SUBSTANTIAL COMPLETION: Before requesting inspection for certification of Substantial completion, complete the following:
In the Application for Payment that coincides with the date Substantial Completion is claimed, show 100 percent completion for the portion of the work claimed substantially complete Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, property survey and similar record information. Changeover permanent locks and transmits keys to the Owner. Completion start-up testing of systems. and instruction of the owner's personnel. Remove temporary facilities from the site, along with construction tools. mock-ups, and similar elements. Complete final clean up. Touch-up and repair and restore marred exposed finishes

INSPECTION PROCEDURES: On receipt of a request for inspection. the Architect will proceed or advise the Contractor of unfilled requirements. The Architect will prepare the Certificate of Substantial Completion following inspection, or advice the Contractor of construction that must be completed or corrected before the Certificate will be issued. The Architect will repeat inspection when requested and assured that the work has been substantially completed. Results of the completed inspection will form the basis of requirements for final acceptance

FINAL ACCEPTANCE: Before requesting inspection for certification of final acceptance and final payment, complete the following:
Submit the final payment request with releases.
Submit a final statement, accounting for changes to the Contract Sum.
Submit a certified copy of the Architect's final punch-list of itemized work to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and has been endorsed and dated by the Architect.
Submit final meter readings for utilities, a record of stored fuel. and similar data as of Substantial Completion.
Submit consent of surety to final payment.
Submit evidence of continuing insurance coverage complying with insurance requirements.

REINSPECTION PROCEDURE: The Architect will re-inspect the Work upon receipt of the contractor's notice that the work, including punch-list items resulting from earlier inspections. has been completed, except for these items whose completion has been delayed because of circumstances that are acceptable to the Architect. Upon completion of re-inspection, the Architect will either prepare a certificate of final acceptance. or will advise the Contractor of work that is incomplete or of obligations that have not been fulfilled, but are required for final acceptance. If necessary, the re-inspection procedure will be repeated.

RECORD DOCUMENT SUBMITTALS: Do not use Record Documents for construction purposes; protect from loss in a secure location; provide access to Record Documents for the Architect

RECORD DRAWINGS: Maintain a clean, undamaged set of blue or black line whiteprints of Contract Drawings and Shop Drawings. Mark up these drawings to show the actual installation Mark whichever drawing is most capable of showing conditions accurately. Give particular attention to concealed elements that could be difficult to measure at a later date. Organize record sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover.

RECORD SPECIFICATIONS: Maintain one copy of the Project Manual. including addenda. Mark to show variations in actual Work performed in comparison with the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot be readily discerned later by direct observation.

*Note related record drawing information and Product Data.

Upon completion of the Work, submit record Specifications to the Architect for the owner's records.

MAINTENANCE MANUALS: Organize maintenance data into sets of manageable size. Bind in individual heavy-duty 2-inch, 3-ring vinyl-covered binders, with pocket folders for folded sheet information. Mark identification of front and spine of each binder. Include the following information:

*Emergency instructions.
*Copies of warranties.
*Recommended "turn around" cycles.
*Shop Drawings and Product Data.
*Spare parts list
*Wiring diagrams
*Inspection procedures
*Fixture lamping schedule

OPERATING AND MAINTENANCE INSTRUCTIONS: Arrange for the installer of equipment that requires regular maintenance to meet with the Owner's personnel to provide instruction in proper operation and maintenance. Include a detailed review of the following:

*Maintenance manuals.
*Tools.
*Control sequences.
*Warranties and Bonds.
*Spare parts and materials
*Lubricants.
*Hazards.

Maintenance agreements and similar continuing commitments

As part of instruction for operating equipment, demonstrate the following procedures:

*Start-up and shut down.
*Emergency operations.
*Noise and vibration adjustments
*Safety procedures

FINAL CLEANING: Employ experienced workers for final cleaning. Clean each surface to the condition expected in a commercial building cleaning maintenance program. Complete the following before inspection for certification of Substantial Completion: Remove labels that are not permanent labels.

Clean transparent materials. Remove glazing compound. Replace chipped or broken glass. Clean exposed hard surface finishes to a dust-free condition, free of stains, films and similar foreign substances. Restore reflective surfaces to their original reflective condition. Leave concrete floors broom clean. Vacuum carpeted surfaces.

Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication. Clean plumbing fixtures to a sanitary condition. Clean light fixtures and lamps. Clean the site of rubbish, litter and other foreign substances. Sweep paved areas; remove stains, spills and other foreign deposits. Rake grounds that are neither paved nor planted to a smooth even-textured surface.

PEST CONTROL: Engage an experienced exterminator to make a final inspection, and rid the Project of rodents, insects and other pests.

REMOVAL OF PROTECTION: Remove temporary protection and facilities.

COMPLIANCE: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Remove waste materials from the site and dispose of in a lawful manner

Standard Products Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner

Special Warranties are written warranties required by or incorporated in Contract Documents, to extend time limits provided by standard warranties or to provide greater rights for the Owner

DISCLAIMERS AND LIMITATIONS: Manufacturer's disclaimers and limitation on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products. nor does it relieve suppliers, manufacturers, and Subcontractors required to countersign warranties with the Contractor

RELATED DAMAGES AND LOSSES: When correcting warranted Work that has failed, remove and replace other work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.

REINSTATEMENTS OF WARRANTY: When work covered by a warranty has failed and been corrected, reinstate the warranty by written endorsement. The reinstated warranty shall be crucial to the original warranty with an equitable adjustment for depreciation.

REPLACEMENT COST: On determination that Work covered by a warranty has failed, replace or rebuild the Work to an acceptable condition complying with requirements of Contract The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through part of its useful service life.

Submit written warranties to the Architect prior to the date certified for Substantial Completion. If the Architect's Certificate of Substantial Completion designates a commencement date for warranties other than the date of Substantial Completion, submit written warranties on the Architect's request.

CONTRACTOR'S GUARANTEE: The Contactor does hereby guarantee all equipment, apparatus and parts against defects in design workmanship, or material where not otherwise specified for a period of not less than **one (1)** year after completion of the Contract. Any parts found to be defective shall be replaced at the Contractor's expense. In the event that one or more of the defects mentioned above shall appear within the specified period, the Owner shall have the right to continue to use or operate the defective part of the apparatus until the Contractor is able to make repairs to replacements, or until such time as it can be taken out of service without loss or inconvenience to the Owner. In case of defective minor parts, the Owner may, at his own expense, do the work of installing replaced defective parts, provided he finds it is to his interest to do so.

