolling, the roller wheel shall be kept moist with only enough water to avoid picking up the material.

The second or intermediate rolling as required in (4) "a" and (5) "b" above, shall follow the breakdown rolling as closely as possible while the mix still retains a temperature above 180°F. This rolling may be accomplished with a pneumatic tire roller weighing five (5) tons. The roller tires may be pre-heated or a release agent applied to the tires to avoid the pick up of material. Turning of pneumatic tire rollers on the paving mix, which causes undue displacement, will not be permitted.

Finish rolling, as called for under (5) "a" and (6) "b" above is done solely for the improvement of the surface. It shall be accomplished with a steel-wheel roller weighing not less than eight (8) tons when the mix temperature is 150° F., or above, and shall continue until the roller marks are ironed out. No heavy equipment or rollers will be permitted to stand on the finished surface until it has thoroughly cooled or set.

No separate payment will be made for the above requirements, but should be included in the unit price per ton of the pavement material.

Joints.

Placing of the bituminous paving shall be as continuous as possible. Rollers shall not pass over the unprotected end of a freshly laid mixture unless authorized by the Engineer. Transverse joints shall be formed by cutting back on the previous run to expose the full depth of the course. When directed by the Engineer, a coat of bituminous material shall be used on contact surfaces of all joints just before additional mixture is placed against the previosuly rolled material.

Pavement Samples.

The Engineer may take samples of the compacted pavement at random locations on the project for testing. Where samples have been taken, new material shall be placed and compacted to conform with the surrounding area.

Surface Tolerances.

The finished surface shall not vary above or below the lines, grades and typical section shown on the Plans or established by more than 0.03 ft. All humps or depressions exceeding the specified tolerance shall be corrected as directed.

SECTION 403 HOT BITUMINOUS PAVEMENT:

Hot bituminous pavement shall be Grading D. The job mix formula shall be as follows:

Passing 1/2" Sieve	100%
Passing 3/8" Sieve	89%
Passing No. 4 Sieve	55%
Passing No. 8 Sieve	45%
Passing No. 30 Sieve	30%
Passing No. 80 Sieve	15%
Passing No. 200 Sieve	8%
Asphalt Cement (Viscosity Grade AC-10) by Weight of Mix	5.7%
Temperature of mixture when emptied from the pugmill:	275° F.

Marshall Property Requirements

Stability,lbs.	500 Min
Flow, 0.01 inch	8-18
Voids, total mix %	3-11
Aggregate voids filled %	65-75
Compaction, blows ea. end	50

Immersion-Compression

Voids in total mix %	6.0
Compressive strength psi	250 min.
Retained strength %	75 min.

Aggregates for hot bituminous pavement shall be of uniform quality, composed of clean, hard, durable particles of crushed stone, crushed gravel, natural gravel, or crushed slag. The aggregate shall have a percentage of wear of not more than 45 when tested in accordance with AASHTO T-96. The material shall not contain clay balls, vegetable matter, and other deleterious substances. Excess of fine material shall be wasted before crushing.

The aggregates for the mixture shall be graded and combined in such proportions that the resulting composite blend meets the requirements of the job-mix formula for the project.

Should a change in source of materials be made, a new job-mix formula shall be established before the new material is used. This new job-mix formula shall be in effect until notified by the Engineer.

The grade of the bituminous material may be changed one step by the Engineer at no change in unit price. Bituminous material will be conditionally accepted at the source.

The plant mixed material may be accepted at the discharge point of the plant or it may be accepted at or behind the lay-down machine.

Payment will be made only for the actual quantities constructed in accordance with the plan dimensions. All excess material placed on the project will be at the Contractor's expense.

Bituminous material or haul will not be measured and paid for separately but shall be included in the contract unit price per ton of "Hot Bituminous Pavement".

Payment will be made under:

Pay Item	Pay Unit
Hot Bituminous Pavement (Grading D)(Haul & Asphalt)	Ton

SECTION 407 PRIME COAT, TACK COAT AND REJUVENATING AGENT:

Prime coat shall be applied uniformly at a rate of 0.30 gallons per square yard to the surface of aggregate base course prior to placement of hot bituminous pavement. Bituminous material for prime coat shall be liquid asphaltic material (MC-70).

Tack coat shall be applied uniformly at a rate of 0.10 gallons per square yard between layers of hot bituminous pavement. Bituminous material for tack coat shall be emulsified asphalt (CSS-1h) and shall consist of one (1) gallon of water for each one (1) gallon of emulsion.

Measurement and Payment

Prime coat, tack coat and rejuvenating agent will be measured and paid for by the gallons of bituminous materials. The contract unit price will be full compensation for all materials, labor, equipment, tools and incidentals. The quantity of emulsified asphalt to be paid for shall be the number of gallons of asphalt emulsion as measured before the addition of the one (1) gallon of water for each gallon of emulsion. The cost of the water is considered incidental to the item.

Payment will be made under:

Pay Item	Pay Unit
Prime Coat (MC-70)	Gallon
Tack Coat (CSS-1h)	Gallon

SECTION 604 SEWERS, MANHOLES AND INLETS:

Pipe for storm sewers, culverts or siphons will be of the size, type and class or gauge specified on the plans or in the project Special Conditions. Pipe shall be installed to the lines and grades shown on the plans and in accordance with the Standard Detail for pipe trenching and backfilling as shown on the plans. All pipe joints shall be water tight.
The Contractor shall furnish a certification, obtained from the manufacturer, that all applicable tests required by any standards listed herein have been met.

Cement mortar to be used for grouting pipes, gates, frames, rings, etc., at drainage structures shall be mixed at a ratio of not more than 3 parts of sand to one part of type II Portland cement. Sand used in cement mortar shall meet the requirements of AASHTO Designation M 45-70.

Pipe shall be precoated galvanized corrugated steel, corrugated aluminum, nonreinforced concrete pipe, or reinforced concrete pipe unless otherwise specified on the plans or in the project Special Conditions.

Precoated steel pipe shall meet the requirements of AASHTO Designations M-245-74 and M-246-74, Type B.

Corrugated aluminum pipe shall meet the requirements of AASHTO Designation M 196-74.

Unless otherwise specified in the plans or Special Conditions, all corrugated pipe shall have helical seams gasketed with a water tight sealant material. Corrugated pipe shall be joined with gasketed

flange rings or couplings of the same material as that used in the pipe.

Nonreinforced concrete pipe shall meet the requirements of AASHTO Designation M86-73. Bell and spigot joints shall be used with rubber gaskets in accordance with AASHTO Designation M198-74.

Reinforced concrete pipe shall meet the requirements of AASHTO M-170-74 Rubber gasketed joints conforming to AASHTO M-198-74 shall be used.

The Contractor shall be held responsible for the care and storage of materials delivered on the work or purchased for use thereon. Any material that has been delivered on the construction site and has become damaged before actual incorporation in the work may be rejected by the Engineer. All material found during the progress of the work to have cracks, flaws or other defects shall be rejected by the Engineer, and the Contractor shall promptly remove such defective material from the site of the work.

Conduit and accessories shall at all times be handled with care to avoid damage. Material shall not be dropped or bumped. The use of hooks will not be permitted. The interior and ends of all conduit shall be kept free from dirt and foreign matter at all times.

Trenches shall be excavated to a width sufficient to allow for proper jointing of the conduit and thorough compaction of the bedding and backfill material under and around the conduit. Trench walls shall be properly sloped, benched or shored to afford safe working conditions. The completed trench bottom shall be firm for its full length and width.

After the conduit or section of conduit is installed, it shall be inspected before any backfill is placed. Any conduit found to be damaged shall be replaced, and conduit found to be out of alignment or unduly settled shall be taken up and relaid.

Circular conduit with elliptical reinforcement shall have the top clearly marked with paint, with lifting eye holes in which laying pins can be used, or with imprinted letters. Holes shall be finished smooth with grout or with plugs. Conduits shall be placed with the vertical axis within five (5) degrees of a vertical plane through the longitudinal axis of the conduit.

Special care will be required when backfilling around conduit to bring the backfill materials up on both sides of the conduit evenly and simultaneously.

Conduit shall be protected with at least two (2) feet of cover before heavy construction equipment will be permitted to pass over them during construction operations. Part of this cover may have to be removed to permit the completion of the pavement structure. In this event, the removal and disposal of this cover material will not be measured and paid for separately but shall be included in the work.

Manholes inlets, and other drainage structures shall be as detailed on the plans.

Measurement and Payment.

Unless otherwise specified, this item shall include all pumping, bailing, draining, sheeting, bracing and incidentals required for proper execution of the work.

All excavation and backfill for pipes below the designed slope or subgrade line as shown on the plans shall be included under this item.

The footage of conduits of the different sizes, types and classes shown on the bid schedule to be paid for shall be the number of linear feet of conduit in place, completed, and approved, to be measured along the centerline of conduit from end to end, not including the length of end sections. The number of end sections to be paid for shall be the number of units in place, completed, and approved. Manholes, inlets and other structures will be measured by the complete unit including ring and cover or grating and frame.

