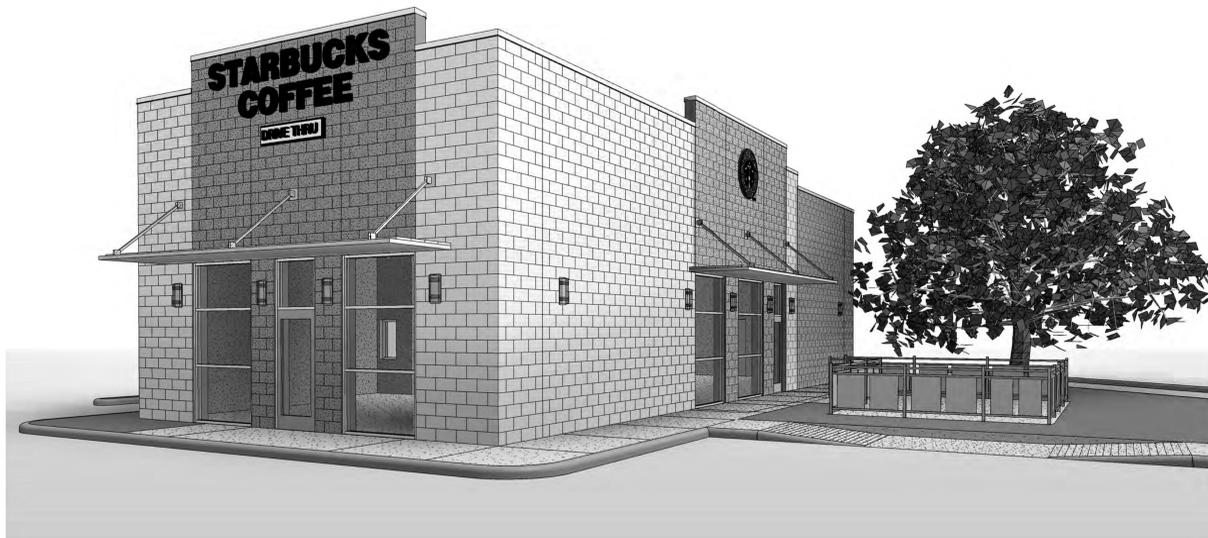


FOREST HILL STARBUCKS

THE WESTOVER GROUP

FOREST HILL, TEXAS



VICINITY MAP  STARBUCKS FOREST HILL, TEXAS 76119



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FOREST HILL STARBUCKS
FOREST HILL, TEXAS

REVISIONS

denoted by 

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COVER SHEET, VICINITY MAP
AND SHEET INDEX

SHEET
CVR
OF 1 CVR SHEETS

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(NOTE: THIS IS THE PARTIAL CONTENTS OF THE FULL 2012 TEXAS ACCESSIBILITY STANDARDS (TAS) INFORMATION YOU MAY OBTAIN A FULL COPY BY CONTACTING:

TEXAS DEPARTMENT OF LICENSING AND REGULATION (TLR)
ARCHITECTURAL BARRIERS SECTION
PO BOX 12157 AUSTIN, TEXAS 78711
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(512) 463-0599
(512) 463-9488 (FAX)

OR GETTING A COPY BY GOING TO THEIR WEB SITE AT:
http://www.texasstate.tx.us/ab/abbar.htm

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CHAPTER 1: APPLICATION AND ADMINISTRATION

108 Definitions

106.1 General For the purpose of this document, the terms defined in 106.5 have the indicated meaning.

106.2 Terms Defined in Referenced Standards Terms not defined in 106.5 or in regulations issued by the Texas Department of Licensing and Regulation to implement Texas Government Code, Chapter 469, but specifically defined in a referenced standard, shall have the specified meaning from the referenced standard unless otherwise stated.

106.3 Undefined Terms The meaning of terms not specifically defined in 106.5 or in regulations issued by the Texas Department of Licensing and Regulation to implement the Texas Government Code, Chapter 469, or in referenced standards shall be as defined by colloquial dictionaries in the sense that the context implies.

106.4 Interchangeability Words, terms and phrases used in the singular include the plural and those used in the plural include the singular.

106.5 Defined Terms:

106.5.1 Accessible. A site, building, facility, or portion thereof that complies with this part.

106.5.2 Accessible Means of Egress. A continuous and unobstructed way of egress travel from any point in a building or facility that provides an accessible route to an area of refuge, a horizontal exit, or a public way.

106.5.3 Addition. An expansion, extension, or increase in the gross floor area or height of a building or facility.

106.5.4 Administrative Authority. A governmental agency that adopts or enforces regulations and guidelines for the design, construction, or alteration of buildings and facilities.

106.5.5 Alteration. A change to a building or facility that affects or could affect the usability of the building or facility or portion thereof. Alterations include, but are not limited to, remodeling, renovation, rehabilitation, reconstruction, historic restoration, reworking of circulation paths or vehicular ways, changes or rearrangement of the structural parts or elements, and changes or rearrangement in the plan configuration of walls and full-height partitions. Normal maintenance, reworking, painting or wallpapering, or changes to mechanical and electrical systems are not alterations unless they affect the usability of the building or facility.

106.5.6 Amusement Attraction. Any facility, or portion of a facility, located within an amusement park or theme park which provides amusement without the use of an amusement device. Amusement attractions include, but are not limited to, fun houses, barrels, and other attractions without seats.

106.5.7 Amusement Ride. A system that moves persons through a fixed course within a defined area for the purpose of amusement.

106.5.8 Amusement Ride Seat. A seat that is built-in or mechanically fastened to an amusement ride intended to be occupied by one or more passengers.

106.5.9 Area of Sport Activity. That portion of a room or space where the play or practice of a sport occurs.

106.5.10 Assembly Area. A building or facility, or portion thereof, used for the purpose of entertainment, education, or civic gatherings, or similar purposes. For the purposes of these requirements, assembly areas include, but are not limited to, classrooms, lecture halls, courtyards, public meeting rooms, public hearing rooms, legislative chambers, motion picture houses, auditoriums, theaters, playhouses, concert halls, centers for the performing arts, amphitheaters, arenas, stadiums, grandstands, or convention centers.

106.5.11 Assistive Listening System (ALS). An amplification system utilizing transmitters, receivers, and coupling devices to bypass the acoustical space between a sound source and a listener by means of induction loop, radio frequency, infrared, or direct-wired equipment.

106.5.12 Boarding Pier. A portion of a pier where a boat is temporarily secured for the purpose of embarking or disembarking.

106.5.13 Boat Launch Ramp. A sloped surface designed for launching and retrieving trailered boats and other water craft to and from a body of water.

106.5.14 Boat Slip. That portion of a pier, main pier, finger pier, or float, where a boat is moored for the purpose of berthing, embarking, or disembarking.

106.5.15 Building. Any structure used or intended for supporting or sheltering any use or occupancy.

106.5.16 Catch Pool. A pool or designated section of a pool used as a terminus for water slide flumes.

106.5.17 Characters. Letters, numbers, punctuation marks and typographic symbols.

106.5.18 Children's Use. Describes spaces and elements specifically designed for use primarily by people 12 years old and younger.

106.5.19 Circulation Path. An exterior or interior way of passage provided for pedestrian travel, including but not limited to, walks, walkways, courtyards, elevators, platform lifts, ramps, stairways, and landings.

106.5.20 Closed-Circuit Telephone. A telephone with a dedicated line such as a house phone, courtesy phone or phone that must be used to gain entry to a facility.

106.5.21 Common Use. Interior or exterior circulation paths, rooms, spaces, or elements that are not for public use and are made available for the shared use of two or more people.

106.5.22 Cross Slope. The slope that is perpendicular to the direction of travel (see running slope).

106.5.23 Curb Ramp. A short ramp cutting through a curb or built up to it.

106.5.24 Detectable Warning. A standardized surface feature built in or applied to walking surfaces or other elements to warn of hazards on a circulation path.

106.5.25 Disproportionality. Alterations made to provide an accessible path of travel to the altered area will be deemed disproportionate to the overall alteration when the cost exceeds 20% of the cost of the alteration to the primary function area. Costs that may be counted as expenditures required to provide an accessible path of travel may include:

- (i) Costs associated with providing an accessible entrance and/or an accessible route to the altered area, for example, the cost of widening doorways or installing ramps;
- (ii) Costs associated with making restrooms accessible, such as installing grab bars, enlarging toilet stalls, insulating pipes, or installing accessible faucet controls;
- (iii) Costs associated with providing accessible telephones, such as relocating the telephone to an accessible height, installing amplification devices, or installing a text telephone (TTY); and
- (iv) Costs associated with installing an accessible drinking fountain.

All determinations of disproportionality are made by the Department in accordance with the variance procedures contained in Chapter 88, Texas Administrative Code.

106.5.26 Element. An architectural or mechanical component of a building, facility, space, or site.

106.5.27 Elevated Play Component. A play component that is approached above or below grade and that is part of a composite play structure consisting of two or more play components attached or functionally linked to create an integrated unit providing more than one play activity.

106.5.28 Employee Work Area. All or any portion of a space used only by employees and used only for work. Corridors, toilet rooms, kitchenettes and break rooms are not employee work areas.

