



Reply to  
Attention of:

DEPARTMENT OF THE ARMY  
ALBUQUERQUE DISTRICT, CORPS OF ENGINEERS  
4101 JEFFERSON PLAZA, NE  
ALBUQUERQUE, NEW MEXICO 87109-3435  
FAX (505) 342-3199

November 15, 2002

Contracting Division

SUBJECT: Final Proposal Revision, Solicitation No. DACW47-02-R-0006, Design/  
Build, Wingate Replacement School, Fort Wingate, New Mexico

Dear Competitive Range Offerors:

This is official notification that oral discussions have concluded. You now have the opportunity to revise or modify your price and technical proposals and submit a final proposal revision. During the week of October 7, 2002, we discussed in detail with you, your price proposal and the specific areas of your technical proposal that were perceived to be deficient or in need of clarification. We have provided further information to you throughout the discussion phase regarding changes to project scope and by responding to questions you may have had relating to your proposal.

Your response to this request for final proposal revision is due at our office, as indicated in Block 13 of the Standard Form 1442, by 3:00 p.m., local time, November 29, 2002. The technical and price proposals shall be submitted in separately sealed envelopes. As a part of your final proposal revision, you will need to submit, in original only, the new Standard Form 1442, acknowledging all nine amendments, and complete the revised price proposal schedule. Additionally, your subcontracting plan must be revised to reflect any changes made to your price proposal and should be included in original and one copy with your price proposal package.

Do not submit a completely revised technical proposal, as only revised pages and new pages to the technical proposal in original and five colored copies are required. As an alternative to replacement pages, you may state, word-for-word, the technical evaluation comment being addressed, and refer to a specific page number(s) and paragraph(s) in your technical proposal that is being replaced. If the alternative method is used, it is your responsibility to ensure that there is no confusion as to what area of your proposal is being changed. The page limit restriction in Section 00110 is no longer applicable; however, the number of pages submitted should be within reason. For drawings, only submit those that have changes; and in lieu of submitting revised drawings, you may narratively explain drawing changes if it can be done clearly, without confusion as to what has in fact been changed. The offeror shall make a statement that their design complies with the most current regulations, standards, codes, and Design Requirements (Section 01010). Evaluation and award criteria remain as stated in the solicitation.

**The Government intends to make contract award without obtaining further revisions.** To be considered, your final proposal revision must be in writing and timely received, and is subject to FAR 52.215-1, Instructions to Offerors—Competitive Acquisition, as detailed in Section 00100 of the solicitation.

Thank you for the interest you have shown in this project. If you have any questions regarding this requirement, please contact me at (505) 342-3454.

Sincerely,

A handwritten signature in cursive script that reads "Mary B. Henry".

Mary B. Henry  
Contract Specialist

2. AMENDMENT/MODIFICATION NO. <b>0009</b>	3. EFFECTIVE DATE <b>15 November 2002</b>	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. <i>(If applicable)</i>
--	--	----------------------------------	---------------------------------------

6. ISSUED BY  <b>U.S. ARMY ENGINEER DISTRICT, ALBUQUERQUE CORPS OF ENGINEERS 4101 JEFFERSON PLAZA, N.E. ALBUQUERQUE, NEW MEXICO 87109-3435</b>	7. ADMINISTERED BY <i>(If other than Item 6)</i>  <b>U.S. ARMY ENGINEER DISTRICT, ALBUQUERQUE CORPS OF ENGINEERS 4101 JEFFERSON PLAZA, N.E. ALBUQUERQUE, NEW MEXICO 87109-3435</b>
--	--

8. NAME AND ADDRESS OF CONTRACTOR <i>(No., street, county, State and ZIP Code)</i>	(✓)	9A. AMENDMENT OF SOLICITATION NO. <b>DACW47-02-R-0006</b>
	X	9B. DATED <i>(SEE ITEM 11)</i> <b>21 March 2002</b>
		10A. MODIFICATION OF CONTRACTS/ORDER NO.
		10B. DATED <i>(SEE ITEM 13)</i>

**11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS**

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended.

Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:

(a) By completing Items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA *(If required)*

**13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

(✓)	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: <i>(Specify authority)</i> THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES <i>(such as changes in paying office, appropriation date, etc.)</i> SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER <i>(Specify type of modification and authority)</i>

**E. IMPORTANT:** Contractor  is not,  is required to sign this document and return \_\_\_\_\_ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION *(Organized by UCF section headings, including solicitation/contract subject matter where feasible.)*

**PROJECT: DESIGN/BUILD, WINGATE ELEMENTARY REPLACEMENT SCHOOL, FT. WINGATE, NEW MEXICO**

1. This is Amendment No. 9 to Solicitation No. DACW47-02-R-0006, 21 March 2002. The following revisions shall be incorporated into the specifications. All other provisions shall remain unchanged.

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER <i>(Type or print)</i>	16A. NAME AND TITLE OF CONTRACTING OFFICER <i>(Type or print)</i>
15B. CONTRACTOR/OFFEROR  <i>(Signature of person authorized to sign)</i>	16B. UNITED STATES OF AMERICA  BY <i>(Signature of Contracting Officer)</i>
15C. DATE SIGNED	16C. DATE SIGNED

2. SECTION 00100, INSTRUCTIONS TO BIDDERS:

(1) Delete the Clause entitled "NEW MEXICO GROSS RECEIPTS TAX (NMGR), TRIBAL AND LOCAL TAXES AND REQUIREMENTS" in its entirety and replace with the following:

"NEW MEXICO GROSS RECEIPTS TAX (NMGR)

The Contractor should be award that NMGR tax is applicable to this contract and the rate may vary for each county and city. The Gross Receipts Tax Rate is available from the New Mexico Taxation and Revenue Department at (505) 827-0789. NOTE: Tribal Tax is no longer applicable to this solicitation."

(2) Delete the Clause entitled "UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN OWNED ECONOMIC ENTERPRISES" in its entirety and replace with the following:

"UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES--DOD CONTRACTS

DFARS 252.226-7001 is applicable to this contract and the successful offeror should pay particular attention to the guidance given in this clause. This clause requires the Contractor to use its best efforts to give Indian organizations and Indian-owned economic enterprises the maximum practical opportunity to participate in the subcontracts it awards to the fullest extent consistent with efficient performance of its contract. In return, an incentive payment is available of 5 percent of the amount subcontracted to an Indian organization or Indian-owned economic enterprise at any sub-tier. The successful offeror to this contract should ensure that the DFARS Clause 252.226-7001 is inserted into all subcontracts and subcontracts of sub-tier contractors that are for other than commercial items and are expected to exceed \$100,000."

3. Section 00650, WAGE RATES: Delete General Decision Number NM020001, Modification No. 4, in its entirety and replace with General Decision Number NM020001, Modification Number 6, attached hereto.

4. SECTION 00700, CONTRACT CLAUSES: Delete Clause entitle "52.226-1, UTILIZATION OF INDIAN ORGANIZATIONS AND INDIAN-OWNED ECONOMIC ENTERPRISES (JUN 2000), in its entirety.

5. SPECIFICATIONS: Delete the following listed pages and substitute the pages attached hereto. On the revised pages, for convenience, changes are emphasized by the amendment number in parentheses before and after changes from the previous issue. All portions of the revised (or new) pages shall apply whether or not changes have been indicated.

Delete Page

Insert Page

Volume 1 of 3

Standard Form 1442 (Two pages)  
00010-3 thru 00010-5  
00800-1 thru 00800-2  
01010-3 thru 01010-14  
01010-18 thru 01010-20  
01010-27  
01010-31 thru 01010-32  
01010-35 thru 01010-36  
01010-38  
01010-40 thru 01010-44  
01010-47 thru 01010-48  
01010-50 thru 01010-51  
01010-79 thru 01010-85  
01010-92 thru 01010-94  
01010-121  
01010-123  
01010-128

Standard Form 1442 (Two pages)  
00010-3 thru 00010-  
00800-1 thru 00800-2  
01010-3 thru 01010-14  
01010-18 thru 01010-20  
01010-27 thru 01010-27a  
01010-31 thru 01010-32  
01010-35 thru 01010-36  
01010-38  
01010-40 thru 01010-44  
01010-47 thru 01010-48  
01010-50 thru 01010-51  
01010-79 thru 01010-85  
01010-94  
01010-121  
01010-123  
01010-128

//////////LAST ITEM//////////

SECTION 00650

WAGE RATES

General Decision Number NM020001  
Superseded General Decision No. NM010001  
State: New Mexico  
Construction Type:  
BUILDING  
HEAVY  
County(ies):  
STATEWIDE

STATEWIDE - EXCLUDING EDDY AND LEA COUNTIES FOR BUILDING CONSTR.

GENERAL BUILDING AND HEAVY ENGINEERING CONSTRUCTION shall include the construction, alteration, repair and demolition of buildings, including office buildings, warehouses, industrial and commercial buildings, institutional and public buildings, and all air conditioning, conduit, heating and other mechanical and electrical works and site preparation for building or heavy engineering projects under this classification, stadia; and shall include electrical, gas, water, sewer lines, and other such utility construction which are part of projects under this classification and include within the property line or less than five (5) feet from the building or heavy engineering structure, whichever is closer, provided, however, regard to electrical utilities such construction shall include construction from the first attachment of incoming power source without regard to the property line or proximity to the building or the heavy engineering structure; and include construction, alteration, repair and demolition of heavy engineering work such as power generating plants, pump stations, natural gas compressing stations; covered reservoirs and covered sewage and water treatment facilities concrete linings for canals, ditches and channels; concrete dams; earth dams of one million (1,000,000) cubic yards or over; radio towers, ovens, furnaces, kilns, silos, shafts and tunnels (other than highway shafts and tunnels), hydro-electric projects; and well drilling, telephone and electrical transmission lines which are part of GENERAL BUILDING AND HEAVY ENGINEERING PROJECTS: mining appurtenances such as tripples, washeries and loading and discharging chutes, and specialized structures for testing, launching and recovering space and other rocket-type missiles.

Modification Number	Publication Date
0	03/01/2002
1	04/05/2002
2	06/21/2002
3	07/05/2002
4	08/16/2002
5	10/04/2002
6	11/15/2002

COUNTY(ies):  
STATEWIDE

ASBE0066D 03/01/2002  
Rates Fringes  
CURRY, HARDING, LEA, QUAY, ROOSEVELT, UNION COUNTIES

ASBESTOS WORKERS/INSULATORS  
(Includes application of all  
insulating materials, protective  
coverings, coatings and finishings  
to all ltypes of mechanical  
systems and asbestos removal 17.05 4.96

---

ASBE0076B 01/01/2002  
Rates Fringes  
STATEWIDE, EXCLUDING CURRY, HARDING, LEA, QUAY, ROOSEVELT &  
UNION COUNTIES

ASBESTOS WORKERS/INSULATORS  
(Includes application of all  
insulating materials, pro-  
tective coverings, coatings  
and finishings to all types  
of mechanical systems and  
asbestos removal) 21.72 5.67

LOS ALAMOS COUNTY 23.44 5.67

---

BOIL0627A 10/01/2002  
Rates Fringes  
STATEWIDE, EXCLUDING BERNALILLO, CIBOLA, MCKINLEY, RIO ARRIBA,  
SANDOVAL AND SOCORRO COUNTIES

BOILERMAKERS 21.88 13.30

---

BRNM0001A 04/01/2002  
Rates Fringes  
BRICKLAYERS; MARBLE MASONS;  
STONEMASONS; TILE LAYERS  
& TERRAZZO WORKERS:

DONA ANA COUNTY 17.20 3.39

GRANT, LUNE, OTERO & SIERRA COS. 19.70 3.39

HIDALGO COUNTY 21.70 3.39

---

BRNM0001B 04/01/2002  
Rates Fringes  
BERNALILLO, CATRON, CIBOLA, CHAVES, COLFAX, CURRY, DEBACA,

GUADALUPE, HARDING, LINCOLN, LOS ALAMOS, MCKINLEY, MORA, RIO  
ARRIBA, ROOSEVELT, QUAY, SANDOVAL, SAN JUAN, SAN MIGUEL, SANTA  
FE, SOCORRO, TAOS, TORRENCE, UNION & VALENCIA COUNTIES

BRICKLAYERS-STONEMASONS	21.53	3.51
-------------------------	-------	------

MARBLE MASONS, TILE LAYERS & TERRAZZO WORKERS	18.35	3.51
--	-------	------

-----  
CARP0092A 10/01/2002

	Rates	Fringes
CARPENTERS, LATHERS, & PILED RIVERMEN	20.32	4.29
LIGHT COMMERCIAL CONSTRUCTION**	16.46	2.20
**SEE DEFINITION AT THE END OF TRUCK DRIVERS		

-----  
MILLWRIGHTS:

ZONE I	22.80	4.29
ZONE II	25.05	4.29

BASING POINTS FOR MILLWRIGHTS ONLY FROM ALBUQUERQUE CITY HALL

ZONE I 0 TO 15 ROAD MILES  
ZONE II 15 TO 35 ROAD MILES

-----  
ELEC0583B 06/01/2002

	Rates	Fringes
ELECTRICIANS		
Zone I	17.60	4.25%+4.30
Zone II	19.55	4.25%+4.30
CABLE SPLICERS:		
Zone I	17.85	4.25%+4.30
Zone II	19.80	4.25%+4.30

Zone 1: The area within a 25 mile radius from the downtown Post Office in El Paso, TX. Ft Bliss and Biggs Field proper to be included in this free zone. The area within a 15 mile radius from the Post Office in Las Cruces, NM and within a 5 mile radius from the Post Office in Alamogordo, Deming and Lordsburg. The area 10 miles East and 10 miles West of Interstate 10 between El Paso, Texas and Las Cruces NM.

Zone 2: Dona Ana, Otero, Luna and Hidalgo Counties (except that area in Zone 1.

-----  
ELEC0611B 07/01/2002

	Rates	Fringes
COMMERCIAL LINE WORK (also applies to switching stations and substations adjacent to power plants):		

Bernalillo, Catron, Chaves, Cibola, Colfax, Curry, DeBaca, Grant,

Guadalupe, Harding, Lincoln, Los Alamos (USE ZONE 3 RATES), McKinley, Mora, Quay, Rio Arriba, Roosevelt, Sandoval, San Juan, San Miguel, Santa Fe, Sierra, Socorro, Taos, Torrance, Union, Valencia & White Sands Missile Range and that portion of Fort Bliss in New Mexico.

Lineman - Technicians:

Zone I	23.05	3.5%+5.95
Zone II	25.12	3.5%+5.95
Zone III	26.51	3.5%+5.95
Zone IV	29.04	3.5%+5.95

Cable Splicers:

Zone I	25.36	3.5%+5.95
Zone II	27.43	3.5%+5.95
Zone III	28.82	3.5%+5.95
Zone IV	31.35	3.5%+5.95

Equipment Op. (includes helicopter op.) and Equipment Mechanic (includes helicopter mechanic):

Zone I	21.88	3.5%+5.95
Zone II	23.95	3.5%+5.95
Zone III	25.34	3.5%+5.95
Zone IV	27.87	3.5%+5.95

Powderman:

Zone I	20.07	3.5%+5.95
Zone II	22.14	3.5%+5.95
Zone III	23.53	3.5%+5.95
Zone IV	26.06	3.5%+5.95

Groundman - Jackhammer Op.:

Zone I	16.35	3.5%+5.95
Zone II	18.42	3.5%+5.95
Zone III	19.81	3.5%+5.95
Zone IV	22.34	3.5%+5.95

Zone 1 Basic Wage Rates  
City Miles From Main Post Office

*Albuquerque	25 miles
Santa Fe	10 miles
Las Vegas	8 miles
Farmington	6 miles
Raton	6 miles
Tucumcari	6 miles
Gallup	10 miles
Roswell	12 miles
Ruidoso	12 miles
Portales	12 miles
Carrizozo	12 miles
Clovis	12 miles
Belen	12 miles
Los Lunas	12 miles
Espanola	14 miles

\*The eastern edge of the Albuquerque Zone extends no further

than the western boundary of the Village of Tjieras.

Zone 2 extending up to twenty (20) miles beyond Zone 1, EXCEPT ALBUQUERQUE.

Zone 3 extending up to thirty (30) miles beyond Zone 1, EXCEPT ALBUQUERQUE.

Zone 4 anything beyond thirty (30) miles from Zone 1, EXCEPT ALBUQUERQUE.

-----  
ELEC0611C 06/02/2002

Rates Fringes  
ELECTRICIANS:

Bernalillo, Santa Fe, Torrance, DeBaca, Guadalupe, Quay, San Miguel, Mora, Harding, Union, Colfax, Taos, Rio Arriba, Grant, Sandoval, Valencia, Socorro, Catron, McKinley, Sierra, San Juan, Chaves, Curry, Lincoln, Cibola & Roosevelt Counties

Zone 1		
Electricians	23.05	7.07
Cable Splicers	25.36	7.07
Zone 2		
Electricians	25.12	7.07
Cable Splicers	27.43	7.07
Zone 3		
Electricians	26.51	7.07
Cable Splicers	28.82	7.07
Zone 4		
Electricians	29.04	7.07
Cable Splicers	31.35	7.07

Basic Wage Rates  
City

Miles From  
Main Post Office

Albuquerque	40 miles
Belen	12 miles
Carrizozo	12 miles
Clovis	12 miles
Espanola	14 miles
Farmington	6 miles
Gallup	10 miles
Las Vegas	8 miles
Los Lunas	12 miles
Portales	12 miles
Raton	6 miles
Roswell	12 miles
Ruidoso	12 miles
Santa Fe	10 miles
Tucumcari	6 miles

Zone 2 extending up to twenty (20) miles beyond Zone 1, EXCEPT ALBUQUERQUE.

Zone 3 extending up to thirty (30) miles beyond Zone 1, EXCEPT ALBUQUERQUE.

Zone 4 anything beyond thirty (30) miles from Zone 1, EXCEPT ALBUQUERQUE.

FOR ESTABLISHING THE OUTLYING ZONES FROM THE ALBUQUERQUE FREE ZONE ONLY, ZONE 2 SHALL EXTEND UP TO TEN (10) MILES BEYOND ZONE 1, ZONE 3 SHALL EXTEND UP TO TWENTY (20) MILES BEYOND ZONE 1, AND ZONE 4 ANYTHING BEYOND TWENTY (20) MILES FROM ZONE 1.

-----

ELEC0611D 06/02/2002		
	Rates	Fringes
LOS ALAMOS CO.		
ELECTRICIANS	26.51	7.07
CABLE SPLICERS	28.82	7.07

-----

ELEC0611E 06/02/2002		
	Rates	Fringes
EDDY AND LEA COUNTIES:		
ZONE A		
ELECTRICIANS	21.50	7.07
CABLE SPLICERS	22.58	7.07
ZONE B		
ELECTRICIANS	21.95	7.07
CABLE SPLICERS	23.03	7.07
ZONE C		
ELECTRICIANS	22.10	7.07
CABLE SPLICERS	23.18	7.07
ZONE D		
ELECTRICIANS	22.35	7.07
CABLE SPLICERS	23.43	7.07

ZONE A DISPATCH POINTS

- Artesia - 12 miles
- Carlsbad - 12 miles
- Hobbs - 12 miles
- Lovington - 12 miles

Zone A shall be designated from the Main Post Office of Artesia, Carlsbad, Hobbs and Lovington, New Mexico.

Zone B extending up to ten (10) miles beyond Zone A.

Zone C extending up to twenty eight (28) miles beyond Zone A.

Zone D anything beyond twenty-eight (28) miles beyond Zone A.

-----  
ELEC0611I 01/01/2000

COMMERCIAL LINE WORK (also applies to switching stations adjacent to power plants):

Eddy and Lea Counties:

Lineman - Technicians:

	Rates	Fringes
Zone I	19.00	3.75%+5.15
Zone II	19.45	3.75%+5.15
Zone III	19.60	3.75%+5.15
Zone IV	19.85	3.75%+5.15

Cable Splicers:

Zone I	19.35	3.75%+5.15
Zone II	19.80	3.75%+5.15
Zone III	19.95	3.75%+5.15
Zone IV	20.20	3.75%+5.15

Equipment Op. and Mechanics  
(includes Helicopter Op. & Mechanic):

Zone I	18.05	3.75%+5.15
Zone II	18.50	3.75%+5.15
Zone III	18.65	3.75%+5.15
Zone IV	18.90	3.75%+5.15

Powderman

Zone I	16.53	3.75%+5.15
Zone II	16.98	3.75%+5.15
Zone III	17.13	3.75%+5.15
Zone IV	17.38	3.75%+5.15

Groundman - Jackhammer Op.:

Zone I	13.49	3.75%+5.15
Zone II	13.94	3.75%+5.15
Zone III	14.09	3.75%+5.15
Zone IV	14.34	3.75%+5.15

FROM THE MAIN POST OFFICE OF ARTESIA,  
CARLSBAD, HOBBS & LOVINGTON, NEW MEXICO

ZONE I - 0 to 12 miles

ZONE II - 12 miles to 22 miles

ZONE III - 22 miles to 40 miles

ZONE IV - 40 miles and beyond

-----  
ELEC0611Z 01/01/2000

Rates

Fringes

COMMERCIAL LINE WORK (ALSO APPLIES TO SWITCHING STATIONS AND  
SUBSTATIONS ADJACENT TO POWER PLANTS):

Dona Ana, Hidalgo, Luna and Otero Cos., exclusive of White Sands  
Missile Range and that portion of Fort Bliss in New  
Mexico

Linemen - Technicians		
Zone I	16.85	3.75%+3.30
Zone II	18.80	3.75%+3.30
Cable Splicers		
Zone I	17.19	3.75%+3.30
Zone II	19.18	3.75%+3.30
Equipment Op. (includes Helicopter Op.):		
Zone I	14.66	3.75%+3.30
Zone II	16.36	3.75%+3.30
Equipment Mechanic (includes Helicopter Mech.):		
Zone I	14.66	3.75%+3.30
Zone II	16.36	3.75%+3.30
Powderman:		
Zone I	14.15	3.75%+3.30
Zone II	15.79	3.75%+3.30
Groundman - Jackhammer Op.:		
Zone I	11.96	3.75%+3.30
Zone II	13.35	3.75%+3.30

ZONE I:

a. The area within a 25 mile radius from the Downtown Post  
Office in El Paso, Texas. Fort Bliss and Biggs Field Property to  
be included in this Free Zone. Fort Bliss and Biggs Field to be  
defined by official U.S. Government Map

b. The area within a five mile radius of any city, town, or  
municipality within which an employer establishes or maintains  
his permanent place of business.

c. The area within a fifteen mile radius from the Post Office  
in Las Cruces, New Mexico, and within a five mile radius from the  
Post Office in Alamogordo, Deming, and Lordsburg, New Mexico.

d. The area ten miles East and ten miles West of Interstate  
10, between El Paso, Texas and Las Cruces, New Mexico.

ZONE II: All other areas of the jurisdiction except those  
specified in Zone I.

-----

ELEV0131A 07/01/2002		
	Rates	Fringes
ELEVATOR CONSTRUCTORS:		
MECHANIC	23.775	7.455+a

FOOTNOTE: a. Under 5 years service 6%; over 5 years service 8%.  
7-Paid Holidays New Years Day, Memorial Day, July  
4th, Labor Day, Thanksgiving Day, Friday after  
Thanksgiving Day, Christmas Day.