Structure excavation and structure backfill for sewer or culvert pipes will not be measured and paid for separately but shall be included in the contract unit prices per linear foot for the sizes and types of pipe listed in the bid schedule.

No separate payment will be made for rock excavation. If rock is encountered, the work shall be performed in accordance with Plan details and shall be considered subsidiary to the items.

All pavement and road base removed for construction of sewers and drainage structures shall be replaced with materials of at least equal quality and thickness as that removed. The cost of pavement and road base replacement will not be measured and paid for separately but shall be considered incidental and included in the contract unit prices for sewer pipe and drainage structures.

Pipe bedding and bed course material for structures will not be measured and paid for separately but shall be included in the contract unit prices for sewer pipe and drainage structures.

SECTIONS 608 AND 609 CONCRETE SIDEWALK, CURB, GUTTER AND APPURTENANCES:

All work shall be performed in accordance with the "Standard Pavement Details" plan sheet of the City of Grand Junction.

Materials

Preformed expansion joint fillers, conforming to AASHTO Designation, M-33 or M-153, shall be used to form transverse expansion joints.

Bed course material for Portland cement concrete sidewalk, curb, gutter, driveway sections gutter pans and curb return fillets shall be Aggregate Base Course (Class 6).

Subgrade-Bedding Preparation

The subgrade shall be excavated or filled with suitable material to the required lines and grades. All soft, yielding soil and other unsuitable material shall be removed as directed, and replaced with suitable material. The foundation and bed course material shall be shaped and compacted to a firm even surface conforming to the section shown on the plans or as staked. Bed course material shall be compacted to at least 90% of AASHTO T-180 maximum density.

Forms

All forms shall be in good condition and free from warp with not more than 1/4 inch variation in horizontal and vertical alignment for 10 feet of form length. The forms shall be set true to line and grade and shall be adequately pinned or braced to stay in position during placement and consolidation of concrete. The front and back of forms shall extend for the full depth of concrete. They shall be designed and constructed so as to permit their removal without damage to the concrete.

Flexible or rigid forms of proper curvature may be used to form curves.

The forms shall be thoroughly cleaned each time they are used and coated with an approved form-release agent which will not discolor or stain the concrete.

Mixing and Placing

Concrete shall be proportioned and mixed by an approved ready-mix company or batch plant in accordance with Section 601 of the Colorado Department of Highways Standard Specifications.

The bed course material shall be thoroughly moistened immediately prior to placing of concrete. The concrete shall be placed in the forms and tamped or mechanically vibrated for thorough consolidation but without segregation of the mix.

The forms shall be securely set to provide the section, surface elevations, and grades shown on the plans, and shall at no time deviate more than one-fourth (1/4) inch from an accurate straight edge sixteen (16) feet in length. Gutters shall be water tested and any ponding deeper than 1/4 inch corrected.

The operations of depositing the concrete and compacting shall be so conducted that the concrete shall be smooth and dense, free from honeycomb and free from pockets of segregated aggregate. At the end of the day, or in case of an unavoidable interruption of more than thirty (30) minutes, a transverse construction joint shall be placed at the point of stopping work, provided all sections are greater in length than five (5) feet. Sections less than five (5) feet in length shall be removed. Concrete shall not be placed when weather is stormy, dusty, or otherwise inclement to the point that it precludes good workmanship. Minimum air temperature shall be 40° Fahrenheit and rising.

Concrete, when deposited, shall have a temperature of not less than 50° F. nor more than 90°F. In freezing weather suitable means shall be provided for maintaining the concrete at a temperature above fifty (50) degrees F. for a period of at least five (5) days after the concrete is placed. Before placing the concrete, the forms shall be free from frost and ice and after the concrete is placed, it shall be protected on all exposed sides by straw, tarpaulins or other means.

Contraction Joints

All curb, gutter and sidewalk shall be divided by transverse contraction joints at right angles to the curb line and at intervals not to exceed ten (10) feet. Joints shall be one-eighth (1/8) inches wide and shall extend to one-fourth of the concrete depth.

Contraction joints shall be sawed, or formed by one-eighth (1/8) inch thick division templates, cut to the configuration of the concrete section. Templates shall be secured to the forms so that they are not moved by placing and consolidation of concrete. Division templates shall be removed after the concrete has set and before finishing. Sawing shall be done within twenty four (24) hours after the concrete has set to prevent the formation of cracks.

Expansion Joints

Expansion joints shall be provided at both ends of driveway sections, around poles, fire plugs, manholes and other structures enclosed in concrete, and at all other locations shown on the plans or as directed.

Expansion joints shall be formed by a one-half (1/2) inch thick preformed joint filler, cut to the configuration of the full size of the concrete section. Joint filler shall be secured and held in place during placing and consolidation of concrete

Finishing

After the concrete has been leveled and the initial set has taken place, all exposed surfaces shall be carefully finished with floats and steel trowels. The final texture shall be made by drawing a good quality hair broom or brush lightly across the surface.

Upon request, the Engineer will advise the Contractor where existing walks or driveways with acceptable finish may be inspected to determine what finished texture will be required.

Concrete that is adjacent to forms and all joints shall be edged with a 1/4 inch radius edging tool. Special care shall be taken to insure a straight, neat appearance along edges of sidewalks, slabs and joints.

All honeycombed areas or small defects shall be properly pointed up with 1:2 mix mortar.

The expansion joint groove shall be raked out above the preformed joint filler and the concrete adjacent to the joint tooled and finished to a smooth surface conforming to the undisturbed adjacent concrete. The edges of the joint groove shall be rounded with an edger.

After removal of templates and finishing, contraction joints shall be reopened with a mason's trowel, the line of cut coinciding with and extending a distance of not less than 1" nor more than 1-1/2" into the joint formed by the template. The joints shall be finished with a jointer.

Forming Machine

In lieu of the construction methods described in the preceeding paragraphs, the Contractor may use a slipform/extrusion machine for construction of curb, gutter, and sidewalk or any combination thereof. The machine shall place, shape, consolidate, screed and finish the concrete in one complete pass in such a manner that a minimum of hand finishing will be necessary to provide a dense, homogeneous concrete section. All operations of mixing, delivery, and spreading concrete shall be coordinated to provide uniform progress, with stopping and starting of the machine held to a minimum. Joints and finishing shall be as described in the preceding paragraphs.

Curing

As soon as concrete surfaces have been finished and before the set of cement has taken place, the concrete shall be cured by the following method:

All exposed surfaces of concrete, including edges, etc., before initial set of concrete, and all surfaces against forms, after removal of forms, shall be covered with an impervious membrane forming curing compound. The impervious coating shall contain a color pigment which will clearly show that the surface has been

properly coated and sealed. Application of the impervious membrane shall be made with a pressure sprayer immediately after the concrete has been finished at the rate of coverage recommended by the laboratory, provided that in the event application of the coating is delayed, the concrete surface shall be kept continually moist until the coating is applied. On formed surfaces the concrete shall be moistened immediately after the forms are removed and promptly coated with the impervious membrane. If the formed edges are not coated with the impervious membrane, they shall be protected by having moist or wet earth packed against them promptly after the forms are removed. Dilution or other improper handling of the membrane material shall be cause for requiring the Contractor to place and maintain wet burlap curing for a period of not less than seven (7) days as required by the Engineer.

Form Removal, Backfilling and Cleanup

Forms shall remain in place at least twelve (12) hours after concrete has been placed against them or for a longer period as directed by the Engineer. After the forms have been removed and the concrete has cured for a minimum of three (3) days, the space behind curbs and sidewalk slabs shall be filled with suitable material. Area along the outside edge of sidewalk shall be neatly graded and topsoiled to smoothly match the adjacent yards.

Areas that will be seeded or sodded shall not be compacted. Areas that will be subgraded for pavements, sidewalks, or driveway entrances shall be compacted to the densities as shown on the plans. All construction debris shall be removed from the project, and the area left in a neat and clean condition. Edges of all yards adjacent to sidewalk shall be finished smooth and ready for seeding.

Protection

The Contractor shall always have materials available to protect the surface of plastic concrete against rain. These materials shall consist of water-proof paper or plastic sheeting.

Concrete shall be cured and protected against cold in accordance with subsection 601.12 of the Colroado Highway Department Specifications.

The Contractor shall protect finished concrete work against damage or defacement of any kind until it has been accepted by the City.

Opening to Traffic

Curb and gutter shall not be opened to traffic for a period of at least seven (7) days after the last concrete has been placed or for a longer period of time if the Engineer considers it necessary. It shall be the obligation of the Contractor to maintain suitable barricades or prevent traffic using the curb and gutter prior to the time of opening.

Meathod of Measurement

All curb, gutter, and sidewalk will be measured by the linear foot. Curb and gutter will be measured along the flow line of the gutter. Sidewalk will be measured along the centerline. Monolithic curb, gutter and sidewalk will be measured along the flowline of the gutter.

No deduction in length will be made for catch basins, manholes or other structures installed within the concrete section.

Driveway sections and curb returns fillets will be measured by the square yard of concrete surface area. Concrete driveway sections will be measured only to the street right of way line.