106.5.29 Entrance. Any access point to a building or portion of a building or facility used for the purpose of entering. An entrance includes the approach walk, the vertical access leading to the entrance platform, the entrance platform itself, vestibule if provided, the entry door or gate, and the barrier of the entry door or gate.

106.5.30 Facility. All or any portion of buildings, structures, site improvements, elements, and pedestrian routes or vehicular ways located on a site.

106.5.31 Gangway. A vehicle-sized pedestrian walkway that links a fixed structure or land with a floating structure. Gangways that connect to vessels are not addressed by this document.

106.5.32 Golf Car Passage. A continuous passage on which a motorized golf car can operate.

106.5.33 Ground Level Play Component. A play component that is approached and exited at the ground level.

106.5.34 Key Station. Rapid and light rail stations, and commuter rail stations, as defined under criteria established by the Department of Transportation in 49 CFR 37.47 and 49 CFR 37.51, respectively.

106.5.35 Mail Boxes. receptacles for the receipt of documents, packages, or other deliverable matter. Mail boxes include, but are not limited to, post office boxes and receptacles provided by commercial mail-receiving agencies, outpatient facilities, or schools.

106.5.36 Marked Crossing. A crosswalk or other identified path intended for pedestrian use in crossing a vehicular way.

106.5.37 Maximum Extent Feasible. Applies to the occasional case where the nature of an existing facility makes it virtually impossible to comply fully with applicable accessibility standards through a planned alteration. In these circumstances, the alteration must provide the maximum physical accessibility feasible. Any altered feature of the facility that can be made accessible shall be made accessible. If providing accessibility in conformance with this section to individuals with certain disabilities (e.g., those who use wheelchairs) would not be feasible, the facility shall be made accessible to persons with other types of disabilities (e.g., those who use crutches, those who have impaired vision or hearing, or those who have other impairments).

All determinations of maximum extent feasible are made by the Department in accordance with the variance procedures contained in Chapter 88, Texas Administrative Code.

106.5.38 Mezzanine. An intermediate level or levels between the floor and ceiling of any story with an aggregate floor area of not more than one-third of the area of the room or space in which the level or levels are located. Mezzanines have sufficient elevation that space for human occupancy can be provided on the floor below.

106.5.39 Occupant Load. The number of persons for which the means of egress of a building or portion of a building is designed.

106.5.40 Openable Part. A component of an element used to insert or withdraw objects, or to activate, deactivate, or adjust the element.

106.5.41 Path of Travel. A continuous, unobstructed way of pedestrian passage by means of which the altered area may be approached, entered, and exited, and which connects the altered area with an exterior approach (including sidewalks, streets, and parking areas), an entrance to the facility, and other parts of the facility. An accessible path of travel may consist of walks and sidewalks, curb ramps and other interior or exterior pedestrian ramps, clear floor paths through lobbies, corridors, rooms, and other improved areas; parking access aisles; elevators and lifts; or a combination of these elements. The term "path of travel" also includes the restrooms, telephones, and drinking fountains serving the altered area.

The obligation to provide an accessible path of travel may not be avoided by performing a series of small alterations to the area served by a single path of travel if those alterations could have been performed as a single undertaking. If an area containing a primary function has been altered without providing an accessible path of travel to that area, and subsequent alterations of that area, or a different area on the same path of travel, are undertaken within three years of the original alteration, the total cost of alterations to the primary function areas or that path of travel during the preceding three-year period shall be considered in determining whether the cost of making that path of travel accessible is disproportionate. Also see definition of "disproportionality."

106.5.42 Pictogram. A pictorial symbol that represents activities, facilities, or concepts.

106.5.43 Play Area. A portion of a site combining play components designed and constructed for children.

106.5.44 Play Component. An element intended to generate specific opportunities for play, socialization, or learning. Play components are manufactured or released; and are stand-alone or part of a composite play structure.

106.5.45 Primary Function. A major activity for which the facility is intended. Areas that contain a primary function include, but are not limited to, the customer services lobby of a bank, the dining area of a cafeteria, the meeting rooms in a conference center, as well as offices and other work areas in which the activities of the public, accommodations or other people using the facility are carried out. Mechanical rooms, boiler rooms, supply storage rooms, employee lockers or locker rooms, janitorial closets, entrances, corridors, and restrooms are not areas containing a primary function. Alterations that affect the usability of an access to an area containing a primary function include, but are not limited to:

- (i) Remodeling merchandise display areas or employee work areas in a department store;
- (ii) Replacing an inaccessible floor surface in the customer service or employee work areas of a bank;
- (iii) Redesigning the assembly line area of a factory; or
- (iv) Installing a computer center in an accounting firm.

For the purposes of this section, alterations to windows, hardware, controls, electrical outlets, and signage shall not be deemed to be alterations that affect the usability of or access to an area containing a primary function.

106.5.46 Private Building or Facility. A place of public accommodation or a commercial building or facility subject to Texas Government Code, Chapter 469.

106.5.47 Professional Office of a Health Care Provider. A location where a person or entity regulated by Texas to provide professional services related to the physical or mental health of an individual makes such services available to the public. The facility housing the "professional office of a health care provider" only includes floor levels housing at least one health care provider, or any floor level designed or intended for use by at least one health care provider.

106.5.48 Public Building or Facility. A building or facility or portion of a building or facility designed, constructed, or altered by, on behalf of, or for the use of a public entity subject to Texas Government Code, Chapter 469.

106.5.49 Public Entrance. An entrance that is not a service entrance or a restricted entrance.

106.5.50 Public Use. Interior or exterior rooms, spaces, or elements that are made available to the public. Public use may be provided at a building or facility that is privately or publicly owned.

106.5.51 Public Way. Any street, alley or other public or land open to the outside air leading to a public street, which has been dedicated, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3050 mm).

106.5.52 Qualified Historic Building or Facility. A building or facility that is listed in or eligible for listing in the National Register of Historic Places, or designated as a Recorded Texas Historic Landmark or State Archeological Landmark.

106.5.53 Ramp. A walking surface that has a running slope steeper than 1:20.

106.5.54 Residential Dwelling Unit. A unit intended to be used as a residence that is primarily long-term in nature. Residential dwelling units do not include transient lodging, inpatient medical care, licensed long-term care, or detention or correctional facilities.

106.5.55 Restricted Entrance. An entrance that is made available for common use on a controlled basis but not public use and that is not a service entrance.

106.5.56 Running Slope. The slope that is parallel to the direction of travel (see cross slope).

106.5.57 Safe Harbor Elements of a path of travel at a subject building or facility that have been previously constructed or altered in accordance with the April 1, 1994 Texas Accessibility Standards (TAS) are not required to be retrofitted to reflect the incremental changes in the 2012 TAS solely because of an alteration to a primary function area served by that path of travel. Those elements would be subject to compliance with the 2012 TAS only when the elements of a path of travel are being altered.

106.5.58 Self-Service Storage. Building or facility designed and used for the purpose of renting or leasing individual storage spaces to customers for the purpose of storing and removing property on a self-service basis.

106.5.59 Service Entrance. An entrance intended primarily for delivery of goods or services.

106.5.60 Shopping Center or Shopping Mall. A building housing five or more sales or rental establishments; or a series of buildings on a common site, either under common ownership or common control or developed either as one project or as a series of related projects, housing five or more sales or rental establishments. For purposes of this standard, places of public accommodation of the types listed in the definition of "place of public accommodation" in Chapter 88, Texas Administrative Code are considered sales or rental establishments. The facility housing a shopping center or shopping mall only includes floor levels housing at least one sales or rental establishment, or any floor level designed or intended for use by at least one sales or rental establishment.

106.5.61 Site. A parcel of land bounded by a property line or a designated portion of a public right-of-way.

106.5.62 Soft Contained Play Structure. A play structure made up of one or more play components where the user enters a fully enclosed play environment that utilizes flexible materials, such as plastic, netting, or fabric.

106.5.63 Space. A definable area, such as a room, toilet room, hall, assembly area, entrance, storage room, alcove, courtyard, or lobby.

106.5.64 Story. That portion of a building or facility designed for human occupancy included between the upper surface of a floor and upper surface of the floor or roof next above. A story containing one or more mezzanines has more than one floor level.

106.5.65 Structural Frame. The columns and the girders, beams, and trusses having direct connections to the columns and all other members that are essential to the stability of the building or facility as a whole.

106.5.66 Structural Impracticability. In new construction, full compliance with the requirements of these standards is not required where an entity can demonstrate that it is structurally impracticable to meet the requirements. Full compliance will be considered structurally impracticable only in those rare circumstances when the unique characteristics of terrain prevent the incorporation of accessibility features. If full compliance with these standards would be structurally impracticable, compliance with these standards is required to the extent that it is not structurally impracticable. In that case, any portion of the facility that can be made accessible shall be made accessible to the extent that it is not structurally impracticable. If providing accessibility in conformance with these standards to individuals with certain disabilities (e.g., those who use wheelchairs) would be structurally impracticable, accessibility shall nonetheless be required to persons with other types of disabilities (e.g., those who use crutches or who have sight, hearing, or mental impairments) in accordance with these standards. All determinations of structural impracticability are made by the Department in accordance with the variance procedures contained in Chapter 88, Texas Administrative Code.

