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December 13, 2004

Associates
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Robert M. Coleman and Partners, Architects AIA
3377 North Blvd.
Baton Rouge, LA 70806

Re: McKinley Middle Magnet School
1550 Eddie Robinson Sr. Drive
Baton Rouge, LA 70802

Addendum Number Two

Robert M. Coleman
& Partners

The following items shall be considered part of the Contract Documents for the above referenced project and shall take precedence over any conflicting statements contained therein. Revise all other notes, schedules, details, elevations, sections as required.

Architects
A.I.A.

General Items

Tax Exempt Status: Paragraph 3.6 TAXES and sub-paragraph 3.6.1 of the General Conditions of the Contract for Construction AIA Document A201-1997 is modified to read as follows:

The Contractor is designated as the purchasing Agent for the East Baton Rouge Parish School Board for the McKinley Middle Magnet Project only. Accordingly, Contractor as the agent and instrumentality of the East Baton Rouge Parish School Board shall not be liable for the payment of both state and local sales and use taxes. Contractor shall make provisions that the materials and equipment purchased by it on behalf of the East Baton Rouge Parish School Board for incorporation into the Project provide for the title to directly pass from the vendor to the East Baton Rouge Parish School Board. The Contractor shall make payment for all tax-exempt purchase of materials and equipment using funds accounted to the East Baton Rouge Parish School Board. All authority granted herein to act as the purchasing agent on behalf of the School Board; all records of the Contractor involving purchases, material and equipment shall be subject to audit by the School Board and its retained auditors. Except when the Contractor is acting as the purchasing agent or the instrumentality of the School Board, the Contractor shall pay applicable sales, consumer, use and similar taxes for the work provided by the Contractor, whether or not effective or merely scheduled to go into effect.

Sewer Impact Fee: The sewer impact fee for this project will be paid for by the East Baton Rouge School Board.

Geotechnical Report: A copy of the geotechnical report is included on the web site for your use in bidding this project. Paper copies are available upon request from Letterman's Blue Print and Supply.

3377 North Blvd.
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Page 1 of 6
McKinley Middle Magnet
Addendum No. Two

tel 225.387.4414
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Laundry Equipment: The laundry room equipment, which will be large capacity residential type in nature, will be furnished and installed by the owner.

Drawing Items

Refer to 1A1.1, Dumpster Enclosure

The 16'-8" x 25'-0" dumpster enclosure shall have a 7 ½" concrete slab with reinforcing to match the bus drop off lane at the south end of the site. This slab shall rest on a 16" x 16" grade beam reinforced with four #4 bars continuous (two top & two bottom) and # 3 stirrups at 24" oc.

Refer to 4A1.1, Partial Elevation of Fence (Alternate No. One)

Refer to the attached revised sketch of the steel fence.

Refer to sheets A2.1 and A3.2, Food Service Area

- Construct a 30" wide x 48" high masonry wall between work table (Item No. 13) and preparation counter (Item No 14) as shown on sheet FS-1, FS-3 and FS-4.
- Construct 24" high knee walls at serving counters and as indicated on sheet FS1.

Refer to drawings 1A3.1, 1A3.5 and 2A3.5, Keynote 12348.A1

An elevation drawing of the teacher's desk can be found on detail 20A10.10.

Refer to drawings 2A7.4 and 3A7.4 – Handrail

Revise the detail as follows:

- The perforated aluminum shall be 3003-H14 aluminum and shall be anodized after perforation. Contractor shall furnish 12" x 12" samples and shop drawings for review by the architect.
- Provide and install a horizontal 1 inch diameter slotted steel rail at the bottom of the perforated panel continuous between the vertical supports to receive the perforated panel.

Refer to 3A8.4, Eave Detail

Provide and install a continuous 14 ga galvanized bent steel plate (with 6 inch legs) along end of all roof trusses typical. Refer to attached sketch.

Refer to drawing 14A9.5

The perforated aluminum panels shall be 3003-H14 aluminum, shall be anodized after perforation and shall be .25 inches thick. McNichols Company and Ametco are manufacturers of perforated panels.

Refer to drawing 3A10.8

The "Drama Faces" shall be Type 304 stainless steel. Architect will furnish a Autocad drawing of faces for use by the contractor. Contractor shall furnish 12" x 12" samples and shop drawings for review by the architect.

Refer to drawing 1M3.2, Plumbing Plan

- Provide and install area floor drains as indicated on sheet FS-3. Extend plumbing lines to all the floor drain locations (area clean up drains) shown on sheet FS-3.
- Provide and install floor drains in front of the "Tilting Brazing Pans – Item 21". Extend plumbing lines to previously noted drains. Refer to FS-3.

Refer to drawing 1E4.4, Kitchen Floor Plan

- Install receptacles for kitchen equipment at serving line locations in knee wall in lieu of floor in accordance with sheet FS-4.

Specifications

Bid Form – Liquidated Damages

Paragraph 5 has been revised to include liquidated damages of \$1000.00 per day. A revised copy of the bid form is attached for use in bidding this Project.

Bid Form – Alternates

The revised bid form includes provisions for the following Alternates:

Alternate No. One – Alternate one shall include the following:

- Provide and install the drilled shaft foundations, brick columns, pre-cast concrete knee wall, gates and steel fencing around a portion of the site as shown in sheet A1.0, detailed on sheet A1.1 and revised in attached sketch SK-4.
- In addition, provide and install three 5'-0" wide access gates (Re: 9A1.1) as indicated on the sheet A1.1.
- Provide and install two +/- 9'-0" wide access gates at south end of building beneath bus drop off canopy in accordance with the attached details and including 2x2 perimeter stiles and rails, diagonal bracing, and gate spring roller with 3" swivel caster at latch end. Refer to attached sheet SK-2 and SK-3.
- Provide and install two pairs of swinging gates at the entry drives at the north end of the site in accordance with the attached details. Revised civil drawings detailing the reduced width of the entry drives will be provided once construction begins. Refer to attached sheet SK-1.
- Contractor shall coordinate final grades and elevations with architect and engineer prior to construction. Ornamental fencing shall be in accordance with the attached Specification Section 05521.

Alternate No. Two – Provide three sections of portable bleachers as described in this addendum number two.

Specification Section 2300 – Earthwork

The demolition contractor will be providing two stockpiles of base materials on this site for use in this project. The demolition contractor will be providing 1800 cy of material for Stockpile A and 1600 cy of material in Stockpile B. A copy of the characteristics for that material is included in the attached copy of the earthwork specification from the demolition project.

Specification Section 03300 – Concrete Work

Earth-forming of unexposed concrete work is acceptable.

Specification Section 03450 – Pre-Cast Concrete

A copy of the above noted specification section is enclosed for your use.

Specification Section 04200, Paragraph 2.2 - 6b – Masonry

Accent brick color to be Blend 154 by Acme.

Specification Section 07719 – Metal Soffit Panels

The fascia (keynote 07719.A3) shall be formed from 22 gage material to match the soffit finish.

Specification Section 09642 – Gymnasium Wood Flooring

The flooring system described in paragraphs 2.1 and 2.2 shall be deleted.

The gymnasium wood flooring system shall be:

- 1) Connor's Duracushion III
- 2) Aacer's AacerCush I Plus
- 3) Or equal system by Robbins

Utilizing the following materials:

- Vapor barrier shall be 6-mil polyethylene.
- Resilient Subfloor Pads
- 3/8" Resilient Pad.
- Sleepers shall be nominal 2" x 3", SPF treated.
- Plywood panel shall be 15/32" CDX grade, 4ply.
- Sheeting attachment shall be 1" coated staples or nails.
- Flooring –Maple 25/32" x 2¼" 2nd & Better Grade Northern Hard Maple flooring tongued, grooved and end-matched.

Specification Section 09642, Paragraph A-1.2 – Gymnasium Wood Flooring

The allowance for artwork that is to be included in the bid for this project is five thousand dollars.

Specification Section 10443 – Non-Illuminated Interior Signs

A copy of the interior signage specification is attached for you use.

Specification Section 11400 – Food Service Equipment

EQUIPMENT SPECIFICATION REVISION:

ITEM NO. 22 CONVECTION STEAMERS (THREE REQUIRED): Units shall be Cleveland No. 24-CGA-10, each with components/features/ accessories as follows:

- a. One (1) 12" x 20" x 2-1/2" deep stainless steel perforated pan
- b. One (1) 12" x 20" x 2-1/2" deep stainless steel solid pan
- c. One (1) 12" x 20" x 4" deep stainless steel perforated pan
- d. One (1) 12" x 20" x 4" deep stainless steel solid pan

Specification Section 11490 – Gymnasium and Athletic Outdoor Equipment

The dimensions of the basketball backboard shall conform to the size recommendations of the Louisiana High School Athletic Association.

Specification Section 12610, Paragraph 2.3D – Fixed Audience Seating

Provide the number of seats shown on the sheet A13.1. Provide tablet arms on ½ of those seats. Every other seat shall be equipped with a tablet arm. The final pattern and layout shall be approved by architect.

Specification Section 12760 and Keynote 12760.A1 – Portable Bleachers – Alternate Number Two

Provide and install 3 sections of "Tip-N-Roll" Bleachers in accordance with the following requirements:

- Two units shall be 21'-0" in length and 3 rows in depth.
- One unit shall be 15'-0" in length and 3 rows in depth.
- Seats shall be nominal 2x10 anodized aluminum plank with 2x10 end caps.
- Treads shall be 2 x 10 aluminum plank with end caps.
- Framework shall be hot dipped galvanized steel and welded construction.

- Seat Planks shall be extruded aluminum alloy 6063-t6, with clear anodized coating.
- Tread Planks shall same as above but with mill finish.
- 5 inch non-marring swivel casters.
- Designs loads: Live load of 100 psf gross horizontal projection, lateral sway load of 24 plf seat plank, Perpendicular sway load of 10 plf seat plank, Live load of seat planks and tread planks of 120 plf.
- Approved manufacturers: Outdoor Aluminum Inc. and National Recreation Systems

Prior Approvals

NOTE: Acceptance of a particular manufacturer does not excuse that particular manufacturer from meeting the plans and specifications. Compliance with specifications is the responsibility of the prior approval manufacturer.

Specification Section 03300, Paragraph 2.4D– Cast in Place Concrete
W.R. Meadows of Texas, Sealtight

Specification Section 08410 – Aluminum Storefronts
US Aluminum

Specification Section 08911 – Glazed Aluminum Curtain Walls
US Aluminum

Specification Section 09642 – Gymnasium Wood Flooring
Aacer Flooring

Specification Section 9680 – Carpet
Carpet (C-1) – Crossley #30311 Starting Point –Color to be selected by Architect
Carpet (C-2) – Crossley #30312 Opening Lines –Color to be selected by Architect

Specification Section 10505 – Metal Lockers
Pemko
Lyon

Specification Section 11490 - Gymnasium and Outdoor Athletic Equipment
Performance Sports Systems

Specification Section 12322 – Plastic Laminate Casework
LSI Corporation of America

Specification Section 12348 – Wood Laboratory Casework
Campbell Rhea Casework

Specification Section 12610 – Fixed Audience Seating
Irwin Seating
Seating Concepts

Food Service Revisions

Refer to the attached two page letter from Futch Design dated December 10, 2004 for a list of prior approved items.

Mechanical Electrical and Plumbing Revisions

Refer to the attached four page memo from AST dated December 13, 2004 for additional addendum items.

End of Addendum No. Two

BY: Joe Saffiotti - Architect
Robert M. Coleman & Partners, Architects

3. **TIME OF COMPLETION:** Bidder hereby agrees the Contract Time shall commence ten (10) days from the date of the Award Notice or as established in a Notice to Proceed with work at the site, whichever occurs first and shall substantially complete the work within Four hundred fifty (450) consecutive calendar days or within the time as may be extended as provided in the Contract Documents and final completion within thirty (30) days of the date of Substantial Completion.

4. **BID SECURITY:**

Bid security in the amount of five percent (5%) of the Base Bid and any additive alternates is attached, which is to become the property of the Owner in the event the Contract and Performance Bond and Payment Bond are not executed within the time set forth, as liquidated damages for the delay and additional cost caused the Owner.

The Undersigned agrees that upon receipt of the Notice of Award of his Bid, he will, within ten (10) days from the Notice of Award, execute the formal Contract (AIA Document A101-1997), and will deliver a Performance Bond for the faithful performance of this Contract, a Labor and Materials Payment Bond, and such other bonds and insurance as required by the specifications.

The Undersigned further agrees that if he fails or neglects within the specified time to execute the Contract of which this Proposal, the Bidding Documents and the Contract Documents are a part, the Undersigned will be considered as having abandoned the Contract, and the Bidder's Bond accompanying this Proposal will be forfeited to the Owner by reason of such failure on the part of the Undersigned.

5. **LIQUIDATED DAMAGES:**

The bidder agrees to pay as Liquidated Damages the sum of One Thousand dollars (\$ 1,000.00) for each consecutive calendar day for which the work is not substantially complete beginning with the first day beyond the completion time stated above. Further, bidder agrees to pay as Liquidated Damages, the sum of One Thousand dollars (\$ 1,000.00) for each consecutive calendar day for which the list of items to be completed or corrected (punch list) is not complete beginning with the thirty-first day after the date of substantial completion. Set sums shall in no event be construed to be a penalty; but only as damages fixed and agreed upon in advance.

6. **NONCOLLUSION AFFIDAVIT:**

The bidder agrees and has executed the Non-collusion Affidavit, which is a part of the Bidding Documents. The affidavit is attached by the bidder to this Bid Form.

7. **LICENSE CERTIFICATION:**

The bidder by signing below certifies that he meets all licensing requirements for the State of Louisiana and is duly and currently licensed under La.R.S. 37:2150, et seq., of the State of Louisiana. **The bidder shall show his license number on the envelope containing this bid proposal and above his signature at the end of this bid.**

8. PREFERENCE:

Only if a non-resident contractor, bidder certifies that his state of domicile.

Provides

- or -

Does not Provide

(Strike Out Inapplicable Phrase)

percentage preference in the favor of contractors domiciled in the state of his domicile over Louisiana resident contractors for the same type of work. If there is a preference, it is _____% (Fill in if applicable).

Respectfully submitted,

**LOUISIANA CONTRACTOR'S
LICENSE NUMBER** _____

Signature of Bidder: _____

Print Name and Title: _____

**If a Sole Proprietorship
Doing Business as:**

Business Address: _____

Telephone Number: _____

If a Partnership: Name of Business:

Name of Partners: _____

Business Address: _____

Telephone Number: _____

If Corporation: Name of Corporation:

State of Incorporation: _____

Business Address: _____

Telephone Number: _____

DATE SIGNED

ATTACHMENTS:

Bid Security
Non-Collusion Affidavit

SECTION 02300 - EARTHWORK

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Preparing subgrades for future slabs-on-grade, walks, pavements, lawns, and plantings.
 - 2. Stockpiling drainage fill and base material for slabs and pavement.
- B. Related Sections include the following:
 - 1. Division 1 Section "Construction Facilities and Temporary Controls."

1.3 DEFINITIONS

- A. Base Course: Layer placed between the subgrade and paving.
- B. Backfill: Soil materials used to fill an excavation.
- C. Borrow: Satisfactory soil imported from off-site for use as fill or backfill.
- D. Excavation: Removal of material encountered above subgrade elevations.
 - 1. Additional Excavation: Excavation below subgrade elevations as directed by Geotechnical Engineer. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
 - 2. Bulk Excavation: Excavations more than 10 feet in width and pits more than 30 feet in either length or width.
 - 3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated dimensions without direction by Geotechnical Engineer. Unauthorized excavation, as well as remedial work directed by Geotechnical Engineer, shall be without additional compensation.
- E. Fill Materials: Materials as described in the Products Section of this specification suitable for fill placement.
- F. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.
- G. Subgrade: Surface or elevation remaining after completing excavation, or top surface of a fill or backfill immediately below subbase, drainage fill, or topsoil materials.

1.4 SUBMITTALS

- A. Material Test Reports: From a qualified testing agency indicating and interpreting test results for compliance of the following with requirements indicated:
 - 1. Classification according to ASTM D 2487 of each on-site or borrow soil material proposed for fill and backfill.
 - 2. Laboratory compaction curve according to ASTM D 698 for each on-site or borrow soil material proposed for fill and backfill.

