



SWC MARGINAL & CHESTNUT
PORTLAND, MAINE

PROJECT SPECIFICATIONS

April 29th, 2009

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**PROJECT SPECIFICATIONS for
WALGREENS, S.W.C. Marginal and Chestnut Streets, Portland, ME**

TABLE OF CONTENTS

SECTION	TITLE	PAGES
	Cover/Title	1
	Index	2
	Schedule A (Contractor's Insurance)	2
01400	Quality Control Testing	5
02190	Site Work / Excavation	5
02500	Paving & Surfacing	4
02600	Site Mechanical Utilities	3
02825	Ornamental Fencing	4
02830	Chain Link Fence	3
02900	Landscaping Improvements	4
03310	Concrete	4
04200	Masonry & Stone	5
05120	Structural Metal Framing	1
05250	Metal Joists/Metal Decking	1
06100	Carpentry	3
07200	Insulation	2
07300	Shingles	1
07410	Metal Siding, Soffits and Trim	3
07500	Membrane Roofing	5
07530	Flexible Sheet Roofing	3
07600	Flashing, Sheet Metal, Specialties & Accessories	3
07610	Metal Standing Seam Roofing	3
07900	Joint Sealers	2
08100	Metal Doors & Frames	2
08200	Wood Doors	2
08300	Special Doors	3
08450	Aluminum Storefront & Automatic Entrances	5
08700	Finish Hardware	2
08800	Glass & Glazing	4
09250	Gypsum Drywall	3
09300	Ceramic Tile	1
09510	Acoustic Ceilings	2
09650	Resilient Flooring	4
09680	Carpeting	1
09910	Painting & Vinyl Wall Covering	4
09985	Special Wall Surfaces	1
10190	Toilet Partitions & Accessories	2
10522	Fire Protection Specialties	1
12484	Floor Mats & Frames	1
15050	Basic Mechanical Materials & Methods	4
15250	Mechanical Insulation	2
15300	Fire Suppression	3
15400	Plumbing	3
15500	Heating, Ventilating, and Air Conditioning	5
15650	Refrigeration	1
15880	Air Distribution	3

15950	Controls	3
15990	Testing, Adjusting, Balancing and Commissioning	4
16050	Basic Electrical Materials and Methods	4
16400	Service and Distribution	6
16500	Lighting	2
16600	Special Systems	3
16720	Fire Alarm System	3

SCHEDULE A

CONTRACTORS' INSURANCE REQUIREMENTS

Rev.10/07

The following requirements are minimum and mandatory for all contractors performing construction-related work or maintenance services for The Owner or any subsidiary or affiliate.

1) COMMERCIAL GENERAL LIABILITY INSURANCE

1986 Occurrence Form, or its current equivalent, with minimum limits of at least \$1,000,000 each occurrence and general aggregate - each project Single Limit Property Damage, Bodily Injury, and Personal Injury Combined.

2) BUSINESS AUTOMOBILE LIABILITY INSURANCE

Limits of at least \$1,000,000 each accident Single Limit Bodily Injury and Property Damage combined on a "Symbol 1" (all autos) basis.

3) WORKERS' COMPENSATION

- A. Statutory Workers' Compensation for the states in which any and all work is to be performed, including all "states of hire".
- B. Employers' Liability Coverage with limits of at least \$500,000/\$500,000/ \$500,000.
- C. Endorsement to the Policy Providing: All carrier rights of subrogation waived in favor of the Owner.

4) UMBRELLA LIABILITY

- A. Excess/Umbrella Liability Insurance, with Limits of at least \$5,000,000 each occurrence and aggregate where applicable, on at least a Following Form basis of the coverage required in #'s 1, 2, and 3B above.
- B. Any drop-down self-insured retention shall preferably be "nil", but in no event exceeding \$10,000.

5) PROPERTY/EQUIPMENT INSURANCE

Whatever property insurance the Contractor may deem necessary for protection against loss of owned or rented capital equipment, facilities and tools, including any tools owned by mechanics and any tools, equipment scaffolds, bracings, stagings, towers, forms and similar items owned or rented by subcontractors shall be carried by the respective parties.

The Owner shall have no liability with respect to such equipment facilities and tools. The requirement to secure and maintain the above insurance is solely for the benefit of Contractor, and such insurance shall waive all rights of subrogation in favor of the Owner.

Failure of Contractor to secure such insurance or to maintain adequate levels of coverage shall not obligate the Owner, its agents or employees for any losses of owned or rented equipment.

6) BUILDER'S RISK/INSTALLATION FLOATER INSURANCE

Contractor shall secure, pay for and maintain All Peril/Special Form Causes of Loss Builders Risk-Completed Form or Installation Floater Insurance, as applicable, for the full value of the Work, with coinsurance waived, and will absorb all deductible losses, with such deductibles not to exceed \$10,000, except as specified below.

The Builder's Risk/Installation Floater Insurance will list as additional insureds, the Owner, and any Construction Manager, General Contractor, and/or any Sub (or Sub-Sub) contractors, as their interests may appear, and shall include "permission to occupy".

It will cover the perils of flood and earthquake (Limits of not less than \$500,000 or the value of the Work, with deductible(s) not to exceed \$50,000), and will also cover all materials and supplies intended to become a permanent part of the Work, including temporary forms and scaffolding, while on or about the Site, in transit, at other locations, or while in off-site storage at such locations.

7) GENERAL PROVISIONS

A. Acceptability and Other Terms:

The Owner must be named as additional insured on all required insurance except IIIa above, using the following language: **"By endorsement to the insured's policy The Owner and its subsidiaries and affiliates are ENDORSED as additional Insureds."**

All Insurance carriers must be "admitted" in the State(s) in which the work is to be performed.

All Insurance carriers must hold a current Best's rating of at least B++ 6 and subject to the approval of The Owner

All required policies of insurance will afford to The Owner at the address contained herein at least thirty (30) days written notice prior to non-renewal, cancellation, or material reduction in the coverage required or being provided.

B. Certificates of Insurance evidencing the required coverage and terms must be provided to the Owner at the address contained herein and/or the party requesting the Certificate, prior to the commencement of the project and upon the renewal of any required coverages, if the contract is not complete at the time of renewal. Certificates must be presented annually for ongoing maintenance contracts/agreements. Renewal certificates of insurance must be received at the Owner before the expiration of current insurance policies. The Owner must be explicitly shown as an additional insured to the extent required above.

C. As soon as practicable, and in writing Contractor shall notify the Owner of any loss, claim or incident, that within reasonable judgment, might affect the Owner or be deemed to have the value potential of exceeding \$50,000, and without prior written approval, and without affecting the defenses of any insurance carrier, the Contractor shall have no right to negotiate or approve settlement of any loss or claim on which the Owner has or may have insurable interest or legal liability.

D. Subject to reasonable written notice, the Owner reserves the right to require different forms of insurance, coverage limits, terms and conditions and/or performance/surety bonds depending on the type and scope of the project.

SECTION 01400 – QUALITY CONTROL TESTING

PART 1 – GENERAL

DESCRIPTION

General: Required inspection and testing services do not relieve the Contractor of responsibility for compliance with these requirements or for compliance with requirements of the contract documents and Walgreens Criteria.

Definitions: Quality control services include inspections and tests and related actions including reports, performed by independent agencies and governing authorities, as well as directly by the Contractor.

Specific quality control requirements for individual units of work are specified in the sections that specify the individual element of the work. These requirements cover production of standard products, fabrication of customized work and quality control of installation procedures.

Provisions of this section do not limit requirements for the contractor to provide quality control services as required by the Architect/Engineer-Of-Record, the Owner, governing authorities or other authorized entities.

Walgreens has entered into a national account agreement with the following companies as the only agents approved to perform quality control inspection, testing and reporting services. Developers shall contract with the testing firm assigned to the regions below:

AR, IN, KY, LA, MI, MN, MS, OH, WI
Contact: PSI Mr. William Hogg,
95 Chastain Road, Suite 301
Kennesaw, GA 30144770-424-6200

AL, GA, SC, TN
Contact: Qore
Mr. Chet Patel
11420 Johns Creek Parkway
Deluth, GA 30097
770-476-3555
cpatel@qore.net

IA,IL,KS,MO,NC & TX
Contact: Terracon Consulting Engineers & Scientists
Kevin F. Langwell, CPSM
16000 College Blvd.
Lenexa, KS 66219
Phone: 800-593-7777 x351
Kflangwell@terracon.com

Note: In the Chicago Metropolitan Area, Quality Control Testing shall be performed by local qualified firms, subject to approval by Walgreens Construction Project Manager. Approved firms must be capable of performing all tests required by Walgreens Criteria Documents.

DE,MD & VA
Contact: CTI Consultants, Inc.
Spencer Morgenthau
953 Norfolk Square
Norfolk, VA 23502
Phone: 757-461-0826
smorgenthau@cti-consultants.com

FL
Contact: Universal Engineering Sciences
Mr. Jim Sargeant, National Accounts Rep.
3522 Maggie Blvd.
Orlando, FL 32811
jsargeant@uesorl.com

ND, NE, OK, SD, WY
Contact: Kleinfelder
Mr., Derek Ulehla
611, Corporate Circle, Suite C
Gonden, CO 80401
303-237-6601
dulehla@kleinfelder.com

CA,ID,MT,NV,OR,UT & WA; Contact one of the following firms:

Kleinfelder
Mr. Derek Ulehla
611, Corporate Circle, Suite C
Gonden, CO 80401
303-237-6601
dulehla@kleinfelder.com

or

Salem Engineering Group, Inc.
Mr. R. Sammy Salem
4055 West Shaw Ave., Suite 110
Fresno, CA 93722
559-271-9700
Sammy@SalemEngGroup.com

AZ, CO & NM; Contact one of the following firms:

Contact: Kleinfelder
Mr. Derek Ulehla
611, Corporate Circle, Suite C
Gonden, CO 80401
303-237-6601
dulehla@kleinfelder.com

or

Contact: Terracon Consulting Engineers & Scientists
Kevin F. Langwell, CPSM
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Phone: 800-593-7777 x351
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CT, MA, ME, NH, NJ, NY, PA, RI, VT, WV

Quality Control Testing shall be performed by local qualified firms, subject to approval by Walgreens Construction Project Manager. Approved firms must be capable of performing all tests required by Walgreens Criteria Documents.

RESPONSIBILITIES

Contractor Responsibilities: Except where there are specifically indicated as being provided by another identified entity, inspections, tests and quality control services are the Contractor's responsibility; these services also include those specified to be performed by an independent agency and not directly by the Contractor. Costs for these services shall be included in the contract Sum. The Contractor shall employ and pay an independent agent, testing laboratory or other qualified firm to perform quality control services.

Pre-Grading/Paving Meeting: Conducted by the General Contractor and including sub-contractors, the Quality Control Testing Consultant and Walgreens Superintendent. Review requirements of the geotechnical report, project schedule, paving mix design, installation requirements and testing requirements. Prepare and submit meeting minutes to all attendees.

Pre-Slab Meeting: Conducted by the General Contractor and including subcontractors, the Quality Control Testing Consultant and Walgreens Superintendent. Review building pad suitability, concrete mix design, reinforcement (chair positioning), concrete placement and testing procedures. Prepare and submit meeting minutes to all attendees.

Owner (Landlord) Responsibility: The owner (Landlord) shall engage and pay for the services of an independent agency to perform inspections and tests that are specified as the Owner's responsibility.

Retest Responsibility: Where results of required inspections, tests, etc. prove unsatisfactory and do not comply with the requirements of the contract documents, then retests are the responsibility of the Contractor, regardless of whether the original test was the Contractor's responsibility. Retesting work revised or replaced by the Contractor is the Contractor's responsibility, where required tests were performed on original work.

Responsibility for Associated Services: The Contractor shall cooperate with those performing required inspections, tests and similar services. Cooperating includes but is not limited to the following:

Providing testing company 48 hour notice of when tests are required.

Providing access to the work.

Taking samples or assistance with taking samples.

Delivery of samples to test laboratories.

Security and protection of samples and test equipment at the project site.

SCHEDULE OF SERVICES

The following schedule of inspections, tests and similar services represents the minimum scope of quality control services to be performed. The Architect/Engineer-Of-Record or governing authorities may require other quality control services.

Division 2 Sections

Verify suitable soil bearing capacity and subgrade modulus.

Field density testing, compaction testing.

Optimum moisture/maximum density testing.

Pavement proof rolling.

Pavement surface smoothness testing.

Division 3 Sections

Concrete compressive strength testing.

Concrete slump testing.

Floor flatness/levelness testing.

Concrete moisture vapor emission rate testing.

Concrete moisture content testing.

Division 4 Sections

Reinforced masonry grouting.

Division 5 Sections

Weld testing.

Moment connection weld testing (when applicable).

Bolt torque testing.

Division 7 Sections

Thermal scans (for foamed-in-place insulation).

Density, thermal conductivity and open cell content of foamed-in-place insulation.

Division 9 Sections

Moisture vapor emission rate testing.

Concrete alkalinity testing.

Division 15 Sections

Sprinkler system leak test.

Domestic water system leak tests.

Sewer system hydrostatic tests.

Leak, pressure and load testing of HVAC refrigerant piping.

HVAC Testing, Balancing, Adjusting and Commissioning

Division 16 Sections

Electrical wiring for short circuiting and proper grounding.

QUALIFICATION FOR SERVICE AGENCIES

Engage inspection and test service agencies, including independent testing laboratories, which comply with "Guidelines for Effective Practice for Materials Engineering Laboratories" by the American Council of Independent Laboratories, and which specialize in the types of inspections and tests to be performed.

SUBMITTALS

Submit a certified written report of each inspection, test or similar service, directly to the Architect/Engineer-Of-Record. Copies of all test reports, inspection reports, etc. shall be kept on site at all times.

Report Data: Written reports of each inspection, test of similar service shall include, but not be limited to the following:

Name of testing agency or test laboratory.

Dates and locations of samples and test or inspections.

Names of individuals making the inspection or test.

Complete inspection or test data.

Test results.

Interpretations of test results.

Notation of significant ambient conditions at the time of sample taking and testing.

Comments or professional opinion as to whether inspected or tested work complies with requirements of the contract documents.
Recommendations on retesting, if applicable.

Non-Compliant Inspection/Test Results: Within 24 hours of inspection/test being performed, notify Architect/Engineer-Of-Record, Walgreens Project Manager and Walgreens Project Architect of any non-conforming/non-compliant inspections/tests. Copies of the successful retests of the originally non-conforming/non-compliant work shall be submitted to the Architect/Engineer-Of-Record, Walgreens Project Manager and Walgreens Project Architect.

Project Close-out: The Architect/Engineer-Of-Record shall certify to Walgreens that the required quality control services, as required by this section and the contract documents, have been performed and that all results indicate compliance with requirements.

PART II – PRODUCTS (Not Applicable)

PART III – EXECUTION

REPAIR AND PROTECTION

General: Upon completion of inspection, testing, sample-taking and similar services repair damaged work and restore substrates and finishes to eliminate all deficiencies. Repair and protection is the Contractor's responsibility, regardless of the assignment of responsibility for inspection, testing or similar services.

END OF SECTION

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SECTION 02190 - SITEWORK/EXCAVATION

PART 1 - GENERAL

1.01 DESCRIPTION

The extent of site work is shown on drawings.

Site work includes but is not limited to:

Demolition (if required) of existing structures, walks & pavements, utilities and miscellaneous improvements.

Site clearing of trees, irrigation, topsoil stripping, clearing and grubbing.

Earthwork: preparation of subgrade for building slabs, foundations walks, drainage fill, structural fill and backfilling.

Termite Control - Provide site treatment for termite control in those geographic locations where termites are present.

Identify location of above ground & below ground remediation equipment.

QUALITY ASSURANCE.

Severe slope, ramps or steps shall not be permitted at Walgreens' store at front, sides, or rear of building. Maximum permitted slope on site shall be 1:20 (5%). Minimum permitted slope on site shall be 1.4% to insure positive drainage. Maximum entrance slab slope up to doorway shall not exceed 2.0%.

Perform subgrade preparation in the presence of the Quality Control Testing Consultant.

Testing: Employ at Landlords expense testing laboratory, acceptable to Walgreens, to perform soil and quality control testing as required. Copies of test reports shall be submitted to Walgreens Construction Dept. Project Manager upon request.

Soil reports of actual unconfined compressive strength of each strata tested. Verify soil/fill-bearing capacity conforms to design requirements. Perform one test at each column pad and per each 50 ft. of foundation.

Field density tests. Perform at least one test per each 2,500-sq. ft. per lift of fill.

Trench Backfill: Perform at least one test per each 100 lineal feet of trench. Re-compact and retest density and compaction of any trench installed after building pad testing has been performed.

Foundation wall backfill inside and outside shall have compaction tests made every 50ft. Tests shall be performed on each 12" lift.

Provide subgrade modulus tests, one for each 2,500 square feet of pavement placed on natural soils.

Optimum moisture/maximum density tests. Perform one test per each type soil and each 1,000 cu. yds. of material.

Final building pad verification letter, submitted by the Geotechnical Engineer at the completion of grading operations, summarizing satisfactory completion of all tests performed prior to slab placement.

Warranty/Termite Control: Furnish written warranty certifying that soil poisoning treatment will prevent infestation of termites for five years from date of treatment. Provide installer certification that three applications have been applied as required. Submit certification to Walgreens Construction. Dept. Project Manager.

Contractor will pretreat soil and repair/replace any damage caused by infestation.

1.03. JOB CONDITIONS

Existing Utilities: Locate, disconnect, cap and remove existing utilities within the site. Make arrangements as required to relocate/re-route those utilities serving others off-site. Refer to Geotechnical Report performed by S.W. Cole Engineering, Inc., dated June 28, 2007.

PART II - PRODUCTS

2.01 MATERIALS

Satisfactory soil materials are defined as those complying with ASTM D2487-00 soil classification groups, GW, GP, GM, SM, SW and SP. On sites where specific conditions cause any of the listed soils to be unsatisfactory, the Soils Engineer shall specify alternate satisfactory materials and provide Walgreens Project Architect a written explanation.

Aggregate Base Material: Provide CA-6, naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, natural or crushed fine aggregate conforming to MDOT Standard Specification 703.06, Type A.

Aggregate Subbase Material: Provide CA-6, naturally or artificially graded mixture of natural or crushed gravel, crushed stone, crushed slag, natural or crushed fine aggregate conforming to MDOT Standard Specification 703.06, Type D.

3/4-inch Crushed Stone: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, conforming to the gradation requirements of MDOT Standard Specification 703.22, Underdrain Backfill, Type C.

1 1/2-inch Crushed Stone: Shall conform to the following gradation requirements:

Sieve Size	Percent Passing by weight
2-inch	100
1 1/2-inch	90-100
1-inch	20-55
3/4-inch	0-15
3/8-inch	0-5

Slab Base Aggregate: Washed, evenly graded mixture of crushed stone, or crushed or uncrushed gravel, conforming to the gradation requirements of MDOT Standard Specification 703.06 Type A Base Aggregate.

Structural Fill: Shall be placed within the proposed building area to the bottom of the slab base aggregate when soils are unsuitable or when on-site native sands are not available. Structural fill shall meet the following gradation requirements:

Sieve Size	Percent Passing by weight
4-inch	100
3-inch	90-100
1/4-inch	25-90
#40	0-30

Select Backfill: Satisfactory soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter and conforming to the gradation requirements of MDOT Standard specification 703.22, Type B UD Backfill.

Backfill and Fill Materials: Satisfactory soil materials free of clay, rock or gravel larger than 2" in any dimension, debris, waste, frozen materials, vegetable and other deleterious matter. Backfill material used as subgrade below pavement subbase shall either be aggregate subbase material conforming to MDOT Standard Specification 703.06, Type D or shall meet MDOT Standard specification 703.20, Gravel Borrow.

2.02. SOIL TREATMENT

All solutions must be environmentally friendly. Consult the structural pest control regulatory agency of your State prior to use of any product. Provide a solution of one of the following. Fuel oil is not permitted as a diluent. Mix with water at the manufacturers prescribed rate for the conditions encountered.

Permethrin; 36.8% combined with 63.2% inert ingredients in water emulsion.

Bifenthrin; 25.1% combined with 74.9% inert ingredients in water emulsion.

Cypermethrin; 24.8% combined with 75.2% inert ingredients in water emulsion.

Acceptable manufacturers: Dragnet ® SFR, Prevail ® FT manufactured by FMC Corporation, Durbsan TC manufactured by Dow AgroSciences.

PART III - EXECUTION

3.01 SITE CLEARING

Clearing and Grubbing: Clear site of trees, shrubs and other vegetation, except for those indicated to remain.

Completely remove stumps, roots, and other debris protruding through ground surface.

Fill depressions caused by clearing and grubbing operations with satisfactory soil material, meeting compaction requirements, unless further excavation or earthwork is indicated.

Removal of Improvements: Remove existing above-grade and below grade improvements necessary to permit construction including abandoned underground piping or conduit interfering with construction. Fill resulting excavations with satisfactory materials meeting compaction requirements.

3.02. EXCAVATION

Earth Excavation includes excavation of pavements and obstructions visible on ground surface; underground structures, utilities and other items indicated to be demolished and removed; together with earth and other materials encountered. Excavation to subgrade shall be performed with a smooth-edge bucket

Excavation for Structures: Conform to elevations and dimensions shown. For footings and foundations extend excavation below frost line and do not disturb bottom of excavation.

Excavation for Pavements: Cut surface to comply with cross-section, elevations and grades as shown.

Excavation for Entrance Slabs, Sidewalks, and Exterior Slabs: Per recommendations of the geotechnical engineer, the excavations beneath entrances and sidewalks abutting the building shall continue to at least 5.0 feet below finish grade. The entire length and width of the entrance slabs and adjacent sidewalk areas should be underlain with at least 12 inches of compacted aggregate base material conforming to MDOT 703.06, Type A overlying at least 4.0 feet of compacted, non-frost susceptible material meeting the requirements of Structural Fill. Gradual transition (3 horizontal to 1 vertical of the Structural Fill thickness should be provided from the 5-foot depth up to the bottom of the pavement subbase material and adjacent paved areas to reduce the potential for abrupt differential movement due to frost.

Excavation for Trenches: Grade bottoms of trenches as required/indicated, notching under pipe bells to provide solid bearing for entire pipe.

Shoring/Bracing: Provide shoring, bracing required to support adjoining soils, buildings, etc.

Pumping: Keep excavations, and entire subgrade area free of water. Do not operate any system that will loosen existing soils or cause the subsoils to be removed or shifted from their original position. If construction takes place when foundation sub grades are below the groundwater table, foundation sub grade shall be over excavated below the perimeter footings by at least 8 inches. A non-woven geotextile fabric (Mirafi 140N or equal) shall be placed on the sub grade. An 8-inch layer of $\frac{3}{4}$ " Crushed Stone shall be placed and compacted on geotextile, which shall be fully wrapped around the crushed stone layer. The crushed stone will provide a stable working base and provide a drainage layer for pumping of groundwater.

Sub grade Preparation: All sub grades shall be densified using a vibratory roller compactor capable of imposing a dynamic load on the order of 10 kips. Any areas that continue to yield after 3 to 5 passes of the compaction equipment shall be overexcavated and replaced with Structural Fill Material.

3.03 COMPACTION

Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density for soils exhibiting a well-defined moisture density relationship (cohesive soils) in accordance with ASTM D 1557 current edition; or in accordance with ASTM D4253 current edition, for soils which not exhibit a well-defined moisture-density relationship (cohesionless soils).

Structures, Foundation Wall Backfill, Building Slabs and Steps, Pavements: Compact each layer at 95% maximum dry density as determined by ASTM D-1557.

Paved Areas: Compact each layer at 92% maximum dry density as determined by ASTM D-1557.

Lawn or Unpaved Areas: Compact each layer at 85% maximum density for cohesive soils and 90% relative density for cohesionless soil.

Walkways: Compact each layer at 95% maximum dry density as determined by ASTM D-1557.

Trenches: Compact fill to conform to requirements of area in which trench is installed.

3.04 BACKFILL AND FILL

General: Place acceptable soil material in not greater than 8" uncompacted layers to required subgrade elevations, for each area classification listed below.

In excavations; use satisfactory excavated, borrow or import material.

Under Landscaped areas; use satisfactory excavated, borrow or import materials.

Under walks and pavements; use aggregate base and subbase material. .

Under building slabs; adjacent to building foundation walls, adjacent to foundations for bollards, light poles, and canopies; use drainage fill material.

Under PVC and HDPE piping and conduit, use 3/4-inch Crushed Stone; shape to fit bottom 90 degrees of cylinder.

Under corrugated metal piping, ductile iron, or reinforced concrete piping and conduit, use Select Backfill; shape to fit bottom 90 degrees of cylinder.

Over all pipe materials; use Select Backfill material

Around foundation drainage systems, use 3/4-inch Crushed Stone.

Around Subsurface Pond Chambers; use 1 ½-inch Crushed Stone.

3.05 GRADING:

General: Uniformly grade areas, including adjacent transition areas. Smooth finished surface, compact with uniform levels or slopes between points where elevations are indicated and existing grades.

Grading Outside Building Lines: Grade areas adjacent to building lines to drain away from structures and to prevent ponding.

Grading Surface of Fill under Building Slabs: Grade smooth, free of voids, compacted as specified, to required elevation.

Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum of relative density for each area classification.

3.06 TERMITE CONTROL TREATMENT

Apply treatment in strict compliance with manufacturers written instructions. Do not disturb treated areas. Provide a blue "spray indicator" mixed with termiticide to indicate treated areas.

Apply treatment in three applications.

First Application: pre-treat general slab areas and around utility entry points.

Second Application: pre-treat against exterior foundation walls, beneath sidewalks and driveways.

Third Application: treat adjacent to exterior walls after landscaping is complete.

Reapply treatment to areas disturbed by construction activity following application.

Treat foundation walls and areas under building slabs. Termiticide must come in contact with the foundation wall. Applying the termiticide to the outer surface of foundation insulation boards of protection boards is not acceptable.

END OF SECTION

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SECTION 02500 - PAVING & SURFACING

PART 1 - GENERAL

1.01 DESCRIPTION

Extent of paving and surfacing is shown on the drawings and includes but is not limited to:
Asphalt paving.

Pavement markings.

Wheel stops.

Signs and posts for handicapped parking required by ADA.

QUALITY ASSURANCE

Comply with and perform all paving work in accordance with the Standard Specifications for Road Construction (latest edition) of the Maine Department of Transportation and the Asphalt Institute "Specifications for Paving and Industrial Applications (SS-2), information series documents IS 91 and IS 87.

Design Requirements: (Based on 20-year pavement life)

Daily Traffic: 1200 passenger vehicles, 10 single unit trucks,
2 multi-unit trucks

Pavement to be designed and sealed by a professional engineer, using design requirements above and soil sub grade modulus recommended by soil consultant. Refer to the recommendations contained within the geotechnical report prepared by S.W. Cole Engineering, Inc., dated June 28, 2007.

Provide compaction tests of soil subgrade at not less than 1 test per each 2,500 sq.-ft. around the building.

Asphalt cement materials shall conform to ASTM D-3515.

Obtain materials from same source throughout project.

At Walgreens discretion "suspect" installation will be tested, at Walgreens expense, for conformance to MDOT Specifications by:

Using proper rolling equipment for: Breakdown, compaction and finishing.

Coring, extraction and gradation for compliance with approved job mix formula.

Density testing to verify conformance MDOT Standards.

Non complying installations will be replaced at the landlords/contractors expense.

Pavement designs which differ from these indicated in this section must be accompanied with a letter from the design engineer certifying to Walgreens that the proposed design complies with the standards and specifications, of the applicable MDOT.

Install pavement in the presence of the Quality Control Testing Consultant.

1.03. JOB CONDITIONS

Establish grades, lines and elevations to drain water away from buildings, prohibit ponding and accommodate adjoining work and property.

Subgrade Conditions: Provide subgrade improvements as required to correct adverse conditions caused by permeability, frost potential and unstable soils.

1.04 GUARANTEE

Contractor shall guarantee in writing, the materials and workmanship in accordance with Section 01010, for a period of two (2) years, beginning on the date of substantial completion or Walgreens possession, whichever ever comes later. This provision also applies to concrete pavements.

SUBMITTALS

Submit the following to the Architect of Record, Quality Control Testing Consultant and Walgreens Project Architect

Pavement design analysis prepared by a licensed Professional Engineer using the design requirements above and the sub-grade modulus recommended within the geotechnical report.

Laboratory reports of compaction tests and proof rolling of soil sub-grade.

Pavement Surface Smoothness tests.

Approved pavement design mix.

PART II - PRODUCTS

2.01 MATERIALS

Asphalt Aggregate Mix: Plant-mixed, medium volume, hot laid asphalt-aggregate mixture AC 10 or AC 20 complying with ASTM D 3515 and as recommended by local paving authorities to suit project conditions and as follows:

ASPHALT GRADE TEMPERATURE CONDITION

Use AC 10 for: Cold, mean annual air temperature
 ≤ 7 degree C (45 degree F)

Use AC 10 or AC 20 for: Warm, mean annual air temperature
between 7 degree C (45 degree F) and
24 degree C (75 degree F)

Use AC 20 for: Hot, mean annual air temperature ≥ 24
degree C (75 degree F)

Plant Mixed Asphalt Base/Binder Course: Provide one course laid to a compacted thickness of 2.25 inches. Plant mix shall conform to MDOT Standard Specification 703.09, 9.5 mm Superpave.

Plant Mixed Asphalt Surface Course: Provide one course laid to a compacted thickness of 1.25 inches. Plant mix shall conform to MDOT Standard Specification 703.09, 19.0 mm Superpave.

Prime Coat: Cut back asphalt type; AASHTO M82, MC-30, MC-70 or MC-250. Apply material over compacted subgrade to penetrate and seal. Slow cure (SC) or rapid cure (RC) liquid asphalt may be used depending on weather/climate conditions. Cure as necessary.

Tack Coat: Emulsified asphalts AASHTO M 140 or M 208: SS-1, SS-1h, CSS-1, CSS-1h, diluted with one part water to one part emulsified asphalt. Apply to contact surfaces of previously constructed asphalt.

2.02 MISCELLANEOUS PRODUCTS

Pavement Marking Paint: FS-TT-P-1952D (waterborne), Type II (adverse conditions), color; highway yellow or as required by local codes.

Wheel Stops: Precast of 3,500 psi air-entrained concrete, approximately 6" high 9" wide, and 7'-0" long, with chamfered corners and drainage slots on underside.

Delineation Post: FlexStake model SM-703-Y-W-W, 36" high, yellow, by FlexStake (800) 348-9839, 2150 Andrea Lane, Ft. Myers, FL 33912.

Security Bollard Cover: Polyethylene thermoplastic bumper post sleeve by Ideal Shield® (313-842-7290) or equal, color; as shown on the drawings.

Storm water Management Grates/Catch Basin Covers: Provide cast iron units with bicycle safe grates that will not allow bicycle tires to drop down into opening.

Bicycle Racks (when required): Provide undulating tubular steel by the following manufacturers or equal as approved by Walgreens Project Architect:

"Ribbon Rack" # RB 07 by AAA Ribbon® Rack Co.

"CycLoop" #2170-7 by Columbia Cascade

"Thunderbolt" #TB-7 by Creative Pipe, Inc.

"Heavy Duty Winder" #HW 238-7 by Madrax

Finish: Hot-dipped galvanized,

Mounting: Permanent in ground mount.

Capacity: 7 bicycles

PART III - EXECUTION

3.01 SURFACE PREPARATION

Compact soil subgrade to 95% of standard proctor density. Proof roll and repair all unstable areas of the prepared subgrade.

Compact subbase to 95% of standard proctor density. Proof roll and repair all unstable areas of the prepared subbase.

Install pavement markings with mechanical equipment after pavement has been properly cured. Apply to 10.3 mil wet film thickness, 6.0 mil dry film thickness.

Secure wheel stops to pavement with galvanized steel dowels.

3.02 FIELD QUALITY CONTROL:

General: Repair or remove and replace unacceptable or non-compliant paving, as determined by an independent testing laboratory and as directed by Walgreens.

Surface Smoothness: Surfaces will not be acceptable if exceeding the following tolerances for smoothness when tested with a 10' straight edge.
Wearing Course Surface: 3/16".

Pavement variation from true design elevation: 1/4".

Areas which pond water for longer than 24 hours will be cut out and replaced with hot mixed asphalt.

END OF SECTION

SECTION 02600 – SITE MECHANICAL UTILITIES

PART I - GENERAL

1.01 DESCRIPTION

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1, General Requirements, shall be considered a part of this specification.

Codes, Ordinances, and Permits: All permits, connection fees, tap fees, licenses, approvals, and other arrangements, including plumbing and riser diagrams, if required, shall be obtained by the contractor(s) at his expense. Should any changes be necessary in the drawings, or specifications, to secure such approval, this contractor shall include in his bid all costs for such changes to comply with these departments without extra costs to Walgreen Co. It will be this contractor's responsibility to provide all systems complete and operable.

Scope of Work: Contractor shall furnish all materials, tools, equipment, labor, and services and pay all costs of whatever nature, as may be necessarily expended, for a proper workmanlike and fully operable installation, and completion of all site mechanical utility work beyond 5 feet from the building. The following complete piping systems shall be provided as applicable and noted:

Fire Service Water or Combined Fire and Domestic

Domestic Water

Sanitary Sewers – Gravity Flow

Storm Drainage – Gravity Flow

1.02 SUBMITTALS

The contractor(s) doing the site utility work shall submit product data for all material, equipment, trim and accessories.

QUALITY ASSURANCE

At Walgreens discretion, any store where any of the site utility systems operation, installation or material is considered "defective" shall be inspected, at the Landlord's/Contractor's expense, using a video camera within the underground pipe.

All necessary repairs shall be made at the Landlord's/Contractor's expense.

PART II - PRODUCTS

FIRE SERVICE WATER OR COMBINED FIRE AND DOMESTIC

Fire service water main and fittings 2 ½ inch diameter and larger in the ground shall be class 150 ductile-iron pipe, AWWA C151, with mechanical-joint or bell and plain spigot ends, AWWA C110 or C153. Material shall be FM approved and comply with applicable NFPA standards.

If permitted by the Code and the Norway and Oxford Water District, the fire service water main and fittings 2 ½ inch diameter and over in the ground may be polyvinyl chloride plastic (PVC), AWWA C-900 be class 150 or 200 with bell end with gasket and spigot end. Solder shall have a 20% maximum lead content.

Detector Check Valves, UL312 listed, iron body, 175 psi working pressure, with

bypass water meter.

Backflow preventer, reduced pressure principle type, AWWA C511, with strainer, double check valves, air gap between, test cocks and OS&Y isolation valves.

Concrete Vault, precast, reinforced, 48 in. minimum inside length and width, Ladder, grey cast-iron frame and 24-inch minimum manhole cover, A16 loading, per ASTM C857/C858.

DOMESTIC WATER

Domestic water main and fittings 2 ½ inch diameter and larger in the ground shall be class 150 ductile-iron pipe, AWWA C151, with mechanical-joint or bell and plain spigot ends, AWWA C110 or C153.

Buried water main 2 inch diameter and under shall be ASTM B-88, Type "K" hard or soft copper pipe and ASTM B16.22 wrought copper or ASTM B16.18 Cast-copper alloy fittings.

If permitted by the Code and the Norway and Oxford Water District, the domestic water pipe in the ground may be PVC, schedule 40, ASTM D1785 with schedule 40 socket type fittings ASTM D2466.

SANITARY SEWERS – GRAVITY FLOW

Shall be standard weight grey cast-iron soil pipe with hub-and-spigot fittings conforming to ASTM 74 with ASTM C564 rubber gaskets.

Standard weight ductile iron sewer pipe, ASTM A-746, with push-on joints may be used in lieu of cast-iron pipe and fittings.

Where such use is acceptable to the authority having jurisdiction, pipes and fittings, may be SDR 35, schedule 40 PVC DWV sewer pipe and fittings, ASTM D-2321, with solvent cemented or gasketed joints per ASTM D3034 SDR 35. The manufacturer of the pipe and fittings shall furnish the solvent.

Manholes shall be precast, reinforced concrete, 48 inch minimum inside length and width, complete with base, steps, eccentric top section and cast-iron cover with a 24-inch minimum ID.

STORM DRAINAGE – GRAVITY FLOW

The specification for sanitary sewers applies.

Corrugated Polyethylene Pipe (PE): AASHTO M294 and MP7, and ASTM D3550. Interior of pipes shall be smooth, and shall have an "n" value of not less than 0.010. Pipes shall be joined with gasketed bell and spigot joints complying with AASHTO M252 and M294. Gaskets shall comply with ASTM F477 and ASTM D1149. Provide minimum coverage per manufacturer's specifications.

Acceptable Manufacturer's of Corrugated PE pipe: Hancor "Sure Lok", ADS N-12 Prolink, or approved equal.

Catch Basins shall be precast, reinforced concrete, 48 inch minimum inside length and width, complete with base, steps, eccentric top section and cast-iron grate with a 24-inch minimum ID, rated for traffic.

LAWN SPRINKLER (IRRIGATION) PIPING

Refer to Section 02900-2, Part II, 2.02 for the applicable specification

PART III – EXECUTION

EXCAVATING AND BACKFILLING TRENCHES

Excavate trenches to a depth 4 inches deeper than bottom of finished pipe elevation.

Provide bedding material, a graded mixture of gravel, crushed stone and sand, ASTM D2940, with 100 % passing a 1-inch sieve and not more than 8% passing a 0.075m sieve.

Shape the trench bottoms to provide uniform bearing and support of pipe, fittings, bells, joints and barrels

Over the pipe, in layers not exceeding 12 inches, place and compact suitable fill material that has no vegetation, trash and is free of particles larger than 1 inch

3.02 INSTALLATION

Drawing plans, schematics and diagrams indicate general location and arrangement of piping systems. Install piping as indicated unless Code requires otherwise or necessary to avoid physical conflicts, etc.

Piping in General: All pipes shall be run with proper grades. Pipes shall be installed with the correct pitch, free of sags and bends. The site utility contractor(s) shall consult with the construction superintendent before installation of pipe lines. Piping shall be run as shown on the drawings, but the construction superintendent reserves the right to direct slight changes to avoid conflict with other work at no change in cost to Walgreens.

Cleanouts: Full-sized brass screw plugs, cleanout plugs shall be furnished and installed where required by Code and at every turn in the waste line greater than 45 Degrees.

Install schedule 40 sleeves for pipes passing through concrete and masonry walls and concrete floors. Provide a 0.25 inch minimum annular space between sleeve and pipe, then fill with an elastic watertight sealant.

3.03 TESTING, FLUSHING AND CLEANING

Fire Service Water Systems: Test at 1.5 times working pressure, 100 psi minimum, for two hours without more than 2 quarts of loss per 100 joints. Comply with NFPA 24 for testing and flushing

Domestic Water Systems: Test at 1.5 times working pressure, 100 psi minimum, for two hours without more than 2 quarts of loss per 100 joints.

Clean and disinfect water system with a chlorine solution in accordance with NFPA 24 and AWWA C657.

Sewer Systems: 10 feet (minimum) hydrostatic for one hour without leakage.

END OF SECTION

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SECTION 02825 - ORNAMENTAL FENCE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install an ornamental metal picket fence.
 - 1. The extent of fencing is shown on the drawings.

1.02 QUALITY ASSURANCE

- A. All work to be performed by a single firm specializing in ornamental fences.
- B. All fence materials shall be manufactured by a single source.

1.03 WARRANTY

- A. Manufacturer's fifteen-(15) year warranty against material defects, cracking, peeling, blistering and workmanship.

PART II - PRODUCTS

2.01 MANUFACTURERS

- A. Ameristar Fence, P.O. Box 581000, Tulsa, OK 74158-1000, phone 918-835-0898, 800-321-8724.
 - Ornamental Picket Fence, Aegis II™:
 - Style: Majestic™ (3 rail)
- B. Monumental Iron Works, by Master-Halco 110E. LaHabra Blvd. LaHabra, CA 90631, Phone 1-800-MH-FENCE.
 - Ornamental Picket Fence:
 - Style: "Imperial B".
- C. Boundary Fence & Railing Systems, Inc., 131-02 Jamaica Ave., Richmond Hill, NY 11418, phone 718-847-3400.
 - Ornamental Picket Fence:
 - Style: "Royal"
- D. Merchants Metals: 400 Sam Houston Pkwy. E. Houston, TX 77060, Phone 1-866-888-5611.
 - Ornamental Picket Fence:
 - Style: Basic Guardsman, "The Monroe" 3 rail with pickets terminating in top rail.

2.02 ORNAMENTAL PICKET FENCE

- A. Pickets: Galvanized square tubular steel, complying with ASTM A-787.
 - 1. Yield Strength: 45,000 psi (310 Mpa).
 - 2. Zinc Coating: G-90 zinc 0.90 oz/ft².
 - 3. Size: ¾ inch, wall thickness 18-Ga.