106.5.67 Tactile. An object that can be perceived using the sense of touch.

106.5.68 Technically Infeasible. With respect to an alteration of a building or a facility, something that has little likelihood of being accomplished because existing structural conditions would require removing or altering a load-bearing member that is an essential part of the structural frame, or because other existing physical or site constraints prohibit modifications or addition of elements, spaces, or features that are in full and strict compliance with the minimum requirements. All determinations of technical infeasibility are made by the Department in accordance with the variance procedures contained in Chapter 88, Texas Administrative Code.

106.5.69 Teeming Ground. In golf, the starting place for the hole to be played.

106.5.70 Transfer Device. Equipment designed to facilitate the transfer of a person from a wheelchair or other mobility aid to and from an amusement ride seat.

106.5.71 Transient Lodging. A building or facility containing one or more guest rooms) for sleeping that provides accommodations that are primarily short-term in nature. Transient lodging does not include residential dwelling units, intended to be used as a residence, inpatient medical care facilities, licensed long-term care facilities, detention or correctional facilities, or private buildings or facilities that contain not more than five rooms for rent or hire and that are actually occupied by the proprietor as the residence of such proprietor.

106.5.72 Transition Plate. A slipping prevention walking surface located at the end(s) of a gangway.

106.5.73 TTY. An abbreviation for teletypewriter. Machinery that employs interactive text-based communication through the transmission of coded signals across the telephone network. TTYs may include, for example, devices known as TDDs (telecommunication display devices or telecommunication devices for deaf persons) or computers with speech modems. TTYs are also called text telephones.

106.5.74 Use Zone. The ground level area beneath and immediately adjacent to a play structure or play equipment that is designated by ASTM F 1487 (incorporated by reference, see "Referenced Standards" in Chapter 1) for unrestricted circulation around the play equipment, and where it is predicted that a user would land when falling from or exiting the play equipment.

106.5.75 Vehicular Way. A route provided for vehicular traffic, such as in a street, driveway, or parking facility.

106.5.76 Walk. An exterior prepared surface for pedestrian use, including pedestrian areas such as plazas and courts.

106.5.77 Wheelchair Space. Space for a single wheelchair and its occupant.

106.5.78 Work Area Equipment. Any machine, instrument, engine, motor, pump, conveyor, or other apparatus used to perform work. As used in this document, this term shall apply only to equipment that is permanently installed or built-in in employee work areas. Work area equipment does not include passenger elevators and other accessible means of vertical transportation.

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106.5.99 Work Area Equipment. Any machine, instrument, engine, motor, pump, conveyor, or other apparatus used to perform work. As used in this document, this term shall apply only to equipment that is permanently installed or built-in in employee work areas. Work area equipment does not include passenger elevators and other accessible means of vertical transportation.

302.3 Openings. Openings in floor or ground surfaces shall not allow passage of a sphere more than 1/2 inch (13 mm) diameter except as allowed in 407.4.3, 409.4.5, 410.4, 810.5.3 and 810.10. Excepted openings shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

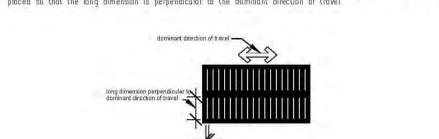


Figure 302.3 Enlarged Openings in Floor or Ground Surfaces

302.2 Changes in Level. Changes in level of 1/4 inch (6.4 mm) high maximum shall be permitted to be vertical.

106.5.46 Private Building or Facility. A place of public accommodation or a commercial building or facility subject to Texas Government Code, Chapter 469.

106.5.47 Professional Office of a Health Care Provider. A location where a person or entity regulated by Texas to provide professional services related to the physical or mental health of an individual makes such services available to the public. The facility housing the "professional office of a health care provider" only includes floor levels housing at least one health care provider, or any floor level designed or intended for use by at least one health care provider.

106.5.48 Public Building or Facility. A building or facility or portion of a building or facility designed, constructed, or altered by, on behalf of, or for the use of a public entity subject to Texas Government Code, Chapter 469.

106.5.49 Public Entrance. An entrance that is not a service entrance or a restricted entrance.

106.5.50 Public Use. Interior or exterior rooms, spaces, or elements that are made available to the public. Public use may be provided at a building or facility that is privately or publicly owned.

106.5.51 Public Way. Any street, alley or other public or land open to the outside air leading to a public street, which has been dedicated, dedicated or otherwise permanently appropriated to the public for public use and which has a clear width and height of not less than 10 feet (3050 mm).

106.5.52 Qualified Historic Building or Facility. A building or facility that is listed in or eligible for listing in the National Register of Historic Places, or designated as a Recorded Texas Historic Landmark or State Archeological Landmark.

106.5.53 Ramp. A walking surface that has a running slope steeper than 1:20.

106.5.54 Residential Dwelling Unit. A unit intended to be used as a residence that is primarily long-term in nature. Residential dwelling units do not include transient lodging, inpatient medical care, licensed long-term care, or detention or correctional facilities.

106.5.55 Restricted Entrance. An entrance that is made available for common use on a controlled basis but not

308.3 Side Reach

308.3.1 Unobstructed. Where a clear floor or ground space allows a parallel approach to an element and the side reach is unobstructed, the high side reach shall be 48 inches (1220 mm) maximum and the low side reach shall be 15 inches (380 mm) minimum above the finish floor or ground.

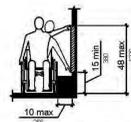


Figure 308.3.1 Unobstructed Side Reach

308.3.2 Obstructed High Reach. Where a clear floor or ground space allows a parallel approach to an element and the high side reach is over an obstruction, the height of the obstruction shall be 34 inches (865 mm) maximum and the depth of the obstruction shall be 24 inches (610 mm) maximum. The high side reach shall be 48 inches (1220 mm) maximum for a reach depth of 10 inches (255 mm) maximum. Where the reach depth exceeds 10 inches (255 mm), the high side reach shall be 46 inches (1170 mm) maximum for a reach depth of 24 inches (610 mm) maximum.

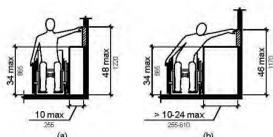


Figure 308.3.2 Obstructed High Side Reach

309 Operable Parts

- 309.2 Clear Floor Space. A clear floor or ground space complying with 305 shall be provided.
- 309.3 Height. Operable parts shall be placed within one or more of the reach ranges specified in 308.
- 309.4 Operation. Operable parts shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to operate parts shall be 5 pounds (22.2 N) maximum.

CHAPTER 4. ACCESSIBLE ROUTES

402 Accessible Routes

402.2 Components. Accessible routes shall consist of one or more of the following components: walking surfaces with a running slope not steeper than 1:20, doorways and gates, elevators, and platform lifts. All components of an accessible route shall comply with the applicable requirements of Chapter 4.

402.3 Components. Walking surfaces must have running slopes not steeper than 1:20, see 403.3. Other components of accessible routes, such as ramps (405) and curb ramps (406), are permitted to be more steeply sloped.

403 Working Surfaces. Working surfaces that are a part of an accessible route shall comply with 403.

403.2 Floor or Ground Surface. Floor or ground surfaces shall comply with 302.

403.3 Slope. The running slope of walking surfaces shall not be steeper than 1:20. The cross slope of walking surfaces shall not be steeper than 1:48.

403.4 Changes in Level. Changes in level shall comply with 303.

403.5 Clearances. Walking surfaces shall provide clearances complying with 403.5.

EXCEPTION: Within employee work areas, clearances on common use circulation paths shall be permitted to be decreased by work area equipment provided that the decrease is essential to the function of the work being performed.

403.5.1 Clear Width. Except as provided in 403.5.2 and 403.5.3, the clear width of walking surfaces shall be 36 inches (915 mm) minimum.

EXCEPTION: The clear width shall be permitted to be reduced to 32 inches (815 mm) minimum for a length of 24 inches (610 mm) maximum provided that reduced width segments are separated by segments that are 48 inches (1220 mm) long minimum and 36 inches (915 mm) wide minimum.

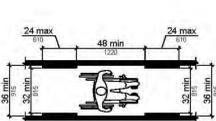


Figure 403.5.1 Clear Width of an Accessible Route

403.5.2 Clear Width of Turn. Where the accessible route makes a 180 degree turn around an element which is less than 48 inches (1220 mm) wide, clear width shall be 42 inches (1065 mm) minimum approaching the turn, 48 inches (1220 mm) minimum at the turn and 42 inches (1065 mm) minimum leaving the turn.

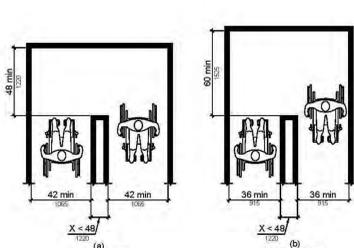


Figure 403.5.2 Clear Width at Turn

403.5.3 Passing Spaces. An accessible route with a clear width less than 60 inches (1525 mm) shall provide passing spaces at intervals of 200 feet (61 m) maximum.