1.5 QUALITY ASSURANCE

- A. Geotechnical Testing Agency Qualifications: An independent testing agency qualified according to ASTM E 329 to conduct soil materials and rock-definition testing, as documented according to ASTM D 3740 and ASTM E 548.

1.6 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted in writing by Architect and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's written permission.
 - 3. Contact utility-locator service for area where Project is located before excavating.
- B. Demolish and completely remove from site existing underground utilities indicated to be removed. Coordinate with utility companies to shut off services if lines are active.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils, Structural Fill and Select Fill: Cohesive soil materials free of excess silt, organic or other deleterious materials; having a liquid limit (LL) less than 40 and plasticity index (PI) of 15 to 20.
- C. Backfill and Fill: Satisfactory soil materials.
- D. Base Material: Material required under all future pavements.
 - 1. Stockpiled Material A: Recycled Portland Cement Concrete from the demolished site, graded in accordance with Section 1003.03(e) of the Louisiana Standard Specifications for Road and Bridges, 2000 Edition.
- E. Bedding: Naturally or artificially graded mixture of natural or crushed gravel, crushed stone, and natural or crushed sand; ASTM D 2940; except with 100 percent passing a 1-inch sieve and not more than 8 percent passing a No. 200 sieve.
- F. Drainage Fill: Material required under all future building slabs.

1. Stockpiled Material B: Recycled Portland Cement Concrete from the demolished site, graded in accordance with ASTM C-33, Size 8.

SIEVE SIZE	% PASSING
1/2	100
3/8	85-100
#4	10-30
#8	0-10

2.2 ACCESSORIES

- A. Detectable Warning Tape: Acid- and alkali-resistant polyethylene film warning tape manufactured for marking and identifying underground utilities, minimum 6 inches wide and 4 mils thick, continuously inscribed with a description of utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
 1. Red: Electric.
 2. Yellow: Gas, oil, steam, and dangerous materials.
 3. Orange: Telephone and other communications.
 4. Blue: Water systems.
 5. Green: Sewer systems.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

3.2 DEWATERING

- A. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- B. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
 1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.
 2. Install a dewatering system to keep subgrades dry and convey ground water away from excavations. Maintain until dewatering is no longer required.

3.3 EXCAVATION, GENERAL

- A. Unclassified Excavation: Excavation to subgrade elevations regardless of the character of surface and subsurface conditions encountered, including rock, soil materials, and obstructions.
 1. If excavated materials intended for fill and backfill include unsatisfactory soil materials and rock, replace with satisfactory soil materials.

3.4 EXCAVATION FOR TRENCHES

- A. Excavate trenches to uniform widths to provide a working clearance on each side of pipe or conduit. Excavate trench walls vertically from trench bottom to 12 inches higher than top of pipe or conduit, unless otherwise indicated.
 - 1. Clearance: Minimum excavation width for trenches shall be 12 inches on each side of pipe or conduit or as indicated.
- B. Trench Bottoms: Excavate trenches 6 inches deeper than bottom of pipe elevation to allow for bedding course. Hand excavate for bell of pipe.

3.5 APPROVAL OF SUBGRADE

- A. Notify Geotechnical Engineer when excavations have reached required subgrade.
- B. If Geotechnical Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.
 - 1. Additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- C. Proof-roll all building and pavement subgrade areas with a "sheep's foot" roller or a maximum 7-cubic yard dump truck loaded with soil to identify soft pockets and areas of excess yielding. Soils which are observed to rut or deflect excessively under the moving load should be undercut and replaced with Satisfactory Soil materials or stabilized with the addition of six (6) percent, by volume, of hydrated lime and compacted to 95% of Standard Proctor (ASTM D-698).
- D. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Geotechnical Engineer.

3.6 UNAUTHORIZED EXCAVATION

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill may be used when approved by Geotechnical Engineer.
 - 1. Fill unauthorized excavations under other construction or utility pipe as directed by Geotechnical Engineer.

3.7 STORAGE OF SOIL MATERIALS

- A. Stockpile borrow materials and satisfactory excavated soil materials. Stockpile soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
 - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.
- B. Recycled materials from demolition shall be crushed and stockpiled similar to borrow materials and separate based on the following:
 - 1. Stockpiled Material A: Recycled Portland Cement Concrete from the demolished site, to be used as base material under future pavements.

2. Stockpiled Material B: Recycled Portland Cement Concrete from the demolished site, to be used as drainage fill under future building slabs.
- C. Provide permanent 8' chain link fence and accessible gates with security features around permissible stockpile area.

3.8 BACKFILL

- A. Place and compact backfill in excavations promptly, but not before completing the following:
1. Construction below finish grade including, where applicable, dampproofing, waterproofing, and perimeter insulation.
 2. Surveying locations of underground utilities for record documents.
 3. Inspecting and testing underground utilities.
 4. Removing trash and debris.
 5. Removing temporary shoring and bracing, and sheeting.

3.9 FILL

- A. Preparation: Remove vegetation, topsoil, debris, unsatisfactory soil materials, obstructions, and deleterious materials a minimum of 4 to 6 inches from ground surface before placing fills.
- B. The first layer of fill should be placed in a relatively uniform horizontal lift and be adequately keyed into the stripped and proof-rolled soils.
- C. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.

3.10 MOISTURE CONTROL

- A. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
- B. Remove and replace, or scarify and air-dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.
- C. If water must be added, it should be uniformly applied and thoroughly mixed into the soil by disking or scarifying.

3.11 COMPACTION OF BACKFILLS AND FILLS

- A. Compact soils within range of 1 percentage point below and to 3 percentage points above the optimum moisture content value.
- B. Place backfill and fill materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- C. Place backfill and fill materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- D. Compact soil to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:

1. Under structures, building slabs, and steps, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill material to at least the listed percentages of Modified Proctor density as determined by ASTM D 1557.
 - a. From top of base to 3 feet below finished grade - 92%
 - b. From 3 feet to 7 feet below finished grade - 90%
 - c. For all lifts below - 88%
2. Under future pavements and walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material to at least 90 percent of Modified Proctor density as determined by ASTM D 1557.
 - a. From top of base to 3 feet below finished grade - 90%
 - b. For all lifts below - 88%
3. Under lawn or unpaved areas disturbed by construction, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill material to at least 88 percent of Modified Proctor density as determined by ASTM D 1557

3.12 GRADING

- A. General: Uniformly grade areas to a smooth surface, free from irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
 1. Provide a smooth transition between adjacent existing grades and new grades.
 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
 1. Lawn or Unpaved Areas: Plus or minus 1½ inch.
 2. Walks: Plus or minus 1 inch.
 3. Pavements: Plus or minus ½ inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1-inch when tested with a 10-foot straightedge.

3.13 FIELD QUALITY CONTROL

- A. Testing Agency: Owner will select and contractor will pay for a qualified independent geotechnical engineering testing agency to perform field quality-control testing.
- B. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earthwork only after test results for previously completed work comply with requirements.
- C. Testing agency will test compaction of soils in place according to applicable ASTM Standards for material type. Tests will be performed at the following locations and frequencies:
 1. At subgrade and at each compacted fill and backfill layer, at least one test for every 2000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.
- D. Testing agency will test gradation of stockpiled materials A and B at a daily frequencies
 1. Recycled material not achieving the gradation specified, shall be re-crushed if too large or properly disposed if too small:

- E. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil to depth required; recompact and retest until specified compaction is obtained.
- F. Compliance cross sections: On completion of the Project, perform a topographic survey of completed embankment and prepare base map and cross sections at 50' intervals along Baseline "B". Surveyed base map shall be prepared in AutoCAD Format, Release 2000 with contours generated at 1-foot intervals.
- G. Settlement gages shall be furnished and installed to monitor the rate of settlement.
 - 1. Prior to placing of fill material, each gage shall be installed on the prepared foundation at intervals not to exceed 200 feet along Baseline "B", and shall be maintained during construction. The gage location shall be offset from the Baseline to coincide with the maximum estimated settlement along that transverse section. Settlement gages at each end of the work shall be placed within 50 ft. of the ends of the fill. Each gage shall be set on a smooth level surface on undisturbed ground. Leveling of gage beds shall be accomplished by removing the minimum amount of earth necessary to produce an even foundation and in such manner that the density of gage beds will remain at the same density as the undisturbed adjacent ground. (Burying the settlement gage below the existing ground surface will not be permitted. Leveling of gage beds by the addition of fill will not be permitted. The type of gage used shall be as shown on the Drawings. The Contractor shall determine elevations of the gages prior to placing of fill material and again within 72 hours after compliance cross sections have been taken over the completed embankment at the sites of the gages to determine settlement of the foundation. The initial and final elevation of the gages will be verified by the Owner's Representative at the site. Installation of and measurement on gages shall be at the expense of the Contractor. When the settlement gage is reinstalled or is located by boring with rotary drill, the drill hole shall be filled with a neat cement-grout tremied from the bottom of the drill hole to the top of the drill hole.

3.14 PROTECTION

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
 - 1. Scarify or remove and replace soil material to depth as directed by Geotechnical Engineer; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
 - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to the greatest extent possible.

3.15 DISPOSAL OF SURPLUS AND WASTE MATERIALS

- A. Designated Spoil Areas: Contractor shall have the option to spread excess soil materials, excluding trash, debris, stumps and roots, in areas as designated on the Drawings. Spoil areas shall be graded to drain and smooth with finished slopes not exceeding 1 on 4.

- B. Disposal: Remove surplus satisfactory soil and waste material, including unsatisfactory soil, trash, and debris, and legally dispose of it off Owner's property.

END OF SECTION 02300

FUTCH DESIGN ASSOCIATES, INCORPORATED
FOOD FACILITIES DESIGNERS AND CONSULTANT
8966 INTERLINE AVENUE, SUITE C BATON ROUGE, LOUISIANA 70809
PHONE: 225-923-1289 _ FAX: 225-923-1314 _ E-MAIL: fsdesign@futch.com

December 10, 2004

Mr. Joe Saffiotti
Robert M. Coleman & Partners
3377 North Boulevard
Baton Rouge, LA 70806

re: McKinley Middle School
Baton Rouge, LA

Dear Joe:

We have reviewed prior approval requests from Cayard's, INC., Buckelew's Food Serving Equipment, and Alack Refrigeration dated December 6, 2004, December 7, 2004 and December 9, 2004 respectively, with Gerald Sibley and agree to accept the following brands/manufacturers provided the intent of the specifications are met:

1. Item No. 7 Walk-In Cooler/Freezer: Masterbilt, & Kolpak
2. Item No. 8 Remote Refrigeration System: Masterbilt, & RDI
3. Item Nos. 13,14, 18, 18a, 19, 27, 28, 31, 33, 47, 54; (Custom Fabrication):
Supreme Fixture, Select Stainless, & Universal Stainless
 - a. Sink Faucets: Fisher
4. Item Nos. 17, 38(2); (Refrigeration): True, & Traulsen
5. Item No. 21 Tilting Braising Pans (2): Cleveland
6. Item No. 22 Convection Steamers (3): (Note: Cleveland spec to replace Groen per addendum)
7. Item No. 23 Convection Ovens (3): Garland

8. Item No. 24 Utility Distribution System: CaptiveAire
9. Item No. 36 Ice Machine w/Storage Bin: Scotsman
10. Item No. 39 Mobile Hot Food Cabinets (4): Wittco
11. Item Nos. 40, 41, 42, and 44 Mobile Serving Counters: Ace Fabrication Design Series
12. Item No. 43 Milk Coolers (2): True

Note: All custom fabrication shall be inspected by the Food Service Equipment Design Consultant prior to installation to check conformity with specifications.

Please advise if there are any questions.

Yours very truly,

A handwritten signature in black ink, appearing to read "Greg Futch". The signature is written in a cursive, flowing style.

Greg Futch, FCSI

cc: Gerald Sibley, EBRPSB

MECHANICAL ITEMS

GENERAL

1. **Drawings and Specifications, Add the Following Notes for Coordination:** Change all references on drawings to "ROOF CAPS" and "GRAVITY INTAKE" to "ROOFTOP AIR RELIEF." All roof mounted intakes and exhaust devices to be installed on side of roof sloping towards courtyard, with the exception of relief vents over stage.

DRAWINGS

1. **Sheet M3.4, Detail 1:**
 - a. Change valve shown in 1-1/2" makeup water line in ceiling space of Athletic Storage 314 to a reduced pressure backflow preventer with isolation valves.
 - b. CW line shown as 1" size over Girl's Athletic Lockers 310 and 1/2" over Athletic Storage 314 should be 1-1/2" size. Continue 1-1/2" line to supply cooling tower makeup as shown.
2. **Sheet M4.3R, Detail 1:** Add the following for clarification, "At north end of Corridor 008, HW/HWR piping shall drop down to enter ceiling space above Corridor 007. At north end of Corridor 013, CH/CHR and HW/HWR piping shall drop down to enter ceiling space above Corridor 012.
3. **Sheet M4.4, Detail 1, Add the Following:**
 - a. All round supply ductwork exposed to view in Gymnasium 300 to be double wall. Rectangular ductwork exposed to view to be internally lined.
 - b. Pipe ground supports shall consist of 6" Schedule 40 galvanized steel pipe embedded in concrete, 5'-0" below grade, extending 5'-0" above grade. Span top of pipe column with galvanized unistrut channel and strap condenser water piping. Submit exact method before beginning work.
4. **Sheet M4.6R, Detail 2, AHU-11, Add the Following:** Provide duct silencers for supply and return ducts (RE: Specifications, Page 15020-15 for types). Return air to be at 72" x 28" elbow and supply air at 38" x 26" and 50" x 22" elbows.
5. **Sheet M4.7R, Detail 1:**
 - a. Refer to attached Sketch 1M4.7R2 for changes.
 - b. Add the following for clarification:
 - 1) In Mechanical Room 422, chilled water supply/return piping shall rise to minimum 17'-0" AFF at north wall when exiting room to go above Drama Classroom 413.
 - 2) In Boiler Room 421, heating water supply/return piping shall rise to minimum 17'-0" at north wall when exiting room. Pipe leaving boiler room shall enter above ceiling of Practice Room 408.
6. **Sheet M4.7R, Detail 5:** Pump P-9 is base mounted. Delete reference to inline pump.

7. **Sheet M4.8:** Change title of sheet to read, "MECHANICAL SECTIONS AND DETAILS."
8. **Sheet M5.1, Detail 1, Add the Following:** AHU-3 and AHU-11, the O.A. CFM indicated is the maximum. Provide 745 O.A. CFM for AHU-3 and 3400 O.A. CFM for AHU-11 as the minimum setpoints.