-----

ENGI0953C 04/01/2002

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
HEAVY CONSTRUCTION:		
ZONE 1:		
GROUP I	15.57	3.15
GROUP II	16.96	3.15
GROUP III	17.11	3.15
GROUP IV	17.32	3.15
GROUP V	17.38	3.15
GROUP VI	17.52	3.15
GROUP VII	17.64	3.15
GROUP VIII	19.08	3.15
ZONE 2:		
GROUP I	18.07	3.15
GROUP II	19.46	3.15
GROUP III	19.61	3.15
GROUP IV	19.82	3.15
GROUP V	19.88	3.15
GROUP VI	20.02	3.15
GROUP VII	20.14	3.15
GROUP VIII	21.58	3.15
ZONE 3:		
GROUP I	19.57	3.15
GROUP II	20.96	3.15
GROUP III	21.11	3.15
GROUP IV	21.32	3.15
GROUP V	21.38	3.15
GROUP VI	21.52	3.15
GROUP VII	21.64	3.15
GROUP VIII	23.08	3.15

SHAFT AND TUNNEL WORK - \$.15 per hour above regular rate.

HAZARDOUS PAY - The following pay shall be applicable for every hour an operating engineer is required by governmental regulations and does wear special equipment for hazardous work at the designated levels. This is applicable in all three zones

LEVEL C - 10% above regular hourly wage

LEVEL B - 10% above regular hourly wage

LEVEL A - 15% above regular hourly wage

#### ZONE PAY

The reference point for determining zone pay shall be from the intersection of Interstate Highway 25 and Interstate Highway 40 (the Big "I") in Albuquerque.

ZONE I - Albuquerque - 0 to 50 mile radius from the Big "I" shall be a Free Zone

- Farmington - 0 to 15 mile radius of Farmington City Hall shall be a Free Zone

Zone II - Shall be \$2.50 per hour above base pay. Will apply outside of above parameters up to 35 miles

Zone III - Shall be \$1.50 cents per hour above Zone II for a total of \$4.00 per hour and will apply after 35 miles of Zone I's parameters.

#### POWER EQUIPMENT OPERATOR CLASSIFICATIONS

##### GROUP I

Fireman, Oiler Screedman, Scale Operators, Rubber Tired farm type tractor, tractors under 50 hp w/o attachments, Breakman, Concrete Paving Curbing Machine (Bridge-Type).

##### GROUP II

Rollers, Sheepsfoot or Pneumatic Self-Propelled w/o Dozer, Concrete Conveyor, Service Truck operator, Air compressor (315 CFM & Over), Pumps (6" & Over), Screening plants, Concrete Mixers (Under 1 CY), Concrete Saw or grinder-span type, 1 Drum Hoist (tugger), Air Tugger, Elevating Belt Type Loaders, Forklift, Lumber Stacker, Tractor Farm Type (under 50 HP w/Attachments), Motorman and Industrial Locomotive op., Winch Truck, Front End Loaders (under 2 CY), Power Plants which Generate Over 15 KW., Welding Machines.

##### GROUP III

Bituminous Distributors, Boilers, Retort & Hot Oil Heaters Concrete Mixers, (1 CV & Over), Conc. Paver-Single Drum, Drilling Equip., Motor Grader (rough), Shaft and Tunnel Equipment: (Refrigeration, slusher, jumbo forms), Trenching Machines (all types), Pump crete and gunite machines, Slipform Paver, Mechanical Bullfloats, Concrete Slab Spreading Machine, Concrete Slab Finishing Machine, Space Heaters, Bituminous Finishing Machines, Water Carrier (all types), Concrete Cleaning Decontamination Machine Operator, Horizontal Directional Drill Locator.

##### GROUP IV

Front End Loaders (2 thru 10 CY), Rollers Steel Wheeled-All Types, Bulldozer, Scrapers (Motor or Towed), Elevating Graders

Self-Propelled Rollers - Equipped W/Dozer, Twin-Bowl Scrapers and Quad 8 or 9 pushers (35 cents over basic rate), Three bowl scrapers (60 cents over basic rate), Backhoes up to 3/4 yard bucket, Head Oiler (Service Truck Operator).

##### GROUP V

Hydraulic Cranes-With less than 50 feet of Boom (20 Tons and Under), Concrete Paver-Double Drum, Cat Cranes, Hysters, 2

Drum Hoist, Auto Fine Grade.

GROUP VI

Mucking Machines-All Types

GROUP VII

Steam Engineers, Loader (Front End Over 10 CV) Concrete Pump (Snorkel Type), Concrete batching plants and Asphalt plants, Crushing plants, Hot plants.

GROUP VIII

All Shovel Type Equipment, Cranes, Draglines, Backhoes over a 3/4 yard bucket, Derricks Guy and Stiff Leg, Pipe mobile (No 2 Operator), Piledriver, Hydraulic Cranes (20 Tons & Over), Mine Hoist, Belt Loader ("C.M.I." Type), Boom and Jibs 150 ft. Through 199 ft. -\$.50 per hour above base pay, 200 ft and over-\$1.00 per hour above base pay. Shovel (Wheel Type), Boring Machine (Tunnel or Shaft Mole), Pipe Mobile, Side and swing-boom cats, Motor grader (finish), Mechanic-Welder, Heavy Equipment Robotics Operator/Mechanic, Ultra High Pressure Waterjet Cutting Tool System Operator/Mechanic, Vacuum Blasting Machine Operator/Mechanic, Mater Environmental Maintenance Mechanic, Horizontal Directoral Drill Operator.

-----

\* ENGI0953E 11/01/2002

	Rates	Fringes
POWER EQUIPMENT OPERATORS:		
BUILDING CONSTRUCTION:		
GROUP I	16.39	3.00
GROUP II	17.96	3.00
GROUP III	18.08	3.00
GROUP IV	18.37	3.00
GROUP V	18.51	3.00
GROUP VI	18.65	3.00
GROUP VII	18.76	3.00
GROUP VIII	20.84	3.00

POWER EQUIPMENT OPERATOR CLASSIFICATIONS

GROUP I

Fireman, Oiler, Screedman, Scale op. such as Bin-a-Batch, Rubber Tired Farm Type Tractor, Tractors under 50 hp w/o Attachments, Brakeman, Concrete Curing Machine (Bridge Type).

GROUP II

Rollers, Sheepsfoot or Pneumatic Self-Propelled w/o Dozer, Concrete Conveyor, Service Truck op. (Head Oiler), Air

Compressor (600 CFM & Over), Pumps (6" & Over), Screening Plants, Concrete Mixers (Under 1 CY), Concrete Saw or Grinder-Span Type, 1 Drum Hoists, Elevating Belt Type Loaders, Lumber Stacker, Tractor Farm Type (under 50 HP w/Attachments), Winch Trucks, Front End Loader (under 2 CY), Welding Machines, Cat Head Winch, Power Plants which generate over 15 KW, Oiler with CDL, Concrete Curbing Machine.

GROUP III

Bituminous Distributors, Boilers, Retort & Hot Oil Heaters  
Concrete Mixers, (1 CY & Over), Concrete Paver-Single Drum,  
Drilling Equip., Shaft and Tunnel Equipment: Refrigeration,  
Slusher, Jumbo forms, Trenching Machines (all Types), Pump  
Crete & Guniting Machines, Slipform Paver, Mechanical  
Bullfloats, Concrete Slab Spreading Machine, Concrete Slab  
Finishing Machine, Asphalt Plants, Bituminous Finishing  
Machines, Crushing Plants, Certified Forklift.

GROUP IV

Front End Loaders (2 thru 19 CY), Rollers Steel Wheeled-All  
Types, Bulldozer, Scrapers (Motor or Towed), Elevating Graders  
Concrete Batching Plants, Self-Propelled Rollers - Equipped  
W/Dozer, Twin-Bowl Scrapers and Quad 8 or 9 Pushers (\$.35 Over  
Basic Rate), Three Bowl Scrapers (\$.60 Over Basic Rate),  
Bobcat w/Hydraulic Backhoes with buckets up to one and one  
quarter cubic yards, Motor Grader (Rough), Small Articulating  
Trucks.

GROUP V

Concrete Paver, Double Drum, Two Drum Hoist, Auto Fine Grader  
Hysters, Forklift over 2,000 lbs. Lifting Capacity

GROUP VI

Mucking Machines-All Types, Tractor with Hydraulic Backhoe,  
Backhoes with Buckets up to one and one quarter cubic yards.

GROUP VII

Hydraulic Cranes with less than 50 feet of boom (20 tons and  
under), Steam Engineers, Loaders (Front end over 10 cubic  
yards), Concrete Pump (Snorkel Type), Heavy Equipment Low  
Boy Driver with CDL, Mining Machine, Roof Bolting Machine,  
Shuttle Car.

GROUP VIII

All Shovel Type Equipment, Side Boom Cats, Cranes, Draglines,  
Track or Excavator Backhoe, Backhoes with Buckets over one and  
one quarter cubic yards, Derricks, Guy and Stiff Leg,  
Pipemobile (No.2 Operator), Pile Driver, Hydraulic Cranes  
(20 ton and over), Mine Hoists, Belt Loader (C.M.I. type)  
Cranes and Draglines with Booms over 150 ft. through 199  
feet \$.75 above base rate per hour additional; 200 feet and  
over \$1.00 above base rate per hour additional, Shovel (Wheel  
type), Boring Machine (Tunnel or Shaft Mode), Pipe Mobile,  
Motor Grader (Finish), Mechanic, Welder, Mobile Pipeline  
Inspection Camera, Operator/Rigger, Crane Inspector,  
Continuous Mining Machine, VAC Jet Rodder, Equipment

Instructor.

-----

IRON0263D 06/01/2002

Rates Fringes  
CHAVES, CURRY, DONA DNA, EDDY, GRANT, HARDING, HIDALGO, LEA,  
LUNA, OTERO, QUAY, ROOSEVELT, SIERRA AND UNION COUNTIES

IRONWORKERS:

Ornamental; Structural and reinforcing	18.79	4.35
---	-------	------

-----

IRON0495A 06/01/2002

	Rates	Fringes
BERNALILLO, CATRON, CIBOLA, COLFAX, DeBACA, GUADALUPE, LINCOLN, LOS ALAMOS, TAOS, MCKINLEY, MORA, RIO ARRIBA, SAN JUAN, SAN MIGUEL, SANDOVAL, SANTA FE, SOCORRO, TORRANCE, VALENCIA COUNTIES		

IRONWORKERS:

Ornamental; Structural and reinforcing	18.00	7.53
---	-------	------

-----

LABO0016A 10/01/2002

	Rates	Fringes
LABORERS: BUILDING CONSTRUCTION:		
GROUP I	12.77	2.40
GROUP II	13.39	2.40
GROUP III	14.14	2.40
GROUP IV	15.99	2.40

LABORER CLASSIFICATIONS

GROUP I: Chainmen, Stakedrivers, Stake Hopper, Heater  
Tenders, Pick and Shovel Work, Window Cleaning and Clean up,  
Flagman, Landscaping and Planter, Fence Builder, Guardrail  
Builder, Unloading of Furniture and Fixtures, Shop Helper.  
(Chainman and Stakedrivers working solely for an engineering firm  
are not subject to this agreement.)

GROUP II: Carpenter Tenders, Concrete Workers, Concrete Buggy  
Operators, Industrial and Plant Laborers, Fire Watch, Swinging  
Scaffolds Tender, Fine Grader, Form Stripper, Gabian Basket  
Builders, Rip Rap Stoneman, Drywall, Stocking and Handling,  
Fly Ash Vacuum Operator, Man Hole Builder, Tool Room Person and  
Checker on Jobsite.

GROUP III: Electric Air and Gas Operated Power Tools, Asphalt  
Rakers, Chain Saw Operators, Oxy Gasoline Torch Operators,  
Cutting Torch Operators or Burner Person, Guniting Rebound Men,  
Fog Machine Operators, Power Buggy Operators, Rodmen,  
Sandblasters (potmen), Wagon Drill and Diamond Core Driller,  
Air Track, Drill Operator Hydraulic Core Drill Diamond, Tenders  
Outside with Pumps under 6", Concrete Burners, Cement Mason

Tenders, Plasterers Hodcarriers, Mortar Mixer, Plaster Spreader  
Operators, Plaster Tenders, Guniting Nozzlemen, Pipelayer,  
Pumpcrete Nozzlemen, Powdermen Tender Demolition, Grade Checker,  
Vibrator Operator, Concrete Saw Operators, Stone Mason Tender,  
Jack Hammer and Chipping Hammer Operator, Green Cutter High  
Pressure Air and Water on Concrete Blaster, Pipelayer (includes  
but not limited to water pipe, sewer pipe, drainage pipe, pvc,  
and all underground tile, pipe), Cast Iron Concrete pipe,

unloading, handling, distribution, and installation.

GROUP IV: Asbestos Abatement Laborer, Toxic and Hazardous Waste Removal Laborer, Lead Base Paint Removal Laborer, Laborer/Concrete Specialist, Pest Technician (Licensed by the Bureau of Rodent Management), State Licensed Powder man and, Blaster, Laborers AGC Certified Scaffold Builder Laborer, or Hydromobile Scaffold Builder, Radiation Worker II.

-----

LABO0016C 04/01/2002

	Rates	Fringes
LABORERS:		
HEAVY CONSTRUCTION:		
ZONE 1:		
GROUP I	13.39	2.45
GROUP II	14.14	2.45
ZONE 2:		
GROUP I	15.89	2.45
GROUP II	16.64	2.45
ZONE 3:		
GROUP I	17.39	2.45
GROUP II	18.14	2.45

#### LABORER CLASSIFICATIONS

GROUP I: Construction and General Laborers, Carpenter Tenders, Concrete Workers, Stakedrivers, Concrete Buggy Operators, Hand Flagman.

GROUP II: Air and Power Tool Operators, Asphalt Rakers, Chain Saw Operators, Cutting Torch Operators, Demolition, Gunite Rebound Men, Rod and Chainmen, Grade Setters, Power Buggy Operators, Sand Blasters (pot men), Nozzleman, Wagon Core and Diamond Drillers Tenders, Outside Scalers, Fog Machine Operators, Air, Gas, Hydraulic Tool and Electrical Tool Operators, Barco Hammers Cutting Torches, Drill, Diamond and Core Drills, Electric Hammers, Jackhammers, Hydraulic Jacks, Tampers, Air Tampers, Concrete Processing Material, Form-Setters, Airport Runways, Operators of Concrete Saws on Pavement (other than gangsaws) Power Operated Concrete Buggies, Hot Asphalt Labor, Paving Breakers, Cofferdams, Boxtenders, Caissons 8' to 12', Jack-Hammer Operators in Caissons over 12', Labor Applicable to Pipe Coating or Wrapping, Pipe Wrappers, Plant and Yard, Relining Pipe, Hydroliner (a plastic may be used to waterproof), Pipelayer on Underground Bores, Sewer, Monitors, Jeep Holiday Detector

Men, Pump Operators, Rakers, Vibrators, Hydro-Boom, Mixer Man, Gunnite Nozzlemen, Shortcrete Operator, Timberman, Timber and Chain Saws, Sand Blasters, Licensed Powdermen, Powdermen and Blasters, Siphons, Signalmen, Grade Checker.

#### ZONE PAY

The reference point for determining zone pay shall be from the

intersection of Interstate Highway 25 and Interstate Highway 40 (The Big "I") in Albuquerque.

ZONE 1 - FREE ZONE - 0 to 50 miles

ZONE 2 - 50 to 85 miles from reference points. \$2.50 per hour above base wage.

ZONE 3 - over 85 miles from reference points. \$4.00 per hour above base wage.

Workmen employed on work forty (40) or more feet above the ground or above a solid floor, deck, or flat roof shall receive premium pay as follows:

40 to 80 feet - \$0.25 per hour

80 to 120 feet - \$0.50 per hour

120 to 160 feet - \$0.75 per hour

above 160 feet - \$1.00 per hour

SHAFTS, RAISES, MISSILE SILOS, AND ALL OTHER UNDERGROUND WORK (EXCLUDING REPROCESSING PIPE UNDERGROUND):

ZONE 1:		
GROUP I	15.40	2.45
GROUP II	15.67	2.45
GROUP III	15.82	2.45
Shifter	16.05	2.45
ZONE 2:		
GROUP I	17.90	2.45
GROUP II	18.17	2.45
GROUP III	18.32	2.45
Shifter	18.55	2.45
ZONE 3:		
GROUP I	19.40	2.45
GROUP II	19.67	2.45
GROUP III	19.82	2.45
Shifter	20.05	2.45

#### LABORER CLASSIFICATIONS

GROUP I: Tunnel Workers: Laborers and Hand Muckers Top Landers, Groutmen, Nippers, Trackmen.

GROUP II: Chuck Tenders.

GROUP III: Shaft Workers, Air Tugger Operators, Concrete Workers (including all cement chipping and finishing underground), Drillers, Form Setters and Handlers, Hand Muckers, Miners,

Powdermen, Steel Setters, Tunnel Liners, Plate Setters, Reinforcing Steel Setters, all Cutting and Welding incidental to Miners' work, Powdermen and Blasters, Timbermen.

-----

LABO0016D 10/01/2002

	Rates	Fringes
LABORERS:		
HEAVY CONSTRUCTION:		
ZONE 1:		
GROUP I	15.65	2.45
GROUP II	15.90	2.45
GROUP III	16.05	2.45
GROUP IV	15.99	2.45
ZONE 2:		
GROUP I	18.15	2.45
GROUP II	18.40	2.45
GROUP III	18.55	2.45
GROUP IV	18.49	2.45
ZONE 3:		
GROUP I	19.65	2.45
GROUP II	19.90	2.45
GROUP III	20.05	2.45
GROUP IV	19.99	2.45

#### ZONE PAY

The reference point for determining zone pay shall be from the intersection of Interstate Highway 25 and Interstate Highway 40 (The Big "I") in Albuquerque.

Free Zone - 0 to 50 miles.

Zone 2 - 50 to 85 miles from above reference points. \$2.50 per hour above base wage.

Zone 3 - over 85 miles from above reference points. \$4.00 per hour above base wage.

Workmen employed on work forty (40) or more feet above the ground or above a solid floor, deck, or flat roof shall receive premium pay as follows:

40 to 80 feet - \$0.25 per hour

80 to 120 feet - \$0.50 per hour

120 to 160 feet - \$0.75 per hour

above 160 feet - \$1.00 per hour

#### LABORER CLASSIFICATIONS

GROUP I: Wagon Core, Diamond Drillers

GROUP II: Concrete Burner, Hodcarriers, Mortar Mixers, Plaster Spreader Operators, Plaster Tenders, Guniting Nozzlemen, Pipelayers Pumpcrete Nozzlemen.

GROUP III: Powdermen and Blasters.

GROUP IV: Includes but is not limited to the following specialty categories of Construction Specialists: Asbestos Abatement Laborers, Toxic and Hazardous Waste Removal Laborers, Lead Base Paint Removal Laborers, Laborer/Concrete Specialist, Pest Technician (Licensed by the Bureau of Rodent Management), State Licensed Powderman and Blaster, Laborers-AGC Certified Rigger and Signal Man, Laborers-AGC Certified Scaffold Builder Laborer, or Hydromobile Scaffold Builder, Radiation Worker II.

-----  
 PAIN0823A 04/01/2000

	Rates	Fringes
PAINTERS:		
Mines, mills, Power plants, energy plants, refineries, coal gasification plants, nuclear related facilities & all steel work incidental thereto including stacks of all descriptions:		
Brush, roller, pot tender, sandblaster, grinder operator:		
New Work:		
Zone I	16.05	4.08
Zone II	17.05	4.08
Zone III	18.55	4.08
Repaint/remodel:		
Zone I	13.64	4.08
Zone II	14.64	4.08
Zone III	16.14	4.08
Spray; Preparation for and application of epoxy & special coatings; Hand Finisher/Machine Texture:		
New Work:		
Zone I	16.55	4.08
Zone II	17.55	4.08
Zone III	19.05	4.08
Repaint/remodel:		
Zone I	14.57	4.08
Zone II	15.57	4.08
Zone III	17.07	4.08
Hand texture		
New Work:		
Zone I	16.75	4.08
Zone II	17.75	4.08
Zone III	19.25	4.08
Repaint/remodel:		
Zone I	14.24	4.08
Zone II	15.09	4.08
Zone III	16.36	4.08

Paperhangers:		
New Work:		
Zone I	17.05	4.08
Zone II	18.05	4.08
Zone III	19.55	4.08
Repaint/remodel:		
Zone I	14.49	4.08
Zone II	15.49	4.08
Zone III	16.99	4.08
Drywall finisher; Ames		
Tool operator:		
New Work:		
Zone I	17.25	4.08
Zone II	18.25	4.08
Zone III	19.75	4.08
Repaint/remodel:		
Zone I	14.66	4.08
Zone II	15.51	4.08
Zone III	16.79	4.08

HIGH PAY: High pay shall apply to any free fall area exceeding 30 feet from the ground level. The hourly wage rate shall be increased \$.50 per hour from the 30 foot level up. The determining factor in high pay shall be a stationary floor, landing or grate, excluding elevated tank walkways.

PAINTERS ZONE DEFINITIONS

Free Zone: An area within a 30 mile radius of the main post office in the city or town where an employee permanently resides at the time of hire shall be considered Zone 1. All jobs beyond the 30 mile radius shall be covered by the zone schedule below:

- ZONE I - BASE PAY UP TO 30 MILES
- ZONE II - EXTENDING 30 MILES TO 75 MILES BEYOND ZONE I
- ZONE III - EXTENDING 75 MILES AND BEYOND

Albuquerque, Santa Fe and Belen shall be considered in Zone 1.

PAIN0823B 04/01/2002		
	Rates	Fringes
GLAZIERS	19.15	4.11

PAIN0823C 04/01/2002		
	Rates	Fringes
SOFT FLOOR LAYERS:		
ZONE I	16.73	4.58
ZONE II	17.73	4.58
ZONE III	19.23	4.58

SOFT FLOOR LAYERS ZONE DEFINITIONS

Free Zone: An area within a 30 mile radius of the main post

office in the city or town where an employee permanently resides at the time of hire shall be considered Zone 1. All jobs beyond the 30 mile radius shall be covered by the zone schedule below:

- ZONE I -- Up to 30 miles
- ZONE II -- 30 to 75 miles
- ZONE III - 75 miles and beyond

Albuquerque, Santa Fe and Belen shall be considered Zone 1.

-----

PAIN0823D 04/01/2000

	Rates	Fringes
PAINTERS:		
All Other Work: Commercial:		
Brush, roller, spray and special coatings:		
Zone I	14.24	3.58
Zone II	15.24	3.58
Zone III	16.74	3.58
Sand blasters; striping machine operators:		
Zone I	15.69	3.58
Zone II	16.69	3.58
Zone III	18.19	3.58
Sign painters:		
Zone I	16.04	3.58
Zone II	17.04	3.58
Zone III	18.54	3.58
Paper hangers:		
Zone I	16.19	3.58
Zone II	17.19	3.58
Zone III	18.69	3.58
Tenant Improvement*:		
Hand texture:		
Zone I	14.14	3.58
Zone II	15.14	3.58
Zone III	16.64	3.58
Paper hangers:		
Zone I	14.44	3.58
Zone II	15.44	3.58
Zone III	16.94	3.58
Drywall finishers:		
Zone I	14.49	3.58
Zone II	15.49	3.58
Zone III	16.99	3.58
Ames Tool operators:		
Zone I	14.74	3.58
Zone II	15.74	3.58
Zone III	17.24	3.58

\*Tenant improvement shall be considered the following types of work: repaint, remodel, alterations and additions to an existing building, the painting and repair of hotels, motels and

apartment buildings five stories and over, new and repair.