SCOPE

Includes site clearing, trees removal and demolition of minor structures. Coordinate with other "site work" sections.

SITE CLEARING

TRAFFIC: Conduct site clearing operations to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities. Do not close or obstruct streets. walks or other occupied or used facilities without permission from authorities having jurisdiction.

PROTECTIONS: Provide temporary fences, barricades coverings. or other protections to preserve existing item indicated to remain and to prevent injury or damage to persons or property Apply protections to adjacent properties as required.

RESTORE DAMAGED WORK: Restore damaged work to condition existing prior to start of work, unless otherwise directed.

TREES: Protect existing trees and vegetation to remain from physical damage. Do not store materials or equipment within tree drip line. Use licensed arborist for tree damage repair Replace damaged trees that cannot be restored to full growth, as determined by arborist, unless otherwise acceptable to Architect

UTILITIES: Maintain existing utilities and protect from damage during demolition operations. Do not interrupt existing utilities; provide temporary services if required, as acceptable to the Architect.

SITE CLEARING: Remove trees, shrubs, grass, and other vegetation. improvements, or obstructions as indicated or which interfere with new construction. Removal includes digging out stumps and roots.

TOP SOIL: Strip and stockpile topsoil that will be reused in the work

REMOVE EXISTING IMPROVEMENTS: Remove existing improvements. both above-grade and below to extent indicated or as otherwise required to permit new construction.

SALVABLE ITEMS: Carefully remove item indicated to be salvaged. and store on Owner's premises where indicated or directed.

AIR POLLUTION: Control air pollution caused by dust and dirt. comply with governing regulations.

VOIDS: Fill below-grade areas and voids resulting from demolition operations. Use satisfactory soil materials, place in 61, deep horizontal layers with each layer thoroughly compacted

GRADE: Grade surface to conform to required contours and to provide surface drainage.

DISPOSED ITEMS: Dispose of removed and demolished items. including trash and debris, off owner's property.

BURNING: Burning of waste materials on site is not permitted

Building excavation is specified in another Division-2 section.

SUPERVISION: Engage and assign supervision of shoring and bracing work to a qualified consultant.

REGULATIONS: Comply with local codes and ordinances of governing authorities having jurisdiction.

JOB CONDITIONS: Before starting work, check and verify governing dimensions and elevations. Survey condition of adjoining properties; take photographs, recording existing settlement or cracking of structures, pavements, and other improvements. Prepare a list of such damages, verified by dated photographs, and signed by Contractor and others conducting investigation.

Survey of adjacent structures and improvements, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations Locate datum level used to establish benchmark elevations sufficiently distant so as not to be affected by movement resulting from excavation operations, etc.

During construction resurvey benchmarks weekly, employing licensed Land Surveyor or registered Professional Engineer, licensed in State of Project. Maintain accurate log of surveyed elevations for comparison with original elevations. Promptly notify Architect if changes in elevations occur or if cracks, sags or other damage is evident.

EXISTING UTILITIES: Protect existing active utility services and structures from damage during shoring and bracing work. Repair or replace damages to satisfaction of utility owner

MATERIALS: Provide suitable shoring and bracing materials, which will support loads imposed.

SHORING: Protect site from caving and unacceptable soil movement. Where shoring is required, locate system to clear permanent construction and to permit forming and finishing of concrete surfaces. Provide shoring system adequately anchored and braced to resist earth and hydrostatic pressures.

Shoring systems retaining earth on which support or stability of existing structures is dependent must be left in place at completion of work. If wood is part of shoring system near existing structures, use pressure preservative treated materials or remove before placement of backfill.

BRACING: Locate bracing to clear columns, floor framing construction, and other permanent work. If necessary to move a brace, install new bracing prior to removal of original brace

Do not place bracing where it will be cast into or included in permanent concrete work, except as otherwise acceptable to Architect. Install internal bracing, if required, to prevent spreading or distortion to braced frames.

Maintain bracing until structural elements are re-braced by other bracing or until permanent construction is able to withstand lateral earth and hydrostatic pressures and roof design loads.

Remove sheeting, shoring and bracing in stages to avoid disturbance to underlying soils and damage to structures, pavements, facilities, utilities, etc.

Repair or replace adjacent work damaged or displaced through installation or removal of shoring and bracing work.

***NOTE:** Do not inflict damage to existing construction to remain Do not torch cut existing steel joist seats if welded to steel bearing plate. Verify with Architect/Engineer for proposed demolition and shoring scheme prior and during construction.

SCOPE

The work required under this section of the Specifications shall include all labor, material, equipment and services necessary for the reasonably incidental to all excavation. grading cuts and fills, backfill and sub-grade work.

PROTECTION OF SERVICE LINES, UTILITIES, AND EXISTING STRUCTURES

The location of existing service and/or utility lines whether shown on the Drawings or not shall be verified and known by the Contractor prior to excavation or construction of fills or embankments. The existing lines and structures shall be protected and safeguarded from damage during grading operations and if damaged, shall be repaired by the Contractor at his expense. The above provisions are applicable to all service lines or utilities structures, all or any portion of the ground surface within the grading area.

ACTIVE LINES: If an active utility line will be covered by new construction but does not interfere with the construction, is not under pressure, and is not required by local regulations or the Drawings to be removed, it may remain, provided it is in good condition and well protected and provided that all such lines made of concrete pipe are replaced by heavy duty cast iron pipe for the length covered by new construction, plus and additional five feet beyond limits of new construction.

INACTIVE LINES: Remove, plug or cap such lines as directed. In absence of specific requirements or local regulations, plug or cap such lines at least three feet outside the new building walls or as required by local regulations.

MATERIAL: Material for backfilling shall consist of excavation soil or other approved materials, and shall be free of trash, lumber, or other debris.

EXCAVATION AND SPECIAL EARTH REQUIRMENTS

The work shall consist of all excavation required as shown on the Drawings, including all backfilling. All necessary bailing, drainage and pumping or shoring shall be included under this section. All, surplus earth and debris shall be disposed of by the Contractor.

All general excavation work shall be done in accordance with the requirements of the Drawings and Specifications and in a manner that will insure reasonable accuracy in preserving line and levels shown on the Drawings.

Any additional costs of labor and materials due to careless excavation beyond the lines and depths shown by the Drawings shall be borne by the Contractor.