SPECIFICATIONS

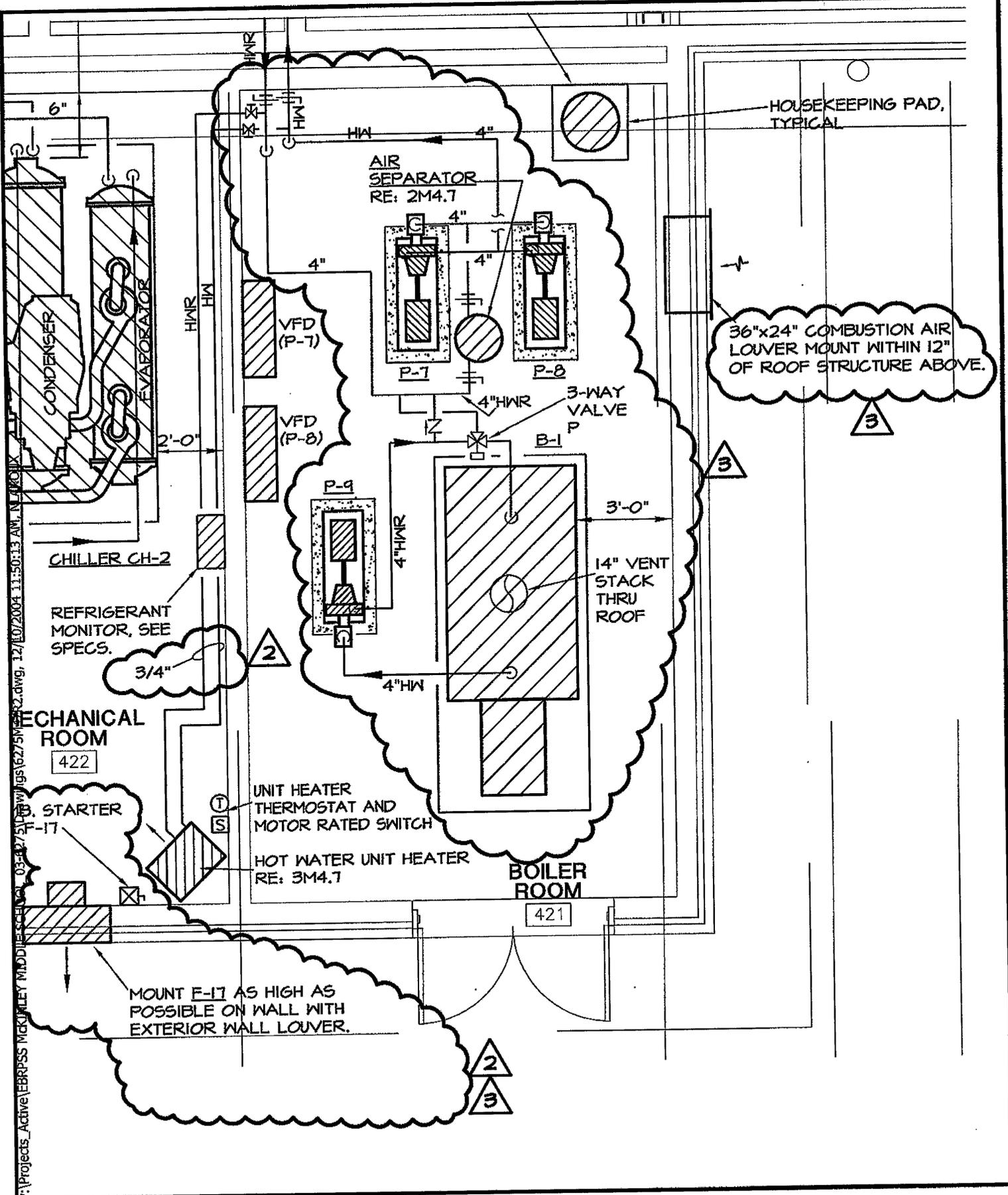
1. **Section 15050, Paragraph 2.6.A.:** Change "Ajax WN Series" to "Ajax WF Series."
2. **Section 15050, Paragraph 2.6.F.:** Delete second and third sentences and add the following, "The burner operation shall be low-high-low with guaranteed low fire start and burner shall turn down based upon load demand."
3. **Section 15060:**
 - a. **Paragraph 3.3.A:** Delete second sentence.
 - b. **Paragraph 3.6.E:** Delete the word "Gymnasium" from the first sentence.
 - c. **Paragraph 3.7.G, Change as Follows:** Humidity control shall modulate/open the hot water valves on all downstream terminal boxes in lieu of hot water valve on heating coil.
 - d. **Paragraph 3.9.A:** Delete and replace with the following:
 - 1) **SEQUENCES - HEATING WATER BOILER(S) AND PUMPS (PRIMARY-SECONDARY PUMPING):**
 - a) A local DDC controller will enable the boilers and control the associated pumps. The hot water pumps (P-7 and 8) shall be controlled through the HOA switch mounted on the hot water pump starter through the "Auto" position. The pump (P-7 and 8) will be enabled during normal occupied mode when the outdoor air temperature is below 70 degrees F (adjustable). The hot water pump (P-7 and 8) will be enabled when there is a demand for heating from any AHU. The hot water pump (P-7 and 8) will be started for freeze protection when the outside air temperature falls below 35 degrees F. the start sequence for the boilers will be initiated when the hot water pump (P-7 and 8) is enabled by any AHU's hot water valve or VAV terminal heating coil valve is open greater than 20% for at least 3 minutes.
 - b) The boiler sequence will energize and the DDC controller shall check the status of the hot water pump and it will stage the boiler in sequence. A hot water flow switch will be installed across the hot water entering and leaving pipe on the boiler to prevent boiler operation until hot water flow has been proven. Hot water flow must be maintained for at least 30 seconds before the boilers are enabled. If the hot water pump (P-7) does not start after it has been energized for 30 seconds, the standby hot water pump (P-8) will

- be energized. Hot water boiler pump (P-9) shall have intermittent pump control interface with boiler (see equipment schedule) to enable each pump prior to energizing the burners and to provide for the pumps to continue to operate for a pre-determined time period after the boiler has "shut-off".
- c) The boiler system water temperature will be reset by an analog signal from the local DDC to the three-way control valve. The system temperature setpoint will be automatically reset from 120 degrees F to 180 degrees F as the outside air temperature changes from 60 degrees F to 20 degrees F.
- e. **Paragraph 3.13:** Delete Paragraph A.
- f. **Paragraph 3.20:** HOT WATER SYSTEM, Add the Following:
- 1) "Hot water Bypass Valve Analog Out"

ELECTRICAL ITEMS

DRAWINGS

1. **Sheet E4.5, Detail 1:**
- a. Fixture Type LL: Change Visa catalog number to CB6116-2F50(120V)-SAL-BA.
- b. Fixture Type PP: Change Visa catalog number to CB6116-2F 50(277V)-SAL-BA.



I:\Projects_Active\EBR\SS McKinley Middle School_03-6275\DWG_12-10-04 11:50:13 AM.dwg

3/4"

36"x24" COMBUSTION AIR LOUVER MOUNT WITHIN 12" OF ROOF STRUCTURE ABOVE.

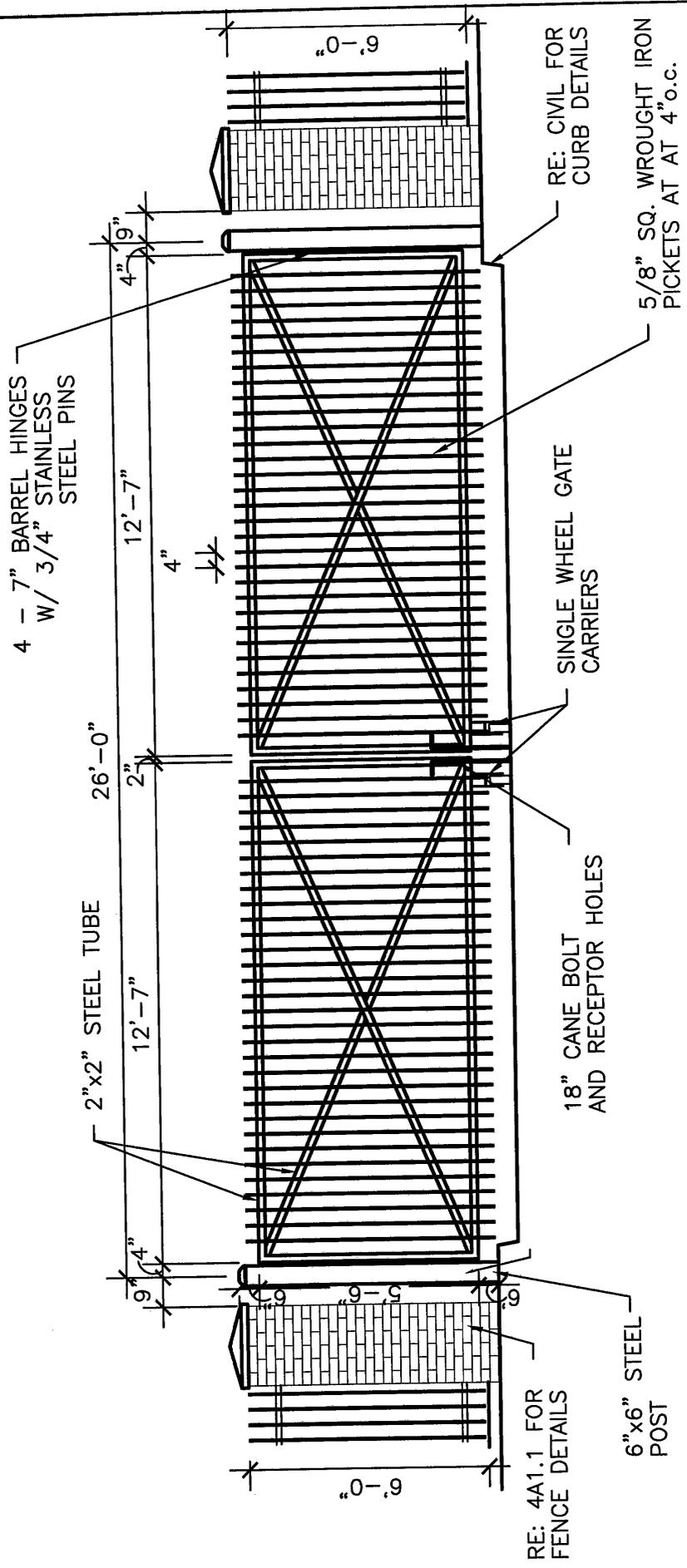
MOUNT F-17 AS HIGH AS POSSIBLE ON WALL WITH EXTERIOR WALL LOUVER.



8417 Keswood Avenue
Gatou Rouge, Louisiana 70806

Phone: 225/926-5600
Fax: 225/928-5620

PROJECT:	EBRPS McKinley Middle School		
SUBJECT:	BOILER ROOM REVISION		
DRAWN BY:	NML	CHECKED BY:	KJS
PROJECT NO.:	03-6275 (CLIENT: RMC&P)		
DATE:	12-10-04	SHEET:	1M4.7R2

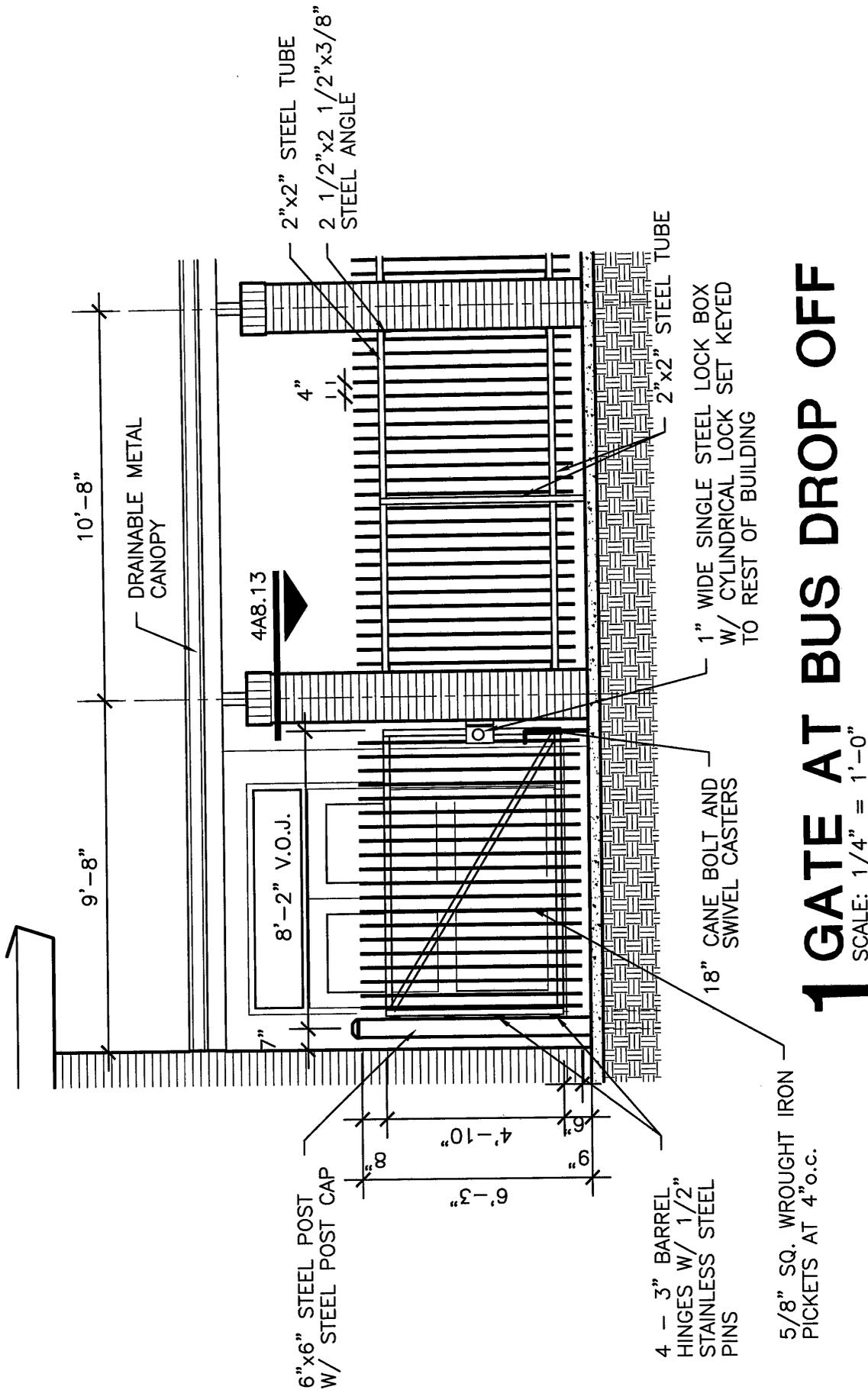


1 GATE AT PARKING LOT

SCALE: 1/4" = 1'-0"

NOTE: 1. CONTRACTOR TO COORDINATE WIDTH OF PARKING LOT ENTRY DRIVE WITH GATE DETAIL ABOVE.

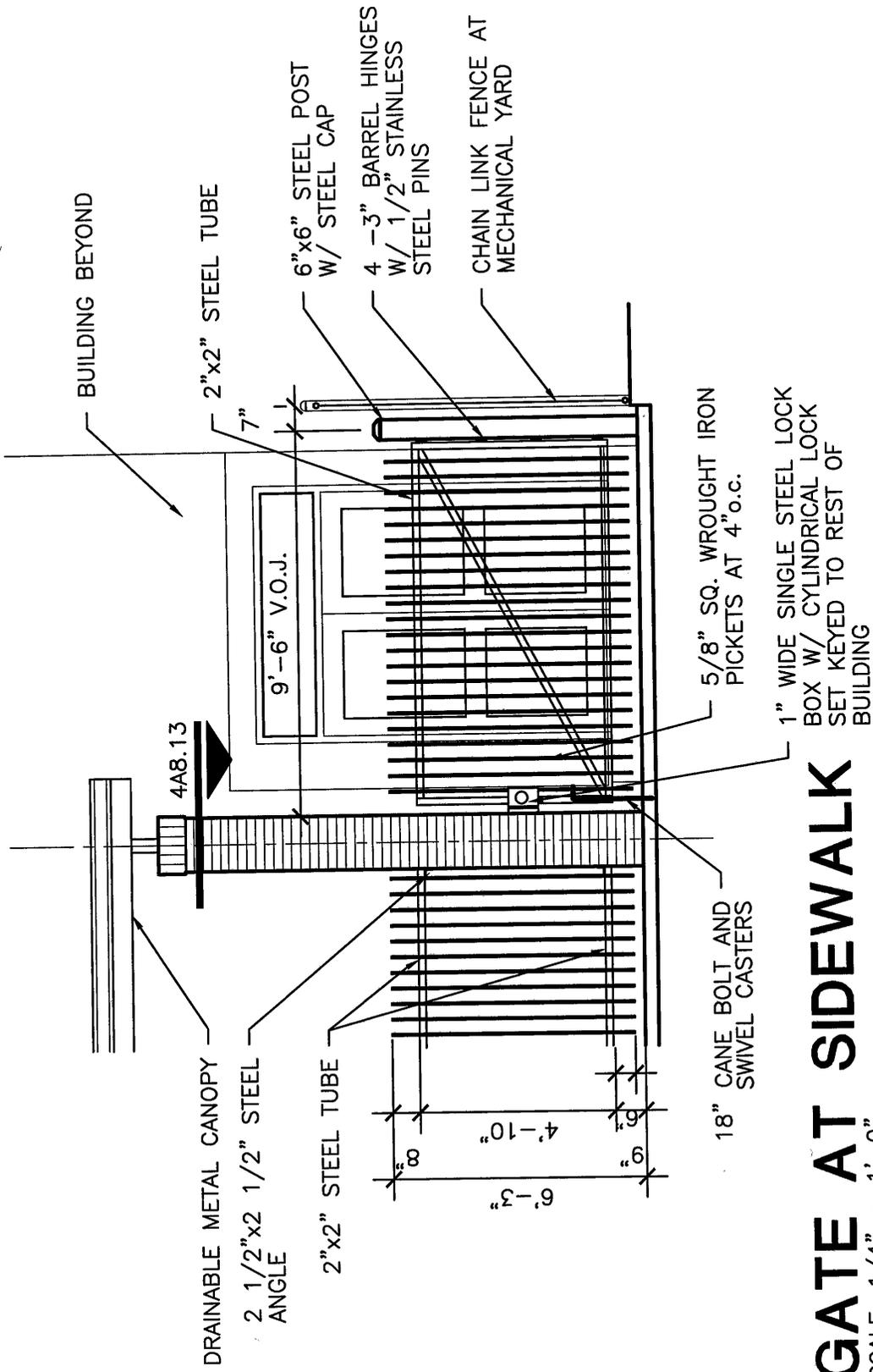
Robert M. Coleman & Partners Architects A.I.A. 3377 North Boulevard Baton Rouge, Louisiana 70806 U.S.A. tel 225.387.4414 fax 225.387.4693	McKinley Middle Magnet School 1550 Eddle Robinson Sr. Dr. BATON ROUGE, LA 70802	PROJECT NO. 03048	SHEET NO.. SK-1
	DRAWN BY CNS	DATE 11/05/04	OF _____