Gutter pans will be measured by the linear foot along the center line of the gutter.

Basis of Payment

The accepted quantities will be paid for at the contract unit price for each of the pay items listed below:

Pay Item	Pay Unit
Concrete Monolithic Curb, Gutter and Sidewalk	Linear Foot
Concrete Curb and Gutter	Linear Foot
Concrete Sidewalk (4 foot)	Linear Foot
Concrete Driveway Section	Square Yard
Concrete Gutter Pan	Linear Foot
Concrete Curb Return Fillet	Square Yard

Expansion joint filler and curing materials will not be paid for separately but shall be included in the work.

Bed Course material will be measured and paid for in accordance with Section 304 for Class 6, Aggregate Base Course.

Reconstruction of driveway area between right of way line and "neat cut line" at match to existing driveway as shown on Standard Pavement Details plan sheet will not be measured and paid for separately but is considered incidental to and included in the contract unit price per square yard for "Driveway Section".

SECTION 616 IRRIGATION SIPHONS:

Siphon riser barrels shall meet the requirements of AASHTO Designation M170-74 for reinforced concrete pipe. The barrels shall be embedded into the concrete base slabs as shown on the siphon detail sheet in the plans.

Cement mortar shall be used to grout the siphon pipe into the riser barrels.

A precast concrete lid with lifting handle shall be provided for each riser barrel.

Payment will be made under:

Pay Item	Pay Unit
Irrigation Siphons	Lump Sum

The lump sum contract unit price for "Irrigation Siphons"shall be full compensation for all labor, equipment, tools, and materials and all costs of any incidental items that may be required for the complete and accepted installation of the siphons.

SECTION 10

TECHNICAL SPECIFICATIONS FOR WATER

UTE WATER CONSERVANCY DISTRICT
MATERIAL AND INSTALLATION SPECIFICATIONS
FOR SUB-DIVISION WATER SERVICE

All 2", 3", and 4" pipe will be SDR 21 (class 200) PVC solvent weld pipe. All service taps off PVC lines will be from threaded and solvent weld PVC bushings and tees, or stainless steel type tapping saddles; (Ford style SS-1 or equal). All 6", 8", 10", or 12" pipe will be class 150 AC pipe.

All service taps off AC pipe lines will be from tapped AC couplings or Brass tapping saddles (Smith-Blair #321 or equal). On all 3/4" or 1" taps there will be a Corp Stop in the tee or saddle with a flair end for flaired copper line and tube nut. 3/4" and 1" service lines will be Type K copper line.

All tee's off 6" and 8" lines will be cast iron AC x AC x flange; with flange valve bolted to tee (x AC or M.J. on other end of valve). If size 2", 3", or 4" line is installed off this tee, use I.P. tapped companion flange, stainless steel nipple and I.P. threaded gate valve. Cast iron AC bends will be used on bends where needed. (Consult Ute Inspector) Long radius curves may be used but while assembling should not be deflected more than 2 degrees nor more than 5 degrees after complete. All cast iron bends and tees will be kicked with concrete thrust blocks. All cast iron fittings will conform to AWWA specs.

All tee's off plastic supply lines leading into other distribution lines or fire hydrants will have a cast iron gate valve attached. (threaded ends for male adapter or equal) All gate valves will be cast iron, conforming to AWWA standards. They will be installed in upright position with sufficient support underneath so extra weight will not cause settlement. They will open left, with two inch square operating nut on top.

All valve boxes will be 5¼" diam. slip type with cast iron lid, and installed with sufficient support underneath, so it will not rest on the pipe, and heavy traffic would not push the box into the pipe. Upon completion of the job, the top of the valve box or lid will be left flush with finished street grade, and clearance on bottom for valve wrench operation.

All fire hydrants will be national standard and approved by the Fire District. Installation will require a stable base (such as concrete slab), hole with rock for drainage and concrete thrust block. Minimum four foot bury.

All materials will be approved by Ute Water Conservancy District before installation.

Installation of all lines will require four foot cover. Trench conditions will be stable or firm. If trench conditions are unstable Ute Water will be consulted on what method of support to use.

AC pipe will be installed so as to comply with Standard Johns-Manville or Certainteed Laying Specifications.

PVC pipe will be installed as per Standard PVC Installation Procedures using solvent weld thinner followed by cement to connect joint in collar. It must also be installed with approved padding and shading material on top and bottom of pipe for protection. Any field cut joints of AC or PVC should be beveled before installation.

Backfill and tamping should conform to County sub-division regulations. Ute Water will be contacted regarding close contact with other utilities. Health Dept. regulations require a distance of ten feet between water and sewer lines. When water or sewer lines cross each other at a close distance a concrete encasement is required.

Ute Water has an agreement with other utilities and a policy of installing water lines on north and east sides of road R.O.W. Contractor should check with Ute Water on any change from this.

Disinfecting lines and testing procedures will be arranged with Ute Water prior to installation.

****

CERTIFICATION AND TESTING. The pipe line contractor shall be responsible for providing the developer or his Engineer with the results of independent test performed by a qualified testing facility which certify the soil and material tests required by the Standard Specifications. Testing will be at the location and/or frequency determined by the Engineer.

Table of Contents

File 1978-0061

Date 8/25/00 Project Name: Omega Park – Revised Final

Present	Scanned	
		A few items are denoted with an asterisk (*), which means they are to be scanned for permanent record on the ISYS retrieval system. In some instances, not all entries designated to be scanned are present in the file. There are also documents specific to certain files, not found on the standard list. For this reason, a checklist has been included. **Remaining items, (not selected for scanning), will be marked present on the checklist. This index can serve as a quick guide for the contents of each file.** **Files denoted with (**) are to be located using the ISYS Query System. Planning Clearance will need to be typed in full, as well as other entries such as Ordinances, Resolutions, Board of Appeals, and etc.**
X	X	***Summary Sheet – Table of Contents**
		Application form
		Receipts for fees paid for anything
		***Submittal checklist**
		***General project report**
		Reduced copy of final plans or drawings
		Reduction of assessor's map
		Evidence of title, deeds
X	X	***Mailing list**
		Public notice cards
		Record of certified mail
X		Legal description
		Appraisal of raw land
		Reduction of any maps – final copy
		***Final reports for drainage and soils (geotechnical reports)**
		Other bound or nonbound reports
		Traffic studies
		Individual review comments from agencies
		***Consolidated review comments list**
X	X	***Petitioner's response to comments**
		***Staff Reports**
		***Planning Commission staff report and exhibits**
		***City Council staff report and exhibits**
		***Summary sheet of final conditions**
		***Letters and correspondence dated after the date of final approval (pertaining to change in conditions or expiration date)**

DOCUMENTS SPECIFIC TO THIS DEVELOPMENT FILE:

X	X	Follow-Up Form	X	X	Memo from Del Beaver to Ron Rish – 10/18/78
X		Review Sheets	X	X	Memo from Karl Metzner to Ron Rish – 4/26/79
X	X	Development Application	X	X	Site Plan
X	X	Power of Attorney	X		Elevations
X		Record of Final Plat Recording	X		Landscape Plan
X	X	Improvements Agreement – 8/25/81	X		Perspective View
X	X	Planning Commission Minutes – 4/28/81 - ** minutes of 4/28/81 re: tabled revocable permit and conditional use	X		Street & Parking Profile
X		Public Notice Posting			
X	X	Letter from Omega Investment to Planning Department – 4/1/81			
X		Request for Treasurer's Certificate of Taxes Due			
X	X	City Council Minutes - ** - 2/4/94, 5/24/94			
X	X	Ordinance No. 1770 - **			
X	X	Sign Clearance - **			
X	X	Final Plat Application			

(Check One)
O CITY
O COUNTY

Receipt No. 946
Date Received 4-1-81
Received By tam

Development APPLICATION

We, the undersigned, being the owners of property situated in Mesa County, State of Colorado, as described on the attached legal description form do hereby:

subdivision plan XX

Request to subdivide 6.2915 acres. This application is for Revised final (OUTLINE DEVELOPMENT/PRELIMINARY/FINAL) plan approval.

This development is known as Omega Park

and its common location is 28th and Elm

OOOOOOOOO

rezone

Petition and request an amendment to the zoning map of _____ (GRAND JUNCTION OR MESA COUNTY) from _____ (ZONE) to _____ (ZONE).

This property contains _____ acres.

OOOOOOOOO

conditional use, bulk

Petition and request a _____ (CONDITIONAL USE OR BULK DEVELOPMENT)

for a _____ (DESCRIBE THE TYPE OF USE)

in the _____ zoning district, County of Mesa. This development request involves the use of _____ acres.

OOOOOOOOO

vacation

Petition for the vacation of an _____ (ROAD/R.O.W./ALLEY/EASEMENT)

Indicate Primary Contact Person for Correspondence: (Check appropriate O below)

PROPERTY OWNER O	DEVELOPER O	REPRESENTATIVE O
Omega Investment	same	Colorado West Surveying Co.
NAME	NAME	NAME
21243 Ventura Blvd. Suite 229		835 Colorado Avenue
ADDRESS	ADDRESS	ADDRESS
Woodland Hills, California 91364 213 348-9012		245-2767
BUSINESS PHONE 245-6073 local	BUSINESS PHONE	BUSINESS PHONE

NOTE: Legal property owner is owner of record on date of submittal.

