

LIVING DESIGNS GROUP ARCHITECTS

PROJECT NAME: Cimarron Medical Clinic & Ambulance Warehouse
RFP NO: 2019-001
OWNER: South Central Colfax County Special Hospital District (SCCCSHD)
DATE: May 20, 2019
TO: ALL BIDDERS & PLAN HOLDERS
FROM: LDG Architects, Douglas Patterson – Principal Architect

ADDENDUM NO. 2

THE FOLLOWING ITEMS CONSTITUTE CHANGES, ADDITIONS, OR CLARIFICATIONS TO THE CONSTRUCTION DOCUMENTS DATED **3-22-2019**, AND PER INDEX, PREPARED BY LIVING DESIGNS GROUP ARCHITECTS. AS SUCH, THESE ITEMS SHALL BECOME PART OF THE CONSTRUCTION DOCUMENTS FOR BIDDING AND CONSTRUCTION OF THIS PROJECT.

PROJECT MANUAL MODIFICATIONS

The contractor is responsible for transmission of this information to all crew and subcontractors.

1. Section 00-1116 INVITATION TO BID

- a. REPLACE: Pages 1&2 of Section 00-1116 Invitation to Bid. Bid date changed to: Friday, June 14th, 2019 @ 2:00pm local time
Office of South Central Colfax County Special Hospital District
615 Prospect Avenue, Springer, NM 87747
- b. “Bidding documents will be available for download to all attendees of the Pre-Bid Conference through the South Central Colfax County Special Hospital District website: Email: <http://colfaxhealth.org/> “
(Please find 2 pages attached)

2. Section 00-4400 SUBCONTRACTOR LISTING

- a. REPLACE: Page 2 of Section 00-4400 Subcontractor Listing. Bid date changed to: Friday, June 14th, 2019 @ 2:00pm local time.
(Please find 1 page attached)

3. Section 31-EARTHWORK FOR BUILDING CONSTRUCTION

- a. INSERT: 16 Pages of Section 31-Earthwork for Building Construction
(Please find 16 pages attached)

Attachments: (pages 1&2 section 00-1116, page 2 of Section 00-4400, Section 31-16 pages)
NONE

END OF ADDENDUM NUMBER TWO

1 page total (plus attachments)

INVITATION TO BID CONSTRUCTION CONTRACT

BID NUMBER: 2019-001

Sealed bid due date:
June 14, 2019, 2PM

PROJECT:
CIMARRON MEDICAL CLINIC &
AMBULANCE WAREHOUSE

OWNER:
**SOUTH CENTRAL COLFAX COUNTY SPECIAL
HOSPITAL DISTRICT**
615 Prospect Avenue
Springer, NM 87747
(575) 483-3301

Contact Information:
Kaycee Sandoval, CEO
South Central Colfax County Special Hospital District
(575) 483-3301
Email: ceo@colfaxhealth.org

DESIGN PROFESSIONAL OF RECORD:
Living Designs Group
122 Dona Luz Street – Suite A
Taos, NM 87571
Doug Patterson
(575) 751-9481
Email: dpatterson@ldg-arch.com

**IMPORTANT: BIDS MUST BE SUBMITTED IN A
SEALED ENVELOPE WITH THE BID NUMBER AND
OPENING DATE CLEARLY INDICATED ON THE
BOTTOM LEFT HAND SIDE OF THE FRONT OF THE
ENVELOPE.**

BID OPENING ADDRESS:
**SOUTH CENTRAL COLFAX COUNTY
SPECIAL HOSPITAL DISTRICT**
615 Prospect Avenue
Springer, NM 87747

SEALED BIDS WILL BE RECEIVED AT THE ABOVE
SPECIFIED DATE, LOCAL TIME AND ADDRESS. BIDS NOT
RECEIVED BY THE ABOVE SPECIFIED DATE, LOCAL TIME
AND AT THE LISTED ADDRESS PRIOR TO BID TIME, WILL
NOT BE OPENED OR CONSIDERED. PROPOSALS WILL NOT
BE OPENED PUBLICLY, BUT WILL BE RECEIVED AND
EVALUATED WITH RESULTS EMAILED TO EACH BIDDER.
DELIVERY IS SOLELY THE RESPONSIBILITY OF THE

BIDDER.

THIS BID IS SUBJECT TO THE REQUIREMENTS OF THE BIDDING DOCUMENTS AS DEFINED IN THE
"INSTRUCTIONS TO BIDDERS," SECTION 00 2113.

THE BID PROPOSAL FORM MUST BE ACCOMPANIED BY A SURETY BOND, SUBCONTRACTOR LISTING FORM,
AND DOCUMENTS SPECIFIED IN THE "INSTRUCTIONS TO BIDDERS."