1 GATE AT BUS DROP OFF

SCALE: 1/4" = 1'-0"

Robert M. Coleman & Partners Architects A.I.A. 3377 North Boulevard Baton Rouge, Louisiana 70806 U.S.A. tel 225.387.4414 fax 225.387.4693	McKinley Middle Magnet School 1550 Eddie Robinson Sr. Dr. BATON ROUGE, LA 70802	PROJECT NO. 03048 DRAWN BY CNS DATE 11/05/04	SHEET NO.. SK-2 OF _____
	11/05/04		

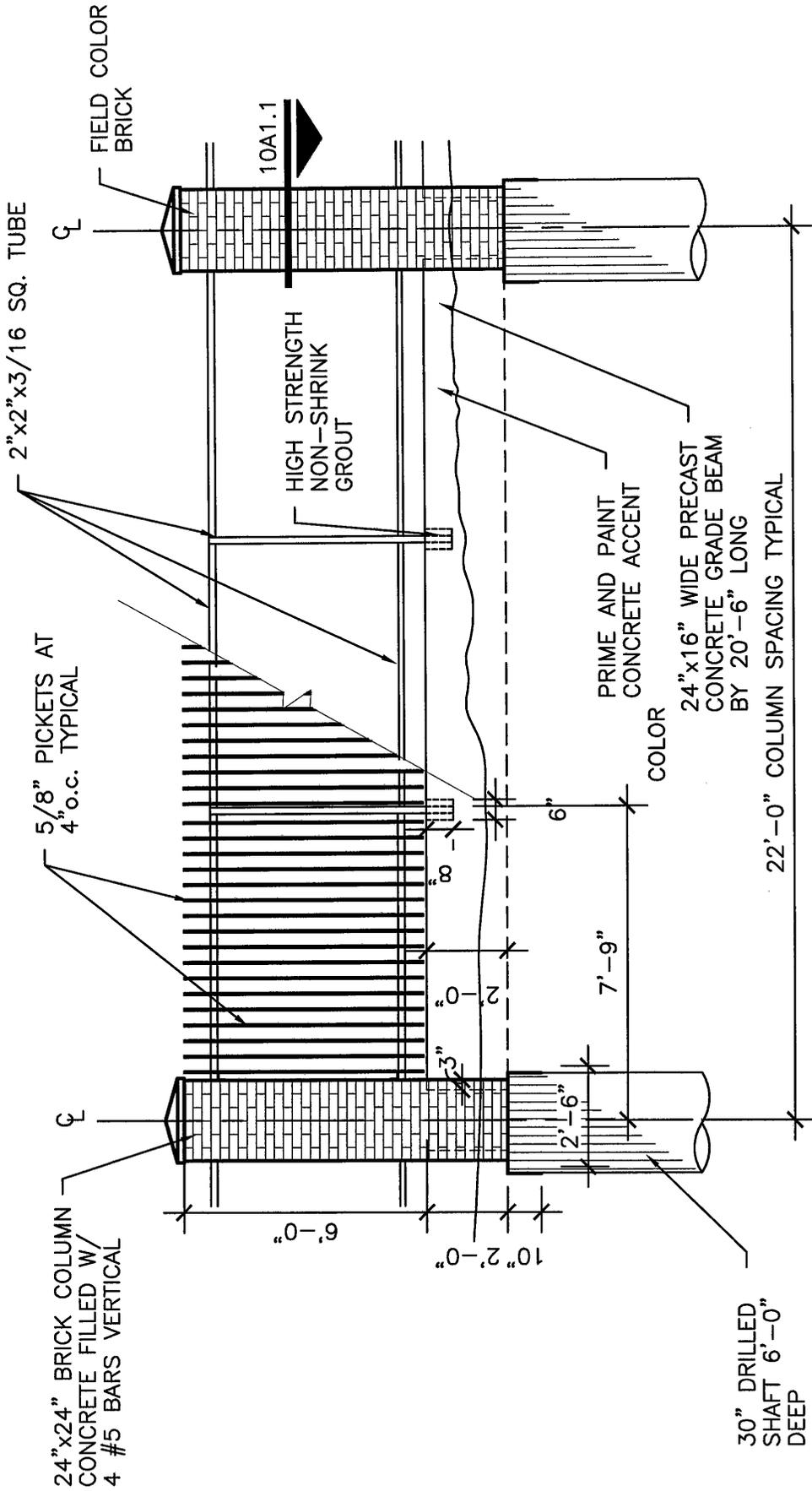


1 GATE AT SIDEWALK

SCALE: 1/4" = 1'-0"

Robert M. Coleman & Partners Architects A.I.A.  tel 225.387.4414 fax 225.387.4693	McKinley Middle Magnet School 1550 Eddie Robinson Sr. Dr. BATON ROUGE, LA 70802		PROJECT NO. 03048	SHEET NO.. SK-3
	3377 North Boulevard Baton Rouge, Louisiana 70806 U.S.A.		DRAWN BY CNS	DATE 11/05/04

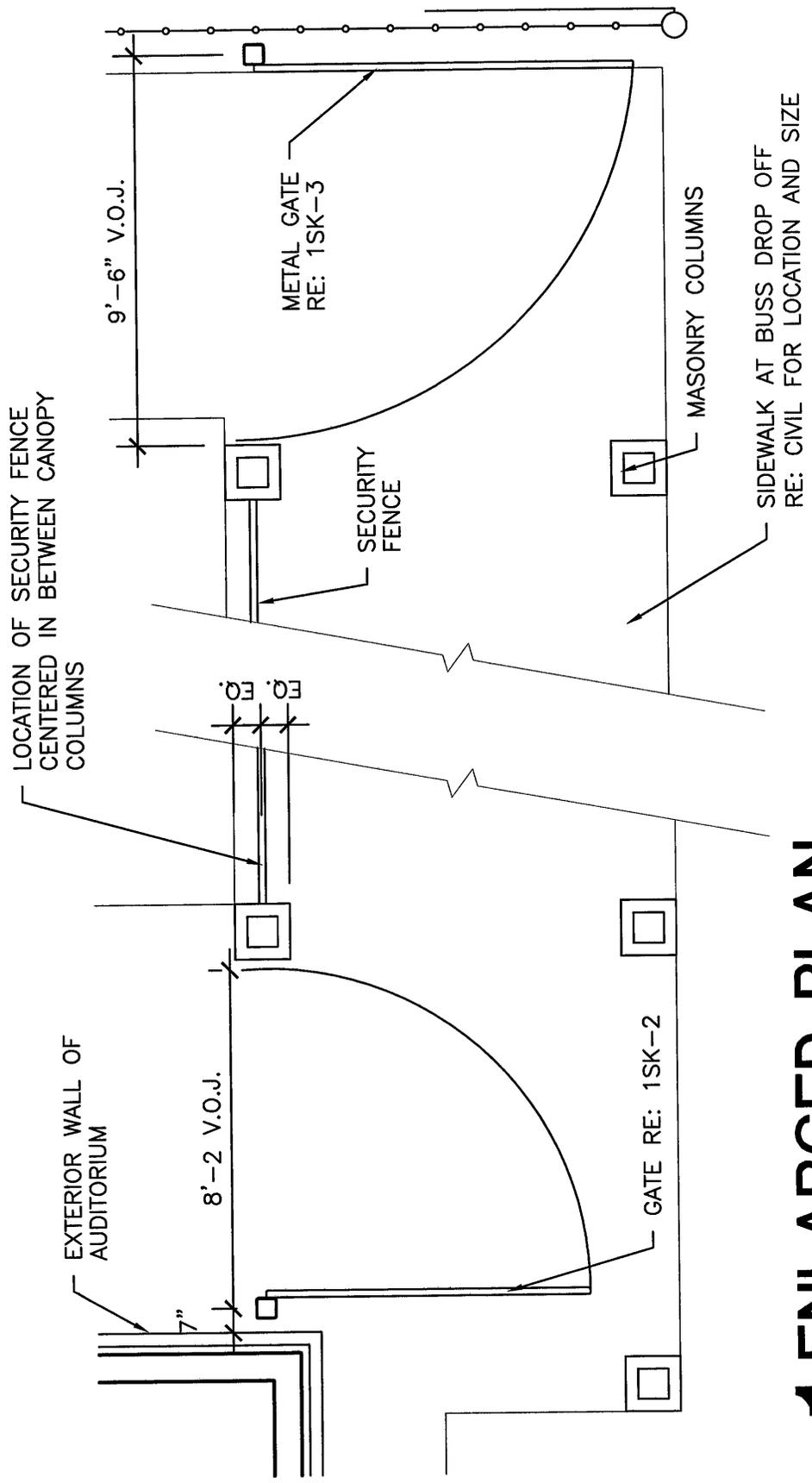
OF _____



1 FENCE DETAIL

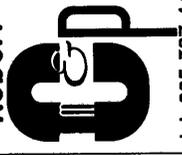
SCALE: 1/4" = 1'-0"

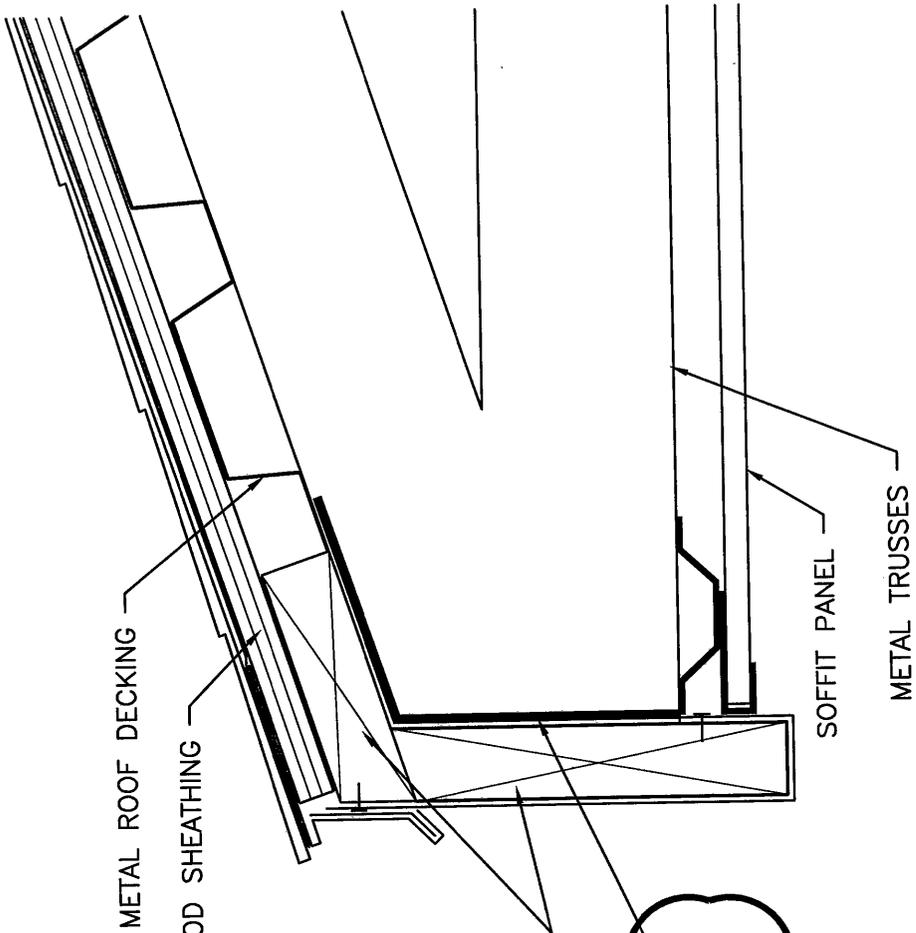
Robert M. Coleman & Partners Architects A.I.A.	PROJECT NO. 03048	SHEET NO.. SK-4
	DRAWN BY CNS	DATE 11/05/04
McKinley Middle Magnet School 1550 Eddie Robinson Sr. Dr. BATON ROUGE, LA 70802		OF _____
3377 North Boulevard Baton Rouge, Louisiana 70806 U.S.A.		
tel 225.387.4414 fax 225.387.4693		



1 ENLARGED PLAN

SCALE: 1/4" = 1'-0"

Robert M. Coleman & Partners Architects A.I.A.  3377 North Boulevard Baton Rouge, Louisiana 70806 U.S.A. tel 225.387.4414 fax 225.387.4693	McKinley Middle Magnet School 1550 Eddie Robinson Sr. Dr. BATON ROUGE, LA 70802		PROJECT NO. 03048	SHEET NO.. SK-5
	DRAWN BY CNS	DATE 11/05/04	OF _____	



METAL TRUSS MANUFACTURER TO PROVIDE CONTINUOUS BENT PLATE 6"X6"X14ga. ALONG END OF ALL METAL TRUSSES

PROJECT NO. 03048
 DRAWN BY CNS
 DATE 11/05/04

McKinley Middle Magnet School
 1550 Eddie Robinson Sr. Dr.
 BATON ROUGE, LA 70802

Robert M. Coleman & Partners Architects A.I.A.
 3377 North Boulevard
 Baton Rouge, Louisiana 70806
 U.S.A.
 tel 225.387.4414
 fax 225.387.4693

SHEET NO. **SK-6**
 OF _____

SECTION 05521 - PIPE AND TUBE RAILINGS AND FENCING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Steel pipe and tube railings and fencing.

1.3 PERFORMANCE REQUIREMENTS

- A. Thermal Movements: Provide handrails and railings that allow for thermal movements resulting from the following maximum change (range) in ambient and surface temperatures by preventing buckling, opening of joints, overstressing of components, failure of connections, and other detrimental effects. Base engineering calculation on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.
 - 1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.
- B. Control of Corrosion: Prevent galvanic action and other forms of corrosion by insulating metals and other materials from direct contact with incompatible materials.

1.4 SUBMITTALS

- A. Product Data: For the following:
 - 1. Grout, anchoring cement, and paint products.
- B. Shop Drawings: Show fabrication and installation of handrails and railings. Include plans, elevations, sections, component details, and attachments to other Work.

1.5 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of handrail and railing through one source from a single manufacturer.

1.6 STORAGE

- A. Store handrails and railings in a dry, well-ventilated, weathertight place.

1.7 PROJECT CONDITIONS

- A. Field Measurements: Verify handrail and railing dimensions by field measurements before fabrication and indicate measurements on Shop Drawings. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
 - 1. Established Dimensions: Where field measurements cannot be made without delaying the Work, establish dimensions and proceed with fabricating railings without field measurements. Coordinate construction to ensure that actual dimensions correspond to established dimensions.

1.8 COORDINATION

- A. Coordinate installation of anchorages for handrails and railings. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.9 SCHEDULING

- A. Schedule installation so handrails and railings are mounted only on completed walls. Do not support temporarily by any means that does not satisfy structural performance requirements.

PART 2 - PRODUCTS

2.1 METALS

- A. General: Provide metal free from pitting, seam marks, roller marks, stains, discolorations, and other imperfections where exposed to view on finished units.
- B. Steel and Iron: Provide steel and iron in the form indicated, complying with the following requirements:
 - 1. Steel Tubing: Cold-formed steel tubing, ASTM A 500, Grade A, unless another grade is required by structural loads.
 - 2. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- C. Brackets, Flanges, and Anchors: Cast or formed metal of same type of material and finish as supported rails, unless otherwise indicated.