4. Picket Spacing: 3-5/16 inches face to face.
- B. Rails: Galvanized steel “U” channel, complying with ASTM A-653.
1. Yield Strength: 50,000 psi (344Mpa).
 2. Zinc Coating: G-90 zinc 0.90 oz/ft².
 3. Size: 1-1/2 inch by 1-3/8 inch, wall thickness 11-Ga.
- C. Posts: Galvanized square tubular steel, complying with ASTM A-787.
1. Yield Strength: 45,000 psi (310 Mpa).
 2. Zinc Coating: G-90 zinc 0.90 oz/ft². Note, posts must be galvanized on inside and outside surfaces.
 3. Size: 2 inch square 14-Ga. min., 2.164 lbs./ft. intermediate posts, 4 inch square 12 Ga. min., 5.770 lbs./ft. corner and end posts.
 4. Spacing: 8'- 0" o.c. maximum.
- D. Attachment: Use ¼ inch size #4 industrial drive rivets to attach pickets to rails and rails to posts.
- E. Finish: All pickets, channels, posts fittings and accessories shall receive a baked on polyester resin based coating applied by electrostatic spray, 2.5 mils thick, color; black. Apply coating to individual components prior to assembly.
- F. Post Tops; Flat style weather-tight ornamental closure cap, fitting over each post.

2.03 CANTILEVER SLIDE GATES (at curb cuts)

- A. Frames: Two 2 inch square aluminum members complying with ASTM B 221, alloy and temper 6063-T6 weighing 1.88 lbs./ft. Weld members together to form one-piece frame integral with top track. Provide two truck assemblies for each gate leaf. Bottom rail shall be a 2" x 4" aluminum member weighing 1.71 lbs./ft.
- Gate leaf openings over 15 ft wide, provide 1" x 2" Aluminum internal uprights in gate frame spaced 6'- 2" max. face to face, subdividing frame into equal panels.
- Gate leaf openings 25 ft. to 32 ft. weld two top track/rails together forming a dual enclosed track. Provide two truck assemblies for each track for each gate leaf (total 4 truck assemblies). Bottom rail shall be 2"x 4" aluminum member weighing 1.71 lbs./ft.
- Gate leaf openings over 32 ft., consult manufacturer.
- B. Gate Picket Infill: 11-Ga. aluminum “U” channel rails 1-3/8" wide x 1-1/2" deep. Pickets to be galvanized steel sized to match fence.
- C. Bracing: Provide diagonal adjustable length truss rods of 3/8" galvanized steel in each panel of gate frame.
- D. Top Track/Rail: Enclosed, combination one-piece track and rail, aluminum extrusion weighing 3.72 lbs./ft. Track to withstand 2,000-lb. reaction load.

- E. Truck Assembly: Swivel type, zinc die cast, with 4 sealed lubricated ball bearing rollers 2" in dia. x 9/16" width and 2 side rolling wheels to ensure truck alignment in track. Mount trucks on post brackets using 7/8" dia. ball bolts with 1/2" shank. Truck assembly to withstand same reaction load as track.
- F. Gate hangers, latches brackets guide assemblies and stops: Malleable iron or steel, galvanized after fabrication. Provide positive latching with provisions for padlocking.
- G. Bottom Guide Wheel Assembly: Provide two 4" dia. rubber wheels, straddling bottom horizontal gate rail, allowing adjustment to maintain gate frame plumb and properly aligned. Attach one assembly to each guidepost.
- H. Gate Posts: 4" square galvanized steel weighing 5.77 lbs./ft. Provide 1 latch post and 2 support posts for single slide gates and 4 support posts for double slide gates.
- I. Accessories: Pre-assemble panels with ornamental accessories attached with industrial drive rivets to prevent removal and vandalism.
- J. Finish: All components shall have galvanized interior and exterior surfaces and shall receive a baked on polyester resin based coating applied by electrostatic spray, 2.5 mils thick, color; black. Apply coating to individual components prior to assembly.

2.04 SWING GATES (pedestrian access)

- A. Gate Frames: ASTM A-283 square galvanized steel.
 - 1. Tensile Strength: 45,000 psi, (310 Mpa).
 - 2. Zinc Coating: G-90 zinc 0.90oz. /ft. ².
 - 3. Size: 2-inch min. vertical uprights with 13-Ga. wall thickness.
 - 4. Weld member's together using stainless steel welds to form rigid one-piece unit (no substitutions).
- B. Ornamental Picket Infill: 11-Ga. hot rolled structural steel "U" channel rails 1-3/8" wide x 1-1/2" deep. Pickets to be galvanized steel sized to match fence. Punch rails to receive pickets, weld inside gate frame.
- C. Bracing: Provide diagonal adjustable length truss rods of 3/8" galvanized steel in each panel of gate frame.
- D. Hardware: Galvanized steel or malleable iron shapes to suite gate size.
- E. Hinges: Non-lift-off types, 180⁰ swing, capable of supporting gate leaf and allow opening/closing without binding.
- F. Latch: Double sided captive drop leafs with padlock a provision that pivots down around each side of gatepost.
- G. Gate Posts: Square structural steel, ASTM A 787.
 - 1. Tensile Strength: 45,000 psi (310 Mpa).
 - 2. Zinc Coating: G-90 zinc 0.90oz. /ft. ².

3. Size: provide 3 inch square (gates 3-ft. to 4-ft. wide), 4 inch square (gates 4-ft. to 8-ft. wide).
- H. Finish: All components shall have galvanized interior and exterior surfaces and shall receive a baked on polyester resin based coating applied by electrostatic spray, 2.5 mils thick, color; black. Apply coating to individual components prior to assembly.

PART III - EXECUTION

3.01 INSTALLATION

- A. Terminal Posts (end, corner and gate): shall be set at beginning and end of each continuous length of fence or horizontal alignments.
- B. Post Foundations: concrete, with hole diameters as shown, but not less than four times the largest cross section of post and hole bottom not less than 36" below finish grade. Crown concrete to shed water.
 1. Concrete: 3,000 psi at 28 days
Portland Cement: ASTM C-150.
Aggregates: ASTM C-33, 1" max. size.
Water: Drinkable.
Slump: 3"
Air Entrainment: 2% to 4%.
 2. Set bottom of posts 6" above bottom of hole.
- C. Posts; set vertically, plumb and properly aligned and evenly spaced.
- D. Surface mount (wall mount) posts with mounting plates where indicated. Fasten with lag bolts and shields.
- E. Align fence panels between posts; attach rail brackets to posts with ¼ inch bold and lock nut. Ensure that panels and posts remain plumb.

3.02 GATES

- A. Install gates plumb, level and secure for full opening without interference.
- B. Attach hardware by means, which will prevent unauthorized removal.
- C. Adjust hardware for smooth operation.

3.03 CLEANING

- A. Remove all debris and unused material from site.

END OF SECTION

SECTION 02830 - CHAIN LINK FENCE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install fence materials.
 - 1. The extent of fencing is shown on the drawings.
 - 2. Install privacy slats when opaque screening is required by municipality or Walgreens.

1.02 QUALITY ASSURANCE

- A. All work to be performed by a single firm specializing in chain link fences.
- B. All fence materials shall be manufactured by a single source.
- C. Comply with the recommendations of the Chain Link Manufacturers Institute and ASTM F-668.
- D. Install fencing in compliance with ASTM F-567.

PART II - PRODUCTS

2.01 FENCE FABRIC

- A. Fabric: 9 gage (0.148") steel wires, 2" mesh with top selvages knuckled and bottom selvages twisted and barbed.
 - 1. Breaking strength: 1,290-lb minimum.
 - 2. Weight of metallic coating; 0.30 oz./ft² minimum zinc or zinc-5% aluminum alloy coating.
- B. Fabric Finish: Class 2a PVC coated steel chain link.
 - 1. PVC coating: 0.015-in. minimum thickness at any point, 0.025-in. maximum thickness at any point.
 - 2. Color: Black.

2.02 FRAMING AND ACCESSORIES

- A. Steel Framework, General: Galvanized steel, ASTM A-123.
 - 1. Pipe: Type 1 or Type 2 round galvanized pipe.
 - 2. Zinc Coating: ASTM A-90.
 - Type 1 not less than 1.8 oz./ft².
 - Type 2 not less than 2 oz./ft².
 - 3. Type 2 not less than 2 oz./ft².
- B. Terminal, Corner, Pull and Gate Posts: 2.375" dia. (nom. o.d.) pipe.
- C. Rails and Post Braces: Not less than 1.66" dia. (nom. o.d.) pipe. Top rails in a continuous run shall not be less than 18 ft. long.

- D. Intermediate Posts: Not less than 1.90" dia. (nom. o.d.) pipe spaced not exceeding 8' - 0" o.c.
- E. Gate Frames: Not less than 1.90" dia. (nom. o.d.) pipes with welded corners.
- F. Post Tops: Weathertight ornamental closure caps, fitting over each post, provide caps with loop to receive top rails.
- G. Tension Bars: Not less than $\frac{3}{16}$ " x $\frac{3}{4}$ " and not less than 2 "shorter than normal height of fabric being attached. Provide one for each end and gatepost, two at each corner of pull post.
- H. Tension Wire: 9 gage (0.148 in.) metallic coated core wire, breaking strength 1,290 lb, with class 2a PVC coating, color to match fence fabric.
- I. Ties or Clips: Sufficient quantity and strength to support fabric, but not exceeding 15 " intervals at posts nor 24" intervals at top rails. Tie wire shall be 11 gage galvanized steel wire, finish to match fabric.
- J. Bands or Clips: ASTM F-626 galvanized steel in sufficient quantity to attach fabric and stretcher bars to all terminal posts at intervals not exceeding 15 ".
 - 1. Tension bands shall be flat or beveled steel, min. thickness after galvanizing of 0.078", min. width of $\frac{3}{4}$ " for posts 4"o.d. or less. Min. thickness after galvanizing of 0.108", min. width of $\frac{7}{8}$ " for posts larger than 4"o.d.
 - 2. Brace bands shall be flat or beveled steel, min. thickness after galvanizing of 0.108", min. width of $\frac{3}{4}$ ". Attachment bolts shall be $\frac{5}{16}$ " x $1\frac{1}{4}$ " galvanized carriage bolts with nuts.
- K. Top Rail Couplings: Galvanized, 6" min. length.
- L. Privacy Slats; Semi-rigid tubular PVC (polyvinyl chloride) or HDPE (high density polyethylene) inserts, with Ultraviolet inhibitors, installed vertically, each slat secured top or bottom with self locking track or continuous tubular insert. Winged inserts not acceptable.
Width: Slat shall be sized to fill the entire void between fence fabric links and block not less than 75% of the view through the fence fabric.

Tensile Strength: 3,700 psi.

Flexural strength: 12,000 psi.

Impact strength: 4.0 ft-lb./inch @ 23° C (73° F).

Acceptable styles: Hoover Fence Co. "Lock-Top Slat", Privacy Link Co. "Lite Link Slat", "Bottom-Lock Slat", "Top-Lock Slat" or equal.

Color: To be selected by Walgreens.

2.03 GATES

- A. Frames: Zinc coated conforming to ASTM F-1043 and/or ASTM F-1083. Coat welded joints in accordance with ASTM A 780. Install diagonal cross bracing to ensure rigidity.
- B. Gate fabric shall match fence fabric.

- C. Gate Hinges shall structurally support gate without sag, and allow gate to swing 180⁰ without binding. Provide 1 ½ pair per leaf.
- D. Gate Latches: Fork or plunger bar type for operation from either side of gate, with integral padlock eye. Single latch shall retain gate in closed position. Double gate latches shall be a drop rod or plunger bar, designed to engage a gate stop. Both leaves to be locked with single padlock.

PART III - EXECUTION

3.01 INSTALLATION

- A. Terminal Posts (end, corner and gate): shall be set at beginning and end of each continuous length of fence or horizontal alignments.
- B. Post Foundations: concrete, with hole diameters as shown, but not less than four times the largest cross section of post and hole bottom not less than 48" below finish grade. Crown concrete to shed water.
 - 1. Concrete: 2500 psi at 28 days
Portland Cement: ASTM C-150.
Aggregates: ASTM C-33, 1" max. size.
Water: Drinkable.
Slump: 3"
Air Entrainment: 2% to 4%.
 - 2. Set bottom of posts 3" above bottom of hole.
- C. Posts: Set vertically, plumb and properly aligned.
- D. Top Rails: Run continuously through post caps, support at each end to form continuous brace from end to end, provide expansion couplings as necessary.
- E. Fence Fabric: Place on outside of enclosed area. Provide tension to remove slack and create a smooth uniform, sag free appearance. Secure to posts at intervals not exceeding 15" o.c. and to rails at intervals not exceeding 24" o.c. Install fabric bottom 4" above finished grade. Fabric shall be continuous between terminal posts.
- F. Brace Assemblies: Install so posts are plumb when diagonal rod is under proper tension.
- G. Stretcher Bars: Thread through or clamp to fabric at 4" o.c. and secure to posts with metal bands spaced 15" o.c. max.
- H. Tie Wires: U-shaped conforming to diameter of pipe to which attached. Firmly clasp pipe and fabric and twist ends 2 full turns. Bend wire ends to minimize hazard to persons/clothing.

END OF SECTION

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SECTION 02900 - LANDSCAPING/IMPROVEMENTS

PART 1 GENERAL

1.01 DESCRIPTION

Furnish and install landscape materials and a landscape irrigation system. The extent of landscaping shall be the minimum amount required for municipal approval. Provide materials, which require minimal maintenance and are geographically suited to their local and surrounding conditions.

The extent of landscaping is shown on the drawings.

Furnish and install the landscape irrigation system at all landscaped areas complete with all valves, controls, accessories and electrical components.

Include all excavation, filling and grading required.

Provide a separate, municipally monitored water meter for the landscape irrigation system.

1.02 QUALITY ASSURANCE

All works to be performed by a single firm specializing in landscape work.

All landscape materials shall be free of defects, disease, insects/larvae/eggs, injuries and disfigurement. Provide plant materials rated between 1 and 4 per OPALS (Ogren Plant Allergy Scale).

Erosion Control: At landscaped slopes of 3:1 (horizontal: vertical) or greater, provide erosion control acceptable to Walgreens. Slopes greater than 3:1 must be identified on the site plans and approved by Walgreens Project Architect.

Landscape Irrigation: a person licensed in the state in which the store is located shall design System. The system designer shall perform hydraulic and friction loss calculations to provide balanced pressure and flow and optimum operating efficiency.

1.03 SUBMITTALS

Landscaping Plan; indicating placement of all materials including legends describing plant name and size.

Irrigation Plan and Zone Map; Wall mounted 8 ½" x 11" or 11" x 17", indicating location of all controls, piping, heads (including type), valves and connection to water service.

Maintenance Manuals; indicating proper care of plant material and operation/maintenance of irrigation system.

1.04 GUARANTEE

Warranty lawns after installation and for 30 days following acceptance of site by Walgreens.

Warranty trees and shrubs for one year following acceptance of site by Walgreens. Maintain materials after installation and for 30 days following acceptance of site by Walgreens. Replace all unhealthy or dead plant materials found during warranty period.

Warranty irrigation system materials and labor for one year following acceptance of site by Walgreens.

PART II - PRODUCTS

2.01 PLANT MATERIALS

Topsoil: Provide friable natural loam, free from rocks, stones, weeds, brush, clay lumps, roots, twigs, litter and environmental contaminants.

Trees and shrubs as indicated on the landscape plan.

Sod: Provide strongly rooted drought resistant sod, not less than 2 years old, free of weeds and undesirable native grasses and machine cut to pad thickness of 3/4" (+ 1/4"), excluding top growth and thatch. Provide only sod capable of vigorous growth and development when planted (viable, not dormant).

Weed Barrier Fabric: Provide black polypropylene sheet 27 mils thick, 4 oz./sq. yd., grab tensile strength per ASTM D-4632; 90LB (machine direction) 50 lbs. (cross machine direction). Provide DeWitt "Weed Barrier" or approval equal.

Mulch: Provide minimum 2" thick layer of shredded bark mulch or rubber landscape mulch. Pine straw mulch is prohibited.

Rubber Mulch: 95% passing a 1-1/2 inch sieve and not more than 5% passing a 1/2 inch sieve.

Rubber Mulch Manufacturers: American Technologies, Inc. "RubberStuff",
Ground Scape Technologies, "Ground Scape",
Place Safe Surfacing, Inc.,
Rubber Resources, Inc. "Everlast".

Pre-Emergent: Provide a mixture with active ingredients consisting of "a-a-a-trifluoro-2, 6-dinitro-n, n-dipropyl-p-toluidine" (1.75% of total mixture) and inactive ingredients (98.25% of total mixture). Manufacturer: "Green Gold" by Lebanon Chemical Corp. or equal.

2.02 IRRIGATION SYSTEM:

Manufacturer: Provide products of one of the following:
Hunter Industries, Inc.

LR Nelson Corp.
Rain Bird Sprinkler Mfg. Corp.
The TORO Co., Irrigation Div.
Weather-Matic Div./Telso Industries

Pressure Main Lines piping from water source to zone valves: PVC class 315 for piping larger than 2 inches. PVC schedule 40 for 2 inch and smaller

1. Pipe shall be NSF approved, Type 1, Grade 1, PVC conforming to ASTM D1785. All pipe shall comply with ASTM 2441 with appropriate standard dimension ratio (SDR), solvent weld pipe.
2. All PVC pipe shall bear the following markings:
 - a. Manufacturer's name.
 - b. Nominal pipe size
 - c. Schedule or Class
 - d. Pressure rating (PSI)
 - e. NSF
 - f. PVC cement shall conform to ASTM D2564. PVC cleaner shall comply with ASTM F656.

Circuit Pipe (downstream from circuit valves): with PVC plastic pipe, ASTM D 2241, SDR 26, 160 psi or ASTM D 1785, Schedule 40.

Valves: Toro 252 Series solenoid valves, flow range 5.0 to 180.0 gpm.

Backflow Preventer: Manufacturers standard to suit project conditions.

Sprinkler Heads: Manufacturers standard, to provide uniform coverage at available water pressure.

Drip Tubing/Accessories: Manufacturers standard, self cleaning, self flushing pressure compensating components and polyethylene tubing with 12" or 18" dripper spacing.

Automatic Controls: Provide exterior/interior boxes with locking covers. Transformers as required for low voltage system.

Wiring: Not less than 14 gauge. Provide direct burial type for buried wire. Use waterproof wire nuts throughout.

Circuit Control with switch for manual or automatic control of each circuit.

Timing Device: 24 hour, 7 day, weekly or biweekly and even/odd interval watering adjustment, with provision for manual or semi-automatic operation and hard wired rain sensor which will suspend watering when ground is wet from rain.

Rain Sensors: Provide hard wired units manufactured by one of the following; "Rain-Click™" by Hunter Industries, "Rain-Trip™" by Nelson Turf or "RSD Series Rain Sensor" by Rain Bird®.

PART III - EXECUTION

3.01 PLANTING TREES/SHRUBS AND GROUND COVER

Place materials in properly prepared holes, plumb, staked as required for proper growth. Remove burlap from root balls. Dish back soil as required to receive mulch collar.

Plant ground cover not more than 24" O.C. Plant ground cover in areas too narrow or impractical for mowing grass or in areas where grass will not thrive (brick pavers acceptable to Walgreens may be considered as an alternate in these areas).

Topsoil: Install 4 inches minimum depth at planting beds and lawn areas, 12 inches minimum below trees. In locations with high clay content, apply gypsum additives to break down the clay.

Mulch: Install 2 to 3 inch thick in planting beds recessed 2 inches. Mulch shall be used only as tree collars and around shrubbery, but not to extend greater than 12 inches beyond the drip line of shrubbery unless specifically approved by Walgreens Project Architect. Do not install mulch on slopes exceeding 10:1 (horiz.: vert.)

Weed control: Apply pre-emergent to mulch in planting areas to prohibit weed growth. If weeds appear in treated areas during the first year, landscaper shall return to remove all weeds at no cost to Walgreens.

Weed Barrier Fabric: Apply to planting beds below mulch and to un-mulched areas to receive decorative cover (rock is prohibited). Do not install weed barrier fabric in areas to receive ground cover plantings.

Remove and replace improperly pruned or mis-formed stock.

PLANTING SOD

Do not install if sod is dormant or ground is frozen.

Lay sod with tightly fitting joints, no overlaps with staggered strips to offset joints. Anchor sod on slopes to prevent slippage. Do not exceed 3:1 slope.

Water thoroughly immediately after planting.

IRRIGATION SYSTEM

Provide minimum water coverage as follows:
Turf area 100%.

Other planting areas 100%.

Run under pavements and walks. Do not cut pavements or walks. All water lines under sidewalks or paving shall be sleeved. All wiring under paving shall be installed in conduit.

Use dielectric fittings whenever dissimilar metals are joined.

All wiring shall be installed using proper, code compliant practice and all wiring between controller and zone valves shall be continuous. All required splices, connections and terminations shall occur within water tight boxes with watertight connections.

Zone valves shall not be located within 3 feet of any driveway, traffic aisle, island, etc., where they could be damaged by vehicles driving over the curbs.

Testing: Perform operational testing and train store personnel on proper use.

Place copy of zone map, with all zone valve locations shown and approved irrigation plan, in protective jacket, with the main control panel.

Use pressure compensating dripper systems or pressure compensating low trajectory nozzles only in locations where water has high iron content and only at areas adjacent to buildings to prevent water spray and rust from staining buildings.

Provide a ¾" dia. blow down drain tee to allow water to be blown from irrigation system.

END OF SECTION

SECTION 03310 - CONCRETE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The extent of concrete work is shown on drawings.
- B. Concrete curbs, gutters, pavement and walkways are included.
- C. Concrete curing is included.
- D. Concrete equipment bases as required.

1.02 QUALITY ASSURANCE

- A. Comply with the current edition of the following codes, specifications and standards:
 - 1. ACI 301, ACI 302, ACI 304, ACI 318 & ACI 117.
 - 2. Concrete Reinforcing Steel Institute, "Manual of Standard Practice".
 - 3. ASTM C 94, ASTM C 157, ASTM E 1155-96, ASTM F710, ASTM F 1869-98, ASTM C 979-99, ASTM E 96-00, ASTM E 154-99, ASTM E 1643-98, ASTM E 1745-97,
 - 4. AASHTO T 318.
- B. Testing: Employ at the contractor's expense, a testing laboratory, acceptable to the architect/Walgreens, to perform the following testing. Slump, air content, water content and temperature tests must be performed with each set of compression test cylinders.
 - 1. Compressive strength testing. Comply with ASTM C 31, ASTM C 172-99, ASTM C 39, and as follows:
 - a. Provide 4 cylinders minimum from each day's pour or 4 cylinders for each fifty- (50) cubic yards or fraction thereof poured on each date for slabs and foundations.
 - b. Samples shall be tested and reports provided for concrete samples, 1 sample at 7 days, 2 at 28 days and 1 to hold.
 - 2. Concrete Shrinkage testing: Comply with ASTM C 157.
 - 3. Slump testing: Comply with ASTM C 143.
 - 4. Water content testing: Comply with AASHTO T318.
 - 5. Flatness/Levelness Testing. Comply with ASTM E 1155, but provide a minimum of one line of sampling in two perpendicular directions through each structural bay. Perform testing using a "Dipstick Profiler" within 72 hours of concrete placement.
- C. Concrete not conforming to the drawings or specifications, or which fails required Quality Assurance testing, including Flatness/Levelness requirements, shall be removed and replaced at the contractor's expense.

1.03 SUBMITTALS: Submit concrete mix designs to Engineer for approval with copies to the Quality Control Testing Consultant.

PART II - PRODUCTS

2.01 FORMWORK

- A. Construct formwork for all concrete, with plywood, metal or other panel-type materials to provide continuous, straight, smooth surfaces.
- B. For site concrete: Use steel, wood or other suitable materials, free of distortion/defects of size/strength to resist movement and maintain vertical and horizontal alignment during placement. Curves shall be uniform and free of form marks.
- C. Form coatings: Use non-staining release agents that will not discolor, deface or impair finish or treatment of concrete.

2.02 REINFORCEMENT

- A. Reinforcing Bars: ASTM A 615, grade 60, deformed.
- B. Epoxy - Coated Reinforcing Bars: ASTM A 775.
- C. Welded Wire Fabric Reinforcement: ASTM A 185 welded steel wire fabric, sheets only, rolled fabric prohibited.
- D. Reinforcement supports: Use chairs, spacers & bolsters complying with CRSI
 - 1. For slabs on grade use reinforcing support to ensure proper clearance/cover. Do not lift or pull reinforcing through placed concrete.

- E. Joint Filler: Provide preformed joint filler at slab expansion joints, joints between floor slabs and walls and other isolation joints. Provide one of the following:
 - Precompressed, impregnated open cell foam.
 - Asphalt saturated fiberboard complying with ASTM D 1751.
 - Granulated cork between saturated felt or glass fiber felt complying with ASTM D 1752 type H.

2.03 CONCRETE MATERIALS

- A. Portland Cement: ASTM C 150, Type I or Type II.
- B. Fly Ash: ASTM C 618, Type C or F, not to exceed 20% of cement content by weight. Do not use when ambient air temperatures are expected to be below 35 degrees F during the first 48 hours after placement.
- C. Aggregates: Normal weight: ASTM C 33 Light weight: ASTM C 330. Combined aggregate gradation shall be 8% to 18% for large topsize aggregates (1 ½ inches) or 8% to 22% for smaller topsize aggregates (1 in. or ¾ in.) retained on each sieve below the topsize and above the No. 100.
- D. Water: Drinkable.
- E. Air Entraining Admixture: ASTM C 260.
- F. Calcium Chloride: Any admixtures containing more than 0.1% chloride ions content by weight are not permitted.
- G. Water Vapor Retarder: Decay resistant materials complying with ASTM E 96 not exceeding 0.04 perms, ASTM E 154 and ASTM E 1745 Class A. Provide polyethylene sheet not less than 15 mils thick, Raven Industries "VaporBlock 15, Stego Industries 15 mil "Stego Wrap™" or W.R. Meadows Sealtight 15 mil "Perminator®".
- H. Chemical Hardener: Colorless solution of magnesium fluosilicate, zinc fluosilicate and wetting agent containing not less than 2 lb. fluosilicates per gallon.
Acceptable Products: Sonneborn, Lapidolith®, Dayton Superior "Day-Chem Hardener™".
- I. Chemical Admixtures: Type A water-reducing, Type F and Type G high-range water-reducing admixtures shall comply with ASTM C 494. Do not use in cold weather conditions.

2.04 CONCRETE DESIGN/PROPORTIONING

- A. Provide normal weight concrete as required by drawings as follows:
 - 1. 3,000 PSI minimum 28 day compressive strength or stronger as required by architect/engineer of record.
 - 2. At interior slabs, provide concrete with ultimate shrinkage less than 0.05% as tested per ASTM C-157.
- B. Air Entrainment: Use air-entraining admixture resulting in concrete with air content at point of placement as follows:
 - 1. Concrete exposed to freezing/thawing, deicer chemicals, or hydraulic pressure:
 - 4.5% (moderate exposure); 5.5% (severe exposure) 1-1/2" max. aggregate.
 - 4.5% (moderate exposure); 6.0% (severe exposure) 1" max. aggregate.
 - 5.0% (moderate exposure); 6.0% (severe exposure) 3/4" max. aggregate.
 - 5.5% (moderate exposure); 7.0% (severe exposure) 1/2" max. aggregate.
 - 2. Other Concrete/Steel troweled interior floors: 3% maximum air.
- C. Water-Cementitious Ratio: Provide concrete with maximum water-cementitious (W/Cm) ratios as follows:
Subjected to freezing and thawing; W/Cm 0.50. Subjected to deicers/watertight, interior floor W/Cm 0.45.
- D. Slump Limits: Provide concrete with slump at point of placement as follows:
Ramps and sloping surfaces: Not more than 3".
Reinforced foundation systems: Not less than 2" and not more than 5".
Slabs and other concrete: Not more than 5".
Concrete containing HRWR admixture shall have a maximum slump of 6". The concrete shall arrive at the job site at a slump of 2: to 3", is verified, then high-range water-reducing admixture added to increase slump to approved level.

- E. Portland Cement Paving, Sidewalks and Curbs: 3,000 psi after 28 days curing.
Air Entrainment: 4% to 7%.
Slump: 4".
Water/Cement Ratio: Per article 2.04.C above.

2.05 MISCELLANEOUS MATERIALS: Accessible Ramps: Impart color with integrally colored concrete. Provide Integral Red Color: (for accessible ramps) Natural or synthetic mineral oxides complying with ASTM C-979 blended at batch plant. Acceptable Products: Bayferrox iron oxide pigment by Bayer Corp., color #110 (4 lbs.).
Davis Colors, Mix-Ready®, color Baja Red #160 (2 lbs.).
Chromix® by L.M. Scofield Co., color C-22 Coral Red.
ChemSystems, Inc., color #1345 (2 ½ lbs.)

PART III - EXECUTION

3.01 REINFORCEMENT

- A. Clean reinforcement of rust, mill scale, ice or materials that will reduce bond with concrete.
- B. Place reinforcement to obtain proper concrete coverage in top third of slab or 2 inches below top surface.

3.02 CONCRETE PLACEMENT

- A. Place concrete on/in properly prepared base or forms. Place concrete slabs directly on water vapor retarder. Provide not less than 6 inches of prepared granular substrate between water vapor retarder and ground.
 - 1. Install water vapor retarder in compliance with ASTM E 1643.
 - 2. Lap joints 6 in. and seal with manufacturers adhesive or tape.
 - 3. Seal around all penetrations with manufacturers pipe boot or by wrapping with vapor retarder and taping.
 - 4. Repair all punctures and cuts using vapor retarder material lapped 6 inches beyond damaged area and taped.
 - 5. Provide photo documentation of proper installation of vapor retarder.
- B. Construct slabs to correct level, maintain reinforcing in proper position.
 - 1. Float slabs with a highway straight edge in lieu of a conventional bull float.
- C. Do not place concrete on/in frozen substrate or forms.
- D. Pumping Concrete: Concrete may be placed by pumping if first approved in writing the Architect/Engineer of Record for the proposed location. Pumped concrete shall only be placed in the presence of the Testing/Inspecting Agent.
 - 1. Equipment: Pumping equipment shall be of the size and design that ensures a continuous flow of concrete at the delivery end without separation of materials. Do not pump concrete through aluminum pipes.
 - 2. Concrete Mix: Shall conform to the architect of record's specified design requirements, except that mix may contain chemical admixtures to allow proper pumping. Include the specified high-range or mid-range water reducing admixture in the mix. Unless strictly controlled and anticipated in the development of the design mix, the addition of admixtures at the job should be prohibited.

3.03 JOINTS

- A. Contraction joints at interior slabs shall be formed by saw cuts within 4 to 12 hours after finishing and before random shrinkage cracks form. Concrete surface shall not be torn or damaged by the blade. Joint spacing shall not exceed 30 times the slab thickness in feet. Joint patterns shall be generally square. Joint depth shall be ¼ slab thickness.
- B. Isolation joints; provide full depth at all locations where slabs adjoin walls, columns, foundations, drain piping, sprinkler mains, existing concrete or pavement. and other immovable objects. Provide "pinwheel" isolation joints at columns.
- C. Site concrete; at concrete pavements and curbs, provide contraction joints at 12' O.C. max. Joint patterns in pavements and sidewalks shall be generally square. At curbs

provide full depth expansion joints at 100-ft. O. C. max. and at locations where straight curb runs change directions. At sidewalks provide weakened plane contraction joints not more than 5'-0" max. and expansion joints at 20-ft. O.C max. (tool all edges). Install self-leveling sealant at all isolation/expansion joints.

3.04 FINISHING/CURING

- A. Provide a floor surface which is true and level and achieves "F Numbers" of $F_F = 30$ and $F_L = 20$ minimum overall composite and $F_F = 20$ and $F_L = 15$ minimum at any individual section, when tested in accordance with ASTM E 1155. Remove surface irregularities to provide a continuous smooth finish free of trowel marks and trowel patterns.
- B. All interior slabs to receive a smooth trowel finish.
- C. Provide moisture retaining covered curing of interior slabs for 3 days minimum using cover materials that limit moisture loss to not more than 0.055 g/cubic cm in 72 hours when tested per ASTM C-156. Use cover materials that will not stain or impart any texture to the concrete surface.
- D. Apply non-slip broom finish to exterior platforms, walks, steps, ramps and curbs. Tool all edges to 1/2" radius unless noted otherwise.
- E. Apply concrete hardener to exposed interior floors and exterior slab at recessed entrance.
- F. Floors to receive resilient flooring shall limit moisture vapor emission to not more than 3 pounds or 5 pounds per 1,000 square feet per 24 hours, depending on type of floor finish being installed, in compliance with ASTM F-1869.
- G. Patch all form holes resulting from removal of form ties. Form ties ends shall be sealed or coated to prevent future rusting from spalling the concrete patch.

3.05 REPAIRS

- A. Repair or replace broken, defective and stained concrete, and replace non-conforming concrete, all as directed by the Architect.

END OF SECTION

SECTION 04200 - MASONRY AND STONE

PART 1 - GENERAL

1.01 DESCRIPTION: Masonry work includes concrete unit masonry, brick masonry, calcium silicate masonry units and cast stone.

1.02 QUALITY ASSURANCE

- A. All work shall conform to the standards of the Brick Institute of America and to codes having jurisdiction.
- B. The project shall be bid to include cold-weather practices if project is to be constructed when temperatures could fall below 40°F (4°C).
- C. All brick shall be from a single manufacturer's production run.
- D. Calcium silicate or cast stone products, depending on which is selected, shall be provided by a single manufacturer.
 - 1. Use only one product throughout the project.
 - 2. The color of all stone products must match.
 - 3. Do not combine calcium silicate and cast stone products on the same project.
- E. Comply with ASTM C 1364 – Architectural Cast Stone and the Cast Stone Institute Technical Manual.
- F. Mortar and Grout Testing:
 - 1. Test grout in each type of wall construction in conformance with ASTM C 1019-02.
 - 2. Inspect cores of fully grouted masonry reinforcing.

1.03 JOB CONDITIONS

- A. Protection of Work:
 - 1. Cover top of wall or partially completed work with waterproof membrane at end of each day.
 - 2. Extend cover 24 inches minimum down both sides, hold securely in place.
- B. Cold Weather Protection:
 - 1. Preparation: remove ice or snow from masonry bed by applying heat until top surface is dry to the touch.
 - 2. Remove all frozen or damaged masonry work.
 - 3. Do not use wet or frozen units.
- C. Construction Requirements While Work is Progressing:
 - 1. Air temperatures 40°F (4°C) to 32°F (0°C):
 - a. Heat sand or mixing water to produce mortar temperatures between 40°F (4°C) and 120°F (49°C).
 - 2. Air temperatures 32°F (0°C) to 25°F (-4°C):
 - a. Heat sand and mixing water to produce mortar temperatures between 40°F (4°C) and 120°F (49°C).
 - b. Maintain mortar temperatures above freezing.
 - 3. Air temperatures 25°F (-4°C) to 20°F (-7°C):
 - a. Heat sand and mixing water to produce mortar temperatures between 40°F (4°C) and 120°F (49°C).
 - b. Maintain mortar temperatures above freezing.
 - c. Provide heat sources on both sides of wall during construction.
 - d. Provide windbreaks when wind exceeds 15 mph.
 - 4. Air temperatures 20°F (-7°C) and below:
 - a. Heat sand and mixing water to produce mortar temperatures between 40°F (4°C) and 120°F (49°C).
 - b. Provide enclosures and heat to maintain air temperature above 32°F (0°C).
 - c. Minimum temperature of units when laid; 20°F (-7°C).
- D. Protection requirements for completed work:
 - 1. Mean daily air temperature 40°F (4°C) to 32°F (0°C):
 - a. Protect masonry from rain or snow with weather-resistive covering for 24 hours.
 - 2. Mean daily air temperature 32°F (0°C) to 25°F (-4°C):
 - a. Completely cover masonry with weather-resistive covering for 24 hours.

3. Mean daily air temperature 25°F (-4°C) to 20°F (-7°C):
 - a. Completely cover masonry with insulating blankets or equal protection for 24 hours.
4. Mean daily air temperature 20°F (-7°C) and below:
 - a. Maintain masonry temperature above 32°F (0°C) for 24 hours by using enclosures and supplementary heat or with electric heating blankets.

1.04 SUBMITTALS: Shop Drawings: Submit calcium-silicate unit and/or architectural cast stone manufacturers shop drawings, including profiles, cross sections, modular unit lengths, reinforcement if required, exposed faces, anchors and annotation of cast stone types and locations if required by Architect of Record.

1.05 DELIVERY AND STORAGE

- A. Cast Stone and Calcium Silicate units; Store units in accordance with manufacturer's instructions to prevent damage or staining.
 1. Protect with waterproof covers and prevent condensation under covers.
 2. Prevent contact with dirt and splashing.

PART II - PRODUCTS

2.01 FACE BRICK (allow 8 weeks minimum lead time)

- A. Provide units complying with the following from each manufacturer:
 1. ASTM C 216.
 2. Size: Standard utility 3 5/8" x 3 5/8" x 11 5/8".
 3. Grade: SW
 4. Type: FBS
- B. National Accounts: Walgreens has established National Accounts with Carolina Ceramics Brick Co. and Mutual Materials Co. Each manufacturer has been assigned a specific geographic region to supply. Obtain brick in each region from the following manufacturers:
 1. Carolina Ceramics Brick Co.
 - a. Product: "Heritage Wirecut".
 - b. Territory: East and South: East; Michigan, Indiana, Ohio, Kentucky, Virginia, Pennsylvania, New York, Maine, Massachusetts, Maryland, Connecticut, New Jersey. South; :North Carolina, South Carolina, Georgia, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, West Virginia, Delaware, South Dakota, Nebraska, Kansas, Oklahoma, Missouri, Iowa, Minnesota, Wisconsin, and Illinois.
 2. Mutual Materials Co.
 - a. Product: "Copper, Mission Texture Wirecut"
 - b. Territory: West: Washington, Oregon, Idaho, Wyoming, Utah, Colorado and Montana..
- C. Provide special shapes at all non 90-degree corners.
- D. Provide soldier units with adjacent side finish at end units.

2.02 HOLLOW BRICK MASONRY (Thru-Wall Units): Provide "Heritage" as manufactured by Carolina Ceramics, or "Copper", as manufactured by Mutual Materials or Walgreens approved equal. Conform as ASTM C652.

Size: As required by the architect/engineer of record, but not less than 8" w x 4" h x 12" l.

Grade: SW

Type: HBS

Class: H60V

Water Repellent: Apply Prosoco Sure Klean® Weather Seal Siloxane WB, Prosoco Sure Klean® Weather Seal Siloxane PD or Hydrozo Enviroseal® 7.

2.03 CONCRETE MASONRY UNITS: Provide hollow load bearing block complying with ASTM C90, normal weight. Size: Nominal 16" long x 8" high

- 2.04 SPLIT FACE CONCRETE MASONRY UNITS: Provide hollow load bearing block complying with ASTM C90, normal weight.
 Size: Nominal 16" long x 8" high. Integral Water Repellant Admixture: Grace Masonry Products DRY-BLOCK™
 Style/Color: Northern and Chicago Prototype; Northfield Block Company standard #21 or 205, Cemex "Biltmore Tan" #3546 or Walgreen approved equal.
 Southern Prototype; Demaco "Tse Tan" by Old Castle Coastal, or Walgreen approved equal.
- 2.05 CAST STONE
- A. Provide RockCast Architectural Series units manufactured by RockCast, Division of Reading Rock, Inc. or Select Stone series units manufactured by Continental Cast Stone Manufacturing, Inc.
- B. Cast Stone Units: ASTM C 90, machine cast sills (size as shown on drawings), smooth face on exposed faces and ends, RockCast "Buffstone" or Continental Stone color #1105".
1. Compressive Strength: ASTM C 140, > 5,000 psi at 28 days.
 2. Absorption: ASTM C 140, < 5.0 percent at 28 days.
 3. Linear Shrinkage: ASTM C 426, < 0.065 percent.
 4. Density: ASTM C 140, > 120 lbs/ft³.
 5. Freeze-thaw: ASTM C 666, < 4.0 percent.
 6. Curing: in exposed chamber at 95 percent RH and 95 to 120 degrees F for 12 to 18 hours or yard cure for 350 degree-days.
- C. Cast Stone Materials
1. Portland Cement: ASTM C 150, Type I or III, white or gray as required to match specified color.
 2. Coarse Aggregates: ASTM C 33 except for gradation, granite, quartz or limestone.
 3. Fine Aggregates: ASTM C 33 except for gradation, manufactured or natural sands.
 4. Pigments: ASTM C 979, except do not use carbon black pigments, inorganic iron oxide.
 5. Water Reducing, Retarding and Accelerating Admixtures: ASTM C 494.
 6. Water: drinkable.
 7. Reinforcing Bars: ASTM A 615, deformed steel bars, galvanized when less than 1 1/2" of material. Galvanized Coating per ASTM A 767.
- C. Fabricate Cast Stone units to the following tolerances:
1. Comply with the Cast Stone Institute Technical Manual.
 2. Cross Section: plus-or-minus 1/8".
 3. Unit Length: do not exceed length/360 or plus-or-minus 1/8" whichever is greater.
 4. Warp, Bow or Twist: do not exceed length/360 or plus-or-minus 1/8" whichever is greater.
- E. Water repellant: Apply Prosoco Sure Klean® Weather Seal Siloxane WB, Prosoco Sure Klean® Weather Seal Siloxane PD or Hydrozo Enviroseal® 7.
- 2.07 MORTAR AND GROUT:
- A. Provide mortar and grout complying with ASTM C 270 or ASTM C476 (for reinforced masonry) and requirements of architect of record. Type N based on proportion specification, unless type S is required by the engineer of record.
- B. Mortar shall be pre-blended and pre-packaged to produce mortar with the required properties when dispensed from a silo type dispensing system. On site batching of individual mortar materials is prohibited.
- C. MORTAR MATERIALS:
1. Portland cement: ASTM C 150, type I.
 2. Masonry cement: ASTM C 91.
 3. Hydrated lime: ASTM C207, type S.
 4. Sand: ASTM C 144.
 5. Aggregates for grout ASTM C 404.
 6. Mortar color pigment: none.