EXCAVATION FOR STRUCTURE: Excavate for structure to elevations and dimensions shown, extending a sufficient distance to permit placing and removal of other work and for inspection. Trim bottom to required lines and grades to provide solid base to receive concrete.

EXCAVATION FOR TRENCHES: Excavate for trenches to depth indicated or required and to establish indicated flow lines or invert elevations. Maintain uniform width required for particular item to be installed including width to provide ample working room. Provide 6" to 9" for clearance on both sides of pipe or conduit. Outside building, excavated trenches for water bearing piping so that top of piping is not less than 3'-6" below finished grade.

BACKFILL AND FILL: Place and compact acceptable soil material in layers to required elevations. Use soil material free of clay, rock or gravel larger than 2" in any dimension, debris. vegetable matter, waste, and frozen materials. Use sub base material where indicated under piping or conduit; shapes to fit bottom 90 deg. of cylinder.

ARCHITECT'S APPROVAL: Architect's approval shall be given on all materials installed for the project prior to backfilling of any excavation. Work not approved, or work concealed prior to approval shall be reinstalled (labor and materials) at Contractor's expense.

BACKFILL EXCAVATIONS: Back fill excavations as promptly as work permits.

GROUND SURFACE: Prepare ground surfaces to receive fill by removing vegetation debris, unsatisfactory soil materials and obstructions. Scarify as required so that fill material will bond with existing surface.

PIACING BACKFILL AND FILL: Place backfill and fill materials in layers not more than 8 inches in loose depth, compacting each layer to required max.95% density. Do not place material on surfaces that are muddy, frozen or contain ice or frost.

COMPACTION: Compact each layer of backfill and fill soil materials and the top 12 inches of sub grade for structures, slabs, steps and pavements to 95% maximum density for cohesive soils and 95% relative density for cohesion less soil. At lawns or unpaved areas, 90% max. density for cohesive soils and 90% relative density for cohesion less soil.

SPRINKLE WATER: Sprinkle water on surface of sub grade or layers of soil material where soil is too dry to permit compaction to required density. Remove and replace. or scarify and air dry soil material that is too wet to permit compaction to required density.

GRADING: Grade areas indicated, including adjacent transition areas. with uniform levels or slopes between finish elevations. Shape surface of areas to within 0.10 foot above or below required grade elevation, compaction as required.

MAINTENANCE: Repair and re-establish grades in settled. eroded. rutted, or otherwise damaged areas. In damaged compacted areas, scarify surface, reshape, and compact to required density prior to further construction.

DISPOSAL: Remove excess excavated material, trash. debris. and waste material from site.

RELATED DOCUMENTS

Drawings and general provisions of Contract, including General and Supplementary Conditions and Division-1 Specifications sections, apply to work of this section.

SCOPE: Provide soil treatment for termite control as herein specified Under main building slab and sidewalks around perimeter of building.

PRODUCT DATA: Submit manufacturer's technical data and application instructions.

TERMITE CONTROL

ADDITIONAL REQUIREMENTS: In addition to requirements of these specifications, comply with manufacturer's instructions and recommendations for work, including preparation of substrate and application.

LICENSED PROFESSIOMAL: Engage a licensed professional pest control operator, for application of soil treatment solution. Use only termiticides, which bear a Federal registration number of the U. S. Environmental Protection Agency.

RESTRICTIONS: Do not apply soil treatment solution until excavating. filling and grading operations are completed, except as otherwise required in construction operations.
To insure penetration, do not apply soil treatment to frozen or excessively wet soils or during inclement weather. Comply with handling and application instructions of soil toxicant manufacturer

WARRANTY: Furnish written warranty certifying that applied soil termiticide treatment will prevent infestation of subterranean termites and, that if subterranean termite activity is discovered during warranty period, Contractor will re-treat soil and repair or replace damage caused by termite infestation
Provide warranty for a period of 5 years from date of treatment. signed by Applicator and Contractor.

SOIL TREATMENT SOLUTION: Use emulsible concentrated termiticide for dilution with water, specially formulated to prevent termite infestation. Provide a working solution of one of the following chemicals and concentrations.

Chloropyrifos ("Dursban TCII); 1.0 percent in water emulsion.
Permathrin ("Dragnet", "Torlmdo"); O.5 percent in water emulsion

Other solutions may be used as recommended by Applicator if acceptable to Architect and approved for intended application by local governing authorities. Use only soil treatment solutions. which are not injurious to planting.

SURFACE PREPARATION: Remove foreign matter which could decrease effectiveness of treatment on areas to be treated. Loosen rake, and level soil to be treated, except previously compacted areas under slabs and foundations. Termiticide may be applied before placement of compacted fill under slabs, if recommended by manufacturer.

APPLICATION RATES: Apply soil treatment solution at rates recommended by soil termiticide manufacturer. Allow not less than 12 hours for drying after application, before beginning concrete placement or other construction activities.

POST SIGN: Post signs in areas of application warning workers that soil termiticide treatment has been applied. Remove signs when areas are covered by other construction.

REAPPLICATION OF TREATMENT: Reapply soil treatment solution to areas disturbed by subsequent excavation or other *construction activities following application.*

SCOPE

Includes but is not limited to the following: Installation of trees shrubs. and ground cover as scheduled on drawings. Fertilize all landscaping. Installation of topsoil and finished grading is specified under Section 2110, Site Clearing.

LANDSCAPING

PLANT SIZE AND QUALITY: Provide sizes of plants as shown or scheduled, conforming to ANSI Z60.1 "American Standard for Nursery Stock" for shape and quality.

BALLED AND BURLAPPED TREES: Furnish balled and bur lapped (B & B) trees and shrubs; except container-grown plants may be furnished if indicated size is below limit established in ANSI Z60.1

WARRANTY ON LAWNS: Warranty lawns, through specified lawn maintenance period and until final acceptance.

WARRANTY ON PLANT, SHRUBS, AND TREES: Warranty plants. shrubs and trees for a period of one year against death and unhealthy condition, except as may result from neglect by Owner damage by others, and unusual phenomena beyond Installer's control. Replace at optimum planting time.

TOP SOIL: Topsoil is available at the site for reuse as shown

FERTILIZER: Provide fertilizer, humus and other soil amendments of a type, which are known to improve pH condition of soil for particular plant material to be planted. Mix peat humus (FS Q-P-166) with topsoil in the ratio of 1:3 for use in planting. For basis of quantity, assume topsoil, which has not been stripped, is 4" in depth.
Fertilize topsoil for planting grass with a high-nitrogen content commercial fertilizer, containing 4 % phosphorus, 2 % potash and nitrogen in sufficient quantity to supply not less than 1.0 Lbs. of actual nitrogen per 1000 sq. ft. lawn area.