Harry Mavrakis
Omega Investments

WE HEREBY ACKNOWLEDGE *that we have familiarized ourselves with the rules and the regulations with respect to the preparation of this submittal, that the foregoing information is true and complete to the best of our knowledge, and that we assume the responsibility to monitor the status of this application and the review sheet comments.* WE RECOGNIZE *that we ourselves, or our representative(s) must be present at all hearings. In the event that the petitioner is not represented, the item will be dropped from the agenda, and an additional fee charged to cover re-scheduling expenses before it can again be placed on the agenda.*

William G. Ryden — 3-30-81
SIGNATURE OF PERSON COMPLETING APPLICATION — DATE

H Mavrakis — 3-31-81
SIGNATURE(S) OF PROPERTY OWNER(S) — DATE
(Attach additional sheets if necessary)

City
County
Development
Department

OOOOOOOOOOOOOOOOOOOOO

OFF [illegible] ction sheet

Acres _____
Units _____
Density _____

final plat

File No. # 61-78
Zone PDB
Tax Parcel Number 2943-073-00-182

Activity Revised Plan + Plat in PDB Zone - Omega Park
Phase REVISED FINAL
Common Location S.E. corner of 28 Road and Elm Avenue

Date Submitted 4-1-81 Date Mailed Out 4-3-81 Date Posted _____
10 day Review Period Return by 4-14-81 MCC Information Sent _____
Date Adjacent Property Owners Notified of MCPC/GJPC _____ Date Adjacent Property Owners Notified of MCC/CIC _____

review agencies

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	BB	CC	DD	EE	FF	GG
Development Dept.	X		X	X	●	●		●		●		●	X	X	X	X	X	X	●	●	●	●	●	X	X			●		X	X	●	X
County Road	●			●	●	●			●	●			●	●	●		●	●															
County Health	●			●	●	●			●			●	●																		●		
County Surveyor	●			●	●	●																											
County Parks/Recreation	●			●	●	●										●				●													
County Engineer	●			●	●	●			●	●		●	●	●	●		●	●															
Transportation Engineer	●			●	●	●									●		X	●															
City Engineer	X		X	X	●	●			●	●		●	X	X	X		●	●															
City Utilities	X		X	X	●	●				●			X	●	●		●	●															
City Parks/Recreation	●			●	●	●										X				●													
City Police Dept.	X		X	X	●	●																											
County Sheriff	●			●	●	●																											
Floodplain Administration	●			●	●	●						●																					
Comprehensive Planning	●			●	●	●																											
G.J. Dept. of Energy	●			●	●	●																											
Fire C.T.V. G.V.	X		X	X	●	●							X		●		X		●												●		
Irrigation G.V.	X		X	X	●	●							X	X	●					●												●		
Drainage	●			●	●	●							●	●	●					●												●		
~~Water (Ute, Clifton)~~	●			●	●	●							●		●				●	●												●		
Sewer	●			●	●	●							●	●	●																	●		
G.V. Rural Power	●			●	●	●							●																			●		
Mountain Bell	X		X	X	●	●							X																			●		
Public Service (2 sets)	X		X	X	●	●							X																			●		
Soil Conservation	●			●	●	●			●	●				●																				
State Highway Dept.	●			●	●	●			●	●		●	●	●	●		●																
State Geological	●			●	●	●			●	●				●																			
State Health Dept.	●			●	●	●			●			●																					
Transamerica	●			●	●	●															●			●								
Water & Power Resources	●			●	●	●							●																				
Mack, Mesa, Collbran, Palisade, Fruita, DeBeque, G.J., Mesa Cnty.	●			●	●	●																											
OTHER: _____	●			●	●	●							●																				

totals

BOARDS	DATE	
GJPC	4/28/81	App'l - sub. to staff & review comments & that a P.O.A. be provided for Elm Ave. Tabled
CIC	5/21/81	
CIC	6/3/81	App'l on CA - subject to PC & staff review comments.

STAFF

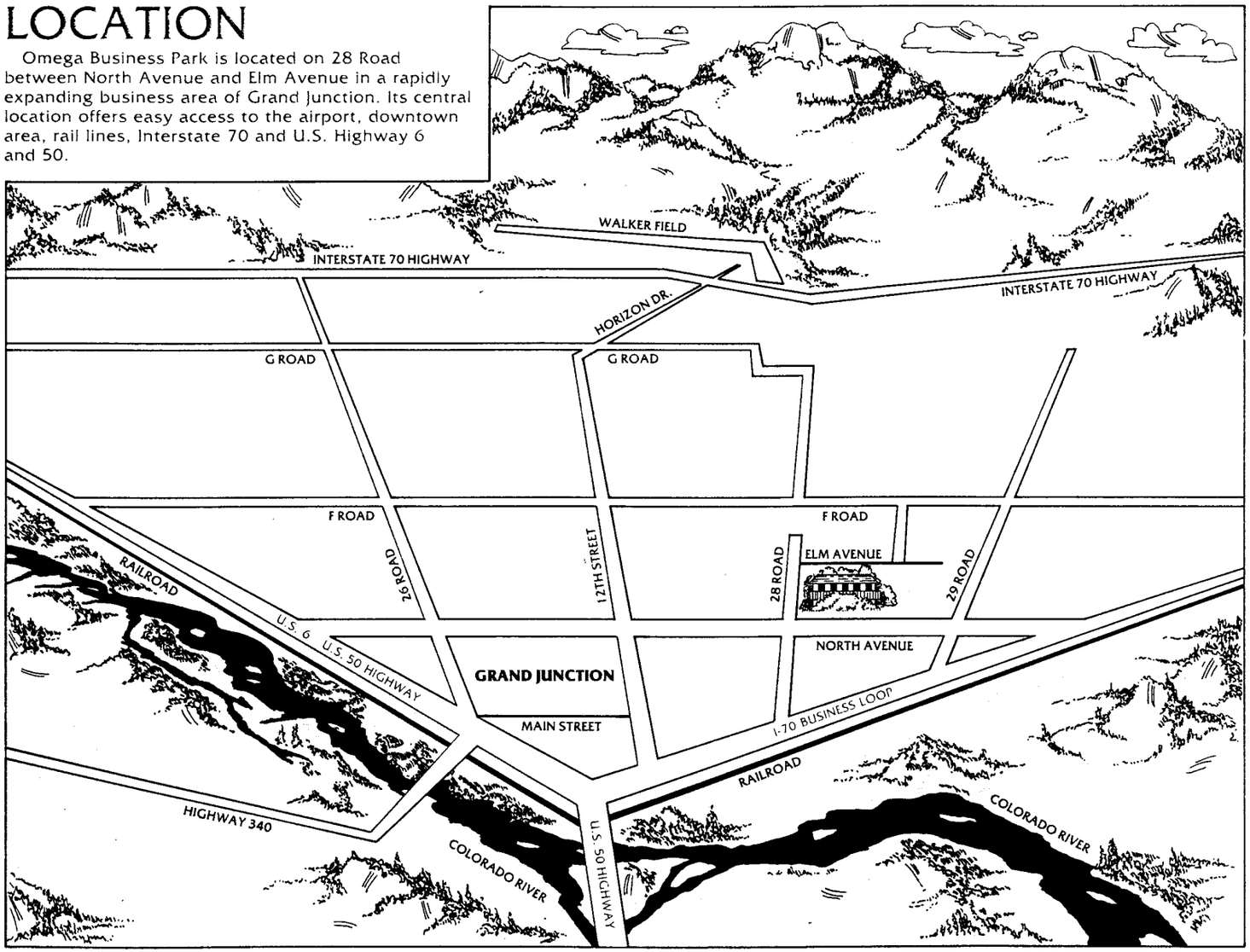
Ref. to # 61-78 Omega Park BG.
9/11/81 Sent Recording info.