7. Admixture: Comply with ASTM C-270. Anti-freeze compounds or those containing chlorides are prohibited.
 - a. Provide Grace Masonry Products DRY-BLOCK™ mortar admixture at all single wythe concrete masonry unit and hollow brick masonry walls.
8. Water: drinkable.

2.08 ACCESSORIES

- A. Joint Reinforcement: Provide ASTM A 82 cold drawn steel wire with ASTM A 153, Class B2 hot-dipped galvanized coating, anchor type as required by the architect of record. Corrugated wall ties are prohibited.
 1. Provide Type 304 stainless steel anchors in coastal areas and highly corrosive environments.
 2. Cavity Walls with Insulation: provide units with adjustable double wire/eye or clips to hold insulation tight against block back up.
- B. Miscellaneous Materials: Flashing, weep products, control/expansion joint materials as required by architect of record.
 1. Acceptable concealed flexible flashing: 3 oz copper sheet bonded between two layers of asphalt waterproofed creped kraft paper, EPDM thru-wall flashing (40 mil min.).
 2. Acceptable weep products (brick masonry): Rectangular plastic tubes with insect screen and cotton wick, cotton wick cords, Mortar Net weep vent.
 3. Acceptable weep products (hollow brick masonry): cotton wick cords, Masonry Technology, Inc. "Core Vent".
 4. Cavity drainage system; provide Mortar Net™ at brick masonry and Mortar Net Block™ at block or hollow brick masonry walls.
- C. Cleaner: Prosoco Sure Klean® "600 Detergent" or "VanaTrol".

PART III - EXECUTION

3.01 INSTALLATION

- A. Cut masonry units using motor-driven wet saws to provide clean, sharp, unchipped edges.
- B. Cut units as required to provide continuous pattern and to fit adjoining work. Use full-size units without cutting where possible.
 1. Pre-soak calcium silicate units using clean water, prior to cutting. Allow units to dry prior to placement.
- C. Vertical Reinforcement; Provide inspection ports at all locations where vertical reinforcing is to be fully grouted within the unit core to allow confirmation that cores have been fully grouted. Following inspection, close all inspection ports and make flush with surrounding masonry.
- D. Increase quantity of wall ties around perimeter of openings, at wall terminations and corners. Place wall ties within 8" of openings and edges of masonry.
- E. Pull calcium silicate and cast stone units from multiple cubes to minimize variation in color.

3.02 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: Vertical lines, surfaces or columns, walls do not exceed 1/4" in 10' nor 1/2" up to 40'. For external corners, expansion joints, control joints and other conspicuous lines, do not exceed 1/4" in any story of 20' maximum. Vertical alignment of head joints not to exceed 1/4" in 10'.
- B. Variation from Level: For bed joints, parapets, horizontal grooves and other conspicuous lines, do not exceed 1/4" in any bay or 20' maximum.
- C. Variation of Linear Building Line: Do not exceed 1/2" in any bay or 20' maximum, nor 3/4" in 40' or more.
- D. Variation in Mortar Joint Thickness: Do not exceed joint thickness indicated by more than plus or minus 1/8".

3.03 LAYING MASONRY WALLS:

- A. Pattern Bond: Lay brick masonry in $\frac{1}{3}$ running bond for utility size brick. Do not use units with less than nominal 4" horizontal face dimensions at corners or jambs.
 1. Lay all exposed masonry units in running bond.
- B. Tool exposed joints slightly concave.

- C. Keep cavity in cavity walls clean of mortar drippings and debris.
- D. Hollow Brick Masonry Units:
 - 1. Shall be laid with full face and head joints to increase resistance to water penetration.
 - 2. Shall be flashed and weeped at wall base, below and above all wall openings and at tops of walls.
- E. Calcium Silicate and Cast Stone Units:
 - 1. Set in full bed of mortar.
 - 2. Fully bond intersections, external corners and vertical joints.
 - 3. Do not adjust units after laying. Where resetting is required, remove, clean units and reset in new mortar.
 - 4. Surface efflorescence and cracking are cause for rejection of individual delivered units.
 - 5. Do not apply sealer to calcium silicate units.

3.04 CLEANING

- A. After mortar is thoroughly set and cured, clean masonry completely using the "bucket and brush hand cleaning" method. Use only cleaning solutions approved by manufacturer of masonry units being cleaned. Apply cleaning solution in strict accordance with solution manufacturers written instructions. Do not use metallic tools to remove large mortar particles. Do not use muriatic acid. Do not sandblast.
- B. Test cleaning method on small inconspicuous area of each type of masonry to be cleaned, before full cleaning, to confirm masonry will not be damaged or discolored.
- C. Apply water repellant to Hollow Clay Masonry Units and Cast Stone Units after installation, cleaning and acceptance.

END OF SECTION

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SECTION 05120 - STRUCTURAL METAL FRAMING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work includes but is not limited to structural steel, steel studs, and miscellaneous fabrications.
- B. Miscellaneous Fabrications include but are not limited to railings, ladders, elevator hoisting beams (if applicable) and roof opening frames.

1.02 QUALITY ASSURANCE

- A. Comply with AISC "Code of Standard Practice for Steel Buildings and Bridges", latest edition. AWS D1.1 "Structural Welding Code".
- B. Comply with AISI "Specification for the Design of Cold-Formed Structural Members".
- C. Comply with requirements of architect of record.
- D. Field alterations of structural steel are not allowed without written approval of the Engineer.
- E. Quality Control Testing: A certified AWS Weld Inspector shall inspect 100% of welded moment connections and 10% of all other welded connections. Manually torque test 10% of all bolted connections to verify correct tightness.

1.03 SUBMITTALS: Submit shop drawings to architect of record.

PART II - PRODUCTS

2.01 MATERIALS

- A. Structural Steel Shapes, Plates, Bars; ASTM A36 ASTM A992.
- B. Steel Pipe; ASTM A 501.
- C. Steel Tubing; Cold-Formed ASTM A 500, grade B; hot-formed ASTM A 501.
- D. Anchor bolts and fasteners, ASTM A 325 as required by architect of record. ASTM A 307 anchor bolts are acceptable in non-tension applications.
- E. Primer; Fabricators standard rust inhibiting primer.
- F. Steel studs and C joists, ASTM A 653, Structural Quality, grade 33.

PART III - EXECUTION

3.01 ERECTION

- A. Set frames accurately to lines and elevations indicated. Level and plumb individual members within AISC tolerances. Comply with AISC specifications for bearing, alignment and welds.
- B. Touch-up paint all exposed and/or abraded areas after erection.
- C. Welds of all metal fabrications shall be ground smooth and prepared for final painting.
- D. All structural steel encased in concrete, masonry or in contact with earth shall be painted with bituminous paint.
- E. Hoisting beams for elevators shall be furnished and installed by General Contractor.

END OF SECTION

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SECTION 05250 - METAL JOISTS/METAL DECKING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The extent of steel joists, joist girders and metal decking is shown on drawings.

1.02 QUALITY ASSURANCE

- A. Provide joists fabricated in compliance with the Steel Joist Institute (SJI) specifications and load tables for K-Series and KS-Series Open Web Steel Joists. Provide joist girders in compliance with SJI Specifications and Load Tables with G-Series joist girders.
- B. Provide metal deck in compliance with:
AISC "Specification for the Design of Cold – Formed Steel Structural Members".
AWS "Structural Welding Code".
SDI "Design Manual for Floor Decks and Roof Decks."
Provide roof deck, which is listed in "Factory Mutual Approval Guide" for "Class I" fire rated construction.

- 1.03 SUBMITTALS: Submit shop drawings to architect of record (5 copies minimum).

PART II – PRODUCTS

2.01 JOISTS

- A. Steel: Comply with SJI " Specifications".
- B. Fasteners: ASTM A 325 or A490 structural bolts, nuts and hardened washers.
- C. Steel Primer Paint: Manufacturers standard.

2.02 METAL DECKING

- A. Provide units of size and gauge as required by architect of record.
- B. Steel for painted metal deck: ASTM A 1008 Grade C.
- C. Steel for galvanized metal deck: ASTM A 653, Structural Quality.
- D. Galvanizing: ASTM A924, G60.
- E. Provide all shapes, extensions, connectors, closure strip, bracing as required.

PART III - EXECUTION

3.01 JOISTS:

- A. Do not start placement until supporting work is in place and secured.
- B. Comply with requirements of the project architect and structural engineer.
- C. Coordinate placement to eliminate conflict with all roof openings.

3.02 METAL DECK

- A. Place on supporting framework, adjust to final position accurately aligned and on proper bearing.
- B. Secure as required by architect of record.
- C. Provide additional support, closers, etc. at all openings.

3.03 TOUCH-UP PAINT

- A. Touch-up all exposed or abraded joists and metal deck after installation.

END OF SECTION

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SECTION 06100 - CARPENTRY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work includes but is not limited to rough carpentry, wood trusses, finish carpentry and casework.

1.02 QUALITY ASSURANCE

- A. Wood Trusses; Comply with Truss Plate Institute recommendations and publications as applicable.
- B. Casework: Comply with Architectural Woodwork Institute "Architectural Woodwork Quality Standards" latest edition, section 400 as applicable, custom grade.

1.03 SUBMITTALS

- A. Wood trusses; submit shop drawings to architect of record.
- B. Casework; submit shop drawings to architect of record.
- C. Fire Retardant Treatment for Wood (if specified on drawings): Submit to architect of record and Walgreens; manufacturer, name of process and warranty terms.

PART II - PRODUCTS

2.01 LUMBER AND TRUSSES

- A. Comply with PS 20 "American Softwood Lumber Standard".
- B. Factory mark each piece of lumber with grade stamp evidencing compliance with grading rules and moisture content.
- C. Dress lumber; dressed S4S.
- D. Provide lumber with 19% moisture content at time of dressing.
- E. Provide grade and species as required by the architect of record.
- F. Provide treated lumber for exterior framing and as required by local codes.

2.02 SHEATHING & PANELS

- A. Roof Sheathing: Provide 5/8" minimum thickness plywood, APA rated for exterior use. Oriented Strand Board (OSB) is not acceptable.
- B. Wall Sheathing:
 - 1. Plywood: APA rated for exterior exposure, 5/8" minimum thickness. Oriented Strand Board (OSB) is not acceptable.
 - 2. Glass Mat Gypsum Boards: Dens-Glass Gold or Dens-Glass Gold Fireguard, by Georgia-Pacific Corp., or GlasRock™ by BPB America, Inc., 5/8" minimum thickness.
 - 3. Fiberock® Brand Sheathing, 5/8" minimum thickness, by U.S. Gypsum Company.
- C. Plywood backing for telephone/electrical, APA C-D plugged - in with exterior glue 3/4" minimum thickness, install with "C" face exposed.

2.03 EXTERIOR SIDING: (if required on construction documents)

- A. Provide and install clapboard siding for exterior storefront. Clapboards shall be a non-combustible lap siding. The material shall be "HardiPlank - Smooth" as manufactured by James Hardie Building Products, 809 South Woodrow Wilson, Plant City, FL 33566, Tele: (800) 942-7343. Follow the manufacturer's written instructions regarding installation and fasteners. The material shall be provided pre-finished from the manufacturer. Clapboards shall be pre-primed and finish coated prior to installation, and an additional field applied finish coat after installation. Field coats shall be the following:
 - B. All nails are to be annular ring type and shall be stainless steel (6d box min.). All clapboards are to be installed over Dupont "Tyvek" Building Wrap or approved equal.
 - C. Prior to ordering, submit sample of Clapboards for approval to Architect of Record.
 - D. Store material properly to prevent warping, cupping, etc. per manufacturer's instructions.

- E. Clapboards shall be installed with an exposure of 4" to the weather.
- 2.04 EXTERIOR TRIM: (if required on construction documents)
- A. All exterior trim shall be PVC as shown on the drawings.
 - B. Exterior trim shall receive one shop coat of primer and one finish coat at all exposed edges prior to installation and a second field applied finish coat after installation. Finish for use in both the shop and field coats shall be as shown on drawing elevations.
 - C. All nails are to be annular ring type and shall be stainless steel (6d box min.).
 - D. Store material properly to prevent warping, checking, splitting, cupping, etc.
- 2.04 WOOD TREATMENT
- A. Preservation Treatment: Comply with applicable standards of AWWA C2 (lumber) and C9 (plywood) and AWPB listed below:
 1. Pressure-treat above ground items with water-borne preservatives complying with AWPB LP-2. After treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19% and 15%.
 2. Pressure-treat ground or water contacting members complying with AWPB LP-22.
 - B. Fire Retardant Treatment: Comply with AWWA C-27 as applicable. Process shall not promote premature degradation of wood products in the conditions in which fire-treated lumber/panels will be installed.
 1. Provide materials with maximum moisture content, after treatment, of 15% or less.
 2. Manufacturer: Interior applications provide "Dricon FRT" or "Hooker Pyro Guard" with current warranty. Exterior applications: Provide "Dricon FRX exterior FRT wood or Hoover exterior "Fire-X"
 - C. Fasteners: Provide stainless steel or hot-dipped-galvanized connectors/fasteners unless noted otherwise. Hot-dipped fasteners/connectors shall be continuous galvanized G185 or G90 HDG per ASTM A-653, batch/post HDG per ASTM A-123 (connectors) ASTM A-153 (fasteners) or mechanical galvanizing per ASTM B-695, class 55 or better.
- 2.04 PLASTIC LAMINATE FABRICATIONS
- A. All fabrications to be self edged with plastic laminate.
 - B. Countertops and sills: Comply with AWI standard 400, custom grade.
 - C. Plastic Laminate: 1/16" thick materials as follows:
 1. Sill at pharmacy wall & sales area; Wilsonart #2970-6 "White Leather".
 2. Employee Room countertop with back and side splashes: Wilsonart #2970-6 "White Leather", cabinet: Wilsonart #1573-60 "Frosty White".
 3. Storefront stool: Wilsonart #2970-6 "White Leather".
 4. Drive-Thru Casework: Laminate panel at drive-thru window removable knee wall countertop, side and back panels: Wilsonart #1595-60 "Matte Black".
- 2.05 MISCELLANEOUS
- A. Closet/Storage Shelving: Comply with AWI 600, custom grade, paint finish.
 - B. Miscellaneous wood trim; Comply with AWI 300, custom grade, paint finish.
 - C. Building Paper: ASTM D 226, Type I, 15 LB, non-perforated asphalt saturated felt.
 - D. Hardboard: Opaque, grade II, tempered smooth one side, 1/4" thick.
 - E. Cedar Fence: Western Red Cedar or White Cedar with band sawn textured surface.
 1. Posts: Galvanized steel posts, concealed on the show side (facing neighbors) by a

- wood board/picket. Provide ASTM A-90 zinc coating, Type I. Line posts shall be min. 2.375" nom. o.d.). Corner and terminal posts shall be min. 3.0" (nom. o.d.).
2. Rails: Grade: Standard or Better per NLGA 122b, c, WCLIB 122b, c and WWPA 40.11.
 3. Boards: Grade: Custom Knotty per WRCLA.
 4. Sealer: Olympic Maximum™ Clear Waterproofing Sealant. .

PART III - EXECUTION

3.01 GENERAL

- A. Securely and properly support and anchor all work to accurate fit, lines, level, and plumb without distortion.
- B. Install fire-retardant treated materials in environments and with proper ventilation to prevent degradation of wood materials.
- C. Metals in contact with pressure treated wood ie; blocking at metal deck, etc., shall be separated by a #15 felt paper.
- D. Do not cut or alter wood trusses members.
- E. Condition woodwork/casework to average prevailing humidity conditions in installation area prior to installing.

END OF SECTION

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SECTION 07200 - INSULATION

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Insulation work includes:
 - 1. Insulation under slabs on grade.
 - 2. Foundation wall insulation.
 - 3. Board-type wall insulation, concealed.
 - 4. Sound attenuating batts specified in section 09250.
 - 5. Roof deck insulation specified in section 07500.

1.02 QUALITY ASSURANCE

- A. Comply with code required fire-resistance, flammability and insurance ratings.
- B. Construction assemblies shall achieve minimum aged "R" values as follows:
 - 1. Roof: See Sections 07510, 07520, 07530 or 07535 as applicable. Insulation applied to back of suspended ceiling system is prohibited. Batt insulation shall not be attached to nor suspended below the roof deck. Required "R-value" shall be achieved in the construction above the roof deck.
 - 2. Walls - R-10 minimum. Install vapor retarders where required by state or local codes.

PART II - PRODUCTS

2.01 MATERIALS

- A. Bead board insulation is not acceptable.
- B. Extruded Polystyrene Board Insulation (cavity wall & foundation): Rigid, closed-cell, board complying with ASTM C-578 Type IV with the following properties:
 - 1. Compressive Strength: 25 psi minimum.
 - 2. Flexural Strength: 50 lbs/in.² min. (ASTM C 203).
 - 3. Thermal Resistance: 5 year aged R-values of 5.4 and 5.0 min. °F-ft² - h/Btu² /inch at 40°F and 75°F respectively (ASTM C 518).
 - 4. Water Absorption: max. 0.1% by volume (ASTM C 272).
 - 5. Water Vapor Permeance: 1.1 perm-inch max.
 - 6. Dimensional Stability: 2% max. linear change (ASTM D 2126).
 - 7. Flame Spread: 5 (ASTM E 84).
 - 8. Smoke Developed: 45 to 165 (ASTM E 84).
 - 9. Size: manufacturer's standard lengths and widths.
- C. Extruded Polystyrene Board Insulation (Z-furring): Rigid, closed-cell, board complying with ASTM C-578 Type X with the following properties:
 - 1. Compressive Strength: 15 psi minimum.
 - 2. Flexural Strength: 40 lbs/in.² min. (ASTM C 203).
 - 3. Thermal Resistance: 5 year aged R-values of 5.4 and 5.0 min. °F-ft² - h/Btu² /inch at 40°F and 75°F respectively (ASTM C 518)
 - 4. Water Absorption: max. 0.1% by volume (ASTM C 272).
 - 5. Water Vapor Permeance: 1.1 perm-inch max.
 - 6. Dimensional Stability: 2% max. linear change (ASTM D 2126).
 - 7. Flame Spread: 5 (ASTM E 84).
 - 8. Smoke Developed: 45 to 165 (ASTM E 84).
 - 9. Size: 23-7/8" manufacturer's standard lengths.
- D. Glass Fiber Batt Insulation: Inorganic (non asbestos) fibers formed into semi-rigid batts; ASTM C665, Type III, Class B, reflective foil faced, with the following properties:
 - 1. Water vapor permeance ≤ 0.05 perms per ASTM E 96.
 - 2. Water vapor sorption, 0.5% max. by weight ASTM C1104, R-value 11.
 - 3. Flame-Spread Rating/Smoke Developed: Provide rating of 25/50 respectively, ASTM E 84.

4. Fire-Resistance Ratings: Where units are included in rated wall/ceiling/floor construction, provide mineral wool units, which have been tested and rated as required for the indicated assembly.

2.02 AUXILIARY INSULATING MATERIALS: Polyethylene Vapor Retarder: Film of thickness shown on drawings with vapor transmission rating of 0.2 perms.

PART III - EXECUTION

3.01 INSTALLATION

- A. Extend insulation full thickness over entire area to be insulated. Cut and fit tightly around obstructions.
- B. Set vapor barrier faced insulation units with vapor barrier to warm side of construction, except as otherwise shown. Do not obstruct ventilation spaces, except for firestopping.
- C. Rigid board insulation shall be installed only in concealed locations.

3.02 VAPOR RETARDERS

- A. Extend vapor retarders to extremities of areas to be protected. Secure in place.
- B. Extend vapor barriers to cover miscellaneous voids in insulated substrates.
- C. Repair punctures and tears in vapor retarders before concealment by other work.

END OF SECTION

SECTION 07300 - SHINGLES

PART 1 - GENERAL

1.01. **QUALITY ASSURANCE:** Provide materials conforming to: ASTM D-3018 Class A, UL Class A Wind Resistance.

1.02 **JOB CONDITIONS:** Proceed with shingle work only when weather conditions comply with manufacturer recommendations and substrate is completely dry.

1.03 **WARRANTY:** Provide manufacturers 30-year warranty. The installer shall provide a five (5) year workmanship and watertight warranty.

PART II - PRODUCTS

2.01 SHINGLE MATERIALS

- A. Shingles: GAF Timberline 30 Series Fiberglass Asphalt Roofing Shingles, Color; Weathered Wood.
- B. Underlayment: No. 15 unperforated organic asphalt saturated roofing felt complying with ASTM D-226, 36" wide.
 - 1. Provide Grace "Ice & Water Shield" as an underlayment starter course for the first 36" up from the lower roof edge.
- C. Valley Flashing: Minimum; 50 LB smooth surface asphalt roll roofing, 36" wide, complying with ASTM D-6380, Type I.
- D. Starter Course: Manufacturers standard, color to match field shingles.
- E. Ridge Shingles: GAF Timbertex, pre-cut ridge shingles, color to match field shingles.
- F. Asphalt Plastic Cement: Comply with ASTM D-2822.

2.02 MISCELLANEOUS MATERIALS

- A. Nails: Hot-dip galvanized 11 or 12-gage sharp pointed conventional roofing nails with barbed shanks, minimum 3/8" diameter head, length to penetrate minimum 3/4" into solid decking or to penetrate through plywood sheathing. Staples are prohibited.
- B. Metal Drip Edge: Minimum .024" pre-finish aluminum sheet, brake-formed to provide 3" roof deck flange, and 1-1/2" fascia flange with 3/8" drip at lower edge. Furnish in 8' or 10' lengths. Color to match exterior trim paint.
- C. Metal Flashing: 0.24" mill finish sheet aluminum. Job-cut to sizes and configurations required. If used in open valley, provide SMACNA plate 61, 1" "V" crimp profile, pre-finished color to match shingles.

PART III - EXECUTION

3.01 INSTALLATION

- A. Install in strict conformance with manufacturer instructions.
- B. Install ridge and soffit vents at all hip and gable roofs.

END OF SECTION

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SECTION 07410 - METAL SIDING SOFFITS AND TRIM

PART I - GENERAL

1.01 DESCRIPTION

- A. Work includes an interlocking metal panel system installed at the gable returns of the Neighborhood Prototype and metal siding.

1.02 QUALITY ASSURANCE

- A. All panels and accessories are to be factory formed, finished and packaged.
- B. Applicator shall have five years minimum experience applying these types of panels.
- C. Comply with local codes for installation of metal panel soffit system.

1.03 WARRANTY

- A. Provide manufacturers standard twenty year finish warranty.
- B. Panel installer shall issue a two year weather tight and workmanship guaranty.

1.04 SUBMITTALS

- A. Submit complete shop drawings, details, product data and material sample to Architect of Record.

PART II - PRODUCTS

2.01 SOFFITS (at Neighborhood Prototype gable returns only)

- A. Manufacturers: ATAS International, Inc., McElroy Metals, Inc.
- B. Panel: ATAS "Wind-Lok™" WLV-120 or McElroy "Matrix" vented soffit panel with integral lock and seam design.
 - 1. Gauge: 0.032.
 - 2. Color: Kynar 500® Sandstone White.
 - 3. Length: Manufacturers standard 12 ft., depth; 7/16 inch.
- C. Fabrication: Fabricate panels, trim and accessories to allow controlled expansion in running lengths in relation to system components, adjoining materials, flashing and wall construction.

2.02 SIDING

- A. Panel (at Drive-Thru fascia and gable end wall): ATAS International, Inc "Opaline™", Dimensional Metals, Inc. (DMI) "Flush Panel" or Walgreens approved equal.
 - 1. Panel code: Atlas #OPF 080, joint style "C" (no reveal), DMI #FP-1008.
 - 2. Gauge: 24 ga. G-90 galvanized steel.
 - 3. Panel Width: 8 inches.

4. Texture: Smooth.
 5. Finish: Kynar 500® color to match adjoining standing seam roof.
- B. Panel (at rear of entry tower): Prefinished “M” profile, steel sheet
1. Manufacturer: Berridge Manufacturing Company, Material Building Components, Inc. (MBCI), DMI “R” panel or approved equal.
 2. Gauge: 26 ga.
 3. Color: Kynar500® manufacturers standard color that most closely matches the color of the adjoining finished wall. Galvanized finish acceptable in areas not readily visible from within the site.

2.03 TRIM & ACCESSORIES

- A. Soffits: (at Neighborhood Prototype gable returns only)
1. Factory formed in standard 12-ft. lengths. Color to match panels.
 2. Provide all trim, closure strips, etc. required for proper installation.
 3. Anchorage: Anchor in compliance with manufacturers instructions.
- B. Siding:
1. Manufacturers standard fasteners, brackets, clips, furring strips, spacers, flashings, closures, weather-stripping, joint sealers, sealants, expansion control, etc. as required for complete weathertight installation.
 2. Anchorage: Comply with manufacturers instructions.

PART III - EXECUTION

3.01 INSTALLATION – Soffits

- A. System shall be installed level and true to line.
- B. Panel system shall not come in contact with dissimilar materials, which will cause harmful reactions between the metals and/or finish.
- C. Panels shall be fully interlocked with its adjacent panel.
- D. Install system to prevent bending, buckling, twisting, abrasion, scratching, denting, etc. Only minor scratches may be touched-up in field.

3.02 INSTALLATION - Siding

- A. Separate dissimilar metals with coat of bituminous paint, concealed on one or both sides.
- B. Anchor components securely in place. Use fasteners recommended by panel manufacturer. Accommodate thermal and structural movement. Use gasketed fasteners to prevent electrolytic action between metals.

- C. Tolerances: Erect work level and plumb with variance not exceeding 1/4 inch in 20 ft in any direction.
- D. Align vertical joints where Drive-Thru gable end panels adjoin fascia band immediately below.

3.03 PERFORMANCE

- A. Load Capacity: Normal uniform loading of 20 psf inward and outward without failure or as required by local authorities/conditions.
- B. Deflection: Maximum of 1/180 for simple span, loaded as indicated or as required by local authorities/conditions.
- C. Water Penetration: No uncontrolled leakage under spray test and 4 psf air pressure differential.

3.04 CLEANING

- A. Completed system shall be clean and free from grease, stains and finger marks.

3.05 PROTECTION

- A. Protect work to be free from damage at time of Walgreens acceptance and completion of entire project.

END OF SECTION

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SECTION 07500 - MEMBRANE ROOFING

PART I – GENERAL

1.01 PROJECT REQUIREMENTS

- A. The roofing system to be installed shall comply with this section together with Sections 07530 of the Specifications. The membrane manufacturer and products approved for use are listed in that sections.
- B. Prior to acceptance of the completed roofing installation, the General Contractor shall have the roof inspected by the Walgreen's Roof Consultant.
Walgreen's Roof Consultant: RRK Associates, LTD
Commercial Industrial Roof Consultants
14044 West Petronella Drive, Suite #5
Libertyville, IL 60048
Attn: Guy H. Snowden Jr.
Phone: 847-680-0866
Fax: 847-680-0883
- C. The General Contractor and/or Roofing Contractor shall notify Walgreen's Roof Consultant upon completion of the roof membrane installation, including all sheet metal and related items, to schedule a final roof inspection. Upon inspection of the completed installation by both the membrane manufacturer and Walgreen's Roof Consultant, a letter of acceptance shall be furnished to the Owner and Walgreen Company Roofing Consultant prior to final payment to the Roofing Contractor.
- D. Roofing membranes shall be fully adhered EPDM roofing membrane assembly as listed in Section 07530.
- E. All sheet metal details, including copings, related to roofing membranes installed under sections 07500 and 07530 shall be installed by the roofing contractor and shall be covered under the roofing contractor's 5 Year Workmanship Warranty.

1.02 QUALITY ASSURANCE

- A. Installer Certification: Supply written certification from roofing system manufacturer that installer is approved by manufacturer to install the specified roofing system.
- B. Insurance Certification: Provided completed systems which are listed for UL (Underwriter Laboratories) Class A external fire exposure and FM (Factory Mutual) Class I wind resistance and internal fire construction.
- C. The roof shall be constructed of double layers roof insulation to achieve the specific "R-Value" provided by the insulation types and thickness specified for each roof system. Insulation components may vary by roof membrane system and shall be supplied and installed as specified to achieve or exceed minimum thermal value requirements. Comply with local codes if higher "R-Values" are required.
- D. Fabrication of sheet metal roofing accessories shall conform to applicable SMACNA, NRCA and membrane manufacturer's published details and requirements.
- E. Slope: Roof shall slope at 1/4"/Ft. minimum, achieved in the deck structure. All saddles shall be constructed at twice the slope of the deck.
- F. Final inspection of the completed roof shall be scheduled with Walgreen's Roofing Consultant and the inspection completed prior to final payment to the roofing contractor.

- G. Prior to final acceptance, complete all roofing punchlist work indicated by RRK & Associates. Upon completion, submit to Walgreens and RRK & Associates a letter stating that all punchlist work has been properly completed together with photographs of the completed repairs. All work must comply with the Specifications. Manufacturer's details shall not override project details without prior approval by the Architect.

1.03 SUBMITTALS

- A. Furnish complete roof system submittals to the Architect and Walgreen's Roofing Consultant for review and approval, including all membrane materials, insulations, mechanical fasteners, bitumen types, sheet metal, accessories, related components and contractor's Certification from the membrane manufacturer. A copy of the warranty shall also be submitted for approval. Submittals shall be received not less than one month prior to starting the project. No work shall commence until the General Contractor and Roofing Contractor have received approved roofing system submittals. Walgreen Company shall, at its discretion require copies of roofing submittals.
- B. The General Contractor shall submit to the Walgreen Roofing Consultant the roofing submittal form attached to the end of this section prior to the installation of the new roofing system. The submittal form shall be sent to the Walgreen Roofing Consultant no later than two weeks prior to the application of the new roofing system for review and approval.

1.04 JOB CONDITIONS

- A. Install roofing work in strict compliance with manufacturer's requirements.
- B. The contractor shall prepare and coordinate roofing work to accept the installation of Walgreens supplied equipment including but not limited to refrigeration equipment and satellite dish and those systems related support rails, curbs, pipe portals, etc.

1.05 WARRANTY

- A. Provide manufacturers 15-year warranty, which begins after the date of substantial completion, and covers the roofing membrane, associated flashing, roof insulation, roof accessories, vapor barrier (if any) and labor utilized in the installation of the warranted materials. The 15-year warranty shall cover the entire roof system and all related components with no monetary limit, with non-prorated coverage as issued by the membrane manufacturer. The roofing contractor shall provide a 5 year workmanship and watertight warranty independent of the membrane manufacturer's 15 year warranty.
 - 1. Warranty to be signed and countersigned by manufacturer and installer with a copy provided to Walgreen Company.
 - 2. Upon delivery of possession of the leased premises to the Tenant, the Owner shall cause all contractor's, subcontractor's and manufacturer's warranties and guaranties relating to the leased premises to be assigned to Tenant, or the extent not assignable, then to be issued in Tenant's name.
 - 3. The 5 Year Workmanship Warranty shall cover all sheet metal work, including copings, related to the membrane roof installation.

PART II – PRODUCTS

2.01 See section 07530 based on roof system being utilized.

2.02 PARAPET MEMBRANE: Parapet membrane: Provide roofing system being used on building if approved by roofing manufacturer or use a fully adhered 45 mil. thick, black EPDM single ply roofing membrane. Extend membrane up and over top of perimeter walls.

PART III – EXECUTION

3.01 INSTALLATION (see section 07530 for system specific requirements)

- A. Install roof system in strict compliance with manufacturer's instructions.
- B. Provide saddles/crickets at all curbs and equipment bases to push water around curbs.
- C. Protect all adjoining and finished surfaces, including, but not limited to walls, glazing systems, pavements, walks and landscaping. Repair damaged areas to "as new" condition at no cost to Owner.
- D. Provide prefabricated jackets and/or pipe portals, weather tight and insect proof, at all pipe clusters. The use of pitch pockets, or sealant pockets are strictly prohibited. All soil stacks, flue stacks and any other pipe penetration shall be flashed in on top of the completed roof membrane.
- E. Do not install more insulation and membrane than can be made watertight before the end of each days work.
- F. Repair/replace deteriorated, defective or damaged roofing prior to final acceptance by Walgreen Company.
- G. Standing water will not be permitted on any completed roof. All areas where standing water exists shall be corrected prior to final acceptance of the installation by Walgreens regardless of acceptance of standing water by the membrane manufacturer. Standing water is any amount of water remaining on the roof 48 hours after a rainfall.
- H. Splash blocks shall consist of pre-manufactured concrete units set on roof pads or additional layers of membrane and placed under all condensation lines and downspouts.
- I. All pipe supports shall be placed over a roof pad that is adhered to the roof surface.
- J. All gas, condensation lines, spigots, and electrical lines that penetrate the field of the roof must be flashed thru a Portals Plus or Pate pipe flashing detail as detailed in the Walgreen Criteria. The use of a lead sleeve and caulk to flash a penetration is not acceptable.
- K. All masonry perimeter walls must be covered and flashed in with roofing material per the requirements of the membrane manufacturer. At high wall details where the flashing height exceeds 24", separate the base flashing from the wall flashing with a metal counterflashing detail. Installations of full height parapet membrane flashing must be accompanied by written confirmation that the system manufacturer will warrant/guarantee the installation.
- L. Sign penetrations thru the wall flashings must be above 24" from the completed roof height and properly flashed so as not to affect the wall flashing warranty.
- M. All penetration boots must be terminated with a metal draw band and sealed with caulk.
- N. All fasteners used to secure caps, hoods, counterflashings and coping details shall consist of stainless steel, neoprene washered screws. Nails are not acceptable.
- O. For modified bitumen or built-up roofs, clear the roof of all excess loose granules upon completion of the roof. Also, all asphalt bleed-out must be covered with granules.
- P. Modified bitumen and built-up roof membrane shall be "White Granule" in color.
- Q. Penetrations through any roof curb base flashing or any wall flashing is prohibited.

- R. All exposed roofing cement at curb corners and flashing side laps shall be coated with aluminum roof coating or white elastomeric roof coating. Exposed, uncoated roofing cement is prohibited.
- S. All Portals Plus, Alumi-Flash and Plate Curb and penetrations details shall be insulated with loose batt insulation prior to placement of the penetration boots.
- T. Install ridge vents at tower and drive through roofs.
- U. Install weeps and through wall flashing at tower side walls above the tower base flashing.
- V. At all locations where coping cap terminate into a wall, fabricate the cap to provide a return that extends up the wall not less than 4 inches. Top of return shall be protected by counter flashing. Coping cap ends at the inside and outside faces of the wall shall receive a continuous bead of NP-1 sealant.
- W. Provide full sheet width, fully adhered roof walk pads in front of roof hatch, tower access door, around all RTU's, satellite mast and other roof top equipment. Walk pads extending into drainage valley's shall be cut to allow water to flow unobstructed to roof drain.

END OF SECTION

WALGREEN ROOFING SYSTEM SUBMITTAL FORM

date: _____

**PLEASE FAX TO RRK ASSOCIATED, LTD @ 847-680-0883 FOR REVIEW AND APPROVAL.
RRK Associates, Ltd. – 14044 West Petronella Drive, Suite 5, Libertyville, Illinois 60048 (847) 680-0866**

Walgreen Store # _____ Installing Roofing Contractor: _____

Walgreens Store Address: _____

Roofing System Type: EPDM ↑

Membrane Manufacture: _____ Specification # _____

EPDM Membrane: _____

Insulation Type & Manufacturer: (Base Layer) Thickness: _____
(Top Layer) Thickness: _____

Tapered Insulation Type and Manufacturer: _____

Insulation Attachment: (Top Layer): _____ (Base Layer): _____

Sheet Metal Type and Manufacturer: _____

Membrane Warranty Type and Number of Years: _____

Shingle Type/Standing Seam Metal Type/Tile Type and Manufacturer: _____

- Attach:**
- Letter of Certification from Membrane Manufacturer
 - Copy of Warranty Pre-Installation Notice from Manufacturer
 - Copy of Roofing Contractors 5 Year Workmanship Warranty:

RRK Associates, Ltd. Approval Stamp:

COMMENTS:

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SECTION 07530 - FLEXIBLE SHEET ROOFING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Furnish and install a fully adhered system using .060" thick non-reinforced EPDM including but not limited to; preparation of the roof deck, installation of roofing insulation, flashings, sheet metal, expansion joints, counter-flashings and other related items.
- B. The requirements of Part I, Section 07500 applies to this section.

1.02 **QUALITY ASSURANCE:** Insurance Certification: Provide completed systems that are listed for UL (Underwriters Laboratories) Class A external fire exposure and FM Global Class I construction.

1.03 SUBMITTALS

- A. Comply with the requirements of Part I Section 07500 and as follows.
- B. Shop Drawings: Show roof configuration, sheet layout, and recommended details (specific to actual store conditions) and special conditions. Detail locations shall include but are not limited to; perimeter, HVAC equipment curbs, internal and external corners, penetrations, copings, terminations and junctions with other materials.

PART II - PRODUCTS

2.01 ROOF INSULATION

- A. Roof insulation shall be one layer of 1.5" thick "ISO 95+ Isocyanurate" and one layer of 2" thick "ISO 95+ Isocyanurate roof insulation as manufactured by Firestone or "Sure-Seal Polyisocyanurate HP" as manufactured by Carlisle Syn Tec Systems.
- B. Provide rigid polyisocyanurate, minimum density of 2 lb./cu. ft. complying with ASTM C 1289 and ASTM C 13-3, Type II, Class I, Grade 2 and ASTM D 1622, polyisocyanurate with fiberglass perforated facer sheet, 20 psi compressive strength complying with ASTM D 1621, dimensional stability complying with ASTM D-2126-87. Minimum R-Value of 9 per layer of 1.5" roof insulation and Minimum R-Value of 12.1 per layer of 2" roof insulation. (Total thickness to be R-Value of 20 minimum as required by IBC 2003)
- C. Tapered insulation for saddles and crickets; sloped 1/2" per ft. minimum, consisting of either tapered perlite panels or tapered polyisocyanurate panels.
 - 1. Approved tapered insulation: shall be listed and approved for use by the membrane manufacturer for the system to be installed.

2.02 **ROOFING MEMBRANE:** Elastomeric sheet membrane shall be a 0.060 inch black non-reinforced terpolymer of ethylene, propylene, and diene compounded elastomer meeting ASTM D 4637 and ANSI/RMA IPR-1. The physical properties shall be as follows:

TEST PROPERTIES METHODS SPECIFICATIONS

Color		Black
Thickness Nominal		.060 inches
Tolerance on Nominal Thickness, %	ASTM D 412	+/- 10
Tensile Strength Min., psi (Mpa)	ASTM D 412	1305(9)
Elongation, Ultimate Min, %	ASTM D 412	350
Tear Resistance, Min., lb-f/in (kN/m)	ASTM D 624 (Die C)	175 (30.5)
Factory Seam Strength Min.	Modified ASTM D 816	Membrane Rupture
Resistance to Heat Aging Properties after 4 weeks @ 240 degrees F	ASTM D 573	
Tensile Strength Min., psi (MPa)	ASTM D 412	1200 (8.3)
Elongation, UltimateMin., %	ASTM D 412	225
Tear Resistance min. lb-f/in (kN/m)	ASTM D 624	150 (26.3)
Linear Dimensional		

Change, Max., %	ASTM D 1024	+/- 2
Ozone resistance		
Condition after exposure to 100 pphm Ozone in air for 168 h @ 104 degrees F. Specimen is at 50% strain	ASTM D 1149	No cracks
Brittleness Temp. Max. degrees F (degrees C)	ASTM D 746	75 (-59)
Resistance to Water Absorption* After 7d immersion @ 158 degrees F., Change in mass max., %	ASTM D 471	4
Water Vapor Permeability max., perm-mils	ASTM E 96 (Proc B or BW)	2.0
Resistance to Outdoor (Ultraviolet Weathering Properties after 500,000 Langleys EMMAQUA: 50% strain, Calendar finished sheeting Tensile strength min. psi (Mpa)	ASTM D 412	1200 (8.3)
Elongation min. %	ASTM D 412	225
Sheet Composition	ASTM D 297	
Weight percent of polymer that is EPDM, min. %		100
Weight percent of sheet that is EPDM polymer min., %		30
Provide one of the following products:		
Carlisle "Sure-Seal" Membrane (Standard)*		
Firestone "Rubberguard" (LSFR)*		
*Use membrane required to comply with UL Class A fire rating over appropriate deck and insulation specified.		