PLANTING TREES

EXCAVATE PIT: Excavate pit to 1-1/2 times diameter of tree ball and not less than 6" deeper. Compact layer of topsoil in pit to locate collar of plant properly in a slightly dished finished grade. Backfill around ball with topsoil, compacted to eliminate voids and air pockets, watering thoroughly as layers are placed. Build 3" high berm of topsoil beyond edge of excavation. Apply 3" mulch of shredded hardwood: bark chips. peat. or other recognized organic planting mulch.

PRUNING: Prune trees to remove damaged branches. improve natural shape, thin out structure and remove not more than 15% of branches. Do not prune back terminal leader

WRAP TRUNK: Wrap trunk from ground to first branch with tree wrapping tape.

GUY AND STAKE: Guy and stake trees 3 directions with galvanized wire. through flexible hose chafing guards, with wooden stake anchors.

PLANTING SHRUBS

EXCAVATION OF PITS OR TRENCHES: Excavate pit or trench to 1-1/2 times diameter of balls or containers, or 1'- 0" wider than spread of roots, and 3" deeper than required for positioning at proper height. Lightly compact a layer of topsoil in bottom before placing plants. Backfill around plants with topsoil. compacted to eliminate voids and air pockets. Water thoroughly as layers are placed. Form grade slightly dished. and berm at edges of excavation. Apply 2" mulch of peat, straw or other recognized organic planting mulch.

PRUNING: Prune shrubs to remove damaged branches. improved natural shape, thin out structure and remove not more than 15 % of branches.

PLANTING LAWNS

GRASS SEED: A blend of predominantly Bermuda grass seed with approximately 10 % "nurse-grass" seeds, complying with standards of Official Seed Analysis of North America for 95 % purity, 25% germination and 1 % (max.) weed seed, recommended by producer for full-sun exposure of lawns in geographic location of project.

CULTIVATE: Cultivate to a depth of 6" in areas where topsoil has not been stripped, add specified soil amendments and mix thoroughly into top 4" of soil, tilling surface to a level fine texture

GRADE AND ROLL: Grade and roll prepared lawn surface water thoroughly but do not create muddy soil condition.

PROTECT SEEDED AREAS: Protect seeded areas against erosion by spreading straw to a uniform loose depth of 1-1/2".

LANDSCAPE MAINTENANCE

MAINTAIN LANDSCAPE WORK: Maintain landscape work for a period of 60 days immediately following completed installation of each major category of work. Include watering, weeding, cultivating, restoration of grade, mowing and trimming grass, pruning trees and shrubs, protection from insects and diseases, fertilizing and similar operations as needed to ensure normal growth and good health for live plants material

WEATHER LIMITATIONS: Do not apply prime and tack coats when temperature is below 50 degrees F (10 degrees C) or when base is wet. Apply asphalt concrete (A. C.) paving only when temperature is above 40 degrees F (4 degrees C) and when base is dry.

MATERIALS: Use locally available materials and aggregate gradations which exhibit a satisfactory record of previous installations, and as follows.

Prime coat, cutback asphalts MC-250, conforming to Texas Highway Department specifications, Section 300.2 (4) and Item 310, applied at a rate of 0.20-0-50 gal. per sq. yard

Tack coat, emulsified asphalt, AASHTO M 140 (ASTM D 977) or M 208 (ASTM D 2397).

Asphalt in concrete, item 350, Hot Mix Cold Laid asphalted Concrete Pavement (Class A); Type D. Paving shall be of thickness shown on plans.

Base course material, shall be "Flexible Base" Type B Grade 2. conforming to item 232, Texas Highway Department Standard Specifications.

Painting stripes, painting for parking areas shall conform to Federal Specifications TT-P-115C Class A (white). Divider stripes for parking stalls shall be Benjamin Moore Iron Clad safety zone paint or equal and shall be sprayed applied.

Paint stripes shall be 31, in width by 201-01, long and locations as shown on drawings.

The word HANDICAPPED shall be painted in 4" letters at each handicapped parking.

Mineral filler, AASHTO M 17 (ASTM D 242).

SURFACE PREPARATION: Remove loose material from compacted sub-base before applying prime coat. Do not begin paving work until satisfactory sub-base conditions have been corrected.

APPLY TACK COAT: Apply tack coat at the rate of 0.05 to 0 15 gal. per sq yd. to in-place asphalt or concrete contact surfaces and other surfaces, which will contact paving.

APPLY PRIME COAT: Apply prime coat at the rate of 0.20 to 0.50 gal. per sq. yd. over compacted sub grade.

PAVING: Place mixture at not less than 225 degrees F (107 degrees C), spread and strike off. Place each course to required grade, cross section, and compacted thickness.

JOINTS: Provide joints between old and new pavements and between successive days work for continuous bond between adjoining work. Clean contact surfaces and apply tack coat

CONSTRUCT CURBS: Construct curbs aver compacted pavement surfaces to cross section shown or if not shown, to local standard shapes.

ROLLING: Begin rolling when mixture will bear roller weight without excessive displacement. Repair surface defects with hot material as rolling progresses. Cut out and patch defective areas and roll to blend with adjacent satisfactory paving. Continue rolling until max. density attained and roller marks eliminated.

PROTECTION: Protect paving from damage and vehicular traffic until mixture has cooled and attained its maximum degree of hardness.

PAVING TOLERANCES: In-place compacted A.C. paving will not be acceptable if exceeding the following tolerances:

Thickness of base course, not more than ½", plus or minus

Thickness of surface course, not more than ¼". plus or minus.

Base course surface smoothness, not more than ¼" when measured with a 101 straightedge.

PART 1 – GENERAL:

1.01 DESCRIPTION OF WORK

A. Scope: Furnish and place the various items of the sprinkler irrigation system as shown on the drawings and as specified herein. This work shall include fittings. fabrications. excavations, backfill, flushing, disinfecting, testing and connection to existing facilities and any other work associated with the irrigation system installation.

B. Drawings: The irrigation plan is diagrammatic: make necessary adjustments in the field to provide proper spacing and guarantee 100% coverage.

C. Inspections: Schedule three (4) check inspections. one to check layout for trenching, the second for pressure testing all pressure lines prior to trench backfilling. third for lateral placement and fourth for performance coverage. Contact the Project Manager 48 hours in advance of required inspection.