Open Space Dedication (acreage) _____ 5% O. S. Fee Required $_____ Paid Receipt # _____
Recording Fee Required $_____ Paid (Date) _____ Date Recorded _____
Date Resolution Mailed _____

City County Development Department

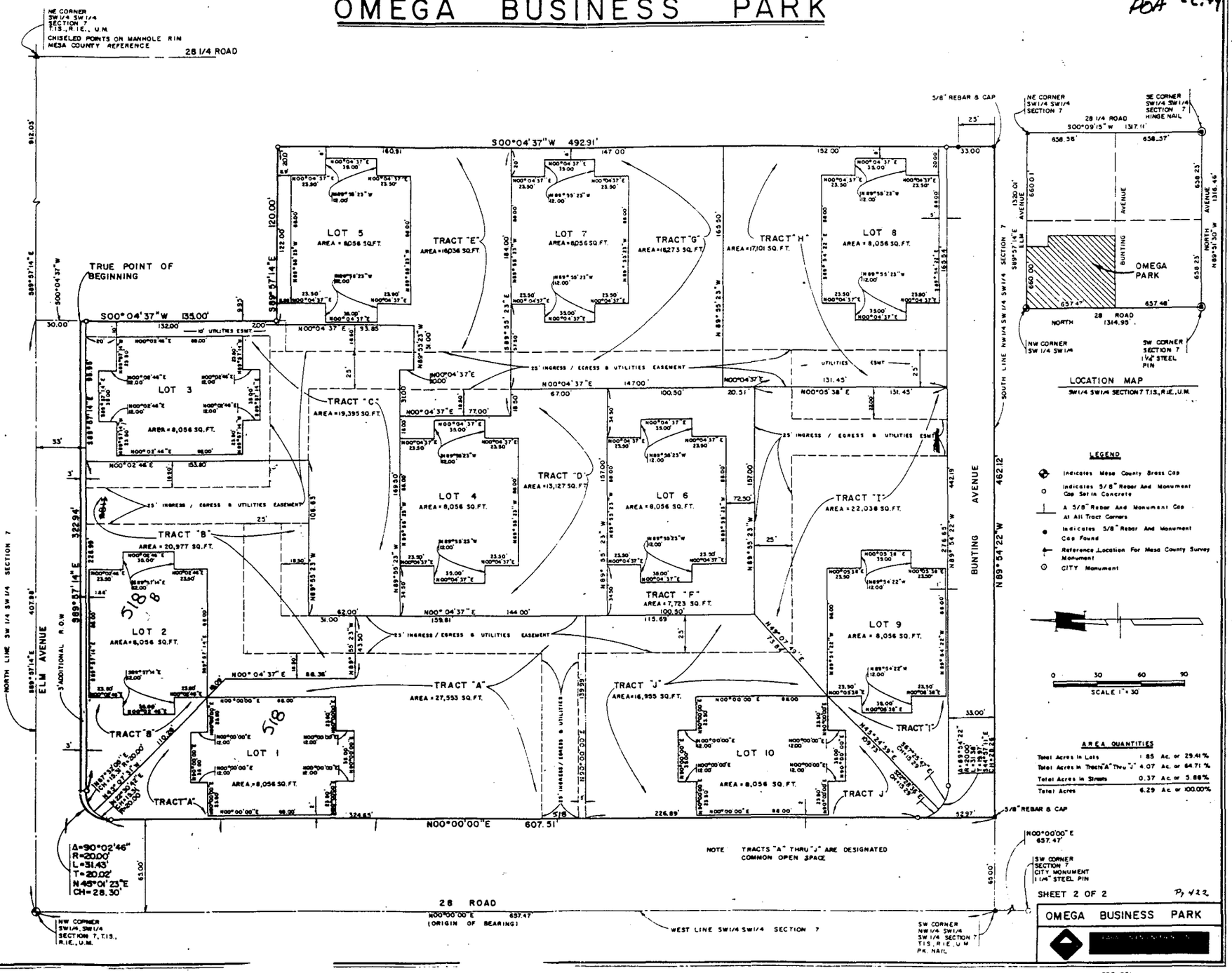
LOCATION

Omega Business Park is located on 28 Road between North Avenue and Elm Avenue in a rapidly expanding business area of Grand Junction. Its central location offers easy access to the airport, downtown area, rail lines, Interstate 70 and U.S. Highway 6 and 50.



Zoned: PDB
POA - city

OMEGA BUSINESS PARK



LOCATION MAP

SW1/4 SW1/4 SECTION 7 T1S., R1E., U.M.

LEGEND

- Indicates Mesa County Brass Cap
- Indicates 5/8" Rebar And Monument Cap Set in Concrete
- A 5/8" Rebar And Monument Cap At All Tract Corners
- Indicates 5/8" Rebar And Monument Cap Found
- Reference Location For Mesa County Survey Monument
- CITY Monument

0 30 60 90
SCALE 1" = 30

AREA QUANTITIES

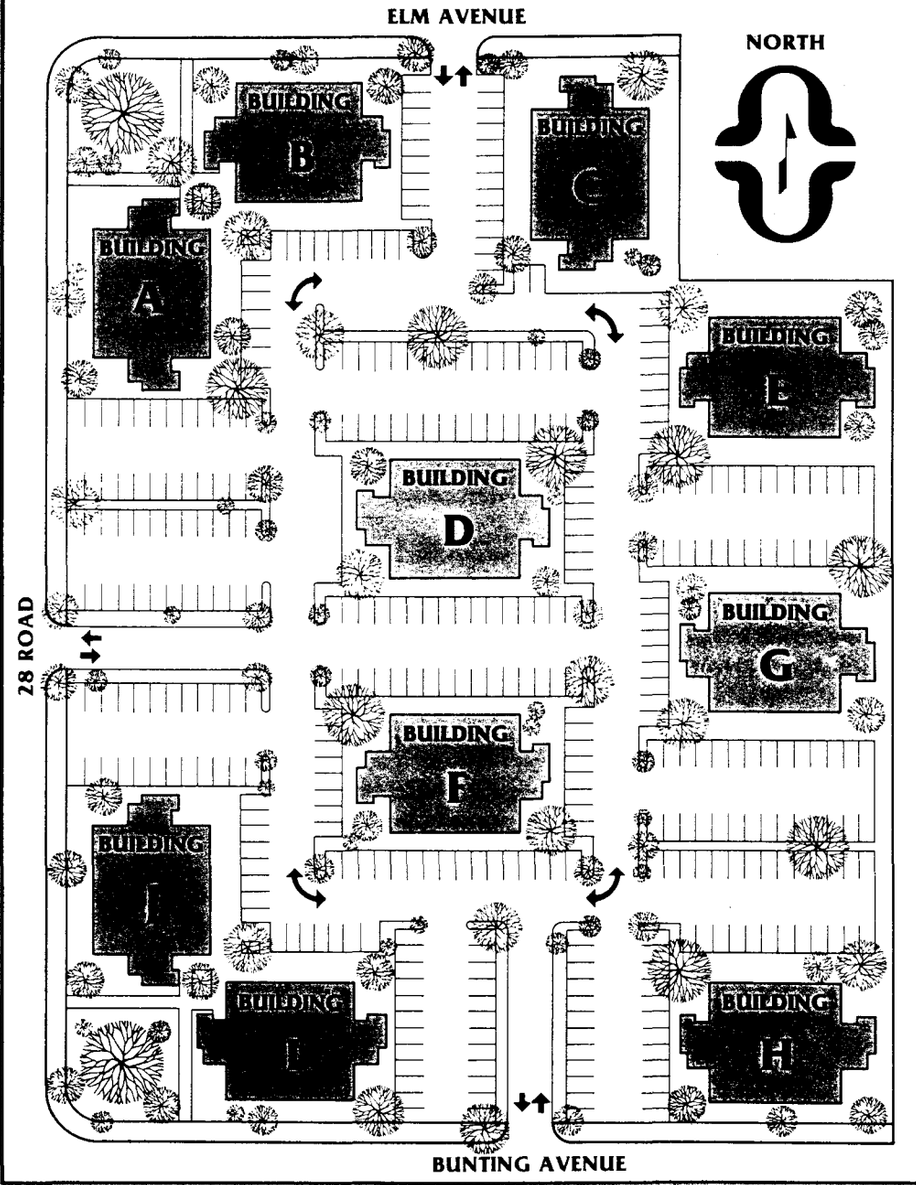
Total Acres in Lots	1.85 Ac. or	29.41%
Total Acres in Tracts "A" Thru "J"	4.07 Ac. or	64.71%
Total Acres in Streams	0.37 Ac. or	5.88%
Total Acres	6.29 Ac. or	100.00%

SHEET 2 OF 2 Pg 422

OMEGA BUSINESS PARK

[redacted]

24 units per pzd for 8 pads = 192 units on about 5 acres



OMEGA BUSINESS PARK

Introducing a new business park as distinctive as Colorado itself. Omega Business Park.

This low-rise garden complex features ten handsomely-designed office buildings, each with a shake roof and constructed of stained wood, bronzed glass, accentuated with natural brick. The result is an office setting that's both striking in its appearance and in its natural blending with the western terrain that surrounds it.

Omega Business Park is truly a unique office environment for your next business address in Grand Junction. Here, custom designed interiors are available to meet your needs and specifications. Reception areas . . . office spaces . . . conference rooms. The decision is yours.

Built for your every business need. Greenhouse windows, luxurious carpeting and drapery, and air conditioning are standard features at Omega Business Park.

Also, consider the excellent location. A fully landscaped six-acre business park with convenient close-in parking just minutes from Grand Junction's central business community.

To find out more about Omega Business Park, call (303) 245-6073.