HIGH PAY: High pay shall apply to any free fall area exceeding 30 feet from the ground level. The hourly wage rate shall be increased \$.50 per hour from the 30 foot level up. The determining factor in high pay shall be a stationary floor, landing or grate, excluding elevated tank walkways.

PAINTERS ZONE DEFINITIONS

Free Zone: An area within a 30 mile radius of the main post office of the city or town where an employee permanently resides at the time of hire shall be considered Zone 1. All jobs beyond the 30 mile radius shall be covered by the zone schedule below:

ZONE I - BASE PAY UP TO 30 MILES  
ZONE II - EXTENDING 30 MILES TO 75 MILES BEYOND ZONE I  
ZONE III - EXTENDING 75 MILES AND BEYOND

Albuquerque, Santa Fe and Belen shall be considered in Zone 1.

---

PLAS0254A	10/01/2002		
		Rates	Fringes
CEMENT MASONS		17.35	4.52

---

PLAS0254B	07/01/2002		
		Rates	Fringes
PLASTERERS		17.50	4.42

---

PLUM0412A	10/01/2002		
		Rates	Fringes
REMAINING COUNTIES			
PLUMBERS & PIPEFITTERS		23.93	6.00
LOS ALAMOS, SOUTH MESA, MCGREGOR RANGE, WHITE SANDS MISSILE RANGE AND/OR PROVING GROUNDS			
PLUMBERS & PIPEFITTERS		24.73	6.00
LIGHT COMMERCIAL : All irrigation & lawn sprinkler		15.96	4.20

---

ROOF0174A	10/01/1994		
		Rates	Fringes
ROOFERS		13.30	1.99

---

SHEE0049A	04/01/2002		
		Rates	Fringes

REMAINING COUNTIES

SHEET METAL WORKERS	23.30	7.11
---------------------	-------	------

---

SHEE0049B 04/01/2002

	Rates	Fringes
LOS ALAMOS COUNTY		
SHEET METAL WORKERS	25.30	7.17

---

SUNM1002A 08/11/1993

	Rates	Fringes
SPRINKLER FITTERS:		
Bernalillo, Los Alamos & Santa Fe, Counties	15.55	
Otero County	17.45	3.75
Remaining Cos. (Except Dona Ana)	16.06	2.95

---

TEAM0492A 06/01/1993

	Rates	Fringes
TRUCK DRIVERS:		
BUILDING CONSTRUCTION:		
Zone I:		
GROUP I	9.83	1.89
GROUP II	10.10	1.89
GROUP III	10.18	1.89
GROUP IV	10.30	1.89
GROUP V	10.35	1.89
GROUP VI	10.45	1.89
GROUP VII	10.55	1.89
GROUP VIII	10.69	1.89
GROUP IX	10.84	1.89
Zone II		
GROUP I	11.58	1.89
GROUP II	11.85	1.89
GROUP III	11.93	1.89
GROUP IV	12.05	1.89
GROUP V	12.10	1.89
GROUP VI	12.20	1.89
GROUP VII	12.30	1.89
Group VIII	12.44	1.89
Group IX	12.59	1.89
Zone III:		
GROUP I	12.08	1.89
GROUP II	12.35	1.89
GROUP III	12.43	1.89
GROUP IV	12.55	1.89
GROUP V	12.60	1.89
GROUP VI	12.70	1.89
GROUP VII	12.80	1.89
GROUP VIII	12.94	1.89
GROUP IX	13.09	1.89
BUILDING CONSTRUCTION:		

Light Commercial Construction:

Zone I:

GROUP I	7.86	1.89
GROUP II	8.08	1.89
GROUP III	8.14	1.89
GROUP IV	8.24	1.89
GROUP V	8.28	1.89
GROUP VI	8.36	1.89
GROUP VII	8.44	1.89
GROUP VIII	8.55	1.89
GROUP IX	8.67	1.89

Zone II:

GROUP I	9.26	1.89
GROUP II	9.48	1.89
GROUP III	9.54	1.89
GROUP IV	9.64	1.89
GROUP V	9.68	1.89
GROUP VI	9.76	1.89
GROUP VII	9.84	1.89
Group VIII	9.95	1.89
Group IX	10.07	1.89

Zone III:

GROUP I	9.66	1.89
GROUP II	9.88	1.89
GROUP III	9.94	1.89
GROUP IV	10.04	1.89
GROUP V	10.08	1.89
GROUP VI	10.16	1.89
GROUP VII	10.24	1.89
GROUP VIII	10.35	1.89
GROUP IX	10.47	1.89

HEAVY CONSTRUCTION:

Zone I:

GROUP I	10.08	1.79
GROUP II	10.35	1.79
GROUP III	10.43	1.79
GROUP IV	10.55	1.79
GROUP V	10.60	1.79
GROUP VI	10.70	1.79
GROUP VII	10.80	1.79
GROUP VIII	10.94	1.79
GROUP IX	11.09	1.79

Zone II:

GROUP I	11.58	1.79
GROUP II	11.85	1.79
GROUP III	11.93	1.79
GROUP IV	12.05	1.79
GROUP V	12.10	1.79
GROUP VI	12.20	1.79
GROUP VII	12.30	1.79
GROUP VIII	12.44	1.79
GROUP IX	12.59	1.79

Zone III:

GROUP I	11.83	1.79
GROUP II	12.10	1.79
GROUP III	12.18	1.79

GROUP IV	12.30	1.79
GROUP V	12.35	1.79
GROUP VI	12.45	1.79
GROUP VII	12.55	1.79
GROUP VIII	12.69	1.79
GROUP IX	12.84	1.79

TRUCK DRIVER (BUILDING & HEAVY CONSTRUCTION) CLASSIFICATIONS

GROUP I:

Pickup 3/4 Ton and Under, Lubrication, Light Tire Repair and Washer, Swamper, 2 or 4 and up.

GROUP II:

Dump or Batch Truck Under 8 C.Y.W.L.: Flat Bed (bobtail) 2 Ton and Under, Warehouseman including Material Check, Fork Lift Under 5 Ton MRC.

GROUP III:

Dump Trucks (Including All Highway and Off Highway) 8 up to 16 C.Y.W.L.C.; Water, Fuel or Oil Trucks Less Than 3,000 gal. Flat Bed (bobtail) Over 2 Tons.

GROUP IV:

Distributor Driver, Heavy Tire Repair, Lumber Carrier Driver, Young Buggy or Similar Equipment, Transit Mix or Agitator 2 or 3 Axle Bobtail Equipment, Scissor Truck, Bulk Cement Bobtail 2 or 3 Axle, Semi-Trailer Flat Bed or Van Single Axle Forklift 5 Ton and over M.R.C.

GROUP V:

Dumpsters and Dumpcrete Driver; Water, Fuel or Oil Trucks 3,000 to 6,000 Gallons; Lowboys and Light Equipment Driver; Euclid Type Tank Wagon Under 6,000 Gallons.

GROUP VI:

Vacuum Truck; Dump Trucks (including all highway and off-highway 16 up to 22 C.Y.W.L.C.

GROUP VII:

Transit Mix or Agitator Semi or 4 Axle Equipment Driver;

Flaherty Truck Type Spreader Box Driver; Slurry Truck Driver Bulk Cement Driver; Semi-Doubles; 5 Axle Bobtail; Winch Truck and "A" Frame; Dump Truck (including all Highway and Off-Highway) 22 CY up to 35 C.Y.W.L.C.

GROUP VIII:

Euclid Diesel Power Turnarocker; Terra Coba-DW20-Tourneau Pulls and Similar Diesel Powered Equipment when used to haul Materials and Assigned to a Teamster-Lowboy Heavy Equipment Driver; Water, Fuel and Oil Trucks 6,000 Gallons and Over Including Tank Wagon Drivers, Semi-Trailer Driver (Flat-Bed or Van Tandems); Light Equipment Mechanic; Dump Trucks (Including All Highway and Off-Highway) 35 C.Y.W.L.C. and Over; Truck and Trailer or Semi-Trailer (Flated); eject all.

GROUP IX:

Lowboy (Heavy Equipment Double Gooseneck); Heavy Equipment Mechanic; Welder (Body and Fender Men).

TRUCK DRIVERS ZONE PAY BASING POINTS AND DEFINITIONS LISTED BELOW FOR BUILDING AND HEAVY CONSTRUCTION - BASING POINTS ARE AS FOLLOWS:

ALAMOGORDO, ALBUQUERQUE, ARTESIA, BAYARD, BELEN, CARLSBAD, CLOVIS, DEMING, ESPANOLA, EUNICE, FARMINGTON, GALLUP, GRANTS, HOBBS, LAS CRUCES, LAS VEGAS, LORDSBURG, LOVINGTON, PORTALES, RATON, ROSWELL, RUIDOSO, SANTA FE, SANTA ROSE, SILVER CITY, SOCORRO, TAOS, TUCUMCARI

ZONE I

Projects within 15 miles from the starting points above

ZONE II

Projects 15 or more road miles but less than 35 miles from above, includes all of Los Alamos County

ZONE III

Projects more than 35 road miles, or more from above.

-----  
FOOTNOTE:

\*\*LIGHT COMMERCIAL DEFINITION

Construction, erection, alteration, repair, modification, addition to or improvement in whole or in part of structures for which the major support system is wood frame construction and will also include all apartments over 4 stories, all convenience stores, fast food restaurants, automobile service stations & motels up to 2 stories high.

-----  
WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.  
=====

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29 CFR 5.5(a)(1)(ii)).

-----  
In the listing above, the "SU" designation means that rates listed under that identifier do not reflect collectively bargained wage and fringe benefit rates. Other designations indicate unions whose rates have been determined to be prevailing.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
U.S. Department of Labor  
  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U. S. Department of Labor  
200 Constitution Avenue, N. W.  
Washington, D. C. 20210

4.) All decisions by the Administrative Review Board are final.  
END OF GENERAL DECISION

<b>SOLICITATION, OFFER, AND AWARD</b> <i>(Construction, Alteration, or Repair)</i>		1. SOLICITATION NO. DACW47-02-R-0006	2. TYPE OF SOLICITATION <input type="checkbox"/> SEALED BID (IFB) <input checked="" type="checkbox"/> NEGOTIATED (RFP)	3. DATE ISSUED	PAGE OF PAGES
<b>IMPORTANT - The "offer" section on the reverse must be fully completed by offeror.</b>					
4. CONTRACT NO.		5. REQUISITION/PURCHASE REQUEST NO. W81G69-2043-3965		6. PROJECT NO.	
7. ISSUED BY US ARMY ENGINEER DISTRICT, ALBUQUERQUE ATTN: CONTRACTING DIVISION 4101 JEFFERSON PLAZA NE ALBUQUERQUE NM 87109-3435  TEL:  FAX: 505-342-3496		CODE DACW47	8. ADDRESS OFFER TO <i>(If Other Than Item 7)</i> CODE  <b>See Item 7</b>  TEL:  FAX:		
9. FOR INFORMATION CALL:		A. NAME MARY B. HENRY		B. TELEPHONE NO. <i>(Include area code)</i> (NO COLLECT CALLS) 505-342-3454	
<b>SOLICITATION</b>					
<b>NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".</b>					
10. THE GOVERNMENT REQUIRES PERFORMANCE OF THE WORK DESCRIBED IN THESE DOCUMENTS <i>(Title, identifying no., date):</i>  Two-Phase Design/Build, Wingate Elementary Replacement School, Fort Wingate, McKinley County, New Mexico. This acquisition is unrestricted advertising, open to both large and small business concerns. The acquisition process will consist of two phases. Phase One requires the submission of relevant qualifications and overall technical approach. No more than 5 of the most highly qualified offerors from Phase One will be selected to participate in Phase Two. The price proposal schedule will not be required until Phase Two. A pre-proposal conference and site visit will be conducted for Phase-Two offerors. Offerors are advised that this requirement may be delayed, cancelled, or revised at any time during the solicitation, or final award process, and is subject to the availability of funds. This is not a sealed bid; therefore, offers will not be opened publicly. For technical questions, call Blaine Kemsley 505-342-3343. Please allow sufficient time for turning in your proposals as Offerors are required to sign-in upon entry to the building, which may cause a delay. Proposals are to be received at the Albuquerque District Corps of Engineers Contracting Division, Room 314. This award is being issued pursuant to the Small Business Competitiveness Demonstration Program.					
11. The Contractor shall begin performance within <u>10</u> calendar days and complete it within _____ calendar days after receiving <input type="checkbox"/> award, <input checked="" type="checkbox"/> notice to proceed. This performance period is <input checked="" type="checkbox"/> mandatory, <input type="checkbox"/> negotiable. (See Section 00800 _____.)					
12 A. THE CONTRACTOR MUST FURNISH ANY REQUIRED PERFORMANCE AND PAYMENT BONDS? <i>(If "YES," indicate within how many calendar days after award in Item 12B.)</i> <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO				12B. CALENDAR DAYS  10	
13. ADDITIONAL SOLICITATION REQUIREMENTS: FPR:					
A. Sealed offers in original and <u>5</u> copies to perform the work required are due at the place specified in Item 8 by <u>03:00 PM</u> (hour) local time <u>29 Nov 2002</u> (date). If this is a sealed bid solicitation, offers must be publicly opened at that time. Sealed envelopes containing offers shall be marked to show the offeror's name and address, the solicitation number, and the date and time offers are due.					
B. An offer guarantee <input checked="" type="checkbox"/> is, <input type="checkbox"/> is not required.					
C. All offers are subject to the (1) work requirements, and (2) other provisions and clauses incorporated in the solicitation in full text or by reference.					
D. Offers providing less than <u>90</u> calendar days for Government acceptance after the date offers are due will not be considered and will be rejected.					

**SOLICITATION, OFFER, AND AWARD (Continued)**

*(Construction, Alteration, or Repair)*

**OFFER (Must be fully completed by offeror)**

14. NAME AND ADDRESS OF OFFEROR *(Include ZIP Code)*

15. TELEPHONE NO. *(Include area code)*

16. REMITTANCE ADDRESS *(Include only if different than Item 14)*

**See Item 14**

CODE

FACILITY CODE

17. The offeror agrees to perform the work required at the prices specified below in strict accordance with the terms of this solicitation, if this offer is accepted by the Government in writing within \_\_\_\_\_ calendar days after the date offers are due. *(Insert any number equal to or greater than the minimum requirements stated in Item 13D. Failure to insert any number means the offeror accepts the minimum in Item 13D.)*

AMOUNTS

SEE SCHEDULE OF PRICES

18. The offeror agrees to furnish any required performance and payment bonds.

**19. ACKNOWLEDGMENT OF AMENDMENTS**

*(The offeror acknowledges receipt of amendments to the solicitation -- give number and date of each)*

AMENDMENT NO.										
DATE										

20A. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or print)*

20B. SIGNATURE

20C. OFFER DATE

**AWARD (To be completed by Government)**

21. ITEMS ACCEPTED:

22. AMOUNT

23. ACCOUNTING AND APPROPRIATION DATA

24. SUBMIT INVOICES TO ADDRESS SHOWN IN *(4 copies unless otherwise specified)*

**ITEM**

25. OTHER THAN FULL AND OPEN COMPETITION PURSUANT TO

10 U.S.C. 2304(c)

41 U.S.C. 253(c)

26. ADMINISTERED BY

CODE

27. PAYMENT WILL BE MADE BY:

CODE

**CONTRACTING OFFICER WILL COMPLETE ITEM 28 OR 29 AS APPLICABLE**

28. NEGOTIATED AGREEMENT *(Contractor is required to sign this document and return \_\_\_\_\_ copies to issuing office.)* Contractor agrees to furnish and deliver all items or perform all work, requisitions identified on this form and any continuation sheets for the consideration stated in this contract. The rights and obligations of the parties to this contract shall be governed by (a) this contract award, (b) the solicitation, and (c) the clauses, representations, certifications, and specifications or incorporated by reference in or attached to this contract.

29. AWARD *(Contractor is not required to sign this document.)*

Your offer on this solicitation, is hereby accepted as to the items listed. This award consummates the contract, which consists of (a) the Government solicitation and your offer, and (b) this contract award. No further contractual document is necessary.

30A. NAME AND TITLE OF CONTRACTOR OR PERSON AUTHORIZED TO SIGN *(Type or print)*

31A. NAME OF CONTRACTING OFFICER *(Type or print)*

30B. SIGNATURE

30C. DATE

TEL:

EMAIL:

31B. UNITED STATES OF AMERICA BY

31C. AWARD DATE

Solicitation No. DACW47-02-R-0006

PROPOSAL SCHEDULE  
 (To be attached to SF 1442)

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
<u>BASE BID</u>					
(9)	0001 Total Cost for Design of Wingate Elementary Replacement School, Dormitory, Mechanical Support Facility, and All Site Improvements, Complete		Job	Sum ***	\$ _____ (9)
(9)	0002 Total Cost for Construction of Wingate Elementary Replacement School, Including Mechanical Support Facility, Complete, Inside the Building 5'-0" Line		Job	Sum ***	\$ _____ (9)
	0003 Total Cost for Construction of Dormitory, Complete, Inside the Building 5'-0" Line		Job	Sum ***	\$ _____
	0004 Total Cost for Construction of All Site Improvements, Including Demolition, Earthwork, Grading, Paving, Utilities, Storm Drain, Parking, Guard House, Pedestrian Circulation, Sidewalks, Fencing, Playground Areas, Landscaping, Irrigation System, Exterior Lighting and All Other Work Not Separately Listed, Complete		Job	Sum ***	\$ _____
	0005 Final As-Built Drawings		Job	Sum ***	\$ <u>10,000.00</u>

## PROPOSAL SCHEDULE (Cont'd)

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
0006	Operation and Maintenance Manuals	Job	Sum	***	\$ <u>10,000.00</u>
TOTAL AMOUNT BASE BID					\$ _____
<u>OPTION NO. 1</u>					
0007	Total Cost for Design and Construction of Softball and Football Fields, Track Area, Basketball Courts and Playground Equipment, and All Associated Work, Complete	Job	Sum	***	\$ _____
0008	Final As-Built Drawings	Job	Sum	***	\$ <u>1,000.00</u>
TOTAL AMOUNT OPTION NO. 1					\$ _____
<u>OPTION NO. 2</u>					
0009	Total Cost for Design of Cultural Hogan and Outdoor Performance Area, Complete	Job	Sum	***	\$ _____
0010	Total Cost for Construction of Cultural Hogan and Outdoor Performance Area, and All Associated Work, Complete	Job	Sum	***	\$ _____
0011	Final As-Built Drawings	Job	Sum	***	\$ <u>1,000.00</u>
TOTAL AMOUNT OPTION NO. 2					\$ _____

## PROPOSAL SCHEDULE (Cont'd)

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
(9)	<u>OPTION NO. 3</u>				
0012	Total Cost for Design and Construction of Maintenance Facility, Including Earthwork, Grading, Paving, Utilities, Special Systems, Communications, Parking Access Roads, Walkways, Fencing, Exterior Lighting, Landscaping, and All Associated Work, Complete	Job	Sum	***	\$ _____
0013	Final As-Built Drawings	Job	Sum	***	\$ <u>1,500.00</u>
0014	Operation and Maintenance Manuals	Job	Sum	***	\$ <u>1,000.00</u>
TOTAL AMOUNT OPTION NO. 3					\$ _____

## PROPOSAL SCHEDULE (Cont'd)

Item No.	Description	Estimated Quantity	Unit	Unit Price	Estimated Amount
<u>OPTION NO. 4</u>					
0015	Total Additional Cost for Design and Construction of Roof-Mounted, VAV HVAC Units with Chilled-Water and Hot Water Coils for Academic and Administrative Areas Only, in Lieu of Roof-Mounted, VAV HVAC DX Refrigerated Cooling Units with a Heating System That Utilizes Circulated Hot Water Through Reheating Coils Located at Each VAV Box and All Associated Work, Complete	Job	Sum	***	\$ _____
0016	Final As-Built Drawings	Job	Sum	***	\$ <u>500.00</u>
0017	Operation and Maintenance Manuals	Job	Sum	***	\$ <u>500.00</u>
TOTAL AMOUNT OPTION NO. 4					\$ _____

RECAPITULATION

1. Total Amount of Base Bid and Options No. 1, 2, 3 and 4 \$ \_\_\_\_\_ (9)

## NOTES:

1. Award of all Proposal Items will be made to one proposer. Award of Base Bid and Options (if awarded) will be made to one proposer. Proposers must bid on all items.

PROPOSAL SCHEDULE (Cont'd)

NOTES: (Cont'd)

2. EXERCISE OF OPTIONS. The Government reserves the right to exercise the option(s) by written notice to the Contractor either singularly or in any combination for up to 60 calendar days after award of the Base Bid without an increase in the Offeror's bid price. Completion of added options shall continue at the same schedule as the Base Bid unless otherwise noted in the SPECIAL CONTRACT REQUIREMENTS, Paragraph 1, COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK.

3. EVALUATION OF OPTIONS: (FAR 52.217-5) (JUL 1990)

(a) Except when it is determined in accordance with FAR 17.206(b) not to be in the Government's best interests, the Government will evaluate offers for award purposes by adding the total price for all options to the total price for the basic requirements. Evaluation of options will not obligate the Government to exercise the options(s).

Specifications: Wingate Elementary Replacement School, Ft. Wingate, New Mexico

SECTION 00800

SPECIAL CONTRACT REQUIREMENTS

1. COMMENCEMENT, PROSECUTION AND COMPLETION OF WORK (FAR 52.211-10) (APR 1984).

(a) The Contractor shall be required to (a) commence work under this contract within ten (10) calendar days after the date the Contractor receives notice to proceed, (b) prosecute the work diligently, and (c) complete the entire work ready for use not later than the dates or number of calendar days after the date of receipt by him of notice to proceed set forth in the schedule below except as specified in the various landscaping sections:

		SCHEDULE		SWA APR 1993
<u>Item of Work</u>	<u>Commencement Time</u>	<u>Completion Time In Calendar Days After Receipt of Notice to Proceed With Base Bid</u>	<u>Liquidated Damages Per Calendar Day</u>	
<u>BASE BID</u>				
(9) 1.1 Design and Construction of Wingate Elementary Replacement School, Dormitory, Mechanical Support Facility, and All Site Improvements, Complete	After Receipt of Notice to Proceed With Base Bid (See Note 1)	590	\$1,640.00	

OPTIONS

1.2 Design and Construction of Options No. 1, 2, 3 and 4, and All Associated Work, Complete	(If Options No. 1, 2, 3 and 4 are awarded, no additional time will be provided; the work shall be accomplished within the time period specified in the applicable sequence of work for the Base Bid requirement.)			
1.3 Final As-Built Drawings	(See Note 2)	--	--	

## NOTES:

1. The completion time includes 30 calendar days for Government review of the 60% and 100% design submittal and 15 calendar days for the corrected final design submittal review. Written acknowledgement and verification of conformance to the RFP of the corrected final by the Government for each design phase or sub-phase of the work and receipt of associated construction documents shall constitute Notice to Proceed with construction for the equivalent phase or sub-phase of the project.