2.2 WELDING MATERIALS, FASTENERS, AND ANCHORS

- A. Welding Electrodes and Filler Metal: Provide type and alloy of filler metal and electrodes as recommended by producer of metal to be welded and as required for color match, strength, and compatibility in fabricated items.
- B. Fasteners for Anchoring Handrails and Railings to Other Construction: Select fasteners of type, grade, and class required to produce connections suitable for anchoring handrails and railings to other types of construction indicated and capable of withstanding design loads.

1. For steel handrails, railings, and fittings, use plated fasteners complying with ASTM B 633, Class Fe/Zn 25 for electrodeposited zinc coating.
- C. Fasteners for Interconnecting Handrail and Railing Components: Use fasteners fabricated from same basic metal as fastened metal, unless otherwise indicated. Do not use metals that are corrosive or incompatible with materials joined.
1. Provide concealed fasteners for interconnecting handrail and railing components and for attaching them to other work, unless otherwise indicated.
- D. Cast-in-Place and Postinstalled Anchors: Anchors of type indicated below, fabricated from corrosion-resistant materials with capability to sustain, without failure, a load equal to six times the load imposed when installed in unit masonry and equal to four times the load imposed when installed in concrete, as determined by testing per ASTM E 488 conducted by a qualified independent testing agency.
1. Cast-in-place anchors.
 2. Chemical anchors.
 3. Expansion anchors.

2.3 PAINT

- A. Shop Primer for Ferrous Metal: Fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with performance requirements in FS TT-P-664; selected for good resistance to normal atmospheric corrosion, compatibility with finish paint systems indicated, and capability to provide a sound foundation for field-applied topcoats despite prolonged exposure.
- B. Shop Primer for Galvanized Steel: Zinc-dust, zinc-oxide primer formulated for priming zinc-coated steel and for compatibility with finish paint systems indicated, and complying with SSPC-Paint 5.

2.4 GROUT AND ANCHORING CEMENT

- A. Nonshrink, Nonmetallic Grout: Premixed, factory-packaged, nonstaining, noncorrosive, nongaseous grout complying with ASTM C 1107. Provide grout specifically recommended by manufacturer for interior and exterior applications.
- B. Interior Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Use for interior applications only.
- C. Erosion-Resistant Anchoring Cement: Factory-packaged, nonshrink, nonstaining, hydraulic-controlled expansion cement formulation for mixing with water at Project site to create pourable anchoring, patching, and grouting compound. Provide formulation that is resistant to erosion from water exposure without needing protection by a sealer or waterproof coating and that is recommended by manufacturer for exterior use.

2.5 FABRICATION

- A. General: Fabricate handrails and railings to comply with requirements indicated for design, dimensions, member sizes and spacing, details, finish, and anchorage, but not less than that required to support structural loads.

- B. Assemble handrails and railings in the shop to greatest extent possible to minimize field splicing and assembly. Disassemble units only as necessary for shipping and handling limitations. Clearly mark units for reassembly and coordinated installation. Use connections that maintain structural value of joined pieces.
- C. Form changes in direction of railing members as follows:
 - 1. By bending.
- D. Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
- E. Welded Connections: Fabricate handrails and railings for connecting members by welding. Cope components at perpendicular and skew connections to provide close fit, or use fittings designed for this purpose. Weld connections continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove flux immediately.
 - 4. At exposed connections, finish exposed surfaces smooth and blended so no roughness shows after finishing and welded surface matches contours of adjoining surfaces.
- F. Brackets, Flanges, Fittings, and Anchors: Provide wall brackets, flanges, miscellaneous fittings, and anchors to interconnect handrail and railing members to other work, unless otherwise indicated.
- G. Provide inserts and other anchorage devices for connecting handrails and railings to concrete or masonry work. Fabricate anchorage devices capable of withstanding loads imposed by handrails and railings. Coordinate anchorage devices with supporting structure.
- H. Shear and punch metals cleanly and accurately. Remove burrs from exposed cut edges.
- I. Ease exposed edges to a radius of approximately 1/32 inch (1 mm), unless otherwise indicated. Form bent-metal corners to smallest radius possible without causing grain separation or otherwise impairing the Work.
- J. Cut, reinforce, drill, and tap components, as indicated, to receive finish hardware, screws, and similar items.
- K. Provide weep holes or another means to drain entrapped water in hollow sections of handrail and railing members that are exposed to exterior or to moisture from condensation or other sources.
- L. Fabricate joints that will be exposed to weather in a watertight manner.
- M. Close exposed ends of handrail and railing members with prefabricated end fittings.
- N. Provide wall returns at ends of wall-mounted handrails, unless otherwise indicated. Close ends of returns, unless clearance between end of railing and wall is 1/4 inch (6 mm) or less.

2.6 FINISHES, GENERAL

- A. Comply with NAAMM's "Metal Finishes Manual for Architectural and Metal Products" for recommendations for applying and designating finishes.

2.7 STEEL FINISHES

- A. Galvanized Handrails and Railings: Hot-dip galvanize exterior steel and iron handrails and railings to comply with ASTM A 123. Hot-dip galvanize hardware for exterior steel and iron handrails and railings to comply with ASTM A 153/A 153M.
- B. Galvanizing: Hot-dip galvanize items as indicated to comply with applicable standard listed below:
 - 1. ASTM A 123, for galvanizing steel and iron products.
 - 2. ASTM A 153/A 153M, for galvanizing steel and iron hardware.
- C. Fill vent and drain holes that will be exposed in finished Work, unless indicated to remain as weep holes, by plugging with zinc solder and filing off smooth.
- D. For galvanized handrails and railings, provide galvanized fittings, brackets, fasteners, sleeves, and other ferrous components.
- E. For nongalvanized steel handrails and railings, provide nongalvanized ferrous-metal fittings, brackets, fasteners, and sleeves, except galvanize anchors to be embedded in exterior concrete or masonry.
- F. Preparation for Shop Priming: After galvanizing, thoroughly clean handrails and railings of grease, dirt, oil, flux, and other foreign matter, and treat with metallic-phosphate process.
- G. Preparation for Shop Priming: Prepare uncoated ferrous-metal surfaces to comply with minimum requirements indicated below for SSPC surface-preparation specifications and environmental exposure conditions of installed handrails and railings:
 - 1. Exteriors (SSPC Zone 1B): SSPC-SP 6, "Commercial Blast Cleaning."
 - 2. Interiors (SSPC Zone 1A): SSPC-SP 7, "Brush-off Blast Cleaning."
- H. Apply shop primer to prepared surfaces of handrail and railing components, unless otherwise indicated. Comply with requirements in SSPC-PA 1, "Paint Application Specification No. 1," for shop painting. Primer need not be applied to surfaces to be embedded in concrete or masonry.
 - 1. Stripe paint edges, corners, crevices, bolts, and welds.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Fit exposed connections together to form tight, hairline joints.
- B. Perform cutting, drilling, and fitting required to install handrails and railings. Set handrails and railings accurately in location, alignment, and elevation; measured from established lines and levels and free from rack.

1. Do not weld, cut, or abrade surfaces of handrail and railing components that have been coated or finished after fabrication and that are intended for field connection by mechanical or other means without further cutting or fitting.
 2. Set posts plumb within a tolerance of 1/16 inch in 3 feet (2 mm in 1 m).
 3. Align rails so variations from level for horizontal members and from parallel with rake of steps and ramps for sloping members do not exceed 1/4 inch in 12 feet (5 mm in 3 m).
- C. Adjust handrails and railings before anchoring to ensure matching alignment at abutting joints. Space posts at interval indicated, but not less than that required by structural loads.
- D. Fastening to In-Place Construction: Use anchorage devices and fasteners where necessary for securing handrails and railings and for properly transferring loads to in-place construction.

3.2 RAILING CONNECTIONS

- A. Welded Connections: Use fully welded joints for permanently connecting railing components. Comply with requirements for welded connections in "Fabrication" Article whether welding is performed in the shop or in the field.
- B. Expansion Joints: Install expansion joints at locations indicated but not farther apart than required to accommodate thermal movement. Provide slip-joint internal sleeve extending 2 inches (50 mm) beyond joint on either side, fasten internal sleeve securely to one side, and locate joint within 6 inches (150 mm) of post.

3.3 ANCHORING POSTS

- A. Form or core-drill holes not less than 5 inches (125 mm) deep and 3/4 inch (20 mm) larger than OD of post for installing posts in concrete. Clean holes of loose material, insert posts, and fill annular space between post and concrete with the following anchoring material, mixed and placed to comply with anchoring material manufacturer's written instructions:
1. Nonshrink, nonmetallic grout or anchoring cement.
- B. Cover anchorage joint with flange of same metal as post, attached to post as follows:
1. Welded to post after placing anchoring material.
- C. Leave anchorage joint exposed; wipe off surplus anchoring material; and leave 1/8-inch (3-mm) build-up, sloped away from post.

3.4 ANCHORING RAILING ENDS

- A. Anchor railing ends into concrete and masonry with round flanges connected to railing ends and anchored into wall construction with postinstalled anchors and bolts.

3.5 ATTACHING HANDRAILS TO WALLS

- A. Locate brackets as indicated or, if not indicated, at spacing required to support structural loads.
- B. Secure wall brackets to building construction as follows:

1. For concrete and solid masonry anchorage, use drilled-in expansion shields and hanger or lag bolts.
2. For hollow masonry anchorage, use toggle bolts.

3.6 CLEANING

- A. Touchup Painting: Immediately after erection, clean field welds, bolted connections, and abraded areas of shop paint, and paint exposed areas with same material.

3.7 PROTECTION

- A. Protect finishes of handrails and railings from damage during construction period with temporary protective coverings approved by railing manufacturer. Remove protective coverings at the time of Substantial Completion.
- B. Restore finishes damaged during installation and construction period so no evidence remains of correction work. Return items that cannot be refinished in the field to the shop; make required alterations and refinish entire unit, or provide new units.

END OF SECTION 05521

SECTION 10443 – NON-ILLUMINATED INTERIOR SIGNS

PART 1 - GENERAL

THIS SECTION INCLUDES SPECIFICATIONS FOR TOTAL INTEGRATED INTERIOR SIGN SYSTEM.

1.01 SUMMARY

- A. Section includes: Interior non-illuminated directional, control, and information surface mounted signage as complete integrated modular system.
- B. Related sections:
 - 1. Section 01630: Product Options and Substitutions.
 - 2. Section 03300: Cast-in-Place Concrete.
 - 3. Section 04220: Concrete Unit Masonry.
 - 4. Section 08110: Steel Doors and Frames.
 - 5. Section 08210: Wood Doors.
 - 6. Section 09260: Gypsum Board Systems.
 - 7. Section 09510: Acoustical Ceilings.
 - 8. Section 09900: Painting.
 - 9. Section 09960: Vinyl Wall Covering.
- C. Unit prices: Provide installed unit price for each type unit in designed system for extra possible required signage.

1.02 REFERENCES

- A. Standards of the following as referenced:
 - 1. American National Standards Institute (ANSI).
- B. Industry standards:
 - 1. Department of Justice, Office of the Attorney General, "Americans with Disabilities Act", Public Law 101-336, (ADA).
 - 2. ANSI A117.1: Providing Accessibility and Useability for Physically Handicap People, 1986 edition.
 - 3. Federal Register Part III, Department of Justice, Office of the Attorney General, 28 CFR Part 36: Nondiscrimination on the Basis of Disability by Public Accommodations and in Commercial Facilities, Final Rule, July 26, 1991.
 - 4. Federal Register Part II, Architectural and Transportation Barriers Compliance Board, 36 CFR Part 1191: Americans with Disabilities Act (ADA) Accessibility Guidelines for Buildings and Facilities; Amendment to Final Guidelines, September 6, 1991.

1.04 DEFINITIONS

- A. Terms:
 - 1. Braille: Grade 2 Braille including 189 part-word or whole word contractions in addition to Grade 1 Braille 63 characters. Tactile is required whenever braille is required; see SYSTEM DESCRIPTION Article below.
 - 2. Non-tactile: Letters and numbers on signs with width-to-height ratio between 3:5 and 1:1 and stroke width ratio between 1:5 and 1:10 using upper case "X" to calculate ratios. Use typestyles with medium weight; upper and lower case lettering is permitted; serif typestyles are permitted. See SYSTEM DESCRIPTION Article below.
 - 3. Symbols: Symbol itself is not required to be tactile but equivalent verbal description is required both in tactile letters and braille.

4. Tactile: 1/32" raised capital letters without serifs at least 5/8" height and not more than 2" height based on upper case "X". Braille is required whenever tactile is required; see SYSTEM DESCRIPTION Article below.

1.05 SYSTEM DESCRIPTION

- A. Signage under this section is intended to include items for identification, direction, control, and information of building where installed as complete integrated system from a single manufacturer.
- B. ADA design requirements:
 1. Signage requiring tactile graphics:
 - a. Wall mounted signs designating permanent rooms and spaces such as, room numbers and restroom, department, office, and fire exit identifications.
 - b. Individually applied characters are prohibited.
 2. Signage not requiring tactile graphics but require compliance to other ADA requirements: All other signs providing direction to or information about function of space such as, directional signs (signs with arrow), informational signs (operating hours, policies, etc.), regulatory signs (no smoking, do not enter), and ceiling and projected wall mount signs.
 3. Excluded signage:
 - a. Exterior signs.
 - b. Building directories.
 - c. Menus.
 - d. Temporary signs, include personnel signs and tenant identification; suite numbers are not considered temporary.
- C. ADA performance requirements:
 1. Tactile graphics signs mounting requirements:
 - a. Single doors: Mount 60" to sign centerline above finish floor and on wall adjacent to latch side of door.
 - b. Openings: Mount 60" to sign centerline above finish floor adjacent opening.
 - c. No wall space adjacent latch side of door, opening, or double doors: Mount 60" to sign centerline above finish floor on nearest adjacent wall.

1.06 SUBMITTALS FOR PRIOR APPROVAL

- A. Product data:
 1. Manufacturer's signed statement regarding compliance with QUALITY ASSURANCE Article.
 2. Manufacturer's product literature indicating units and designs selected.
 3. Evidence of manufacturer's computerized data retrieval program for tracking of Project for sign typography, message strip requirements and other pertinent data from schedule input to final computerized typography on finished product.
- B. Contract close out:
 1. Furnish appropriate checklist for aiding in reordering after Date of Substantial Completion. Maintain computer schedule program for ** five ** years for ordering new signage required by Owner.
 2. Maintenance data and cleaning requirements for exterior surfaces.
 3. Furnish one complete SignWord Pro software package Windows 3.0 or Windows 95 or later, Windows NT 4.0 or later in Owner selected format for PC type computer.
 4. Furnish one complete packaged SignWord Color paper system with clear cover overlay.

- C. Shop drawings:
 - 1. Indicate materials, sizes, configurations, and applicable substrate mountings.
 - 2. Typography sample for message strips and headers copy.
 - 3. Artwork for special ** graphics. ** headers. **
 - 4. Signage schedule complete with location of each sign and required copy; include floor plans, if required.
- D. For Construction:
Samples: Full size samples for holder, insert, and copy in colors specified. Provide sample in small size sign. Samples will not be returned for use in Project.

1.07 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Manufacturer:
 - a. Work required under this section from manufacturers regularly engaged in work of this magnitude and scope for minimum of five years.
 - b. Maintain computer link between schedule input and computerized typography production.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Indicated in Delivery, Storage, and Handling Section.
- B. Acceptance at site: Coordinate delivery of work to Project site under this section for immediate installation.

1.09 SEQUENCING AND SCHEDULING

- A. Schedule system installation after related finishes have been completed.

PART 2 - PRODUCTS

2.01 MANUFACTURED UNITS

- A. Acceptable Manufacturers:
 - 1. APCO; 388 Grant Street SE, Atlanta, Georgia, 30312, USA. Phone; (404) 688-9000. Fax; (404) 577-3847.
 - 2. ASI Modulex; 3860 W. Northwest Highway, Suite 350, Dallas, TX 75220; (214) 352 9140 telephone; (214) 352 9741 facsimile; (800) ASI-SPEC [274-7446]
- B. Provide the following assemblies; locate where indicated in attached SCHEDULES:
 - 1. Surface Mounted Signs, Wall or Office Panel: Combination of modular aluminum bands (SignBands) which lock onto molded plastic End Clips up to 150mm/6" in height to form a single sign or stack to create module signs. Or, combination of aluminum bands (Sign-Bands) which lock onto aluminum Side Tracks via molded plastic multiple clip fasteners, allowing for complete flexibility with size, configuration, and modularity for both single insert identification signs to large, complex directory formats and directional signs.