This mailing contains three pages

INVITATION TO BID page 2

1. BIDDING DOCUMENTS AVAILABLE ELECTRONICALLY:

Bidding documents will be available for download to all attendees of the Pre-Bid Conference through the South Central Colfax County Special Hospital District website:

Email: <http://colfaxhealth.org/>

Bids shall be presented in the form of a total Base Bid proposal under a Lump Sum Contract. A bid must be submitted on all bid items; segregated bids will not be accepted.

NOTE: Base Bid price shall not include state gross receipts or local options taxes. Taxes will be included in the Contracted Amount at prevailing rates as a separate item to be paid by Owner.

In submitting this bid, each Bidder must satisfy all terms and conditions of the Bidding Documents. All work covered by this Invitation to Bid shall be in accordance with applicable state laws and, if bid amount is \$60,000 or more, is subject to the minimum wage rate determination issued by the office of the Labor Commissioner for this project. If the bid amount of the contractor or any subcontractor exceeds \$50,000, the contractor and/or subcontractor must comply with the registration requirements pursuant to the Public Works Minimum Wage Act.

**DIVISION 31 – EARTHWORK FOR BUILDING
CONSTRUCTION**

SECTION 31 23 11

EARTHWORK FOR BUILDING CONSTRUCTION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. The work covered by this Section consists of furnishing all plant, labor, equipment, appurtenances and material in performing all operations, hauling, placing, spreading, watering, processing, compacting and shaping earth sections, within the building limits, complete in place in accordance with the Project Manual and Drawings.

1.2 RELATED WORK ELSEWHERE

- A. Under-Slab Vapor Retarder – Section 07 26 00
- B. General foundation notes on Drawings. In case of conflict or omission, the general foundation notes shall govern.

1.3 SUBSURFACE SOIL DATA

- A. Subsurface soil investigations have been made and the results are available for examination by the Contractor. This is not a warranty of conditions, the Contractor is expected to examine the site and determine for himself the character of materials to be encountered.
- B. No additional allowance will be made for rock removal, site clearing and grading, filling, compaction, disposal, or removal of any unclassified materials.

1.4 REFERENCES

- A. ASTM International
 - 1. ASTM D 1556-07 Standard Test Method for Density of Soil in Place by the Sand-Cone Method
 - 2. ASTM D 1557-09 Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 kN-m/m³))
 - 3. ASTM D 4318-10 Test Methods for Liquid Limit, Plastic Limit, and Plasticity Index of Soils
 - 4. ASTM D 6938-10 Standard Test Method for In-Place Density and Water Content of Soil and Soil-Aggregate by Nuclear Methods (Shallow Depth)

1.5 SUBMITTALS

- A. Submit copies of materials certificates and test results for materials in accordance with type of tests, frequencies and remarks as outlined in the sampling and testing schedule.

1.6 TESTING AND INSPECTION

- A. General: The Owner shall employ the services of a registered, licensed Geotechnical Engineer to observe all controlled earthwork soil testing. The testing laboratory shall provide continuous on-site observation by experienced personnel during construction of fill material. The Contractor shall notify the testing laboratory at least two working days in advance of any field operations of controlled earthwork, or of any resumption of operations after stoppages.
- B. Report of Field Density Tests
 - 1. The Geotechnical Engineer shall submit, daily, the results of field density tests required by these specifications.
- C. Costs of Tests and Inspection
 - 1. The cost of testing, inspecting and engineering, as specified in this section of the specifications, shall be borne by the Owner.
- D. Lines and Grades: Alignment and grade of all elements shall be made on true tangents and curves. Grades shall conform to the elevations indicated on Drawings, with minor adjustments, to provide a smooth approach at building lines, at connections to existing paving and to provide proper drainage. Correct irregularities at no cost to the Owner.

1.7 WEATHER LIMITATIONS

- A. Controlled fill shall not be constructed when the atmospheric temperature is below 35 degrees F. When the temperature falls below 35 degrees, it shall be the responsibility of the Contractor to protect all areas of completed work against any detrimental effects of ground freezing by methods approved by the testing laboratory. Any areas that are damaged by freezing shall be reconditioned, reshaped, and compacted by the Contractor in conformance with the requirements of this specification without additional cost to the Owner.

PART 2 - PRODUCTS

2.1 STRUCTURAL FILL MATERIAL

- A. Material shall consist of soils that conform to the following physical characteristics:

Sieve Size	Percent Passing
Sq. Openings	By Weight
3 inch	100
No. 4	60 - 100
No. 200	20-55

- B. The plasticity index of the material to be used for fill or backfill, as determined in accordance with ASTM D 4318 shall be 15 maximum.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clearing and Grubbing: Prior to placing structural fill all borrow areas and areas to receive structural fill shall be stripped of vegetation and deleterious materials. Strippings shall be hauled offsite or stockpiled for subsequent use in landscaped areas or non-structural fill areas as designated by the Owner or his representative and approved by the Geotechnical Engineer.