2. As-Built Drawings. The Contractor shall complete work on the final as-built drawings upon his receipt of the approved working as-built drawings. The Contractor shall provide final as-built drawings as specified in Section 01720.

(b) The time stated for completion shall include final cleanup of the premises.

(c) In the event the Heating and/or Air Conditioning Systems cannot be tested at or near design temperatures during the above period, beneficial occupancy and use of the facilities may be accepted and final testing and adjustments of the heating and/or air conditioning deferred as specified in the appropriate testing clauses of the Technical Provisions.

2. TIME EXTENSIONS (FAR 52.211-13) (SEP 2000). Time extensions for contract changes will depend upon the extent, if any, by which the changes cause delay in the completion of the various elements of construction. The change order granting the time extension may provide that the contract completion date will be extended only for those specific elements related to the changed work and that the remaining contract completion dates for all other portions of the work will not be altered. The change order also may provide an equitable readjustment of liquidated damages under the new completion schedule.

3. LIQUIDATED DAMAGES - CONSTRUCTION (FAR 52.211-12) (SEP 2000).

(a) If the Contractor fails to complete the work within the time specified in the contract, the Contractor shall pay liquidated damages to the Government in the amount stated in Clause 1(a) above for each calendar day of delay until the work is completed or accepted, exclusive of the work in the various landscaping sections. In the event that the completion date for the work covered by two or more items of work becomes delinquent concurrently, the liquidated damages will

SECTION 01010

DESIGN REQUIREMENTS

PHASE II

3. CIVIL DESIGN

(9) 3.1 **General.** The project consists of the design and construction of the Wingate Elementary Replacement School and site development. See the Project Location Map (Sheet C1) for the location of the facility. The project consists of the construction of a new Kindergarten to 8th Grade (K-8) school campus, including a Dormitory, Gymnasium, Cafeteria, Classroom Buildings, an approximately 120,000-gallon plus one day's average use single pedestal or multi-legged elevated water storage tank with domestic, fire demand line, associated valves, fire hydrants, water well(s) with on-site water treatment, access roads, POV flexible pavement parking lot (250 paved spaces, 100 gravel spaces), drop off areas, loading dock(s), motorized chain-link roll gate, guard shack, perimeter 6-foot high chain-link fencing, CMU block wall around play area, secured vehicle storage (buses, facility maintenance trucks), water and gas utilities distribution and service lines, new sewer system, lighting, traffic signage, storm drain systems, and grading. (9)

3.2 **Technical Criteria and Standards.**

3.2.1 U.S. Army Corps of Engineers, Southwestern Division, Architectural and Engineering Instructions Manual (CESWD-AEIM), October 2000.

3.2.2 National Fuel Gas Code, NFPA 54, latest version.

3.2.3 Uniform Federal Accessibility Standards, Federal Register.

3.2.4 TM 5-822-2, July 1987, General Provisions and Geometric Design for Roads, Streets, Walks, and Open Storage Areas.

3.2.5 Manual of Uniform Traffic Control Devices, U.S. Department of Transportation, FHWA.

3.2.6 United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995.

3.2.7 Ten-States Standards for Water Works

3.2.8 Ten-States Standards for Sewage Works

3.2.9 National Fire Protection Association (NFPA) 22, Standard for Water Tanks for Private Fire Protection, latest edition.

3.2.10 National Fire Protection Association (NFPA), Fire & Life Safety.

3.3 **Project Site.** The project site borders the north side of Forest Road (FR) 546 and is south of the existing Ft. Wingate High School and housing area. FR 546 is a gravel road and is approximately 20 feet in width. The site is approximately 100 acres and has sparse to moderate growth of brush, pinion, juniper and an established growth of grass ground cover. Approximate boundary locations for the project site are indicated in drawing Sheet C1. The Contractor shall indicate project site boundaries on submitted drawings. The plans shall include a project location map and vicinity map that is composed of a vicinity map of the state, and a location map that encompasses the entire project. The Contractor shall note the locations of the Contractor's yard, Project Engineer's Office, and the Contractor's access and haul route on the location map.

3.4 **Project Site Survey.** A topographic survey for the site is included as Sheet C2. The survey includes topography (1-foot contours) and some surface feature survey of the site. A detailed utilities survey for the water, gas and sewer lines connections to the existing site has not been done. It will be the responsibility of the successful bidder to obtain any required additional survey, detailed topographical and site utilities surveys. Provide the locations of survey benchmarks, including the benchmark name, coordinates and elevation on the location map or on a separate survey control sheet. Provide the name of the firm that performed the survey, how it was accomplished (e.g. aerial or field), survey dates, target map scale, references to benchmark vertical and horizontal datums, and the coordinate system.

3.5 **Protection from Traffic.** New aboveground electrical appurtenances shall be located so as to minimize potential damage from vehicles. New aboveground electrical devices such as transformers and sectionalizers shall be placed no closer than 6 feet from edge of an existing street. Where traffic damage potential exists, provide pipe guards around devices such as transformers, sectionalizers, poles, guy wires and other appurtenances.

3.6 **Construction Traffic Control.** Construction traffic control shall be provided by the Contractor for all work taking place in roads, or where construction work is staged from roads. Construction traffic control shall conform to the requirements of the Manual On Uniform Traffic Control Devices (MUTCD), latest edition, and all subsequent revisions.

3.7 **Road Closures.** Road closures for utility construction are undesirable. Utility construction in roads shall maintain at least one lane open to traffic, with traffic control measures as specified in the MUTCD. Where road closures are unavoidable, the Contractor shall design detours around the proposed construction area(s). Road closures shall be coordinated two weeks in advance with the Contracting Officer so that the BIA and Ft. Wingate Community School administrative personnel and emergency services personnel can be notified.

3.8 **Site Demolition.** The Bureau of Indian Affairs (BIA) will not demolish any buildings under this RFP. Any utility line which would be under the footprint of the Wingate Elementary Replacement School shall be removed following relocation of the line. Utility lines will not be allowed to be

abandoned under the Wingate Elementary Replacement School. Holes or depressions in the ground resulting from demolition operations or clearing and grubbing shall be filled with satisfactory materials and graded to drain in accordance with specification SECTION 02300 - EARTHWORK, and Appendix K, Revegetation and Erosion Control. The Contractor shall obtain and comply with the tribal, local, state, and federal regulations concerning soil disturbance and applicable permits shall be attained. Rubble and debris resulting from the demolition process shall be removed off-site. Natural materials (trees, brush, roots, etc.) obtained from clearing and grubbing operations may be disposed of by burying on-site in an area not required for future development and as directed by the Contracting Officer. Trees shall not be removed unless required within the approved proposed site plan. (9)

**3.9 Utility Demolition.** All utility service line laterals and appurtenances (including water and sanitary sewer) servicing the existing site, to be demolished, shall be removed to the main or distribution line and capped. However, service line laterals crossing under roads or streets shall be removed to and capped at the back of street walks or at a distance of 5 feet from the edge of the road. Service line laterals crossing site boundaries shall be removed to and capped at a distance of 5 feet within the boundary line. Existing utility lines servicing structures to remain shall be relocated as required when they interfere with the construction of the Wingate Elementary Replacement School Building. Refer to the Electrical portion of Section 01010 for demolition of existing electrical items. (9)

**3.10 Site Development.** The site development for this project consists of the complete design and construction of a new Kindergarten to 8th Grade (K-8) school campus, including 1 or 2-story Dormitory, Gymnasium, Cafeteria, Classroom Buildings, an approximately 120,000-gallon plus one day's average use single pedestal or multi-legged elevated water storage tank for domestic, fire suppression system and associated fire demand line (altitude valve, check valves, fire hydrants, etc.), water well(s) with on-site water treatment, sidewalks, flexible pavement access roads, POV flexible pavement parking lot (250 paved spaces, 100 gravel spaces), drop off areas, loading dock(s), rigid pavement at loading dock(s), motorized chain-link roll gate, guard shack, perimeter 6-foot high chain-link fencing, CMU block wall around play area, secured vehicle storage (buses, facility maintenance trucks), dumpster pad(s), water and gas utilities distribution and service lines, new stand-alone sewer system, lighting, traffic signage, storm drain systems, and grading. Any disturbance to the landscaping adjacent to site shall be repaired/replaced by the Contractor to pre-project condition or better as determined by the Contracting Officer. (9)

**3.10.1 Building Siting.** The site is approximately 100 acres with three main drainage channels that convey substantial storm water. An earth berm, 15 feet high was constructed to pond water but was breached many years ago. The existing rock spillway still exists. The site has moderate tree cover with pinion and juniper trees across the entire 100 acres. The school complex shall be sited to ensure an interesting, attractive, and functional site taking into consideration the existing features of the site and adjacent facilities. Consideration shall be given to views, solar orientation, and the topography of the site. The school complex can be sited anywhere on the 100-acre site. Incorporate the cardinal direction in site design and

building orientation. Orient buildings to incorporate the four directions, sun angles (particularly solstice and equinox locations), east entrances, views, light and potential heat gain.

**3.10.2 Building Arrangements.** Building arrangements should be informal and imaginative with setbacks and orientation to provide for solar access, view, privacy, and variety. Site planning shall take into consideration topography, natural characteristics of the environs, climatic conditions, and prevailing winds. Design should capitalize upon economies inherent in the natural characteristics of the site, using existing terrain to minimize cut and fill, reducing street frontage, and consolidating utilities and common open spaces. Contractors are encouraged to consider energy conservation when developing their proposed building arrangements. To extent possible, attention to solar orientation is recommended in accomplishing the above. One requirement that must be incorporated into the orientation of the school complex is that the main buildings shall face to the east.

**3.10.2.1 Orientation.** Contractors are encouraged to consider energy conservation when developing their proposed building arrangements.

**3.10.3 Land Use.**

**3.10.3.1 General.** The remaining portion of the project site shall be termed the Site Construction Zone. In developing the site, utilizing the entire area within the Site Construction Zone is preferable. The Wingate Elementary Replacement School shall not be located within the flood plain, unless the area in question is first removed from the flood plain. Flood Plain Management for Civil Engineering Design, follow relevant guidelines established by the Executive Order 11988 and obtain the 500-year flood plain elevation from FEMA. Where such information is not available from federal, state, or local agencies conduct a site-specific analysis.

**3.10.3.2 Building Setbacks, Spacing and Site Planning.** Clearances between adjacent buildings must consider requirements for fire protection, safety, privacy, and emergency access. Site Grading and Drainage Plan, Street Systems and Drainage Systems shall be designed in accordance with the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, Civil 2-Civil Engineering.

**3.10.3.3 Boundary fences** shall be located within the base property line as indicated in paragraph, **Project Boundary**, of the "Fencing" portion of this section. Property line locations for the Wingate Elementary Replacement School shall be coordinated with the BIA.

**3.10.4 Streets, Driveways, and Parking.** The street system must provide convenient and safe access and circulation (including collections, deliveries, drop off areas, and fire protection), within the proposed site. The proposed site shall be accessible by school buses, emergency vehicles, service vehicles, waste collection vehicles, full-size tractor-trailer trucks (HS-20 loading) and moving vans. Due to the presence of 3 significant drainage channels the site roadways and access roadway shall require the design and installation of sizeable drainage structures.

(9)

(9) 3.10.5 **Facility Entrances.** Primary access to the site shall be from the unpaved road along the south boundary of the site. A minimum of two access points to the site shall be provided. There shall be a controlled entrance access into the Wingate Elementary Replacement School. Access to the school complex shall be provided from FR 546. A concrete culvert or concrete swale (valley gutter), 0.91 m (3 ft) wide minimum, following the ditch line shall be provided across this new driveway to prevent the concentrated flow of runoff on flexible pavement. Driveways shall be designed for two-way traffic with radii and widths in accordance with the U.S. Army Corps of Engineers, Southwestern Division, Architectural and Engineering Instructions Manual (CESWD-AEIM), October 2000, hereinafter as AEIM. No special provisions shall be made to the project boundary fencing to accommodate this entrance.

3.10.6 Deleted.

3.10.7 **Street Signs.** The Contractor shall perform a traffic study to determine what type of traffic control is required. Traffic control signs shall be provided by the Contractor at all intersections and shall conform to requirements of the U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices for Streets and Highways.

3.10.8 **Loading Dock Access.** Access to the loading dock(s) shall be provided for full-size tractor-trailer trucks, HS-20 loading. The loading dock(s) shall be screened from view of the access road traffic by landscaping or concrete masonry units as required for the dumpster pad in paragraph, **Dumpster Pad**, below. Access to the loading dock(s) shall be designed so that vehicles accessing the dock(s) shall not pass through parking areas or interact with pedestrian traffic entering or exiting the building.

3.10.9 **Parking Areas.** New parking areas shall be provided for the facility. The number of spaces provided shall be 250 paved parking spaces and 100 gravel parking spaces. The new paved parking lot(s) shall utilize flexible pavement for its wearing surface. The parking area layouts including offset from the building, offset from adjacent streets, turning radii, lane widths, end island design, configuration of the parking spaces, lanes, and striping of the parking area shall be in accordance with Section II, Civil Design of the AEIM. The gravel parking lot shall have an acceptable sized rock bed using small (1/2" nominal diameter), smooth stones, 2" in thickness, and shall have similar substrate construction to the paved parking areas.

3.10.10 **Pavement Marking.** All paved parking spaces and pedestrian crosswalks shall be properly striped to define the parking spaces, crossing areas, and no-parking areas. Pavement marking shall be in accordance with

specification SECTION 02763 - PAVEMENT MARKINGS. Striping shall be 100 mm (4 in) wide and white in color. All pavement marking shall conform to requirements of the U.S. Department of Transportation, Federal Highway Administration, Manual on Uniform Traffic Control Devices for Streets and Highways. Pavement markings shall be provided for the access roads, POV parking lot, drop off area, and bus parking area. New pavement markings shall accommodate the new loading dock(s).

3.10.11 **Dumpster Pad.** A dumpster pad(s) shall be provided. The pad(s) shall be designed and constructed in accordance with local or county design criteria pertaining to dumpster pads. It is preferred that the pad(s) shall be located in an area that is conveniently located for access by janitorial staff, however, it shall not be placed within 7.6 m (20 ft) of the building. The site design shall provide for access to the pad(s) by waste collection vehicles. The pad(s) shall be enclosed on three sides by integrally colored, split-face and/or fluted concrete masonry units, colors shall be in accordance with the Architectural design provided. A bollard shall be provided in front of each sidewall of the pad(s) enclosure and two bollards shall be provided between each bin and the back wall of the enclosure to prevent damage to the enclosure. The Contractor shall determine the number of bins required for a building of this size and function as per local criteria. A minimum 4.6m (15 foot) long, concrete pavement approach slab shall be placed at the access to the dumpster pad(s). The approach slab shall be the full width of the dumpster pad(s).

- (9) 3.10.12 **Sidewalks.** Concrete for sidewalks shall be standard concrete or accent, colored concrete in accordance with the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, provided in Appendix A. Walks shall be provided to allow for pedestrian circulation to the various elements of the school complex including the classroom buildings, dormitory, cafeteria, gymnasium, warehouse, play areas, parking areas, dumpster pad(s), etc. The minimum walk width shall be as indicated in Section II, Civil Design of the AEIM. Walks shall be provided to all secondary entrances to the building(s) as well as to the main entrances. Walks provided for access to the building(s) shall be centered at the doorway they serve. Walks shall be constructed in accordance with Plates C16 and C17 as shown in the AEIM. Walks along parking areas perpendicular to the direction of parking shall be a minimum of 6 feet wide to compensate for vehicle overhang. Sidewalks shall be of non-reinforced concrete, except at walk intersections, with a minimum nominal thickness of 4 inches. Other miscellaneous walkways shall be surfaced as appropriate for their intended use. (9)

3.10.13 **Bike Rack(s).** The bike rack(s) shall be provided for the school complex located in convenient locations on the site. (9)

3.10.14 **Handicapped Access.** Ramps for the handicapped shall be provided for wheel chair access from the parking areas to the various buildings. All ramps shall be designed and installed in accordance with the Uniform Federal

(9) Accessibility Standards and in accordance with Plate C15 as shown in the AEIM. The main entrances to the buildings, at a minimum, shall be accessible to the handicapped. Ramps for the handicapped shall be provided at intersections by depressing adjacent walks. (9)

3.10.15 **Standard Details.** Site features shall be constructed in accordance with the standard details as shown in Section II, Civil Design of the AEIM.

3.10.16 **Pavement Design.** Refer to Appendix D, Final Pavement Design Analysis Example, for pavement requirements. See pavement details in Section II, Civil Design of the AEIM.

3.10.16.1 **Rigid (Concrete) Pavement.** Rigid (concrete) pavements shall be located adjacent to the new loading dock(s) at the cafeteria and warehouse buildings. The rigid (concrete) pavement adjacent to the overhead door shall extend 1 foot beyond door jambs and 20 feet out from the face of the building addition.

3.10.16.2 **Flexible Pavement.** Flexible pavement shall be used for the access roads, the POV parking lots, the drop off areas, and the bus parking areas.

3.11 **Borrow Area.** Borrow material may be obtained from the project site, from off-site, approved by the Contracting Officer, or a combination thereof, provided that the material used meets the requirements discussed in Appendix C - Final Foundation Design Analysis Example. These requirements shall be addressed in the specifications developed by the Contractor. Borrow material used beneath structures shall be non-expansive. By the 14th day after the last disturbance, the borrow site shall be reclaimed as given in Appendix K, "Revegetation and Erosion Control". However, if the borrow site, upon initial disturbance, will not be redistributed for 21 days or more, the borrow site must be temporarily stabilized upon the 14th day since the last disturbance. The contractor shall show the borrow area location on the project location and vicinity map sheet.

(9) 3.12 **Waste Area.** Disposal of waste fill (unsuitable/unsatisfactory soils, etc.), debris from existing structures, demolition and construction waste from the project shall be disposed of at an off-site location approved by the Contracting Officer. Natural materials (trees, brush, roots, etc.) obtained from clearing and grubbing operations may be disposed of by burying on-site in an area not required for future development and as directed by the Contracting Officer. The disposal of all construction related waste material is the responsibility of the Contractor. All waste material, except natural materials obtained from clearing and grubbing operations, shall be disposed of at a licensed, off-site landfill in accordance with tribal, local, county, state and federal regulations. (9)

3.13 **Haul Route.** The Contractor shall delineate the haul route on the project location and vicinity map sheet. The proposed haul route shall be submitted to the Contracting Officer for approval.

3.14 **Benchmarks.** See sheet C1 for survey contours, spot elevations and additional survey information. The finished floor elevation of the Ft. Wingate Elementary Replacement School shall be equal to the relative elevation 100.00. The Contractor shall provide the true elevation on

submitted drawings. The true elevation varies from approximately 7000 feet to 6910 feet above sea level and the land slopes from the southeast to the northwest. Temporary benchmarks shall be established, by the Contractor, as required for the construction of the addition.

**3.15 Contractor's Storage Yard.** The Contractor's storage and staging area shall be located on the Wingate Elementary Replacement School site and shall be indicated in the Contractor's proposal. A temporary security fence of 1.83m (6 ft) minimum height shall be provided around the perimeter of the storage yard. The security of materials shall be the responsibility of the Contractor. The Contractor shall be responsible for dust control and shall submit applicable methods for approval.

(9) **3.16 Grading.** Grading of the site shall be in accordance with Section II, Civil Design of the AEIM and the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, Civil 2-Civil Engineering. The buildings finished floor shall be 150 mm (6 in) minimum above adjacent finished grade. Care shall be taken to drain surface runoff away from the buildings to avoid saturating the soils, which support the building foundation systems. Ponding anywhere on the site will not be permitted. Drainage shall be diverted away from buildings at a 5% minimum slope for the first 10 feet away from the building then a slope of at least 2% thereafter. Collection swales shall have a minimum grade of 0.3% and shall be located a minimum distance of 20 feet away from buildings. Minimum street grades shall be as required to adequately drain runoff. Street grade shall be in accordance with the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, Civil 2-Civil Engineering. Street grade changes in excess of 1% shall be accomplished by means of vertical curves. Any additional survey or mapping required for the design or construction of the project shall be the responsibility of the Contractor. If storm runoff is removed from the project site by sheet flow, the site shall be graded as required to transfer all flows within the Site Construction Zone boundaries to the existing arroyos. Refer to section, **Storm Runoff and Drainage System**, for storm water discharge requirements. (9)

**3.17 Storm Runoff and Drainage.**

**3.17.1 Existing Storm Drain System.** Due to the large area of the upstream drainage basins the site will convey a large volume of offsite flows. Stabilization of the existing drainage arroyos/channels will be a primary concern in the development of this site. Stabilization will include riprap or other forms of erosion control and possible regrading of the existing earth dam/levee to insure controlled drainage flow through the eastern most arroyo/channel. The site slopes gently from the southeast toward the northwest with several moderately deep arroyos which trend north-south across the surface. The site has three main drainage arroyos/channels that appear to convey substantial storm water flows at times. At one time an earth berm over 15 feet in height was constructed to pond water from one of the three drainage basins which discharge onto the site. The dam has been breached and flows are once again following their historic flow paths. The elevation difference across the entire site is approximately 90 feet. An old rock

spillway exists at the west end of the pond embankment. There is no underground storm drainage system, which drains the existing site. If a new underground storm drainage system is utilized, the minimum pipe gradient shall be 0.3%, and the pipe shall be designed to provide a minimum velocity of 0.76 m/sec (2.5 ft/sec) at full depth. Storm drain lines shall be sized by computation of backwater surface profiles as required in the AEIM, using a form similar to Plate C75. The minimum pipe size shall be 300 mm (12 in), except for lateral and collector pipes, which are part of the roof, drain system, in which case the minimum size shall be 100 mm (4 in). The storm drainage system at the site shall be properly coordinated with surrounding properties to ensure that runoff from the Wingate Elementary Replacement School does not cause damage to other properties. The minimum inside diameter of underground storm drainage pipe shall be 12 inches. Underground storm drainage systems shall be watertight.

**3.17.2 Storm Runoff.** Storm runoff shall be calculated by the criteria and procedures used by McKinley County or the cities of Grants or Gallup. The storm frequency for the collection system and surface drainage design shall be in accordance with the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, Civil 2-Civil Engineering. The Contractor shall use the Intensity-Duration-Frequency Curves from the NOAA Precipitation Isopluvials from the NOAA Atlas 2, Volume IV for the area.

**3.17.3 Discharge of Storm Water.** Storm water may be discharged into the existing ditch or existing arroyo/channel. Maximum allowable discharge velocities shall be in accordance with the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, Civil 2-Civil Engineering. Energy dissipators shall be used to control discharge velocities as stated in the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, Civil 2-Civil Engineering. The integrity of existing structures shall not be compromised during installation or operation of the new drainage discharge system. Existing utilities may be relocated as required to accommodate the new proposed drainage discharge system. If an underground drainage system is installed with open cut methods, the Contractor shall submit a traffic control plan, for approval, to the appropriate authority (i.e. tribal, city, county, or state). The plan shall address proposed traffic controls at this location during installation of the drainage system. The Contractor shall be responsible for obtaining any permits, which may be needed for crossing the road right-of-way. Any additional survey or mapping required for the design or construction of the drainage discharge system shall be the responsibility of the Contractor.