2.03 MISCELLANEOUS MATERIALS

- A. Fasteners shall be screws and non-puncturing plates as required by the membrane and insulation manufacturers, and as listed in Factory Mutual Approval Guide.
- B. Flashing: System manufacturers cured EPDM flashing in compliance with roofing manufacturer's details.
- C. Copings, gravel stops, gutters, downspouts, scuppers, etc. as per section 07600.
- D. Sealant: As provided by membrane manufacturer.
- E. Termination bars: 0.040 mill finished aluminum with 3 1/2" vertical drop and 1/2" top caulk receiver.
- F. Sump pans: recessed 20 Ga. metal.
- G. Stack vents: Flash with molded pipe flashings approved by membrane manufacturer.
- H. Drains shall be flashed with EPDM membrane sheet as recommended by the roof membrane manufacturer.
- I. Wood Nailers: Pressure treated with salt preservations or Wolmanized treatment.
- J. Splash Blocks shall consist of pre-manufactured concrete splash blocks placed over walkway pads under all condensation lines and downspouts.
- K. Seam Tape: As provided by the membrane manufacturer. Seam tape exposure shall not exceed 3/4" at field side laps.
- L. Bonding adhesive: Nite-seal, pourable sealer, splice cleaner, cut-off mastic, etc. as required by the membrane manufacturer.
- M. Traffic Pads: Carlisle or Firestone walk pads as supplied by the membrane manufacturer.

PART III - EXECUTION

3.01 INSTALLATION – General: The requirements of Part III, Section 07500 apply to this section.

3.02 INSTALLATION - Insulation

- A. For fully adhered EPDM roofing membrane assemblies, install base layer with long dimension perpendicular to metal deck flutes. Install top layer with long dimension parallel to metal deck flutes on fully adhered EPDM membrane system. Mechanically fasten both layers simultaneously, consistent with I-60 wind up-lift ratings. If higher wind up lift requirements is required based upon the region and building location, comply with the fastener rates and patterns outlined in the most current FM Global publication.
- B. Stagger insulation joints within each layer of insulation in both roof systems. Joints in top layer shall be staggered a minimum of 6" from the joints in base layer.

3.03 INSTALLATION - Membrane

- A. Membrane should be applied from highest point to lowest point to prevent water infiltration.
- B. Membrane splices shall be 3" wide minimum. Field splices at roof drains shall be located outside the drain sump. Seam tape at field side laps shall not exceed ¾" width. Seam tape exposure in excess of ¾" shall be covered with EPDM cover strip.
- C. The EPDM membrane shall extend over the perimeter wood nailer (or gravel stop / water dam fascia continuous cleat) to the outside face of the building. Secure copings (or gravel stops) in compliance with roof manufacturer details. Secure copings on outside with a continuous metal cleat and on inside vertical surfaces with neoprene washered screws at a rate of 24" o/c. or five fasteners per ten foot run of coping.
- D. The flashing membrane on all parapet walls shall be fully adhered to the inside of the cleaned wall surface and extend up and over the top of the wall and shall be mechanically terminated on the outside face of the wood nailer that is installed beneath the coping.
- E. In accordance with roof manufactures details, the system shall be secured at the perimeter of each roof level, roof section, curb flashing, roof hatch, interior wall, penetration, etc. and any inside angle where slopes exceed 2 inches in 1 horizontal foot.
- F. Compression type wood nailers are not acceptable for membrane securement.
- G. Supply and secure walkway protection pads in strict compliance with roof manufacturers instructions where indicated in the drawings. Do not restrict drainage of the roof with any walk pad. Cut or move any walk pad that restricts drainage.
- H. Any penetration through the perimeter parapet wall shall be flashed through a pre-molded pipe flashing as supplied by the membrane manufacturer or field flashed with EPDM membrane per the requirements of the membrane manufacturer.

END OF SECTION

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SECTION 07600 - FLASHING, SHEET METAL, SPECIALTIES AND ACCESSORIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The work includes: Metal counter flashing.
Metal wall flashing and coping.
Scuppers.
Gutters and Downspouts, (except at standing seam metal roofs).
Roof Scuttle.
Miscellaneous roof accessories.
Equipment curbs.

1.02 QUALITY ASSURANCE

- A. Comply with the recommendations of S.M.A.C.N.A. (Latest Edition).
- B. Sheet metal details, including copings, related to the membrane roofing installation specified in sections 07500, 07510, 07520, 07530 and 07535 shall be installed by the membrane roofing installer.
- C. Unfinished 24GA sheet metal is not acceptable for use on any roofing component. Only non-corrosive or pre-finished metals, as specified below shall be allowed.

PART II - PRODUCTS

2.01 FLASHING AND SHEET METAL MATERIALS

- A. Zinc-coated Steel: Commercial quality, ASTM A 525, G90 hot-dip galvanized, (24 gauge) except as otherwise indicated, pre-finished with Kynar 500/Hylar 5000 coating.
 - 1. Gutters up to 15" girth; use 26 gauge.
 - 2. Gutters 16" to 20" girth; use 22 gauge.
 - 3. Scuppers, conductor heads and downspouts use 24 gauge.
 - 4. Copings up to 18" girth; use 24 gauge.
 - 5. Copings over 18: girth; use 22 gauge.
 - 6. All counterflashings shall be 24 gauge.
- B. Aluminum: ASTM B 209, alloy 3003, temper H14, 0.032" thick except as otherwise indicated. Provide pre-finished KYNAR 500 colors as noted.
 - 1. Copings over 14" wide or gutters over 16" girth, use 0.040" min. thickness.
 - 2. Gutters up to 15" girth; use 0.032" min. thickness.
 - 3. Gutters 16" to 20" girth; use 0.040" min. thickness.
 - 4. Downspouts use 0.040" min. thickness.
 - 5. Scuppers, conductor heads and counter flashing use 0.040" min. thickness.

- C. Colors: Pre-finish all exposed copings, flashing, counter flashing, trim, scuppers, gutters and downspouts in the following KYNAR colors:
 - 1. "Northern Tower" Prototype: (exposed flashings, copings, gutters): "Sierra Tan", by Una-Clad, (Firestone Metals Inc.), Pac-Clad (Peterson Aluminum) and Berridge Manufacturing Co., and "Beige" by Dyna-Clad (DMI).
 - a. Scuppers and Downspouts shall be: "Sierra Tan" by Una-Clad (Firestone Metals, Inc.), Berridge Manufacturing Co., Pac-Clad (Peterson Aluminum) or Integris Metals, "Beige" by Dyna-Clad (DMI).
 - 2. "Chicago Prototype" (exposed flashing, coping, trim, gutters): "Sierra Tan" by Una-Clad (Firestone Metals, Inc.), Pac-Clad (Peterson Aluminum) and Berridge Manufacturing Co., "Beige" by Dyna-Clad (DMI).
 - 3. "Southern" Prototype: "Almond", as manufactured by Una-Clad (Firestone Metals Inc.), Metal-Era or Integris Metals, "Putty" by Dyna-Clad (DMI).

2.02 MISCELLANEOUS FLASHING AND SHEET METAL ACCESSORIES

- A. Solder: For use with steel or copper, provide 50 - 50 tin/lead solder (ASTM B 32), with rosin flux.
- B. Fasteners: Same metal as flashing/sheet metal. Match finish of exposed heads with material being fastened.
- C. Mastic Sealant: Polyisobutylene; non-hardening, non-skinning, non-drying, non-migrating sealant.
- D. Adhesives: Type recommended by flashing sheet manufacturer for waterproof/weather-resistant seaming and adhesive application of flashing sheet.
- E. Reglets: Metal or plastic units, compatible with flashing indicated, non-corrosive.
- F. Metal accessories: Provide sheet metal clips, straps, anchoring devices and all accessory units as required for installation of work, matching or compatible with material being installed, noncorrosive.
- G. Roofing cement ASTM D-2822 asphaltic.

2.03 FABRICATED UNITS

- A. General Metal Fabrication: Shop-fabricate work to greatest extent possible. Comply with details shown, and with applicable requirements of SMACNA "Architectural Sheet Metal Manual". Fabricate for waterproof and weather-resistant performance; with expansion provisions for running work, sufficient to permanently prevent leakage, damage or deterioration of the work. Form exposed sheet metal work without buckling with exposed edges folded back to form hems.
 - 1. Coping Joints: Use S.M.A.C.N.A. joint types J5 thru J12 in compliance with S.M.A.C.N.A Architectural Sheet Metal Manual table 3-1 "Coping Design", for the specific metal thickness, type and coping width.
 - 2. Pre-engineered/manufactured coping cap systems complying with FM wind uplift and S.M.A.C.N.A. standards are acceptable if approved by Walgreens Project Architect.

- B. Expansion Provisions: Where lapped or bayonet-type expansion provisions in work cannot be used, or would not be water/weatherproof, form expansion joints of intermeshing hooked flanges, not less than 1" deep, filled with mastic sealant.
- C. Sealant Joints: Where movable, non-expansion type joints are indicated or required for proper performance of work, form metal to provide for proper installation of elastomeric sealant, in compliance with SMACNA standards.
- D. Separations: Provide for separation of metal from non-compatible metal or corrosive substrates, with bituminous coating or other permanent separation.
- E. Gutters and Downspouts and Trim: Provide manufacturers standard KYNAR shop finish, color as per Article 2.01.D. For gutters at standing seam metal roofs, see Section 07610.
 - 1. Provide protective cover of 1/8" thick bent steel plate. Finished to match downspout color. Option at rear of store only, Neenah cast iron downspout shoe #R-4925, profile to match downspout, paint to match downspout.

2.04 ROOF SCUTTLE

- A. 2'-6" X 3'-0" Type "S" with "Ladder UP" safety post, model 2, by Bilco, provide fire-rated units as required by local authorities.

2.05 EQUIPMENT CURBS/SUPPORTS/FLASHING

- A. Equipment Rails; 18 GA galvanized steel, monolithic construction with integral base plate, continuous welded cover seams, factory installed 2x6 wood nailer #ER-4A by Roof Products & Systems Corp., Bensenville, Illinois (630) 766-5240 or (800) 774-5240.
- B. Equipment Curbs; 18 ga. galvanized steel with continuous welded cover seams, factory installed wood nailer, factory installed 1 1/2 thick 3 pound density rigid insulation and reinforcing as required to support equipment.
- C. Prefabricated Pipe Penetrations (at satellite dish):
 - 1. Curbs: 18 ga. metal curb with 1-1/2" x 1-1/2" wood nailer #RC-4A by Portals Plus, Inc., Bensenville, Illinois (630) 766-5240 or equal by The Pate Company, Broadview, IL. (708) 681-1920.
 - 2. Pipe Portal Curb Cover: Acrylic coated, rib reinforced, ABS plastic, double pipe portal by Portals Plus, Inc., Bensenville, Illinois (630) 766-5240 or 0.050" thick aluminum cover by The Pate Company, Broadview, IL (708) 681-1920).
 - 3. Pipe Flashing: EPDM or Neoprene (BUR or Mod. Bit. roofs) compression molded caps # C-126 and C-212 by Portals Plus, Inc. (630) 766-5240 or equal by The Pate Company, Broadview, IL (708) 681-1920).

PART III - EXECUTION

3.01 INSTALLATION REQUIREMENTS:

- A. Comply with manufacturer's installation instructions and recommendations, and with SMACNA "Architectural Sheet Metal Manual". Anchor units as required to be secure and permanently watertight/weathertight.

END OF SECTION

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SECTION 07610 - METAL STANDING SEAM ROOFING

PART I - GENERAL

1.01 DESCRIPTION

- A. Work includes steel standing seam roofing and accessories.

1.02 QUALITY ASSURANCE

- A. All panels and accessories are to be factory formed, finished and packaged.
- B. Applicator shall have five years minimum experience applying this type of roofing system.
- C. Comply with local codes for installation of standing seam-roofing system.
- D. Provide systems complying with ASTM E 1680 (air infiltration), ASTM E 1646 (water infiltration) and rated for UL 90 wind uplift, UL 263 fire resistance, UL 790 Class A fire.
- E. Do not install on roof pitch less than 2:12.

1.03 WARRANTY

- A. Provide manufacturers standard twenty year finish warranty.
- B. Panel installer shall issue a five year weather tight and workmanship guaranty.

1.04 SUBMITTALS

- A. Submit complete shop drawings, details, product data and material sample to Architect of Record. Show expansion joint details and waterproof connections to adjoining work and at obstructions and penetrations.

PART II - PRODUCTS

2.01 STANDING SEAM ROOFING

- A. Manufacturers: ATAS International, Inc., "Dutch Seam System".
Berridge, "Cee-Lock".
Dimensional Metals, Inc. (DMI), IL-20 "Inter-Lock Panel System".
Englert, S2000 "Integral Snap-Lock Panel" system.
McElroy Metal, "Medallion-Lok".
Peterson Aluminum, PAC-CLAD "Snap-Clad" Standing Seam system.
- B. Panel: Nominal 12", 15" or 18" wide G-90, Grade C, ASTM A-653-03 & ASTM A-924-99, hot dipped galvanized steel panel, ASTM-A653-03 or ASTM AZ50 Galvalume steel, with minimum 1 inch high standing seam.
 - 1. Material Thickness: 24 gauge.
 - 2. Color: Kynar 500® (0.80 to 0.90 mil dry film thickness) "Forest Green" by Atas, Berridge Manufacturing, Englert and Pac-Clad, , smooth texture, "Evergreen" by DMI and McElroy Metal. Total dry film coating thickness with primer to be 1.0 to 1.25 mils. Provide strippable protective film. Provide reverse side backer coating with 0.25-mil dry film thickness.
Note: The color of the tote enclosure roof of the Southern Prototype shall be or

match Una-Clad “Almond” or Dyna-Clad (DMI) “Putty”.

3. Length: Manufacturers standard 40 ft. or less in one continuous length.

C. Fabrication: Fabricate panels, trim and accessories to allow controlled expansion in running lengths in relation to system components, adjoining materials, flashing and wall construction.

2.02 TRIM & ACCESSORIES

A. General:

1. Metal flashings, gutters, and trim shall be from the same manufacturer and of the same material and gauge as panels. Exposed components shall be formed in longest possible lengths. Color to match panels.
2. Manufacturer’s standard fasteners, brackets, clips, furring strips, spacers, flashings, closures, weather-stripping, joint sealers, sealants, expansion control, etc. as required for complete weather tight installation.
3. Anchorage: Provided by the manufacturer. Comply with manufacturer instructions. Use cadmium plated screws with attaching to treated lumber.
4. For downspouts adjacent to brick, see Section 07600.

2.03 MISCELLANEOUS MATERIALS

- A. Bituminous Coating: Cold applied asphaltic, complying with FS TT-C-494, Type II, 12 mils min. dry film thickness.
- B. Underlayment: 30 lb. unperforated organic asphalt saturated roofing felt, complying with ASTM D-226, 36 “wide.
- C. Paper Slip-Sheet: 5-lb. rosin sized building paper.
- D. Snow-Guards: Clear polycarbonate with UV stabilizers, adhesive mounting. Provide Real-Tool® CL model #RTCLSM by Berger Bros. Co., Sno-Gem™ by Sno-Gem, Inc. or SNOJAX by SNOJAX, Inc.

2.04 SHOP FABRICATED UNITS

- A. Expansion Provisions: Where lapped or bayonet-type provisions cannot be used, form expansion joints of intermeshing hooked flanges not less than 1” deep, filled with mastic sealant.
- B. Sealant Joints: Where movable, non-expansion joints are indicated, form metal to provide for proper installation of elastomeric sealant in compliance with SMACNA standards.

PART III - EXECUTION

3.01 INSTALLATION

- A. System shall be installed straight and true to line, in compliance with manufacturer’s instructions.
- B. Panel system shall not come in contact with dissimilar materials, which will cause harmful reactions between the metals and/or finish.

- C. Separate dissimilar metals with coat of bituminous paint, concealed on one or both sides.
- D. Install underlayment and slip-sheet on solid substrate.
- E. Panels shall be fully interlocked with its adjacent panel.
- F. Fabricate sheets, seams, strips, cleats, valleys, ridges, edge treatments, flashings, etc. to allow drainage. Seal joints as required. Provide leak proof construction.
- G. Sealant Joints: Embed hooked flanges not less than 1" into sealant. Completely conceal sealant.
- H. Install system to prevent bending, buckling, twisting, abrasion, scratching, denting, etc. Only minor scratches may be touched-up in field.
- I. Anchor components securely in place. Use fasteners recommended by panel manufacturer. Accommodate thermal and structural movement. Use gasketed fasteners to prevent electrolytic action between metals. Conceal all fasteners and anchors.
- J. Snow-Guards shall be installed on roofs and awnings with slopes less than 1:1 in regions where snow or ice build-up is likely. Snow-guards shall be centered between standing seams and installed in compliance with manufacturer's instructions. Provide not less than one row, located not closer than 15 inches to the roof eave. Provide additional staggered rows as recommended by manufacturer to suit local snow and ice conditions.
- K. Install ridge vents and soffit vents at all gabled and hip roofs. Provide ridge and soffit venting at a ratio of 1sf of free vent area for each 150sf of area below roof.

3.02 CLEANING

- A. Remove protective film upon completion without damaging finish.
- B. Completed system shall be clean and free from grease, stains and finger marks.

3.03 PROTECTION

- A. Protect work to be free from damage at time of Walgreens acceptance and completion of entire project.

END OF SECTION

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SECTION 07900 - JOINT SEALERS

PART 1 - GENERAL

1.01 QUALITY ASSURANCE

- A. *Applicator Qualifications: Applicator shall have a minimum of 5 years experience successfully installing sealants.*
- B. *Compatibility; Applicator shall be responsible for verifying that sealants used are compatible with joint substrates.*
- C. *Guarantee; Sealant joints shall be guaranteed against adhesives and cohesive failure and water penetration through the sealed joint for 5 years.*
- D. *Apply sealants in strict compliance with manufacturer instructions.*

PART II -PRODUCTS

2.01 SEALANTS

- A. *Extreme Movement Sealants (+100% or -50% movement capability)*
 - 1. *Vertical/horizontal joint, such as expansion joints; use reference #S-6.*
- B. *Significant Movement Sealants (+25% or -25% movement capability)*
 - 1. *Vertical or inclined joints such as panel, coping, expansion, and sloped pavement; use reference #S-1, 3 or 6.*
 - 2. *Horizontal joints not exposed to fuel or gas spillage; use reference #S-1, 2, 3, 4, 6 or 7.*
- C. *Minimal Movement Sealants (+25% or -25% movement capability)*
 - 1. *Vertical or inclined joints such as perimeters of doors, windows, wall penetrations; use reference # S-1, 3, 4, or 6.*
 - 2. *Horizontal joints not exposed to fuel or gas spillage; use reference # S-2, or 5.*
- D. *Interior Sealants and Caulking*
 - 1. *General; use reference # C-1.*
 - 2. *Special*
 - a. *Toilet rooms; use reference #S-8.*

2.02 REFERENCE NUMBERS

<i>REF</i>	<i>ASTM</i>	<i>FED.</i>	<i>PRODUCT DESCRIPTION</i>
<i>#S=Sealant</i>	<i>SPEC</i>	<i>SPEC</i>	
S-1	C-920-05 Type M Class 25 Grade NS		-Two component, non-sag, Polyurethane or Polysulfide sealant -Shore A hardness of 20-40 -Joint movement range of +/-25%
S-2	C-920-05 Type M Class 25 Grade P		-Two component, self leveling, polyurethane or polysulfide sealant -Shore A hardness of 25-40 -Joint movement range of +/-25%
S-3	C-920-05 Type S Grade 25 Grade NS		-Low modulus, one compo- nent, non-sag, polyurethane or polysulfide sealant -Shore A hardness of 15-25 -Joint movement range of +/-50% -Minimum elongation of 700%
S-4	C-920-05 Type S Class 25 Grade NS		-One component, non-sag, polyurethane or polysulfide sealant -Shore A hardness of 25-40 Joint movement range of +/-25%
S-5	C-920-05 Type S Class 25 Grade P		-One component, self leveling, polyurethane or polysulfide sealant -Shore A hardness of 15-45 -Joint movement range of +/-25%
S-6	C-920-05	TT-S-001543(a)	-Low modulus, one com-

	Type S Class 25 Grade NS	and/or TT-S-00230 Class A	ponent, non-sag, neutral cure, silicone sealant -Shore A hardness of 15-20 -Joint movement range of +100% to -50% -Joint size may be as little as two times joint movement -Minimum elongation of 1200%
S-7	C-920-05 Type S Class 25 Grade NS	TT-S-001543 (a) and/or TT-S-00230 Class A	-One component, neutral cure, non-sag, silicone sealant -Shore A hardness of 25-30 -Joint movement range of +/-25%
S-8	C-920-05 Type S Class 25 Grade NS	TT-S-001543 (a) and/or TT-S-00230 Class A	-One component, non-sag, mildew resistant silicone sealant -Shore A hardness of 25-30
C = Caulking C-1	C-834-05	N/A	-One component acrylic latex caulking minimum 75% recovery per ASTM C-736-00 -Maximum joint movement of +/-7.5%2.03

PRIMER:

2.03 Provide type recommended by sealant manufacturer for project conditions.

2.04 **BACKER ROD:** Open or closed cell (non-gassing) polyethylene or polyurethane as recommended by sealant manufacturer.

1. Closed cell or closed skin open cell backer rods shall be used within EIFS joints.

PART III - EXECUTION

3.01 INSTALLATION

- A. Clean joints to eliminate all detrimental substances.
- B. Install joint filler and backing without gaps between ends.
- C. Prevent 3-sided bonding within the joint. Use bond breaker tape as recommended by sealant manufacturer if needed.
- D. Sealant depth shall be 1/2 of joint width with a minimum depth of 1/4" and a maximum of 1/2" unless otherwise required by the sealant manufacturer.
- E. Do not install sealant on damp, dirty or oily surfaces. Do not install sealant when temperatures are below 40°F unless specifically allowed by manufacturer's instructions.
- F. Color: Sealant color shall match the color of the materials at each side of the joint. If materials change along the length of a continuous joint, the color shall change to match the surrounding materials. Sealant in horizontal joints in masonry shall match the color of the surrounding mortar. When materials differ on each side of the joint, install as follows. For combinations not listed below, consult Walgreens Project Architect.
 1. Masonry and Storefront Systems; match storefront.
 2. Masonry and Hollow Metal; match hollow metal final finish.
 3. Masonry and Prefinished Metal; match prefinished metal.
 4. Horizontal Concrete and Masonry; match concrete.
 5. EIFS/Plaster and Masonry; match EIFS/Plaster.

3.02 CLEANING AND PROTECTION

- A. Clean off excess sealants or smears adjacent to joints without damaging adjacent surface or finishes.
- B. Protect sealants from damage and contaminants until fully cured. Damaged or contaminated sealants shall be cut out and replaced.

END OF SECTION

SECTION 08100 - METAL DOORS AND FRAMES

PART 1 - GENERAL

1.01 QUALITY ASSURANCE

- A. Provide doors and frames complying with Steel Door Institute "Recommended Specifications Standard Steel Doors and Frames" SDI-100.
- B. Fire Rated Door Assemblies: Provide assemblies complying with NFPA 80 and labeled in accordance with ASTM E-2074-00. Comply with UL 10C "Positive Pressure Fire Tests of Door Assemblies".

PART II - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS: Subject to compliance with requirements, provide steel doors and frames by one of the following:

- Amwel/Div. American Welding & Mfg. Co.
- Ceco Corp.
- Curries
- Fleming Steel Doors and Frames, an Assa Abloy Group Company
- Steelcraft/Div. American Standard Co.

2.02 MATERIALS

- A. Hot-Rolled Steel Sheets and Strip: Commercial quality carbon steel, pickled and oiled, complying with ASTM A 1011.
- B. Cold-Rolled Steel Sheets: Commercial quality carbon steel, complying with ASTM A 1008.
- C. Galvanized Steel Sheets: Zinc-coated carbon steel sheets, complying with ASTM A-653, G60 zinc coating, mill phosphatized.
- D. Supports and Anchors: Fabricate of not less than 18-gage galvanized sheet steel.
- E. Inserts, Bolts, and Fasteners: Manufacturer's standard units, except hot-dip galvanize items to be built into exterior walls, complying with ASTM A 153, Class C or D as applicable.

2.03 SHOP APPLIED PAINT: Primer: Rust-inhibitive enamel or paint, either air-drying or baking, suitable as a base for specified finish paints.

2.04 FABRICATION

- A. Comply with SDI-100 requirements as follows:
 - Interior Doors: SDI-100, Grade II, heavy-duty, Model 1, minimum 18-gage faces, 1 $\frac{3}{4}$ " thick.
 - Exterior Doors: SDI-100, Grade III, extra heavy-duty Model 2, minimum 16-gage faces, 1 $\frac{3}{4}$ " thick.
- B. Fabricate exposed faces of doors from only cold-rolled steel.
- C. Fabricate frames with 12-gage concealed stiffeners, reinforcement, edge channels, louvers, and moldings from either cold-rolled or hot-rolled steel (at fabricator's option). Factory weld all frames. Field welding/fabrication is prohibited.
- D. Fabricate exterior doors, panels, and frames from galvanized sheet steel. Close top and bottom edges of exterior doors as integral part of door construction or by addition of minimum 16-gage inverted steel channels.
- E. Exposed Fasteners: Unless otherwise indicated, provide countersunk flat Phillips heads for exposed screws and bolts.
- F. At exterior locations provide thermal insulating door and frame assemblies, tested in accordance with ASTM A-1363.
- G. Provide assemblies with U factor of 0.41 BTU/Hr. Ft. squared/deg. F or better.
- H. Finish Hardware Preparation: Doors and frames to receive mortised and concealed finish hardware. Comply with applicable requirements of ANSI A115 series specifications.

2.05 STANDARD STEEL FRAMES

- A. Provide metal frames for doors, of types and styles as shown on drawings. Conceal fastening unless otherwise indicated.

- B. Exterior doorframes shall be minimum 16-gage cold-rolled furniture steel. Interior doorframes shall be minimum 18-gage cold-rolled furniture steel.
- C. Fabricate frames with mitered and welded corners. K-D (knock down) and Slip-On Frames are prohibited.
- D. Form exterior frames of hot-dip galvanized steel.
- E. Door Silencers: Except on weather-stripped frames, drill stops to receive 3 silencers on strike jambs.

PART III - EXECUTION

3.01 INSTALLATION

- A. Comply with SDI-105 "Recommended Erection Instructions For Steel Frames", SDI-100 and NFPA 80.
- B. Frames: In masonry construction, locate 3 wall anchors per jamb at hinge and strike levels.
- C. At in-place concrete or masonry construction, set frames and secure to adjacent construction with machine screws and masonry anchorage devices.
- D. Install fire-rated frames in accordance with NFPA Std. No. 80.
- E. In metal stud partitions, install at least 3 wall anchors per jamb at hinge and strike levels.
- F. In open steel stud partitions, place studs in wall anchor notches and wire tie.
- G. In closed steel stud partitions, attach wall anchors to studs with tapping screws.
- H. Final adjustments: Check and readjust operating finish hardware items, leaving steel doors and frames undamaged and in complete and proper operating condition.

END OF SECTION

SECTION 08200 - WOOD DOORS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Types: Solid core flush wood doors with veneer faces.
- B. Shop priming of wood doors is included.
- C. Louvers for wood doors (furnished and installed) are included.

1.02 QUALITY ASSURANCE

- A. AWI Quality Standards: Section 1300 "Architectural Flush Doors" of "Architectural Woodwork Quality Standards" published by Architectural Woodwork Institute (AWI).
- B. WDMA I.S. – Window and Door Manufacturers Association.
- C. Fire-Rated Wood Doors: Provide wood doors which match units tested in door and frame assemblies per ASTM E 2074 and UL 10C and which are labeled and listed for ratings indicated by UL, other testing and inspection agency acceptable to authorities having jurisdiction.
- D. Manufacturer: Obtain doors from a single manufacturer unless noted otherwise.
- E. Door Manufacturer's Warranty: Submit door manufacturer's standard, signed by Manufacturer, Installer and Contractor, agreeing to repair or replace defective doors.
 - 1. Solid Core Flush Interior Doors: Life of installation.

PART II - PRODUCTS

2.01 MANUFACTURERS

- A. Subject to compliance with requirements, provide products of one of the following:
 - 1. Algoma Hardwoods, Inc.
 - 2. Eggers Industries
 - 3. Graham® Wood Doors
 - 4. Oshkosh Architectural Door Company
 - 5. Marshfield Doorsystems, Inc. (formerly Weyerhaeuser Company)
 - 6. Mohawk Flush Doors, Inc.

2.02 INTERIOR FLUSH WOOD DOORS

- A. Solid Core Doors for Opaque Finish: Comply with the following requirements:
 - 1. Faces: Any closed-grain standard thickness hardwood of mill option or medium density overlay (MDO)
 - 2. Grade: Custom.
 - 3. Construction: SLC-5 (Glued block core, 5-ply), edge bands glued to core, SCLC-5 (Structural Composite Lumber Core, 5-ply) or particleboard core (PC-5, 1-LD-2 grade), all edges glued to core. Provide 1-3/8 wide solid wood stiles at top, bottom and center and solid wood lock block.
 - 4. Thickness 1 3/4 inches.
- B. Fire -Rated Solid Core Doors: Comply with the following requirements.
 - 1. Faces and AWI Grade: Match non-rated doors in same area of building, unless otherwise indicated.
 - 2. Construction: Manufacturer's standard core construction as required to provide fire-resistance rating indicated.

2.03 LOUVERS AND LIGHT FRAMES:

- A. Louvers: Door manufacturer's standard metal louvers, of size indicated, formed of 18 gage cold-rolled steel, factory primed for finish painting.
- B. Frames for Light Openings in Fire Doors: Manufacturer's standard frame formed of 18-gage cold-rolled steel, factory-primed, and approved for use in door of fire rating indicated.

2.04 FABRICATION

- A. Openings: Cut and trim openings through doors and panels as shown. Comply with applicable requirements of referenced standards for kind(s) of doors required.

1. Light Openings: Factory cut openings. Provide 18-gage cold rolled metal frames. At all pharmacy doors, the removable stops shall be placed on the pharmacy side of door. Non-removable stops shall be placed at opposite side of pharmacy door. Fire rated doors with light openings shall have UL listed wire glass.
2. Louvers: Factory install louvers in prepared openings.

2.05 SHOP-PRIMING: Before delivery of doors shop-prime as follows:

1. Paint Finish: Prime with one coat of wood primer; interior enamel under coat (FS-TT-E-543).
2. Moore's alkyd enamel under body.

2.06 PREFITTING AND PREPARATION FOR HARDWARE: (contractor's option) Prefit and pre machine wood doors at factory.

PART III -EXECUTION

3.01 INSTALLATION

- A. Condition doors to average prevailing humidity in installation area prior to hanging. Seal cut surface after fitting and machining.
- B. Fitting Clearances: For non-rated doors provide clearances of 1/8" at jambs and heads; and 1/8" from bottom of door to top of decorative floor finish or covering. Where threshold is shown or scheduled, provide 1/4" clearance from bottom of door to top of threshold.
- C. For fire-rated doors, provide clearances complying with NFPA 80.
- D. Bevel non-rated doors 1/8" in 2" at lock and hinge edges.
- E. Bevel fire-rated doors 1/8" in 2" in lock edge; trim stile rails only to extent permitted by labeling agency.

3.02 OPERATION: Rehang or replace doors, which do not swing or operate freely, as directed by Architect.

END OF SECTION

SECTION 08300 - SPECIAL DOORS

PART 1 - GENERAL

1.01 DESCRIPTION: Work includes rolling insulated interior mounted overhead doors, access panels, rolling shutter and motorized rolling overhead grille.

1.02 QUALITY ASSURANCE

- A. Provide a complete properly operating installation for each type of special door including all hardware, mounting and installation components.
- B. Wind Loading: Rolling insulated door shall withstand a 20 PSF wind load pressure.
- C. Fabricate rolling grille to permit:
 - 1. Emergency exiting from interior during power failure and when grille is closed.
 - 2. Manual lifting for emergency entry upon operation of a secure exterior mounted release device in the event of a power failure.
- D. Fire Rated Assemblies (when required); comply with NFPA 80 and provide UL label confirming compliance with ASTM E-2074 including automatic closing in event of fire.
- E. Any deviation from required finishes, colors, etc., must be approved by Architect and fully coordinated with all similar and related systems.

1.03 SUBMITTALS: Submit manufacturer product data and shop drawings (except access panels).

PART II - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS (overhead doors, rolling shutters, rolling grilles): Subject to compliance with requirements, provide products of one of the following:

AlumaTek, Inc.
The Cookson Company
Cornell Iron Works
Overhead Door Corp.

2.02 MATERIALS

- A. Steel Door Curtain slats: Structural quality, cold rolled galvanized steel sheets complying with ASTM A 653, Grade A, with G90 zinc coating, complying with ASTM A 653, and phosphate treated before fabrication. Provide a 22-gauge minimum exterior skin, 24 gauge minimum interior skin.
Furnish standard "flat-face" slats.
 - 1. Insulation (receiving door): fill slats with pressure - foamed-in-place urethane, polyurethane or polyisocyanurate, fully bonded to interior and exterior skins.
- B. Grille Curtain: A network of 5/16" minimum diameter horizontal rods spaced approximately 2" o.c. Interconnect rods by vertical links approximately 5/8" wide, spaced approximately 9" apart and rotating on the rods in a straight pattern.
 - 1. Aluminum Grilles: ASTM B 221, with clear, satin anodized finish.
- C. Endlocks: Malleable iron castings galvanized after fabrication, secured to curtain slats with galvanized rivets. Provide locks on alternate curtain slats for curtain alignment and resistance against lateral movement.
End Locks (Rolling Grille): Continuous end links or other devices at ends of rods, locking and retaining grille curtain in guides against excessive pressure, maintaining curtain alignment and preventing lateral movement.
- D. Bottom Bar: Consisting of 2 angles, each not less than 1-1/2" x 1-1/2" x 1/8" thick, either galvanized or stainless steel to suit type of curtain slats.
Provide a replaceable gasket of flexible vinyl or neoprene between angles as a weather seal and cushion bumper (at receiving).
Bottom Bar (Rolling Grille): Manufacturer's standard extruded shape with clear anodized finish.
- E. Curtain Jamb Guides: Fabricate of steel angles, or channels. Build-up units with minimum 3/16" thick steel sections, galvanized after fabrication. Slot bolt holes for track adjustment.
Secure continuous wall angle to wall framing by 3/8" minimum bolts at not more than 30" o.c., unless closer spacing recommended by door manufacturer. Extend wall angles

above door opening head to support coil brackets. Place anchor bolts in exterior wall guides so they are concealed when door is in closed position. Provide removable stops

on

guides to prevent over-travel of curtain, and continuous bar for holding windlocks.

Guides (Rolling Grille): Manufacturer's standard extruded aluminum shape, clear anodized finish, having curtain groove with return lips or bars to retain curtain.

Furnish pile strips, rigid vinyl liner, or other nonmetallic inserts to prevent metal-to-metal contact and minimize noise of travel.

- F. Weather Seals (At Receiving): Provide vinyl or neoprene weather-stripping. At door heads, use 1/8" thick continuous sheet secured to inside of curtain coil hood. At doorjamb, use 1/8" thick continuous strip secured to exterior side of jamb guide.

2.03 COUNTERBALANCING MECHANISM:

- A. Counterbalance: Provide adjustable steel helical torsion spring, mounted around a steel shaft and mounted in a spring barrel and connected to door curtain. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.
- B. Hood: Entirely enclose coiled curtain and operating mechanism, including chain gear assembly at opening head. Provide a weather seal to prevent airflow, insects, etc., from entering hood. Contour to suit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Provide closed ends for surface-mounted hoods, and any portion of between-jamb mounting projecting beyond wall face.
 - 1. Fabricate steel hoods for doors of not less than 24 gage hot-dip galvanized steel sheet with G 90-zinc coating, complying with ASTM A 653. Phosphate treat before fabrication.
 - 2. Fabricate hoods for aluminum grilles of alloy 3003 aluminum sheet not less than 0.032" thick, finished to match curtain.
 - 3. Furnish removable metal soffit when hood is mounted above ceiling, of same material and finish as curtain.

2.04 OPERATORS

- A. Chain Hoist Operator (At Receiving): Provide endless steel manual chain hoist operator, chain pocket wheel and guard, and geared reduction unit with maximum 35 lbs. pull for door operation. Provide self-locking mechanism allowing curtain to be stopped at any point in its travel and to remain in position until reactivated. Furnish chain holder secured to operator guide.
 - 1. Provide 1/4" minimum thickness, heavy duty slide bolt for padlock at inside bottom bar.
- B. Manual Push-Up Operation (At Conveyor): Required lift or pull for door operation shall not exceed 25 lbs. Curtain shall be easily stopped at any point in its travel and remain in position until reactivated.

Provide lifting handle and slide bolt with cylinder lock on bottom bar.
- C. Electric Grille Operator: By grille manufacturer; complete with electric motor and factory-prewired motor controls, gear reduction unit, solenoid operated brake, remote control stations, and control devices.

Provide hand-operated disconnect or mechanism for automatically engaging a sprocket and chain operator and releasing brake for emergency manual operation. Mount disconnect and operator at 48" above finish floor. Include an interlock device to automatically prevent motor from operating when emergency operator is engaged. Provide "Power-Out Entry Terminal" (P.E.T.) by Storefront Security Closures, Inc. 1-800-767-3667.

 - 1. Key stations: One (1) exterior type, secure tamper-proof, recessed mounted, heavy duty, weatherproof, constant contact OPEN/CLOSE with spring return to center, NEMA Type 4, key switch.

One (1) interior, flush mounted, constant contact OPEN/CLOSE with spring return to center, NEMA Type 4, key switch.
- D. Automatic Reverse Control: Furnish and install when required by authorities having jurisdiction. Provide units with electrically or pneumatically actuated automatic bottom bars. Only provide units with heavy duty retracting reels, which conceal cord/tube from view when grille is opened.

2.05 ACCESS PANELS

- A. Provide 24" x 36" doors, with 16 Ga. frames, 14 Ga. doors, continuous concealed hinges, cylinder lock with two keys and prime painted finish unless noted otherwise. Units with plaster bead flanges may be used (contractors option) at EIFS soffits. Provide fire rated units when required by local authorities. At glass tower, provide units with flush screwdriver operated locks with steel ring cam.
- B. Acceptable Manufacturers: Acudor; model UF-5000, PS-5030 (plaster flange), FW-5050 (fire rated).
Babcock-Davis: Cierra Products model; B-NT, B-NP (plaster), B-IT (fire rated).
JL Industries, Inc.; model TM, model FD (fire rated).
Karp Assoc., Inc.; model DSC-214M, DSC-214 pl (plaster), KRP-150 FR (fire rated).
Larsen's Manufacturing Co.; model L-MPG, L-FRAP (fire rated).
Milcor; style M, style K (plaster), UFR (fire rated).
Mifab Manufacturing: style UA, CAD-FL-PL (plaster), MPFR (fire rated).

PART III - EXECUTION

3.01 INSTALLATION

- A. Install grilles and operating equipment complete with necessary hardware, in accordance with final shop drawings, and manufacturer's instructions.
- B. Painting: See Section 09910.
- C. Upon project completion lubricate, test and adjust doors/grilles to operate easily, free from wrap, twist or distortion.

END OF SECTION

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SECTION 08450 - ALUMINUM STOREFRONTS & AUTOMATIC ENTRANCES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Aluminum storefronts and automatic entrances include the following:
 - 1. Storefront framing systems.
 - 2. Automatic sliding entrance doors.
 - 3. Interior storefront systems.
- B. Electrical connections are specified in Division 16.
- C. Stores with revolving doors (section 08470): Furnish and install a swing door with a low energy electric operator and pushbutton switch located as shown on drawings.

1.02 SYSTEM PERFORMANCE

- A. General: Provide automatic entrance and storefront assemblies that have been designed and fabricated to comply with performance characteristics listed below.
 - 1. Wind loading: System shall withstand uniform pressure of 30 PSF (1440 Pa) with maximum deflection of 1/175 of span and allowable stress with a safety factor of 1.65.
 - 2. Entrance Operator: Provide operators which will open and close doors and maintain them in fully closed position when subjected to the 30 MPH wind velocity or equivalent inward differential pressures.
 - 3. Air infiltration: Tested in accordance with ASTM E-283-04 shall not exceed .06 CFM/SQ. FT. of fixed area.
 - 4. Water infiltration: Tested in accordance with ASTM E-331-00 shall allow no penetration at 8 PSF pressure.
 - 5. Thermal: All framing members shall incorporate a thermal barrier eliminating direct contact between exterior and interior aluminum sections.
- B. Hurricane Resistant Systems: Provide when required by local codes/ordinances and in the states of Texas, Louisiana, Mississippi, Alabama, Florida, Georgia, South Carolina and North Carolina for all store locations ten (10) miles or less from all salt water coastlines, bays, tributaries, etc. Such systems shall have reinforced frames, connectors, impact resistant glass and other features as required to comply with the local hurricane wind design requirements.