404 Doors, Doorways and Gates

404.2.3 Clear Width. Door openings shall provide a clear width of 32 inches (815 mm) minimum. Clear openings of doorways with swinging doors shall be measured between the face of the door and the stop, with the door open 90 degrees. Openings more than 24 inches (610 mm) deep shall provide a clear opening of 36 inches (915 mm) minimum. There shall be no projections into the required clear opening width lower than 34 inches (865 mm) above the finish floor or ground. Projections into the clear opening width between 34 inches (865 mm) and 80 inches (2030 mm) above the finish floor or ground shall not exceed 4 inches (102 mm).

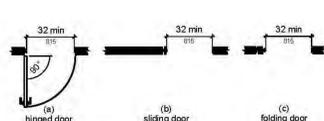


Figure 404.2.3 Clear Width of Doorways

404.2.4 Maneuvering Clearances. Minimum maneuvering clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.

404.2.4.1 Recessed Doors and Gates. Maneuvering clearances for forward approach shall be provided when any obstruction within 18 inches (455 mm) of the latch side of a doorway projects more than 8 inches (203 mm) beyond the face of the door, measured perpendicular to the face of the door or gate.

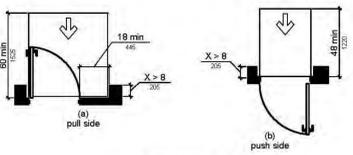


Figure 404.2.4.1 Maneuvering Clearances at Recessed Doors and Gates

404.2.4.2 Series Doors and Gates in Series. The distance between two hinged or pivoted doors in series and gates in series shall be 48 inches (1220 mm) minimum plus the width of doors or gates swinging into the space.

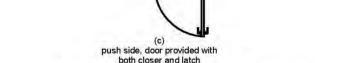
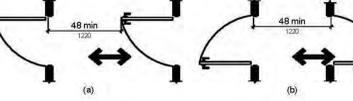
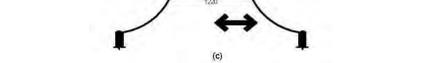


Figure 404.2.4.2 Series Doors and Gates in Series

404.2.4.3 Door and Gate Hardware. Handles, pulls, latches, locks, and other operable parts on doors and gates shall comply with 309.4. Operable parts of such hardware shall be 34 inches (865 mm) minimum and 48 inches (1220 mm) maximum above the finish floor or ground. Where sliding doors are in the fully open position, operating hardware shall be exposed and accessible from both sides.



404.2.8.1 Door Closers and Gate Closers. Door closers and gate closers shall be adjusted so that from an open position 0 degrees, the time required to move the door to a position of 12 degrees from the latch is 5 seconds minimum.



404.2.8.2 Spring Hinges. Door and gate spring hinges shall be adjusted to latch from the open position of 70 degrees, the door or gate shall move to the closed position in 1.5 seconds minimum.

404.2.9 Door and Gate Opening Force. Fire doors shall have a minimum opening force allowable by the appropriate administrative authority. The force for pushing or pulling open a door or gate other than fire doors shall be as follows:

- Interior hinged doors and gates: 5 pounds (22.2 N) maximum.
- Sliding or folding doors: 5 pounds (22.2 N) maximum.

These forces do not apply to the force required to retract latch bolts or disengage other devices that hold the door or gate in a closed position.

404.2.10 Door and Gate Surfaces. Swinging door and gate surfaces within 18 inches (455 mm) of the finish floor or ground measured vertically shall have a smooth surface on the push side extending the full width of the door or gate. Ports creating horizontal or vertical joints in these surfaces shall be within 1/16 inch (1.6 mm) of the same plane as the other. Cavities created by added lock pickets shall be capped.

404.2.11 Vision Lights. Doors, gates, and side lights adjacent to doors or gates, containing one or more glazing panels that permit viewing through the panels shall have the bottom of at least one glazed panel located 43 inches (1090 mm) maximum above the finish floor.

404.3 Automatic and Power-Assisted Doors and Gates. Automatic doors and automatic gates shall comply with 404.3. Full-powered automatic doors shall comply with ANSI/IFMA A156.10 (incorporated by reference, see "Referenced Standards" in Chapter 1), low-energy and power-assisted doors shall comply with ANSI/IFMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

404.3.2 Maneuvering Clearance. Clearances at power-assisted doors and gates shall comply with 404.2.4. Clearances at automatic doors and gates without standby power and serving an accessible means of egress shall comply with 404.2.4.

404.3.7 Revolving Doors, Revolving Gates, and Turnstiles. Revolving doors, revolving gates, and turnstiles shall not be part of an accessible route.

405 Ramps

405.2 Slope. Ramp runs shall have a running slope not steeper than 1:12.

405.3 Cross Slope. Cross slope of ramp runs shall not be steeper than 1:48.

405.5 Clear Width. The clear width of a ramp run and, where handrails are provided, the clear width between handrails shall be 36 inches (915 mm) minimum.

405.6 Rise. The rise for any ramp run shall be 30 inches (762 mm) maximum.

405.7 Landings. Ramps shall have landings at the top and the bottom of each ramp run. Landings shall comply with 405.7.

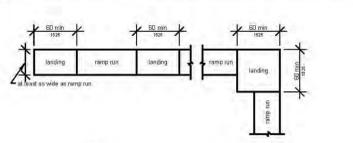


Figure 405.7 Ramps

405.7.1 Slope. Landings shall have slope no steeper than 1:48. Changes in level are not permitted.

405.7.2 Width. The landing clear width shall be at least as wide as the widest ramp run leading to the landing.

405.7.3 Length. The landing clear length shall be 60 inches (1525 mm) long minimum.

405.7.4 Change in Direction. Ramps that change direction between runs at landings shall have a clear landing 60 inches (1525 mm) minimum by 60 inches (1525 mm) minimum.

405.7.5 Doorways. Where doorways are located adjacent to a ramp landing, maneuvering clearances required by 404.2.4 and 404.3.2 shall be permitted to overlap the required landing area.

405.8 Handrails. Ramp runs with a rise greater than 8 inches (150 mm) shall have handrails complying with 505.

405.9 Edge Protection. Edge protection complying with 405.9.1 or 405.9.2 shall be provided on each side of ramp runs and at each side of ramp landings.

405.9.1 Extended Floor or Ground Surface. The floor or ground surface of the ramp run or landing shall extend 12 inches (305 mm) minimum beyond the inside face of a handrail complying with 505.

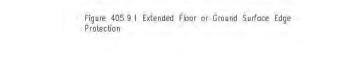


Figure 405.9.1 Extended Floor or Ground Surface Edge Protection

405.9.2 Curb or Barrier. A curb or barrier shall be provided that prevents the passage of a 4 inch (100 mm) diameter sphere, where any portion of the sphere is within 4 inches (100 mm) of the finish floor or ground surface.

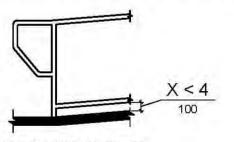


Figure 405.9.2 Curb or Barrier Edge Protection

406 Curb Ramps

406.1 General. Curb ramps on accessible routes shall comply with 406, 406.2 through 406.5, and 405.10.

406.2 Counter Slope. Counter slopes of adjoining gutters and road surfaces immediately adjacent to the curb ramp shall not be steeper than 1:20. The adjacent surfaces of transitions at curb ramps to walks, gutters, and streets shall be at the same level.

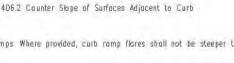


Figure 406.2 Counter Slope of Surfaces Adjacent to Curb Ramps

406.3 Sides of Curb Ramps. Where provided, curb ramp flares shall not be steeper than 1:10.



Figure 406.3 Sides of Curb Ramps

406.4 Landings. Landings shall be provided at the top of curb ramps. The landing clear length shall be 36 inches (915 mm) minimum. The landing clear width shall be at least as wide as the curb ramp, excluding flared sides, leading to the landing.

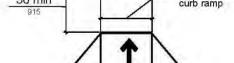


Figure 406.4 Landings at the Top of Curb Ramps

406.5 Diagonal Curb Ramps. Diagonal or corner type curb ramps with returned curbs or other well-defined edges shall have the edges parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have a clear space 48 inches (1220 mm) minimum outside active traffic lanes of the roadway. Diagonal curb ramps provided at marked crossings shall provide the 48 inches (1220 mm) minimum clear space within the markings. Diagonal curb ramps with flared sides shall have a segment of curb 24 inches (610 mm) long minimum located on each side of the curb ramp and within the marked crossing.

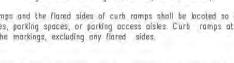


Figure 406.5 Diagonal or Corner Type Curb Ramps

406.6 Islands. Raised islands in crossings shall be cut through level with the street or have curb ramps at both sides. Each curb ramp shall have a level area 48 inches (1220 mm) long minimum by 36 inches (915 mm) wide minimum at the top of the curb ramp in the part of the island intersected by the crossings. Each 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area shall be oriented so that the 48 inch (1220 mm) minimum length is in the direction of the running slope of the curb ramp it serves. The 48 inch (1220 mm) minimum by 36 inch (915 mm) minimum area and the accessible route shall be permitted to overlap.