(9) 3.17.4 Deleted.

(9)

**3.17.5 Sidewalk Culverts.** Sidewalk culverts are not permitted. Sidewalk drains shall be in accordance with Plate C18 as shown in the AEIM.

(9) 3.18 **Manholes and Surface Inlets.** Manholes or junction boxes shall be provided at intersections and at points of change in conduit grade or size. The distance between intermediate manholes shall not exceed 122m (400 ft). Manholes shall be constructed in accordance with Plates C46 and C47 as shown in the AEIM. Surface inlets shall be constructed in accordance with Plate C50 as shown in the AEIM. Storm drain inlets shall be located so that no collection swales flow across a street or sidewalk to reach a storm sewer other than where cross gutters are used. Side opening catch basins are preferable. Where grating must be used, they shall be of "bicycle proof" design. (9)

3.18.1 **Inlets.** Inlets and grating areas in the sag of vertical street curves that act, as sumps shall be oversized 100 percent.

3.18.2 **Roof Drainage.** Runoff from the roof of the building shall be conveyed away from the building by overland flow and/or an underground roof drain system as required. Splash blocks in accordance with Plate C19 as shown in the AEIM shall be provided at all downspouts that are not connected directly to an underground roof drain collection system.

3.18.3 **Storm and Roof Drain Line Materials.** Materials for storm and roof drain lines shall comply with the requirements and standards in specification SECTION 02630 - STORM-DRAINAGE SYSTEM. Pipe joints shall be watertight in accordance with the specification. Metallic pipe shall be removed from the guide specifications, as they are not a viable option due to the corrosive nature of the soil. Concrete pipe may be used only for pipe diameters greater than 36 inches. Pipe joints shall be watertight and shall not contain ferrous metallic materials.

3.19 **Utilities.** Electrical utility power will be obtained from the existing site. Domestic water, sewer and natural gas utilities services are available at the existing Ft. Wingate Community School site. Utility connections shall be provided for the buildings as required below. Ferrous materials for utilities are not allowed. New natural gas service lines shall be connected to the main lines by hot tap (if feasible). Interruption of utility services to adjacent facilities including gas, water, and sanitary sewer shall be minimized during construction of the Wingate Elementary Replacement School and shall be coordinated through the Contracting Officer. Utility bypasses shall be provided where necessary to ensure continued service to adjacent facilities during construction. The Contractor is responsible for relighting all pilot lights affected by any service interruptions required for construction of the Wingate Elementary Replacement School. All road crossings by utility lines shall be bored and sleeved with schedule 80 PVC or 6 mm (1/4 in) wall steel pipe. Utilities shall not cross roads by open cut without approval of the appropriate municipality through the Contracting Officer. It shall be the responsibility of the Contractor to verify the existence, location, size, depth and condition of the utilities. Existing utilities shall be shown on the new construction plans. Existing utilities shall be drawn with a line weight that distinguishes them from new utilities. Water and sanitary sewer lines shall not be installed in the same trench. Minimizing utility locations under the street is preferable. Utility distribution lines and sewer mains shall not be located within 10 feet of the

building line. Existing utility distribution (water, sanitary sewer and gas) located under or within 10 feet of the new building addition shall be relocated as required.

**3.19.1 Cathodic Protection.** Cathodic protection shall be provided for all buried ferrous metallic utility components such as valves, fittings, bends, specials, ducts, utility boxes and appurtenances. Design of cathodic protection systems shall comply with the provisions of the National Association of Corrosion Engineers (NACE) criteria and standards. Cathodic protection design shall be based on field tests (including soil resistivity and soil conductivity) made for the site. Use specification SECTION 13110 - CATHODIC PROTECTION SYSTEM (SACRIFICIAL ANODE). All ferrous underground valves, fittings, specials, and appurtenances shall receive a protective coating in accordance with National Association of Corrosion Engineers (NACE) Standard RP0190. A coal tar epoxy or equally effective coating shall be used. The coating shall be certified to have a coating efficiency of 90% after 15 years in use.

**3.19.2** All cathodic protection design shall be performed by a NACE-accredited Corrosion Specialist who has a minimum of five years experience in the design of cathodic protection systems. The Contractor shall coordinate the installation of cathodic protection with the Contracting Officer who will enlist the services of a cathodic protection technician.

**3.19.3 Water.** The Contractor shall provide a new domestic and fire protection water distribution system for the Wingate Elementary Replacement School including design of piping, valves, size and lengths of water lines. The new system shall include the water well(s), water disinfection system, (9) single pedestal or multi-legged elevated water storage tank, and associated (9) piping, valves, booster pumps, etc. The design of the new stand-alone domestic and fire protection water distribution system shall be the responsibility of the Contractor and shall be a stand alone system.

**3.19.3.1 Distribution/Service Lines.** The new domestic and fire protection water distribution lines shall be sized to provide adequate pressure at the maximum flow demand of the new school complex. Line sizing shall be in accordance with the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, Civil 3-Water Systems (including Civil, 3-Water Systems, paragraph B. Design Criteria and Standards, 2. Water Use Requirements, and Civil, 3-Water Systems, paragraph B. Design Criteria and Standards, 3. Piping and Valves, b. Operating Pressures). A new water well(s) shall be used to fill the (9) approximately 120,000-gallon plus one day's average use water storage tank (9) for the fire protection system. The new well(s) shall have on-site water treatment. The fire hydrants will be connected to the fire demand line from the water storage tank.

**3.19.3.2 Water Meters.** A water meter shall be provided for the domestic service line and shall be installed within the mechanical yard or adjacent to the mechanical room. The meter readout shall be in gallons. The meter shall have a pulse device to interface with the building's HVAC DDC system. The meter size shall be the same as the service line size. A bypass line is

required around the water meter. The bypass line shall be valved such that the meter can be removed and replaced without interruption to service. The bypass line shall be the same size as the service line. Meter and valves shall be enclosed in a concrete vault. A back-flow preventer shall be connected to each building.

3.19.3.3 **Fire Protection System Make-Up Line.** The new water well(s) shall provide the make-up water to the elevated fire protection water storage tank. A minimum of 4-inch make-up line shall be provided complete with an altitude valve, check valve, and bypass line, and all necessary control valves. A booster pump shall be provided, as necessary, in order to provide ample pressure to fill the tank; it should be located upstream of the altitude valve. Calculations shall be provided to prove booster pump adequacy. The booster pump and all associated controls shall be housed within an insulated protective enclosure located at the base of the tank. Freeze protection provisions shall be made.

(9) 3.19.4 **Fire Protection Water Supply Requirements.** An elevated water storage tank will provide the storage reservoir for the fire sprinkler system serving the new facilities and the associated fire hydrants required around the school complex perimeter. See **Fire Suppression** under the Mechanical Section for the fire flow demand requirements for the school complex. The entire water distribution system, including design, materials, and installation shall meet all requirements of the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, Civil 3-Water Systems. (9)

(9) 3.19.4.1 **Storage Tank.** An elevated, single pedestal or multi-legged type, water storage tank (minimum 120,000-gallon plus one day's average use capacity) shall be provided to meet the fire protection and domestic water storage requirements for the school complex. The water storage tank shall be designed in accordance with the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, Vol. 1, dated April 1995, Civil 3-Water Systems (including Civil, 3-Water Systems, paragraph B. Design Criteria and Standards, 2. Water Use Requirements, and Civil, 3-Water Systems, paragraph B. Design Criteria and Standards, 8. Water Storage Tanks, (9)

(9) a. Capacities through k. Obstruction Lights). The water storage tank capacity is based on boarding school requirements of 120,000 gallons for fire fighting (two (500 gpm) streams for two hours), plus one day's average use. The height of the elevated tank shall be a minimum of 130 feet above the finished floor of the facilities as measured from the bottom of the tank. If dictated per the fire sprinkler protection design calculations, the tank shall be increasingly elevated accordingly in order to provide for an adequately designed system. In order to forego a requirement to provide freeze protection for the water storage tank (as required per NFPA 22), the tank riser must be sized 3 feet (0.91m) or greater in diameter, as stipulated per NFPA 22. If freeze protection is required for the storage tank, the freeze protection heating equipment shall be housed within an insulated protective enclosure. The enclosure shall be provided with complete electrical power provisions (including lighting). A natural gas line is required to fuel the heating equipment. (9)

3.19.4.2 **Distribution Piping.** The fire protection water distribution line from the tank to the building sites shall be sized per the design requirements of the fire protection system, but shall be no less than 6

Design Criteria and Standards, 4. Sewage Lift Stations and Force Mains, c. Force Mains, shall be utilized for design.

(9) 3.19.8 **Gas.** Natural gas service is available within the existing housing area and is provided by the Public Service Company of New Mexico (PNM). The exact locations of the lines are unknown as there is little recorded as-built information for the area. The maximum transmission line is anticipated to be less than 1500 feet. The Contractor shall provide a natural gas distribution system with piping and associated valves and fittings. The natural gas system shall be designed in accordance with the National Fuel Gas Code, NFPA 54, latest version. Additionally, the Contractor shall coordinate with the gas company to increase the pressure in the existing gas line, if necessary. Shutoff valves shall be provided on the exterior of the Wingate Elementary Replacement School buildings. The Contractor shall be responsible for relighting pilot lights at all affected areas due to a temporary loss of service. Service lines may connect at the exterior 5-foot line producing a single service line to the distribution system. Adequacy of the existing service line to meet the new demands shall be checked. If needed, service line shall be upgraded to meet the new demands. Lines shall not be placed under buildings. Protection shall be provided from superimposed street or heavy traffic loads.

(9)

3.19.8.1 **Valve and Valve Box.** A gas valve shall be provided for the service line installed near the point of connection with the gas main. The valve shall be polyethylene. Plug valves shall be installed at intersections of mains. Valve boxes shall be cast iron or plastic of approved manufacture. Boxes shall be extension type with slide-type adjustment and with flared base. The word "GAS" shall be cast in the cover. The boxes shall be of such length as will be adapted without full extension to the depth of cover required over the pipe at the valve location. Valve boxes shall be suitable for traffic. If cast iron is used, then it shall be bonded to the ferrous valve and cathodically protected. Metallic valve boxes shall be coated with a coal tar epoxy protective coating.

3.19.8.2 **Burial Depth.** The minimum depth of cover for gas mains shall be 610 mm (24 in) while the minimum depth of cover for the service line shall be 460 mm (18 in).

3.19.8.3 **Gas Regulator.** A gas regulator shall be provided for each of the buildings. The regulator shall be located adjacent to the buildings near the exterior wall of the mechanical room.

3.19.8.4 **Gas Line Materials.** Materials for gas lines shall comply with the requirements and standards in specification SECTION 02556A - GAS DISTRIBUTION SYSTEM and the United States Department of the Interior, Bureau of Indian Affairs Design Criteria Handbook, dated April 1995. Polyethylene pipe shall be SDR 11. Ferrous piping products shall not be used for gas lines. Metallic pipe shall be removed from the guide specifications, as they are not a viable option due to the corrosive nature of the soil. New materials shall be compatible with existing materials at connections.

3.19.8.5 **Drips.** Drips for lines transmitting natural gas shall be installed at the low point immediately following reduction from high pressure (above 60 psig) to medium pressure (60 psig or less), and at occasional low points throughout the system, to provide for blowing out lines.

3.19.8.6 **Meters.** A master meter is required for the connection to the existing gas distribution system. The master meter shall be provided with two isolation valves and a check valve. The gas meter shall have a permanent bypass line to facilitate removal of the meter without disruption of service and shall have a pulse device for interface with EMCS. An anodeless riser with a schedule 40 epoxy coated sleeve and polyethylene SDR 11 carrier pipe shall be provided at the meter. The master meter shall be located within the project site, near the site boundary. Comply with local requirements. Meters and regulators shall be site screened, and located to provide convenient access while not distracting from building appearance.

### 3.20 **Fencing.**

(9) 3.20.1 **Project Boundary.** A permanent 6-foot high perimeter chain-link fence shall be provided to encompass the school campus area only. A CMU block screen wall shall be provided around the children's play area. A motorized roll gate shall be provided for the access road into the school complex. (9)

3.20.2 **Contractor's Staging Area.** During construction, a temporary, 6-foot high, chain-link, security fence shall be provided around the perimeter of the Contractor's staging area to house the vehicles, supplies, and materials. The Contractor shall indicate the size and the location of the staging/storage area on the submitted site plan.

3.20.3 **Temporary Fencing.** The Contractor shall provide temporary fencing at the perimeter boundaries of the site. This fencing shall be removed after all construction is complete and a permanent fence shall be installed. New temporary fencing shall be 6-foot high, and chain-link.

(9) 3.21 **Landscaping.** Landscaping shall be limited to strategic areas only, as determined by BIA. Landscaping methods shall be in accordance with BIA Standards. Native and adapted species, as approved by the BIA, shall be used. Wherever possible, natural contours, vegetation and wildlife habitat will be conserved. Land and vegetation disturbed during construction will be returned to its natural state. Large plantings shall not be placed over (9)

(9) buried utility lines and must be an adequate distance from the utility lines as determined by the Contracting Officer. Landscape used for screening shall not interfere with servicing requirements for utilities. (9)

#### 3.21.1 **Recommended Grasses.**

3.21.1.1 **Non-Irrigated Areas:** Grasses shall be coordinated with the Contracting Officer.

3.21.2 **Screening.** Screen all electrical transformers and similar equipment.

3.22 **Calculations.** The design shall include but may not be limited to the following calculations. These calculations are not required for the proposal

(9) submittal. Refer to Section 01012 for guidance on calculation requirements for submittals. Calculations shall be provided for the sizing of the approximately 120,000-gallon (minimum) plus one day's average use single pedestal or multi-legged elevated water storage tank, water well(s) and pumps, booster pumps, water treatment plant (disinfection), domestic, fire demand line and for the verification/sizing of the gas service line. (9)

**3.22.1 Water System.**

- a. Domestic Water Demand Calculations
- b. Distribution, Service Line, Fire Flow, Water Well(s) Pump Sizing, depth, and output, water treatment plant (disinfection), and Storage Tank Sizing Calculations
- c. Fire Flow Demand Calculations
- d. Booster Pump(s), Altitude valves, check valves, piping, etc.

**3.22.2 Storm Drainage for Wingate Elementary Replacement School.**

- a. Runoff Calculations
- b. Drainage Patterns
- c. Storm Drain Calculations (if an underground or open channel system is used)
- (9) d. Surface inlet calculations (if an underground system is used) (9)
- e. Plan and Profiles (if an underground or open channel system is used)
- f. Dissipation structure calculations (if used)

**3.22.3 Gas Distribution (Natural Gas).**

- a. Gas distribution and service sizing calculations

**3.22.4 Sanitary Sewer.**

- a. Sanitary Sewer (average and peak flows demands and velocities)
- b. Profiles
- c. Lift Station(s) including electrical power supply (if used)
- d. Lagoon design and sizing (if used)
- e. Septic Tank and Leach Field design and sizing (if used)

**3.23 Stormwater Pollution Prevention Plan (SWPPP).** The Contractor shall prepare a Stormwater Pollution Prevention Plan (SWPPP) that complies with the National Pollution Discharge Elimination System (NPDES). The SWPPP shall describe and provide drawing details of Best Management Practices (BMPs) to prevent the pollution of surface water conveyances (including storm drains) from construction site runoff.

## 5. ARCHITECTURAL DESIGN

### 5.1 Scope.

5.1.1 **Conceptual Design.** Offerors are required to develop a conceptual design for an 845-student, pre-school through 8th grade boarding school facility and common area support facilities. A campus plan with a number of separate buildings in three functional units is desired. The building design and building systems shall be in accordance with the Architectural Design Data for Wingate Elementary School, dated 14 December 2000, prepared by Architectural Research Consultants for Weller Architects, and this Request for Proposal (RFP).

5.1.2 **Building Design.** Offerors are required to develop conceptual floor plans, exterior building elevations, sections, and typical wall sections to illustrate proposed room sizes, adjacencies, interior and exterior wall construction, finish materials, fenestration, building heights, roofing and any other significant features by which the government may evaluate proposals. After contract award, adjustments by the local school community to the proposed design will be required to better meet functional and programmatic requirements.

5.1.2.1 **Authorized Scope.** A concept design for the new campus shall be developed based on the revised scope of 271,685 gross square feet (see deletions). Conceptual designs shall not deviate from the revised authorized gross square footage by more than a total of 5% without prior written approval of the Contracting Officer. Building area calculations shall be in accordance with the Bureau of Indian Affairs Design Criteria Handbook, Volume 1, dated April 1995.

5.1.2.2 **Deletions from Original Scope.** Delete the bus maintenance area requirement: 1,240 gsf; delete the warehouse area requirement: 2,400 gsf; and delete the maintenance parts storage area requirement: 1,200 gsf.

(9) 5.1.2.3 **Maintenance High Bay (Bid Option No. 3).** The following rooms listed in the Program of Requirements under Maintenance High Bay on page 40 are defined as Option No. 3 including all site development and site utilities associated with providing a functional free-standing maintenance shop and yard: Plant Management Office, Plant Secretary, Shop Area (carpenters/plumbing), Storage, Material Storage Wood, Paint Room, Tool/Supply Room, Office, Records, 2 Restrooms, and 25% of the total net square feet for circulation, walls and columns. Minimum RFP requirement: 4,530 nsf plus 25% equals 5,663 gsf. Offeror's proposals may vary.

5.1.2.4 **Security Support (Base Bid).** The following rooms listed in the Program of Requirements under Support on page 40 are defined as part of the base bid including all site development and site utilities associated with providing a security support function, free-standing or incorporated into the administrative building of the campus: School Security Supervisor Office, Secretary, Site Entrance Office, Storage, and 25% of the total net square feet for circulation, walls, columns, and restrooms if free-standing building

is proposed. Minimum RFP requirements: 385 nsf plus 25% equals 481 gsf. Offeror's proposals may vary.

5.1.2.5 **Mechanical (Base Bid).** The mechanical function listed on page 40 of the Program of Requirements is defined as part of the base bid including all site development and site utilities associated with providing a central mechanical plant or mechanical rooms distributed throughout all the campus buildings. Minimum RFP requirements: 13,400 nsf plus 25% equals 16,750 gsf. Offeror's proposals may vary.

5.1.2.6 **Bus Barn (Base Bid).** The covered bus parking is defined as part of the base bid including all site development and site utilities associated with providing a free-standing protective roof cover for 6 buses. Offeror's proposals may vary. (9)

5.1.3 **Furniture Plan.** Offerors are required to develop preliminary generic furniture and fixed cabinetry layouts based on the Architectural Design Data for Wingate Elementary School, dated 14 December 2000 to illustrate that the proposed spaces are sized adequately to accommodate furniture, functions, maintenance, and circulation. All moveable furniture will be provided under separate contract administered by the BIA. After award, interior design services will be required to coordinate interior building finishes with the furniture provided under separate contract.

(9) 5.1.4 **Food Service Equipment Layouts.** Offerors are required to develop preliminary food equipment layouts based on the Architectural Design Data for Wingate Elementary School, dated 14 December 2000 for the gymnasium concession area and the cafeteria/kitchen. The preliminary layouts shall illustrate that the proposed food service equipment and spaces are sized adequately to accommodate the required number of meals, cooking, serving and dining functions, equipment maintenance, storage and delivery functions and circulation. All kitchen equipment and storage shelving permanently installed and moveable shall be provided under (9)

window orientation, window glazing, building façade and window shading, and shade tree types and locations.

5.11 **Acoustical Design.** Acoustical design shall address acoustical material selection to control unwanted noise, reverberation control, and sound amplification in the design of the interior spaces. The acoustical design shall be in accordance with the acoustical design criteria and design guidelines contained in the Bureau of Indian Affairs Design Criteria Handbook.

(9) 5.12 **Radon Mitigation.** Minimum design requirements consist of passive barriers to seal radon entry routes from the soil under floor slabs and around and below grade walls to prevent radon gas entry to interior spaces. Passive barriers required are 6 mil polyethylene sheet in crawl spaces and under floor slabs on grade, dampproofing or waterproofing and protection board on below grade walls, sealants in all joints in floor slabs, below grade walls and around all pipe and conduit penetrations in floor slabs. Polyethylene sheets will be lapped 12 inches and sealed with adhesives or pressure sensitive tape and sealed at foundation walls with mastic. Grout all cells full or provide solid courses in hollow masonry walls to prevent passage of radon gas up through the masonry cells.

(9)

5.13 **Interior Design.** Interior design services shall consist of selection of all interior and exterior materials, finishes and colors coordinated with furniture provided under separate contract administered by the BIA. Color board content and format shall be as required by the BIA Design Criteria Handbook.

5.14 **Building Systems and Materials.** The Government desires low or no maintenance finish materials to the greatest extent possible. The proposed building systems, and material finishes shall be specified to conform to the minimum requirements and allowable options contained within each of the applicable guide specification sections included in the appendix to this RFP.

5.14.1 **Concrete.**

(4) 5.14.1.1 **Precast Architectural Panels.** Precast architectural panels, if proposed, shall be fabricated with integrally colored concrete and shall be specified to conform to the minimum requirements and allowable options contained within guide specification Section 03413STR - PRECAST ARCHITECTURAL CONCRETE.

(4)

5.14.1.2 **Precast concrete items** may be used for architectural elements such as door surrounds, window sills, window surrounds, and parapet coping. Precast architectural concrete, if proposed, shall be fabricated with integrally colored concrete, in a color and texture to coordinate with other major building materials. All precast concrete elements shall be lightly sandblasted to produce a unified, matching color, texture and overall appearance. All exterior finished architectural precast concrete items shall be sealed against water intrusion using a clear, non-sheen, impregnating

sealer and shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 04200 - MASONRY.

5.14.2 **Masonry.**

5.14.2.1 **Exterior concrete masonry unit (CMU) walls** shall be standard sized integral color concrete masonry units in a combination of split face and honed or burnished face textures with porcelain ceramic tile accents. Masonry products and accessories shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 04200 - MASONRY.

(9) 5.14.2.2 **Interior concrete masonry unit walls** and the inner wythe of exterior double wythe cavity walls exposed to view shall be integrally colored standard sized CMU in utility spaces, pre-glazed in wet areas and honed or burnished texture in all other interior spaces. Masonry surfaces concealed with finish materials, lockers, other fixed equipment or fixed furniture and cabinetry may be standard sized CMU, natural gray cement color. Acoustical sound absorbing masonry units are required for large, active and noisy spaces. Interior glass block windows and interior partitions are strongly encouraged for day-lighting of interior spaces. Bull nose concrete masonry units will be used at all exposed interior vertical corners. (9)

5.14.2.3 **Water Repellant.** Concrete masonry units shall be manufactured using integral water repellant as an efflorescence barrier. All exterior finished masonry surfaces shall also be sealed against water intrusion using an impregnating clear sealer.