1.03 QUALITY ASSURANCE

- A. Each type of system is based on one manufacturers system respectively. Acceptable alternate manufacturers are listed but must conform in every way to the base system.
 - 1. Any deviation from the required finishes, colors, etc. must be approved by the Architects and fully coordinated with all similar and related systems.
- B. Powered door operators shall comply with UL 325.
- C. Automatic entrances shall be UL listed as an exitway and comply with A.D.A. requirements.
- D. Automatic low energy swing door operators (when revolving doors are used) shall comply with the following standards:
 - ANSI/BHMA A159.19: American National Standard for Power Assist and Low Energy Power Operated Doors.
 - UL Standard 325
 - UL Standard 228

1.04 SUBMITTALS: Submit shop drawings for each type of system.

PART II - PRODUCTS

2.01 ACCEPTABLE STOREFRONT MANUFACTURER

- A. Storefront Systems (base system): Kawneer Company #Trifab VG 451-T-CG, thermally broken, center glazed, flush glazed system 2" x 4-1/2" profile with shear block, to receive 1" insulating glass. Storefront in glass tower shall receive 1/4" thick glass.
Color: Clear Anodized, AA-M12C22 A41, Class I Anodic coating.
- B. Alternate Storefront Manufacturers:
1. United States Aluminum Corp. #IT 451, thermally broken.
 2. Vistawall Architectural Products, Series 3000, Thermal Flush Glaze.
- C. Glass tower (only) shall receive 1/4" thick glass set in 1 3/4" x 4 1/2" profile, center glazed, flush glazed system, shear block construction.
1. Kawneer Trifab II 450.
 2. United States Aluminum Corp Series 450
 3. Vistawall Architectural Products Series 2000.
- Color: Clear anodized AA-M12C22 A41 Class 1 Anodic coating.

2.02 ACCEPTABLE AUTOMATIC ENTRANCE MANUFACTURER (National Accounts)

- A. Automatic Sliding Entrance System (base system): Horton Automatic #2-2110WD/T single slide doors or Stanley Access Technologies, model #313865. See Article 2.02.B regarding the National Account Program. The slide-swing panel, installed to the exterior of the fixed sidelight, shall swing out 90 degrees from any position of slide movement and include a concealed spring closer to re-close door if pushed open. System components include:
1. Aluminum doors with fixed sidelights, fixed center light and transom. Provide 1/4" thick glass at sliding panels, 1" insulating glass at all other panels, safety glazed as required by code.
 2. Structural aluminum section to be 6063-T alloy, minimum 0.125" thick.
 3. Continuous header concealing ball bearing wheels, support track operator and closers.
 4. Bi-directional scan motion/presence detectors for one-way or two-way traffic (as required) and safety devices in door openings to detect objects present during closing cycle and recycle doors. Adjust for two-way traffic at liquor store locations.
 5. Concealed spring door closers, ON-OFF hold open switches, keyed entry switch (at entry door only), rim cylinder locks with exterior cylinder guards and thumb-turn on interior side.
 6. Aluminum thresholds and weather-stripping at jambs, head and sill.
 7. Break-away door stops, flush (integrally glazed) muntin bars flush cart bars in sidelights, doors and center light, glass stops and recessed pull handle at entry door muntin bar.
 8. Stainless steel tubular guide rails (with one horizontal) and guide posts (quantity may vary per project).
 9. Walgreens required decals including "Caution Automatic Door".
 10. Finish: clear anodized, AA-M12 C22A41 Class I anodic coating.
 11. Key Switch: Located on exterior frame for after hour's operation of door.
National Accounts: Walgreens has established National Accounts with Horton Automatics and Stanley Access Technologies. For this project, Contact: Mr. Marc Voilette
Stanley Access Technologies
65 Swamp Scott Road
Farmington, CT 06032
Phone: 860-409-6522
Fax: 860-679-6436
E-mail: MViolette@stanleyworks.com

For non-prototypical configurations, i.e.; vestibules, narrow openings, etc., confirm "Walgreens package" number with each manufacturer's National Accounts Representative.

- B. National Accounts: Walgreens has established National Accounts with Horton Automatics and Stanley Access Technologies. Each manufacturer has been assigned specific geographic areas (indicated below) to which each will supply automatic entrance doors.
1. For Arizona and all states East of the Mississippi River, except Mississippi, Alabama, Tennessee, Virginia, Michigan, Illinois, Indiana and Puerto Rico, provide Stanley Access Technologies.

Contact: Mr. Marc Voilette
Stanley Access Technologies
65 Swamp Scott Road
Farmington, CT 06032
Phone: 860-409-6522
Fax: 860-679-6436
E-mail: MViolette@stanleyworks.com
 2. For all states West of the Mississippi River including Mississippi, Alabama, Tennessee, Virginia, Michigan, Illinois, Indiana, Minnesota and Louisiana, but excluding Arizona, provide Horton Automatics

Contact: Ms. Laura McBurnett
Sr. Project Manager
Overhead Door Corporation
Access Systems Division
Horton Automatics
2501 South State Highway 121, Suite 200
Lewisville, TX 75067
Phone: 800-972-1730
Direct: 469-549-7180
Fax: 972-528 1048
 3. For non-prototypical configurations, i.e.; vestibules, narrow openings, etc., confirm "Walgreens package" number with each manufacturer's National Accounts Representative.
- C. Motion/Presence Detector: Sensing system utilizing planar K-band microwave motion detection and focused active infrared presence detection. The presence detection shall overlap the motion detection at the threshold. The presence detection shall never shut off during the closing cycle. Provide units with remote control adjustability. Provide, on each side of door: BEA "Apex" motion/presence detector, on Horton Doors, Stanley "SU-100" motion detection and Stanley "Stanguard" infrared threshold sensors on Stanley doors. Color, all units: black. Provide a horizontal photoelectric holding beam for redundant safety.
- D. Operator: Electro-mechanical operator with 1/8 HP DC permanent magnet motor and regulated electronic controller. Operator functions to be microcomputer controlled to automatically provide operating forces and speeds as prescribed by ANSI A156 10-1985. An ON-OFF/hold open power switch shall be located on inside of header. Operator shall convert to free manual operation of door during power failure. Provide adjustable time delay from 1 to 28 seconds minimum. Operator shall reverse when 15-lbs. maximum is exerted to prevent door from closing. Include provisions to prevent damage to operator when locks/latches/bolts are engaged.

- E. Hardware: Closers: Spring closer
Rim Cylinder Lock: Adams Rite #MS 1850-S-050, anodized finish.
Cylinder Guard: Adams Rite # MS4043.
Thumb Turn: Adams Rite #4066.
Key switch: By automatic entrance manufacturer.
Threshold: By automatic entrance manufacturer, continuous across entire masonry opening.
- F. Weather-stripping: Adjustable nylon sweeps on bottom of sliding doors.
Double pile weather-stripping on lead edges of sliding doors including lock area.
Single pile weather-stripping between carrier and header, on lead stiles of sidelights and pivot stiles of sliding doors.

2.03 ACCEPTABLE LOW ENERGY SWING DOOR AND OPERATOR MANUFACTURERS

- A. Horton Automatics, a division of Overhead Door Corporation, Extra Heavy-duty Low Energy Operator, Series 4500 LE.
KM Systems, Inc., "Access Two™ Series 3200 Electromechanical Low Energy" operator.
Dorma Automatics, Inc., Series EDA-OHC.
LCN Closers, (a brand of Dor-O-Matic, a business of Ingersoll-Rand), 2910 Series, electromechanical.
- B. The door operator is to provide a dual purpose: Easy access for persons requiring assistance *and* normal entrance access for regular traffic. System components include:
 1. Operator: Electromechanical, completely self-contained, powered by 120 VAC, 15 Amp circuit.
 2. Motor: DC permanent magnet, variable speed, and reversible.
 3. Control: Actuating relay, solid state circuitry, time-delay and speed adjustments.
 4. Closing and opening: Adjustable opening and closing speed; opening and closing not to exceed 15 pounds measured 1" from lock stile. Closing shall be by spring force generated by a high quality compression spring(s). Time delay before closing shall be 2-30 seconds, variable. Operator is to have a safety feature that will allow unit to recycle at any closing point. Temporary power shut-off shall occur in the event that an obstruction is sensed during the open cycle. Manual operation (with speed adjustment) shall be with power on or off and without damaging the operator or components.
 5. Actuating device: Opening cycle shall be activated by press wall switches with the international symbol of accessibility and "PRESS TO OPERATE DOOR" engraved on the faceplate.
 - a. Provide Horton model number C521-2 or C1260-4, (or Walgreens approved equal).

PART III - EXECUTION

3.01 PREPARATION: Field Measurement: Take field measurements prior to preparation of shop drawings and fabrication, to ensure proper fitting of work.

- A. Contractor shall provide rough opening per the drawings to receive the automatic entrance doors. See drawings for other sizes that apply to stores with liquor departments or vestibules.

3.02 INSTALLATION

- A. Comply with manufacturer's specifications and recommendations.
- B. Set units plumb, level and true to line, without warp or rack of frames or doors. Anchor securely in place. Separate aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
- C. Set sill members in a bed of sealant or with joint fillers or gaskets to provide weathertight construction.

- D. Install complete door operator system in accordance with manufacturer's instructions, including piping (if any), controls, control wiring, and remote power units (if any).
- E. Glass and Glazing: See Section 08800.

- F. Guide rails to be set in cored holes and grouted in place.

ADJUST AND CLEAN

- A. Adjust operating devices and hardware to function properly, without binding, and to provide tight fit at contact points and weather-stripping.
- B. Clean aluminum surfaces promptly after installation. Remove excess glazing and sealant compounds, dirt and other substances.

END OF SECTION

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SECTION 08700 - FINISH HARDWARE

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The extent of finish hardware required is shown on drawings and schedules.
- B. Types of required hardware:
Butt Hinges, Door Pulls and Push Plates, Locks, Latch Sets and Rim Cylinders, Keyless Combination Lock, Vertical Rod Assembly, Security/Panic Bar, Closers, Wall and Floor Bumpers, Silencers, Thresholds, Sweeps and Weather-stripping, One-Way Viewer, Door Protection and Kick Plates

1.02 QUALITY ASSURANCE

- A. Obtain each type of hardware from a single manufacturer.
- B. Hardware supplier shall have warehousing facilities and shall have been furnishing finish hardware for not less than three years.
- C. Fire-Rated Openings: Provide hardware complying with NFPA 80 and local codes and ordinances. Furnish units with "UL" or "FM" labels as required.
- D. Accessibility: Provide hardware complying with the requirements of the "Americans With Disabilities Act".
- E. Discrepancies: Furnish proper types, finishes, fasteners, and quantities based on codes, requirements, etc. in effect at time of installation.

1.03 SUBMITTALS

- A. Hardware Schedule: Final hardware schedule fully coordinated with other work, frames and operation.
Indicate type, style, function, finish, fastening location and manufacturer for each hardware item.
- B. Templates: Furnish templates to each fabricator of doors, frames, and work factory prepared to receive hardware.

PART II - PRODUCTS

2.01 SCHEDULED HARDWARE

- A. Requirements for design, grade, function, finish, size, etc. are indicated on the criteria drawings.
- B. Manufacturers; Provide hardware from manufacturers listed in the schedule (on drawings) or the comparable products of the alternate manufacturers listed below;
Item: Alternate Manufacturers:
Butt Hinges; Hager, McKinney
Door Pulls & Push Plates Hager, Rockwood
Lock Sets, Latch Sets & Rim Cylinders Arrow, Sargent, Yale
Keyless Combination Locks None
Alarm Locks; None
Vertical Rod Assemblies; None
Security/Panic Bar; None
Closers; LCN, Yale, Sargent
Wall/Floor Bumpers; Hager, Rockwood
Silencers; Hager, Rockwood
Thresholds, Sweeps; National Guard, Pemko
Weather-stripping; Pemko, Reese, Zero
One-Way Viewer; Rockwood, Stanley
Door Protection & Kick Plates Hager

2.02 MATERIALS & FABRICATION

- A. Hand of Door; Drawings show swing of each door leaf. Furnish each hardware item for proper installation and operation of door movement.
- B. Manufacturers Nameplates; Shall not be visible except for required UL labels.
- C. Fasteners: Conform to templates, prepared for machine screw installation. Provide Phillips flat-head screws (unless noted otherwise), finish to match hardware. Provide

concealed fasteners when available. Do not use exposed thru-bolts (unless noted otherwise). Thru-bolts allowed at Sur-Lock and Securitech hardware.

2.03 HINGES

- A. Screws: Phillips flat-head machine screws except furnish Phillips flat-head wood screws for installation into wood. Screw finish to match hinge.
- B. Hinge Pins: Exterior doors, non-removable pins with security studs. All other interior doors, non-rising pins (unless noted otherwise).

2.04 LOCK CYLINDERS & KEYING: Keying: Locks shall not be master keyed. Provide keying as indicated on the hardware schedule on sheet A4.3.

2.05 LOCKS, LATCHES, BOLTS

- A. Strikes: Provide manufacturer's standard wrought box strike for each latch or lock bolt, with curved lip extended to protect frame, finished to match hardware set.
- B. Lock Throw: Provide 5/8" minimum. Comply with UL for rated doors.

2.06 PUSH/PULL UNITS: Provide manufacturers standard exposed fasteners.

2.07 CLOSERS

- A. Comply with manufacturer's recommendations for closer size, door size, exposure and use. Thru-bolt fasteners shall be used only at interior wood doors.
- B. Access-free doors: Where installation must be handicapped accessible, comply with A.D.A. regarding opening force and delayed action.

2.08 DOOR TRIM UNITS: Protection Plates and Kick Plates; Stainless steel (US 32D finish), 20 ga., fabricated to dimensions indicated on Criteria Drawings. Provide protection plates with overlapping wrap around door edges. Mount with manufacturer's standard exposed fasteners.

2.09 WEATHERSTRIPPING

- A. Jambs and heads: Continuous extruded aluminum walls and flanges with bumper type, replaceable, flexible bulb/loop vinyl insert.
- B. Door sweep: Extruded aluminum with loop type replaceable rubber insert.

2.10 SECURITY BAR: See drawings for model numbers. For Sur-Lock, contact Locknet, Michelle Cooper (800-887-4307 ext. 123). For Securitech, contact Marc Kapelus at Kaploss Security (800-548-7486).

PART III - EXECUTION

3.01 INSTALLATION

- A. Mounting height for devices required for accessible door passage, including, but not limited to lever handles, knobs, pushplates, pull handles, alarm locks, cylinder locks etc. shall not exceed 48" above finish floor (a.f.f.) or as required to comply with Americans With Disabilities Act. Unless required otherwise by code, mount hardware as noted below.
 - 1. 40 5/16" a.f.f. to centerline of strike for latches, locks, knobs, levers, cross bar exit devices.
 - 2. 42" a.f.f. to centerline of door pulls.
 - 3. 45" a.f.f. to centerline of dead bolts, push plates.
- B. Set units plumb, true to line and location, attached as required for proper operation.
- C. Set thresholds for exterior doors in a full bed of butyl rubber or polyisobutylene sealant.

3.02 ADJUST AND CLEAN

- A. Replace units which cannot be adjusted for proper operation.
- B. Final adjustment must occur within one week of occupancy by tenant.

END OF SECTION

SECTION 08800 - GLASS AND GLAZING

PART 1 - GENERAL

1.01 DESCRIPTION: Glass and glazing work includes:

1. Insulated storefront.
2. Entrance glazing, not indicated as pre-glazed.
3. Interior laminated glass.
4. Mirrors.

1.02 SYSTEM PERFORMANCE

- A. Provide glass and glazing that will withstand normal temperature changes, wind loading, impact loading, etc. without breakage of glass, failure of seals and loss of air-tightness and water-tightness.
- B. See other Division 8 Sections for related performance requirements.

1.03 DEFINITIONS: Sealed insulation glass unit surfaces:

- Side 1 - Exterior surface of outer pane.
- Side 2 - Interior surface of outer pane (facing airspace).
- Side 3 - Interior surface of inner pane (facing airspace).
- Side 4 - Exterior surface of inner pane.

1.04 QUALITY ASSURANCE

- A. Comply with recommendations of the Float Glass Marketing Association "Glazing Manual" and "Sealant Manual".
- B. Comply with Sealed Insulating Glass Manufacturer's Association (SIGMA) #65-7-2.
- C. Comply with ASTM C 1036 or ASTM C 1048 (tempered), ASTM C 1172 (laminated glass) and CPSC 16 CFR Part 1201 (safety glazing).
- D. Warranty: Provide written warranty covering manufacturing defects, signed by the manufacturer, for the periods stated below after substantial completion.
 1. Insulated Glass: Manufacturers standard, ten-year minimum period.
 2. Float Glass: Manufacturers standard five-year minimum period.
 3. Laminated Glass: Manufacturers standard, four-year minimum period.
 4. Mirrors: Manufacturers Standard five-year period protecting against silver spoilage.

PART II - PRODUCTS

2.01 MANUFACTURERS: Subject to compliance with requirements, provide products by :

Ford Motor Co., Glass Division
Libbey-Owens-Ford Co., Pilkington/LOF Building Products.
Monsanto Co.
PPG Industries, Glass Group
Guardian Industries Corp.
Viracon Inc.

2.02 GLASS PRODUCTS - GENERAL

- A. Provide Primary glass complying with FS DD-G-451 and Heat-Treated glass complying with FS DD-G-1403.
- B. Fabricate to sizes and thickness recommended by glass manufacturers for application indicated.
- C. Heat Strengthening: If climatic, or shading conditions exist which will cause increased thermal stresses in the glass, increasing the possibility of thermal breakage, provide heat strengthened glass complying with ASTM C 1048, Kind HS.

2.03 GLASS PRODUCTS

- A. Clear Uncoated Float Glass: Annealed, Type 1, Class 1 (transparent), quality q3 (glazing select), and nominal thickness 1/4 inch.
- B. Clear Tempered Float Glass: Grade B (fully tempered), style I (uncoated surfaces), type I (float), quality q3, class 1.

- C. Tinted Uncoated Float Glass (outer pane): Annealed tinted float glass, Type 1, Class 2, Quality q3, nominal thickness 1/4 inch.
1. Acceptable Products: Ford Glass; Sunglas Blue, Pilkington/LOF; Optifloat Blue-Green Tinted, PPG; Azuria Tinted.
 2. Performance Characteristics:
 - a. Visible Light Transmittance: 71 to 75 percent.
 - b. Visible Light Reflectance: 7 percent.
 - c. Total Solar Energy Transmittance: 35 to 49 percent.
 - d. Total Solar Energy Reflectance: 6 to 7 percent.
 - e. UV Transmittance: 28 to 32 percent.
 - f. Summer U-Value: 1.09 to 1.11.
 - g. Winter U-Value: 1.09.
 - h. Solar Heat Gain Coefficient: 0.51 to 0.62.
 - i. Shading Coefficient: 0.60 to 0.72.
- D. Tinted Uncoated Float Glass (Alternate outer pane): Annealed tinted float glass, Type 1, Class 2, Quality q3, nominal thickness 1/4 inch.
1. Acceptable Products: Pilkington/LOF; EverGreen High Performance Tinted, PPG; Atlantica Tinted.
 2. Performance Characteristics:
 - a. Visible Light Transmittance: 65 to 67 percent.
 - b. Visible Light Reflectance: 6 to 7 percent.
 - c. Total Solar Energy Transmittance: 34 to 36 percent.
 - d. Total Solar Energy Reflectance: 5 to 7 percent.
 - e. UV Transmittance: 14 to 16 percent.
 - f. Summer U-Value: 1.11.
 - g. Winter U-Value: 1.09.
 - h. Solar Heat Gain Coefficient: 0.51.
 - i. Shading Coefficient: 0.59 to 0.60.
- E. Low-Emissivity Coated Flat Glass (inner pane): Annealed clear coated float glass, coating on side 3, Type 1, Class 1, Quality q3; with pyrolitic coating, nominal thickness 1/4 inch.
1. Acceptable Products: Guardian Commercial Low-E (LE-75), Pilkington/LOF; Energy Advantage Low-E Glass, PPG; Sungate 500 Low-E Glass, Viracon Solarscreen Low-E VE-185.
 2. Performance Characteristics:
 - a. Visible Light Transmittance: 82 percent.
 - b. Visible Light Reflectance: 10 percent.
 - c. Total Solar Energy Transmittance; 65 percent.
 - d. Total Solar Energy Reflectance: 10 percent.
 - e. UV Transmittance: 49 percent.
 - f. Summer U-Value: 0.63.
 - g. Winter U-Value: 0.73.
 - h. Solar Heat Gain Coefficient: 0.69.
 - i. Shading Coefficient: 0.81.
- F. Hurricane/Impact Resistant Glass: Two panes of equal thickness glass (outer layer to be Evergreen tinted), laminated together with a test compliant interlayer.
1. Acceptable Products: Arch Aluminum Impact Resistant Glass, Glasslam N.G.I., Inc. Safety Plus®, Insulgard Corp. Coastgard™, Interpane Glass Securepane®, Saflex Hurricane Resistant Glass, Viracon HRG-2.
 2. Performance Characteristics:
 - a. Visible Light Transmittance: 65 to 67 percent.
 - b. Visible Light Reflectance: 6 to 7 percent.
 - c. Total Solar Energy Transmittance: 34 to 36 percent.
 - d. Total Solar Energy Reflectance: 5 to 7 percent.
 - e. UV Transmittance: 14 to 16 percent.
 - f. Summer U-Value: 1.11.
 - g. Winter U-Value: 1.09.
 - h. Solar Heat Gain Coefficient: 0.51.

- i. Shading Coefficient: 0.59 to 0.60.
 - G. Laminated Safety Glass: Two panes of equal thickness, laminated together with a 0.030" thick plastic interlayer for total thickness of 1/4" complying with the following:
 - 1. Plastic Interlayer: Glass manufacturer's standard clear polyvinyl butyral interlayer which shall not show tendency to bubble, discolor or lose physical or mechanical properties after laminating.
 - 2. Glass: Clear float glass, both panes (tempered if required by code).
 - H. Mirrors: 1/4" polished plate glass panels, silver coated and hermetically sealed with a uniform coating of electrolytic copper plating.
 - I. Transparent Mirror: 1/4" thick, with pyrolytic coating applied to gray tint glass. Visible transmittance 12%, visible reflectance 60%.
 - J. Wired Glass: 1/4" thick, UL listed, clear polished flat rolled glass complying with ANSI-Z97.1, reinforced with diamond pattern wire mesh.
- 2.04 GLAZING SEALANTS (Interior Applications)
 - A. General: Comply with recommendations of sealant and glass manufacturers for selection of glazing sealants with performance and compatibility characteristics suitable for application and conditions indicated.
 - B. Colors: Match color of frame finish.
- 2.05 GLAZING GASKETS/TAPE
 - A. Glazing Gaskets: ASTM C864, resilient polyvinyl chloride, extruded shape to fit glazing channel retaining slot; black color.
 - B. Glazing Tape: Closed cell polyvinyl chloride foam, maximum water absorption by volume 2 percent, designed for 25 percent compression for air barrier vapor retarder seal, black color, coiled on release paper over adhesive on two sides; widths required for specified installation.
 - C. Glazing Tape: Butyl compound tape with integral resilient tube spacer, 10 to 15 Shore durometer hardness, black color, coiled on release paper, widths required for specific installation.
- 2.06 MISCELLANEOUS GLAZING MATERIALS
 - A. Compatibility: All materials shall be compatible with surfaces contacted in installation.
 - B. Cleaners, Primers and Sealers: As recommended by sealant/gasket manufacturer.
 - C. Setting Blocks: ASTM C 864 neoprene, 80 to 90 Shore A durometer hardness; length 4 inches, width of glazing rabbet space less 1/16 inch, height required for glazing method, pane weight and pane area.
 - D. Spacers: Shims: ASTM C 864: neoprene, 50 to 60 Shore durometer hardness; length 3 inches, one half height of glazing stop, thickness required for application, one face self-adhesive.
 - E. Glazing Splines: ASTM C 864, resilient polyvinyl chloride, extruded shape to fit glazing channel retaining slot; black color.
- 2.07 FABRICATION
 - A. Sealed Insulating Glass Units: Fabricate in accordance with ASTM E 774, Glass CBA.
 - 1. Components:
 - a. Outer Pane: Tinted uncoated float glass, blue color (see Part I regarding geographic areas requiring use of alternate outer pane glass). Provide clear glass at entry sidelights and transom.
 - b. Air Space: 1/2 inch wide, hermetically sealed, dehydrated air space.
 - c. Inner Pane: Low-E glass.
 - d. Provide unit edge seals meeting requirement of ASTM E 773, with aluminum spacers having mitered corners and silicone sealant for glass-to-spacer seals.

PART III - EXECUTION

3.01 PREPARATION / INSTALLATION

- A. Clean glazing/framing members immediately before glazing to remove all detrimental substances.
- B. Adjust glazing channel dimensions as required by conditions for proper bite, edge/face clearances, and seal thickness.
- C. Install properly sized setting blocks in sill rabbet at one quarter of glass width from each corner, but not closer than 6" unless noted. Set blocks in thin course of sealant suitable for heel bead use.
- D. Provide spacers and edge blocks, correctly sized for conditions. Provide 1/8" minimum bite of spacers on glass.
- E. Miter cut wedge-shaped gaskets at corners, prevent pull away at corners, seal corner and butt joints as recommended by gasket manufacturer.
- F. Trim sight exposed tape flush with stop and finish sealant flush with sight line.
- G. Install transparent mirror with mirror coating facing "subject" side.

3.02 PROTECTION AND CLEANING

- A. Protect glass from contaminating substances.
- B. Remove and replace broken, chipped, cracked, abraded or damaged glass.
- C. Remove labels and wash glass on both faces prior to final acceptance as directed by Walgreens.
- D. Remove glazing materials from finish surfaces.

END OF SECTION

SECTION 09250 - GYPSUM DRYWALL

PART I - GENERAL

- A. 1.01 DESCRIPTION: The work of this section includes, but is not limited to gypsum drywall including screw-type metal support system, Gypsum backing boards for application of other finishes, Exterior gypsum drywall materials and Drywall finishing.

1.02 QUALITY ASSURANCE

- A. Fire-resistance ratings: Where fire-resistance ratings are indicated, provide materials/assemblies complying with ASTM E 119-00a and as required by local authorities.
- B. Comply with recommendations of Gypsum Association GA-216.
- C. Comply with ASTM C 1396, "Specification for Gypsum Board".

PART II - PRODUCTS

2.01 METAL SUPPORT MATERIALS

- A. Ceiling support systems: Size components to comply with ASTM C 754.
 - 1. Main runners: Hot or cold-rolled steel channels with rust inhibitive paint.
 - 2. Hanger wire: ASTM A 641, soft, Class 1 galvanized.
- B. Furring members: ASTM C 645; 25 ga. min. thickness, hat-shaped or C-shaped (spans over 4 ft.).

2.02 WALL/PARTITION SUPPORT MATERIALS

- A. Studs: ASTM C 645; 22 gauge, 3-5/8" or 6" as noted. Provide heavier ga. if required by project drawings or by manufacturer's span table for allowable gauge minimums.
- B. Runners: Match studs, use type recommended by stud manufacturer for conditions.
- C. "Z"-Furring members: Screw-type galvanized steel, ASTM A 653, G 60, 24 ga. min. thickness designed for mechanical attachment of insulation boards to masonry and concrete walls.
- D. Fasteners: Type and size recommended by stud/furring manufacturer for conditions.
- E. Deflection Track: ASTM A-653, galvanized steel sheet deep leg track, provide: "SLP-TRK" by Sliptrack Systems, Inc., "Deep Leg Track w/Slip Clip" by Fire Trak Corp., "Deflection Track" by Marino/Ware® or "VertiClip SLD" series by Steel Network, Inc.

2.03 GYPSUM BOARD

- A. Gypsum Wallboard: ASTM C 1396, regular types unless noted otherwise. Provide Type X for fire-resistant rated assemblies. Thickness: 5/8" minimum. Edges: Tapered.
- B. Water-Resistant Backing Board (WR): ASTM C 1396, regular types unless noted otherwise. Provide Type X for fire-resistant rated assemblies. Thickness: 5/8" minimum. Edges: Tapered.
- C. Exterior Gypsum Ceiling and/or Soffit Board: ASTM C 1396, Type X, "Fireshield" or "Firecode Core" for fire-resistant rated assemblies. Provide manufacturers standard edges.
 - 1. Acceptable products; USG "Sheetrock Brand Exterior Gypsum Ceiling Board", National Gypsum "Gold Bond Brand Exterior Soffit Board".
 - 2. Thickness: 5/8" minimum.

2.04 TRIM ACCESSORIES: Provide manufacturers standard galvanized corner-beads, L-type edge trim beads, U-type edge trim beads, and one-piece control joint beads.

2.05 JOINT TREATMENT

- A. ASTM C 475 as recommended by manufacturer for application intended.
- B. Joint Tape: Paper reinforcing tape.
- C. Joint Compound: Vinyl-type powder or ready-mixed for interior use, except as noted otherwise below.
 - 1. Grade: Single multi-purpose grade for entire application.
 - 2. Water-resistant Board Joint Compound: Special water-resistant type. Treat joints, fastener heads and cut edges. Use USG Sheetrock Setting-Type (Durabond 45 or 90), or approved equal.

3. Exterior Gypsum Board Joint Compound; Use USG Sheetrock Setting-Type (Durabond), Durabond LC, Sheetrock Lightweight (Easy-Sand), or approved equal.

2.06 MISCELLANEOUS MATERIALS

- A. Comply with gypsum board manufacturer recommendations.
- B. Gypsum Board Screws: Comply with ASTM C-1002-01.
- C. Sound Attenuating Blankets: FS HH-I-521 Type I; semi-rigid mineral fiber blankets, Class 25 flame spread, full thickness of stud.
- D. Security Mesh: ASTM A-1011, ASTM F-1267, Type I, Class 1,2, and 3, Grade A, 16 gauge carbon steel, expanded to form a 3/4 inch diamond mesh.
- E. Exterior Soffit Vents: Continuous vent. Provide gauge and ventilation area to suit conditions.
 1. Acceptable manufacturers:
 - a. Superior Products, SFT series, galvanized steel ventilation screed. Color: Paint to match adjoining trim.
 - b. Alcoa, "Vent-a-Strip", model 70 or 79, color: white.
 - c. Amico "Vinyl Soffit Screed Ventilator", insert style AMSVI-300 or sheathing style AMSV-300-50.
 - d. Stockton Products "soffit vent/reveal screed.

PART III - EXECUTION

3.01 INSTALLATION OF METAL SUPPORT SYSTEMS

- A. Installation Standard: ASTM C 754.
- B. DO NOT BRIDGE building expansion joints with support system.
- C. Ceiling Support Systems: Secure hangers to structural support by direct connection where possible. DO NOT ANCHOR support systems to metal roof deck.
 1. Level main runners to tolerance of 1/4" in 12'-0" measured in any direction.
 2. Attach metal wall track/angle wherever system meets vertical surfaces. Mechanically join support members, butt-cut to fit wall track.
 3. Install auxiliary trim/framing at termination of drywall work, at light fixtures, etc., for proper support of drywall and other work.

3.02 WALL/PARTITION SUPPORT SYSTEMS

- A. Install supplementary framing, blocking and bracing at terminations in work for support of fixtures, equipment, grab bars, toilet accessories, etc.
 1. At partitions which: adjoin another tenant (demising walls), support soffits or decor wall fixtures, provide 22 ga. 6" studs at 24" o.c., attached to structure. Extend drywall up to metal deck.
 2. Demising Walls: Provide security mesh behind gypsum board fastened to studs on Walgreens side.
- B. Isolate stud system from transfer of structural loading.
Space control joints: 30-ft. o.c. or less at partitions.
50 ft. o.c. or less at ceilings.
If top track of partition is secured to roof deck, provide "deflection track" with 2" flange and install continuous bridging within 1 ft. of track. Do not attach stud to deflection track to accommodate allowable roof deflection.
- C. Install studs and furring vertically. Space studs 24" o.c. unless noted otherwise. Space furring members at 24" o.c. unless noted otherwise.
- D. Provide Type X gypsum board at walls which: adjoin other tenants, separate General Sales from Stock.
- E. Provide water-resistant (WR) gypsum board at all plumbing walls.
- F. Erect thermal insulation vertically and hold in place with Z-furring members spaced 24" o.c.

3.03 GYPSUM BOARD INSTALLATION

- A. Application and Finishing Standards: ASTM C-840 and GA 216.
- B. Locate exposed end butt joints as far from center of walls and ceilings as possible. Avoid butt ends when possible.

- C. Do not install imperfect, damaged or damp boards.
- D. Locate ends/edges over supports. Do not place tapered edges against cut edges. Stagger vertical joints over different studs on opposite sides of partition.
- E. At wet areas, apply un-cut long edge of WR board at bottom of work. Seal all ends, cut edges and penetrations.
- F. Fasten all gypsum board to supports with screws.
- G. Exterior Soffits: Install exterior gypsum board perpendicular to supports, with end joints staggered over supports.

3.04 DRYWALL TRIM ACCESSORIES

- A. Install metal trim as follows:
 - 1. Corner beads at external corners.
 - 2. Edge trim where gypsum board edge would be exposed or semi-exposed.
 - a. L-type where work abuts other work.
 - b. U-type at exposed edges, reveals, gasketed or sealant-filled joints.

3.05 DRYWALL FINISHING

- A. Prepare work as required for decoration (textured finishes prohibited).
- B. Apply joint tape at joints except where trim accessories occur.
- C. Apply joint compounds in 3 coats and sand between last 2 coats and after last coat.
 - 1. Level 4 Finish; shall be applied to all surfaces to receive paint, wall covering, mirrors or wainscoting.
 - 2. Level 3 Finish; shall be applied to Toilet Room and Porter area surfaces to receive water-resistant gypsum board, ceramic tile and fiberglass polyester panels.
 - 3. Level 1 Finish; may only be applied to surfaces located in ceiling plenums not exposed to view, if acceptable to local code authorities. Level 1 finish shall begin not less than 12 inches above finished ceiling.
- D. All joints to be taped, filled and sanded.

END OF SECTION

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SECTION 09300 - CERAMIC TILE

PART 1 - GENERAL

1.01 DESCRIPTION: Extent of unglazed ceramic mosaic tile and glazed tile trim is shown on drawings and schedules.

1.02 QUALITY ASSURANCE

- A. All work shall be installed in compliance with ANSI standards and the latest edition of the Tile Council of America's "Handbook for Ceramic Tile Installation".
- B. Ceramic tile materials shall comply with ANSI A137.1 "Standard Specifications for Ceramic Tile".
- C. Install grout and tile sealer in strict conformance with manufacturer's instructions.

PART II - PRODUCTS

2.01. TILE

- A. Manufacturer: American Olean, contact: Janet Kennedy (847) 238-9780, ext. 308.
- B. Terra Granite series glazed Ceramic Floor Tile:
 - 1. Color: UP83 "Speckled Linen"
 - 2. Type: Vitreous.
 - 3. Size: Nominal 12" x 12" x 5/16" thick.
 - 4. Face: Slip-resistant with cushioned edges.
- C. Base: Glazed finish S-3689T.
 - 1. Color: UP83 "Speckled Linen".
 - 2. Type: Vitreous.
 - 3. Size: 6" x 8"
 - 4. Face: Cove base with rounded top and matching external out-corners.
- D. Bullnose: S-4489, color to match floor tile.

2.02 MORTAR

- A. Dry-Set Portland Cement Mortar: Product shall comply with ANSI A118.1.
- B. Latex-Portland Cement Mortar: Product shall comply with ANSI 118.4.

2.03 GROUT: Commercial Portland Cement Grout: Product shall comply with ANSI A118.6. Provide W.R. Bonsal Co., color: Taupe (or equal in matching color).

2.04 GROUT & TILE SEALER: Furnish and Install one of the following invisible penetrating sealer products: Bostik Findley water-based acrylic "Grout & Tile Sealer™", Custom Building Products water-based "SurfaceGard®", "TileLab® Grout & Tile Sealer" or "TileLab® Grout Sealer".

PART III - EXECUTION

3.01 INSTALLATION

- A. Comply with applicable part of ANSI 108 for tile installation.
- B. Comply with applicable parts of TCA "Handbook for Ceramic Tile Installation".
 - 1. Floor Tile: TCA F 113-95, Dry-Set Mortar or Latex-Portland Cement Mortar.
 - 2. Wall Tile: TCA W 223-95 and W 244-95 Dry-Set Mortar or Latex-Portland Cement Mortar.
- C. Extend tile work into recesses and behind fixtures. Terminate work without disrupting pattern or joint alignment.
- D. Fit tiles closely to penetrations so that collars/covers overlay tile.
- E. Jointing: Lay tile in grid pattern, with 1/4" joint.
- F. Grout tiles in conformance with ANSI A108.10.

3.02 CLEANING AND PROTECTION

- A. Clean all completed ceramic tile surfaces to be free of foreign matter.
- B. Finish installation shall be free of cracked, broken, chipped, unbonded, mis-aligned or other defective tile work.

END OF SECTION

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SECTION 09510 - ACOUSTIC CEILINGS

PART I - GENERAL

1.01 DESCRIPTION: The extent of acoustic panel ceilings with exposed suspension, with integrated recessed fluorescent lighting, is shown on the drawings.

1.02 QUALITY ASSURANCE

A.. Fire Performance Characteristics: Provide components identical to those tested according to ASTM, UL as listed and as acceptable to authorities having jurisdiction.

1. Surface Burning: ASTM E 84
 - a. Flame Spread: 25 or less.
 - b. Smoke Developed: 50 or less.
 2. Fire-Resistance Ratings: Provide systems with ratings as required by authorities having jurisdiction.
- B. Comply with ASTM C 635, ASTM C 636 and Ceilings and Interior Systems Contractors Association (CISCA).

PART II - PRODUCTS

2.01 ACOUSTICAL CEILING UNITS

- A. General: Provide manufacturers standard units complying with FS SS-S-118 including all accessories required for applications encountered.
- B. Walgreens has established a National Account with Armstrong for ceiling tile and grid for all stores. Armstrong contacts are listed below.
 1. For Armstrong systems: Contact the Strategic Account Group 800-442-4212 (select option 1).

2.02 ACOUSTIC PANELS

- A. Provide Type III, Form 2 panels, color: white, size; 24"x 48"x 5/8",edge; square-cut lay-in from one of the following:
Armstrong "Fine Fissured Humiguard" #1729.
- B. Provide Type III, Form 2 panels, color: white, size; 24"x 24"x 5/8",edge; square-cut lay-in from one of the following:
 1. Armstrong "Fine Fissured Humiguard" #1728.

2.03 METAL SUSPENSION SYSTEMS

- A. General: Double-web, direct hung system complying with ASTM C-635.
 1. Structural Classification: Intermediate duty.
 2. Metal: Hot-dipped-galvanized steel 0.015" thick x 1-1/2" high x 15/16" face.
 3. Color: White
- B. Hanger Wire: Provide not less than 12 gauge galvanized carbon steel ASTM A 641, soft temper.
- C. Edge Moldings and trim: Manufacturers standard metal of types and profiles required for all applications encountered. Fabricate to fit all penetrations exactly.
- D. Hold-Down Clips: Provide at 2 ft. o.c. on cross tees for interior panels subject to wind uplift
or weighing less than 1 lb. /sq.ft.
- E. Acceptable Manufacturers: Armstrong "Prelude XL" exposed tee, color; white.
- F. Seismic Areas: When required by authorities having jurisdiction provide "Heavy Duty" systems approved by local authorities: Armstrong "Prelude XL" with stab-in cross tees.
 1. Compression Posts: USG's, Donn Corporation #VSA 12, 24 or 47 as required.
 2. Edge Molding: Manufacturers 2 inch wide unit conforming to local requirements.

PART III - EXECUTION

3.01 INSTALLATION

- A. Install systems in compliance with ASTM C 636, governing regulations and fire-resistance requirements. Support hangers only from structural members. Do not attach or suspend hangers from metal deck. Locate hangers not less than 6" from each end and spaced 4ft. o.c. along main runner. Locate hangers at 4 ft. o.c. each direction if main runners are spaced greater than 4 ft. o.c. Level to within 1/8" in 12ft. Limit deflection to 1/360 of span length in inches.
- B. Install hangers plumb and free from contact with objects that are not part of structural or ceiling system. Wire connections shall be capable of supporting a 100 lb. allowable load.
- C. Provide main runners or continuous cross tees in line with the long dimension of each side of recessed lights. Provide a hanger wire at the midpoint of each cross tee located on the long dimension of a recessed light fixture. 4 ft. cross tees supporting light fixtures is prohibited. Entire suspension system shall be completely connected forming a homogeneous frame. Independent/unattached fields are prohibited.
- D. Pop rivets shall be minimized. Use only when manufacturer does not make an accessory to secure the system in the condition encountered.
- E. Provide trim and moldings as required to conceal edges of acoustic tiles.
- F. Install panels to fit accurately at borders and penetrations.
- G. Suspended ceiling system shall not be used to support ductwork, plumbing, sprinklers, insulation, etc.