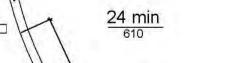


Figure 406.6 Islands in Crossings

407 Elevators

407.1 General. Elevators shall comply with 407 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

407.2.1 Visible and Audible Signals. A visible and audible signal shall be provided at each hallway entrance to indicate which car is answering a call and the car's direction of travel. Where in-car signals are provided, they shall be visible from the floor area adjacent to the hall call button.



Figure 407.2.1 Visible and Audible Signals

407.2.2 Visible Signals. Visible signal fixtures shall be centered at 72 inches (1830 mm) minimum above the finish floor or ground. The visible signal elements shall be 2 1/2 inches (64 mm) minimum measured along the vertical centerline of the element. Signals shall be visible from the floor area adjacent to the hall call button.

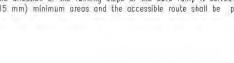


Figure 407.2.2 Visible Signals

407.2.3 Floor Designation. Floor designations complying with 703.2 and 703.4.1 shall be provided on both jamba of elevator hallway entrances. Floor designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum. A tactile alert shall be provided on both jamba at the main entry level.



Figure 407.2.3 Floor Designations on Jamba of Elevator Hallway Entrances

407.2.3.2 Car Designations on Jamba of Destination-Oriented Elevator Hallway Entrances. Destination-oriented elevators shall provide tactile car identification complying with 703.2 on both jamba of the hallway immediately below the floor designation. Car designations shall be provided in both tactile characters and braille. Tactile characters shall be 2 inches (51 mm) high minimum.



Figure 407.2.3.2 Car Designations on Jamba of Destination-Oriented Elevator Hallway Entrances

407.3.1 Height. The device shall be activated by sensing an obstruction passing through the opening of 5 inches (125 mm) nominal and 29 inches (735 mm) nominal above the finish floor.

407.3.3 Duration. Door reopening devices shall remain effective for 20 seconds minimum.

407.3.4 Door and Signal Timing. The minimum acceptable time from notification that a car is answering a call at notification of the car assigned to the means for the entry of destination information until the doors of that car start to close shall be calculated from the following equation:

$$T = 0/(1.5 \text{ ft/s}) \text{ or } T = 0/(455 \text{ mm/s}) = 5 \text{ seconds minimum where } T \text{ equals the total time in seconds and } D \text{ equals the distance in feet or millimeters}$$

407.3.5 Door Delay. Elevator doors shall remain fully open in response to a car call for 3 seconds.

407.3.5.2 Car Delay. Elevator doors shall remain fully open in response to a car call for 3 seconds.

407.3.5.3 Width. The width of elevator doors shall comply with Table 407.4.1.

407.4 Elevator Car Requirements. Elevator cars shall comply with 407.4.

407.4.1 Car Dimensions. Inside dimensions of elevator cars and clear width of elevator doors shall comply with Table 407.4.1.

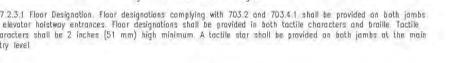


Figure 407.4.1.1 Limited-Use/Limited-Application (LULA) Elevator Car Dimensions

407.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

407.4.3 Platform to Hallway Clearance. The platform to hallway clearance shall comply with 407.4.3.

407.4.4 Leveling. Elevator car leveling shall comply with 407.4.4.

407.4.5 Illumination. Elevator car illumination shall comply with 407.4.5.

407.4.6 Car Controls. Elevator car controls shall comply with 407.4.6. Control panels shall be centered on a side wall.

407.4.7 Designations and Indicators of Car Controls. Designations and indicators of car controls shall comply with 407.4.7.

407.4.8 Emergency Communications. Car emergency signaling devices complying with 407.4.8 shall be provided.

407.4.9 Private Residence Elevators. Private residence elevators that are provided within a residential dwelling unit required to provide mobility features complying with 209.2 through 209.4 shall comply with 409 and with ASME A17.1 (incorporated by reference, see "Referenced Standards" in Chapter 1). They shall be passenger elevators as classified by ASME A17.1. Elevator operation shall be automatic.

409.2 Call Buttons. Call buttons shall be 3/4 inch (19 mm) minimum in the smallest dimension and shall comply with 309.

409.3 Elevator Doors. Hallway doors, car doors, and car gates shall comply with 409.3 and 404.

409.3.1 Power Operation. Elevator car and hallway doors and gates shall be power operated and shall comply with ANSI/IFMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1). Power operated doors and gates shall remain open for 20 seconds minimum when activated.

409.3.2 Location. Elevator car doors or gates shall be positioned at the narrow end of the clear floor space required by 409.4.1.

409.4 Elevator Cars. Private residence elevator cars shall comply with 409.4.

409.4.1 Inside Dimensions of Elevator Cars. Elevator cars shall provide a clear floor space of 36 inches (915 mm) minimum by 48 inches (1220 mm) minimum and shall comply with 305.

409.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

409.4.3 Platform to Hallway Clearance. The clearance between the car platform and the edge of any landing sill shall be 1/2 inch (38 mm) minimum.

409.4.4 Leveling. Each car shall automatically stop at a floor landing within a tolerance of 1/2 inch (13 mm) under rated loading to zero loading conditions.

409.4.5 Illumination Levels. Elevator car illumination shall comply with 407.4.5.

409.4.6 Car Controls. Elevator car control buttons shall comply with 409.4.6, 309.3, 309.4, and shall be raised or flush.

409.4.6.1 Size. Control buttons shall be 3/4 inch (19 mm) minimum in their smallest dimension.

409.4.6.2 Location. Control panels shall be on a side wall, 12 inches (305 mm) minimum from any adjacent wall.

409.4.6.3 Frequency. The verbal annunciator shall have a frequency of 300 Hz minimum to 3000 Hz maximum.

409.4.6.4 Height. Emergency control buttons shall have their centerlines 53 inches (800 mm) minimum above the finish floor.

409.4.6.5 Type. Control buttons shall be identified by tactile characters complying with 703.2.

409.4.6.6 Symbols. The control button for the emergency stop, alarm, door open, door close, main entry floor, and phone, shall be identified with tactile symbols as shown in Table 407.4.7.3.

409.4.6.7 Size. Characters shall be 1/2 inch (13 mm) high minimum.

409.4.6.8 Signal Level. The verbal annunciator shall be 10 dB minimum above ambient, but shall not exceed 60 dB, measured at the annunciator.

409.4.6.9 Frequency. The verbal annunciator shall have a frequency of 300 Hz minimum to 3000 Hz maximum.

410 Platform Lifts. Platform lifts shall comply with ASME A19.1 (1999 edition or 2003 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1). Platform lifts shall not be attendants-operated and shall provide unassisted entry and exit from the lift.

410.1 General. Inclined stairway chairlifts and inclined and vertical platform lifts are available for short-distance vertical transportation. Because an accessible route requires an 80 inch (2030 mm) vertical clearance, care should be taken in selecting lifts as they may not be readily suitable for use by people using wheelchairs and people standing if a lift does not provide 80 inch (2030 mm) vertical clearance. It cannot be considered part of an accessible route to new construction.

410.2 Call Buttons. Elevator call buttons and keypads shall comply with 407.2.1.

410.2.2 Hall Signals. Hall signals shall comply with 407.2.2.

410.2.3 Hallway Signs. Signs at elevator hallways shall comply with 407.2.3.1.

410.3 Elevator Doors. Sliding hallway doors shall comply with 407.3.1 through 407.3.3 and 408.4.1.

410.3.2 Swinging Doors. Swinging hallway doors shall open and close automatically and shall comply with 404, 407.2.1 and 408.3.2.

410.3.2.1 Power Operation. Swinging doors shall be power-operated and shall comply with ANSI/IFMA A156.19 (1997 or 2002 edition) (incorporated by reference, see "Referenced Standards" in Chapter 1).

410.3.2.2 Duration. Power-operated swinging doors shall remain open for 20 seconds minimum when activated.

410.4 Elevator Cars. Elevator cars shall comply with 408.4.

408.4.1 Car Dimensions and Doors. Elevator cars shall provide a clear width 42 inches (1065 mm) minimum and a clear depth 54 inches (1370 mm) minimum. Car doors shall be positioned at the narrow ends of cars and shall provide 32 inches (815 mm) minimum clear width.

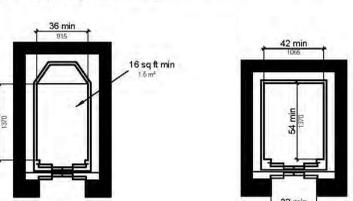


Figure 408.4.1.1 Limited-Use/Limited-Application (LULA) Elevator Car Dimensions

408.4.2 Floor Surfaces. Floor surfaces in elevator cars shall comply with 302 and 303.

408.4.3 Platform to Hallway Clearance. The platform to hallway clearance shall comply with 407.4.3.

The ADA and other Federal civil rights laws require that accessible features be maintained in working order so that they are accessible to and usable by these people who are intended to benefit. Building owners are reminded that the ASME A10 Safety Standard for Platform Lifts and Stairway Chairlifts requires routine maintenance and inspections. Inspections or other temporary interruptions in service due to maintenance or repairs may be unavoidable, however, failure to take prompt action to effect repairs could constitute a violation of Federal laws and these requirements.