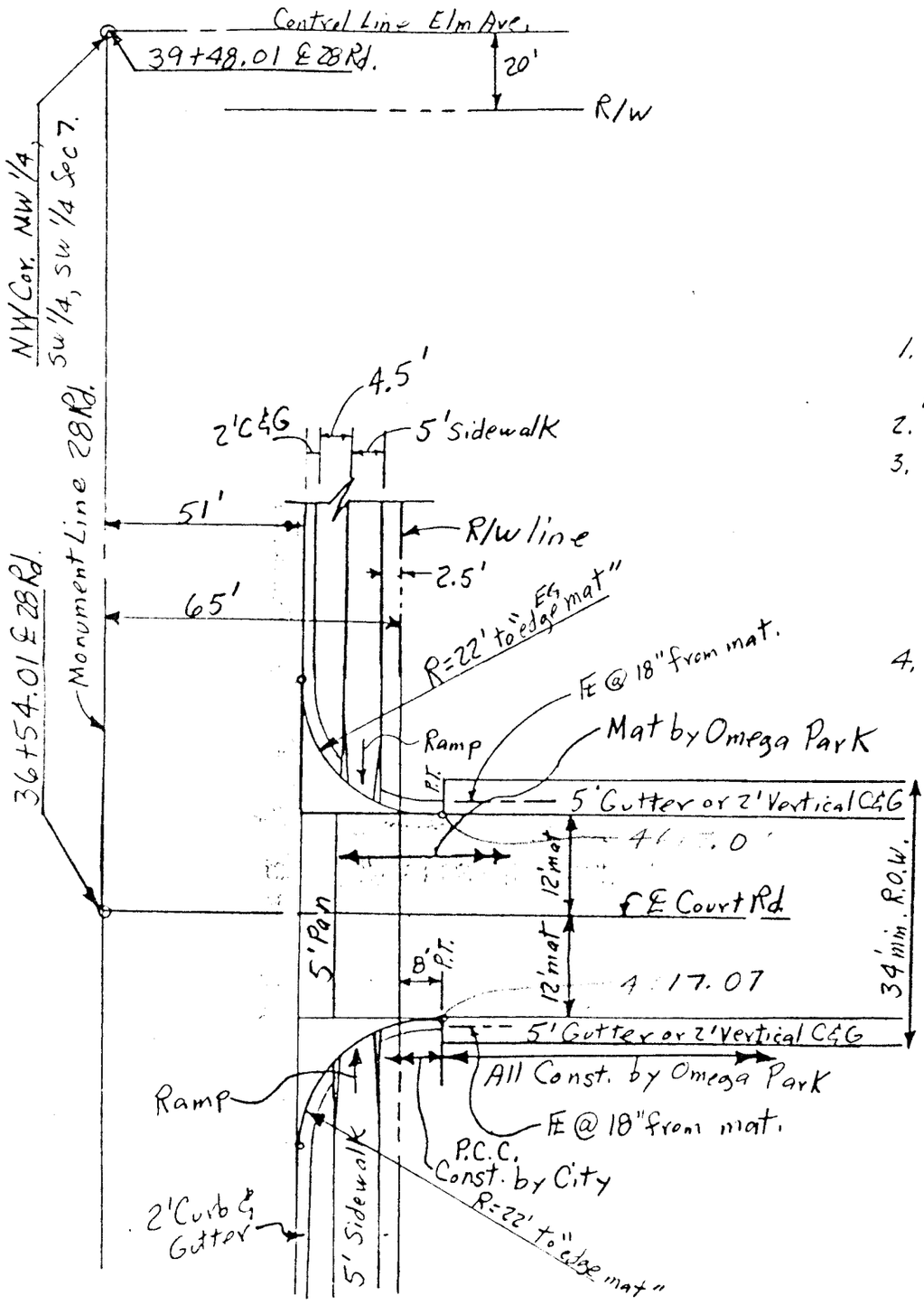
FEATURES

- ☐ 11,000 square feet per building
- ☐ Security lighting inside and out
- ☐ Extensive landscaping
- ☐ Trash removal
- ☐ Uniform building identification in striking graphic designs
- ☐ Insulated for sound, heat, and cold
- ☐ Meets or exceeds fire safety standards
- ☐ Modern architectural setting
- ☐ Choice of either ground floor or second floor locations
- ☐ Overhead fluorescent lighting
- ☐ Janitorial service included
- ☐ Parking immediately adjacent to building
- ☐ Choice of office space from 450 to 11,000 square feet

CITY OF GRAND JUNCTION
DEPARTMENT OF PUBLIC WORKS AND UTILITIES
ENGINEERING DIVISION

GJ

PROJECT: 28 Rd. North to Texas Aves
SUBJECT: Court Rd. Intersection
DATE 10-17-78 : BY Ron Rish R.P.E. : FILE NO. 542 : SHEET 1 OF 1



1. All details shall be as per City Drawing ST-1
2. All Const. per City Spec.
3. Pavement design & Detailed plans to be submitted to City Engr. for approval prior to construction.
4. FE elevation of east gutter of 28 Rd. shall be as per 28 Rd. plan. FE elevations at P.T. (interface point) shall be established and furnished A.S.A.P. to City by Omega Park engr.

cc: Pete Sigmund 10-17-78 w/P&P of 28 Rd
Del Beaver, Don Newton
John Kenney, Jim Patterson

Leo H. Warren
1002 Bookcliff
Grand Junction, CO 81501
#61-78

Helen M. Warren
1002 Bookcliff
Grand Junction, CO 81501
#61-78

Earl A. Young
2303 North 1st Street
Grand Junction, CO 81501
#61-78

Village Land Company
516 28 Road
Grand Junction, CO 81501
#61-78

Hurbert Miracle
510 Court Road
Grand Junction, CO 81501
#61-78

Ted and Louise Salazar
526 28 Road
Grand Junction, CO 81501
#61-78

Richard Monte
490 28½ Road
Grand Junction, CO 81501
#61-78

Thelma & Kristie Creel
2608 G Road
Grand Junction, CO 81501
#61-78

Anna M. Syrja
6630 West Nancy Road
Glendale, Arizona 85306
#61-78

J. C. & V. W. Moore
2802 Elm Avenue
Grand Junction, CO 81501
#61-78

Sam & Anna G. Lucero
2804 Elm Avenue
Grand Junction, CO 81501
#61-78

Joseph H. & Freda Jones
P. O. Box 311
Clifton, CO 81520
#61-78

Nicholas J. Anderson A.R. 4/23/81
3184 Bunting Avenue
Grand Junction, CO 81501
#61-78

Eloy M. Alcon
2629 Elm Avenue
Grand Junction, CO 81501
#61-78

Audrey B. Grant
1408 26th Court
Grand Junction, CO 81501
#61-78

Wieker Enterprises
474 20 Avenue
Indian Rock Beach, Florida ~~33533~~ 33533
#61-78

Stiles J. Carmichael, et. al.
2650 North Avenue
Grand Junction, CO 81501
#61-78

Roth Association
302 Gunnison Avenue
Grand Junction, CO 81501
#61-78

Omega Investment
21243 Ventura Blvd. Suite 29
Woodlands Hills CA 91364
#61-78

#61-78
Colorado West Surveying, Co
835 Colorado Avenue
Grand Jct CO 81501

CITY OF GRAND JUNCTION IMPROVEMENTS AGREEMENT

In re: Omega Business Park, 28th Street & Elm Avenue
Name of subdivision or other improvement — location

Intending to be legally bound, the undersigned subdivider hereby agrees to provide throughout this subdivision and as shown on the subdivision plat of Omega Business Park (name of subdivision) date August 25, 1981, the following improvements to City of Grand Junction standards and to furnish an Improvements Guarantee in the form acceptable to the City for these improvements.

Improvements	Quantity and Unit Costs	Estimated Cost	Estimated Completion Date
Street grading			
Street base			
Street paving	785 L.F. @ $32.00	25,120	Aug. 1983
Curbs and Gutters			
Sidewalks			
Storm Sewer facilities	575 L.F. @ $40.00	23,000	Aug. 1983
Sanitary sewers			
Mains	720 L.F. @ $8.00	5,760	Aug, 1983
Laterals or house connections	375 L.F. @ $4.00	1,500	Aug. 1983
On-site sewage treatment			
Water mains	1,080 L.F. @ $12.00	12,960	Aug. 1983
Fire hydrants	2 - 8" @ $2,500.00	5,000	Aug. 1983
On-site water supply			
Survey monuments			
Street lights			
Street name signs			
SUB TOTAL			

Supervision of all installations (should normally not exceed 4% of subtotal) $2,993.00.

TOTAL ESTIMATED COST OF IMPROVEMENTS AND SUPERVISION $ 76,273.00

The above improvements will be constructed in accordance with the specifications and requirements of the City or appropriate utility agency and in accordance with detailed construction plans based on the City Council approved plan and submitted to the City Engineer for review and approval prior to start of construction. The improvements will be constructed in reasonable conformance with the time schedule shown above. An Improvements Guarantee will be furnished to the City prior to recording of the subdivision plat.

Signature of subdivider

(If corporation, to be signed by President and attested to by Secretary, together with the corporate seal.)

Date: August 25 1981.

I have reviewed the estimated costs and time schedule shown above and based on the plan layouts submitted to date and the current costs of construction I take no exception to the above.