3.02 ADDITIONAL SEISMIC REQUIREMENTS

- A. General: Comply with requirements of authority having jurisdiction in the respective seismic zone.
- B. Individual light fixtures or other attachments to the ceiling system, with a combined weight of 56 lbs. or less shall have two 12 gauge wire hangers attached, with slack, at diagonal corners of the fixture to prevent drop out.
 - 1. Any fixture or attachment weighing greater than 56 lbs. must be independently supported from the structure.
- C. The minimum connection strength for main and cross runner intersection/splices shall be 60 lbs. in compression and tension (must allow 5 degree offset in any direction).
 - 1. Ceiling system actual weight, including grid, panel, light fixtures and air terminals to be 2.5 lbs./sq. ft. or less. All other services must be independently supported from structure.
 - 2. For ceiling weighing more than 2.5 lbs./sq. ft. consult local authorities for requirements.
 - 3. Provide vertical compression posts or struts as required by local authorities.
- D. The ceiling system cannot be used to provide lateral support for walls or partitions.
- E. Perimeter closure angles must provide a min. 7/8", support ledge. Terminal ends of grid or tile must rest on ledge with min. 3/8" clearance from wall.
 - 1. For support ledges smaller than 7/8", terminal ends of cross or main runners shall be independently supported within 8" from each wall or ceiling discontinuity. This support must prevent grid from falling. This support should not be out of plumb greater than 1 in 6. Maintain 3/8" end clearance from wall.
 - 2. All penetrations ie; columns, sprinklers, etc. and independently supported fixtures are considered perimeter closures that must allow noted clearances.
- F. At wall closure ledges, cross and main runners must be prevented from spreading apart. Permanent attachment for grid alignment purposes is prohibited.

3.03 ADJUST AND CLEAN: Clean exposed surfaces of panels, moldings and trim. Remove and replace work that cannot be cleaned to permanently eliminate evidence of damage.

3.04 ATTIC STOCK: Provide two bundles (24 tiles minimum) of acoustic ceiling tiles.

END OF SECTION

SECTION 09650 - RESILIENT FLOORING

PART I - GENERAL

1.01 DESCRIPTION: Extent of resilient flooring is shown on drawings and schedules.

1.02 QUALITY ASSURANCE

- A. Provide resilient flooring complying with the following fire performance criteria.
 - 1. Smoke Density: Less than 450 per ASTM E 662.
 - 2. Critical Radiant Flux (CRF): Not less than 0.45 watts/sq. cm. per ASTM E 648 - Class I.
- B. Moisture vapor emission from the substrate shall not exceed 3 lbs. per 1,000 s.f. per 24 hour period for solid vinyl sheet flooring, 5lbs. per 1,000 s.f. per 24 hour period for vinyl composition tile, Testing shall be performed in conformance with ASTM F 1869.
- C. Relative Humidity within the substrate, measured by in-situ probes at not less than 40% of the slab depth, shall not exceed 90% for floors to receive vinyl composition tile and shall not exceed 80% for floors to receive solid vinyl or vinyl sheet flooring. Testing shall be performed in conformance with ASTM F 2170.
- D. Calcium Chloride tests (ASTM F 1869) and relative humidity tests (ASTM F 2170) may be used alone or concurrently, If both tests are conducted concurrently, both must satisfy the specification requirements.
- E. Alkalinity of the substrate shall not exceed 9 on the ph scale. Test the ph of any area where concrete has been ground to ensure that alkalinity does not exceed requirements.
- F. Install resilient flooring in conformance with flooring manufacturer's instructions.
- G. Comply with ASTM F-710 "Standard Practice for Preparing Concrete to Receive Resilient Flooring".

DELIVERY STORAGE & HANDLING:

- A. Protect and store finished flooring products for not less than 72 hours in the ambient conditions in which they will be installed and maintained during permanent use.

PART II - PRODUCTS

2.01 TILE FLOORING

- A. Walgreens has established National Accounts with Armstrong for selected resilient flooring
 - 1. Resilient Flooring Contacts:
 - Armstrong: Request Walgreens National Account pricing from Armstrong Strategic Accounts at 800-442-4212.
- B. Vinyl Composition Tile: ASTM F 1066 (latest Addition), Size: 12" x 12" x 1/8".
 - 1. Color #1:
 - a.) Armstrong Sandard Excelon, Imperial Texture, Color, #51911 "Classic White"
 - b.) Azrock by Tarkett, Standard Grade, Color #V-818 White/Black.

2. Color #2:
 - a.) Armstrong Standard Excelon, Imperial Texture, Color, #57501 "Nougat"
 - b.) Azrock by Tarkett, Standard Grade, Cortina Colors; #V-984 "Elemental".
- C. Solid Vinyl Flooring: ASTM F 1700, Class 3. Type B –Embossed Surface.
 1. Armstrong "Natural Options, Wood Collections" planks, Color:#T1024-691 medium, "Wood Oak." Size 6" x 36" x 1/8".
 2. Azrock by Tarkett Specialty Stripwood Luxury Vinyl Plank Flooring, Color: #SW222 "Bostonian", Size: 4" x 36" x 1/8"
- D. Slip Resistant Flooring: (at ramps and as req'd. by codes) ASTM F 1066 (latest Addition), Size: 12" x 12" x 1/8".
 - a.) Armstrong Safety Zone Excelon, Color: Weathered Alabaster #57002
 - b.) Azrock by Tarkett, Granite SR, Color; SR120-3 "White"
- E. Vinyl Sheet Flooring: Armstrong Type II, Grade A, ASTM F 1303-2, Possibilities Inlaid Sheet, Pattern: Petit Point, gauge .080, color: #88067 "Painted Desert" (used only when required by the local health department in select rooms).
- F. Protective Coat: "Revive Plus SC" Neutral Cleaner and "Vectra" Floor Finish by Johnson Wax Products.

2.02 ACCESSORIES

- A. Wall Base: Provide Armstrong base #V6160018 complying with ASTM F 1861, Style B.
 1. Style: Top set cove.
 2. Height: 6".
 3. Thickness: 1/8".
 4. Color: Black, matte finish.
- B. Resilient Edge Stripes: 1/8" thick, 1" wide, homogenous vinyl, tapered or bullnose edge, color to match flooring.
- C. Adhesives: Water-resistant stabilized type as recommended by flooring manufacturer or as indicated below.
 1. VCT; Armstrong adhesive # S-515, Tarkett adhesive #T-100-4 (clear thin set).
 2. Solid Vinyl Flooring-"Wood Collections" planks, Armstrong adhesive #S-288. Tarkett "Stripwood": Tarkett T-850 Acrylic Pressure Sensitive Adhesive. Note; in areas exposed to direct sunlight or occasional topical moisture and/or temperature extremes use Tarkett T-940 Polyurethane Adhesive (two part) solvent free.
 3. Vinyl Sheet Flooring: Armstrong #S-599 full spread, #S-580 at cove base. Heat weld seams or seal with #S-761 seam adhesive.
 4. High moisture: Use Armstrong adhesive #S-240 in areas that are consistently wet.

- 5. Scribing Felt: Armstrong adhesive #S-235.
- D. Leveling and Patching Compounds: Armstrong #S-183 Fast-Setting Cement-Based Underlayment, Armstrong #S-184 Fast Setting Cement-Based Patch Coat or portland cement based latex types as recommended by flooring manufacturer.
- E. Scribing Felts: Gray cellulosic synthetic fiber felt, Armstrong #S-153.

PART III – EXECUTION

3.01 GENERAL: Inspect to ensure satisfactory substrate surfaces. Satisfactory means smooth and free from cracks, holes, ridges, and coatings preventing adhesive bond, detrimental moisture vapor emissions and other defects impairing performance or appearance.

3.02 INSTALLATION

- A. Scribe, cut and fit resilient flooring to permanent fixtures, built-in furniture, pipes, outlets, columns and walls.
- B. Tightly cement flooring to subbase without open cracks, voids, raising or puckering at joints or telegraphing.
- C. Avoid use of cut widths less than 1/2 tile at perimeters. Lay tile square to room axis.
- D. Lay tile in checkerboard pattern with grain reversed in adjacent tiles.
- E. Provide flash cove base (turned up vinyl sheet) if required by local Health Dept. at select areas of the store.
- F. Solid Vinyl Flooring-“Wood Collections” planks, Stagger end joints a minimum of 6” apart. Do not install over expansion joints. Roll with 100-lb roller; install tile in same direction.
- G. VCT Protective Coat: General Contractor shall use floor cleaning company approved recommended by Johnson Diversey. Contact Johnson Diversey at 800-558-2332 and ask for the Walgreen’s New Store Coordinator to obtain an approved Building Service Coordinator. The cleaning contractor is responsible for providing equipment, cleaning chemicals, and labor to complete requested service. He will also agree to carry Workmen’s Compensation, public liability and property damage insurance in form and amount acceptable to The Walgreen Company.
Following tile installation (preferably within 24 to 48 hours) the floor should be swept, damp mopped with **Revive Plus SC** and allowed to thoroughly dry. Apply 4 medium coats of **Vectra** Floor Finish allowing sufficient dry time between coats (approximately 30-45 minutes between coats). Do not apply stripper or autoscrub the tile “mill” finish. Johnson Diversey’s New Store Coordinator will secure cleaning bid from approved floor cleaning company and Federal Express bid to General Contractor to sign contract.

3.03 ACCESSORY INSTALLATION

- A. Scribing Felts: When installing thinner gauge material next to thicker materials, install thicker material first.
 - 1. Butt 12-inch wide piece of Scribing Felt against thicker material and adhere with specified adhesive.

2. Use leveling or patching compound to feather edge of scribing felt to level of substrate.
 3. Allow patch to dry completely before installing flooring.
- B. Apply base in longest possible lengths. Miter or cope inside corners, make non-penetrating "v-cut" on backside to form outside corners.
 - C. Place edge strips tightly butted to flooring at locations where tile edges would otherwise be exposed.
 - D. Install 6-inch vinyl base around all checkout stands in General Sales floor, Cosmetics and 1-HR Photo.

CLEANING AND PROTECTION

- A. Remove excess adhesive and other surface blemishes.
 - B. Protect flooring from construction damage as recommended by flooring manufacturer.
- 3.05 ATTIC STOCK: Provide one box (45-tile minimum) of each type of tile flooring.

END OF SECTION

SECTION 09680 - CARPETING

PART 1 – GENERAL

1.01 DESCRIPTION

- A. The extent of carpet installation is shown on schedules.
- B. Carpeting will be furnished and installed by Walgreens. This section describes the quality of related work to be provided by the General Contractor.

1.02 QUALITY ASSURANCE

- A. Flame/Smoke Resistance Standards: Walgreens supplied materials comply with the following:
 - 1. Pill Test: For flammability, complies with ASTM D 2859 or DOC FF-1-70.
 - 2. Floor Radiant Test Panel: Critical Radiant Flux (CRF) not less than 0.45 watts/sq. cm. per ASTM E 648, Class I.
 - 3. Smoke Density Test: Complies with ASTM E 662, less than 450.

PART II – PRODUCTS

2.01 CARPET (provided by Walgreens)

- A. Manufacturer: Interface Carpet Tile with Super Cushion back.
 - 1. Pattern: Urban Grid.
 - 2. Color: Taupe #5423.
 - 3. Size: 18" x 18".

2.02 ADHESIVE:

"Re: Source Grid-Set Green Glue 2000", pressure sensitive adhesive on all areas except stairs.

PART III – EXECUTION

3.01 INSTALLATION (by Walgreens)

PRE-INSTALLATION REQUIREMENTS (by General Contractor)

- A. Clear away debris and scrape up cementitious deposits from surfaces to receive carpet.
- B. Protect installed carpet from damage and soilage during remaining construction.
- C. Ensure that carpet will be without deterioration or damage at time of acceptance by Walgreens.

END OF SECTION

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SECTION 09910 - PAINTING and VINYL WALL COVERING

PART I – GENERAL

1.01 DESCRIPTION

- A. Extent of painting and vinyl wall covering is shown on drawings and schedules.
- B. Work includes painting and finishing of interior and exterior surfaces as indicated.
- C. Painting of mechanical/electrical work is specified in divisions 15 and 16.
- D. Do not paint over code required labels or equipment name, rating, performance plates.

1.02 QUALITY ASSURANCE

- A. Fire Hazard classification: Provide Vinyl Wall Covering materials with the following classifications per ASTM E-84, Class A
 - 1. Flame spread not more than 10.
 - 2. Smoke Developed not more than 25.
- B. Install all work in accordance with manufacturer's instructions.

1.03 WARRANTY

- A. Paint: Provide a seven year non-prorated material and labor warranty related to defects in material.
- B. Wall covering: Provide a one (1) year warranty against manufacturer's defects only.

PART II – PRODUCTS

2.01 PAINT

- A. Provide paint obtained through Walgreens National Accounts as produced by Benjamin Moore or Pittsburgh Paints (see Part III for schedule). National Account contacts are:
 - 1. Benjamin Moore: John Lanzillotti or Connie Green 201-802-6225.
Direct order line: 877-626-5676
 - 2. Pittsburgh Paints: Marie Carr 866-298-7245 (phone), 888-434-3127 (fax) or www.ppgeaccount.com (call toll free number above to register).

2.02 VINYL WALL COVERING

- A. Vinyl Wall Covering (Selection B): Type II, medium duty, Class A, complying with FS CCC-W-408. Obtain Vinyl Wall coverings through Walgreens National Account. Contact MDC Wall Coverings, Customer Service, 800-621-4006, Jan Prewitt, ext. 8338, Felicia Colucci, ext. 8389. Reference the following information when ordering:
 - MDC Wallcoverings Quote 40392915.
 - MDC Beta #6928.
 - 20 oz. Vinyl with Osnaburg backing.
 - 54-inch wide 30 yard bolts.
 - 1. Florida and Puerto Rico stores shall have receive perforated vinyl wall coverings. Reference MDC wall covering Beta #6928P
- B. Adhesive (heavy duty, clay based, mildew resistant): Roman Adhesives "Extra Strength Vinyl Adhesive Pro-732", Gibson-Homans "Dynamite Professional Wallcovering Adhesive #7233".
 - 1. Perforated wall coverings primer shall be Roman Decorating product # 550

- C. Primers (clear): Gibson-Homans "Dynamite #7221 acrylic primer, Roman Adhesives "Vinyl Prep", William Zinsser Co "SHIELDZ®Clear."
 - 1. Perforated wall coverings primer shall be Roman Decorating product # 990

2.03 MISCELLANEOUS PRODUCTS

- A. Anti-Graffiti Coating (if required): Provide "Graffiti Solution System®" manufactured by American Polymer Corp 800-676-5963. System components include GSS Barrier, GSS-10 Anti-Graffiti Protectant and GSS Erasol®.

PART III – EXECUTION

3.01 PREPARATION

- A. Do not paint over dirt, rust, scale, grease, moisture or other conditions detrimental to formation of a durable paint film.
- B. Remove hardware, accessories, plates, light fixtures and other items not to be painted or wall covered. Reinstall removed items upon completion of painting and wall covering.
- C. Prime and seal surfaces to receive wall covering in accordance with manufacturer recommendations.

3.02 PAINT APPLICATION

- A. Apply additional coats when undercoats, stains etc, show through until color and appearance is uniform.
- B. Paint surfaces behind movable equipment.
- C. Paint interior surfaces of ducts where visible, with flat, non-specular black paint.
- D. Paint grilles and registers at ceilings and walls to match adjacent surfaces.
- E. Paint exterior doors on tops, bottoms, sides same as exterior faces.
- F. Completely cover surfaces to provide an opaque, smooth, uniform finish and color, free of spotting, holidays, laps, brush marks, runs, sags or other imperfections.
- G. Completed Work: Refinish or repaint work not in compliance with specified requirements.
- H. Paint all ferrous metal.
 - 1. Paint exposed exterior natural gas piping.
 - 2. Paint bollards to match highway yellow color.

3.03 VINYL WALL COVERING INSTALLATION

- A. Install seams plumb, and 6" minimum from corners. Horizontal seams are prohibited. Remove air bubbles, wrinkles, blisters and other defects.
- B. Trim selvages to assure color uniformity and pattern match.
- C. Remove excess adhesive from seams.

3.04 CLEANING AND PROTECTION

- A. Upon completion, clean paint spatters from window glass, equipment and other paint spattered surfaces.
- B. Protect work of others against damage from painting and wall covering work. Repair, repaint or replace damaged surfaces as acceptable to Walgreens.

3.05 PAINTING SCHEDULE

- A. Sales Areas (gypsum wallboard) including Glass Tower:
 - Prime Coat: Moorcraft Super Spec Latex Enamel Under Coater & Primer Sealer (#253).
Pittsburgh Paints Speedhide Latex Primer Sealer (#6-2).
 - Finish: 2 coats, Moorcraft Super Spec Vinyl Latex Flat (#275). Color: Soffit face and soffit undersides; "White Dove" Premixed color.
Ceilings and Glass Tower interior "Decorators White" Premixed color.
2 coats Pittsburgh Paints Speedhide Interior Flat Latex (6-70 Series).
Soffit face and soffit undersides tinted to B-M's "White Dove".
Ceilings and Glass Tower interior tinted to B-M's "Decorator White".
- B. Stockroom, Passages, Rubbish Room and other rooms not otherwise noted (gypsum wallboard):

- Prime Coat: Moorcraft Super Spec Latex Enamel Under Coater & Primer Sealer (#253).
Pittsburgh Paints Speedhide Interior Latex Primer Sealer (#6-2).
- Finish: 1 coat, Moorcraft Super Spec Latex Semi-Gloss Enamel (#276), color: "Bone White" Premixed Color.
1 coat Pittsburgh Paints Speedhide Interior Semi-Gloss Latex Enamel (6-500 Series), tinted to B-M's "Bone White".
- C. Pharmacy Area (gypsum wallboard):
Prime Coat: Moorcraft Super Spec Latex Enamel Under Coater & Primer Sealer (#253).
Pittsburgh Paints Speedhide Interior Latex Primer Sealer (#6-2).
Finish: 2 coats, Moorcraft Super Spec Latex Pearl (277), color: # HC-173 "Edgecomb Gray".
2 coats Pittsburgh Paints Speedhide Interior Semi-Gloss Latex Enamel tinted to B-M's HC-173 "Edgecomb Gray".
- D. Interior Wood Doors, Hinges, Door Frames:
Prime Coat: Moorcraft Super Spec Alkyd Enamel Undercoater & Primer Sealer (#245).
Pittsburgh Paints Speedhide Interior Quick Drying Enamel Undercoater (6-6).
Finish Coat: 2 coats Regal Satin Impervo Enamel (#235) color # 2112-30 "Stone Brown".
2 coats Pittsburgh Paints Interior Industrial Enamel Lo-Lustre Alkyd 7-827, tinted to B-M's 2112-30 "Stone Brown".
In areas where VOC regulations prohibit use of the above, use the following system:
Prime Coat: Moorcraft Latex Enamel Undercoater & Primer Sealer (#253).
Pittsburgh Paints Speedhide Interior Acrylic Enamel Undercoater (6-855).
Finish: 2 coats, Waterborne Satin Impervo Enamel (#314), color # 2112-30 "Stone Brown".
2 coats Pittsburgh Paints Speedhide Interior Semi-Gloss Latex Enamel (6-500 Series) tinted to B-M's 2112-30 "Stone Brown".
- E. Exterior Metal Doors, Hinges and Frames:
Prime Coat: IronClad Latex Low Lustre Metal & Wood Enamel (#363).
Pittsburgh Paints Industrial Rust Inhibitive Primer (7-858 Series).
Finish Coat: 2 coats, Moorcraft Latex House & Trim Paint (#170), color # HC-77 "Alexandria Beige".
2 coats Pittsburgh Paints Speedhide Exterior Semi-Gloss Latex (6-900 Series) tinted to B-M's HC-77 "Alexandria Beige".
- F. Fire Retardant Wood (where required by code):
Prime Coat: Moorcraft Latex Enamel Undercoater & Primer Sealer (#253).
Pittsburgh Paints Speedhide Interior Acrylic Enamel Undercoater (6-855).
Finish: 2 coats, 220 Latex Fire Retardant Coating (M59), flat finish.
2 coats Pittsburgh Paints Speedhide Interior Fire Retardant Flat Latex (42-7).
- G. Concrete Block, Concrete, Masonry (Interior):
Prime Coat: Moorcraft Latex Enamel Undercoater & Primer Sealer (#253).
Pittsburgh Paints Speedhide Acrylic Alkali Resistant Primer (6-603, masonry), (6-7 concrete block).
Finish: 2 Coats, Moorcraft Vinyl Latex Flat (#275), color "Bone White" Premixed Color.
2 coats Pittsburgh Paints Speedhide Interior Flat Latex (6-70 Series) tinted to B-M's "Bone White".
- H. Ferrous Metal:
Interior:
Prime Coat: Iron Clad Latex Low Lustre Metal & Wood Enamel (#363).

Pittsburgh Paints Industrial Rust Inhibitive Primer
(7-858 Series).
Finish: 2 Coats Moorcraft Latex Semi-Gloss Enamel
(#276), Color: Columns "White Dove" Premixed Color.
2 coats Pittsburgh Paints Speedhide Interior Semi-Gloss Latex (6-500
Exterior:
Prime Coat: Self-priming on properly prepared surfaces.
Finish: 2 coats D.T.M. Acrylic Semi-Gloss (M29).
2 coats Pittsburgh Paints Pitt-Tech One Pack Satin
Industrial Enamel (90-474 Series).
Series), tinted to B-M's "White Dove".

I. Aluminum (awning underside):Exterior:
Prime Coat: Benjamin Moore IronClad Latex Low Lustre Metal & Wood Enamel
(#363).
Pittsburg Paints Pitt-Tech One Pack High
Performance Acrylic enamel (90-712).
Finish: 2 coats Moorcraft Latex House & Trim Paint (170) Color: B-M's HC-81
Color see project documents
2 coats Pittsburgh Paints Pitt-Tech One Pack High
Performance Acrylic DTM Enamel (90-400 Series).

J. Exterior Architectural PVC, Plastic
Prime Coat: S-W Prep Rite Bonding Primer B51W50 Series
(4 mils wet, 1.7mils dry)
Finish Coat (Satin)
2nd Coat: S-W A-100® Exterior Latex Satin, A82 Series
3rd Coat: S-W A-100® Exterior Latex Satin, A82 Series
(4 mils wet, 1.4 mils dry per coat)
Color: See project documents.

END OF SECTION

SECTION 09985 - SPECIAL WALL SURFACES

PART I - GENERAL

1.01 DESCRIPTION: The extent of Fiberglass Reinforced Panels (FRP), Corner Guards, and Column Covers is shown on schedules and drawings.

1.02 QUALITY ASSURANCE: Fire Performance: Products comply with the following when tested according to ASTM E-84:

1. Flame Spread: Marlite Class C "Naturetones Collection", less than 200.
Marlite Class A "FRP", less than 25.
2. Smoke Developed: Marlite Class C "Naturetones Collection", less than 50.
Marlite Class A "FRP", less than 450.

PART II - PRODUCTS

2.01 FIBERGLASS REINFORCED PANELS:

- A. Marlite Brand, "FRP #P-145", Class A, color; silver, pebble finish surface (toilet rooms).
For Walgreens preferred pricing, contact 330-343-6621 (Phone), 330-343-4668 (Fax).
 1. Alternate Manufacturer: Kemlite, Class A, Fire-X Glasboard", color; "BES-366 Silver".
- B. Marlite Brand, Class C, Plank Product Line, Naturetones Collection, Earth Hues Series, color; Coral Sand #PLK 781-G88 (employee room).
- C. Accessories: Provide Marlite Brand, pre-finished inside corners, outside corners, edging, division strips and plank clips as required for project conditions. Color to match panels. Provide aluminum components for Plank series and PVC for P-145 series panels.
- D. Adhesive: Marlite Brand C-375 or C-551 Adhesive.
- E. Sealant: Marlite Brand MS-250 clear silicone.

2.02 COLUMN COVERS

- A. Provide 22 or 24 gauge stainless steel, type 304 or 430, #4 finish.
- B. Acceptable Manufacturers: Retail Specialty Incorporated 14026 Simone Dr., Shelby Twp., MI 48315, 586-566-7716, Tubular Specialties, Inc., 13011 South Spring St., Los Angeles, CA 90061, 800-225-5876 or Wilkinson Company, Inc., 1530 Commerce Drive, Stow, Ohio 44224-1781, 800-686-6726.

2.03 CORNER GUARDS

- A. Provide 16 or 18 gauge stainless steel, type 304 or 430, #4 finish.
- B. Acceptable Manufacturers: Retail Specialty Incorporated 14026 Simone Dr., Shelby Twp., MI 48315, 586-566-7716, Tubular Specialties, Inc., 13011 South Spring St., Los Angeles, CA 90061, 800-225-5876 or Wilkinson Company, Inc., 1530 Commerce Drive, Stow, Ohio 44224-1781, 800-686-6726.

PART III - EXECUTION

3.01 PANEL SYSTEMS

- A. Apply panels to gypsum board substrate, above base, vertically oriented with seams plumb and pattern aligned with adjoining panels.
- B. Apply panel moldings to all panel edges.
- C. Install panels allowing for expansion/contraction as required by panel manufacturer.
- D. Apply sealant to all moldings, channels and joints between the system and different materials to assure watertight installation.

3.02 COLUMN COVERS

- A. Install in one piece on round columns (two pieces acceptable at square columns), from floor to 4' - 0" A.F.F. with no sharp or jagged edges.
- B. Column covers shall be secure and tightly fit column profile. Install with concealed attachment. Install neatly tooled sealant at top and bottom edges of column covers.
- C. Seam shall be formed with tightly fitting continuous "drive cleat locks", "S-Pockets", or "riveted lap seams" (with concealed hemmed overlap). Seam shall face toward nearest merchandise gondola.

END OF SECTION

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SECTION 10190 - TOILET PARTITIONS AND ACCESSORIES

PART I – GENERAL

1.01 DESCRIPTION

- A. The extent of toilet partitions and accessories is shown on drawings.
- B. Provide floor mounted, headrail braced toilet partitions and wall hung screens.
- C. Types of toilet accessories include:
 - Paper towel dispensers.
 - Waste receptacles.
 - Feminine napkin disposal.
 - Toilet tissue dispenser (furnished and installed by Walgreens).
 - Grab bars.
 - Mirrors.
 - Diaper Changing Station.

1.02 QUALITY ASSURANCE

- A. Coordination: Furnish inserts and blocking to support toilet partitions and accessories.
- B. All toilet accessories shall be from the same manufacturer except Walgreens furnished.
- C. Hardware and door openings shall be fabricated to comply with requirements of the Americans with Disabilities Act, and ANSI A117-1. (Latest Edition)

PART II – PRODUCTS

2.01 TOILET PARTITIONS AND SCREENS

- A. Toilet Partition: Headrail braced, baked enamel finish.
- B. Acceptable Manufacturers:
 - Accurate Partitions Corp., Floor Anchored/Overhead Braced series, powder coated steel color #917 Adobe.
 - American Sanitary Partition Corp., headrail braced “Full Flush Type”, baked enamel color: #34 San Tan.
 - AMPCO Products, Inc., overhead braced toilet compartment, baked enamel color #958-58 Beige
 - Flush-Metal Partition Corp., headrail braced “Flushite” series, color #35 Beige.
 - General Partitions Mfg. Corp., headrail braced “Series 40”, color #SN-336 Sand.
 - Global Steel products Corp., “” Floor Anchored/Overhead Braced series, color #2115 Khaki.
 - Hadrian Manufacturing, Inc., headrail braced, floor mounted system, color #585 Sahara. .
 - Knickerbocker Partition Corp., headrail braced “Metropolitan” series, color; Sand, #5123.
- C. Urinal Screens: By same manufacturer and in same color as toilet partitions. Size; 18” x 42”.
- D. Hardware: Manufacturers standard heavy duty, chrome plated; self-closing hinges, lever handle latch with emergency access, door pull, doorkeeper with bumpers, coat hook with bumper and stainless steel pilaster shoes.
- E. Headrail: Manufacturers standard anti-grip style.

2.02 TOILET PARTITION/SCREEN MATERIALS

- A. Sheets for baked enamel finish; ASTM A 591, Class C, galvanized-bonderized.
 - Pilasters: 20 gauge.
 - Panels and screens: 20 gauge.
 - Doors: 22 gauge.

- B. Partition Core Materials: 1" finished thickness with sound-deadening honeycomb core. Pilasters shall be 1-1/4" thick.
- C. Pressure laminate seamless face sheets to core material and steel edges with continuous interlocking strip. Weld edges and corners and grind smooth.

2.03 TOILET ACCESSORIES

- A. Manufacturer: Bobrick unless noted otherwise.
 - Recessed roll paper towel dispenser and waste receptacle: Bradley#2277.
 - Feminine napkin disposal: #B-270.
 - Toilet tissue dispenser: North American Paper #WA56T, double jumbo (by Walgreens).
 - Grab Bars: (1) B-6806 x 36 and (1) B-6806 x 42.
 - Mirror: B-165-1836.
 - Employee Room surface mounted roll paper towel dispenser: B-2860.
- B. Acceptable Alternate Manufacturers: Bradley Corporation.

2.04 TOILET ACCESSORY MATERIALS

- A. Stainless Steel: AISI Type 302/304, with polished no. 4 finish, 22-gauge minimum.
- B. Mirror Glass: FS DD-G-451, Type I, Class 1, Quality q2, 1/4" thick with silver coating, copper protective coating and non-metallic paint coating.

2.05 DIAPER CHANGING STATION:

- A. Provide Koala Kare ProductsCorp. (or equal) wall mounted horizontal design, molded FDA approved HDPE, 300 lb. capacity, molded Braille instructions;
 - 1. Hinges: reinforced, full length steel on steel.
 - 2. Mounting Supports: multiple 11 Ga. steel.
 - 3. Operation: pneumatic gas spring mechanism.
 - 4. Color: Beige
 - 5. Provide and locate identifying signage as required by local ordinances.
 - 6. Provide "Microban Technology" anti-microbial product protection.

PART III – EXECUTION

3.01 INSTALLATION: Install toilet partitions and accessories plumb, level and securely anchored. Mount accessories using concealed vandal proof fasteners, at heights as shown on drawings.

3.02 ADJUST AND CLEAN

- A. Adjust hardware and accessories for proper operation.
- B. Toilet partition doors to swing open approx. 30 degrees when unlatched.
- C. Clean toilet partition surfaces and accessories. Replace all defective or damaged items.

END OF SECTION

SECTION 10522 - FIRE PROTECTION SPECIALTIES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Wall mounted fire extinguishers and accessories.
- B. Recessed Key Lock Boxes (provide only when required by local codes/officials).

1.02 QUALITY ASSURANCE

- A. Comply with applicable requirements of NFPA 10 and ADA Accessibility Guidelines.
- B. Provide UL listed and FM approved fire extinguishers, which bear the UL listing mark for the type, rating and class of fire extinguisher indicated.
- C. Obtain products from one manufacturer.

PART II - PRODUCTS

2.01 FIRE EXTINGUISHERS

- A. Multi-Purpose Dry Chemical Type: UL rated 4A: 60B:C. or as required by local authority.
- B. Finish: Manufactures standard factory applied RED.
- C. Provide not less than six (6) fire extinguishers (more if required by local authorities).
- D. Manufacturers: JL Industries Inc. Larsen's Manufacturing Co. Potter-Roemer.

2.02 ACCESSORIES

- A. Mounting brackets: Manufacturer's standard for the fire extinguisher furnished.
- B. Signs: provide signs identifying the locations of fire extinguishers as required by local authorities.

2.03 KEY LOCK BOX (provide only when required by local codes/officials): Recessed unit with dark bronze finish; Knox Box #3200-R, or approved equal.

PART III - EXECUTION

3.01 INSPECTION: Verify servicing, charging and tagging of all fire extinguishers.

3.02 INSTALLATION

- A. Install fire extinguishers and identifying signs in compliance with local authorities and ADA guidelines.
- B. Provide blocking and anchoring devices capable of supporting specified fire extinguishers.
- C. Install Recessed Key Lock Box, if required as directed by local fire officials.

END OF SECTION

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SECTION 12484 – FLOOR MATS AND FRAMES

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The extent of surface mounted floor mat installation is shown on Walgreens Fixture Plan.
- B. Floor mats will be furnished and installed by Walgreens. This section describes the quality of related work to be provided by the General Contractor.
- C. The General Contractor shall be responsible for installing the floor drain under the entrance grid in stores designated to receive an entry vestibule.

1.02 QUALITY ASSURANCE

- A. Flame/Smoke Resistance Standards: Walgreens supplied materials comply with the following:
 - 1. Pill Test (entrance grid): For flammability, complies with ASTM D 2859, <1inch.
- B. Surfaces designated to receive floor mats shall be constructed in accordance with the manufacturer's instructions.

PART II - PRODUCTS

2.01 FLOOR MAT (provided by Walgreens)

- A. Manufacturer: Space-Links®, Inc.
- B. Entrance Grid: Surface mounted, with aluminum frame
 - 1. Style: Design Links Entryway Flooring System™.
 - 2. Type: Entrance grid.
 - 3. Size: As shown on drawings.
 - 4. Thickness: 15/32 inch.
 - 5. Color: Gray.
- C. Carpet Tile Manufacturer: Heckmondwike Carpet Company.
 - 1. Style: Dreadnought.
 - 2. Color: Anthracite.
 - 3. Adhesive: TacFast backing.
 - 4. Edging: Black rubber.

PART III - EXECUTION

3.01 INSTALLATION (by Walgreens)

3.02 PRE-INSTALLATION REQUIREMENTS (by General Contractor)

- A. Surface mounted floor mats shall be installed on top of resilient flooring.
- B. At recessed installations, install floor drain and prepare recess in accordance with Drawings. Slope recess to drain located at center of recessed area.
- C. Clear away debris and scrape up cementitious deposits from surfaces to receive floor mats.
- D. Protect installed floor mats from damage during remaining construction.
- E. Ensure that floor mat will be undamaged at time of acceptance by Walgreens.

END OF SECTION

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SECTION 15050 - BASIC MECHANICAL MATERIALS AND METHODS

PART I - GENERAL

1.01 MECHANICAL GENERAL REQUIREMENTS

This section applies to all mechanical work. The contractors involved shall check all sections of the specifications in addition to the particular section covering their specific trade. Each distinct section of the specifications aimed for one trade may have detailed information with regard to other trades. Therefore, it is imperative that all sections be reviewed to get a complete picture of all other trades' functions and work required.

The Walgreen Co. drawings, which constitute an integral part of this contract, shall serve as the working plans. They indicate the general layout of the complete mechanical systems.

1. "Field verification of scaled dimensions on plans is advised since actual locations, distances, and levels will be governed by actual field conditions." All measurements shall be verified at the site.
2. The mechanical and electrical contractors shall check architectural, structural, plumbing, heating, ventilation, air conditioning, and electrical plans to avoid possible installation conflicts. Should drastic changes from original plans be necessary to resolve such conflict, the contractor shall notify the architect and Walgreen Co. - Facilities Planning and Design Department, and secure written approval and agreement on necessary adjustment before the installation is started.
3. Discrepancies shown between plans, or, between plans and actual field conditions, or between plans and specifications, shall be brought promptly to the attention of Walgreen Co. for a decision.
4. Drawings and specifications are intended to cover the completed installation of systems to function as described. The omission of the expressed reference to any item of labor and material necessary to comply with practice codes, ordinances, etc. shall not relieve the contractor from providing such additional labor and material.
5. The contract drawings serve as working drawings for the general layout of the various services. However, layout of equipment accessories, specialties, piping systems, and conduit runs are diagrammatic unless specifically dimensioned and do not necessarily indicate every required valve, fitting, transition, turning vane, junction box, pull box, conduit size, etc. It is the contractor's responsibility to provide all systems complete and operable. The contractor to make field verification of all services, systems, etc. as part of the total work required. The cost to be included in this base bid.

Accessibility: Do not locate traps, controls, unions; pull boxes, etc. in any system at a location that will be inaccessible after construction has been completed. Maintain accessibility for all components in mechanical, electrical, and plumbing systems.

Cutting and Patching: All required cutting required shall be done by the contractor whose work is involved, without extra cost to Walgreen Co. All patching and restoration, including the furnishing and installation of access panels in ceiling, walls, etc. within the building lines, shall be done by the respective, responsible contractor. No cutting of structural steel, concrete, or wood shall be done without prior approval and explicit directions from the architect and Walgreen Co. All duct openings in walls, floors, ceiling, and roof shall be cut and patched by the respective, responsible contractor.

Relocation of Existing Ducts, Conduits, Pipes, and Utilities: The contractor, under whose jurisdiction the work may fall, shall provide labor, material, and tools required to cut, repair,

protect, cap, or relocate existing pipes, conduits, or utilities interfering with or uncovered during work, per regulations of the authorities having jurisdiction.

Excavation and Backfill: Excavation and removal of material, shoring, dewatering, and backfilling required for the proper laying of all pipes and conduits inside the building and premises, and outside as may be necessary, shall be done by the contractor whose work is involved, without incurring extra cost to Walgreen Co.

Vibration Eliminators: Rotating or reciprocating equipment, ducts, piping, etc. shall be isolated from the structure by means of approved vibration absorbing units as provided or recommended by the equipment manufacturer or architect.

Sleeves: Each contractor shall furnish required sleeves. Sleeves shall be extended 2 inches above the floor, wall, etc. unless noted otherwise, and shall be Schedule 40 galvanized steel pipe and of the required size and location. The contractor responsible for running pipes in the sleeve shall caulk the space between the pipe and sleeve with oakum and seal with mastic cement or other approved material.

Electric Motors: See Section 16050, Basic Electrical Materials and Methods.

Damage to Other Work: Each contractor shall be held rigidly responsible for all damages to their own or any other trades' work resulting from the execution of the involved contractor's work.

Concrete Foundation: Concrete foundation for all mechanical equipment shall be provided by the general contractor, but the respective mechanical contractor shall furnish foundation bolts and all essential information and shall check the work prior to the pouring of concrete to insure acceptable results. The foundation shall be as indicated or as recommended by the equipment manufacturer.

Large Equipment: All large equipment which is and that may be too large to enter through stairways, doorways, or shaft, to be installed in the building shall be brought on the job and placed in the proper space before the enclosing structure is completed, unless arrangements are made with other contractors to permit access at a later date, without additional cost to Walgreen Co.

Rough-in for Connection to Equipment: It shall be the responsibility of each contractor to study the architectural, structural, electrical, and mechanical drawings, confer with the various trades involved, and check with the supplier of equipment in order to properly rough-in for all equipment.

Material and Equipment: All material and equipment shall be new and of the best quality used for the purpose in good commercial practice, and shall be the standard product of reputable manufacturers. The material and equipment must meet approval of state and local codes in the area it is being used.

Construction Superintendent: The term "construction superintendent" shall herein be referred to synonymously as a Walgreen Co.'s construction superintendent.

Performance of Work: All work outlined in the various mechanical and electrical sections shall be done by the contractor under whose jurisdiction the work may fall. See drawings and specifications.

Roof decks shall not be used to support piping, conduit, equipment, devices, etc. Bar joist panel points and beams shall be used to support loads unless otherwise directed by the structural engineer.

Electrical Wiring: See Electrical Specifications, Division 16.

Testing: All testing results shall be documented in the form of written reports.

1.02 SUPPLEMENTARY CONDITIONS

Refer to other requirements of mechanical and electrical work in Division 1 without exception.

Permits, Inspections, and Tests: All work is to be executed in compliance with, and each contractor is to observe and abide by, all applicable laws, regulations, ordinances, and rules of the national, state, county, and local governing agencies, or any other duly constituted public authority. Each contractor shall, at all times, maintain proper facilities and provide safe access for inspection to all parts of the work and to the shops wherein the work is in preparation. No work shall be enclosed or covered until approved by the architect, and should any work be enclosed or covered before all necessary inspections are completed, same will be opened for examination at the contractor's expense. All fees, licenses, tests costs, etc. are the contractor's responsibility.

Rules, Regulations, and Codes:

1. All material and equipment shall conform to the standards, where available, of the National Electrical Manufacturers Association (N.E.M.A.), National Fire Protection Association (N.F.P.A.), National Electrical Code (N.E.C.), Underwriters Laboratories (U.L.), American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE), Sheet Metal and Air Conditioning Contractor's National Association (SMACNA), and American Water Works Association (AWWA).

2. All work shall conform to all applicable federal, state, and local codes and utility companies' regulations.

Workmanship and Installation: Walgreen Co. shall decide whether or not the finished work is satisfactory in their judgment. If any material and/or equipment has not been properly installed or finished, this contractor is obligated to replace the material and/or equipment wherever required and to reinstall the material and equipment in a manner entirely satisfactory at this contractor's expense (without additional cost to Walgreen Co.).

Guarantee: Each contractor shall guarantee each complete system for a period of one (1) year from the date of acceptance of the work by Walgreen Co. to be free of defects of material and workmanship and that any faulty material or workmanship shall be repaired or replaced without additional cost to Walgreen Co.

Cooperation: There shall be complete cooperation with all trades in the matter of planning and execution of the work. Every reasonable effort shall be made to prevent conflict as to space requirements, dimensions, locations, leaving of opening, or other matters that would obstruct or delay the work.

1.03 SUBSTITUTIONS

The name of an article or its make, as given in the specifications and/or drawings, is used to establish a standard for the guidance of the contractor. He may propose substitution of other material or equipment (unless specifically stated, no substitutions accepted).

Should the contractor propose to furnish materials and equipment other than those specified, as permitted by the "acceptable alternate" clause, he shall submit a written request for any or all substitutions to Walgreen Co. Such a request shall be accompanied with complete descriptive and technical data for all items (manufacturer, brand name, catalog number, descriptive literature,

and capacity tables), stating in each case what addition to or deduction from the main bid is to be made if such alternates are accepted.

Acceptance or rejection of the proposed substitutions shall be subject to approval of Walgreen Co., and if specific approval in writing is not received, it is understood that the requirements as outlined in the Walgreen Co. plans are to be met.