410.2 Floor Surfaces Floor surfaces in platform lifts shall comply with 302 and 303.

410.3 Clear Floor Space Clear floor space in platform lift shall comply with 305.

410.4 Platform to Runway Clearance The clearance between the platform sill and the edge of any runway landing shall be 1 inch (25 mm) minimum.

410.5 Operable Parts Controls for platform lifts shall comply with 309.

410.6 Doors and Gates Platform lifts shall have low-energy power-operated doors or gates complying with 404.3. Doors shall remain open for 20 seconds minimum. End doors and gates shall provide a clear width 32 inches (815 mm) minimum. Side doors and gates shall provide a clear width 42 inches (1065 mm) minimum.

EXCEPTION: Platform lifts serving two landings maximum and having doors or gates on opposite sides shall be permitted to have self-closing manual doors or gates.

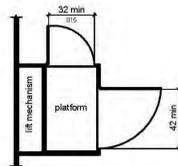


Figure 410.6 Platform Lift Doors and Gates

CHAPTER 9. GENERAL SITE AND BUILDING ELEMENTS

502 Parking Spaces

502.1 General Cor and van parking spaces shall comply with 502. Where parking spaces are marked with lines, width measurements of parking spaces and access aisles shall be made from the centerline of the markings.

EXCEPTION: Where parking spaces or access aisles are not adjacent to another parking space or access aisle, measurements shall be permitted to include the full width of the line defining the parking space or access aisle.

502.2 Vehicle Spaces Car parking spaces shall be 96 inches (2440 mm) wide minimum and van parking spaces shall be 132 inches (3350 mm) wide minimum, shall be marked to define the width, and shall have an adjacent access aisle complying with 502.3.

EXCEPTION: Van parking spaces shall be permitted to be 96 inches (2440 mm) wide minimum where the access aisle is 96 inches (2440 mm) wide minimum.

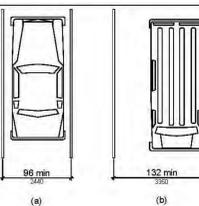


Figure 502.2 Vehicle Parking Spaces

502.3 Access Aisle Access aisles serving parking spaces shall comply with 502.3. Access aisles shall adjoin an accessible route. Two parking spaces shall be permitted to share a common access aisle.

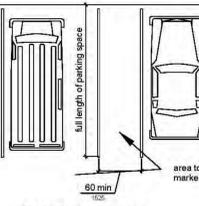


Figure 502.3 Parking Space Access Aisle

502.3.1 Width Access aisles serving car and van parking spaces shall be 80 inches (1525 mm) wide minimum.

502.3.2 Length Access aisles shall extend the full length of the parking spaces they serve.

502.3.3 Marking Access aisles shall be marked so as to discourage parking in them.

502.3.4 Location Access aisles shall not overlap the vehicular way. Access aisles shall be permitted to be placed on either side of the parking space except for angled van parking spaces which shall have access aisles located on the passenger side of the parking spaces.

502.4 Rear or Ground Surfaces Parking spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the parking spaces they serve. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

502.5 Vertical Clearance Parking spaces, parking spaces for vans and access aisles and vehicular routes serving them shall provide a vertical clearance of 80 inches (2030 mm) minimum.

502.6 Identification Parking space identification signs shall include the International Symbol of Accessibility complying with 703.2.1. Signs identifying van parking spaces shall contain the designation 'Van accessible.' Signs shall be 80 inches (1525 mm) minimum above the finish floor or ground surface measured to the bottom of the sign.

502.7 Relationship to Accessible Routes Parking spaces and access aisles shall be designed so that cars and vans, when parked, cannot obstruct the required clear width of adjacent accessible routes.

503 Passenger Loading Zones

503.2 Vehicle Pull-Up Space Passenger loading zones shall provide a vehicular pull-up space 95 inches (2410 mm) wide minimum and 20 feet (6100 mm) long minimum.

503.3 Access Aisle Passenger loading zones shall provide access aisles complying with 503 adjacent to the vehicle pull-up space. Access aisles shall adjoin an accessible route and shall not overlap the vehicular way.

503.3.1 Width Access aisles serving vehicle pull-up spaces shall be 80 inches (1525 mm) wide minimum.

503.3.2 Length Access aisles shall extend the full length of the vehicle pull-up spaces they serve.

503.3.3 Marking Access aisles shall be marked so as to discourage parking in them.

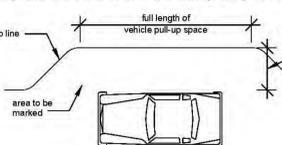


Figure 503.3 Passenger Loading Zone Access Aisle

503.4 Floor and Ground Surfaces Vehicle pull-up spaces and access aisles serving them shall comply with 302. Access aisles shall be at the same level as the vehicle pull-up space they serve. Changes in level are not permitted.

EXCEPTION: Slopes not steeper than 1:48 shall be permitted.

503.5 Vertical Clearance Vehicle pull-up spaces, access aisles serving them, and a vehicular route from an entrance to the passenger loading zone, and from the passenger loading zone to a vehicular exit shall provide a vertical clearance of 114 inches (2895 mm) minimum.

504 Stairs

504.1 General Stairs that are part of the means of egress is required to comply with 504.

504.2 Treads and Risers All steps on a flight of stairs shall have uniform riser heights and uniform tread depths. Risers shall be 4 inches (102 mm) high minimum and 7 inches (180 mm) high maximum. Treads shall be 11 inches (280 mm) deep minimum.

504.3 Open Risers Open risers are not permitted.

504.4 Tread Surface Stair treads shall comply with 302. Changes in level are not permitted.

504.5 Nosings The radius of curvature at the leading edge of the tread shall be 1/2 inch (13 mm) maximum. Nosings that project beyond risers shall have the underside of the leading edge curved or beveled. Risers shall be permitted to step down from tread at an angle of 30 degrees maximum from vertical. The permitted projection of the nosing shall extend 1 1/2 inches (38 mm) maximum over the tread below.

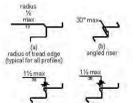


Figure 504.5 Stair Nosings

504.6 Handrails Stairs shall have handrails complying with 505.

504.7 Wet Conditions Stair treads and landings subject to wet conditions shall be designed to prevent the accumulation of water.

505 Handrails

505.1 General Handrails provided along walking surfaces complying with 403, required at ramps complying with 405, and required at stairs complying with 504 shall comply with 505.

505.1.1 General Handrails are required on ramp runs with a rise greater than 8 inches (150 mm) (see 405.5) and on certain stairways (see 504). Handrails are not required on walking surfaces with running slopes less than 1:20. However, handrails are required to comply with 505 when they are provided on walking surfaces with running slopes less than 1:20 (see 403.6). Sections 505.2, 505.3, and 505.10 do not apply to handrails provided on walking surfaces with running slopes less than 1:20 as these sections only reference requirements for ramps and stairs.

505.2 Where Required Handrails shall be provided on both sides of stairs and ramps.

505.3 Continuity Handrails shall be continuous within the full length of each stair flight or ramp run. Inside handrails at switchback or dogleg stairs and ramps shall be continuous between flights or runs.

505.4 Height Top of gripping surfaces of handrails shall be 34 inches (865 mm) minimum and 38 inches (965 mm) maximum vertically above walking surfaces, stair nosings, and ramp surfaces. Handrails shall be at a consistent height above walking surfaces, stair nosings, and ramp surfaces.

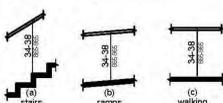


Figure 505.4 Handrail Height

505.5 Clearance Clearance between handrail gripping surfaces and adjacent surfaces shall be 1 1/2 inches (38 mm) minimum.



Figure 505.5 Handrail Clearance Figure 505.6 Horizontal Projections Below Gripping Surface

505.6 Gripping Surface Handrail gripping surfaces shall be continuous along their length and shall not be obstructed along their tops or sides. The bottom of handrail gripping surfaces shall not be obstructed for more than 20 percent of their length. Where provided, horizontal projections shall occur 1 1/2 inches (38 mm) minimum below the bottom of the handrail gripping surface.

505.7 Circular Cross Section Handrail gripping surfaces with a circular cross section shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) maximum.

505.7.2 Non-Circular Cross Sections Handrail gripping surfaces with a non-circular cross section shall have a perimeter dimension of 4 inches (102 mm) minimum and 6 1/4 inches (160 mm) maximum, and a cross-section dimension of 2 1/4 inches (57 mm) maximum.

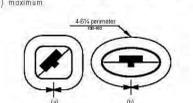


Figure 505.7.2 Handrail Non-Circular Cross Section

505.8 Surfaces Handrail gripping surfaces and any surfaces adjacent to them shall be free of sharp or abrasive elements and shall have rounded edges.

505.9 Filings Handrails shall not rotate within their fittings.

505.10 Handrail Extensions Handrail gripping surfaces shall extend beyond and in the same direction of stair flights and ramp runs in accordance with 505.12.

505.10.1 Top and Bottom Extension of Ramps Ramp handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beyond the top and bottom of ramp runs. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent ramp run.