3.2 CONSTRUCTION AREA TREATMENT

- A. Site Preparation - Fill Areas: Prior to placing structural fill the areas to be filled shall be scarified to a depth of eight inches and moisture conditioned as described below. The area to be filled shall then be compacted to a minimum of 95 percent of maximum density as determined in accordance with ASTM D 698. Any soft or "spongy" areas shall be removed as directed by the Geotechnical Engineer and replaced with structural fill as described herein.
- B. Site Preparation - Cut Areas: Following excavation to rough grade all building and pavement areas shall be scarified to a depth of eight inches and moisture conditioned as described below. All building and paved areas shall be compacted to a minimum of 95 percent of maximum density as determined by ASTM D 1557.

3.3 EQUIPMENT AND METHODS

- A. In areas not accessible to heavy equipment, distribute by and compact with hand operated vibratory compactors.

3.4 BORROW

- A. The Contractor shall provide sufficient material for fill to the lines, elevations and cross sections as shown on the contract drawings from borrow areas.
- B. The Contractor shall obtain from the Owners of said borrow areas the right to excavate material, shall pay all royalties and other charges involved, and shall pay all expenses in developing the source including the cost of right-of-way required for hauling the material.

3.5 COMPACTION

- A. Fill shall be spread in layers not exceeding 8 inches, watered as necessary, and compacted. Moisture content at time of compaction shall be plus/minus two percent of optimum moisture. A density of not less than 95 percent of maximum dry density shall be obtained within the building pads.
- B. Optimum moisture content and maximum dry density for each soil type used shall be determined in accordance with ASTM D 1557.

- C. Compaction of the fill shall be by mechanical means only. Where vibratory compaction equipment is used, it shall be the Contractor's responsibility to ensure that the vibrations do not damage nearby buildings or other adjacent property. Where vibratory compaction is not possible, pneumatic rolling equipment shall be used.

MATERIAL	MINIMUM PERCENT COMPACTION
Structural fill in construction area	95
Subgrade below structural fill	95
Miscellaneous backfill	90

3.6 MOISTURE CONTROL

- A. The fill material, while being compacted, shall be within the moisture range of 2% below to 2% above optimum, well distributed throughout the layer.

3.7 DENSITY REQUIREMENTS

- A. Density of undisturbed soils, in-place fill and backfill shall be determined in accordance with the procedures of ASTM D 1556 or ASTM D 6938. If tests indicate that the density of in-place soil is less than required, the material shall be scarified, moistened or dried as necessary to obtain proper moisture content and recompacted as necessary to achieve the proper densities. Sufficient density tests shall be made and reports submitted by the Testing Laboratory indicating all cut and fill areas were compacted and graded in accordance with the requirements.

3.8 SLOPE PROTECTION & DRAINAGE

- A. Berming and grading shall be done as may be necessary to prevent surface water from flowing into and out of the construction area. Any water accumulating therein shall be removed by pumping or by other methods.

3.9 SOIL EROSION PROTECTION

- A. The Contractor shall ensure that no soil erodes or blows from the site into public right-of-way or onto private property.
- B. The Contractor shall promptly clean up any material which erodes or blows into the public right-of-way or onto private property.

3.10 PRESERVATION OF PROPERTY

- A. Provide temporary fences, barricades, coverings, or other protections to preserve existing items indicated to remain and to prevent injury or damage to persons or property. Apply protections to adjacent properties as required.
- B. Restore damaged work to condition existing prior to start of work, unless otherwise directed.

3.11 EXISTING UTILITIES

- A. The Contractor shall verify the location of any utility lines, pipelines, or underground utility lines in or near the area of the work in advance of and during Earthwork. The Contractor is fully responsible for any and all damage caused by failure to locate, identify and preserve any and all existing utilities, pipelines and underground utility lines. Repair damaged utilities to the satisfaction of the utility owner at no expense to the Owner.
- B. Should uncharted or incorrectly charted piping or other utilities be encountered during grading, consult the Architect immediately for directions as to procedures.
- C. Cooperate with the Owner and public or private utility companies in keeping service and facilities in operation.

3.12 WASTE

- A. Dispose of all waste off Owner's property.
- B. Burning of waste will not be permitted.

3.13 AIR POLLUTION

- A. Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt air pollution. Comply with governing regulations pertaining to environmental protection.