1.02 AT COMPLETION OF PROJECT PROVIDE AS BUILT DRAWINGS SHOWING THE LOCATIONS AND DEPTH OF THE FOLLOWING ITEMS:

A. Connection to existing water lines
B. Connection to existing electric power
C. Ball valves
D. Routing of sprinkler pressure lines
E. Sprinkler control valves
F. Routing and control wiring
G. Quick coupling valves
H. Other equipment as directed by Owner's Representative

PART 2 – PRODUCTS:

2.01 ACCEPTABLE MANUFACTURERS

A. Remote Control Valves
   1. Rainbird: 100PES, 150PES, 200PES
   2. Hardie: 110 Series IFC, 1 lt2FC, 2FC, 3FC 700 Series Ultra Flow 1". 1 1/2", 2" may be acceptable

B. Pressure regulating electric valves
   1. Hardie 103 Series IFC, 1 1/2FC, 2FC, 3FC
   2. Rainbird 100 PE PRS, 150 PE PRS, 200 PEp_RS

C. Associated Valves
   1. Y Strainer brass 80 mesh with brass ball valve to blow out screen
   2. Above ground Y strainers shall be metal.
   3. Y strainer shall be the same size as water supply
   4. Ball valves shall be brass.
   5. Gate valves: Nibco, Aqua, Matco

D. Large Turf Heads
   1. Hunter I 40 with dirty water screen, stainless steel riser
   2. Hunter I 25 as above

E. Medium Turf Heads
   1. Hunter I 20 with dirty water screen, stainless steel riser
   2. Toro Super 600

F. Small Turf Heads
   1. Rainbird 1804 with brass nozzle
   2. Toro 570C 4P with brass nozzle

G. Shrub Heads
   1. Rainbird 18oo series with brass nozzles
   2. Hunter PGP Hi Pop for large or sloped areas

H. Bubblers
   1. Rainbird 1401, 1402, and 1404 with screens

I. Controller Clocks
   1. Rainmaster evolution
J. Controller Enclosures:
   1. Size 1 will be 34" 36" H x 22" 24" W x 11" 12" D
   2. Size 2 will be 34" 36" H x 17" 19" W x 11" 12" D
   3. Enclosures shall include:
      a. Removable 5/8" plywood panelboard mounted in enclosure with 2" between plywood and enclosure walls
      b. Galvanized anchor bolts, 1/2" x 4" with 2 washers and one nut and template
      c. Splash guards behind air scents
      d. Expanded metal potket for schematic drawing. instructions. etc.
      e. Stainless steel hinge pins
      f. 3/16" A 36 steel plate construction
      g. Doors with 1" flanges and neoprene gasket
      h. Enclosure must be weather and vandal resistant
K. Finish: Desert Tan, heavy duty, rust resistive automotive quality paint system
L. Control Wiring
   1. Wire shall be copper direct burial sprinkler wire. sized according to length of the run, minimum 14 ga.
   2. Electrical Dry Connection Spears, pre drilled dri splice connector with crimp sleeves
M. Contact Grounds at 752-4971 for deviations or clarifications
N. Irrigation Meter –Provide irrigation meter for entire system
O. Backflow Preventor- Provide backflow preventor on meter line as needed or necessary

PART 3 – EXECUTION:

3.01 GENERAL

A. General Note: Unless noted otherwise, all equipment and appurtenances shall be installed as per these drawings, specifications, manufacturer's instructions, and as required by local codes and ordinances.
B. Connection to Water Source: Connection to the water source shall be at a gate valve provided by the university at the approximate location indicated on the plan The Contractor shall be responsible for making the connection after the gate valve.

3.02 DEMOLITION

A. Refer to "As built" drawing, Existing Sprinkler Irrigation System, and Demolition Plan for reference.
B. Remove all existing sprinkler irrigation equipment no longer being used in new system including valves, heads, controllers, risers and valve boxes.
C. Disconnect existing 4" A.C. main line from existing gate valve (point of connection) and abandon; remove RCV's and valve boxes.
D. Any holes caused from removal of any irrigation equipment shall be filled to match finished grade.
E. Abandon all 24 volt wiring, piping and tubing to hydraulic RCV's
F. Return all irrigation equipment removed, including sprinklers. riser assemblies, RCV's, valve boxes and controllers, to the Grounds Division.

3.03 SYSTEM DESIGN

A. Design Pressures: Verify pressure, at the point of connection to main system and at last head in circuit by installer.
B. Location of Heads: Design location is approximate Make minor adjustments, as necessary, to avoid plantings and other obstructions, with Project Managers approval
C. Minimum Water Coverage: All planting areas. 100% Layout may be modified, if necessary to obtain coverage to suit manufacturer's standard heads. Notify supervisor before making any changes. Do not decrease the number of heads indicated unless otherwise acceptable to supervisor

3.04 TRENCHING AND BACKFILLING (see excavation coordination protocol)

A. General: Excavate straight and true with bottom uniformly sloped to low points.

B. Minimum Cover: Provide following minimum cover over top of installed piping:
1. Main Lines, 18" minimum.
2. Lateral Lines, 12" minimum
3. Piping under pavement, 24" minimum
4. Sleeves, 18" minimum

C. Backfill: Backfill with clean material from excavation Remove organic material as well as rocks and debris larger than 1" diameter. Place acceptable backfill material in 6" lifts. compacting each lift and flush with water to settle trench except under pavement.

D. Existing Lawns: Where trenching is required across existing lawns. uniformly cut strips of sod 6" wider than trench. Remove sod in rolls of suitable size for handling and keep moistened until replanted. Backfill trench to within 6" of finished grade. Continue fill with acceptable topsoil and compact to bring sod even with existing lawn. Replant sod within 7 days after removal, roll and water generously Reseed and restore to original condition any sod areas not in healthy condition equal to adjoining lawns 30 days after replanting.

3.05 INSTALLATION

A. General: Unless otherwise indicated, comply with requirements of Uniform Plumbing Code.

B. Connection to Main: Connect to existing gate valve off main piping in location indicated.

C. Maintain: Uninterrupted water service to building during normal working hours. Arrange for temporary water shutoff with Owner's Representative.

D. Backflow Preventer: Provide union on downstream side as shown on plans.

E. Circuit Valves: Install in valve box, arranged for easy adjustment and removal. Adjust automatic control valves to provide flow rate of rated operating pressure required for each sprinkler circuit. One remote control valve per box. No Exceptions.