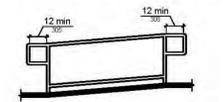
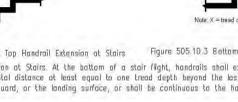


Figure 505.10.1 Top and Bottom Handrail Extension of Ramps

505.10.2 Top Extension at Stairs At the top of a stair flight, handrails shall extend horizontally above the landing for 12 inches (305 mm) minimum beginning directly above the first floor nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.



505.10.3 Bottom Extension of Stairs At the bottom of a stair flight, handrails shall extend at the slope of the stair flight for a horizontal distance of least equal to one tread depth beyond the last floor nosing. Extensions shall return to a wall, guard, or the landing surface, or shall be continuous to the handrail of an adjacent stair flight.

CHAPTER 8. BUILDING ELEMENTS AND FACILITIES

602 Drinking Fountains

602.2 Clear Floor Space Units shall have a clear floor or ground space complying with 305 positioned for a forward approach and centered on the unit. Knee and toe clearance complying with 306 shall be provided.

EXCEPTION: A parallel approach complying with 306 shall be provided at units for children's use where the spout is 30 inches (760 mm) maximum above the finish floor or ground and is 1 1/2 inches (38 mm) maximum from the front edge of the unit, including bumpers.

602.3 Operable Parts Operable parts shall comply with 309.

602.4 Spout Height Spout outlets shall be 36 inches (915 mm) minimum above the finish floor or ground.

602.5 Spout Location The spout shall be located 15 inches (380 mm) minimum from the vertical support and 5 inches (125 mm) minimum from the front edge of the unit, including bumpers.

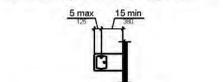


Figure 602.5 Drinking Fountain Spout

602.6 Water Flow The spout shall provide a flow of water 4 inches (102 mm) high minimum and shall be located 5 inches (125 mm) minimum from the front of the unit. The angle of the water stream shall be measured horizontally relative to the front face of the unit. Where spouts are located less than 3 inches (75 mm) of the front of the unit, the angle of the water stream shall be 30 degrees maximum. Where spouts are located between 3 inches (75 mm) and 5 inches (125 mm) minimum from the front of the unit, the angle of the water stream shall be 15 degrees maximum.

602.7 Drinking Fountains for Standing Persons Spout outlets of drinking fountains for standing persons shall be 38 inches (965 mm) minimum and 45 inches (1130 mm) maximum above the finish floor or ground.

603 Toilets and Bathing Rooms

603.2 Clearances Clearances shall comply with 603.2.

603.2.1 Turning Space Turning space complying with 304 shall be provided within the room.

603.2.2 Overlap Required clear floor spaces, clearances at fixtures, and turning space shall be permitted to overlap.

603.2.3 Door Swing Doors shall not swing into the clear floor space or clearance required for any fixture. Doors shall be permitted to swing into the required turning space.

603.3 Mirrors Mirrors located above lavatories or counter tops shall be installed with the bottom edge of the reflecting surface 40 inches (1015 mm) minimum above the finish floor or ground. Mirrors not located above lavatories or counter tops shall be installed with the bottom edge of the reflecting surface 35 inches (890 mm) minimum above the finish floor or ground.

603.4 Coat Hooks and Shelves Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604 Water Closets and Toilet Compartments

604.2 Location The water closet shall be positioned with a wall or partition to the rear and to one side. The centerline of the water closet shall be 15 inches (405 mm) minimum to 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Water closets shall be arranged for a left-hand or right-hand approach.

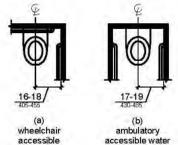


Figure 604.2 Water Closet

604.3.1 Size Clearance around a water closet shall be 60 inches (1525 mm) minimum measured perpendicular from the side wall and 56 inches (1420 mm) minimum measured perpendicular from the rear wall.



Figure 604.3.1 Size of Clearance at Water Closets

604.3.2 Overlap The required clearance around the water closet shall be permitted to overlap the water closet, associated grab bars, dispensers, sanitary napkin disposal units, coat hooks, shelves, accessible routes, clear floor space and clearances required at other fixtures, and the turning space. No other fixtures or obstructions shall be located within the required water closet clearance.

604.3.3 Seat Height The seat height of a water closet above the finish floor shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum measured to the top of the seat. Seats shall not be springy to return to a lifted position.

604.5 Grab Bars Grab bars for water closets shall comply with 609. Grab bars shall be provided on the side wall closest to the water closet and on the rear wall.

604.5.1 Side Wall The side wall grab bar shall be 42 inches (1065 mm) long minimum, located 12 inches (305 mm) maximum from the rear wall and extending 54 inches (1370 mm) minimum from the rear wall.

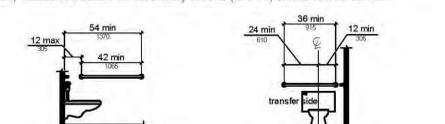


Figure 604.5.1 Side Wall Grab Bar at Water Closets Figure 604.5.2 Rear Wall Grab Bar at Water Closets

604.5.2 Rear Wall The rear wall grab bar shall be 36 inches (915 mm) long minimum and extend from the centerline of the water closet 12 inches (305 mm) minimum on one side and 24 inches (610 mm) minimum on the other side.

604.6 Flush Controls Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

604.7 Dispensers Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 14 inches (360 mm) minimum and 48 inches (1220 mm) maximum above the finish floor and shall not be located behind grab bars. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

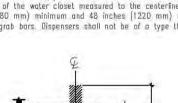


Figure 604.7 Dispenser Outlet Location

604.8 Toilet Compartments Wheelchair accessible toilet compartments shall meet the requirements of 604.8.1 and 604.8.3. Compartments containing more than one plumbing fixture shall comply with 603. Ambulatory accessible compartments shall comply with 604.8.2 and 604.8.3.

604.8.1 Wheelchair Accessible Compartments Wheelchair accessible compartments shall comply with 604.8.1.

604.8.1.1 Size Wheelchair accessible compartments shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall and 56 inches (1420 mm) deep minimum for wall hung water closets and 59 inches (1500 mm) deep minimum for floor mounted water closets measured perpendicular to the rear wall. Wheelchair accessible compartments for children's use shall be 60 inches (1525 mm) wide minimum measured perpendicular to the side wall and 59 inches (1500 mm) deep minimum for wall hung and floor mounted water closets measured perpendicular to the rear wall.

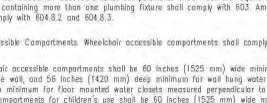


Figure 604.8.1.1 Size of Wheelchair Accessible Toilet Compartment

604.8.1.2 Doors Toilet compartment doors, including door hardware, shall comply with 404 except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. Doors shall be located in the front partition or in the side wall or partition farthest from the water closet. Where located in the front partition, the door opening shall be 4 inches (102 mm) maximum from the side wall or partition located from the water closet. Where located in the side wall or partition, the door opening shall be 4 inches (102 mm) maximum from the front partition. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

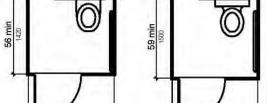


Figure 604.8.1.2 Wheelchair Accessible Toilet Compartment

604.8.1.3 Approach Compartments shall be arranged for left-hand or right-hand approach to the water closet.

604.8.1.4 Toe Clearance The front partition and at least one side partition shall provide a toe clearance of 9 inches (230 mm) minimum above the finish floor and 9 inches (150 mm) deep minimum beyond the compartment-side face of the partition, exclusive of partition support members. Compartments for children's use shall provide a toe clearance of 12 inches (305 mm) minimum above the finish floor.

EXCEPTION: Toe clearance at the front partition is not required in a compartment greater than 52 inches (1325 mm) deep with a wall-hung water closet or 65 inches (1650 mm) deep with a floor-mounted water closet. Toe clearance at the side partition is not required in a compartment greater than 66 inches (1670 mm) wide. Toe clearance at the front partition is not required in a compartment for children's use that is greater than 65 inches (1650 mm) deep.

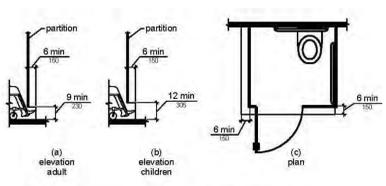


Figure 604.8.1.4 Wheelchair Accessible Toilet Compartment Toe Clearance

604.8.1.5 Grab Bars Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided and shall be located on the wall closest to the water closet. In addition, a rear-wall grab bar complying with 604.5.2 shall be provided.

604.8.2 Ambulatory Accessible Compartments Ambulatory accessible compartments shall comply with 604.8.2.

604.8.2.1 Size Ambulatory accessible compartments shall have a depth of 60 inches (1525 mm) minimum and a width of 35 inches (890 mm) minimum and 37 inches (940 mm) maximum.

604.8.2.2 Doors Toilet compartment doors, including door hardware, shall comply with 404, except that if the approach is to the latch side of the compartment door, clearance between the door side of the compartment and any obstruction shall be 42 inches (1065 mm) minimum. The door shall be self-closing. A door pull complying with 404.2.7 shall be placed on both sides of the door near the latch. Toilet compartment doors shall not swing into the minimum required compartment area.