SAMPLING AND TESTING SCHEDULE FOR EARTHWORK			
FIELD QUALITY CONTROL			
MATERIAL	TEST FOR	FREQUENCY	REMARKS
NATURAL GROUND	Compaction in accordance with ASTM D 1556 or ASTM D 6938	1 per 2500 square feet of surface	Conduct a minimum of 3 tests on each section.
EMBANKMENT AND/OR SUBGRADE	Soil Conditions Moisture-Density in accordance with ASTM D 1557	Test 1 per soil classification	
	Compaction control in accordance with ASTM D 1556 or ASTM D 6938	1 per each lift or every 2500 square feet of surface, whichever is the greater frequency	Immediately after placing.

END OF SECTION 31 23 00

SECTION 200

EARTHWORK

200.1 GENERAL

This section contains the requirements for earthwork activities associated within rights-of-way easements, or open areas. These activities include: clearing and grubbing, roadway excavation, fill construction, borrow excavation, and open area land leveling. Earthwork requirements for channels, dikes and dams are contained in Section 600, Channel Construction.

200.2 CONTENTS

<u>Section No.</u>	<u>Title</u>
201	Clearing and Grubbing
202	Roadway Excavation
204	Fill Construction
205	Borrow Excavation
207	Lean Fill Construction
210	Open Area Land Leveling

SECTION 201

CLEARING AND GRUBBING

201.1 GENERAL

This work shall consist of removing natural and man-made objectionable material from the right-of-way, construction areas, road approaches, material and borrow sites, areas through which ditches and channels are to be excavated, and such other areas as may be shown on the plans. Clearing and grubbing shall be performed in advance of grading operations except that in cuts over 3 feet in depth, grubbing may be done simultaneously with excavation, provided stumps, roots, embedded wood, foundations and slabs are removed as specified. Clearing and grubbing shall be in accordance with the requirements herein specified, such as erosion control requirements. Demolition of structures, other than foundations or slabs, shall be as shown on the plans.

201.2 REFERENCES

201.3 PRESERVATION OF PROPERTY

Existing improvements, adjacent property, utility and other facilities, and trees and plants not to be removed shall be protected from injury or damage resulting from the CONTRACTOR's operations. Only trees and plants designated or marked for removal by the ENGINEER shall be removed.

201.4 CONSTRUCTION METHODS

201.4.1 The natural ground surface shall be cleared of vegetable growth, such as trees, tree stumps, logs, roots or downed trees, brush, grass, weeds, and surface boulders, as well as fences, walls, rubbish, foundations and slabs.

201.4.2 Unless otherwise shown on the plans, the entire area of the project within the limit lines specified below shall be cleared and grubbed. No payment will be made to the CONTRACTOR for clearing and grubbing outside these limits, unless such work is authorized by the ENGINEER.

201.5 LIMIT LINES: Except when limit lines for clearing and grubbing are shown on the plans or are staked by the ENGINEER, clearing and grubbing shall extend only within reasonable limits of the work area.

201.6 REMOVAL OF TREES AND TREE BRANCHES

201.6.1 Trees shall be removed in such a manner as not to injure standing trees, plants, and

improvements which are to remain. Tree branches extending over a roadway and which clear finish grade by 12 feet or less shall be cut off close to the boles in a workmanlike manner.

201.6.2 Trees requiring trimming to facilitate normal construction operations shall be trimmed by a tree surgeon.

201.7 REMOVAL AND DISPOSAL OF DEBRIS

Debris to be removed shall be disposed of outside the right-of-way at a location satisfactory to the ENGINEER, except when burning of combustible debris is permitted. The area to be graded and adjacent areas shall be left with a neat and finished appearance. No accumulation of flammable material shall remain on or adjacent to the property line. In case burning precedes construction operations, the piles may be placed in the center of the area; otherwise, the piles shall be placed in the most convenient location at the side of the area and beyond slope lines where they may be burned without damage to surrounding forest cover or adjacent property. Burning shall be done in conformance with local regulations and at such times and in such manner as to prevent the fire from spreading to areas adjoining the construction site. In areas where burning is prohibited by local regulations, all removed material shall be disposed in an approved solid waste disposal site.

201.8 REMOVAL AND DISPOSAL OF SALVAGEABLE ITEMS

Items and materials of salvage value as shown on the plans or as determined by the ENGINEER, unless incorporated in the new work, shall remain the property of the OWNER and shall be delivered to approved storage areas as directed by the ENGINEER. Such items and materials shall be carefully removed and delivered in such a manner as to permit re-use.

201.9 MEASUREMENT AND PAYMENT

201.9.1 CLEARING AND GRUBBING:

201.9.1.1 When the proposal includes an item for clearing and grubbing, the quantity for measurement shall be as indicated in the Bid Proposal.