F. Piping: Lay pipe on solid subbase, uniformly sloped without humps or depressions. Install PVC pipe in dry weather when temperature is above 40oF (4oC) in strict accordance with manufacturer's instructions. Allow joints to cure at least 24 hours at temperature above 40oF (4oC) before testing, unless otherwise recommended by manufacturer.

G. Sprinkler Heads: Flush circuit lines with full head of water and install heads after hydrostatic test is completed. Install shrub heads at heights indicated. Locate part circle heads to maintain a minimum distance as shown on plans to maintain a minimum distance from walls and other boundaries, unless otherwise indicated. Check all sprinkler heads at corners of planters near pedestrian walkways and readjust location so that heads do not obstruct pedestrians cutting corners.

H. Controller and control wires: Install per details in plans

I. Electrical: Control wiring shall be of the size. type and specification as recommended by the manufacturer of the controller and control valve and meet local requirements Common wire must be white color, control wire may be any color other than white. Lay a control wire from each remote control valve to the controller and control valve to the common ground. Lay wiring from the remote control valve to the controllers beneath the mains where practicable and install control wiring in conduit when passing beneath paving. Tape wire together at ten foot intervals. Provide an 18 inch expansion wire loop at each valve. Above ground control wiring shall be encased in electrical conduit as required by local code.

J. Cover splices as follows: Coat bare wire with an epoxy cement; wrap a minimum of two coats of vinyl electrical tape; apply a second coat of epoxy cement overall Connect the remote valves to the controller in a clockwise sequence to correspond with the station beginning with Station 1. 2. 3, etc. Provide schedule in a watertight container showing valve connection to the controller

K. Trenching: Trenches for pipe lines shall be as specified on the plan. Minor adjustments may be made to fit field conditions. All lateral irrigation pipe shall be installed at a minimum depth of 12" below grade. All pressure lines shall be installed a minimum depth of 18" below grade

L. Sprinkler Irrigation Pipe: All pipes shall be placed as shown on drawings by dimensions or accurate scaling except where existing conditions require slight changes to better suit field conditions. Division shall be responsible for pre-installing piping through or under structures where pipe is to extend from one planter to another. When pipe is to be installed after such walls and paving have been constructed. Contractor shall obtain approval of Owner on the methods to be used in installing the pipe. Any damage to existing improvements as a result of Contractor's work shall be repaired or replaced free of cost to Owner Connections to existing facilities shall be scheduled and

coordinated to result in a minimum interruption in functioning of existing facilities. The Owner shall be notified a minimum of 48 hours in advance of such connections. and they shall be made at a time approved by the Owner.

M. PVC Pipe: PVC pipe shall be installed as recommended by the pipe manufacturer. Plastic pipe shall be cut in a manner so as to ensure a square cut. Burrs at cut ends shall be removed prior to installation. Use only the solvent supplied by or as recommended by the manufacturer Clean pipe and fittings thoroughly of dirt, dust and moisture before applying solvent. Remove excess solvent from joint after joining.
   1. When making plastic to steel connections. work steel connections first. Use teflon tape on threaded plastic to steel joints.

N. Adjustments: Adjust all irrigation heads, valves. controller and other appurtenances to ensure proper operation and coverage.

O. Flushing and Testing: After installation and prior to backfilling. the sprinkler system including piping, fittings, sprinklers, valves and all appurtenances shall be flushed and tested in the presence of the Owner.

P. Clean up: The premises shall be clear of debris resulting from work at end of each day. Upon completion of the installation, the project area shall be left in a broom clean manner

3.06 TESTING

A. General: Notify supervisor at least 48 hours before testing will be conducted. Conduct tests in presence of Project Manager.

B. Hydrostatic Test: Test water piping and valves before backfilling trenches, to a hydrostatic pressure of not less than 100 psi. Piping may be tested in sections to expedite work Remove and repair piping, connections, valves which do not pass hydrostatic testing.

C. Operational Testing: Perform operational testing after hydrostatic testing is completed, backfill is in place, and sprinkler heads adjusted to final position.
   1. Demonstrate to supervisor that system meets coverage requirements and that automatic controls function properly.
   2. Coverage requirements are based on operation of one circuit at a time.

3.07 MISCELLANEOUS

A. Plumber shall furnish two quick coupling keys and hose swivels. two sets of tools for maintenance of sprinkler heads and two keys to controller.

B. Plumber shall install in each controller a reduced drawing of sprinkler plan showing each area operated by a remote control valve. Chart shall be laminated in 4 mil plastic and securely attached to irrigation controller inside lockable lid.

C. Provide a lawn irrigation system for areas indicated on drawings including lawn areas, trees, planter areas, etc. that provides full coverage, that is on a timer. that is divided into zones and located in a centralized area to be determined at the project site.

SUBMITTALS: In addition to product data, submit the following.
Shop drawings showing details of fabrication, assembly, and installation.
Samples, submit 8" square samples of each metal and finish required.

MATERIALS/FABRICATION

MANUFACTURER: Subject to compliance with requirements, provide miscellaneous sheet metal products by one of the following:
*American Steel Products Corp.
*Bergen Metal Industries, Inc.
*Brandt Airflex Corp.
* Custom Enclosures, Inc.
*Pioneer Ind. Div., Core Ind. Inc.

SHEET METAL MATERIALS: Use materials selected for their surface flatness, smoothness, and freedom from surface blemishes.

GALVANIZED MEET STEEL: ASTM A 526, G90, mill phosphatized.

SHEET STEEL: Commercial quality cold-rolled carbon steel as follows:

ZINC - COATED SHEET STEEL: ASTM A 591, Class C, chemically treated with phosphate solution and light chromate rinse.

SHEET STEEL: ASTM A 366, Class 1, matte finish.

EITHER OF ABOVE MATERIALS: Either of above materials at fabricator's option.

STAINLESS STEEL: ASIM A 167, Type 302/304, with No. 4 finish, unless otherwise indicated.

WELDING ELECTRODES AND FIILER METAL: Type and alloy to match metal to be welded.

FASTENERS: Concealed, except as otherwise indicated, of type and alloy to match metal to be fastened; use Phillips flat-head screws for exposed fasteners where permitted, unless otherwise indicated.

ANCHORS AND INSERTS: Furnish as required for installation in other work. Use cadmium or hot-dipped galvanized units for exterior work.

SHOP PRIMER FOR SHEET STEEL: Manufacturer's standard fast-curing, lead-free, universal" primer, complying with performance requirements of FS TT-P-645.