2.02 Interchangeable Sign Band Series

A. Modular Sign System:

1. End Clip System:

- a. Individual band for name plate, room/floor identification use:
Sizes (Height): 150, 120, 90, 60, 30mm, aluminum extruded plaque surface screened or aluminum extruded insert slot 90, 60, 30mm for SignWord paper insert or ADA insert.
Custom plaques using phenolic etched .080" thick, .060" acrylic.
- b. Color: Selected by Architect from manufacturer's standard 44 painted colors, plastic five integral colors: 02-Black, 43-Putty, 44-Architectural Brown, 72-Bone White, and 78-Pearl Grey.
- c. Modulating Radius End Clips 150mm, 120mm, 90mm, 60mm allows for any combination SignBands
- d. Mounting: Direct to Wall Surface.

2. Side Track System:

- a. Radius Track aluminum edge.
- b. Color: Selected by Architect from manufacturer's standard 44 painted colors; five-powder coated colors, or satin anodized colors. High gloss polished finishes: **Gold**Silver** available upon request, consult factory regarding minimum requirements and lead time.
- c. Radius Track end caps.
Color: Selected by Architect from manufacturer's standard 44 painted colors; molded plastic five integral colors: 02-Black, 43-Putty, 44-Architectural Brown, 72-Bone White, and 78-Pearl Grey.
- d. Mounting: Direct to wall surface.
- e. Configuration: Indicated in SCHEDULES Article.

B. Message Bands:

1. Sign Bands for Side Track System:

- a. Size: Metal Band inserts:
Sizes selected from various heights:
Insert Slots feature accepting SignWord Paper** ADA inserts**noted with suffix "IS".

SB150: **150mm x 6" 8" 10" 12" 16" 18" 20" 24"

SB120: **120mm x 6" 8" 10" 12" 16" 18" 20" 24"

SB90: **90mm x 6" 8" 10" 12" 16" 18" 20" 24"

SB90IS: **90mm x 6" 8" 10" 12" 16" 18" 20" 24"
ADA Band Photopolymer:

SB90IS: **90mm x 6" 8" 10" 12"

SB60: **60mm x 6" 8" 10" 12" 16" 18" 20" 24"

SB60IS: **60mm x 6" 8" 10" 12" 16" 18" 20" 24"
ADA Band Photopolymer:

SB60IS: **60mm x 6" 8" 10" 12"

SB45: **45mm x 6" 8" 10" 12" 16" 18" 20" 24"

SB30: **30mm x 6" 8" 10" 12" 16" 18" 20" 24"

SB30IS: **30mm x 6" 8" 10" 12" 16" 18" 20" 24"

Special 30mm Slider Band for changeable messages (ie. "IN USE").

b. Expanded height sign plaques configuration.

SBE15 Expander with .080" Phenolic ADA material:

Sizes: 120mm Ht. x 6" 8" 10" 12" 16" 18" 20" 24"
210mm Ht. x 6" 8" 10" 12" 16" 18" 20" 24"

SBE30 Expander sign plaques:

Sizes: 150mm Ht. x 6" 8" 10" 12" 16" 18" 20" 24"
210mm x 6" 8" 10" 12" 16" 18" 20" 24"
255mm x 6" 8" 10" 12" 16" 18" 20" 24"
300mm x 6" 8" 10" 12" 16" 18" 20" 24"
405mm x 6" 8" 10" 12" 16" 18" 20" 24"
450mm x 6" 8" 10" 12" 16" 18" 20" 24"
510mm x 6" 8" 10" 12" 16" 18" 20" 24"
600mm x 6" 8" 10" 12" 16" 18" 20" 24"

Material: SBE30 1.5mm acrylic sheet APCO code SB241, Aluminum 1mm(.040"thick) precoated sheet or 0.080" thick ADA phenolic sheet.

- c. Color: Selected by Architect from manufacturer's standard 44 painted colors.
- d. Mounting: Attach to Track utilizing multiple clip plastic fastener in 15mm increments, allowing removal with manufacturer's special Removal Tool.

2. Decorative Bands

- a. Size: 15mm x 6" 8" 10" 12" 16" 18" 20" 24"
Radius Optional Face-with decorative option to be specified in SCHEDULES Article**
- b. Mounting: Attach to Track utilizing multiple clip plastic fastener in 15mm increments. Allowing removal with manufacturer's special Removal Tool.

3. Emergency Plans

- a. Emergency Plans
Sizes: 279 x 216mm (11 x 8.5)

4.. Sign Word Paper

- a. Paper Weight: 80lbs.
- b. Paper is perforated to meet the sign size specified.

6. Copy: Indicated in SCHEDULES Article.

7. Configuration: Indicated in SCHEDULE Article. Select from a variation of standard configurations.

- C. Graphics:
1. Type sizes: Selected from manufacturer's standard sizes indicated in SCHEDULES Article for particular units; meet ADA requirements for letter proportions and sizes.
 2. Type style or styles: Helvetica Medium (HM), All Caps
 3. Imprint colors: Selected by Architect from manufacturer's standard 40 non-glare screening ink colors per unit and indicated in SCHEDULES Article; color contrast background colors in accord with ADA requirements.

2.03 FABRICATION

- A. Shop assembly:
1. Fabricate units to configurations indicated on reviewed shop drawings. Internally reinforce units in accord with reviewed shop drawings.
 2. Provide copy on inserts, ** message strips, ** headers or bases, ** and covers required on reviewed shop drawings and in accord with ADA requirements.
 3. Fill directories with combination of reviewed copy on message strips and blank message strips.
 4. Wrap each individual unit with polyethylene.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verification of conditions: Indicated in Coordination Section.
1. Examine areas to receive signage; notify Architect in writing of unacceptable substrate.
 2. Beginning work indicates acceptance of substrate. Subsequent modifications to substrate or signage becomes this section's complete responsibility.

3.02 INSTALLATION

- A. Install signage holders in locations with mounting types indicated in accord with reviewed shop drawings. Square, plumb, and level units.
- B. Install inserts not more than 48 hours prior to Date of Substantial Completion complete with correct copy in place. Conform to ADA requirements for tactile graphics signage.

3.03 CLEANING

- A. Clean exposed surfaces not more than 48 hours prior to Date of Substantial Completion in accord with manufacturer's written cleaning instructions.

3.04 SCHEDULES

- A. See attached sheet for Schedule & Sign Types.

END OF SECTION 10443

DATE: 11/17/04						
McKinley Middle Magnet School						
		Quantity	Room # on Floor Plan	SYMBOL	Room Title on Floor Plan	Remarks
Sign Type A - ADA Compliant Room Number Identification						
		1	122	N/A	CONFERENCE ROOM	
		2	107	N/A	CONFERENCE ROOM	
		1	909	N/A	CONFERENCE ROOM	
		1	607	N/A	CLASSROOM	
		1	608	N/A	CLASSROOM	
		1	609	N/A	CLASSROOM	
		1	610	N/A	CLASSROOM	
		1	611	N/A	CLASSROOM	
		1	612	N/A	CLASSROOM	
		1	613	N/A	CLASSROOM	
		1	614	N/A	CLASSROOM	
		1	617	N/A	CLASSROOM	
		1	619	N/A	CLASSROOM	
		1	133	N/A	CLASSROOM	
		1	130	N/A	CLASSROOM	
		1	416	N/A	CLASSROOM	
		1	415	N/A	CLASSROOM	
		1	302	N/A	CLASSROOM	
		1	707	N/A	CLASSROOM	
		1	709	N/A	CLASSROOM	
		1	711	N/A	CLASSROOM	
		1	713	N/A	CLASSROOM	
		1	712	N/A	CLASSROOM	
		1	710	N/A	CLASSROOM	
		1	708	N/A	CLASSROOM	
		1	706	N/A	CLASSROOM	
		1	715	N/A	SCIENCE LAB	
		2	904	N/A	COMPUTER LAB	
		2	900	N/A	COMPUTER LAB	
		1	816	N/A	SCIENCE LAB	
		1	814	N/A	SCIENCE LAB	
		1	717	N/A	SCIENCE LAB	
		1	805	N/A	CLASSROOM	
		1	806	N/A	CLASSROOM	
		1	807	N/A	CLASSROOM	
		1	808	N/A	CLASSROOM	
		1	809	N/A	CLASSROOM	
		1	810	N/A	CLASSROOM	
		1	811	N/A	CLASSROOM	
		1	400	N/A	DANCE STUDIO	
		1	401	N/A	PIANO/STRINGS CLASSROOM	
		2	405	N/A	CHORAL CLASSROOM	
		2	413	N/A	DRAMA CLASSROOM	
		1	317	N/A	OFFICE	
		1	306	N/A	OFFICE	
		1	120	N/A	OFFICE	

	1	114	N/A	OFFICE	
	1	118	N/A	ASSISTANT PRINCIPAL	
	1	116	N/A	ASSISTANT PRINCIPAL	
	1	112	N/A	PRINCIPAL'S OFFICE	
	1	108	N/A	SECRETARY	
	1	102	N/A	OFFICE	
	1	106	N/A	OFFICE	
	1	307	N/A	OFFICE	
	1	420	N/A	PHOTOGRAPHY GRAPHIC ARTS	
	1	214	N/A	OFFICE	
	1	206	N/A	CUSTODIAL OFFICE	
	2	123	N/A	SCHOOL NURSE	
	1	126	N/A	SPEECH THERAPY	
	1	905	N/A	OFFICE	
****	1	901	N/A	MEDIA CENTER	
	1	812	N/A	CLASSROOM	
	Total:	68			
Sign Type A1- ADA Compliant Room Number Identification/ Clear Insert W/Room					
	1	503	N/A	STAGE	
	2	502	N/A	AUDITORIUM	
	1	414	N/A	TEACHER PLANNING CENTER	
****	1	300	N/A	BOYS LOCKERS/RESTROOMS	
****	1	300	N/A	GIRLS LOCKERS/RESTROOMS	
	1	412	N/A	LIBRARY	
	1	411	N/A	OFFICE	
	2	300	N/A	GYMNASIUM	
	1	419	N/A	TEACHER PLANNING CENTER	
	1	605	N/A	TEACHER PLANNING CENTER	
	2	218	N/A	STUDENT DINING	
	1	117	N/A	STAFF DINING	
	1	128	N/A	TARDY ROOM	
	1	105	N/A	RECORD ROOM	
	1	101	N/A	RECEPTION AREA	
	1	125	N/A	GUIDANCE RECEPTION	
	1	705	N/A	TEACHER PLANNING CENTER	
	1	907	N/A	MULTI MEDIA	
	1	804	N/A	TEACHER PLANNING CENTER	
	1	423	N/A	ELECTRICAL ROOM	
	1	409	N/A	STORAGE	
	1	408	N/A	PRACTICE ROOM	
	1	410	N/A	INST. STORAGE	
	2	406	N/A	STORAGE	
	1	402	N/A	STORAGE	
	1	403	N/A	STORAGE	
	1	404	N/A	SOUND BOOTH	
	1	501	N/A	CONCESSION	
	1	603	N/A	STORAGE	
	1	218	N/A	KITCHEN	
	1	316	N/A	STORAGE	

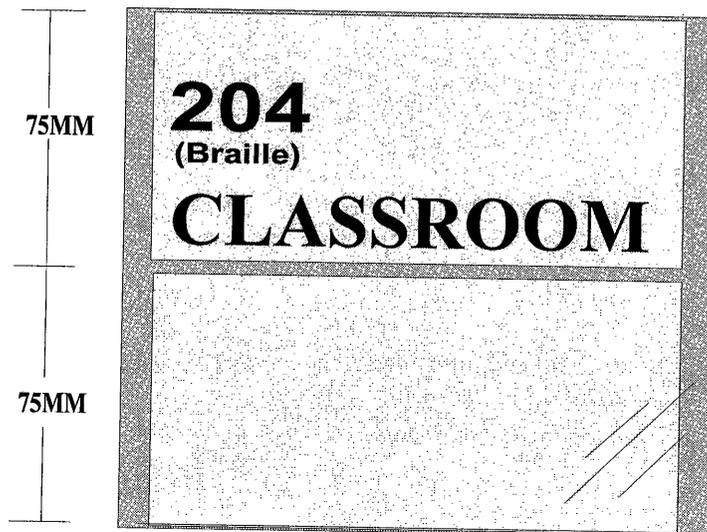
	1	315	N/A	LAUNDRY ROOM	
	1	314	N/A	ATHLETIC STORAGE	
	1	313	N/A	MECHANICAL	
	1	312	N/A	CONCESSION	
	1	309	N/A	GIRLS ATHLETICS LOCKERS	
	1	310	N/A	GIRLS PE LOCKERS	
	1	310	N/A	PE STORAGE	
	1	304	N/A	BOYS ATHLETICS LOCKERS	
	1	303	N/A	BOYS PE LOCKERS	
	1	103	N/A	STORAGE	
	1	104	N/A	STORAGE	
	1	109	N/A	WORK STORAGE	
	2	132	N/A	STORAGE	
	1	136	N/A	ELECTRICAL ROOM	
	1	135	N/A	ELEVATOR MECHANICAL	
	1	200	N/A	STORAGE	
	1	203	N/A	DATA	
	1	201	N/A	CUSTODIAL STORAGE	
	1	204	N/A	CUSTODIAL EQUIPMENT	
	1	207	N/A	SPRINKLER ROOM	
	1	202	N/A	MECHANICAL	
	1	208	N/A	RECEIVING STORAGE	
	1	209	N/A	DRY STORAGE	
	1	211	N/A	COOLER	
	1	210	N/A	CHEMICAL LAUNDRY	
	1	212	N/A	LOCK ROOM	
	1	219	N/A	MECHANICAL	
	2	618	N/A	SCIENCE STORAGE/ PREP	
	1	620	N/A	ELECTRICAL ROOM	
	1	616	N/A	JANITOR	
	1	ST-2	N/A	COURTYARD	
	1	ST-3	N/A	COURTYARD	
	1	419	N/A	COURTYARD	
	1	420	N/A	COURTYARD	
	1	130	N/A	COURTYARD	
	1	133	N/A	COURTYARD	
	2	218	N/A	COURTYARD	
	1	511	N/A	CONTROL ROOM	
	1	513	N/A	MECHANICAL	
	1	703	N/A	STORAGE	
	1	714	N/A	JANITORIAL	
	1	718	N/A	ELECTRICAL ROOM	
	1	719	N/A	DATA	
	2	716	N/A	SCIENCE STORAGE/ PREP	
	1	720	N/A	MECHANICAL	
	1	908	N/A	SERVER ROOM	
	1	903	N/A	WORK ROOM	
	1	902	N/A	BOOK STORE	
	1	819	N/A	MECHANICAL	
	1	817	N/A	DATA	
	1	818	N/A	ELECTRICAL	
	2	815	N/A	SCIENCE STORAGE /PREP	
	1	802	N/A	STORAGE	
Total:	93				

Sign Type B- ADA Compliant Signage w/ Symbol / Restrooms/ Unisex						
	1	308	S3/S15	RESTROOM	GIRLS	
	1	305	S3/S14	RESTROOM	BOYS	
	1	127	S3/S14	RESTROOM	BOYS	
	1	129	S3/S15	RESTROOM	GIRLS	
	1	601	S3/S14	RESTROOM	BOYS	
	1	602	S3/S15	RESTROOM	GIRLS	
	1	119	S3/S15	RESTROOM	WOMEN	
	1	121	S3/S14	RESTROOM	MEN	
	1	417	S13	RESTROOM	UNISEX	
	1	604	S13	RESTROOM	UNISEX	
	1	215	S13	RESTROOM	UNISEX	
	1	213	S13	RESTROOM	UNISEX	
	1	205	S13	RESTROOM	UNISEX	
	1	124	S13	RESTROOM	UNISEX	
	1	704	S13	RESTROOM	UNISEX	
	1	803	S13	RESTROOM	UNISEX	
	1	906	S13	RESTROOM	UNISEX	
	1	701	S3/S14	RESTROOM	BOYS	
	1	700	S3/S15	RESTROOM	GIRLS	
	1	800	S3/S15	RESTROOM	GIRLS	
	1	801	S3/S14	RESTROOM	BOYS	
Total:	14					
Sign Type C- Emergency Plans						
	1	C006	N/A	EMERGENCY PLAN		
	1	C010	N/A	EMERGENCY PLAN		
	1	C004	N/A	EMERGENCY PLAN		
	1	218	N/A	EMERGENCY PLAN		
	1	C018	N/A	EMERGENCY PLAN		
	1	C016	N/A	EMERGENCY PLAN		
	1	C015	N/A	EMERGENCY PLAN		
	1	C014	N/A	EMERGENCY PLAN		
* 'C' REPRESENTS "CORRIDOR" SIGN LOCATION						
Total:	8					
Sign Type D- "In Fire Emergency Do Not Use Elevator Use Exit Stair" / Elevator Signage						
	1	E134	F7	ELEVATOR		
	1	E813	F7	ELEVATOR		
Total:	2					
* "E" REPRESENTS ELEVATOR LOCATION						