201.9.1.2 The unit price per acre paid for clearing and grubbing shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals and for doing all the work involved in

clearing and grubbing as shown on the plans, as provided in these specifications and as directed by the ENGINEER, including the removal and disposal of resulting material.

201.9.1.3 When the Bid Proposal does not include a pay item for clearing and grubbing as above specified and unless otherwise specified in the Supplementary Specifications, full compensation for any necessary clearing and grubbing required to perform construction operations specified shall be considered as included in the price paid for other items of work and no additional compensation will be allowed therefore.

201.9.2 REMOVAL AND DISPOSAL OF TREES: If the Bid Proposal includes separate estimates of quantities for the removal of trees, the trees shall be classified by size as follows:

201.9.2.1 Trees less than 12 inches in circumference at 3 feet above the original ground surface shall be considered as included in the price for clearing and grubbing or excavation, and no additional compensation will be allowed therefor.

201.9.2.2 Trees between 12 and 30 inches in circumference shall be measured as a unit price for each tree in the item provided in the Bid Proposal for trees of this dimension.

201.9.2.3 Trees more than 30 inches in circumference shall be measured as a unit price for each tree in the item provided in the Bid Proposal for trees of this dimension.

SECTION 202

ROADWAY EXCAVATION

202.1 GENERAL

Roadway excavation shall consist of excavation involved in the grading and construction of roadways, except structure excavation, trench excavation, and any other excavation separately designated.

202.2 REFERENCES

202.2.1 This publication Section 204

202.3 UNSUITABLE MATERIAL

202.3.1 Unsuitable materials include all material that contains debris, roots, organic matter, stones or boulders too large to be used in the intended construction, or other materials that are determined by the ENGINEER to be unsuitable. Otherwise suitable materials which are unsuitable due to excess moisture content will not be classified as unsuitable material unless it cannot be dried by manipulation, aeration or blending with other materials satisfactorily as determined by the ENGINEER.

202.3.2 Material that is unsuitable for the intended use shall be excavated and removed from the site or otherwise disposed of as approved by the ENGINEER.

202.3.3 The removal and disposal of such unsuitable material will be paid for as roadway excavation for the quantities involved.

202.4 ROCK EXCAVATION

202.4.1 Rock excavation shall consist of igneous, metamorphic and sedimentary rock, naturally in place, which cannot be excavated without blasting or the use of rippers, and all boulders or other detached stones having a volume of one (1) cubic yard or more, as determined by physical measurements or visually by the ENGINEER. Where any portion of the excavation contains strata classified as Rock Excavation and the various strata are parted with strips or strata not classified as Rock Excavation which constitute twenty-five (25) percent or less of the total thickness of the rock plus non-rock layers, the entire volume of the combined layers shall be paid as Rock Excavation. Removal of Surface boulders in excess of 1 cubic yard in volume shall be paid for under Clearing and Grubbing, unless specifically identified as Rock Excavation.

202.4.2 OVERSHOOTING: Excessive blasting will not be permitted. Material outside the authorized cross section which may be shattered or loosened because of blasting shall be removed at the CONTRACTOR'S expense. The CONTRACTOR shall discontinue any method of blasting which leads to overshooting and is dangerous to the public or destructive to property or to natural features.

202.5 SLIDES AND SLIPOUTS

202.5.1 Material outside of planned roadway or ditch slopes which in the opinion of the ENGINEER is unstable and constitutes potential slides, material which has intruded into the roadway channel or ditch, and material which has escaped from new or old embankments shall be excavated and removed. The material shall be excavated to designated lines or slopes either by benching or in such a manner as approved by the ENGINEER. Such material shall be used in the construction of the embankments or disposed of as approved by the ENGINEER.

202.5.2 The removal and disposal of slide and slipout material as above specified not resulting from overshooting as defined in Subsection 202.4 will be paid for at the contract price for excavation for the quantities involved. However, if due to the character of the work the removal and disposal of such material is not properly compensable at the contract price for roadway excavation, the work may be paid for as extra work provided the CONTRACTOR requests in writing such payment prior to performing the work. Authorization for the work will be by change order.

202.5.3 Only those quantities of slide or slipout material which are actually removed as ordered by the ENGINEER will be approved for payment.

202.5.4 The above provisions shall not be so construed as to relieve the CONTRACTOR from his obligation to maintain all slopes true and smooth.

202.6 SLOPES

202.6.1 Excavation slopes shall be finished in conformance with the lines and grades shown on the plans. Debris and loose material shall be removed. When completed, the average plane of the slopes shall conform to the slopes indicated on the plans and no point on the completed slopes shall vary from the designated plane by more than 6 inches measured at right angles to the slope. Except where excavation is in rock no point shall vary more than 2 feet from the designated plane of the slope. In no

case shall any portion of the slope encroach on the construction area.