SHOP PRIMER FOR ZINC-CQATED SHEET STEEL: Zinc dust, zinc oxide primer paint complying with FS TT-P-641, Type II.

SHOP PRIMER FOR ALUMINUM SHEET: Zinc chromate base complying with FS TT-P-645 or TT-P-1757.

BAKED ENAMEL FINISH: Alkyde gloss enamel; FS TT-P-489, Class B.

FABRICATION, GENERAL: Fabricate items from materials of type, gauge and finish and to dimensions and details indicated, or required to provide unit of strength required for intended use and to produce exposed surface which are smooth, flat and free of imperfections.

Form sheet metal in maximum lengths and keep joints to a minimum, with cut edges concealed.

Continuously weld all joints and seams except as otherwise indicated.

Conform to SMACNA recommendations for fabrication and construction details except as otherwise indicated.

FILLER PANELS: Sheet steel, 16 gauge, with mineral fiber core, and compressible gaskets or mastic sealing tape at all edges.

HEATING COOLING ENCLOSURES: Steel sheet with louvers and grilles, removable tops and fronts, hinges across panels, sound deadening, built-in partitions (bulkheads) within enclosures at partition ends and window mullions; design and fabricate to support design load of 200 lbs. per square foot or 150 lbs. per linear foot, whichever is greater.

SHOP FINISHING: Comply with NAAMM "Metal Finishes Manual" to produce uniformly finished products, and for sheet steel, with SSPC-PAL.

COLORS: Provide colors indicated or, if not indicated, as selected by Architect from manufacturer's standard colors.

CLOSINGS AND TRIM: Sheet steel, 18 gauge, formed to tightly close with adjoining work.

Provide gaskets of closed-cell neoprene or mastic sealing tape for continuous seal to abutting surfaces.

SHEER STEEL FINISH

SURFACE PREPARATION AND PAINTING: Solvent-clean surfaces to comply with SSPCSP1. Remove mill scale and rust, if present, to comply with SSPC-SP5 (while Metal Blast Cleaning) or SSPC-SP8 (pickling). For uncoated sheet steel, apply hot phosphate surface treatment to comply with SSPC-PT4

Apply shop primer to uncoated sheet steel immediately following surface preparation and pretreatment.

Apply shop primer to zinc-coated sheet steel immediately after surface preparation.

Apply baked enamel finish system to sheet to comply with paint manufacturer's specifications.

INSTALLATION

LOCATE AND PLACE: Locate and place miscellaneous sheet metal items plumb and level; in proper alignment with, and securely attached to, adjoining work.

PROTECT ALUMINUM SURFACES: Protect aluminum surfaces from corrosion where in contact with dissimilar metals, concrete or masonry by coating contact surfaces with zinc chromate primer or bituminous paint.

TOUCH-UP: Touch-up shop painted surfaces after installation. using same materials used in shop.

GENERAL

Submittals: Submit product data for insulating sheathing underlayment.

PRODUCTS

Lumber, General: Manufacture lumber, S4S and gradestamped to comply with PS20 and applicable grading rules of inspection agencies certified by ALSC's Board of Review

***Unseasoned lumber is not acceptable.**

For exposed lumber, apply grade stamps to ends of back of each piece or omit grade stamps entirely and issue certificate of grade compliance.

Dimension Lumber: Provide lumber of the following product classification in grade and species indicated:

Light Framing: (2"- 4" thick, 2"- 4" wide).

Grade: standard **Species**: any grade indicated

Studs: (2"- 4" thick, 2"- 6" wide, 10" and shorter):

Grade: No. 3 structural light framing. **Species**: any graded under WWPA, WCLIB, SPIB, or NLGA rules.

Structural Light Framing: (2"- 4" thick, 2"- 4" wide).

Grade: No. 2 **Species**: Douglas Fir or Southern Yellow pine

Structural Wood Deck: 2-4-1 Plywood with T&G on four sides 1-1/8" thickness

Structural Joints and Planks: (2"- 4" thick, 5" and wider) Any species and grade complying with requirements for allowable unit stresses.

Fb (min. extreme fiber stress in bending): 1500 psi. **E** (min modulus of elasticity): 1,500,000 psi.

Exposed Framing Lumber: Select material of species indicated for structural framing.

Concealed Boards: NO. 3 grade Southern Yellow Pine graded under SPIB rules.

Lumber for Miscellaneous uses: Standard grade lumber for support of other work.

Construction Panels: For types of concealed applications indicated below, provide wood panel products complying with PS 1 where applicable, and with "APA Performance Standard and Policies for Structural Use Panels (Form E445) for requirements indicated.

For following types of applications where exposure durability classification or span rating is not given. provide EXPOSURE 1 and rating required to suit support spacing indicated.

Combination Subfloor-Underlayment: APA rated STURD-1-FLOOR

Subflooring: APA rated sheathing.

Wall Sheathing: APA rated sheathing.

Roof Sheathing: APA rated sheathing.

Plywood Backing for Electrical and Telephone Equipment: APA C-D plugged INT with exterior glue, fire-retardant treated, ½" thick except as otherwise indicated.

Hardboard Underlayment: 4"x 4" panels complying with ANSI A135.4. Class 4 (service), Surface SIS, sanded on back side to uniform thickness of 0.215" OR 0.200" as standard with manufacturer, + - 0.005".

Polystyrene Board Sheathing: ASTM C 578, type IV. 4"x8" thickness as indicated on plans.

Polyisocyanurate Board Sheathing: FS HH-I-1972, class as indicated below in thickness indicated:

Class **1**: Unreinforced core, aluminum foil both sides

Class **2**: Glass-fiber reinforced core.

Gypsum Sheathing: ASTM C 79, FS SS-L-30, Type II. class 2. form A and complying with the following requirements.

GRADE **W**: Water-resistant treated core, ½" thick.

GRADE **X**: Fire-resistant treated core, 5/8" thick.

SIZE: 2' x 8' V-T&G long edges; 4' x 8' square edges.

Fasteners and Anchors: Of size, type, material and finish suited to application shown. Provide metal hangers and framing anchors of size and type recommended for intended use by manufacturer. Hot-dip galvanized fasteners and anchors for work exposed to weather, in ground contact and high relative humidity to comply with ASTM A 153.