City Engineer

Date: 19

#61-78

REVIEW SHEET SUMMARY

FILE# 61-78

ITEM Omega Park — DATE SENT TO REVIEW DEPT. _____

Revised Final — DATE DUE 4/14/81

PETITIONER Omega Inn & Hillwood, Inc., 21243 Ventura Blvd., Suite 229
Woodland Hills, CA 91364 (Colorado West)

LOCATION 28th & Elm

DATE REC.	AGENCY	COMMENTS
4/14/81	City Engineer	This "revised final" is totally different from the previous final plan. The attached memos of 10-18-78, 4-26-79, and 4-27-79 discuss some of the issues at that time which still are not resolved and which this current plan ignores by completely changing the access and traffic circulation plan. Court Road was to be connected to 28 Road and in fact we built an intersection at 28 Road at their request to accommodate that plan as shown on the attached calculation sheet which I worked out for their engineer. In addition to the streets and access issue they are now proposing 24 inch pipe for the ditch on the south edge tying into the existing 36 inch pipe under 28 Road. The last submittal proposed a 36 inch pipe and that is what is required. A 30 ft. easement centered on the 36 inch pipe is required. The sanitary sewers shown shall be public sewers and should either be in street right-of-way or in 20 ft. wide easements centered on the pipe. Elm Avenue is a collector street and therefore should be dedicated to 33 ft. half right-of-way. The developer should install 5 ft. detached sidewalk, curb and gutter and mat widening to achieve 20½ ft. half mat width as per City Standards. Any modifications to 28 Road for driveways or revised intersection location should be by the developer to City Standards. There are so many changes on this plan and unresolved issues that I recommend a staff conference with the developer prior to laying all of this on the Planning Commission.
4/14/81	City Utilities	Although this is shown as revised and is being presented as final; it is so different and there are some major issues that are being affected; that I would suggest that it be treated in the same manner and process as a new proposal.
4/14/81	Mt. Bell	We have found the utility easements "as shown", to meet our requirements.
4/15/81	City Fire	On the review sheet dated 6-5-78 it was stated that a looped 8" line would be required, along with 6 hydrants. These adjustments have been made on the plat in our office if you would like to see them, along with the previous mentioned review sheet, please come in.
4/15/81	City Parks & Recreation	No comment.
4/16/81	Transportation Engineer	The South Entrance on 28 Rd. and the Elm Ave. entrance have parking conflicts with entering vehicles. Three or four spaces on each side should be removed to provide for safer access some aisle widths are too narrow. Access for service and emergency vehicles will be difficult. Internal circulation is confusing.

4/17/81 Staff Comments: Detailed landscaping, percentage open space, types needed internal access needs work - some type of interior loop height/elevation, dimensions needed: Phasing, platting, sq. footage of buildings, lighting, screening, ROW for continuation of Street, alignment of adjacent street, adjacent usage needed.
Previous plan had road for circulation thru plan, new on does not, check previous approvals.
55' ROW thru Southend side.
Trash pick-up indicated.

Curve radius about #4 & 6 internally hazardous (loop system)?
Pocket parking?
Main entrance goes thru parking lot.
Designate building map.
*Construction must begin within 1 year of approval.
Respond in writting to comments.
Need revised final before it goes to council.

Park on Elm South side Rd.

4/28/81 PRICE/RINKER PASSED (KAMICAR ABSTAINING) A MOTION TO RECOMMEND APPROVAL TO CITY COUNCIL OF #61-78, REVISED FINAL PLAN AND PLAT FOR OMEGA PARK, SUBJECT TO STAFF COMMENTS; THAT PETITIONER SHOULD MEET WITH THE REVIEWING AGENCIES FOR RESOLUTION OF ANY PROBLEMS THEY MIGHT HAVE WITH THE PROPOSAL BEFORE GOING TO CITY COUNCIL WITH THIS REQUEST.

RESPONSE TO REVIEW SHEET COMMENTS

File No.: 61-78
Item: Revised Final Plan - Omega Park
Petitioner: Omega Inn & Hillwood, Inc.
Location: 28th Street & Elm Ave.

AGENCY	RESPONSE
City Engineer	Discussions with the City Engineer resulted in the following: A. Petitioner's engineer to justify pipe size for drain ditch located at southern boundary of property. B. Petitioner agrees to provide utility easements for the installation of sanitary sewer main and domestic water lines 20' in width, centered on the pipe. C. Petitioner agrees to dedicate additional 33' for Elm Avenue half right of way as well as complete the installation of a 5' detached sidewalk, curb and gutter and mat widening to achieve 20½' half mat width standard as per City standards. D. It is understood that any modifications to 28 Road for driveways or revised intersections will be done by the petitioner to City standards. E. The City Engineer has requested a 33' half right of way road section for the southerlymost road. It is the petitioner's desire at this time to provide a 27½' wide right of way for this road.
City Utilities	Discussions with the City Utility Department in regard to the revised final development plan have resulted in acceptance of the revised plan with the agreement to provide necessary easements for water and sewer mains.
Mountain Bell	Mountain Bell found the utility easements as indicated on the revised plan to be acceptable.
City Fire Dept.	The petitioner has agreed to provide two additional fire hydrants as well as looping an 8" domestic water line. It is further understood that during Phase I the 8" domestic water main will be dead ended, with the ability to provide a completed loop at a future date with the development of the following phases.
City Parks & Recreation	City Parks & Recreation had no comment
Transportation Engineer	Discussions with the transportation engineer have resulted in changes to the revised development plan. Parking spaces located adjoining entrance road have been removed to provide for a safer access.

RESPONSE TO REVIEW SHEET COMMENTS (continued)

File No.: 61-78
Item: Revised Final Plan - Omega Park

AGENCY	RESPONSE
Development Dept. Staff	1. Attached is a detailed landscaping plan for Phase I of Omega Park. The landscaping on the balance of the site will be done in a manner similar to that proposed for Phase I. 2. Internal access has been re-worked per discussions with transportation engineer. 3. A typical building elevation should be in your file - with height noted. 4. It should be noted on the attached revised development plan the limits of Phase I. 5. The petitioner agrees to provide a visual screen fence along the east boundary of the site. 6. Petitioner is willing to provide a realignment of the southerlymost street permitting a smooth transition to properties lying east of the subject site. 7. Petitioner agrees with the planning staff as to the 55' right of way designation for the southerly-most road. 8. Petitioner understands that construction will begin on Phase I within one year of approval of this plan by the City Council.

CITY - COUNTY
DEVELOPMENT DEPT.

P.O. BOX 897 - GRAND JUNCTION, COLORADO - 81501
DIAL (303) 243-9200 ext. 343

Grand Junction Planning - Mesa County Planning - Building Department

MEMO

DATE: October 18, 1978
TO: Ron Rish
FROM: Del Beaver
SUBJECT: Omega Park

The First Phase of Omega Park was approved with the following conditions:

1. No parallel on-street parking.
2. 90° parking in proposed areas behind the gutter pans.
3. 30' R.O.W. for a Public Street (Court Road Extended).
4. Construction of the entire length of Court Road, including ditch crossing at the point of 60% buildout of the total project (To be done at end of constructing Phase II of five phases).
5. Providing sufficient R.O.W. to east along north side of ditch for a public street to serve properties to east.

We'll work. Need 24' mat & two 5' pans. at a minimum. Need 35' min. RPR 10-18-78

3 What width of Row? RPR 10-18-78

↑ 50' per Del on 10-18-78

CITY OF GRAND JUNCTION, COLORADO

MEMORANDUM

Reply Requested
Yes ☐ No ☐

Date
April 26, 1979

To: (From:) Karl Metzner From: (To:) Ron Rish

Subject: Omega Park Street Plans

Phase I of Omega Park received final development plan approval from City Council on September 20, 1978, subject to the conditions of the Planning Commission. Attached are copies of the minutes from both the Council and the Commission meetings. Also attached is a copy of a memo dated October 18, 1978, which was in response to my request for clarification from your Department about the parking issue decisions. On that date I related to Del Beaver what street section was appropriate and that the resulting right of way width would be 35 feet.

I am very concerned about potential misunderstandings and the passage of time. We have had a discussion on other business with Pete Sigmund, the engineer for the project, and he related to Don Newton that they did not intend to submit detail construction plans for my approval prior to construction because they already had their "approval". Pete talked about 26 ft. mat and 2 ft. pans which are not what will be approved.

Short of starting a war, please try to clear up with the developer (1) 35 ft. of right of way is required; (2) 24 ft. mat with 5 ft. gutter pans is appropriate; and (3) detailed construction plans and pavement design calculations must be submitted and approved by the City Engineer prior to construction per Ordinance Section 27-4.3. Thanks for any help you can give to make sure we don't get into a "thing" on this is appreciated.

Enclosure

cc Gerald Ashby
John Kenney
Don Newton
Jim Patterson

April 1, 1981

Mesa County Planning Department
6th and White
Grand Junction, Colorado 81501

RE: OMEGA PARK PROPOSED DEVELOPMENT SCHEDULE

TO WHOM IT MAY CONCERN:

It is our intent to build Omega Park in phases over a five to seven year period of time. Phase One, which has previously received final approval, will commence construction in 1981 with an anticipated completion date in late 1981 or early 1982.