202.6.2 Tops of excavation slopes and ends of excavations shall be rounded as shown on the plans or as directed by the ENGINEER, and these quantities will not be included in the payment for excavation. This work will be considered as a part of finishing slopes, and no additional compensation will be allowed therefore.

202.6.3 Embankment slopes shall be finished in conformance with lines and grades shown on the plans. When completed, the average plane of embankment slopes shall conform to slopes indicated on the plans, and no point on completed slopes shall vary from the designated plane by more than 6 inches measured at right angles to the slope.

202.7 SURPLUS MATERIAL

202.7.1 Unless otherwise shown on the plans, specified in the Supplementary Specifications, or approved by the ENGINEER, no surplus excavated material shall be disposed of within the construction area. The CONTRACTOR shall make all arrangements for disposal of the material at offsite locations as may be approved by the ENGINEER and shall, upon request, file with the ENGINEER the written consent of the owner of the property upon which he intends to dispose of such material.

202.7.2 If the quantity of surplus material is shown in the plans or specified in the Supplementary Specifications, the quantity shown or specified is approximate only. The CONTRACTOR shall satisfy himself that there is sufficient material available for the completion of the embankments before disposing of any indicated surplus material inside or outside the area. Any shortage of material caused by premature disposal of surplus material by the CONTRACTOR shall be replaced by him, and no compensation will be allowed the CONTRACTOR for such replacement.

202.8 SELECT MATERIAL

202.8.1 Select material shall be considered as material which can be compacted to the densities specified in Section 204.

202.8.2 Select material encountered in excavation within the right-of-way shall be used for finishing the top portion of the roadbed or for constructing shoulders or used for structure backfill or used as shown on the plans or as directed by the ENGINEER.

202.8.3 Where practicable, select material shall be

hauled directly from excavation to its final position in the construction prism and compacted in place, and such work will be paid for at the contract price for excavation.

202.8.4 Select material shall remain in place until it can be placed in final position as provided above, except, if ordered in writing by the ENGINEER, select material may be excavated and stock-piled at locations designated by him and later placed in final position in the construction prism.

202.8.5 Excavating select material and stockpiling, if required, will be paid for at the contract price for roadway excavation. Removing the select material from stockpiles and placing it in final position in the roadway prism will again be paid for at the contract price for roadway excavation, except that the quantities to be paid for will be determined from measurements of the material in the stockpiles prior to removal. No payment for stockpiling of select material will be made unless such stock-piling is ordered by the ENGINEER.

202.8.6 Topsoil placed along the tops of slopes in connection with erosion control work will not be considered as stockpiled material when determining pay quantities of earthwork.

202.9 MEASUREMENT AND PAYMENT

202.9.1 All earthwork shall be measured by the cubic yard in place at the time of excavation. The following earthwork operations will be measured as excavation for the quantities of material involved.

202.9.1.1 Excavating the construction area including public and private road approaches, connections, and driveways; excavating unsuitable material when shown on the plans or specified in the Supplementary Specifications; excavating slides and slipouts not resulting from over-shooting; excavating surplus material; excavating selected material and topsoil from within the limits of project and removing such materials from stockpiles when stockpiling is ordered; and excavating local borrow.

202.9.2 Excavation beyond the authorized cross section will not be included in measurement or payment.

202.9.3 Rock excavation will be paid by the cubic yard in place, prior to start of construction and measured to limits of excavation specified on plans. No compensation will be made to the CONTRACTOR for excess rock excavation due to over-shooting, nor for the cost of backfilling voids or depressions resulting from overshooting.

SECTION 204

FILL CONSTRUCTION

204.1 GENERAL

Fill construction shall consist of constructing roadway embankments (including the preparation of areas upon which they are to be placed), the placing and compacting of approved material within areas where unsuitable material has been removed; and the placing and compacting of suitable materials in holes, pits and other depressions.

204.2 REFERENCES

204.2.1 ASTM

D 1557
D 4254

204.3 PLACING

204.3.1 Unless otherwise specified, the upper 6 inches of the original ground area upon which fills are to be constructed shall be compacted to a density of not less than 90 percent of maximum density as determined by ASTM D 1557, or in soils containing less than 5 percent passing the #200 sieve, a minimum relative density of 70 percent as determined by ASTM D 4254.

204.3.2 Rocks, broken concrete, or other solid materials which are larger than 4 inches in greatest dimension shall not be placed in fill areas where piles are to be placed or driven.