Sign Type E: ADA Compliant Signage/ Stair Signage					
	2	ST-2	S48	STAIR	
	2	ST-3	S48	STAIR	
Total:	4				
Sign Type F- ADA Compliant Signage / Fire Exit Stair Signage					
	2	ST-1	F7	FIRE EXIT STAIR	Glass Backup
	2	ST-4	F7	FIRE EXIT STAIR	Glass Backup
Total:	4				
Sign Type G- ADA Compliant Signage / Exit Signage					
	2	503	N/A	EXIT	
	1	502	N/A	EXIT	
	1	600	N/A	EXIT	
	1	100	N/A	EXIT	
	1	ST-1	N/A	EXIT	
	1	ST-4	N/A	EXIT	
	1	218	N/A	EXIT	
	1	208	N/A	EXIT	
	1	303	N/A	EXIT	
	1	310	N/A	EXIT	
	1	311	N/A	EXIT	
	1	300	N/A	EXIT	
	1	C008	N/A	EXIT	
	1	C011	N/A	EXIT	
	1	407	N/A	EXIT	
Total:	16				

Interior Sign Standards McKinley Middle Magnet School

Sign Type A



Identification

(150mm, 5 7/8"W X 150mm,)

75mm, Expander w/ 0.80 Phenolic ADA Material

75 mm Aluminum Band w/ Insert Slot Feature

150mm SBEC150-R, Radius End Clips

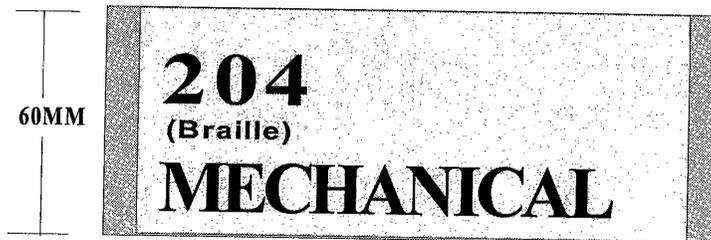
75mm Paper Inserts - 1 box yields 150

Sign Specifications

End Clips (Holder):	TBD
Imprint Color:	TBD
Expander Color:	TBD
Insert Slot Color:	TBD
Rule Line:	TBD
Holder Mounting:	Mechanical Fasteners
Insert Mounting:	Side Track
Paper Insert:	TBD
Text Size:	5/8"
Text Style:	TBD

Interior Sign Standards McKinley Middle Magnet School

Sign Type A1



Identification

Scale $\frac{1}{2}''=1''$

(150mm, 5 7/8"W X 60mm,"H)

60mm SBEC60-R, Radius End Clips

ADA Band, SBADA

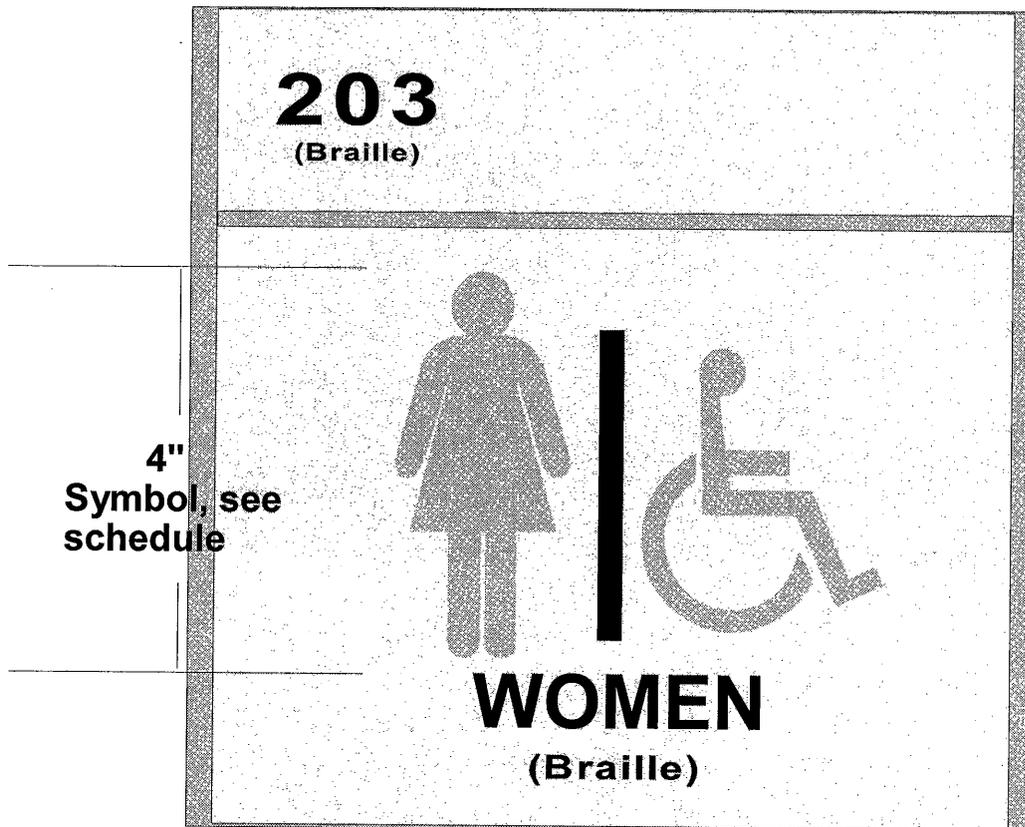
Aluminum Band w/ Insert slot feature, SB601R

Sign Specifications

End Clips (Holder):	TBD
Imprint Color:	TBD
Expander Color:	TBD
Insert Slot Color:	TBD
Rule Line:	TBD
Holder Mounting:	Mechanical Fasteners
Insert Mounting:	Side Track
Paper Insert:	TBD
Text Size:	5/8"
Text Style:	TBD

Interior Sign Standards McKinley Middle Magnet School

Sign Type B



Identification

Scale: 1/2"=1"

(210mm, 8 1/4"W X 210mm, 8 1/4"H)

210mm, Expander w/ 0.80 Phenolic ADA Material

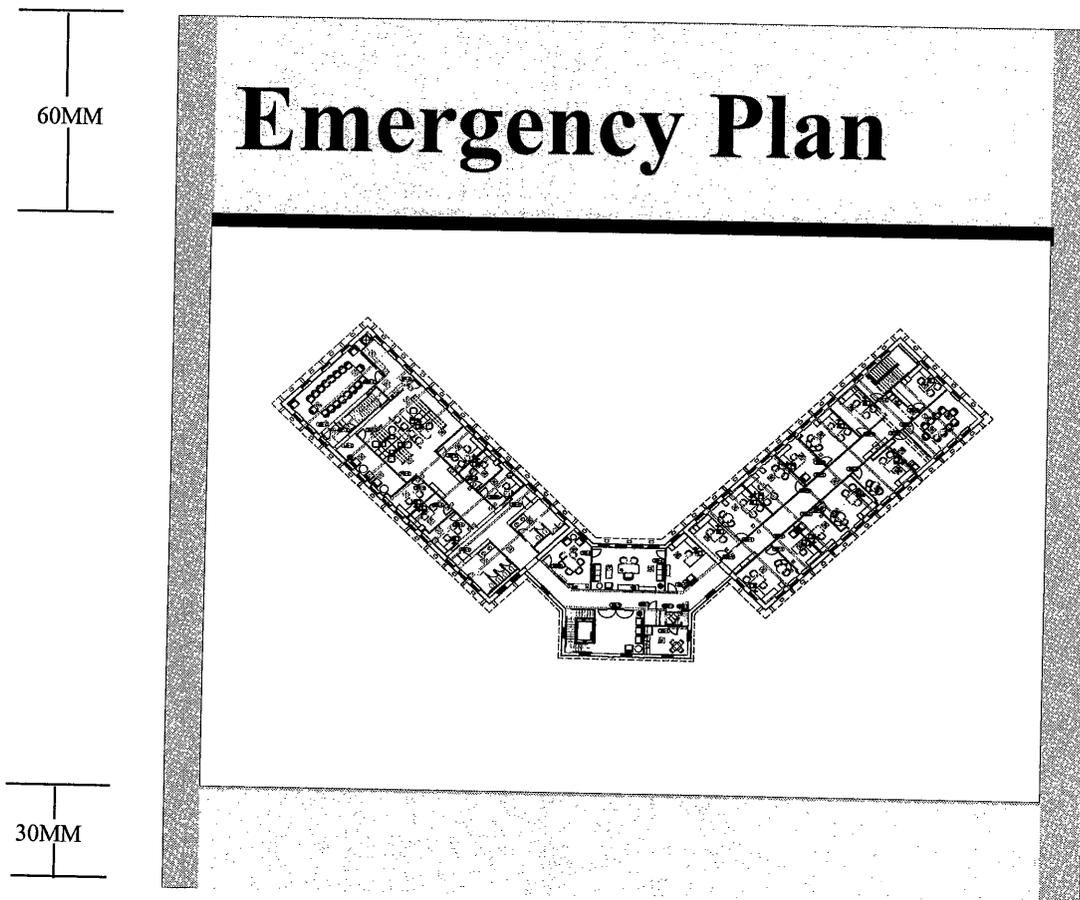
210mm, SBST-R Aluminum Side Track / Radius End Clips

Sign Specifications

End Clips:	TBD
Imprint Color:	TBD
Insert Color:	TBD
Rule Line:	TBD
Holder Mounting:	Mechanical Fasteners
Insert Mounting:	End Clips
Text Size:	5/8"
Text Style:	TBD
Symbol Size:	4"
Graphic Application:	Screen Printing

Interior Sign Standards McKinley Middle Magnet School

Sign Type C



Accord Emergency Plan 12 1/4" H x 11" W
8 1/2" x 11" Paper Inserts
STEP8511, (315mmx280mm)
SB30mm, SB60mm
Scale 3/8" = 1"

Sign Specifications

Header/Footer:	As Shown
Holder Mounting:	Vinyl Tape
Insert Mounting:	Pres Lock
Imprint Colors:	TBD
Paper Color:	TBD
Emergency Plan:	Printed paper insert with Fire Evacuation plan to be furnished as a part of this sign package. Floorplan drawings will be provided by the designer for this purpose. Coordinate with Owner for exiting route information.

Interior Sign Standards McKinley Middle Magnet School

Sign Type D



Identification

Scale: 1/2"=1"

(210mm, 8 1/4"W X 120mm, 4 3/4"H)

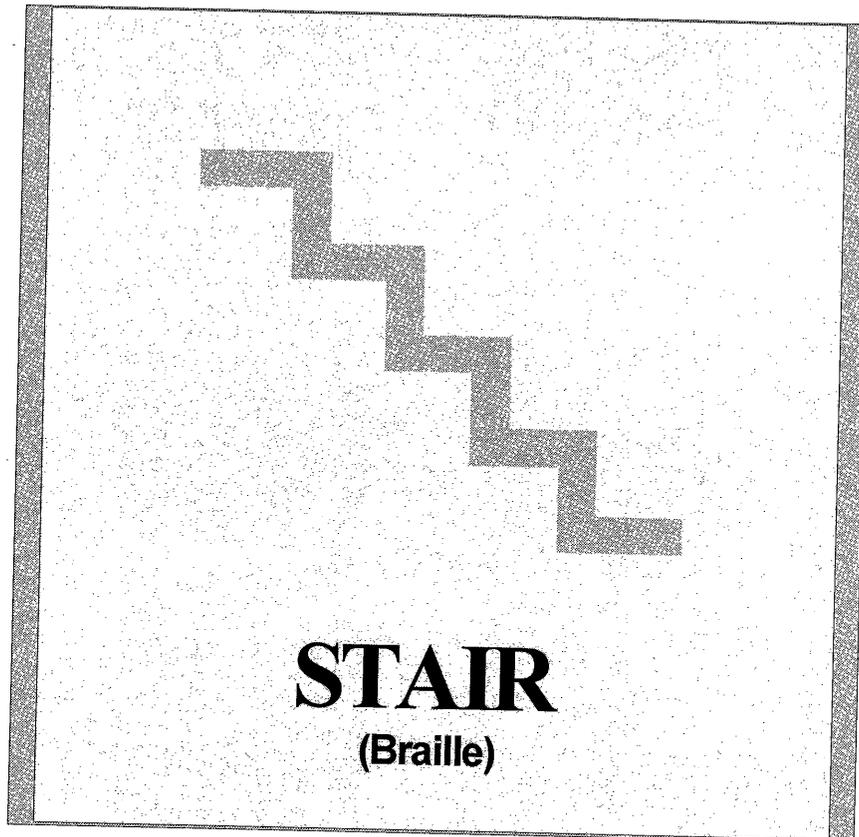
120mm, Expander w/ 0.80 Phenolic ADA Material

120mm SBEC120-R, Radius End Clips

Sign Specifications

End Clips (Holder):	TBD
Imprint Color:	TBD
Rule Line:	TBD
ADA Expander Color:	TBD
Holder Mounting:	Mechanical Fasteners
Insert Mounting:	Side Track
Text Size:	5/8"
Text Style:	TBD
Graphic Application:	Screen Printing

Interior Sign Standards McKinley Middle Magnet School Sign Type E



Identification

Scale: 1/2"=1"

(210mm, 8 1/4"W X 210mm, 8 1/4"H)

210mm, Expander w/ 0.80 Phenolic ADA Material

210mm, SBST-R, Aluminum Side Track

Sign Specifications

End Clips:	TBD
Imprint Color:	TBD
Insert Color:	TBD
Holder Mounting:	Mechanical Fasteners
Insert Mounting:	End Clips
Text Size:	5/8"
Text Style:	TBD
Symbol Size:	4"
Graphic Application:	Screen Printing

Interior Sign Standards McKinley Middle Magnet School Sign Type F



Identification

Scale: 1/2"=1"

(210mm, 8 1/4"W X 210mm, 8 1/4"H)

210mm, Expander w/ 0.80 Phenolic ADA Material

210mm, SBST-R, Aluminum Side Track

Sign Specifications

End Clips:	TBD
Imprint Color:	TBD
Insert Color:	TBD
Holder Mounting:	Mechanical Fasteners
Insert Mounting:	End Clips
Text Size:	5/8"
Text Style:	TBD
Symbol Size:	4"
Graphic Application:	Screen Printing

Interior Sign Standards McKinley Middle Magnet School

Sign Type G



Identification

(210mm, 8 1/4"W X 120mm, 4 3/4"H)
120mm, Expander w/ 0.80 Phenolic ADA Material
120mm SBEC120-R, Radius End Clips

Sign Specifications

End Clips (Holder): TBD
Imprint Color: TBD
ADA Expander Color: TBD
Holder Mounting: Mechanical Fasteners
Insert Mounting: Side Track
Text Size: 5/8"
Text Style: TBD
Graphic Application: Screen Printing

SECTION 03450 - PLANT-PRECAST CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Precast concrete units
2. Erection of Precast units.

B. Related Sections include the following:

1. Division 7 Section "Water Repellents" for water-repellent finish treatments.
2. Division 7 Section "Sheet Metal Flashing and Trim" for flashing receivers and reglets
3. Division 7 Section "Joint Sealants" for elastomeric joint sealants and sealant backings.

1.2 PERFORMANCE REQUIREMENTS

A. Structural Performance: Provide precast concrete units and connections capable of withstanding design loads within limits and under conditions indicated.

1. Loads produced by 105mph wind per IBC-2000.
2. Dead loads and live loads per Notes on structural drawings.
3. Design framing system to maintain clearances at openings and to allow for construction tolerances.

1.3 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Detail fabrication and installation of precast concrete units. Indicate member locations, plans, elevations, dimensions, shapes, cross sections, limits of each finish, and types of reinforcement, including special reinforcement.