Building Paper: Asphalt saturated felt, non-perforated AS7M D 226

Preservatives: Preservatives pressure treat lumber and plywood with waterborne preservatives to comply with AWPA C2 and C9, respectively, and with requirements indicated below

WOOD FOR GROLIND CONTACT USE: AWPE LP-22
WOOD FOR ABOVE-GROLIND USE: AWPB LP-2
TREATMENT: Treat Cants, nailers, blocking, stripping, and similar items in conjunction with roofing, flashing, vapor barriers, and water proofing.
TREATMENT: Treat sills, sleepers, blocking, furring, and other wood in direct contact with concrete or masonry.

Fire-Retardant Treated Wood: Where wood is indicated for fire-retardant treatment comply with AWPA C20 (lumber) and AWPA C27 (plywood) for treatment type indicated below Provide label of UL or other testing or inspection agency acceptable to authorities having jurisdiction on each piece treated Redry treated lumber.

INTERIOR TYPE A: Use where "FRTW" wood is indicated on interior.
EXTERIOR TYPE: Use where "FRTW" is indicated for exterior exposed applications.

INSTALLATION

Rough Carpentry: Install rough carpentry work to comply with "Manual of House Framing" by National Forest Products Assoc. (N.F.P.A.) and with recommendation of American Plywood Assoc (APA), unless otherwise indicated. For sheathing, underlayment and other products not covered in above standards, comply with recommendations of manufacturer of product involved for use intended. Set carpentry work to required levels and lines, with members plumb and true and cut to fit.

Attachment: Securely attach carpentry work to substrates and supporting RS using fasteners of size that will not penetrate members where opposite side will be exposed to view or receive finish materials. Install fasteners without splitting wood; fasten panel products to allow for expansion at joints unless otherwise indicated.

Framing Members: Provide wood framing members of size and spacing indicated; do not splice structural members between supports. Fire stop concealed spaces with wood blocking not less than 2" thick, if not blocked by other framing members.

Blocking: Provide wood blocking not less than 1-1/2" thick and 3-1/2" wide to support cabinets, grab bars, towel bars, etc., and any other items attached to finished wall.

GENERAL

PRODUCT DATA: Submit for all case work and factory-fabricated items

SAMPLES: Submit for lumber machined to stock and custom patterns. and Plywood for transparent finish.

MOISTURE CONTENTS: **Softwood:** not to exceed 12 %
Hardwood: not to exceed 6 %

MATERIALS

EXTERIOR LUMBER

Beams and columns:	1500 f/ 1 6E M Douglas Fir (West Coast).
Exposed Framing:	Douglas Fir or S. Y Pine, No. 2 or better.
Fascias:	Saw textured Western Red Cedar, "B" grade or better.
Soffits:	
Siding:	
Door Frames:	
Door & Window Trim:	
Wood Fencing:	Natural finish Red Cedar. "B" grade or better.

INTERIOR LUMBER

Wood Base:	Ponderosa or White Pine, "B" grade or better, 3" ht.
Door Frame:	Ponderosa or White Pine. "B" or better.
Door Casing:	Ponderosa or White Pine. "B" grade or better.
Door:	
Shelving:	Plywood. grade AA exposed 2 sides, grade AD with one side exposed Sand exposed surfaces and provide solid pine banded edges.
Hard wood trim:	Oak or ash

HARDWARE: The contractor shall furnish and install all nails. screws. and finish hardware required in the assembling and securing of his work.

CABINETS AND COUNTERS

CONSTRUCTION TYPE: Flush overlay
GRADE: Custom with components matched

LAMINATED PIASTIC: High pressure plastic laminate to meet or exceed NEMA standards as manufactured by Wilson Art, Formica, or an approved equal. Color as selected by Architect.

SOLID SURFACING: Solid, non-porous surfacing material homogeneously composed of natural minerals and high performance acrylic as manufactured by Corian, Gibraltar. or approved equal. Color shall be selected by Architect from a full range of color samples.

ADHESIVE: Waterproof type as recommended by plastic manufacturer for type of use:

EXPOSED WOOD: No. I (or Grade A plywood) ash or red oak indicated below.
Sub-tops: ¾" Plywood INT-DFP-A-A
Plywood: Exposed **2** sides - INT-DFPA-A. Exposed **1** side - INT-DFP-A-D
Framing: C or better Ponderosa Pine
Drawers: B or better Ponderosa Pine
Shelving: **¾" plywood with solid pine edging.**
Door & drawer fronts: oak or ash.
Exposed cabinets ends or back: ¼" oak or ash plywood veneer on ½" plywood backing.

CABINET HARDWARE

Drawers: One pair Knape & Vogt 1275 drawer end slides per drawer or approved equal.
Hinges: One pair Jay Bee/Ajax Pivot Hinge No.233 per drawer Color selected by Architect.
Pulls: Jay Bee/Ajax 4" center Metro Pull one per door and drawer Color selected by Architect.
Adjustable Shelves: Knap & Vogt 255 steel standards with 256 supports or eq.

OTHER HARDWARE

Sliding Glass Doors: Knape & Vogt 992ZC assembly or equal
Closet rod supports: Knape & Vogt 1195. Quantity-as required. but spans shall not exceed 4'-0".
Mirror Clips: Knape & Vogt 6092 or equal. Quantity-as required for size and weight of mirror(s) shown.
Drawer and door silencers: Cork or vinyl

INSTALLATION

INSPECTIONS: Inspect finish materials, trim doors. etc to insure that no subgrade, defective, or machine marked pieces are installed.
PAINTING, BACKPAINTING, AND TRANSPARENT FINISH: Arrange to have all doors, interior finish cabinet work, miscellaneous trim, etc. primed, back painted, or stained and varnished immediately upon delivery to the building.
NAILING: Interior wood trim less than 4" wide, 6d casing nails not more than 12" o.c. staggered. Wider than 4", 2-6d casing nails 12"o.c.
STORAGE AND PROTECTION: Protect millwork, cabinetwork hardware, etc. against damage, water moisture, and extreme temperature. Any damaged items shall be cause to reject said items at the contractor's expense.
FINISH HARDWARE: The supplier will mark each item of hardware for location. If hardware is delivered unmarked, return to supplier for marking.

Provide cleaned, properly sized and accurately placed mortises and drilled holes for all mortise hardware such as lock sets and for cylindrical locks where specified only. Any damaged. abused. or improperly adjusted hardware shall be replaced by the contractor at his own expense.

Fit all surfaces applied hardware accurately, install, and make necessary adjustments for proper working order. Protect hardware by the use of heavy paper and masking tape and maintain until job is completed.