204.3.3 When fill is to be made and compacted on hillsides or where new fill is to be compacted against existing fill or where embankment is built 1/2 width at a time, the slopes of original hillsides and old or new fills shall be started wherever the vertical cut of the next lower bench intersects the existing ground.

204.3.4 Material thus cut out shall be recompacted along with the new embankment material at the CONTRACTOR's expense, unless the width of the bench required exceeds 4 feet, in which case the excavated material in excess of 4 feet will be measured and paid for as excavation.

204.3.5 Clods or hard lumps of earth of 6 inches in greatest dimension shall be broken up before compacting the material in embankment, except as provided in the following paragraph.

204.3.6 When the fill material includes large rocky material or hard lumps, such as hardpan or cemented gravel which cannot be broken readily, such material shall be well distributed throughout the fill. Sufficient earth or other fine material shall be

placed around the larger material as it is deposited so as to fill the interstices and produce a dense, compact fill. However, such material shall not be placed within 2 feet of the finished grade of the fill.

204.3.7 Embankment construction shall not be performed when material is frozen.

204.4 COMPACTING

204.4.1 Fill shall be constructed in compacted layers of uniform thickness and each layer shall be compacted in accordance with the requirements herein specified with the following exception.

204.4.2 Where fills are to be constructed across low, swampy ground which will not support the weight of hauling equipment, the lower part of the embankment may be constructed by dumping successive loads of suitable material in a uniformly distributed layer of a thickness not greater than that necessary to support the equipment while placing subsequent layers, after which the remainder of the embankment shall be constructed in layers and compacted as specified.

204.4.3 The placing and compacting of approved material within the project (where unsuitable material has been removed, and the filling of holes, pits and other depressions has been accomplished) shall conform to all of the requirements herein specified for compacting fills.

204.4.4 The loose thickness of each layer of fill material before compacting shall not exceed 8 inches, except as provided in the following paragraph for rocky material. The ENGINEER may authorize roadway fill materials to be placed in layers in excess of 8 inches thickness if the CONTRACTOR can demonstrate that the required compaction can be achieved for the full depth of the lift. However, in no case shall the loose layer exceed 24 inches. Each layer shall be compacted in accordance with the following requirements to a density of not less than 90 percent of maximum density, as determined by ASTM D 1557, or in soils containing less than 5 percent passing the #200 sieve, a minimum relative density of 70 percent as determined by ASTM D-4254. In areas of new or widened roadways and required appurtenances, the density of the upper 12 inches shall not be less than 95 percent as determined by ASTM D 1557.

204.4.5 When fill material contains by volume over 25 percent of rock larger than 6 inches in greatest dimension, the fill below a plane 3 feet below

finished grade may be constructed in layers of a loose thickness before compaction not exceeding the maximum size of rock in the material but not exceeding 3 feet in thickness. When more than 65 percent is retained on the No. 4 sieve, moisture and density control is not required.

204.4.6 The interstices around the rock in each layer shall be filled with earth or other fine material and compacted. Broken portland cement concrete obtained from the project excavation will be permitted in the fill with the following limitations.

204.4.6.1 The maximum dimensions of any piece used shall be 6 inches.

204.4.6.2 Pieces larger than 4 inches shall not be placed within 12 inches of any structure.

204.4.6.3 Pieces larger than 2 1/2 inches shall not be placed within 12 inches of the subgrade for paving.

204.4.6.4 "Nesting" of pieces will not be permitted.

204.4.7 At locations where it would be impractical to use mobile power compacting equipment, fill layers shall be compacted to the specified requirements, by any approved method that will obtain the specified relative compaction.

204.4.8 At the time of compaction the moisture content of fill material shall be optimum plus or minus 2 percent. Fill material which contains excessive moisture shall not be compacted until the material is dry enough to obtain the required relative compaction. Full compensation for any additional work involved in drying fill material to the required moisture content shall be considered as included in the unit price per Bid Proposal and no additional compensation will be allowed. Fills shall be maintained to the grade and cross sections shown on the plans until the acceptance of the contract.

204.5 MEASUREMENT AND PAYMENT

Fill construction shall include excavation, placement, compaction and all related work, and shall be measured in place after compaction. Payment will be made on the unit price per cubic yard for compacted fill unless otherwise noted on the Bid Proposal.

SECTION 205

BORROW MATERIAL

205.1 GENERAL

Borrow material shall consist of naturally occurring granular material, such as: pit-run gravel, sand, decomposed granite, or slide rock; and shall be free from wood, vegetation, or other deleterious matter, but shall contain sufficient sand or filler to permit proper compaction of the subgrade. The maximum size of this material shall not be greater than 2/3 the compacted thickness of the course placed in the subgrade. The CONTRACTOR shall notify the ENGINEER sufficiently in advance of opening any material sites so that cross section elevations and measurements of the ground surface after stripping may be taken and sufficient time for testing the material will be allowed.