1. Indicate separate face and backup mix locations and thicknesses.
2. Indicate locations and extent and treatment of dry joints if two-stage casting is proposed.
3. Indicate welded connections by AWS standard symbols. Detail and provide loose and cast-in hardware, inserts, connections, and joints, including accessories.
4. Indicate locations and details of anchorage devices to be embedded in other construction.
5. Comprehensive engineering analysis signed and sealed by a Louisiana Registered Civil Engineer.

C. Samples: For each type of finish indicated on exposed surfaces of precast concrete units, in sets of 3, illustrating full range of finish, color, and texture variations expected.

1.4 QUALITY ASSURANCE

A. The fabrication and erection of all precast units shall be under the responsibility of a single sub-contractor.

B. Installer Qualifications: An experienced installer who has completed precast concrete work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.

- C. **Fabricator Qualifications:** A firm that complies with the following requirements and is experienced in manufacturing precast concrete units similar to those indicated for this Project and with a record of successful in-service performance.
1. Assumes responsibility for engineering precast concrete units to comply with performance requirements. This responsibility includes preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer licensed in Louisiana.
 2. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of precast concrete that are similar to those indicated for this Project in material, design, and extent.
 3. Participates in PCI's Plant Certification program and is designated a PCI-certified plant.
 4. Has sufficient production capacity to produce required units without delaying the Work.
 5. Is registered with and approved by authorities having jurisdiction.
- D. **Design Standards:** Comply with ACI 318 (ACI 318M) and the design recommendations of PCI MNL 120, "PCI Design Handbook--Precast and Prestressed Concrete."
- E. **Quality-Control Standard:** For manufacturing procedures and testing requirements, quality-control recommendations, and dimensional tolerances for types of units required, comply with PCI MNL 116, "Manual for Quality Control for Plants and Production of Precast Concrete Products."
- F. **Product Options:** Drawings indicate size, profiles, and dimensional requirements of precast concrete units and are based on the specific types of units indicated. Other fabricators' precast concrete units complying with requirements may be considered. Refer to Division 1 Section "Substitutions."
- G. **Welding:** Qualify procedures and personnel according to AWS D1.1, "Structural Welding Code--Steel"; and AWS D1.4, "Structural Welding Code--Reinforcing Steel."
- H. **Sample Panels:** Before fabricating precast concrete units, produce sample panels to establish the approved range of selections made under sample Submittals. Produce a minimum of 3 sets of full-scale sample panels, approximately 48 inches (1200 mm) long by 48 inches (1200 mm) high, to demonstrate the expected range of finish, color, and texture variations.
1. Locate panels where indicated or, if not indicated, as directed by Architect.
 2. In presence of Architect, damage part of an exposed-face surface for each finish, color, and texture, and demonstrate materials and techniques proposed for repair of surface blemishes to match adjacent undamaged surfaces.
 3. Maintain sample panels during construction in an undisturbed condition as a standard for judging the completed Work.
 4. Demolish and remove sample panels when directed.
- I. **Preinstallation Conference:** Conduct conference at Project site to comply with requirements of Division 1 Section "Project Meetings."
- 1.5 **DELIVERY, STORAGE, AND HANDLING**
- A. Deliver precast concrete units to Project site in such quantities and at such times to ensure continuity of installation. Store units at Project site to prevent cracking, distorting, warping, staining, or other physical damage, and so markings are visible.
- B. Lift and support units only at designated lifting and supporting points as shown on Shop Drawings.
- 1.6 **SEQUENCING**

- A. Furnish anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, templates, instructions, and directions, as required, for installation.

PART 2 - PRODUCTS

2.1 MOLD MATERIALS

- A. Molds: Provide molds and, where required, form-facing materials of metal, plastic, wood, or another material that is nonreactive with concrete and dimensionally stable to produce continuous and true precast concrete surfaces within fabrication tolerances and suitable for required finishes.
- B. Form Liners: Units of face design, texture, arrangement, and configuration indicated.
- C. Wall Panels: Provide insulated sandwich panels as shown on architectural details.

2.2 REINFORCING MATERIALS

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420), deformed.
- B. Galvanized Reinforcing Bars: ASTM A 767/A 767M, Class II zinc coated, hot-dip galvanized after fabrication and bending, as follows:
1. Steel Reinforcement: ASTM A 615/A 615M, Grade 60.
- C. Plain-Steel Wire: ASTM A 82.
- D. Deformed-Steel Wire: ASTM A 496.
- E. Epoxy-Coated-Steel Wire: ASTM A 884/A 884M, Class A coated Plain
- F. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as drawn steel wire into flat sheets.
- G. Supports: Manufacturer's bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded wire fabric in place according to CRSI's "Manual of Standard Practice," PCI MNL 116, and as follows:
1. For uncoated reinforcement, use all-plastic CRSI Class 1 plastic-protected.

2.3 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type III, [gray] [and] [white], of same type, brand, and source.
1. Standard gray portland cement may be used for nonexposed backup concrete.
- B. Normal-Weight Aggregates: Except as modified by PCI MNL 116, ASTM C 33, with coarse aggregates complying with Class 5S.
1. Face-Mix Coarse Aggregates: Selected, hard, and durable; free of material that reacts with cement or causes staining.
 - a. Gradation: [Uniformly graded].
 2. Face-Mix Fine Aggregates: Selected, natural or manufactured sand of the same material as coarse aggregate, unless otherwise approved by Architect.
- C. Coloring Admixture: ASTM C 979, synthetic mineral-oxide pigments or colored water-reducing admixtures, temperature stable, nonfading, and alkali resistant.

- D. Water: Potable; free from deleterious material that may affect color stability, setting, or strength of concrete and complying with chemical limits of PCI MNL 116.
- E. Air-Entraining Admixture: ASTM C 260, certified by manufacturer to be compatible with other required admixtures.
- F. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
- G. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
- H. Plasticizing Admixture: ASTM C 1017.
- I. Metakaolin Admixture: ASTM C 618, Class N.
- J. Silica Fume Admixture: ASTM C 1240.

2.4 STEEL CONNECTION MATERIALS

- A. High-Strength, Low-Alloy Structural Steel: ASTM A 572/A 572M.
- B. High-Strength Bolts and Nuts: ASTM A 325 (ASTM A 325M), Type 1, heavy hex steel structural bolts, heavy hex carbon-steel nuts, and hardened carbon-steel washers.
- C. Finish: For exterior steel items, steel in exterior walls, and items indicated for galvanizing, apply zinc coating by (hot-dip process according to ASTM A 123/A 123M, after fabrication, and ASTM A 153/A 153M, as applicable) (electrodeposition according to ASTM B 633, SC 3).
 - 1. Galvanizing Repair Paint: High-zinc-dust-content paint with dry film containing not less than 94 percent zinc dust by weight, and complying with DOD-P-21035A or SSPC-Paint 20.
- D. Reglets: (PVC extrusions) (Stainless steel) (Copper) (Reglets are specified in Division 7 Section "Sheet Metal Flashing and Trim")
- E. Welding Electrodes: Comply with AWS standards.
- F. Accessories: Provide clips, hangers, plastic shims, and other accessories required to install precast concrete units.

2.5 GROUT MATERIALS

- A. Nonmetallic, Nonshrink Grout: Premixed, nonmetallic, noncorrosive, nonstaining grout containing selected silica sands, portland cement, shrinkage-compensating agents, plasticizing and water-reducing agents, complying with ASTM C 1107, of consistency suitable for application.

2.6 CONCRETE MIXES

- A. Prepare design mixes for each type of concrete required.
- B. Design mixes may be prepared by a qualified independent testing agency or by qualified precast plant personnel at precast concrete fabricator's option.
- C. Limit water-soluble chloride ions to the maximum percentage by weight of cement permitted by ACI 318 (ACI 318M).

- D. Normal-Weight Concrete Face and Backup Mixes: Proportion mixes by either laboratory trial batch or field test data methods according to ACI 211.1, with materials to be used on Project, to provide normal-weight concrete with the following properties:
 - 1. Compressive Strength (28 Days): 5000 psi (34.5 MPa).
 - 2. Maximum Water-Cementitious Materials Ratio: 0.45.
- E. Water Absorption: 12 to 14 percent by volume, tested according to PCI MNL 116.
- F. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content complying with PCI MNL 116.
- G. When included in design mixes, add other admixtures to concrete mixes according to manufacturer's written instructions.

2.7 MOLD FABRICATION

- A. Molds: Accurately construct molds, mortar tight, of sufficient strength to withstand pressures due to concrete-placement operations and temperature changes and for prestressing operations.
 - 1. Place form liners accurately to provide finished surface texture indicated. Provide solid backing and supports to maintain stability of liners during concreting. Coat form liner with form-release agent.
- B. Maintain molds to provide completed precast concrete units of shapes, lines, and dimensions indicated, within fabrication tolerances specified.
 - 1. Edge and Corner Treatment: Uniformly radiused.

2.8 FABRICATION

- A. Cast-in Anchors, Inserts, Plates, Angles, and Other Anchorage Hardware: Fabricate anchorage hardware with sufficient anchorage and embedment to comply with design requirements. Accurately position for attachment of loose hardware, and secure in place during precasting operations. Locate anchorage hardware where it does not affect position of main reinforcement or concrete placement.
- B. Furnish loose steel plates, clip angles, seat angles, anchors, dowels, cramps, hangers, and other hardware shapes for securing precast concrete units to supporting and adjacent construction.
- C. Cast-in reglets, slots, holes, and other accessories in precast concrete units to receive windows, cramps, dowels, reglets, waterstops, flashings, and other similar work as indicated.
- D. Provide insulated sandwich panels as shown in architectural details.
- E. Cast-in openings larger than 10 inches (250 mm) in any dimension.
- F. Reinforcement: Comply with recommendations in CRSI's "Manual of Standard Practice" and PCI MNL 116 for fabricating, placing, and supporting reinforcement.
 - 1. Clean reinforcement of loose rust and mill scale, earth, and other materials that reduce or destroy the bond with concrete.
 - 2. Accurately position, support, and secure reinforcement against displacement during concrete-placement and consolidation operations. Completely conceal support devices to prevent exposure on finished surfaces.

3. Place reinforcement to maintain at least 3/4-inch (19-mm) minimum coverage. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position while placing concrete. Direct wire tie ends away from finished, exposed concrete surfaces.
 4. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.
- G. Reinforce precast concrete units to resist handling, transportation, and erection stresses.
 - H. Mix concrete according to PCI MNL 116 and requirements in this Section. After concrete batching, no additional water may be added.
 - I. Place face mix to a minimum thickness after consolidation of the greater of 1 inch (25 mm) or 1.5 times the maximum aggregate size, but not less than the minimum reinforcing cover.
 - J. Place concrete in a continuous operation to prevent seams or planes of weakness from forming in precast concrete units. Comply with requirements in PCI MNL 116 for measuring, mixing, transporting, and placing concrete.
 1. Place backup concrete to ensure bond with face mix concrete.
 - K. Thoroughly consolidate placed concrete by internal and external vibration without dislocating or damaging reinforcement and built-in items. Use equipment and procedures complying with PCI MNL 116.
 - L. Comply with ACI 306.1 procedures for cold-weather concrete placement.
 - M. Comply with ACI 305R recommendations for hot-weather concrete placement.
 - N. Identify pickup points of precast concrete units and orientation in structure with permanent markings, complying with markings indicated on Shop Drawings. Imprint or permanently mark casting date on each precast concrete unit on a surface that will not show in finished structure.
 - O. Cure concrete, according to requirements in PCI MNL 116, by moisture retention without heat or by accelerated heat curing using low-pressure live steam or radiant heat and moisture.
 - P. Discard precast concrete units that are warped, cracked, broken, spalled, stained, or otherwise defective unless repairs are approved by Architect.

2.9 FABRICATION TOLERANCES

- A. Fabricate precast concrete units straight and true to size and shape with exposed edges and corners precise and true so each finished panel complies with PCI MNL 116 product tolerances as well as position tolerances for cast-in items.

2.10 FINISHES

- A. Finish exposed-face surfaces of precast concrete units to match approved sample panels.
- B. Finish exposed surfaces of precast concrete units by smooth, steel-trowel finish.
- C. Finish unexposed surfaces of precast concrete units by float finish.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions for compliance with requirements for installation tolerances, true and level bearing surfaces, and other conditions affecting performance. Proceed with installation only after unsatisfactory conditions have been corrected.
- B. Do not install precast concrete units until supporting concrete has attained minimum design compressive strength.

3.2 INSTALLATION

- A. Install clips, hangers, and other accessories required for connecting precast concrete units to supporting members and backup materials.
- B. Install precast concrete. Provide temporary supports and bracing as required to maintain position, stability, and alignment as units are being permanently connected.
 - 1. Maintain horizontal and vertical joint alignment and uniform joint width as erection progresses.
 - 2. Remove projecting hoisting devices and use sand-cement grout to fill voids within recessed hoisting devices flush with surface of concrete.
- C. Anchor precast concrete units in position by bolting, welding, grouting, or as otherwise indicated. Remove temporary shims, wedges, and spacers as soon as possible after anchoring and grouting are completed.
- D. Welding: Perform welding in compliance with AWS D1.1 and AWS D1.4, with qualified welders.
 - 1. Protect precast concrete units and bearing pads from damage by field welding or cutting operations and provide noncombustible shields as required.
 - 2. Repair damaged steel surfaces by cleaning and applying a coat of galvanizing repair paint to galvanized surfaces.
- E. At bolted connections, use lock washers or other acceptable means to prevent loosening of nuts.
- F. Grouting Connections: Grout connections where required or indicated. Retain grout in place until hard enough to support itself. Pack spaces with stiff grout material, tamping until voids are completely filled. Place grout to finish smooth, level, and plumb with adjacent concrete surfaces. Keep grouted joints damp for not less than 24 hours after initial set. Promptly remove grout material from exposed surfaces before it affects finishes or hardens.

3.3 ERECTION TOLERANCES

- A. Install precast concrete units level, plumb, square, true, and in alignment without exceeding the noncumulative erection tolerances of PCI MNL 116 Appendix I.
- B. Install precast concrete units level, plumb, square, and true, without exceeding the following noncumulative erection tolerances.
 - 1. Plan Location from Building Grid Datum: Plus or minus 1/2 inch (13 mm).
 - 2. Plan Location from Centerline of Steel: Plus or minus 1/2 inch (13 mm).
 - 3. Top Elevation from Nominal Top Elevation: As follows:
 - a. Exposed Individual Panel: Plus or minus 1/4 inch (6 mm).
 - b. Nonexposed Individual Panel: Plus or minus 1/2 inch (13 mm).
 - c. Exposed Panel Relative to Adjacent Panel: 1/4 inch (6 mm).
 - d. Nonexposed Panel Relative to Adjacent Panel: 1/2 inch (13 mm).
 - 4. Support Elevation from Nominal Support Elevation: As follows:
 - a. Maximum Low: 1/2 inch (13 mm).
 - b. Maximum High: 1/4 inch (6 mm).

5. Maximum Plumb Variation over the Lesser of Height of Structure or 100 Feet (30 m): 1 inch (25 mm).
6. Plumb in Any 10 Feet (3 m) of Element Height: 1/4 inch (6 mm).
7. Maximum Jog in Alignment of Matching Edges: 1/4 inch (6 mm).
8. Joint Width (Governs over Joint Taper): Plus or minus 1/4 inch (6 mm).
9. Maximum Joint Taper: 3/8 inch (10 mm).
10. Joint Taper in 10 Feet (3 m): 1/4 inch (6 mm).
11. Maximum Jog in Alignment of Matching Faces: 1/4 inch (6 mm).
12. Differential Bowing or Camber, as Erected, between Adjacent Members of Same Design: 1/4 inch (6 mm).

3.4 REPAIRS

- A. Repair exposed exterior surfaces of precast concrete units to match color, texture, and uniformity of surrounding precast concrete if permitted by Architect.
- B. Remove and replace damaged precast concrete units if repairs do not comply with requirements.

3.5 CLEANING

- A. Clean exposed surfaces of precast concrete units after erection to remove weld marks, other markings, dirt, and stains.
 1. Wash and rinse according to precast concrete fabricator's written recommendations. Protect other work from staining or damage due to cleaning operations.
 2. Do not use cleaning materials or processes that could change the appearance of exposed concrete finishes.

END OF SECTION 03450