5.14.2.4 **Coursing of masonry** will be arranged to eliminate cutting of masonry at heads and jambs of openings. Base units of 6-inch nominal height are recommended for proper coursing with weather sill step foundations and standard size door openings. Masonry and mortar color shall match. Exterior tooled joints shall be flush cut or raked horizontal joints for split face masonry and concave joints with other types of masonry units.

5.14.2.5 **Openings in masonry wall systems** will be detailed with through wall flashing at heads and sills. Sills will be sloped or stepped to the exterior to promote drainage and prevent seepage through the wall. Flashing shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 07600 - SHEET METALWORK, GENERAL.

5.14.2.6 **Masonry parapet height** shall be the minimum required and will be designed with heavy duty, factory fabricated, factory finished anodized aluminum metal covers or precast concrete coping with through-wall flashings. Masonry coping or poured in place concrete coping is not acceptable on building parapets. Step or counter flashing shall be built into vertical wall surfaces abutting roofs as required by the roofing system design.

(9) 5.14.2.7 **Exterior wall system** shall be of single wythe masonry construction insulated with furred out drywall surfaces, or at contractor's option, double wythe construction with separate veneer walls for all heated and cooled buildings. A properly designed cavity wall complete with flashings and weep holes shall be provided. The cavity design shall provide a minimum overall width of 2 inches with a maximum overall width of 3 inches. A (9)

5.14.5 **Thermal and Moisture Protection.**

(9) 5.14.5.1 **Roofing Systems.** Offerors may propose either standing seam metal roofs or mechanically fastened single ply EPDM membrane or a mechanically fastened single ply heat weldable thermoplastic polyolefin (TPO) membrane roofing system or a combination of the standing seam and single ply roofing systems.

(9)

5.14.5.1.1 **Roof slopes** shall be obtained in the structural frame. Pitched Roofs shall have a minimum 3 in 12 slope except for large span areas, a minimum 1 in 12 slope may be used. Mechanical equipment shall not be located on the pitched roof areas. Single ply membrane roofs shall have a minimum 1/4-inch per foot slope. Dead flat roofs and flat valleys between roof drains are unacceptable.

5.14.5.1.2 **Roof Warranties.** Roof systems shall be the product of one manufacturer. The successful contractor shall provide a 5-year Contractor's Weathertightness Warranty against defective workmanship, roofing system material deficiencies, structural failure and leakage. In addition, the system manufacturer shall provide a 20 year written material and finish warranty against defective materials and finishes.

5.14.5.1.3 **A standing seam metal roof (SSMR)** system shall be as specified to conform to the minimum requirements and allowable options within guide specification SECTION 07412 - NON-STRUCTURAL METAL ROOFING. Install as per manufacturer's written instructions and recommendations. An architectural, UL 90 standing seam roof assembly shall be provided. The roof system shall incorporate a fully concealed fastening system.

(9) 5.14.5.1.4 **Elastomeric roofing (EPDM) system** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 07530 - ELASTOMERIC ROOFING (EPDM). Install as per manufacturer's written instructions and recommendations. The elastomeric membrane roofing shall be a mechanically fastened system having a 90 UL 580 Class Rating or FM-01, Appendix C Windstorm Classification. Membrane shall conform to ASTM D 4637, Type I EPDM, Grade 1; Class U, 0.045 inch minimum thickness. Color may be black or white at contractor's option.

5.14.5.1.5 **Heat Weldable Thermoplastic Polyolefin (TPO)** system shall be specified to conform to the minimum requirements and construction specifications of Sure-Weld heat weldable TPO as manufactured by Carlisle Syntec Incorporated, or approved equal. The membrane roofing shall be a mechanically fastened system having an FM 1-90 Class rating. Membrane shall be a 0.045 inch minimum thickness. Color shall be white. Provide walkways as manufactured and as recommended by the roofing manufacturer.

5.14.5.1.6 **Roof insulation** shall be continuous over the entire roof area and shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 07220 - ROOF INSULATION. Provide a one third increase in R-value over what is calculated in the mechanical design to account for thermal bridges. Use rigid or semi-rigid board insulation with structural roof decks or use blanket insulation without a structural roof deck. Coordinate appropriate methods with the structural design. Attic spaces will be ventilated. Provide vapor barriers over high internal humidity conditions such as shower rooms, sculleries, laundries, or swimming pools.

(9)

(9) 5.14.5.1.7 **Roof Drainage.** Provide a perimeter drainage system of gutters and downspouts with pitched roofs. Interior gutters will not be allowed over finished spaces. Gutters and downspouts shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 07600 - SHEET METALWORK, GENERAL. Provide a system of internal roof drains and separate overflow roof drains for low pitch roofs. (9)

(9) 5.14.5.1.8 **Roof penetrations** will be minimized insofar as practicable and sealed or otherwise waterproofed. Where penetrations are uniform such as pipes or tubes, utilize bell cap flashing, fasteners and pre-manufactured neoprene flashing as applicable. Provide flashings as recommended by the roofing manufacturer. (9)

5.14.5.2 **Roof access and interior access stairs** shall be provided where mechanical equipment requiring maintenance is located on the roof and for fire fighting access. Locate access stairway within a mechanical room or other interior utility space not normally accessible to children. Exterior building mounted ladders are not permitted. Provide roof surface protection from edge of the access opening to mechanical equipment as recommended by the roofing manufacturer. (9)

5.14.5.3 **Building insulation** will be selected for flame spread and smoke development limitations contained in the NFPA Life Safety Code 101. Insulation thickness and type for new construction is variable for individual assembly options and will be governed by U-value requirements of the mechanical design. Insulation materials shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 06100 - ROUGH CARPENTRY. The vapor barriers shall be provided on the warm side of exterior walls, ceilings, and floors over unheated spaces.

5.14.5.4 **Perimeter insulation** shall be provided at the perimeter of all foundation walls of heated and cooled buildings. Perimeter insulation R-value shall be provided in accordance with the mechanical design. Insulation materials shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 06100 - ROUGH CARPENTRY.

5.14.5.5 **Caulking and sealants** for all joints, openings, and penetrations shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 07900 - JOINT SEALING. Firestopping shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 07840 - FIRESTOPPING.

5.14.5.6 **Waterproof membranes** will be detailed and specified for toilet rooms, shower rooms, janitor closets, lavatories and other wet area floors located over finished spaces or electrical rooms. Waterproofing shall conform to the minimum requirements and allowable options within guide specification SECTION 07131 - ELASTOMERIC MEMBRANE WATERPROOFING or SECTION 07132 - BITUMINOUS WATERPROOFING.

#### 5.14.6 **Doors.**

5.14.6.1 **Entrances.** The main entry to each building shall be oriented East and protected from prevailing winter winds. Main and secondary entrances shall be recessed a minimum of 3-feet or provided with a protective canopy.

panels. Operation shall be with electric power operator with auxiliary chain hoist operation.

5.14.6.5 **Interior door clear openings** shall comply with the minimum requirements of the Uniform Federal Accessibility Standards (UFAS). Fire rated doors shall conform to NFPA 80. Integral steel framed glazed sidelites and transom-lites are strongly encouraged to provide day-lighting and visibility to all interior spaces. Interior door vision lites are required for all private offices, administrative areas, conference rooms and counseling rooms.

5.14.6.6 **Hollow metal personnel doors and frames** shall be specified for utility and mechanical room spaces and shall conform to the minimum requirements and allowable options within guide specification SECTION 08110 - STEEL DOORS AND FRAMES. All hollow metal door and frame assemblies shall be constructed as required by ANSI/SDI-100 to meet or exceed a heavy duty, grade II seamless-hollow steel construction. Hollow metal frames and doors opening into high humidity areas such as shower rooms, sculleries, or laundries shall be galvanized and painted.

5.14.6.7 **Interior wood personnel doors** set in painted steel frames shall be specified to conform to the minimum requirements within guide specification SECTION 08210 - WOOD DOORS. Solid core wood doors shall be flush, premium grade, natural hardwood veneer, stained and finished or stile and rail doors shall be premium grade, natural hardwood, stained and finished. In dormitory applications wardrobe doors shall be premium grade paneled and louvered sliding doors. Molded hardboard, plastic laminated, or hollow core wood doors are not allowed.

5.14.6.8 **Operable partitions** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 10650 - OPERABLE PARTITIONS. Door hardware shall be manufacturer's standard. Operable partitions shall be top hung and provided with pass doors as required for convenience and life safety requirements.

5.14.6.9 **Metal rolling counter doors** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 08331 - METAL ROLLING COUNTER DOORS. Standard non-rated rolling counter doors may be constructed of aluminum, or stainless steel. Counter doors over 12 feet wide, or where the interior counter is over 15-inches deep shall be provided with crank operators. Doors over 18 feet shall be provided with electric motors.

5.14.7 **Door hardware** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 08710 - DOOR HARDWARE.

5.14.7.1 **Maintenance stock** shall be provided for builder's hardware items installed. Provide a minimum 3% of the total locksets, exit devices, and the following door accessories installed: hinges, door closers, door bumpers, flush bolts, and weather-stripping. Maintenance stock shall match installed hardware type, grade and finish. Provide a total of fifty key blanks.

(9) (9)

(9) 5.14.8.3 **Glazing** units for all exterior windows and storefront systems shall be double-paned fixed, sealed, and shall have an outboard 1/4-inch thick lite of tinted reflective annealed laminated glass with a minimum 1/2-inch thick air space, and a clear inboard lite of a minimum 1/4-inch thick annealed laminated glass with a Low-E coating on surface #3. The outboard lite shall be safety or tempered glazing where required by safety or Life Safety requirements. The Low-E coating is required only on the south and west facing windows of all buildings. (9)

5.14.8.4 **Metal Framed Skylights.** Custom aluminum framed skylights with polycarbonate glazing shall be specified to conform to the minimum requirements within guide specification SECTION 08625 - METAL FRAMED SKYLIGHTS. Location(s) shall be proposed by offeror.

5.14.8.5 **Interior Windows, Transoms, Sidelites and Vision Lites.** Window frames shall be aluminum or painted steel. Glazing for interior windows shall be a minimum of 1/4-inch thick clear or obscure annealed laminated glass and shall be sealed. Glazing shall be safety or fire rated where required by safety or NFPA 80 requirements. Glazing shall be specified to conform to the minimum requirements within guide specification SECTION 08810 - GLASS AND GLAZING.

5.14.9 **Flooring finishes** shall be provided as specified in the Architectural Design Data for Wingate Elementary School dated December 14, 2000.

5.14.9.1 **Ceramic porcelain tile** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09310 - CERAMIC TILE. Installation methods shall be as specified in Handbook for Ceramic Tile Installation by the Tile Council of America. As a minimum, ceramic tile shall have water absorption of 0.004%, an abrasive wear index of 234, a breaking strength of 365, and a coefficient of friction of 0.6. Provide slip resistant ceramic mosaic tile in wet areas such as shower rooms and locker rooms. Porcelain ceramic tile or quarry tile shall be used in kitchens, dishwashing areas, janitor closets, in setting beds sloped to floor drains. Porcelain ceramic tile or natural stone shall be used in lobbies and entry vestibules; ceramic tile in dormitory bathrooms and public restrooms.

5.14.9.1.1 **Grout.** Select the darkest complimentary grout color to coordinate with the tile color. Ensure that it is properly sealed to prevent excess soiling. Grout must be of a high strength, non-shrink, sanded type with latex admixture.

(9) 5.14.9.1.2 **Ceramic tile maintenance stock** shall be provided for each type, size, special shape, texture and color of ceramic tile installed. Provide a minimum of 3% of the total amount of each ceramic tile installed. Maintenance stock items shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

5.14.9.2 **Carpet.** Carpet shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09680 - CARPET. As a minimum, carpet shall be 12'-0" (3.6 m) wide broadloom; tufted graphic loop pile; solution-dyed DuPont DSDN BCF SD nylon-6,6, or equal; 28 oz. (0.8 kg/m<sup>2</sup>) minimum pile weight; 1/10 gauge; minimum 12 stitches per inch; less than 3,500 volts permanent conductive filament, antimicrobial, soil and

stain resistant, Class I per ASTM E 648, less than 450 ASTM 662 NBS smoke chamber, ADA compliant, with options for custom coloring as required to match furnishings. Patterns shall be non-linear and non-geometric.

(9) 5.14.9.2.1 **Carpet maintenance stock** shall be provided for each type, texture and color of carpet installed. Provide a minimum of 3% of the total amount of each type of carpet installed. Maintenance stock items shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

(9) 5.14.9.3 **Resilient tile** and base shall be specified to conform to the minimum requirements within guide specification SECTION 09650 - RESILIENT FLOORING. Vinyl composition tile shall be a minimum of 1/8-inch thick. Sheet flooring shall have integral cove bases. Locations and types shall be as specified in the Architectural Design Data for Wingate Elementary School, dated 14 December 2000 prepared by Architectural Research Consultants. Rubber floor mats are not required in the gymnasium showers. (9)

(9) 5.14.9.3.1 **Resilient tile maintenance stock** shall be provided for each type, texture and color of resilient tile and base installed. Provide a minimum of 3% of the total amount of each type of resilient tile installed. Maintenance stock items shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

5.14.9.4 **Wood strip flooring** on sleepers is strongly encouraged for spaces such as gymnasiums and exercise rooms. Locations and types shall be as specified in the Architectural Design Data for Wingate Elementary School, dated 14 December 2000 prepared by Architectural Research Consultants. Wood strip flooring shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09640 - WOOD STRIP FLOORING.

(9) 5.14.9.4.1 **Wood strip flooring maintenance stock** shall be provided for all types of wood strip flooring installed. Provide a minimum of 3% of the total amount of each type of wood strip flooring installed. Maintenance stock items shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

(9) 5.14.9.5 **Resilient 12" x 12" VCT athletic flooring** may be used in the mini-gymnasium and shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09620 - RESILIENT ATHLETIC FLOORING. (9)

(9) 5.14.9.5.1 **Resilient VCT athletic flooring maintenance stock** shall be provided for each type of flooring installed. Provide a minimum of 3% of the total amount of each type of resilient athletic flooring installed. Maintenance stock items shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

5.14.9.6 **Hardwood parquet flooring** is strongly encouraged for spaces such as dormitory sleeping rooms or special meeting or conference rooms. Parquet wood flooring shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09641 - HARDWOOD PARQUET FLOORING.

(9) 5.14.9.6.1 **Hardwood parquet flooring maintenance stock** shall be provided for each type of parquet flooring installed. Provide a minimum of 3% of the total amount of each type of parquet flooring installed. Maintenance stock items shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

5.14.9.7 **Concrete Sealer.** Where a floor finish is not specified, concrete floors shall receive a clear sealer.

5.14.10 **Interior wall finishes** shall be provided as specified in the Architectural Design Data for Wingate Elementary School dated December 14, 2000.

(9) 5.14.10.1 **Interior concrete masonry** unit walls and the inner wythe of exterior double wythe cavity walls exposed to view shall be integrally colored standard sized CMU in utility spaces, pre-glazed in gymnasium wet areas and honed or burnished texture in all other interior spaces. Masonry surfaces concealed with finish materials may be natural gray cement color. (9)

(9) 5.14.10.1.1 **Pre-glazed CMU** standard size units, including cove base units, and other special shape masonry units are required full height from finish floor to finish ceiling for kitchens, kitchen pantries, dishwashing areas, toilet rooms within the gymnasium, locker rooms, and shower rooms. (9)

5.14.10.1.2 **Acoustical sound absorbing** masonry units are required for large, active and noisy spaces such as gymnasiums, multi-purpose rooms, cafeterias, corridors and maintenance shops in quantities and in locations as recommended by the acoustical block manufacturer to be effective in reducing unwanted sound.

5.14.10.1.3 **Interior glass block** windows, walls, and interior partitions are strongly encouraged for day-lighting of interior spaces such as locker rooms, shower rooms, multi-purpose rooms, cafeterias, and corridors.

(9) 5.14.10.2 **Gypsum wallboard and metal stud partition systems** shall be specified to conform to the minimum requirements and allowable system options within guide specification SECTION 09250 - GYPSUM WALLBOARD. Except as otherwise specified, gypsum wall board shall be impact resistant, with a minimum single drop resistance rating of 2,188 foot pounds and cumulative rating of 10,000 foot pounds, as manufactured by National Gypsum Company, Hi-Impact 8000, fire-shield gypsum wallboard or approved equal. Painted gypsum board walls, exposed to view, shall have a spray-on texture, medium orange peel. The use of drywall partition systems shall be limited to academic administration areas, walls separating classrooms, and partitions located within the dormitories. Steel studs spaced at 16-inches on center constructed to the underside of the structural deck, perimeter caulked, sheathed with water resistant gypsum wallboard and insulated with mineral fiber insulation to achieve an STC 50 and finished with ceramic tile from finish floor to finish ceiling are acceptable for all restrooms and janitors closets other than in the gymnasium and locker room area. Offerors shall propose locations. (9)

5.14.10.3 **Paint systems** shall be specified to conform to the minimum requirements and allowable system options within guide specification SECTION 09900 - PAINTING, GENERAL. Offerors shall propose colors, textures and locations.

(9) 5.14.10.4 **Ceramic tile** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09310 - CERAMIC TILE. As a minimum, ceramic tile shall have water absorption of 0.004%, an abrasive wear index of 234, a breaking strength of 365, and a coefficient of friction of 0.6. As a minimum, ceramic floor tile shall be used in lobbies, entry vestibules, janitor's closets, dormitory bathrooms and public restrooms. (9)

5.14.10.4.1 **Grout.** Select the darkest complimentary grout color to coordinate with the tile color. Ensure that it is properly sealed to prevent excess soiling. Grout must be of a high strength, non-shrink, sanded type with latex admixture.

(9) 5.14.10.4.2 **Ceramic tile maintenance stock** shall be provided for each type, size, special shape, texture and color of ceramic wall tile installed. Provide a minimum of 3% of the total amount of each ceramic wall tile installed. Maintenance stock items shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

5.14.10.5 **Vinyl wall covering** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09720 - WALLCOVERINGS. As a minimum, vinyl wall covering shall be type 2 (medium duty), class A with 21-ounces/lineal yard weight. Offerors shall propose colors, textures and locations.

(9) 5.14.10.5.1 **Vinyl wall covering maintenance stock** shall be provided for each type of vinyl wall covering installed. Provide a minimum of 3% of the total amount of each type of vinyl wall covering installed. Maintenance stock items shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

5.14.10.6 **Fabric covered acoustical wall panels** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09840 - ACOUSTICAL WALL TREATMENT.

5.14.10.7 **Wall Base.** Allowable materials shall be pre-glazed concrete masonry cove base units, ceramic tile, rubber or vinyl base or wood base used with wood paneling or wainscot. Wall base shall be a minimum of 4 inches high.

(9) 5.14.10.7.1 **Wall base maintenance stock** shall be provided for each type of wall base installed. Provide a minimum of 3% of the total linear feet of each type of wall base installed. Maintenance stock items shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

5.14.11 **Ceilings** shall be provided as specified in the Architectural Design Data for Wingate Elementary School dated December 14, 2000.

5.14.11.1 **Suspended acoustical tile ceiling systems** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09510 - ACOUSTICAL CEILINGS. Exposed suspended grid systems shall be 24-inch by 24-inch grid module. All suspended ceiling systems shall be braced seismically. The conceptual design shall propose

(9) tile and exposed grid colors, and textures. 24" x 24" exposed grid system shall be provided for administration offices, conference rooms, and the main entry of the school. A 24' x 48" grid system with acoustical ceiling tiles with a mid-length reveal shall be provided at all other areas that require suspended acoustical ceiling systems. (9)

(9) 5.14.11.1.1 **Acoustical tile maintenance stock** shall be provided for each type of acoustical tile installed. Provide a minimum of 3% of the total acoustical tile installed. Maintenance stock shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

5.14.11.2 **Suspended gypsum board system** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09250 - GYPSUM WALLBOARD. Provide suspended painted gypsum board ceiling systems in bathrooms, kitchens, closets, public restrooms, and laundries. The conceptual design shall propose colors, textures and system locations.

5.14.11.3 **Tectum board ceiling systems** should be considered for large active areas such as the gymnasium and cafeteria. The conceptual design shall propose colors, textures and ceiling system locations.

5.14.11.4 **Exposed structure and building service equipment** shall be painted to conform to the minimum requirements and allowable system options for specific substrates within guide specification SECTION 09900 - PAINTING, GENERAL. Paint exposed to view structural elements, ceiling hung equipment and exposed piping and ductwork in the gymnasium, maintenance shops, utility and mechanical rooms.

5.14.11.5 **Linear metal ceiling systems** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 09547 - LINEAR METAL CEILINGS. Linear metal ceiling systems should be considered for lobby areas and entrances. Lighting and HVAC should be fully integrated into the ceiling system.

5.15 **Specialties** shall be provided as specified in the Architectural Design Data for Wingate Elementary School dated December 14, 2000.

5.15.1 **Toilet partitions** shall be specified to conform to the minimum requirements in guide specification SECTION 10160 - TOILET PARTITIONS. Metal or solid plastic toilet enclosures, entrance screens, and urinal screens shall be overhead braced, floor supported. Acceptable toilet partition materials are solid plastic panels made of high density polymer resins, or solid phenolic material, with integral color, or stainless steel panels. Pre-glazed masonry partitions with solid plastic or stainless steel doors are acceptable. Plastic laminate or painted enamel toilet partitions are not acceptable.

5.15.2 **Toilet accessories** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 10800 - TOILET ACCESSORIES. Tamper proof fasteners and recessed accessory items shall be specified to the greatest extent possible.

Flagpole heights should be between 30-feet and 60-feet high, compatible with the building scale.

5.15.9 **Solar screens** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 10700 - SOLAR SCREENS.

5.15.10 **Corner guards** of stainless steel will be specified for protection of masonry at service entries to shops, warehouses and kitchen pantries and other locations subject to impact from movement of carts and materials. Provide standard vinyl clad edge (corner) guards at all exterior wall corners of gypsum board walls. Top of edge guards shall be a minimum of 6'-0" (1.8 m) above finished floor. Bottom of guard shall be to floor in areas of no base and to top of base at all other areas.

5.15.11 **Signage.**

5.15.11.1 **Interior signage** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 10440 - INTERIOR SIGNAGE and shall be an interior signage system of one manufacturer. Identify each room with standard room signs. Identify offices with changeable message strip signs. Restrooms shall be identified with pictograph signs that comply with the Uniform Federal Accessibility Standards (UFAS). Bi-lingual signs are not required. All sign messages shall be in standard English.

5.15.11.1.1 **Building directories** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 10440 - INTERIOR SIGNAGE. Provide negative graphics directory system located in each lobby or main entry. Provide glazed bulletin boards with changeable letters in general administrative areas.

5.15.11.1.2 **Metal plaques** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 10440 - INTERIOR SIGNAGE. Metal plaques shall be located in the main entrance lobby.

5.15.11.1.3 **Dimensional building letters** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 10440 - INTERIOR SIGNAGE. Dimensional building letters shall be located in the main lobby or reception area.