Where such substitutions alter the design or space requirements indicated on the plans, the contractor shall include all items of cost for the revised design and construction including cost of all allied trades involved.

Mail to: Walgreen Co. Facilities Planning, Design & Engineering MS 1620 106 Wilmot Road Deerfield, IL 60015-5105
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INSTALLATION

All equipment and materials shall be installed according to manufacturer's instructions unless otherwise specifically directed by the Trade Contract Documents. All piping, valves, connections, and other like items recommended by the manufacturer or required for proper operation shall be provided without additional cost to Walgreens.

END OF SECTION

SECTION 15250 - MECHANICAL INSULATION

PART I - GENERAL

1.01 DESCRIPTION

Section 01010 Summary of Work and Section 15050, Basic Mechanical Materials and Methods, shall be considered a part of these specifications.

Ductwork insulation, jackets, and accessories.

PART II - PRODUCTS

2.01 PIPE INSULATION

Domestic water, interior storm lines, interior condensate drain piping from HVAC roof-top units and waste water pump discharge.

1. All piping (above finished floor) shall be covered with Armacell AP/Armaflex pipe insulation ½” thick in accordance with ASTM C-534, grade I, type I for Piping insulation, jackets, and accessories. tubular materials and grade I, type II for sheet material.
2. All joints shall be sealed with approved manufacturers’ adhesive.
3. All lines running outdoors shall have insulation protected from weather by two (2) coats of manufacturers’ approved finish.

Acceptable Alternate Manufacturer: Koolphen K CFC Free Phenolic foam, or Aerocel (by Aeroflex International Company) closed cell Elastomeric thermal insulation.
Fiberglass pipe insulation, rigid (not wrap type), one inch thick with built-in vapor barrier may be used in lieu of Armacell product specified on interior storm lines, interior domestic water lines, interior condensate drain piping from HVAC units and interior water waste pump discharge lines. Acceptable manufacturers are Armstrong, Certainteed, Johns-Mansville, Knauf, and Owens-Corning.

Refrigerant Suction Lines and Cooler/Freezer Condensate Drains:

1. Similar to “A” except 1” thick inside building and 2” thick on outside of building with manufacturers weather-resistant protective finish. (2” thickness shall be achieved by 2 layers of 1” insulation applied per manufacturer’s recommendations).

2.02 DUCTWORK INSULATION

All ductwork shall be insulated, including but not limited to supply, return, exhaust, relief transfer duct, etc.

Ductwork Below Roof: The insulation shall consist of one layer 2” thick of Owens-Corning Type 75, .75 lbs. /cu. Ft. density, with an installed R-value of 5.6 and vapor jacket. Acceptable Alternate Manufacturer: Armstrong, Certainteed, Johns-Manville and Knauf.

Ductwork Above Roof Line: Similar to “B” except 3” thick insulation with an installed R-value of 8.3 and waterproof jacket.

Internally lined ductwork is “not acceptable” in any ductwork including main drops from the roof-top units.

2.03 INSULATION RATINGS

Flame spread shall be 25 or less.

Smoke developed shall be 50 or less.

PART III - EXECUTION

3.01 INSTALLATION

Install materials in accordance with the manufacturer's instructions.

END OF SECTION

SECTION 15300 - FIRE SUPPRESSION

PART I - GENERAL

1.01 DESCRIPTION

Division 1, General Requirements, and Section 15050, Basic Mechanical Materials and Methods, shall be considered a part of these specifications.

The fire suppression system work includes, but is not limited to, the following:
Furnish and install complete, operable fire suppression system, with all related items. System shall be designed, fabricated and installed by a firm regularly engaged in this type of work and employing those skilled in the work involved.

Systems shall be in accordance with the applicable standards of the National Fire Protection Association (N.F.P.A.) and requirements of any authorities having jurisdiction.

1.02 SUBMITTALS

Submit for Walgreen approval, the Fire Suppression Plan FP1.1 prior to submitting any fire protection permit documents required by the authorities having jurisdiction. Submit to Walgreen Co. and the Architect/Engineer of Record, complete shop drawings of the entire Fire Protection System before starting work.

PART II - PRODUCTS

2.01 GENERAL

All materials and devices essential to the successful operation of the Fire Suppression System shall be UL Listed with the exception of steel pipe. Steel pipe shall conform to NFPA 13 Table 6.3.1.1. Backflow preventers shall be either UL Listed or classified.

2.02 FIRE DEPARTMENT CONNECTION

Provide flush brass-bodied 2-way connection with hose threads, drain, brass inlet caps with chains as approved by local fire jurisdiction.

2.03 AUTOMATIC SPRINKLERS

Assemblies shall be as specified on Walgreen criteria drawing "Fire Suppression Plan" FP1.1 or Walgreen Co. written approved equals.

The manufacturer shall warrant assemblies for ten (10) years against defects in material and workmanship. Temperature rating of sprinkler shall be based on the maximum ambient temperature of the environment in which it is installed.

Listed corrosion-resistant sprinklers shall be installed in locations where chemicals, moisture or other corrosive vapors sufficient to cause corrosion of such devices exist.

2.04 ACCESSORIES

Provide alarm bells, valves, drains, flow switches, and all other items required for a complete system.

Provide permanently marked, waterproof metal or rigid plastic identification signs or placards secured with corrosion-resistant chain at all valves.

PART III - EXECUTION

3.01 INSTALLATION

General: Installation of the private service main shall conform to local requirements and shall be in accordance with requirements of Section 02190, Sitework/Excavation and Section 15400, Plumbing of the specifications.

Protection: Underground piping cover shall be measured from top of pipe to finished grade with due consideration given to future or final grade and nature of soil. Top of pipe shall be no less than one foot below local frost line. Minimum cover shall be 3 feet below pavements. No piping shall run under buildings except for fire service main shall be permitted to enter the building adjacent to the foundation. Back filling which shall be tamped in layers to prevent lateral movement or settlement and shall contain no ashes, cinders, refuse, organic, corrosive, or frozen materials. In trenches cut through rock, tamped granular backfill shall be provided a minimum of 6 inches under and around piping with a minimum of 2 feet of granular cover.

Contamination: All system components shall be free of rust and other contaminants and clean inside and out.

System Entrance: Installation of the riser and trim for all its components shall be as compact as possible to conserve floor space.

Fire Department Coordination: No exterior component of the Fire Suppression System shall be located within any fenced or walled area and shall be readily visible from the parking lot. Coordinate the locations of the fire department connection and exterior alarm device with the local fire jurisdiction and Architect of Record.

Piping: Design layout shall allow for suitable venting and drainage. Installation shall be coordinated with all other items in the construction and shall not obstruct lights, air outlets, dampers, valves, access doors and other items requiring access. Piping in areas having ceilings shall be concealed. Piping may be exposed elsewhere but kept high as possible with all consideration for the Walgreen Co. plan layout. Piping passing through walls, floors and other building components must be sleeved. Piping penetrating finished spaces shall be fitted with chrome split-ring escutcheons. Sleeves shall be patched and sealed as required to maintain fire ratings where applicable. Install flow switches, tamper switches, alarms and any other required electrical components within the piping system. Coordinate with Architect of Record for locations of inspector's test and main drain discharge points to ensure visibility, access, and hard surface to receive and direct water to pavement for drainage.

Cutting: All openings for piping should be anticipated and indicated on the approved shop drawings. Any additional cutting or openings must have the written approval of the Architect of Record.

Access: Install hinged access panels for access to valves or similar operable components concealed in finished areas. Label panel door with identity of item concealed.

Sprinklers: Installation and location of sprinklers shall be coordinated with all other items in the construction and shall not obstruct lights, air outlets, access doors and other items requiring access. Sprinklers at finished ceilings shall form a symmetrical pattern carefully integrated into the ceiling layout as shown on Walgreen approved drawings. Provide proper protection of automatic sprinklers. Sprinklers that have had paint applied to them, by other than the sprinkler manufacturer, or otherwise damaged, shall be replaced with new listed sprinklers of the same orifice size, thermal response, and water distribution. Furnish and install, in close proximity to system riser, an emergency cabinet containing a minimum of two sprinklers of all types and

ratings used in the system and one head wrench for each head type. One spare Tyco Model DS-C dry pendent sprinkler and DS-B sprinkler boot within manufacturer's shipping containers shall be attached to the sprinkler riser by nylon zip ties.

3.02 TESTING, INSPECTION AND ACCEPTANCE

Flushing: Underground, or other water supply piping, shall be completely flushed before connection is made to downstream fire suppression system piping. The flushing operation shall be continued for a sufficient time to ensure thorough cleaning. Minimum rate of flow shall be not less than the hydraulically calculated water demand rate of the system, including any hose requirements, the flow necessary to provide a velocity of 10 feet per second or the maximum flow rate available to the system under fire conditions.

System test: Purge system of air prior to filling with supply water. After completion of the installation, the entire system shall be tested and inspected to meet the approval of the authorities having jurisdiction. A contractor's material and test certificate should be completed in accordance with NFPA 13.

Fire Department Connection: Inspect for visibility and accessibility. Firmly secure caps to resist casual vandalism. Verify that swivels have freedom of movement, hose threads are clean and in good condition, and that the check valve in the connection piping is not obstructed or leaking.

System drainage: Verify exterior discharge points of main drain and inspector's test station for visibility, access and hard surface for conveying discharge water to pavement for drainage.

System documentation: Complete hydraulic design placard information and affix to system riser. Complete all component identification signage. Collect system documentation, including, but not limited to, approved shop drawings, hydraulic calculations, material and test certificates and acceptance letters. Insert all documents in holder.

END OF SECTION

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SECTION 15400 - PLUMBING

PART I - GENERAL

1.01 DESCRIPTION

Division 1, General Requirements, and Section 15050, Basic Mechanical Materials and Methods, shall be considered a part of these specifications.

Codes, Ordinances, and Permits: All permits, connection fees, tap fees, licenses, approvals, and other arrangements, including plumbing and riser diagrams, if required, shall be obtained by the plumbing contractor at his expense. Should any changes be necessary in the drawings, or specifications, to secure such approval, this contractor shall include in his bid all costs for such changes to comply with these departments without extra costs to Walgreen Co. It will be this contractor's responsibility to provide all systems complete and operable.

Scope of Work: Contractor shall furnish all materials, tools, equipment, labor, and services and pay all costs of whatever nature, as may be necessarily expended, for a proper workmanlike and fully operable installation, and completion of all plumbing and related work. The plumbing contractor shall provide the following within, beneath and up to 5 feet beyond the building(s).

1. Complete system of sanitary, soil, waste, and vent piping connecting each and every plumbing fixture or other piece of equipment requiring same, with sanitary sewer including pipe, fittings, and other necessary appurtenances.
2. Complete system of storm water drainage including downspouts, roof drains, pipe, fittings, and other necessary appurtenances.
3. Complete systems shall be connected to adequate source of supply or disposal of the local public utility company or municipality commonly serving the area. It will be the contractor's responsibility to provide all systems complete and operable.
4. Complete system of cold water supply and distributing piping of hot and cold water connecting to every plumbing fixture, cooling tower, evaporative condenser, or other pieces of equipment requiring same, including shut-off valves (for each piece of equipment), hangers, supports, and other necessary appurtenances.
5. Cold water supplies to refrigeration and condensers.
6. Funnel or other drains for air conditioning units, refrigeration, and fire protection piping.
7. All floor and wall sleeves.
8. All plumbing fixtures, except as hereinafter noted.
9. All pipe covering.
10. Water heaters/water coolers.
11. Connections to the supply lines of the fixtures and outlets for equipment furnished by Walgreen Co.

1.02 SUBMITTALS

This contractor shall submit product data for all plumbing fixtures, trim and accessories.

QUALITY ASSURANCE

At Walgreens discretion, any store where the sewer/drainage system operation, installation or material is considered "suspect" shall be inspected, at the Landlord's/Contractor's expense, using a sewer line video camera. All necessary repairs shall be made at the Landlord's/Contractor's expense.

PART II - PRODUCTS

2.01 PIPING & VALVES

All sanitary sewers below floor shall be standard weight cast iron soil pipe.

Waste lines shall be standard weight cast- iron pipe conforming to CISI 302 or ANSI/ASTM A74. All inside downspout lines, less than 2.5 inch diameter, from roof drains to a point 6 inches above floor shall be type "M" copper with wrought copper fittings. All fittings and couplings shall be soldered.

See section 02600 of the specifications for pipe more than 5 feet outside of the building.

Drain tile shall be standard form tile to conform with ASTM standards. Drain tile shall be placed with open joints and wrapped with building paper, set true to grade, and pitched to drain to sump. All tile shall be encased with a minimum of 6 inch clean gravel.

All rough-ins for plumbing fixtures, including all waste lines and all branch soil pipe below floor from plumbing fixtures, shall be standard weight cast iron pipe.

All waste and vent piping above floor, 2 inches and smaller, to be type "M" copper with wrought copper fittings. All fittings and couplings shall be soldered.

Where such use is acceptable to the authority having jurisdiction, all storm and sanitary lines and fittings, below floor, above floor, may be schedule 40 PVC DWV with solvent welded joints per ANSI/ASTM D2665 and D3311. All piping, valves, fittings and solvent shall be furnished by the same manufacturer.

Water main 2 ½ inch diameter and over in the ground shall be class 150 ductile iron water main pipe and fittings. Buried water main 2 inch diameter and under shall be "K" copper pipe and wrought copper fittings.

All hot and cold water lines within the building above floor shall be type "L" copper with wrought copper fittings. All fittings and couplings shall be soldered.

Isolation valves shall be *Jomar* Model T/S100 ball type (or equal).

2.02 PLUMBING FIXTURES

Contractor shall furnish and install all plumbing fixtures.

2.03 WATER HEATING

Storage Type:

1. Water Heater: Provide water heater(s) as shown on plumbing drawings.

2. Flues: This contractor shall furnish and install type "B" vent flue. Flues shall be sized and run as required. Flues to be 3 feet above roof with anti-back draft cap, and Metal-Fab (or approved equal) tall-cone flashing with storm collar.
3. Combination temperature and pressure relief valve, ASME rated, McDonnell and Miller 202-NF 125-195 degrees or Watts 140-210 degrees, where fusible plug type is required by local code.
4. Pipe relief outlets to drain.
5. Thermometer on hot water supply from water heater. Range: 30 to 240 F.

PART III - EXECUTION

3.01 INSTALLATION

Cold Water Supply: If water pressure on domestic service exceeds 80 PSI, this contractor to furnish and install pressure reducing valve on main domestic service line set for 65 PSI.

Piping in General: All pipes shall be run with proper grades to provide for easy draining. They must be thoroughly reamed and cleaned before installation. This contractor shall consult and cooperate with other piping contractors as to obtain the proper grouping of pipes and to avoid interference. Pipes run overhead shall be placed as close to the roof deck as possible to maintain proper headroom and to present a neat appearance, all consistent with the correct pitching of pipes. The plumbing contractor shall consult with the construction superintendent before installation of any pipe lines which will reduce the proper headroom in any way. Piping shall be run as shown on the drawings, but the construction superintendent reserves the right to make slight changes (without extra charge) to avoid conflict with other work.

Vent Pipes: All vent pipes that pass through roof openings shall be kept at a reasonable distance from the walls to permit proper application of built-up roofing and base and counter-flashings. All vent pipes shall be flashed with 3 pound sheet lead turned down into pipe.

Cooler/Freezer Wastes: Condenser wastes from refrigeration equipment shall discharge into a minimum 3 inch combination funnel/floor drain connected to the sewer.

Floor Drains: Furnish and install all floor drains.

Cleanouts: Full-sized brass screw plugs, cleanout plugs shall be furnished and installed at the foot of all soil and waste stacks, internal downspouts and at all points where necessary to permit the entire drainage system to be rodded out easily. Provide cleanouts at every turn in the waste line.

Connections to Equipment Furnished by Walgreen Co.: This contractor shall rough-in and connect all fixtures and equipment to be furnished by Walgreen Co. This shall include all hot and cold water, waste, and vent piping required to connect completely to equipment.

3.02 TESTING

Domestic Hot and Cold Water Systems: 100 PSI (minimum) air for one hour without leakage.

Sewer Systems: 10 feet (minimum) hydrostatic for one hour without leakage.

END OF SECTION

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SECTION 15500 - HEATING, VENTILATING, AND AIR CONDITIONING

PART I - GENERAL

1.01 DESCRIPTION

Section 15050, Basic Mechanical Materials and Methods, shall be considered a part of these specifications.

Codes, Ordinances, and Permits: The air conditioning and heating contractor shall promptly obtain all permits, arrange for all necessary inspection, and furnish a certificate of inspection and approval from the public authorities having jurisdiction, at this contractor's expense, before any work has been started. Should any changes be necessary in the drawings or specifications to secure such approval, this contractor shall include in the base bid all costs for such changes, to comply with these departments before any work has been started, without additional costs to Walgreen Co.

Work under this section of the specifications includes the furnishing of all labor and material to provide a complete and operating, heating, ventilating, and air conditioning system.

All components of equipment in this section and all devices installed on those units shall be accessible for service.

1.02 SUBMITTALS

This contractor shall submit to Walgreen Co. product data of the packaged roof-top HVAC units before starting work.

1.03 WARRANTIES

All warranties shall be of the length indicated and commence from the date of acceptance by Walgreen Co.

One (1) year on the packaged units and electric strip heaters.

Five (5) years on the compressors.

Five (5) years on the condenser coils with protective coating.

Ten (10) years on natural gas heat exchangers in all HVAC equipment.

PART II - PRODUCTS

2.01 ROOFTOP HEATING, VENTILATION, AND AIR CONDITIONING UNITS

Units shall be packaged combination heating and cooling type, consisting of compressor section, air-cooled condenser section, cooling section, heating section, air handling section, and mixing box/filter section assembled on a common base. Provide units complete with control panel. Units shall be prepiped and prewired. All compressor motors to have thermal overload, over and under voltage protection (loss-of-phase protection) on three legs (factory installed and wired). Disconnect switches shall be externally mounted and as described in Section 16400, "Factory installed (internal/integral) disconnect switches are **not** acceptable." Unit shall be U.L. and A.G.A. approved. Acceptable manufacturers - Carrier and Trane.

The units shall be A.G.A. approved and be a complete automatic heater. Controls furnished with the unit shall be supplied for the specific gas type and specification and in accordance with local utility regulations.

The heat exchanger shall be an integral, completely welded aluminized steel unit composed of venturi-shaped, baffle-free sections welded to top and bottom header plates. Flue gases shall be power vented. Separated combustion type shall be used when indicated with integral exhaust/combustion air inlet and concentric adapter.

Controls to include fan and limit controls, electronic ignition, pressure regulator, and shut-off cocks.

In locations where natural gas is available near the site, utilize natural gas furnaces with the following exceptions and constraints:

Provide all electric stores using only resistance heat, in Hawaii, Puerto Rico and the southern half of Florida where the winter outside design temperature is 40 deg. F. or greater.

Provide all electric stores using air source heat pumps for locations served by the Southern Co. Territory where the winter outside design temperature is 25 Deg. F. or greater. The Southern Company includes the Florida panhandle, Georgia, Alabama, and Southeast Mississippi. Contact J. Booker at 1-404-506-2124 to confirm locations served by Southern Company.

Air source heat pumps may be used in all electric stores in lieu of natural gas within a 160-statue mile radius of downtown Phoenix, AZ, Tucson, AZ, San Diego, CA, Los Angeles and Las Vegas, NV where the winter outside design temperature is 25 Deg. F. or greater.

Air source heat pumps may be specified in other locations when all of the following conditions are met: (1) the winter outside design temperature is 25 Deg. F. or greater, (2) air source heat pumps are the most common local practice, (3) heat pumps are economically justified by the Engineer-of-Record, and (4) approved in writing by Walgreens.

For all electric stores, when the dehumidification option (Hot Gas Reheat) is required on a RTU and when the air source heat pump option is not available in that configuration; those RTUs may have only electric resistance heat.

Air source heat pumps shall supplemental resistance heat. The sum capacity of both heat sources shall be determined by heat loss calculations for the highest heat operation with an allowance for timely morning warm-up.

Propane may be used when all of the following conditions are met: (1) natural gas is not available, (2) the winter design outside air temperature is less than 25 Deg. F., (3) Propane heat is the most common practice and (4) approved in writing by Walgreens.

Unit shall be capable of fully automatic operation with ambient temperatures down to about (standard with manufacturer) 25 degree F for refrigeration cycle.

Rooftop units shall have factory-installed economizers with pressure relief dampers when specified on the mechanical drawings, or as required by Code. Units with economizers shall have outside air temperature control (at 50° F) and have the ability to close outside air intakes during unoccupied hours.

Unit sizes 7 1/2 ton and above shall be two-stage heating (medium and high) and two-stage cooling, complete with multiple refrigeration circuits and time delay.

All units shall be provided with roof curbs, at least 14" high. The roof curbs shall include a wood nailer, a galvanized sheet metal cap with space between for at least 3/8 inch thick roof flashing material. The roof curbs may be without insulation. Top of roof curb shall be installed level, shimmed from beneath so top of curb will be at least 12 inches higher than all adjacent roof surfaces. Refer to architectural drawing(s) for details, A1.4, Detail 6.

Carrier equipment shall utilize Carrier Premeir Link temperature control devices when the EMS system is specified.

Provide 2 sets of throwaway type filters in accordance with manufacturer's specifications, with one set to be used during construction and the second set to be installed after substantial completion of construction.

External High-Low pressure cut-outs factory installed are required on all rooftop units.

Provide all necessary contactors, relays, motor starters, etc. for a complete operating unit.

Provide crankcase heaters on all Carrier units with a Humidimizer and on the Energy Recycler.

For all projects in Puerto Rico and those projects in the 50 United States, 5 miles (or less) from all salt water coastlines, bays, tributaries, etc. furnish each unit with standard aluminum fins, copper tubing condenser coil(s), and Trane Epoxy coil treatment.

Housings shall be painted and weatherproofed with gasketed hinged access doors and factory insulated.

All units shall have belt driven evaporator fans with adjustable pitch. If not available, then direct drive will be acceptable. The manufacturers of the HVAC equipment shall furnish the proper adjustable pulleys and belts necessary to achieve the specified design conditions be they factory installed, shipped loose, provided later, or any combination thereof.

A duct smoke detector (SD) shall be furnished and factory installed in each unit having a capacity greater than 2,000 cfm on the return and/or supply as required by the governing building code and the authority having jurisdiction. Provide smoke sampling tube(s) as required for proper smoke detection. Each SD shall be factory wired to stop the respective fan upon detecting the presence of smoke. The SD shall not be powered from the RTU. At the discretion of the HVAC equipment manufacturer, the manufacturer and model of the unit mounted SD (s) shall be as specified in the fire alarm section of the Specifications or may be the GE/Edwards/Telaire Series TSD. If the Telaire TSD is selected, all Walgreens RTUs shipped from that manufacturer shall be made ready for easy and proper installation of those smoke detectors in the field. Each RTU that has a smoke detector (s) shall be furnished with a remote test station of the same manufacturer and shall be compatible with the SD(s). All unit mounted SDs shall be compatible with the actual Walgreens fire alarm system installed in that store. The RTU manufacturer shall test the proper operation of the smoke detection system for each model, size, configuration and environmental condition of units they furnish. The RTU, with all components as shipped, shall be UL listed.

On each RTU with a factory installed duct smoke detector, provide an accessible wiring termination board for the specified remote test/reset station specified in section 16720 of the specifications.

2.02 AIR CURTAINS

An air curtain shall be furnished as specified on the drawings.

See drawings and schedule for quantities, size (kW capacities when applicable)

Acceptable manufacturers – Berner.

2.03 ENTRANCE HEATERS

Furnish a packaged, roof curb-mounted heating and ventilating unit with downward discharge air, upward return air, filter rack with 2-inch throwaway air filters, 14" minimum high roof curb per size, capacity as indicated in the schedule on the drawings.

Unit shall have a powered vent, spark ignition, an ODP motor and belt drive.

Heat exchanger shall be aluminized steel with a 10 year warranty.

Burner shall be fueled from a two-stage natural gas valve, controlled by a room temperature sensor or factory furnished thermostat located in the Sales area. When there is a vestibule, an additional factory furnished freeze protection thermostat shall be provided and located within the vestibule near the return air grille.

Provide SD per paragraph 2.01 R.

The complete unit shall be as specified, manufactured by Greenheck, Modine, Reznor.

2.04 FLUES

Flues from all heating equipment shall be of double wall construction with type "B" vent classification.

Flues shall be sized and run as required. Flues to be 3 feet above roof with weather cap, unless otherwise noted.

GAS PIPING

The heating contractor (unless local jurisdiction requires the plumbing contractor) shall provide a complete system of gas piping extending to all equipment requiring the same.

1. Include valves, pipes, fittings, hangers, supports, gas pressure regulators, dirt legs and all other necessary appurtenances. Valves shall be at each piece of equipment.
2. Rough-in and connect all fixtures and equipment furnished by Walgreen Co. Include all gas piping required to completely connect the equipment.
3. All gas piping to be standard weight black steel with standard weight malleable iron fittings and run within building, generally above ceilings, out through roof, within unit curb.
4. Valves shall be *Jomar* Model T/S100 ball type (or equal).
5. Test piping systems per Utility Company requirements.

2.06 CONDENSATE DRAIN

This contractor shall furnish and install a condensate control device (Costgard) from each air conditioning unit. This contractor shall provide condensate drain piping when required by Note 3.3 on drawing M1.1.

Condensate piping shall be supported as per manufacturers' recommendations.

2.07 REFRIGERANT SYSTEM CHARGING

Follow manufacturer's recommended charging procedure for both refrigerant and refrigerant oil.

Replace any refrigerant or oil lost from the system during the guarantee (one year) period at no expense to Walgreen Co.

PART III - EXECUTION

3.01 INSTALLATION

Install units in accordance with the manufacturer's instructions.

For occupied operation, set the minimum position of the outside air intakes to the CFM shown on the equipment schedules, not less than required by the applicable code.

3.02 TESTING REFRIGERANT PIPING SYSTEM

The piping shall be pressure tested and load tested twice in the presence of a Walgreen Co. representative, and then blown out with dry nitrogen.

Expansion valves and compressor crankcases are not to be pressure tested.

All refrigerant gas piping shall be leak tested and comply with appropriate codes. Air test at 1 1/2 times working pressure for 1 hour with no loss in pressure unless otherwise noted.

END OF SECTION

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SECTION 15650 - REFRIGERATION

PART I - GENERAL

1.01 DESCRIPTION

Section 15050, Basic Mechanical Materials and Methods, shall be considered a part of these specifications.

The refrigeration systems serving the various refrigerated equipment units and fixture will consist of, but not be limited to, the following:

1. Motor-driven compressors of the air cooled and/or water cooled type with defroster controls, etc. serving each piece of equipment.
2. Refrigerant piping to be copper type 'K' with insulation as described in Section 15250, 2.01, B.
3. Electrical wiring required for the operation of the compressors, condensers, evaporators, defrosters, lighting, etc. Wiring shall be done in accordance with the wiring diagram supplied with each piece of equipment and coordinated with Walgreen Co. refrigeration contractor and manufacturer's specifications.
4. Refrigeration condensate drain piping to be copper type 'L'.

PART II - PRODUCTS (NOT USED - FURNISHED BY WALGREEN CO.)

PART III - EXECUTION

3.01 INSTALLATION

The labor and material required for the installation of the refrigerant piping shall be provided by Walgreen Co. See separate "Installation and Operations Manual" for typical Walgreen Walk-in Cooler/Freezer. (<http://facilities.walgreens.com>)

The labor and material required for the installation of the electrical work necessary to make this a complete installation shall be provided by the electrical contractor, including defrosting and control wiring.

The labor and material required for support of the compressor and condensers located on the roof, equipment deck, etc. shall be provided by the general contractor.

END OF SECTION

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SECTION 15880 - AIR DISTRIBUTION

PART I - GENERAL

1.01 DESCRIPTION

Section 15050, Basic Mechanical Materials and Methods and Section 15250, Mechanical Insulation, shall be considered a part of these specifications.

All licenses, stamping, approvals, and arrangements for work shall be obtained by the sheet metal contractor, at his expense, before any work has been started. Should any changes be necessary in the drawings or specifications to insure such approval, this contractor shall include in his base bid all costs for such changes, to comply with these departments before any work has been started, without additional cost to Walgreen Co.

Scope of Work: The ventilation work includes, but is not limited to, the following:

1. Air conditioning outside air ducts, return air ducts, insulation, grilles, supply air unit filters, fans, motors, supply air ducts, diffusers, manual dampers and fire dampers.
2. Exhaust/ventilation system fans, blowers, ducts, grilles, diffusers, dampers, etc.
3. Roof curbs required for duct openings through roof.

PART II - PRODUCTS

2.01 DUCTWORK

Acceptable manufacturers of round spiral and oval spiral: Lindab, Semco, SSM Industries and United McGill.

All round and oval duct and fittings shall be manufactured by a single company manufacturing these products for at least 10 years.

Provide round spiral and/or oval spiral ductwork. Round spiral and oval spiral ductwork with longitudinal seams are not permitted.

Rectangular ductwork, sized for an equivalent pressure drop, may only be used in lieu of round or oval, on limited basis, and/or to clear structural interference.

Ducts and fittings shall be constructed of galvanized steel in accordance with the second edition – 1995 with Addendum No.1 dated November 1, 1997 of the "SMACNA HVAC Duct Construction Standards". For a positive static pressure class of 2.0 in. water column.

Fiber ductwork or lined ductwork is not acceptable.

Ductwork shall have sealed transverse joints and meet seal class "C". Rubber seals may be used in lieu of duct sealant.

Ductwork shall comply with leak class 12, not to exceed 12 cfm per 100 sf of duct surface.

For rectangular duct sizes, the first number indicates the side seen. The second number indicates the side not seen.

Duct sizes, indicated on the drawings, are net inside clear dimensions.

Air friction pressure drop shall not exceed 0.1 in WC per 100 linear feet.

Air velocity in ductwork shall not exceed 1500 feet per minute.

Flexible round ductwork shall be pre-insulated type with 1.5" thick insulation. Acceptable manufacturer is Wiremold type WK or Equal by ATCO, Flexmaster, Technaflex, Thermaflex Lindab, Semco and United McGill.

The drawings do not attempt to show all offsets that are necessary for the required installation. Those offsets and similar items shall be provided at no additional cost to Walgreens.

Where offsets are required, the angle of the offsets shall be as small as possible.

2.02 GRILLES, REGISTERS, AND DIFFUSERS

Supply grilles shall be Metal-Aire. Acceptable alternate manufacturers - Carnes, Krueger, Price, Titus and Tuttle & Bailey.

Return grilles shall be Metal-Aire. Acceptable alternate manufacturers - Carnes, Krueger, Price, Titus and Tuttle & Bailey.

Ceiling diffusers shall be Metal-Aire. Acceptable alternate manufacturers - Carnes, Krueger, Price, Titus and Tuttle & Bailey.

Supply air diffuser in lay-in ceilings shall not be installed directly adjacent to lighting fixtures.

2.03 LOUVERS & HOODS

Fresh air intake, combustion air intake, and exhaust louvers will be furnished and installed by this contractor.

Ducts ending above the roof shall be terminated with Greenheck GRS gravity hood with bird screen. Acceptable alternate manufacturers - Acme, Carnes, Cook, Jenn and Penn.

2.04 EXHAUST AND SUPPLY FANS

Exhaust and supply fans and blowers as shown on drawings and schedule shall be furnished and installed by this contractor, unless noted otherwise.

PART III - EXECUTION

3.01 INSTALLATION

Ductwork shall be installed in sizes and in location as indicated on plans. Where square corners are used, they shall be provided with turning vanes. Spiral ductwork joints shall have sheet metal screws in connections.

The ductwork system throughout the building shall be rigidly supported and so constructed as to eliminate vibration or any objectionable noise while the ventilation machinery is in operation.

Where ducts pass through walls or floor openings, they shall be kept free of direct contact of building construction by supporting each side of opening. The space between duct and opening shall be closed by means of felt gaskets caulked in place, to comply with local fire codes, ordinances, etc.

Deflectors: Wherever branches are taken off, provide deflectors or splitters to regulate the airflow. On each deflector, provide a regulator to lock the deflector in a fixed position, where accessible through access panel. Where not accessible through panel, provide a key-operated Young regulator with indicator and ceiling plate.

Flexible Connections: Furnish and install on the suction and discharge side of all fans and units, at least 4 inches of 10 oz. canvas or equivalent vinyl with heavy clamping bands. Canvas connection to all roof-top units shall be as close to unit as possible, just below roof curb.

Fire Dampers: Provide fire dampers in duct locations where required by local authority. Ducts shall be enlarged where fire dampers are installed to maintain the same airflow through damper frame as unobstructed run of duct. Provide access to service fire dampers.

Belt Guards: For each belt drive, furnish a guard consisting of an angle iron frame with 1 inch mesh heavy wire guard supported and securely bolted in place, etc. to comply with local codes.

Access Panels: Provide tight sheet metal access doors (with gasket, hinges, and locks), or where access to plenum spaces or ducts is necessary. Access doors shall be of adequate size and installed per local codes.

Volume Controls for Balancing: Ample provision shall be made for control and for balancing the ventilation systems by installation of dampers, regulators, and controls.

Dampers for exhaust and outside air shall be equipped with motorized dampers with a maximum leakage rate of 3 cfm/ft at 1.0 w.g. when tested in accordance with AMCA Standard 500. Such dampers shall be closed when fans are off.

Painting: Paint all ductwork visible through grilles, registers, and diffusers a flat black.

Duct Sealant: Use RCD #6 mastic with red glasscoat (or equivalent). Install per manufacturer's and UL181A & B recommendations for square and rectangular ductwork. Sealant is not required for spiral gasketed ductwork.

3.02 DUCTWORK CLEANING

Ductwork shall be thoroughly cleaned by this contractor.

Cleaning shall be done before any painting is done or acoustic ceiling installed.

END OF SECTION

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SECTION 15950 - CONTROLS

PART I - GENERAL

1.01 DESCRIPTION

Section 15050, Basic Mechanical Materials and Methods, shall be considered a part of these specifications.

The contractor under this heading shall be the heating and air conditioning contractor who shall furnish all control equipment, engineering services, job drawings, and field supervision for temperature control.

This specification is intended to cover equipment for the automatic temperature control of the:

Heating,
Ventilation, and

Air Conditioning Systems.

1.02 GUARANTEE

The control system shall be free from defects in workmanship and material under normal use and service. If within 12 months from date of acceptance by the engineer, any of the equipment herein described has proved to be defective in workmanship or material, it shall be replaced or repaired free of charge.

This contractor shall, after completion of the original test of the installation and acceptance by the engineer, provide any service incidental to the proper performance of the temperature control system under guarantees outlined above for the period of one year. After completion of the installation, this contractor shall regulate and adjust all equipment provided under this contract. He shall place them in complete operating condition subject to the approval of Walgreen Co.

PART II - PRODUCTS

2.01 THERMOSTATS

Trane packaged rooftop units to utilize *Trane* programmable thermostat and remote sensor, unless noted otherwise.

Temperature sensor and thermostat for Entrance heater (EH-1) roof-top unit to be as described on the drawings.

2.02 FIRE PROTECTION

When required by code, firestats and/or smoke detectors shall be as described in other sections of the specifications.

PART III - EXECUTION

3.01 INSTALLATION

Install materials in accordance with manufacturer's instructions.

All control valves and damper motors, where required, shall be furnished and installed by the heating and air conditioning contractor.

All dampers shall be positioned by the ventilation contractor. Ventilation contractor shall also mark positions of dampers on "as built" layouts.

All control motors must be spring return and must have oil immersed gear train.

All electrical wiring and mounting of temperature control devices shall be in accordance with all existing codes.

All temperature control devices and sensors shall be labeled with the associated RTU or exhaust fan number. (ie: RTU-1, EH-1, EF-1, etc.)

3.02 PERFORMANCE

Trane Sequence of Operations: The heating and cooling setpoints shall be individually adjustable for both occupied and unoccupied periods. The thermostats shall have a minimum deadband of 2 degrees F and a maximum deadband of 5 degrees F (no mechanical heating or cooling shall operate within this deadband). Space temperature deviation above cooling setpoint or below the heating setpoint shall generate a demand signal to control the system as follows:

1. Heating: The EMS system (temperature control device) shall control the heating outputs based on the demand signal communicated from the temperature control program, taking into account both space temperature deviation (proportional error) and the duration of that temperature deviation (integral error). The outdoor air damper shall be at a minimum position during the occupied period, and shall be closed during the unoccupied period of the heating mode. Auxiliary heat shall be controlled at 2 degrees F below heating setpoint on heat pump systems.
2. Cooling: The EMS system (temperature control device) shall control the cooling outputs based on the demand signal communicated from the thermostat program, taking into account both space temperature deviation (proportional error) and the duration of that temperature deviation (integral error).

Heating Setback and Cooling Setup: Initiation of heating setback or cooling setup for each of 7 days shall be provided by a programmed time schedule manually entered into the thermostat. When all or a portion of a manually programmed schedule is unavailable, the thermostat shall control the unavailable program functions to occupied mode and default setpoint ranges as follows:

	TABLE OF DEFAULT SETPOINT RANGES			
	Occupied		Unoccupied	
	°F	°C	°F	°C
Heating	68	20	55	13
Cooling	78	26	90	32

Setpoint Recovery from Unoccupied to Occupied: The thermostat shall employ Intelligent Recovery™. This shall select the optimum time to begin building warm up or cool down based on setpoints and occupied program.

1. The temperature shall ramp 5 degrees per hour for both heating and cooling on a conventional system.
2. The temperature shall ramp 3 degrees per hour for heating and 5 degrees for cooling on a heat pump system.

A single dry bulb temperature changeover control shall determine the capability of the outdoor air to provide free cooling. The system shall operate as follows:

1. Free Cooling Available from Outdoor Air: On a call for cooling, the system shall enable the economizer to provide free cooling. If this does not meet the space demand, the system shall call for mechanical cooling to satisfy the programmed setpoint.

2. Cooling Not Available from Outdoor Air: On a call for cooling, the system shall hold the economizer to minimum position and cooling shall be energized to satisfy the programmed setpoint.

Fan Operation:

1. HVAC unit fan operation shall be constant during the occupied period.

2. Fan operation shall be intermittent during the unoccupied period.

Heating and Cooling Operation Minimum On/Off Times: The temperature control system shall incorporate a program to maintain minimum-stage operation times of 2 minutes "on" and 4 minutes "off" for compressor stages, and 2 minutes "on" and 2 minutes "off" for heat (gas or electric resistive).

Economizer Interface:

1. The economizer's minimum position shall be controlled such that when the occupied period is in effect, the economizer will operate as described in section E. During unoccupied periods, the control system shall defeat the economizer minimum position. However, the economizer will be available for free cooling during the unoccupied period if the outdoor air conditions permit.

END OF SECTION

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SECTION 15990 – TESTING, ADJUSTING, BALANCING, AND COMMISSIONING

PART 1 – GENERAL

1.01 DESCRIPTION

The Mechanical Contractor shall furnish the testing, adjusting, balancing, and commissioning of the HVAC system as a part of the HVAC rooftop purchase from the rooftop manufacturer. The rooftop manufacturer shall incorporate the services of a certified national TAB firm for all of the stores in their assigned territories.

The TAB firm shall be responsible for scheduling the testing, adjusting, and balancing directly with the Walgreens project superintendent at least 2 weeks in advance. The TAB firm will e-mail a completion checklist (see item D below, add any other items as deemed necessary) to Walgreen's superintendent, to be filled-out by GC to assure that HVAC system shall be fully ready before TAB firm arrives at site. Walgreens will provide an updated project list and superintendent contact list with e-mail addresses and cell phone numbers to the HVAC manufacturer and TAB firm on a regular basis via e-mail. The TAB firm will request project design mechanical drawings (M1.1, M2.1, M2.2: CAD files via e-mail) and specifications from GC two weeks prior to site visit.

The Walgreens superintendent shall notify the GC of the scheduled balancing date. The GC shall coordinate with the mechanical and electrical sub-contractors in order to have the appropriate tradesmen on site to correct any deficiencies in wiring, ductwork, or equipment start-up. See the standard format in the appendix of this section.

This work shall be scheduled to be performed after the HVAC system has been started by the mechanical contractor and prior to fixture date. The following must be complete prior to the TAB firm's visit:

1. All field mounted accessories must be assembled and economizer/OA dampers installed and wired. Units must be properly tagged per design drawings.
2. Gas piping completed and gas turned on.
All power wiring completed, disconnects mounted, and power turned on, fan rotation checked.
All control wiring completed including thermostats and smoke detectors.
All doors and windows installed and ceiling tiles in place.
All duct work with balancing dampers and diffusers fully installed.
Clean filters installed.

If, for any reason, the HVAC system is not operational in time for the TAB firm to schedule the work prior to fixture date, the GC shall be responsible for any and all additional costs incurred by rescheduling the TAB firm.

1.02 TESTING, ADJUSTING, BALANCING, AND COMMISSIONING

The purpose of testing, adjusting, and balancing the HVAC system is to ensure optimal performance, comfort, and energy efficiency for the Owner's benefit. This service covers all heating and air-conditioning and exhaust ventilation systems.

A certified report shall be submitted to the Walgreens superintendent (2 copies), the General Contractor, and the Mechanical Contractor within 2 weeks of completion.