205.2 REFERENCES

205.2.1 This publication:
SECTION 202
SECTION 204

205.3 PLACING AND COMPACTING

Borrow shall be placed and compacted as specified in Section 204. The CONTRACTOR shall satisfy himself that there is sufficient space available in fill locations for placing any excavated material before placing borrow. Any excess excavation which develops as a result of

placing imported borrow in advance of completing excavations shall be disposed of at the CONTRACTOR's expense in accordance with the provisions in Section 202 and a corresponding reduction in the quantity of borrow to be paid for will be made, for which the CONTRACTOR will have no claim for compensation. Borrow pits shall be excavated to regular lines to permit accurate measurement; depth of excavation throughout the areas of borrow pits shall be as uniform as practicable and the side slope shall be dressed to such slope as may be directed by the ENGINEER, leaving the borrow pit area in a clean and safe condition.

205.4 MEASUREMENT AND PAYMENT

205.4.1 Quantities of borrow outside of physical limits of the work will be measured as per cubic yard. Material excavated at the borrow site and not used on the work will be deducted from the computed quantities and no payment will be made therefore.

205.4.2 If borrow is acquired from a commercial pit, alternate methods of determining cubic yardage of borrow material delivered to the site may be used. Such alternate method shall be agreed to and documented by the ENGINEER and CONTRACTOR prior to the start of any borrow operation.

SECTION 210

OPEN AREA LAND LEVELING

210.1 GENERAL

Open area land leveling shall pertain to leveling of land for public works, park areas, ponding areas behind a dam, athletic fields, or future sites for public facilities. This section defines the requirements for land leveling.

210.2 REFERENCES

210.2.1 This publication:
SECTION 201 SECTION 205
SECTION 204 SECTION
1011

210.3 CONSTRUCTION DRAWINGS

The construction drawings for the project shall define the limit lines of the open area land leveling. Drawings shall also indicate the areas of cut and fill, and percent(s) of compaction required for parts or all of the area.

210.4 CLEARING AND GRUBBING

Clearing, grubbing, and tree removal for the designated open areas shall be completed in accordance with Section 201.

210.5 FILL CONSTRUCTION

Unsuitable on-site materials shall be removed and disposed of per direction of the ENGINEER. Holes, pits, or other depressions may be filled with on-site materials or with suitable borrow material. The fill and borrow construction work shall be accomplished in accordance with Sections 204 and 205.

210.6 GRADING CLASSIFICATIONS

210.6.1 Final grading operations in areas designated for Land Leveling shall comply with the following classifications, as specified on the plans:

210.6.1.1 ROUGH GRADING, when specified, shall produce reasonably uniform surface, free of major rutts, wind-rows and

undulations. Finish grades shall match plan grades or contours within $\pm 0.5'$.

210.6.1.2 FINE GRADING, when specified, shall produce a uniform ground surface, free of rutts, wind-rows and undulations. Finish grades shall closely match plan grades or contours within a tolerance of $\pm 0.1'$.

210.6.2 Section 1011 provides specifications for grading and soil preparation in areas specified to receive seeding or sod.

210.7 MEASUREMENT AND PAYMENT

210.7.1 Clearing and grubbing may be measured by the acre for only this operation or may be included in the overall land leveling work. Payment shall be made at the unit price per acre or as otherwise specified in the Bid Proposal.

210.7.2 Open area land leveling may include: clearing and grubbing, fill construction, removal, and disposal of unsuitable materials and providing suitable borrow material. All of this work may be combined into one unit and measured by the acre or in the case of a small site it may be measured as lump sum unit. Payment shall be made at the unit price per acre or lump sum, as specified in the Bid Proposal.

210.7.3 If each of the land leveling operations are to be considered separately, then the measurements and payments would be as follows:

210.7.3.1 Removal and disposal of unsuitable materials will be measured by the cubic yard, as determined by the cross-sectional site drawings. Payment shall be made at the unit price per cubic yard, as defined in the Bid Proposal.

210.7.3.2 Cut and fill operations may be measured by the acre or by the cubic yard, as determined by the cross-sectional site drawings. Payment shall be made at either the unit price per acre or unit price per cubic yard, as indicated in the Bid Proposal.

210.7.3.3 Borrow material shall be measured by the compacted cubic yards, as determined by the cross-sectional site drawings. Payment shall be made at the unit price per compacted cubic yard, as per Bid Proposal.

210.7.4 When select borrow material is required for seeding or sodding of the area, the measurement and payment will be defined in the landscaping section of the project specifications.