(9) 5.15.11.1.4 **Interior signage maintenance stock** shall be provided for each type of interior signage installed. Provide a minimum of 3% of the total room signs installed. Maintenance stock shall be furnished to the Contracting Officer's authorized representative in un-opened original packaging and stored where directed. (9)

5.15.11.2 **Exterior signage** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 10430 - EXTERIOR SIGNAGE and shall be a modular exterior signage system. Exterior signage shall identify the school campus and each individual building by means of free-standing base mount pylon/monolith type signs. School

identification shall be illuminated. Building rooms with exterior access shall be identified by means of wall mounted signage at the exterior doors. Bi-lingual signs are not required. All sign messages shall be in standard English.

5.15.11.2.1 **Dimensional building letters** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 10440 - INTERIOR SIGNAGE.

5.15.12 **Television monitor support** shall be located as specified in the Architectural Design Data for Wingate Elementary School. Each location shall be equipped with ceiling or wall-mounted video monitor supports to support a 32" television monitor, 500 pound load minimum. Television monitors shall be government furnished, government installed (GFGI) equipment.

5.15.13 **Wire mesh partitions** shall be located in the athletic storage rooms as required by the Architectural Design Data for Wingate Elementary School. Provide 6-foot by 6-foot partitions with door and cylinder lock. Provide wire partitions as manufactured by Folding Guard Wire Partitions, or equal.

5.16 **Equipment** shall be provided as specified in the Architectural Design Data for Wingate Elementary School dated December 14, 2000.

5.16.1 **Food service kitchen equipment** shall be selected by the offeror and specified to conform to the minimum requirements and allowable options within guide specification SECTION 11400 - FOOD SERVICE EQUIPMENT and shall be located in accordance with the equipment listed in the Architectural Design Data for Wingate Elementary School for the Kitchen/Cafeteria and gymnasium concession areas.

(9) 5.16.1.1 **Cantina Kitchen Equipment.** The following kitchen equipment, located in the Cantina within the Recreation Area, is not required and shall be deleted from the program requirements listed on pages 85 and 86: Popcorn popper, ice cream cooler, soda machine, built-in range top and oven, double sinks and fixtures, dishwasher, microwave, stand-up freezer, 2 refrigerators with ice makers, and a residential hood.

(9)

5.16.2 **Concession area food service kitchen equipment** and countertops shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 11400 - FOOD SERVICE EQUIPMENT and shall be located in accordance with the equipment listed in the Architectural Design Data for Wingate Elementary School for the Concession area. Required equipment required for the concession area are electric hot dog cooker, built-in commercial microwave, ice maker unit and the following food service equipment.

5.16.2.1 **Electric Range.** Provide a heavy-duty stainless steel electric range with convection oven, model HCR441 as manufactured by Hobart or equal. Top shall include 24"x24" griddle and 2, 9" Fr. Hotplates.

5.16.2.2 **Kitchen Exhaust Hood and Fire Suppression System.** Provide a kitchen hood specified to conform to the minimum requirements and allowable options within guide specification SECTION 11400 - FOOD SERVICE EQUIPMENT. The fire suppression system within the kitchen hood shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 13965 - WET CHEMICAL FIRE EXTINGUISHING SYSTEM. Furnish and install 24-1/2"H x 7"D x 8-1/2"W semi-recessed fire extinguisher cabinet and multi-purpose fire extinguisher as required by NFPA 10 Portable Fire Extinguishers.

5.16.3.7 **Under Counter Refrigerator.** Provide Hobart model CUF27 under-counter refrigerator with freezer. Locations are specified in the Architectural Design Criteria. Provide water supply at the refrigerator location for an automatic ice-maker.

5.16.4 **Athletic Equipment.** Provide electric retractable basketball goals, Series 200 with rectangular tempered glass backstop with standard steel goal as manufactured by AALCO or equal. Provide volleyball posts, floor sleeve with brass flip up cover, pole padding, net, and referee platform units as manufactured by AALCO or equal. Provide an electrically raised fold up gymnasium divider curtain as manufactured by AALCO or equal. Provide 8 exterior fixed basketball goals model G66 as manufactured by AALCO or equal. Quantity of athletic equipment is specified for the gymnasium in the Architectural Design Standards.

5.16.5 **Laundry Equipment.** Provide commercial quality washers and dryers as manufactured by UniMac Alliance Laundry Systems, or approved equal. Provide two UW Model washer-extractors, 125 pound dry weight capacity and two 170 pound drying tumblers in the gymnasium washer/dryer area. Provide one UC Model washer-extractor 50 pound dry weight capacity and one 75 pound drying tumbler in the kitchen area. Provide one UC Model washer-extractor 18 pound dry weight capacity and one 35 pound drying tumbler in the health unit.

5.16.6 **Vault door** used in the administration vault/file storage room shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 11022 - DOORS; FIRE-INSULATED, RECORD-VAULT.

(9) 5.17 **Furnishings** shall be provided as specified in the Architectural Design Data for Wingate Elementary School dated December 14, 2000. Built-in risers are not required in the Music Room. (9)

(9) 5.17.1 **Built-in custom casework** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 06410 - CUSTOM CASEWORK. Casework designed primarily for adult use shall be designed with counter heights and reach limits required by the Uniform Federal Accessibility Standards (UFAS) and CABO/ANSI A117.1 Accessible and Usable Buildings and Facilities. Casework designed primarily for children shall be designed in accordance with ADA Accessibility Guidelines for buildings and Facilities; Building Elements Designed for Children's Use published by the Architectural and Transportation Barriers Compliance Board. Kitchen cabinets required in the Cantina are not required and shall be deleted from the program requirements, page 85. Delete 20 linear feet of base cabinets and counter top. Delete 20 linear feet of wall cabinets. Delete 12 linear feet of tall storage cabinets. (9)

(9) 5.17.1.1 **Cabinet construction,** as a minimum, shall be plant assembled, Custom Grade, specified by Architectural Woodwork Quality Standards published by Architectural Woodwork Institute. (9)

(9) 5.17.1.2 **Cabinet Finish.** The finished material of exposed fronts and ends of cabinets, door and drawer fronts shall be plastic laminate finished, interiors shall be finished in low-pressure laminate. Cabinet finish color shall be a light color. (9)

5.17.1.3 **Cabinet Hardware.** Cabinet hardware shall conform to ANSI 156.9. Cabinet hinges shall be concealed offset and spring-loaded, "European" style, commercial grade. Cabinet drawer guides shall be a minimum of 20-gage steel with double rollers, heavy-duty commercial type.

(9) 5.17.2 Deleted.

(9)

5.17.3 **Countertops.**

5.17.3.1 **Plastic laminate countertops** in coffee bars, kitchenettes and laundry rooms may be of high pressure laminated plastic, with heat resistive adhesive, fully formed with a continuous sheet of plastic. Provide no-drip bull nose edges with integral coved backsplash. 90 degree glued horizontal counter edges are not permitted. Ceramic tile countertops are not permitted.

5.17.3.2 **Solid surface material countertops on vanities** in public restrooms or the health unit shall be Dupont Corian solid surfaces. Exposed outside corners shall be filleted, chamfered, or radius profiles with integral backsplash. Sink or lavatory bowls shall be drop in type, mounted under the counter.

5.17.3.3 **Stainless steel countertops** and work surfaces shall be specified for the institutional kitchen, dishwashing areas and concession area, and shall be specified to conform to the minimum requirements in guide specification SECTION 11400 - FOOD SERVICE EQUIPMENT.

5.17.4 **Built-in custom shelving and cubicles** shall be specified to conform to the minimum requirements and allowable options within guide specification SECTION 06410 - CUSTOM CASEWORK. Casework designed primarily for adult use shall be designed with reach limits required by the Uniform Federal Accessibility Standards (UFAS) and CABO/ANSI A117.1 Accessible and Usable Buildings and Facilities. Shelving and cubicles designed primarily for children shall be designed in accordance with ADA Accessibility Guidelines for buildings and Facilities; Building Elements Designed for Children's Use published by the Architectural and Transportation Barriers Compliance Board.

5.17.4.1 **Cubicle construction,** as a minimum, shall be plant assembled, Custom Grade, hardwood lumber and hardwood veneer plywood as specified by Architectural Woodwork Quality Standards published by Architectural Woodwork Institute.

5.17.4.2 **Cubicle Finish.** Cubicles and shelving shall be finished in high pressure plastic laminate. Colors shall be selected by offeror.

5.17.5 **Telescoping Stands.** Provide electrically powered Universal telescoping stands as manufactured by Interkal Inc., or equal. Telescoping stands shall be located in the gymnasium. Seating capacity: 1,690 occupants.

(2) Unitary Air Conditioning Systems (see paragraph **Unitary Heating and Cooling Systems** for application limitations)

(9) (3) Packaged VAV Roof-Top Air Conditioning Units (for academic and administrative areas only)

(9)

**c. Heating Systems**

(1) Natural draft gas-fired water-tube boilers

**7.3.3 Equipment.** All materials and equipment shall be the standard cataloged product of manufacturers regularly engaged in production of such materials and equipment, and shall be the manufacturer's latest standard design. Equipment shall comply with the requirements of Underwriters Laboratories, Inc. (UL), American Gas Association (AGA), Air Conditioning and Refrigeration Institute (ARI), American Society for Testing and Materials (ASTM), National Electric Manufacturers Association (NEMA), American National Standards Institute (ANSI), National Fire Protection Association (NFPA) or other national trade associations as applicable. Equipment selection and layout shall make provisions to observe the manufacturer's recommended clearances and code clearances. Rooftop equipment shall not be used in this facility.

**7.3.4 Air Handling System Design.**

**7.3.4.1 Air Handling System Zoning.** Individual zones shall serve up to a maximum of 46 m<sup>2</sup> (500 ft<sup>2</sup>) in administrative areas. Separate zones shall be provided for each individual office or support room with areas greater than 28 m<sup>2</sup> (300 ft<sup>2</sup>). Each classroom and directly connected support rooms shall be a separate zone. Each conference room shall be on a separate zone. Individual zones shall serve up to two dorm rooms (one dorm suite). Individual zones shall serve up to a maximum of 92 m<sup>2</sup> (1000 ft<sup>2</sup>) in the common residential areas. The Gymnasium and Dining Room may be a single zone each regardless of size. Air system zoning shall also comply the Planning Document, Appendix B.

(9)

(9)

**7.3.4.2 Variable Air Volume (VAV) Air Handling System.** The air handling system shall be as specified in UFGS 15895A - AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM. The VAV system shall be a single duct system with hot water reheat in all zones.

(9) **7.3.4.2.1 Indoor Variable Air Volume (VAV) Air Handling Units.** Air handling units shall be as specified in UFGS 15895A - AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM. These air-handling units shall be located in the mechanical rooms. Units shall be mounted on reinforced concrete housekeeping pads with a 150 mm (6-inch) clear space from the unit to the edge of the pad. Provide the manufacturer's recommended service clearance or a minimum of 610 mm (24") clearance around the entire unit, whichever is greater. All components of the air-handling units shall be factory installed products of the same manufacturer. As minimum, units shall be equipped with a supply fan, preheat coil, cooling coil, mixing box, filter section, controls, access section, economizer, variable frequency drive (vfd) and vfd rated motor. Heating and chilled water circuits to air handlers shall be

(9)

supplied with isolation valves, flow control valves, strainers, thermometers, calibrated balancing valves, and temperature and pressure plugs. A condensate drain pan shall be supplied with each unit. Condensate drains shall be coordinated with the sanitary sewer design. Air handling unit locations shall be coordinated with all disciplines. Ventilation air shall be supplied to each unit in accordance with the ventilation system design parameters. Makeup air shall be taken through louvers in the exterior walls and shall be coordinated with the locations of relief and exhaust vents to prevent short-circuiting. The supply fan and return fan (if used) in each air handling unit shall be supplied with a variable frequency drive to control supply airflow to the system air distribution devices and return air to the air handling unit. Differential pressure switches (provide a minimum of two per air handler unit) shall be supplied to signal the fan or fans to speed up or slow down in response to system pressure changes. Air handling units shall be equipped with local trouble alarm controls. Air handling units shall be equipped with a 100 percent airside dry bulb economizer (utilizing outside air when possible for free cooling).

- (9) 7.3.4.2.2 **Weatherproof Variable Air Volume (VAV) Air Handling Units (Bid Option).** Air handling units shall be as specified in UFGS 15895A - AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM. These air handling units shall be located on the roof. Units shall not be located over classrooms. Units shall be mounted on prefabricated roof curbs. All components of the air handling units shall be factory installed products of the same manufacturer. As minimum, units shall be equipped with a supply fan, preheat coil, cooling coil, mixing box, filter section (see paragraph: 7.3.15 - **Filters** for specific requirements), controls, access section, economizer, variable frequency drive (vfd) and vfd rated motor. Heating and chilled water circuits to air handlers shall be supplied with isolation valves, flow control valves, strainers, thermometers, calibrated balancing valves, and temperature and pressure plugs. A condensate drain pan shall be supplied with each unit. Condensate drains shall be coordinated with the sanitary sewer design. The air handling unit shall have a double wall insulated casing. The casing insulation shall have a minimum R-value of 12. Hinged access doors shall be provided for the unit control panel, between coil sections, for supply and return fans, for dampers, and at the filters. Air handling unit locations shall be coordinated with all disciplines. Unit location and configuration shall insure compliance with all noise and vibration transmission requirements (see paragraph: 7.3.10 Noise Analysis, and paragraph 7.3.20. Vibration and Noise Isolation.) Ventilation air shall be supplied to each unit in accordance with the ventilation system design parameters. Makeup air shall be coordinated with the locations of relief and exhaust vents to prevent short-circuiting. The supply fan and return fan (if used) in each air handling unit shall be supplied with a variable frequency drive to control supply airflow to the system air distribution devices and return air to the air handling unit. Differential pressure switches (provide a minimum of two per air handler unit) shall be supplied to signal the fan or fans to speed up or slow down in response to system pressure changes. Air handling units shall be equipped with local trouble alarm controls. Air handling units shall be equipped with a 100 percent airside dry bulb economizer (utilizing outside air when possible for free cooling).

7.3.4.2.3 **Packaged Roof-top Variable Air Volume (VAV) Air Conditioning Units (Base Bid).** Air conditioning units shall be as specified in UFGS 15700A - UNITARY HEATING AND COOLING EQUIPMENT. These air-conditioning units shall be located on the roof. Units shall not be located over classrooms. Units shall be mounted on prefabricated roof curbs. All components of the units shall be factory installed products of the same manufacturer. As minimum, units shall be equipped with a supply fan, preheat coil, evaporator coil, mixing box, filter section (see paragraph: 7.3.15 - **Filters** for specific requirements), refrigerant compressor section, condensing section, controls, access section, economizer, variable frequency drive (vfd) and vfd rated motor. Heating water circuit to the air conditioning unit shall be supplied with isolation valves, flow control valves, strainers, thermometers, calibrated balancing valves, and temperature and pressure plugs. A condensate drain pan shall be supplied with each unit. Condensate drains shall be coordinated with the sanitary sewer design. Hinged access doors shall be provided for the unit control panel, between coil sections, for supply and return fans, for dampers, and at the filters. Air conditioning unit locations shall be coordinated with all disciplines. Unit location and configuration shall insure compliance with all noise and vibration transmission requirements (see paragraph: 7.3.10 - **Noise Analysis**, and paragraph 7.3.20 - **Vibration and Noise Isolation**.) Ventilation air shall be supplied to each unit in accordance with the ventilation system design parameters. Makeup air shall be coordinated with the locations of relief and exhaust vents to prevent short-circuiting. The supply fan and return fan (if used) in each air conditioning unit shall be supplied with a variable frequency drive to control supply airflow to the system air distribution devices and return air to the air conditioning unit. Differential pressure switches (provide a minimum of two per air handler unit) shall be supplied to signal the fan or fans to speed up or slow down in response to system pressure changes. Air conditioning units shall be equipped with local trouble alarm controls. Air conditioning units shall be equipped with a 100 percent airside dry bulb economizer (utilizing outside air when possible for free cooling). The refrigeration section shall use a scroll type compressor. The refrigeration section shall include a frost control system that will cycle the compressor to preclude frost build-up on the evaporator coil. The air conditioning system shall have a minimum cop of 2.7 (EER - 9.4).

7.3.4.2.4 **Single Duct VAV Terminal Units.** The zone air distribution systems shall use single outlet variable air volume terminal units with hot water reheat coils. The heating coil shall be hot water type and hot water piping shall be equipped with 2 or 3-way modulating control valves, isolation valves, calibrated balance valves, strainers, and temperature and pressure plugs. Heating coils located within terminal units shall be sized to produce a minimum heating supply air temperature of 40° C (105° F) based on the required heating air flow quantity calculated for each unit. The air terminal units shall be as specified in UFGS 15895A - AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM. All vav boxes shall be pressure independent units. Insulation shall be provided for each vav box to prevent condensation on the outside of the units. (9)

7.3.4.3 **Fan Coil Air Handling Units.** Fan coil shall be horizontal concealed, ceiling mounted units. All fan coil units will be supplied with

(9) cooling and hot water heating coils. Fan coil type air handling units shall be as specified in UFGS 15895A - AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM. All components of the fan coil air handling units shall be factory installed products of the same manufacturer. As minimum, units shall be equipped with a supply fan, heating coil, cooling coil, filter section, piping package with auxiliary drain pan and outside air inlet. Piping package serving the heating and chilled water circuits to fan coils shall be supplied with unions, isolation valves, flow control valves, calibrated balancing valves, strainers and temperature and pressure plugs. A condensate drain pan shall be supplied with each unit. Auxiliary drain pans shall be used under piping package to catch condensate from valves and piping that is not insulated. Discharge from condensate drains shall be provided with trap and shall be coordinated with the sanitary sewer design. Ventilation air shall be supplied to each unit in accordance with the ventilation system design parameters. Makeup air shall be taken through louvers (air vents) in the exterior walls and shall be coordinated with the locations of relief and exhaust vents to prevent short cycling. (9)

7.3.4.4 **Single Zone Air Handling Units.** Single zone air handling units shall be as specified in UFGS 15895A - AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM. The air-handling units shall be located in the mechanical rooms. Units shall be mounted on reinforced concrete housekeeping pads with a 150 mm (6-inch) clear space from the unit to the edge of the pad. Provide the manufacturer's recommended service clearance or a minimum of 610 mm (24") clearance around the entire unit, whichever is greater. All components of the air-handling units shall be factory-installed products of the same manufacturer. As minimum, units shall be equipped with a supply fan, heating coil, cooling coil, mixing box, filter section, controls, access section, and economizer. Heating and chilled water circuits to air handlers shall be supplied with isolation valves, flow control valves, strainers, thermometers, calibrated balancing valves, and temperature and pressure plugs. A condensate drain pan shall be supplied with each unit. Condensate drains shall be coordinated with the sanitary sewer design. Air handling unit locations shall be coordinated with all disciplines. Ventilation air shall be supplied to each unit in accordance with the ventilation system design parameters. Makeup air shall be taken through louvers in the exterior walls and shall be coordinated with the locations of relief and exhaust vents to prevent short-circuiting. Air handling units shall be equipped with local trouble alarm controls. Air handling units shall be equipped with a 100 percent air-side dry bulb economizer (utilizing outside air when possible for free cooling).

(9) 7.3.5 **Heating System Design.** The heating system shall be a hot water system. For systems with capacities greater than 400,000 btuh, dual boilers shall be provided. Each boiler shall be sized for 50% of the total design load (including safety and pick-up factors). (9)

7.3.5.1 **Heating Water Boiler.** Boilers shall be water-tube type rated at 862 kPa (125 psi). Boilers shall use atmospheric/natural draft type burners. The boilers shall be constructed of straight steel tubes with removable head

plates. The boiler water shall be treated to reduce corrosion and scaling and shall be provided with filter type chemical shot feeders. The water treatment system shall be located within the mechanical room. The water quality parameters can be found in the paragraph titled Water Quality and Treatment. A reduced pressure principle backflow preventer shall be provided for the boiler makeup water line. The boilers shall be mounted on and anchored to reinforced concrete housekeeping pad with a minimum of 200 mm (8") clear space from the boiler to the edge of the pad. The manufacturer's specified maintenance clearances shall be provided and indicated on the drawings. Boilers shall have a minimum efficiency of 80 percent. The boiler shall be equipped with an ASME rated pressure relief valve. Boiler flue vents shall be provided in accordance with NFPA 54.

**7.3.5.2 Heating Water Boiler Controls.** Factory installed, UL listed microprocessor based combustion safety controls and equipment shall be provided in accordance with specification UFGS 15569A - WATER AND STEAM HEATING; OIL, GAS OR BOTH; UP TO 20 MBTUH.

7.3.5.2.1 **Heating Water Pumping System.** The hot water hydronic pumping system shall be a variable volume pumping system with two-way valves and reverse return piping system. A constant volume pumping system with three-way valves and reverse return piping system may be provided if the total installed motor power for the heating water pumps on that system is less than 4 hp. The pumping system shall be designed to maintain the boiler manufacturer's minimum flow requirements. Manufacturer's recommended service clearance shall be provided.

7.3.5.2.2 **Heating Water Pump.** Shaft seal shall be mechanical-seal type. Two sets of spare seals shall be provided for each pump installed. Seals shall be placed in a Contractor provided and installed, lockable, wall mounted, enclosure located in the mechanical room. Pump impeller, impeller wearing rings, glands, casing wear rings, and shaft sleeve shall be bronze. Shaft shall be carbon or alloy steel, turned and ground. Pump and motor shall be mounted on a structural steel base with lipped edges or drain pan and tapped drainage openings. Pump motor shall be non-overloading and shall have the required capacity to prevent overloading with pump operating at any point on its characteristic curve. Pump speed shall not exceed 1,750 rpm. The heating water pump shall be mounted on and anchored to a reinforced concrete housekeeping pad with a minimum of 200 mm (8") clear space from the pump to the edge of the pad. Pumps shall be located within the mechanical room.

7.3.5.2.3 **Heating Water System Accessories.** Pump shall be provided with variable frequency drive (vfd) and vfd rated motor (if required in Paragraph **Heating Water Pumping System**), check valve, pressure gauges (inlet and outlet), butterfly valve with memory stop (outlet), strainer, suction diffuser, pressure and temperature ports and isolation valves. Provisions shall be made for thermal expansion with a diaphragm expansion tank with an air charge valve and pressure gauge and an air separator with automatic fill valve and air purger. A reduced pressure principle backflow preventer shall be provided for the boiler makeup water line.

7.3.5.3 **Other Heating Systems.** Hot water unit heaters shall be provided for mechanical and electrical rooms, other rooms designated for freeze protection only, high bay maintenance shops, and storage rooms (except kitchen dry storage, which requires cooling).

(9) 7.3.6 **Cooling System Design.** Cooling system shall be a chilled water system.

(9)

7.3.6.1 **Air Cooled Chillers.** A chiller unit sized for the total design load (including safety factors) shall be provided for the facility. The chiller shall have either helical screw, rotary vane, or reciprocating compressors. The chiller shall operate at less than 25% design capacity at the lowest step of unloading, without using hot gas bypass. The chiller unit shall have a minimum cop of 2.90 and minimum IPLV of 2.90. The chiller shall be located in an enclosed mechanical yard and shall be mounted on and anchored to a reinforced concrete housekeeping pad sized a minimum of 914 mm

(36") from chiller unit to edge of pad (on all sides). Provide the manufacturer's specified maintenance clearances around each unit.