Each succeeding phase is proposed to consist of one or two buildings and shall be built as demand dictates. Adequate parking and open space will be provided as each phase is developed.

Sincerely,

OMEGA INVESTMENT

Subdivision Omega Park PDB

Date 1 AUG 78 Item # 6-28

Petitioner VILLAGE LAND CO.

FINAL Dev. Plan

Review Agencies Comments

PSCO - NEED BLANKET EASEMENT

City Eng. - SEE REVIEW SHEETS.

Utilities - 6" water to Court, standards & specs. submitted MUST be updated To present city specs.

Review Agencies Comments

Action Taken

P.C. Approved 8/29/78

C.C. Approved 20 Sept-78

Comments

Subj. to Public St. Road. Ded. to East & Staff Comments

Subject to Reqmts of P.C. approval.

Action Taken

P.C.

C.C.

Comments

ITEMS REQUIRED FROM DEVELOPER

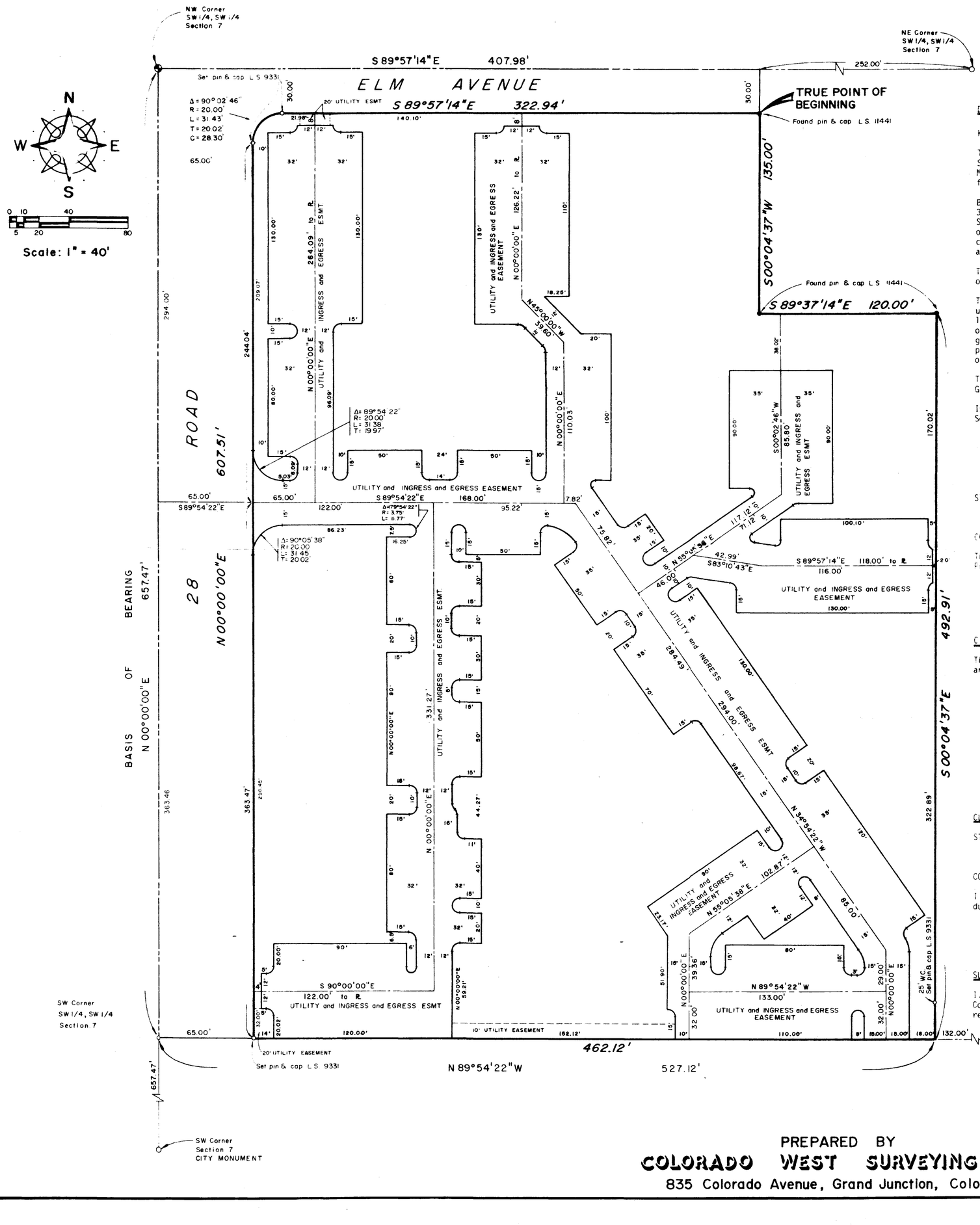
___Check ___Utility Agreement ___Title Investigation

___Drainage ___Landscaping ___Covenants

___Improvements Guarantee ___Annexation ___Other (Specify)

OMEGA PARK

Situated in the SW1/4, SW1/4, Section 7, Township 1 South, Range 1 East of the Ute Meridian, City of Grand Junction, County of Mesa, State of Colorado.



DEDICATION

KNOW ALL MEN BY THESE PRESENTS

That the undersigned, are the owners of that real property situated in the City of Grand Junction, County of Mesa, State of Colorado, and located within the $NW\frac{1}{4}$ $SW\frac{1}{4}$ $SW\frac{1}{4}$, Section 7, Township 1 South, Range 1 East of the Ute Principal Meridian, Excluding the East 132.00 feet and excluding the West 120.00 feet of the East 252.00 feet of the North 165.00 feet, City of Grand Junction, Colorado, and being more particularly described as follows:

Beginning at the NW Corner of the $SW\frac{1}{4}$ $SW\frac{1}{4}$ of said Section 7; thence S 89°57'14" E 407.98 feet; thence S 00°04'37" W 30.00 feet to the True Point of Beginning; thence S 00°04'37" W 135.00 feet; thence S 89°57'14" E 120.00 feet; thence S 00°04'37" W 492.91 feet; thence N 89°54'22" W 462.12 feet; thence N 00°00'00" E 607.51 feet; thence along the arc of a curve to the right having a radius of 20.00 feet, a central angle of 90°02'46", an arc distance of 31.43 feet, the chord of which bears N 45°01'23" E 28.30 feet; thence S 89°57'14" E 322.94 feet to the True Point of Beginning. The above described parcel contains 6.2915 acres.

That said owners have caused the said real property to be laid out and platted as OMEGA PARK, a subdivision of a part of the City of Grand Junction, County of Mesa, State of Colorado.

That said owners do hereby dedicated and set apart all of the streets and roads as shown on the accompanying plat to the use of the public forever and hereby grants to the public utility companies those portions of said real property which are labeled as utility, ingress and egress easements on the accompanying plat as easements for the installation and maintenance of such utilities as telephone, electric and cable television lines, poles and cables, storm and sanitary sewer mains; gas pipe lines with further right of ingress and egress to and from the above described utility easements; and those portions of said property which are labeled as irrigation easements on the accompanying plat as easements for installation of irrigation ditches, flumes and conduits.

That all expenses for street paving or improvements shall be furnished by the seller or purchaser, NOT by the City of Grand Junction.

In witness whereof Village Land Company, a Colorado Corporation, Emanuel G. Pavlakis, President, and Christine F. Pavlakis, Secretary, have caused their names to be hereon subscribed this 1st day of August A.D., 1978.

Emanuel G. Pavlakis, President

Christine F. Pavlakis, Secretary

STATE OF COLORADO)
) SS
COUNTY OF MESA)

The foregoing instrument was acknowledged before me this 1 day of August A.D., 1978, by Emanuel G. Pavlakis, President, and Christine F. Pavlakis, Secretary. My Commission Expires 3-8-80

Lee Dan Ryden
Notary Public

CITY APPROVAL

This plat of OMEGA PARK, a subdivision of the City of Grand Junction, County of Mesa, State of Colorado was approved and accepted on this _____ day of _____ A.D., 1978, By

City Manager

President of Council

Chairman, Grand Junction City Planning Commission

City Planner

Grand Junction City Engineer

CLERK AND RECORDERS CERTIFICATE

STATE OF COLORADO)
) SS
COUNTY OF MESA)

I hereby certify that this instrument was filed in my office at ___ O'clock ___M., this _____ day of _____ A.D., 1978, is duly recorded in Plat Book ___, Page ___, Reception No. _____ Fees $ _____

Clerk and Recorder

Deputy

SURVEYOR'S CERTIFICATE

I, William G. Ryden do hereby certify that the accompanying plat of OMEGA PARK, a subdivision of the City of Grand Junction, County of Mesa, State of Colorado, has been prepared under my direction and is accurately delineated on this Plat and represents a field survey of the same.

William G. Ryden
William G. Ryden, Registered Land Surveyor No. 9331

PREPARED BY
COLORADO WEST SURVEYING CO.
835 Colorado Avenue, Grand Junction, Colorado

OMEGA PARK
File #61-78