The TAB work shall be completed in accordance with the following checklist:

GENERAL

Inquire about any design, equipment, and installation problems.
Compare installed system to design mechanical plans for the specific store.
Compare design system with prototype for variations, additions, deletions.
Document design specifications for report.
Ensure all fans are running for balance.
Measure initial building pressure.

INSPECT THE HVAC SYSTEM

Inspect rooftop units and document any deficiencies.
Record unit nameplate data.
Check thermostats for proper wiring and settings.
Check for correct fan rotation (include condenser fans).
Check conditions of filters and coils.
Check position of outside air dampers.
Check gas lines and condensate lines.
Check belt tension and pulley alignment.
Check disconnects switches and covers.
Check any fan noise and vibration.
Check heating/cooling, and economizer modes of RTU's.
Check condensate trap (Costguard) installation.
Check exhaust fans and distance between OA intake and exhaust.
Check entrance heater and door air curtain (at receiving door) for proper installation.
Check exhaust diffuser and register at the one hour photo machine for proper location.
Check supply diffuser locations at entrance, at windows and in-front of cooler/freezer.
Check electric wall heaters for quantity, locations and proper operation.
Check ERV (in applicable areas per Walgreens criteria) installation with its ductwork and controls.
Check proper installation of all volume dampers.
Check for proper installation of flexible ducts for bends, lengths and clamps.

TEST, ADJUST AND BALANCE THE HVAC SYSTEM

Measure and adjust diffuser supply and return airflows within 10% of the design, using balancing dampers and locking them in that position. Mark damper balance positions.
Adjust flows to provide design OA flow for proper pressurization.
Adjust RPM as necessary to achieve design.

- Check actual amps versus motor FLA for evaporator fan, compressors and condenser fans.
- Note adjustments made on pulleys.
- Measure final RPMs.
- Measure space temperatures (Checkout, 1hr photo, pharmacy, office, three spot temperatures in sales area, and SA/RA/OA temperatures. Temperature readings shall be recorded after the system has been running over 8 hours and thermostats have been properly set in.

Adjust damper airflows at branch take-off's first and at diffusers second.

Check for drafts and hot/cold spots.

Ensure slightly positive building pressure.

- Fine tune position of OA dampers.
- Measure final building pressure.

FINAL REVIEW

Prepare the final test report per forms included in the Walgreens web site.

Provide HVAC punch-list to Walgreen's superintendent before leaving the site; also e-mail it to Walgreen's construction manager.

Review report and data for completeness.

Discuss findings and results with Walgreen's superintendent.

Air quantities shall be balanced to within +/-10% of design as a general rule. However, in some cases, the air quantities may need to be adjusted differently in order to ensure acceptable comfort levels, positive building pressure, noise consideration etc. Any excessive variation at certain diffusers (over 20%) must be reported with explanations if it cannot be balanced as required. However the total RTU supply CFM must be within +/- 10%.

The TAB technician shall notify the GC and the Walgreen's project superintendents of any deficiencies needing immediate attention. The G.C. shall have the mechanical and electrical contractors available to promptly correct any such problems (i.e. replace burned out motors, failed thermostats, incorrect wiring, bad circuit breakers and starters, dirty filters, missing dampers, undersized RTU outside air intakes).

In the event that the TAB firm is unable to perform a complete TAB and commissioning of the entire system due to deficiencies in the completion of items outlined above, the Walgreens superintendent may request that the TAB firm schedule a follow up visit to test, balance, and commission any equipment that could not be completed on the initial visit. The G.C. shall be responsible to issue a purchase order and reimburse the HVAC manufacturer for the additional cost incurred, including travel and applicable expenses.

1.03 REPORTS TO BE SUBMITTED

(Obtain the copies of the report forms from Walgreens web site)

<http://facilities.walgreens.com> (A/E Tools, under "Engineering")

TAB SCHEDULING

E-mail the TAB scheduling form to Walgreen superintendent with a copy to construction manager at Deerfield, to obtain project completion status and to schedule site visit for air balancing. The response must be requested via email with copy to project manager at Deerfield in a "YES or NO" format with explanation as necessary.

HVAC PUNCH LIST

E-mail a rough draft HVAC punch-list of the following items to Walgreen's field superintendent and Walgreen's construction project manager at Deerfield for this project.

1. Any HVAC items not completed as of air balance date.
(RTUs, ERV, Exhaust Fans, Ductwork, Dampers, Diffusers, Insulation, Heaters)
2. Any incorrect installations that need to be addressed.
3. Any items omitted or revised from the design drawings.
4. If TAB firm needs to be re-scheduled due to incompleteness of the systems.
5. Include copy of the checklist of system completion received by TAB firm.
A field summary report outlining all appropriate observations.

SYSTEM STARTUP REPORT

RTU Startup report: Provide full report for each rooftop unit along with any deficiencies that need to be corrected.

CHECK LIST REPORT

HVAC Check-list report: Provide full report for all items listed in three pages of the check-list included in the output forms on Walgreen's web site.

AIR BALANCE REPORT

Provide air balance report for each diffuser and RTU/Exh fan to include design/actual CFM, along with store plan with diffuser and RTU locations and tag matching with CFM summary. Use forms in the attached report forms for air balance report.

Provide exhaust CFM report along with exhaust fan locations on above plan.

Provide balance & pressurization schedule for the store.

5. Space temperatures, SA/RA/OA temperatures.

EQUIPMENT DATA

Provide RTU nameplate data listing make, model #, serial #, nominal tons, number of compressors, HP and model # of each compressor along with make, evaporator fan motor data, condenser fan motor data, final RPM of evaporative fan, pulley and belt sizes, filter sizes etc. Exhaust fan make, model #, motor data, CFM.

HVAC PLAN SHOWING DIFFUSER/RTU/EXH FANS

CAD plan received from design engineer showing RTU, diffusers and exhaust fans along with tags as described above in item #F.

PHOTOGRAPHS

Include digital pictures of RTUs, ERV, and any other items that would help in understanding the items reported as deficient in the inspection report as per item # D.

ADDITIONAL INFORMATION (if any)

Include any additional information not listed above that might be useful for the specific store in understanding above report.

END OF SECTION

SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

PART I - GENERAL

1.01 ELECTRICAL GENERAL REQUIREMENTS

This section applies to all electrical work. The contractors involved shall check all sections of the specifications in addition to the particular section covering their specific trade. Each distinct section of the specifications aimed for one trade may have detailed information with regards to other trades. Therefore, it is imperative that all sections be reviewed to get a complete picture of all other trades' functions and work required.

The Walgreen Co. drawings, which constitute an integral part of this contract, shall serve as the working plans. They indicate the general layout of the complete electrical system.

1. "Field verification, of scaled dimensions on plans, is directed since actual locations, distances and levels will be governed by actual field conditions." All measurements shall be verified at the site.
2. The mechanical and electrical contractors shall check architectural, structural, plumbing, heating, ventilation, and air conditioning plans to avert possible installation conflicts. Should drastic changes from original plans be necessary to resolve such conflict, the contractor shall notify the architect and Walgreen Co. - Facilities Planning and Design Department, and secure written approval and agreement on necessary adjustment before the installation is started.
3. Discrepancies shown between plans, or between plans and actual field conditions, or between plans and specifications shall be brought promptly to the attention of Walgreen Co. for a decision.
4. Drawings and specifications are intended to cover the completed installation of systems to function as described. The omission of the expressed reference to any item of labor and material necessary to comply to practice codes, ordinances, etc. shall not relieve the contractor from providing such additional labor and material.
5. The contract drawings serve as working drawings for the general layout of the various services. However, layout of equipment accessories, specialties, piping systems, and conduit runs are diagrammatic unless specifically dimensioned and do not necessarily indicate every required valve, fitting, transition, turning vane, junction box, pull box, conduit size, etc. It will be the contractor's responsibility to provide all systems complete and operable. The contractor is to make field verification of all services, systems, etc. as part of the total work required and the cost to be included in his base bid.

Accessibility: Do not locate traps, controls, unions, pull boxes, etc. in any system at a location that will be inaccessible after construction is completed. Maintain accessibility for all components in mechanical, electrical, and plumbing systems.

Cutting and Patching: All cutting required shall be done by the contractor whose work is involved, without extra cost to Walgreen Co. All patching and restoration including the furnishing and installation of access panels in ceiling, walls, etc. within the building lines shall be done by the respective, responsible contractor. No cutting of structural steel, concrete, or wood shall be done without prior approval and explicit directions of the architect and Walgreen Co. All duct openings in walls, floors, ceiling, and roof shall be cut and patched by the respective, responsible contractor.

Relocation of Existing Duct, Conduits, Pipes and Utilities: The contractor, under whose jurisdiction the work may fall, shall provide labor, material, and tools required to cut, repair,

protect, cap, or relocate existing pipes, conduits, or utilities interfering with or uncovered during work, per regulations of the authorities having jurisdiction.

Excavation and Backfill: Excavation and removal of material, shoring, and backfilling required for the proper laying of all pipes and conduits inside the building and premises, and outside as may be necessary, shall be done by the contractor whose work is involved, without extra cost to Walgreen Co.

Vibration Eliminators: Rotating or reciprocating equipment, ducts, piping, etc. shall be isolated from the structure by means of approved vibration absorbing units as provided or recommended by the equipment manufacturer or architect.

Sleeves: Each contractor shall furnish required sleeves. Sleeves shall be extended 2" above the floor, wall, etc. unless noted otherwise and shall be galvanized steel pipe and of the required size. The contractor responsible for running pipes in the sleeve shall caulk the space between pipe and sleeve with oakum and seal with mastic cement or other approved material.

Electric Motors: Each contractor shall provide all electric motors for their respective work. Verify building voltage prior to ordering motors. Motors shall be N.E.M.A. standard design for quiet operation and of ample size to operate at their proper load and full speed continuously without causing undue noise or vibration. All motors to be drip-proof construction and have ball bearings. Provide all belted motors with guide rails, adjusting screws, anchor bolts, and cast iron bed plates. Furnish standard size V belts and pulleys. Provide full voltage magnetic starters for all three-phase motor-driven equipment. (General Electric CR7006 or Allen-Bradley Bul. 709.)

Electrical Wiring: The electrical contractor shall furnish all wiring required for the operation of motors and controls.

Damage to Other Work: Each contractor will be held rigidly responsible for all damages to their own or any other trades' work resulting from the execution of the involved contractor's work.

Large Equipment: All large equipment which is to be installed in the building that may be too large to enter through stairways, doorways, or shaft shall be brought on the job and placed in the proper space before the enclosing structure is completed, unless arrangements are made with other contractors to permit access at a later date, without additional cost to Walgreen Co.

Rough-in for Connection to Equipment: It shall be the responsibility of each contractor to study the architectural, structural, electrical, and mechanical drawings, conferring with the various trades involved and checking with the supplier of equipment in order to properly rough-in for all equipment.

Material and Equipment: All material and equipment shall be new and of the best quality used for the purpose in good commercial practice, and shall be the standard product of reputable manufacturers. The material and equipment must meet approval of state and local codes in the area it is being used.

Construction Superintendent: The term "construction superintendent" shall herein be referred to synonymously as Walgreen Co.'s construction superintendent.

Performance of Work: All work outlined in the various mechanical and electrical sections shall be done by the contractor under whose jurisdiction the work may fall. See drawings and specifications.

Roof decks shall not be used to support piping, conduit, equipment (except roof mounted) devices, etc.

1.02 SUPPLEMENTARY CONDITIONS

Refer to other requirements of mechanical and electrical work in Division 1 without exception.

Visit to Site: Each contractor is directed to visit the site to verify dimensions and existing conditions of mechanical, electrical, and plumbing systems, and will thoroughly acquire information regarding grades, space conditions, limitations, and peculiarities of construction required for the building and site and will give due consideration to same in preparation of proposal. No exceptions will be considered after award of a contract, nor will the contractor be entitled to any extra compensation for their failure to verify conditions at the site.

Permits, Inspections, and Tests: All work is to be executed in compliance with, and each contractor is to observe and abide by, all applicable laws, regulations, ordinances, and rules of the national, state, county, and local governing agencies, or any other duly constituted public authority. Each contractor will, at all times, maintain proper facilities and provide safe access for inspection to all parts of the work and to the shops wherein the work is in preparation. No work will be enclosed or covered until approved by the architect, and should any work be enclosed or covered before all necessary inspections are completed, same will be opened for examination at the contractor's expense. All fees, licenses, tests, costs, etc. are contractor's responsibility.

Rules, Regulations, and Codes:

1. All material and equipment shall conform to the standards, where available, or the National Electrical Manufacturers Association (N.E.M.A.), National Fire Protection Association (N.F.P.A.), National Electrical Code (N.E.C.), and Underwriters Laboratories (U.L.).
2. All work shall conform to all applicable federal, state, and local codes and utility companies' regulations.

Workmanship and Installation: Walgreen Co. shall decide whether or not the finished work is satisfactory in their judgment. If any material and/or equipment has not been properly installed or finished, this contractor is obligated to replace the material or equipment wherever required and to reinstall the material or equipment in a manner entirely satisfactory at this contractor's expense (without additional cost to Walgreen Co.).

Guarantee: Each contractor shall guarantee each complete system for a period of one (1) year from the date of acceptance of the work by Walgreen Co. to be free of defects of material and workmanship and that any faulty material or workmanship will be repaired or replaced without additional cost to Walgreen Co.

Cooperation: There shall be complete cooperation with all trades in the matter of planning and execution of the work. Every reasonable effort shall be made to prevent conflict as to space requirements, dimensions, locations, leaving of opening, or other matters to obstruct or delay the work.

1.03 SUBSTITUTIONS

Material Substitution: The name of an article or its make, as given in the specifications and drawings, is used to establish a standard for the guidance of the contractor. He may propose substitution of other material or equipment (unless specifically stated no substitution accepted).

Should the contractor propose to furnish materials and equipment other than those specified, as permitted by the "acceptable alternate" clause, he shall submit a written request for any or all substitutions to Walgreen Co. Such a request shall be accompanied with complete descriptive and technical data for all items (manufacturer, brand name, catalog number, descriptive literature,

and capacity tables); stating in each case what addition to or deduction from the main bid is to be made if such alternates are accepted.

Where such substitutions alter the design or space requirements indicated on the plans, the contractor shall include all items of cost for the revised design and construction including cost of all allied trades involved.

Mail to: Walgreen Co.
Facilities Planning, Design & Engineering
MS 1620
106 Wilmot Road
Deerfield, IL 60015

Acceptance or rejection of the proposed substitutions shall be subject to the approval of Walgreen Co., and if specific approval in writing is not received, it is understood that the requirements as outlined in the Walgreen Co. plans are to be met.

END OF SECTION

SECTION 16400 - SERVICE AND DISTRIBUTION

PART I - GENERAL

1.01 DESCRIPTION

Division 1, General Requirements and Section 16050, Basic Electrical Materials and Methods, shall be considered a part of these specifications.

Codes, Ordinances, and Permits: All permits, licenses, stamping, approvals, and other arrangements for work shall be obtained by the electrical contractor. All expenses shall be included in the base bid. All electrical work shall be executed in strict accordance with the National Electrical Manufacturers Association (N.E.M.A.), National Board of Fire Underwriters (N.B.F.U.), National Electrical Code (N.E.C.), Underwriters Laboratories (U.L.), all electrical ordinances of the city, county, and state, and all others applicable to all codes and are of the minimum requirements. Any conflict between drawings, local power company, codes, etc., shall be brought to the attention of Walgreen Co. by this contractor at the time the bids are submitted.

Scope of Work: The work covered by this specification shall include furnishing all labor, tools, material, equipment, and services to construct and install the complete electrical system as shown on the accompanying plans and as specified herein. This work includes, but is not limited to, the following:

1. Service entrance equipment bus to be standard aluminum alloy, including main distribution equipment, metering, secondary distribution equipment. Transformers with aluminum windings are acceptable. All wiring to be copper, Aluminum wiring, etc. is not approved, unless noted otherwise. The electrical utility company metering shall include a demand meter available for billing purposes.
2. Complete distribution system bus of standard aluminum alloy for lighting and power, including the necessary transformers, distribution panel boards, disconnect switches, control switches, and receptacles. All wiring to be copper (feeders, branch circuits, etc.)
3. Empty raceways as required.
4. Receiving, handling, setting, and connecting motors and controls.
5. Furnish and install a complete emergency lighting and/or exit lighting system if required by local codes.
6. Furnish and install all conduit and wiring for temperature control system. Wiring to be copper.

1.02 SUBMITTALS

This contractor shall submit to Walgreen Co. product data for Power distribution equipment before starting work.

PART II - PRODUCTS

2.01 MAIN DISTRIBUTION PANELBOARDS

Panelboards shall be manufactured by General Electric Co., Siemens or Square D.

Panelboards shall be molded case main circuit breaker type with factory installed service entrance type UL label. **Bus in all panelboards shall be standard aluminum alloy.**

Panelboards and devices contained therein shall have **fully rated** interrupting rating as shown on the drawings but **in no case less than 65,000 amperes rms**. Panelboard shall be labeled with UL short circuit withstand rating. Panelboards shall be assembled complete with bolt-on circuit breakers and spares. Circuit breakers shall be with thermal and magnetic trip elements and shall be quick-make, quick-break and trip indicating. Circuit breaker type, ampere rating and interrupting rating at common application voltages shall be marked on the circuit breaker in a manner that will be durable and visible after installation.

Equipment shall be enclosed in cabinets with proper gutter supports and hinged doors. Provide a laminated bakelite nameplate on the front of each panel and one at each branch circuit device.

Panelboard enclosures shall be marked per NEC 1999, Art.110-22 to indicate the downstream lighting panelboards fed from MDP have been applied with a series combination interrupting rating. The following typically readily visible label shall be permanently installed by the manufacturer on panel MDP enclosure:

“CAUTION”
SERIES RATED SYSTEM
To Maintain UL Series Combination Interrupting Rating
of Downstream Panelboards Replace Only with
Siemens 200 A Type Circuit Breakers.

The following safety sign shall be provided on Panel MDP enclosure:

“CAUTION”
Only Qualified Technician Shall reclose Circuit Breaker

Panelboard shall be equipped with an integral transient voltage surge suppressor (TVSS). The TVSS shall be factory installed as close as possible to the neutral bus. The TVSS shall satisfy the following minimum requirements:

- Surge current per mode: 60 KA
- Seven modes of protection
- Status LED's
- Audible alarm
- Dry contact for remote monitoring
- 5 year warranty

The following TVSS shall be utilized by the current vendors:

GE: TME120Y065PP (120/208 V, 3 ph, 4 W).

Siemens: XF120 (120/208 V, 3 ph, 4 W).

Square D: FC21MA10 (120/208 V, 3 ph, 4 W), FC31MA10 (120/240 V, 3 ph, 4 W).

2.02 PANELBOARDS

Panelboards shall be manufactured by General Electric Co., Siemens, or Square D.

Panelboards shall be main lug only, assembled complete with circuit breakers and spares.

Bus in all panelboards shall be standard aluminum alloy. Circuit breakers shall be rated at 10,000 amperes rms for 120/240 volt system. Panelboards shall also have additional series combination interrupting rating equal to the rating of the main distribution panel MDP by utilizing **UL tested and certified** circuit breaker combinations. Each lighting panelboard shall be marked per NEC 1999, Art. 110-22 and 240-86 to indicate that the series combination interrupting rating is applied. It shall also indicate **additional UL series combination interrupting rating** of the panelboard and type and size of replacement upstream and branch devices. The following

typical readily visible label shall be permanently installed by the manufacturer on panel dead front:

“CAUTION”
SERIES RATED SYSTEM
To Maintain UL Series Combination Interrupting Rating
of Downstream Panelboards Replace Only with
Siemens Type Circuit Breakers.
Short Circuit Rating: **65,000 Amperes RMS Symmetrical**
Feeder Breaker in MDP: **Siemens 200 A Type**

Circuit breakers shall be with thermal/magnetic trip, quick-make/quick-break and trip-free handles. For circuits that are not to be turned off, use handle lock-on. Breakers for either 120/240 or 120/208 volt shall be similar to Siemens bolted in type as furnished in “” lighting panels. Panels shall have a minimum of 20% spare circuit breakers. Circuit breaker type, ampere rating and interrupting rating at common application voltages shall be marked on the circuit breaker in a manner that will be durable and visible after installation.

Provide a laminate bakelite nameplate on the front of each panel.

2.03 DISCONNECT SWITCHES

Disconnect switches shall be of positive action, quick-make/quick-break type with inter-locking cover that prevents opening door when the external operating handle is in the “on” position. Switches outside the building shall be NEMA type 3R raintight enclosures.

240 volt switches shall be general duty, for voltages above 240 V switches shall be heavy duty.

2.04 OUTLET BOXES

All pull boxes and junction boxes shall be standard galvanized steel type.

2.05 RACEWAYS

Conduit, unless otherwise noted, shall be either rigid electrical metallic tubing (EMT) or rigid steel. All appropriate requirements for raceways must be met by the authority having jurisdiction.

EMT to be used above grade, where permitted by code, except for service and in moist areas. EMT shall be thoroughly protected from corrosion by electro-galvanizing, hot-dipped galvanizing, or appropriate plating.

Rigid steel conduit shall be used at bottom of subbase material (and above vapor barrier when required) of ground bearing floor slabs, where subject to damage, in moist or outdoor areas, and for underground installations--except where another type of raceway is specified. Rigid steel conduit, conduit bends, elbows, couplings, and nipples shall be hot-dipped galvanized. All conduit joints shall be cut square, threaded, reamed smooth, and drawn up tight. Bends or offsets shall be made with standard conduit els, field bends made with an approved bender or hickey, or hub-type conduit fittings. Number of bends per run shall conform to National Electrical Code limitations.

Plastic conduit (PVC) and fittings are acceptable below sub-base material of ground bearing floor slabs and direct earth burial. Type of PVC conduit must be UL listed for application and acceptable to the authority having jurisdiction. Minimum cover shall be as required by the NEC.

Hot-dipped flexible steel conduit shall be used for connections to vibrating or motorized equipment. In areas where such connections will be exposed to oil, grease, water, or weather, flexible liquid-tight conduit shall be used.

Conduit shall be sized as indicated on drawings, or required by the National Electrical Code for number and size of conductors installed. Minimum conduit size shall be ½ inch.

BX, nonmetallic cable (NMC/ROMEX) or pre-wired flexible conduit systems are not acceptable.

Steel MC cable allowed above slab, color coded style W, when acceptable to the local code authority. Contact AFC @ (630) 968-8914 for more information.

2. MC cable shall be properly secured and supported at intervals not exceeding 6 feet, per NEC article 330.

2.06 CONDUCTORS

All wire and cable for feeder and branch circuits shall conform to the requirements of the current edition of the National Electrical Code.

All conductors shall be soft drawn copper and unless otherwise noted on the drawings, branch circuit conductors shall be type "THHN" and/or "THWN" insulated.

2.07 WIRING DEVICES

Wiring devices shall include all general purpose receptacles and wall switches with high impact nylon cover plates, ivory in color. Receptacles (with high impact nylon cover plates) circuited from Panel LP-CR shall be brown in color.

Light switches shall be ivory in color. Hubbell (A.C. rated) 1200 or 1220 series. Acceptable Alternate Manufacturers: Pass and Seymour (P&S), General Electric Co. (G.E. Co.) or Leviton.

General purpose receptacles shall be ivory in color, unless otherwise noted. Acceptable Manufacturers: Hubbell, Pass and Seymour (P&S), General Electric Co. (G.E. Co.) or Leviton.

Transient voltage surge suppressor receptacles, brown in color, shall be as manufactured by Pass and Seymour (P&S). (No substitutions.)

PART III - EXECUTION

3.01 INSTALLATION

Temporary Light and Power: Electrical contractor shall furnish all labor and material required to provide temporary light and power. The general contractor shall pay all charges for electric current used for temporary lighting and power.

Electrical Service: Electrical service and meters shall be installed and shall conform to the requirements of serving utility and codes. The type and voltage must be checked with serving utility and any conflict between drawings and utility shall be immediately brought to the attention of Walgreen Co.

Main Distribution Panelboards, Panelboards, and Cabinets: Electrical contractor shall furnish and install the main distribution boards, power and lighting panelboards, and cabinets.

Disconnect and Safety Switches: Electrical contractor shall furnish and install fusible and/or non-fusible safety switches.

Electric Heaters: Electrical contractor shall furnish and install all electric-type heaters.

The electrical contractor shall install all starters, switches, and electrical equipment furnished under other contracts and shall furnish and install all disconnect switches and electrical that is required for the completion of the job.

Conduit shall be installed concealed and tight to bar joist wherever possible, except where otherwise indicated. Install the conduit exposed in stock areas, baler rooms, or similar spaces. Conduit shall be separated by at least 12 inches from parallel runs of steam or hot water piping.

Conduits shall be continuous from outlet to outlet, from outlets to cabinets, pull, or junction boxes, and shall be secured to all boxes with locknuts and bushings (insulating type) in such a manner that each system shall be electrically continuous throughout. Conduit ends shall be capped to prevent entrance of foreign materials during construction. Conduits shall be securely and rigidly supported.

Furnish and install pull boxes and junction boxes where necessary in the raceway system to facilitate conductor installation (allow for pulling tension and other National Electrical Code criteria).

Receptacle Circuits:

1. No wire smaller than #12 shall be used for any branch circuit supplying convenience outlets. Branch circuit wiring shall be sized to limit the voltage drop to National Electrical Code requirements. All wire to be copper.
2. Receptacle circuits shall be circuit breaker controlled.
3. Receptacles for specific areas shall be of the size and type required.

Lighting Circuits:

1. No wire smaller than #12 shall be used for any lighting branch circuit.
2. Branch circuit wiring shall be sized to limit the voltage drop to National Electrical Code requirements.
3. No 120 volt lighting shall exceed 1600 watts. No 277 volt lighting circuit shall exceed 3600 watts.

Panel 'LP-CR' Feeder and branch circuit conductors must be run separate from other panel conductors. **DO NOT** run through a common raceway or trough.

Lighting Controls: Certain circuits in lighting panels LP-1, LP-SP and LP-2 shall be remotely controlled to control individual lighting circuits. Power wiring between relays and circuit breakers shall be furnished by the manufacturer. Refer to lighting control system drawings E2.1A, E2.1B and E2.1C.

Critical Loads: Provide lock-on hardware for all critical loads (such as: cooler/freezer equipment, computers, cash registers, etc.).

Temperature Control Wiring: All conduit and control wiring for mechanical equipment, unit heaters, circulating pumps, air conditioning equipment, and ventilation fans shall be installed by the electrical contractor, as directed and supervised by the temperature control contractor.

Equipment Connections: All equipment provided under this section of the specifications or other sections of these specifications requiring electrical service, including all equipment furnished and installed by Walgreen Co. shall be completely wired and connected under this section.

Labeling: All circuits shall be labeled. Panel schedules shall be typed and securely mounted on the inside of the electrical panel box doors.

Uninterruptible Power Supply: For all projects in Colorado, Florida, Hawaii, Louisiana, Puerto Rico, and the Gulf coast of Texas (within 100 miles of the coastline) the electrical contractor shall furnish and install a central U.P.S. system (8 kVA in the continental United States and 18 kVA in Hawaii and Puerto Rico) ahead of the cash register panel, "LP-CR". See drawing E2.2 (at <http://facilities.walgreens.com>) for further information. **Contact the Toshiba UPS retail account manager at 1-800-231-1412 (start-up service is included with purchase).**

Engine Generator Set: For all projects in Puerto Rico and the Florida Keys, the electrical contractor shall furnish and install a full load engine generator set. See Drawing E2.3 (at <http://facilities.walgreens.com>) for further information.

3.02 TESTING

After wires are in place and connected to devices and equipment, the system shall be tested for shorts and grounds. All hot wires, if shorted or grounded, shall be removed and replaced if trouble is within circuit.

Any wiring device or apparatus furnished under this contract, if grounded or shorted, shall be removed and the trouble rectified by replacing all defective parts of materials as directed.

END OF SECTION

SECTION 16500 - LIGHTING

PART I - GENERAL

1.01 DESCRIPTION

Section 01010 Summary of work and Section 16050, Basic Electrical Materials and Methods, shall be considered part of these specifications.

The electrical contractor shall furnish and install a complete lighting system consisting of, but not limited to, fixtures complete with ballasts, lamps, sockets, auxiliaries, and electrical wiring.

The electrical contractor shall furnish all labor and materials required to install all lighting fixtures including those furnished by others.

Fixture Labels: U.L. listed and labels I.B.E.W.-A.F. of L.

No substitution of light fixtures will be accepted.

Outdoor Lighting - Building and Parking Areas: See Criteria drawing E0.1 for specific foot-candle and uniformity requirements.

1.02 SUBMITTALS

This contractor shall submit to Walgreen Co. product data for all light fixtures before starting work.

1.03 GUARANTEE

Provide a one (1) year guarantee against mechanical defects in manufacture.

PART II - PRODUCTS

2.01 LUMINAIRES

Light fixtures shall be as listed on the lighting fixture schedule.

Lamps shall be as listed on the lighting fixture schedule.

PART III - EXECUTION

3.01 INSTALLATION

Install lighting fixtures and accessories in accordance with the manufacturer's instructions.
See section 09510, Part III, paragraph 3.02.B.

Exit Lights and Emergency Lighting System: Furnish and install a complete emergency lighting and/or exit lighting system. System and provisions shall comply with local requirements and codes.

Exterior Signs:

1. Exterior signs shall be furnished and installed by Walgreen Co. sign contractor, who shall make final connections to same.

2. The electrical contractor shall provide outlets from Walgreen Co. sign panel, "LP-SP," to the exterior face of the building or canopy for exterior signage.

Pylon Sign: The electrical contractor shall furnish and install electrical requirements to the base of pylon sign from Walgreen Co. sign panel, "LP-SP," for lighting required.

3.02 TESTING

Any lighting fixture furnished under this contract, if grounded or shorted, shall be removed and the trouble rectified by replacing all defective parts of materials as directed.

END OF SECTION

SECTION 16600 - SPECIAL SYSTEMS

PART I - GENERAL

1.01 DESCRIPTION

- A. Division 1, General Requirements, and Section 16050, Basic Electrical Materials and Methods, shall be considered a part of these specifications.
- B. Furnish and install, complete with all related items, the preparation rough-in wiring and partial installation for the following special systems:
 - 1. Ethernet
 - 2. Satellite
 - 3. Burglar alarm
 - 4. Closed circuit television (CCTV)
 - 5. Telephone
 - 6. Sound
- C. All work shall be done under the supervision of an accredited installation company in the low voltage systems specified.
- D. This contractor shall furnish all labor, materials, tools, and the necessary appurtenances to install the special system.
- E. For plenum ceiling installations, all appropriate requirements for raceways and cable of the authority having jurisdiction shall be met.
- F. Install the aforementioned special systems consisting of conduits, boxes, wiring, and equipment.
- G. Except where a conduit only system is specified, the system shall be completely wired (in conduit except where otherwise shown or specified) and operating, any items required to achieve this shall be provided whether or not they are specifically mentioned herein. Wiring shall be in accordance with the manufacturer's recommendations and/or wiring diagrams approved by Walgreen Co.
- H. Wherever conduit is required or used, it shall be concealed and outlets shall be flush except as otherwise directed. "Conduit only" system(s) shall have nylon fish wire for future installation of wiring.
- I. Tests, where required, shall be made in cooperation with the representatives of Walgreen Co. as directed. The contractor shall provide all labor and materials required for such tests.
- J. All wiring within pieces of equipment shall be point-to-point with appropriate terminal connections for every wire and component termination.

PART II - PRODUCTS (NOT USED)

PART III - EXECUTION

3.01 ETHERNET SYSTEM INSTALLATION

- A. Ethernet cables are furnished and installed by Walgreen Co. Contractor. For precautions, wiring methods, procedures, and pertinent information refer to the drawings. "The comlink" is a specialty cable referenced within the Ethernet system plans and details.

3.2 SATELLITE ANTENNA SYSTEMS INSTALLATION

- A. The satellite antenna system, including all cables, interfacilities link (IFL), and other related cables to be furnished by Walgreen Co. and installed by the electrical contractor.
- B. Final connections to all equipment shall be the responsibility of Walgreen Co.
- C. A.C. power and cable rough-in provisions shall be the responsibility of this contractor.

3.03 BURGLAR ALARM SYSTEM INSTALLATION

- A. Furnish and install cables to the Walgreen-furnished burglar alarm system.
- B. Final connections of the equipment and devices shall be the responsibility of Walgreen Co.
- C. For specifications of cable, refer to the criteria drawings. Cables shall be furnished as a landlord responsibility.

3.04 COVERT CLOSED CIRCUIT TV (CCTV) SYSTEM INSTALLATION

- A. Walgreens Contractor to furnish and install cable and connectors. For specification of cable, refer to the criteria drawings.
- B. Walgreens Contractor shall provide all final connections under the direction of Walgreen Co.

3.05 TELEPHONE SYSTEM INSTALLATION

- A. The furnishing and installing of telephone equipment and instruments shall be the responsibility of Walgreen Co.
- B. All public phones shall be provided with conduit and wiring from telephone equipment location to the telephone outlet.
- C. Provide 200 watt outlet (fed from panel LP-CR) located at the telephone equipment.
- D. Coordinate with the local telephone company on installation, details, schedule, etc.
- E. Provide the conduit from the telephone equipment location to the property line for the utility company's incoming service lines.

- F. Walgreens Contractor shall furnish and install all telephone wiring. Provide a three (3) pair telephone cable from the telephone equipment location to each telephone outlet. For specification of telephone cable, refer to the criteria drawings.

3.06 SOUND SYSTEM INSTALLATION

- A. Sound system (music and paging) equipment shall be furnished by Walgreens Contractor and installed by the Walgreens Contractor.
- B. Walgreens Contractor shall furnish and install all sound system wiring.
- C. For designs involving plenum ceilings, conduit and back boxes are required.

END OF SECTION

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SECTION 16720 - FIRE ALARM SYSTEM

PART I - GENERAL

1.01 STANDARDS

Furnish and install complete, electrically supervised, closed circuit fire alarm system when required by the local authority having jurisdiction.

The fire alarm system shall conform to the requirements in this specification, Section 16A, Electrical General Conditions, and comply with the latest adopted edition of the following:

NFPA 72 (Chapters 1-7 as applicable)

NFPA 90A

The International Building Code

Local building & fire codes (as applicable)

All equipment comprising the fire alarm system shall be listed, labeled, or approved by Underwriters Laboratories, Inc. for use as fire alarm equipment.

1.02 DESCRIPTION OF WORK

Provide a complete, supervised fire alarm system including conduit (by the electrical contractor), wire, boxes, control panel, smoke detectors, pull stations, audio/visual signal devices, and sprinkler waterflow and supervisory switches. The sprinkler switches shall be provided under Section 15, Work (See letter H – under 2.01 Fire Alarm Devices), and connected to the fire alarm system by the fire alarm supplier.

Walgreens' preferred fire alarm vendors are ADT Security Services, Inc. at (800) 640-9390 and F.E.Moran at (586) 228-5788 (See drawing E1.6 for fire alarm vendor territories). It is mandatory that they monitor the fire alarm system when required by the local code authority. They will provide a full turnkey price on the fire alarm system. They will require the 8 ½ X 11 layout shown on the E1.6 be faxed to them (ADT at (630) 455-0139 and F.E. Moran at (586) 228-5758), please include your company letterhead, contact person, store number, city and state for each new location. The fire alarm vendor needs at least five days to provide fire alarm price. Their Fire Supervisors will contact the local authority having jurisdiction to determine the exact minimum requirements. All materials and labor are required to meet local fire safety regulations, codes, adopted ordinances, and local requirements of the local authority having jurisdiction. Whether enumerated herein, shown on plans, or not, shall be furnished.

The complete fire alarm system, including installation, is the responsibility of the landlord.

Duct smoke detectors (SD) are furnished and factory installed with some HVAC units. Refer to section 15500 of the specifications and drawings for details.

The Fire Alarm Contractor shall provide power wiring (24 volt) to all smoke detectors. The Fire Alarm Contractor shall also provide an operational remote test/reset station for all duct smoke detectors. Where an approved fire alarm system is installed in the building, all duct smoke detectors shall be connected to the fire alarm system as required by NFPA. The Fire Alarm Contractor shall wire and arrange the HVAC units to shutdown on an alarm output from the fire alarm panel, when required by code.

The Fire Alarm Contractor may use the SDs that were factory installed on the HVAC units. The Fire Alarm Contractor shall supplement those factory installed smoke detectors as necessary to

provide a complete operating fire alarm system that fully complies with applicable codes, ordinances, the local fire department, local inspectors and other authorities having jurisdiction.

If approved by the local authority having jurisdiction, the fire alarm system supplier may eliminate conduit and run approved type open wiring above suspended ceilings and within exposed bar joists. Where wiring is required down exposed walls in warehouse or stock areas, wiring is to be installed in EMT to the height of 15 feet above floor level. All wiring supports and installation shall conform to the National Electrical Code.

If Walgreens' preferred vendors (ADT Services, Inc. or F.E. Moran) do not install the fire alarm system, they must be contacted at least eight (8) weeks prior to final inspection to contract for commencement of the fire alarm monitoring. **There is a program and testing fee associated with this service, to ADT Security and F.E. Moran based upon the amount of lead time given.** If ADT or F.E. Moran do not perform the installation of the Fire Alarm system, the following items are required by the Fire Alarm supplier:

Reprogram contract must be signed and returned a minimum of 60 days before scheduling on site.

The entire fire alarm installed completely, includes wiring to fire panel, wiring the phone jacks to panel and a full acceptance test by the fire contractor.

Phone lines must be active to the site before scheduling ADT to commence fire alarm monitoring. Fire Alarm supplier is required to meet fire alarm vendor (ADT or F.E. Moran) on site with copies of permit, approved drawings with riser diagram, battery calculations, voltage drops, wire legend and any other requirements the Authority having Jurisdiction requires. A Certificate of Completion (use NFPA 72 form) form filled out before ADT or F.E. Moran reprograms the fire control for monitoring.

Fire Alarm supplier is responsible for Final Fire Inspection, after ADT or F.E. Moran is monitoring the location. **There is no re-program and test fee for the fire alarm system if ADT or F.E. Moran does the turnkey system.**

1.03 QUALITY ASSURANCE

Provide products which have been tested, listed, and labeled by Underwriters Laboratories, Inc., which comply with NEMA standards, and are approved by Factory Mutual Research.

PART II - PRODUCTS

2.01 FIRE ALARM DEVICES

- A. A fire alarm control panel shall be Silent Knight, 5208, Fire Lite MS-9200UDLS, Fire Lite MS-UD, Fire Lite MS-OD, including dual battery harness, dual phone line switches, and two 8-foot telephone cords Telephone jacks (if required) shall be RJ31X, ground GND. Telephone lines (2) are supplied by Walgreens. The fire alarm control shall include battery backup, BP-BP17-12-T2, BP-BP7-12-T2, BP-BP26-12-T2; Fire Lite BB-17, Fire Lite BB55 (if required); Silent Knight model 5217, zone expander module, Silent Knight model 5495, Fire Lite FCPS-24FS6 (if required), and direct connect module, Silent Knight model 5235 (if required).
- B. Fire alarm annunciator shall be Remote keypad/Annunciator, Silent Knight model 5235, Fire Lite LCD80F, or LED-10 (if required).
- C. Manual pull station shall be Fire Lite, model BG12LX, BG12 (if required).
- D. Fire alarm indicating devices shall be horn/strobe, Wheelock AS Series, MT Series, and RSS Series (if required).

- E. Smoke detectors shall be Sentrol SE-429CT, Sentrol SE-449CT, Fire Lite SD355. Included shall be one (1) End of Line power supervision relay, Silent Knight model EOL-1224RLY for each zone of smoke detectors (if required).
- F. Heat detectors shall be Edwards ED-280B-PL, or Fire Lite H355 (if required).
- G. Duct smoke detector, shall be System Sensor model DH100ACDLP. Included with each detector shall be one (1) Remote Indicator/Test Switch, System Sensor model RTS451, one (1) set of sampling tubes, System Sensor models ST5 or ST10. Included shall be one (1) End of Line power supervision relay, Silent Knight model 160150, for each zone of detectors. Acceptable alternate manufacturer: GE/Telaire Series TSD.
- H. The fire-suppression system contractor shall provide waterflow and valve tamper switches.

PART III - EXECUTION

3.01 INSTALLATION

The fire alarm control panel shall be mounted where shown on drawings provided by the Fire alarm contractor. A dedicated 120 VAC, 20 ampere circuit, termination to the Fire alarm control panel shall be provided by the electrical contractor. Coordinate connection to the telephone lines (2) provided by Walgreens. The remote keypad/annunciator shall be mounted where required by local code and/or authority having jurisdiction.

B. The fire alarm system shall be installed under the supervision of a factory trained supervisor. Prior to final inspection, the supervisor shall test all operating features and consequently make all necessary adjustments and corrections to the equipment comprising the fire alarm system provided as work under this section.

Install complete wiring system as required for the fire alarm system. Conceal wiring except in stockrooms and areas where other conduit and piping are exposed.

Code all conductors appropriately and permanently, by number and/or color, for the purpose of identification and servicing of the fire alarm system within the control panel, and at each point of termination outside the control panel.

END OF SECTION

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