7.3.6.2 **Chilled Water Pumping System.** The chilled water hydronic pumping system shall be a "primary-secondary" variable volume pumping system with two-way valves and reverse return piping system. A constant volume pumping system with three-way valves and reverse return piping system may be provided if the total installed motor power for the chilled water pumps on that system is less than 7 hp. For primary-secondary systems, provide a separate "primary" constant volume pump for each chiller. For the "secondary" variable volume or the constant volume systems, provide a chilled water distribution pump sized for full capacity. The pumping system shall be designed to maintain the chiller manufacturer's minimum flow requirements. (9) Manufacturer's recommended service clearance shall be provided. Coordinate with the Civil discipline to provide proper drainage of the trench.

(9)

7.3.6.2.1 **Chilled Water Pump.** Shaft seal shall be mechanical-seal type. Two sets of spare seals shall be provided for each pump installed. Seals shall be placed in a Contractor provided and installed, lockable, wall mounted, enclosure located in the mechanical room. Pump impeller, impeller wearing rings, glands, casing wear rings, and shaft sleeve shall be bronze. Shaft shall be carbon or alloy steel, turned and ground. Pump and motor shall be mounted on a structural steel base with lipped edges or drain pan and tapped drainage openings. Pump motor shall be non-overloading and shall have the required capacity to prevent overloading with pump operating at any point on its characteristic curve. Pump speed shall not exceed 1,750 rpm. The chilled water pump shall be mounted on and anchored to a reinforced concrete housekeeping pad with a minimum of 150 mm (6") clear space from the pump to the edge of the pad. Pumps shall be located within the mechanical room. Pumps curves used for selection of chilled water pumps shall be based on the concentration of glycol used in the system. Pump curves based on water only shall not be used.

7.3.6.3 **Chilled Water System Accessories.** Pump shall be provided with variable frequency drive (vfd) and vfd rated motor, check valve, pressure gauges (inlet and outlet), butterfly valve with memory stop (outlet), strainer, suction diffuser, pressure and temperature ports and isolation valves. Provision shall be made for thermal expansion with a diaphragm expansion tank with an air charge valve and pressure gauge and an air separator with automatic fill valve and air purger. A reduced pressure principle backflow preventer shall be provided for the chiller makeup water line.

7.3.6.4 **Chilled Water Treatment System.** The chiller water shall be treated for freeze protection and to reduce corrosion and scaling. Water quality parameters can be found in the Water Quality and Treatment paragraph. Provide filter type chemical shot feeders. A propylene glycol solution with corrosion inhibitors shall be used in the system and shall provide freeze protection down to -18°C (0°F). System capacities shall be de-rated as

required for glycol. The use of electric resistance heating cable for freeze protection is not permitted.

**7.3.6.5 Unitary Heating and Cooling Systems.** Split-system direct expansion air conditioning units shall be used to heat and cool communication rooms, network server rooms, and network hub and switch rooms. These systems may also be applied to separate small buildings with less than 3.0 tons cooling load. Split-system direct expansion air conditioning units shall be as specified in UFGS 15700A - UNITARY HEATING AND COOLING EQUIPMENT. The units shall be heat pump type units with electric resistance heat back up. The air handling units shall be flush ceiling mounted or surface mounted on the wall within one foot of the ceiling or exposed structure. A condensate drain pan shall be supplied with each unit. Condensate drains shall be terminated at an open site drain to the sanitary sewer. The condensing units shall be located at ground level in an inconspicuous location. They shall not be located to the front of the building. The concrete pad 150mm (6") larger than the equipment on all sides shall be provided for the condensing units. The units shall be anchored to the concrete pad. The system shall have a minimum cop of 3.2 (SEER - 10.1).

(9) **7.3.7 Hydronic System Piping.** Hydronic piping systems shall be designed to be efficient, easily balanced, and accessible. Maximum fluid velocities in the piping systems shall not exceed 1.83 m/s (6 fps). Riser piping between floors shall be limited to mechanical chases. Riser piping located in interior partition or exterior walls is prohibited. Aboveground piping materials shall be copper ASTM B 88, type K or L or shall be Schedule 40 black steel, ATSM A 53 Type E, Grade A. Underground piping shall be a pre-assembled system consisting of schedule 40 black steel ASTM A Type E, Grade A, carrier pipe with polyurethane insulation and fiberglass casing pipe. Dielectric unions shall be provided where dissimilar metals come in contact. Flexible stainless steel pipe connectors may be used only at final connection to heating or cooling coils and shall be installed with minimal bends or offsets. All hydronic piping installed at the facility shall be insulated in accordance with specification UFGS 15080A - THERMAL INSULATION FOR MECHANICAL SYSTEMS. (9)

**7.3.8 Water Quality and Treatment.** The Contractor shall provide a filter/feeder type manual "shot feeder" water treatment system for boiler and chiller water systems. Contractor shall provide a water quality test to confirm the water quality from the new well at the site. The following items are to be confirmed with the test:

1. PH of the water.
2. PPM hardness of calcium carbonate.
3. PPM of calcium.
4. PPM of magnesium.
5. PPM total alkalinity.
6. PPM of chloride.
7. Specific conductance in micro-mho/CC at 21 degrees C (70 degrees F).

The contractor shall provide the initial chemical treatment to bring the water to an acceptable quality in accordance with the boiler and chiller manufacturer's specifications.

**7.3.9 Duct System Design.** All supply and return ductwork for VAV systems shall be sized using the static regain design method or the T-method design method. All supply and return ductwork for single zone, fan coils, and all ductwork for exhaust systems shall be sized using the equal friction design method. Ductwork locations shall be coordinated with all disciplines. All supply, return, intake, and exhaust ductwork shall be constructed of galvanized sheet metal and shall be as specified in UFGS 15895A - AIR SUPPLY, DISTRIBUTION, VENTILATION, AND EXHAUST SYSTEM. Flexible duct run outs shall be limited to 5-foot maximum total length. Flexible duct shall only be used on straight runs of ducts (horizontal or vertical) and shall not be installed with elbows or offsets greater than 1/2 duct diameter. Flexible duct shall not be used for connection to air terminal units. All supply and return ductwork shall be insulated. The ductwork shall be insulated in accordance with UFGS 15080A - THERMAL INSULATION FOR MECHANICAL SYSTEMS. Duct and air distribution devices shall meet the velocity requirements indicated in the 1999 ASHRAE Handbook.

(9) **7.3.10 Noise Analysis.** An acoustic analysis shall be performed for each fan coil unit, air handling unit, air conditioning unit, and associated duct distribution system to assure minimal noise transmission to the spaces. The Room Criteria (Per the 1999 ASHRAE HVAC Applications Handbook, Chapter 46) shall be as follows: (9)

Administrative, Support Rooms, Dining Room:	RC 30-35
Classrooms, Study Rooms, Conference Rooms:	RC 25-30
Music Practice Rooms, Library Reading Rooms:	RC 25-30
Dorm Rooms, Offices (private):	RC 25-30
Circulation and Public Lobbies	RC 35-45

**7.3.11 Ventilation System.** The building shall be provided ventilation in accordance with ASHRAE 62 (1999 edition) based on occupancy and/or type of space. Air distribution systems shall be designed to insure that minimum outside air requirements are continuously provided to the building during heating and cooling seasons. Infiltration shall not be considered as supplementing the ventilation requirement.

**7.3.11.1 Exhaust Systems.** All exhaust systems shall be ducted directly to the building exterior. Exhaust outlets shall not be located near outdoor air intakes to prevent short-circuiting of exhaust air. All exhaust systems shall be provided with back draft dampers. Systems conveying less 600 cfm may use gravity-operated dampers. Systems conveying more than 600 cfm shall use motorized dampers. Venting into attic space is not acceptable. Unless otherwise noted below, all exhaust fans shall be interlocked with the building HVAC controls and shall run continuously. Roof mounted exhaust fans are prohibited.

**7.3.11.1.1 Restrooms.** The restrooms shall have ventilation sized for 25 L/s (50 cfm) per water closet and urinal. Make-up air shall be provided from adjacent conditioned spaces. Maximum allowable noise level for exhaust fans shall be 8 sones.

**7.3.11.1.2 Locker Rooms.** The locker rooms and dressing rooms shall have exhaust systems sized for 2.5 L/s·m<sup>2</sup> (0.5 cfm/ft<sup>2</sup>). Make-up air shall be

7.9.1.6 AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME).

- (1) ASME A112.19.1M (1994) Enameled Cast Iron Plumbing Fixtures.
- (2) ASME A112.19.2M (1990) Vitreous China Plumbing Fixtures.
- (3) ASME A112.19.3M (1987) Stainless Steel Plumbing Fixtures (Designed for Residential Use).

7.9.1.7 NFPA 54, National Fuel Gas Code.

7.9.1.8 PLUMBING AND DRAINAGE INSTITUTE (PDI).

- (1) PDI WH 201 Water Hammer Arresters (1992 Edition).

7.9.2 **Functional and Technical Requirements.**

7.9.2.1 **Equipment and Materials.** All materials and equipment shall be the standard cataloged product of manufacturers regularly engaged in production of such materials and equipment, and shall be the manufacturer's latest standard design. Equipment shall comply with the requirements of Underwriters Laboratories, Inc. (UL), American Gas Association (AGA), Air Conditioning and Refrigeration Institute (ARI), American Society for Testing and Materials (ASTM), National Electric Manufacturers Association (NEMA), American National Standards Institute (ANSI), National Fire Protection Association (NFPA) or other national trade associations as applicable. Equipment selection and layout shall make provision to observe the manufacturers recommended clearances and code clearances.

7.9.2.2 **Access Panels.** Access panels/doors shall be provided and sized as required for valves and appurtenances of the plumbing system in accordance with UFGS 15400A - PLUMBING, GENERAL PURPOSE. Coordinate with the Architectural discipline to ensure that UFGS 05500A - MISCELLANEOUS METALS includes provisions for access panels/doors. Panel location and sizes shall be indicated on the contract drawings.

7.9.2.3 **Plumbing Fixtures and Fixture Allowances** The building shall be provided with sanitary facilities, including provisions for the physically handicapped. The quantity of fixtures required shall be determined based on the total occupancy load of the facility and the minimum plumbing fixture allowances indicated in the Uniform Plumbing Code (UPC), 1997 and in the Planning Document, Appendix B. Fixtures located in the sanitary facilities shall adhere to the requirements indicated in this section and in UFGS 15400A - PLUMBING, GENERAL PURPOSE. Freeze proof wall hydrants shall be located on the building exterior wall so that, with 23 m (75 ft) of garden hose, the area can be watered without crossing main entrances. All lavatory and sink faucets shall be ADA compliant. The plumbing fixtures shall be as specified in UFGS 15400A - PLUMBING, GENERAL PURPOSE:

- (9) a. Water closets (in administrative and educational areas) - Flushometer valve, siphon-jet, elongated bowl, top supply spud, floor mounted. Seat: White plastic, elongated, open front. (9)

- (9) a1. Water closets (in dorm rooms) - Flush tank, siphon-jet, elongated bowl, top supply spud, floor mounted. Seat: White plastic, elongated, open front. (9)
- b. Water closets (handicapped) - Top of bowl shall be 455 mm (18") above the floor. (All other features the same as #a).
- c. Urinals - Wall hung, with integral trap and extended shields, ASME A112.19.2M siphon jet. Top Supply, back outlet.
- d. Service (Mop) sinks - Enameled cast iron, ASME A112.19.1M. 711 mm (28") square. Trap standard. Corner floor mounted.
- e. Lavatories - Enameled cast iron or vitreous china.
- f. Kitchen sink - double bowl, ledge back with holes for faucet and spout. Stainless steel.
- g. Electric Water Coolers (EWC's) - Self contained. Exposed surfaces shall be stainless steel. EWC's shall be handicapped accessible and wall mounted at an accessible height. One electric water cooler shall be provided for each 75 occupants or fraction and at least one per floor. EWC's shall use one of the halogenated hydrocarbons with ozone depletion potential of less than or equal to 0.05.

h. Water Service to GFGI Refrigerators - Water line connections for refrigerators shall be provided. Each water connection shall terminate in a bronze angle valve. Valves shall be fitted with provisions for a 6 mm (1/4") copper tubing compression fitting. Each valve shall be provided in a manufacturer's standard recessed wall box constructed of sheet steel or plastic. Steel wall box shall have a corrosion resistant epoxy enamel finish and color shall be coordinated with the architectural design.

- (9) 7.9.2.4 **Electronic Sensor Fixtures.** Water closets and urinals in the educational and administrative areas shall be equipped with electronic IR sensor operated flush valves. Lavatories in the educational and administrative areas shall be equipped with electronic IR sensor operated faucets. All fixtures shall be UL approved. The fixtures shall be battery operated and the batteries shall have sufficient capacity for at least 250,000 cycles. The fixture shall have adjustable sensor ranges and hold open durations. (9)

7.9.2.5 **Valves.** All plumbing fixture valves shall be UL or FM approved and shall be provided in accordance with the Uniform Plumbing Code and UFGS 15400A - PLUMBING, GENERAL PURPOSE. Valves shall be provided on supplies to equipment and fixtures. Valves 65 mm (2 1/2") and smaller shall be chrome plated bronze with threaded bodies for pipe and solder-type connections for tubing. Valves 80 mm (3") and larger shall have flanged iron bodies and bronze trim. Pressure ratings shall be based upon the application.

7.9.2.6 **Domestic Water Supply.** Cold and hot water service for each building shall be brought into a mechanical room or an exterior accessed utility closet, whichever is available. Cold-water service to the building which houses the mechanical room shall include a reduced pressure principal backflow preventer assembly (installed in horizontal position) with ball valves, a union followed by a tee (for supply to the irrigation system), a ball valve, and a hose bibb before it services anything else in the building.

The water service to the irrigation system, immediately downstream of the tee from the main water service, shall be provided with a reduced pressure principle principal backflow preventer assembly (installed in horizontal position) with ball valves before it proceeds underground to the irrigation system. The irrigation system controls shall also be located within the mechanical room. Irrigation system requirements shall be coordinated with the Civil and Landscaping disciplines. Cold and hot water service to each of the other buildings shall be located in an exterior accessed utility closet and each shall include a union and a ball valve before serving any fixtures within the facility.

**7.9.2.7 Domestic Water Supply Distribution Piping.** Cold and hot water distribution piping to each building shall be routed underground. Piping shall not be installed below floor slabs of any building. A typical water riser location shall be provided for each dorm building and each shall be provided with an accessible shut-off valve. All underground distribution piping shall be direct buried at no less than 0.61 m (2'-0") below grade. All underground domestic hot and hot water circulating piping shall be insulated in accordance with UFGS 15080A - THERMAL INSULATION FOR MECHANICAL SYSTEMS.

(9) **7.9.2.8 Domestic Water Piping System Design.** The domestic cold and hot water piping systems shall be designed for a maximum system piping loss in accordance with UPC Appendix A, 1997 at full system flow. Velocities within any main or branch of the piping system shall be in accordance with UPC Appendix A, 1997. Provide calculations indicating the piping system losses and flow rates. The piping shall be extended to fixtures, outlets, and equipment. The domestic hot-water and cold-water piping system shall be arranged and installed to permit draining. The supply line to each item of equipment or fixture, except faucets, flush valves, or other control valves which are not supplied with integral stops, shall be equipped with a shutoff valve to enable isolation of the item for repair and maintenance without interfering with operation of other equipment or fixtures. Supply piping to fixtures, faucets, hydrants, shower heads, and flushing devices shall be anchored to prevent movement. (9)

**7.9.2.9 Domestic Water Heating Systems.** Domestic water heating shall be a domestic gas-fired heating boiler and vertical storage tank(s) assembly with an operating temperature of 60° C (140° F). The hot water supply temperature serving the washing machines shall be 60° C (140° F) and the hot water supply temperature serving all other areas shall be 43° C (110° F). The size of the domestic hot water heating system shall be in accordance with Chapter 48 of the 1999 ASHRAE Applications Handbook. The hot water heating system shall be located in the mechanical rooms. The hot water heating system shall include a hot water circulation loop with calibrated balancing valves. Hot water circulation system shall be provided with controls which will start/stop circulating pump based on a maximum allowable temperature drop within the hot water distribution system of 5° C (9° F). The capacity of hot water storage tank shall be a maximum of 1515 Liters (400 Gallons) and shall be limited to 84" in height. Water heaters shall be provided with fully automatic controls with safety shut-offs. Water heating boilers shall meet ASHRAE 90A standards and have a minimum thermal efficiency of 80 percent.

equipment room. In addition to signaling the fire alarm system, these detectors shall activate the elevator system's emergency operation control circuit in accordance with the requirements of ANSI A17.1. If smoke detection is required in high bay areas, linear beam detectors shall be provided, per BIA Design Criteria.

8.3.15.2.2 Heat Detection: If the facility is provided with an elevator, fixed temperature heat detectors (intermediate temperature rated) shall be provided for each elevator hoistway and the related equipment room in accordance with the requirements of NFPA 72. In addition to signaling the fire alarm control panel, the detectors shall initiate elevator power shunt trip in accordance with the requirements of ANSI A17.1.

8.3.15.2.3 Manual Pull Stations: Manual pull stations shall be provided at each exterior doorway and at other locations as required by NFPA 101. A minimum of four initiating zones (one per each quadrant of the building) shall be provided. Each manual pull station shall be provided with a stopper equipped with a pre-alarm function (similar to existing manual pull stations at existing BIA schools). Coordinate with BIA and the Contracting Officer.

8.3.15.2.4 Flow Indicator Switches: Each flow indication switch, as required for the fire suppression system, shall be connected to the fire alarm control panel via a separate zone. If the facility is provided with an elevator, a separate flow switch shall be provided for it and, therefore, a separate flow zone is required. In addition to signaling the fire alarm control panel, the flow switch for the "elevator system" shall transmit signals to the elevator control panel which shall initiate elevator power shunt trip.

8.3.15.3 **Indicating Devices.** Combination alarm horn/strobe devices and strobe devices shall be located throughout the facility, in accordance with NFPA 72 requirements and ADA Guidelines. In addition, a weather-proof electric alarm bell shall be located on the wall outside of each mechanical room.

8.3.15.4 **Supervisory Devices.** Tamper switches shall be provided for the post indicator valve (PIV) and for each other sprinkler system control valve in the facility. Separate initiating zones shall be provided for all tamper switches which are not physically located within the same room.

8.3.15.5 **Output Controlled Devices.** Any alarm condition shall cause automatic shutdown of all supply air handling units which supply over 2000 cfm. A separate fan-shutdown panel shall be provided; coordinate this provision with mechanical. In addition, any alarm condition shall initiate automatic closure of all combination fire/smoke dampers and fire doors (if provided) within the facility. All such dampers and doors shall be powered from the fire alarm control panel (coordinate with mechanical).

(9) 8.3.16 **Telephone System.** Each building shall be pre-wired with a complete and operational Digital Telephone System, to include telephone instruments (as described below) for each outlet. The system shall include the PBX, a Voice Mail System, and all associated switching hardware, centrally located in the (9)

8.3.16.5 **Grounding and Bonding.** The telephone system installation shall be grounded and bonded per EIA 607.

8.3.16.6 **Testing.** All telephone system installations shall be tested for CAT-5e performance per EIA 568A.

8.3.16.7 **Outlet Location Requirements.** Provide a minimum of one (1) standard modular duplex telephone outlet (2 RJ-11 receptacles) in each location as indicated in the room-by-room requirements of the Architectural Design Data for Wingate Elementary School and at each workstation, workstation cubicle, office, maintenance shop, classroom, and conference room.

(9) 8.3.16.8 **Telephone Instruments.** One telephone instrument with conferencing capability, speaker phone, caller ID, and standard telephone features shall be provided for 70% of the duplex telephone outlet provided throughout the facility. Each telephone instrument shall provide access to the Voice Mail System and the integrated Master Clock and Intercom/Public Address System. Administration telephone instruments shall be provided with additional system features as necessary. (9)

8.3.16.9 **Additional Requirements.** For additional telephone requirements and outlet locations, see the room-by-room requirements indicated in the Architectural Design Data for Wingate Elementary School.

8.3.17 **Cable Television System (CATV).** Cable television receptacles (video ports) shall be provided as required in the room-by-room requirements of the Architectural Design Data for Wingate Elementary School. Wiring shall be homerun style to a central distribution point. From there, riser cable in conduit shall be provided to a location as coordinated with the CATV provider, BIA, and the Contracting Officer (see exterior requirements above). Provisions for a future connection to a satellite TV system shall be made. All circuits shall be concealed, routed in their own conduit system. Conductors, wiring method, and method of termination shall be as required by standard CATV requirements and the local CATV provider.

8.3.18 **Data (LAN) Communications System.** Data communications (LAN) systems shall be provided throughout each building. The requirements for the systems are as given herein and in the room-by-room requirements of the Architectural Design Data for Wingate Elementary School. A complete system shall be provided, including raceway systems, wire and cable, connections and termination devices and equipment racks. All cables installed shall be terminated. For each device or location listed, the Contractor shall provide a quadruplex LAN/Data outlet. The systems shall be provided with a performance warranty covering the entire system. The systems installation shall be a Category 5e system per EIA 568A. The system installation shall be coordinated with the Contracting Officer and the local telephone service company.

8.3.18.1 **Outlet Terminations.** LAN/Data System receptacles shall be modular, eight-position RJ-45 type receptacles, rated for CAT-5e installation, per EIA 568A. Each outlet location shall be a quadruplex (quad port) installation,

8.3.21 **Communications Conduit.** Conduits for Telephone, Public Address, Clock, and LAN system cables shall be installed from each termination point or connection device to the cable tray system where utilized, in the space above the ceiling. Where individual circuits branch out from the cable tray in conduit, the conduit shall be fastened to the cable tray using approved conduit fasteners manufactured specifically for that purpose.

8.3.22 **Intrusion Detection System.** An intrusion detection system shall be provided and coordinated for the facility with each area function and times of occupation taken into consideration. The system shall include microprocessor-based central controls and a communication link to perform monitoring and alarm functions. The system shall include remote intrusion sensors, motion detection devices, glass break detectors, balanced magnetic switches, and access control to each classroom using electric strikes. The system shall be physically and electronically modular with provisions for future expansion. Site access control recommendations shall be developed and included in the project. All IDS requirements shall be coordinated with BIA and the Contracting Officer. Provide all IDS wiring in EMT, IMC, or RGS conduit.

8.3.23 **Sound Reinforcement and Projection Systems.** Provide complete sound reinforcement systems for the Gymnasium, Cafeteria, Classrooms, and all areas indicated in the room-by-room requirements of the Architectural Design Data for Wingate Elementary School. Equipment shall include racks, amplifiers, microphones, and input devices, each tailored to each specific room use. Provide projection system wiring and ports as indicated in the room-by-room requirements of the Architectural Design Data for Wingate Elementary School.

8.3.24 **Special Requirements by Area.** For additional and special requirements by area see the room-by-room requirements of the Architectural Design Data for Wingate Elementary School, herein.

(9) 8.4 **Maintenance Facility.** All of the above electrical equipment, systems, and facilities, for both the exterior and interior work shall be designed and provided with spare capacity, as necessary, to support systems (power, communications, etc.) supplying a maintenance facility (which may be provided as an option under this contract).

(9)