604.8.2.3 Grab Bars Grab bars shall comply with 609. A side-wall grab bar complying with 604.5.1 shall be provided on both sides of the compartment.

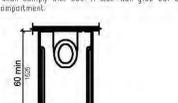


Figure 604.8.2 Ambulatory Accessible Toilet Compartment

604.8.3 Coat Hooks and Shelves Coat hooks shall be located within one of the reach ranges specified in 308. Shelves shall be located 40 inches (1015 mm) minimum and 48 inches (1220 mm) maximum above the finish floor.

604.8.4 Water Closets and Toilet Compartments for Children's Use Water closets and toilet compartments for children's use shall comply with 604.9.

604.9.1 Location The water closet shall be located with a wall or partition to the rear and to one side. The centerline of the water closet shall be 12 inches (305 mm) minimum and 18 inches (455 mm) maximum from the side wall or partition, except that the water closet shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum from the side wall or partition in the ambulatory accessible toilet compartment specified in 604.8.2. Compartments shall be arranged for left-hand or right-hand approach to the water closet.

604.9.2 Clearance Clearance around a water closet shall comply with 604.3.

604.9.3 Height The height of water closets shall be 11 inches (280 mm) minimum and 17 inches (430 mm) maximum measured to the top of the seat. Seats shall not be springy to return to a lifted position.

604.9.4 Grab Bars Grab bars for water closets shall comply with 604.5.

604.9.5 Flush Controls Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.2 and 309.4 and shall be installed 36 inches (915 mm) maximum above the finish floor. Flush controls shall be located on the open side of the water closet except in ambulatory accessible compartments complying with 604.8.2.

604.9.6 Dispensers Toilet paper dispensers shall comply with 309.4 and shall be 7 inches (180 mm) minimum and 9 inches (230 mm) maximum in front of the water closet measured to the centerline of the dispenser. The outlet of the dispenser shall be 14 inches (360 mm) minimum and 48 inches (1220 mm) maximum above the finish floor. There shall be a clearance of 1 1/2 inches (38 mm) minimum below the grab bar. Dispensers shall not be of a type that controls delivery or that does not allow continuous paper flow.

604.9.7 Toilet Compartments Toilet compartments shall comply with 604.8.

605 Urinals

605.2 Height and Depth Urinals shall be the stall-type or the wall-hung type with the rim 17 inches (430 mm) maximum above the finish floor or ground. Urinals shall be 15 1/2 inches (395 mm) deep minimum measured from the outer face of the urinal rim to the back of the fixture.

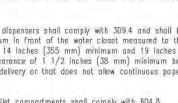


Figure 605.2 Height and Depth of Urinals

605.3 Clear Floor Space A clear floor or ground space complying with 305 positioned for forward approach shall be provided.

605.4 Flush Controls Flush controls shall be hand operated or automatic. Hand operated flush controls shall comply with 309.

60

608.3.1 Transfer Type Shower Compartments. In transfer type compartments, grab bars shall be provided across the control wall and back wall to a point 18 inches (455 mm) from the control wall.

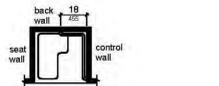


Figure 608.3.1 Grab Bars for Transfer Type Showers

608.3.2 Standard Roll-In Type Shower Compartments. Where a seat is provided in standard roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall opposite the seat. Grab bars shall not be provided above the seat. Where a seat is not provided in standard roll-in type shower compartments, grab bars shall be provided on three walls. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

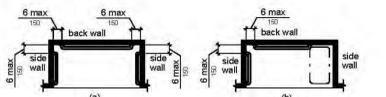


Figure 608.3.2 Grab Bars for Standard Roll-In Type Showers

608.3.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower compartments, grab bars shall be provided on the back wall and the side wall furthest from the compartment entry. Grab bars shall not be provided above the seat. Grab bars shall be installed 6 inches (150 mm) maximum from adjacent walls.

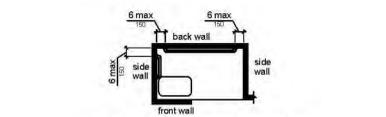


Figure 608.3.3 Grab Bars for Alternate Roll-In Type Showers

608.4 Seats. A folding or non-folding seat shall be provided in transfer type shower compartments. A folding seat shall be provided in roll-in type shower compartments. In transfer type shower compartments, the controls, faucets, and shower spray unit shall be installed on the side wall opposite the seat. Seats shall comply with 910.

608.5 Controls, Faucets, and Shower Spray Units. Controls, faucets, and shower spray units shall comply with 309.4.

608.5.1 Transfer Type Shower Compartments. In transfer type shower compartments, the controls, faucets, and shower spray unit shall be installed on the side wall opposite the seat. Seats shall be located on the back wall 15 inches (380 mm) maximum from the centerline of the seat toward the shower opening.

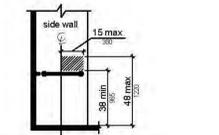


Figure 608.5.1 Transfer Type Shower Compartment Control Location

608.5.2 Standard Roll-In Type Shower Compartments. In standard roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be installed on the back wall adjacent to the seat wall and shall be located 27 inches (685 mm) maximum from the seat wall.

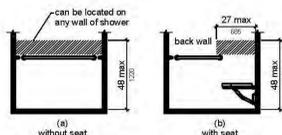


Figure 608.5.2 Standard Roll-In Type Shower Compartment Control Location

608.5.3 Alternate Roll-In Type Shower Compartments. In alternate roll-in type shower compartments, the controls, faucets, and shower spray unit shall be located above the grab bar, but no higher than 48 inches (1220 mm) above the shower floor. Where a seat is provided, the controls, faucets, and shower spray unit shall be located on the side wall opposite to the seat 27 inches (685 mm) maximum from the side wall behind the seat or shall be located on the back wall top 15 inches (380 mm) maximum left or right of the centerline of the seat. Where a seat is not provided, the controls, faucets, and shower spray unit shall be installed on the side wall furthest from the compartment entry.

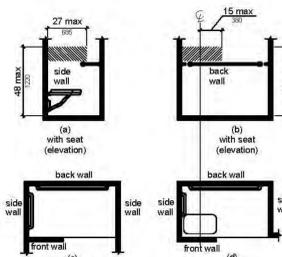


Figure 608.5.3 Alternate Roll-In Type Shower Compartment Control Location

608.6 Shower Spray Unit and Water. A shower spray unit with a base 59 inches (1500 mm) long minimum that can be used both as a fixed-position shower head and as a hand-held shower shall be provided. The shower spray unit shall have an on/off control with a non-positive shut-off. If an adjustable-height shower head or a vertical bar is used, the bar shall be installed so as not to obstruct the use of grab bars. Shower spray units shall deliver water that is 120°F (49°C) maximum.

608.7 Thresholds. Thresholds in roll-in type shower compartments shall be 1/2 inch (13 mm) high maximum in accordance with 303. In transfer type shower compartments, thresholds 1/2 inch (13 mm) high maximum shall be beveled, rounded, or beveled.

608.8 Shower Enclosures. Enclosures for shower compartments shall not obstruct controls, faucets, and shower spray units or obstruct transfer from wheelchairs into shower seats.

609 Grab Bars

609.1 General. Grab bars in toilet facilities and bathing facilities shall comply with 609.

609.2 Cross Section. Grab bars shall have a cross section complying with 609.2.1 or 609.2.2.

609.2.1 Circular Cross Section. Grab bars with circular cross sections shall have an outside diameter of 1 1/4 inches (32 mm) minimum and 2 inches (51 mm) minimum.

609.2.2 Non-Circular Cross Section. Grab bars with non-circular cross sections shall have a cross-section dimension of 2 inches (51 mm) maximum and a perimeter dimension of 4 inches (100 mm) minimum and 4.8 inches (120 mm) maximum.

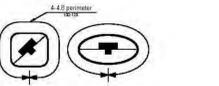


Figure 609.2.2 Grab Bar Non-Circular Cross Section

609.3 Spacing. The space between the wall and the grab bar shall be 1 1/2 inches (38 mm). The space between the grab bar and projecting objects below and at the ends shall be 1 1/2 inches (38 mm) minimum. The space between the grab bar and projecting objects above shall be 12 inches (305 mm) minimum.

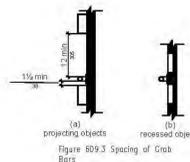


Figure 609.3 Spacing of Grab Bars

609.4 Position of Grab Bars. Grab bars shall be installed in a horizontal position, 33 inches (840 mm) minimum and 36 inches (915 mm) maximum above the finish floor measured to the top of the gripping surface, except that at water closets for children's use complying with 604.9, grab bars shall be installed in a horizontal position 18 inches (455 mm) minimum and 27 inches (685 mm) maximum above the finish floor measured to the top of the gripping surface. The height of the lower grab bar on the back wall of a bathtub shall comply with 607.4.1 or 607.4.2.

609.5 Surface Hazards. Grab bars and any wall or other surfaces adjacent to grab bars shall be free of sharp or abrasive elements and shall have rounded edges.

609.6 Fillings. Grab bars shall not rotate within their fillings.

609.7 Installation. Grab bars shall be installed in any manner that provides a gripping surface at the specified locations and that does not obstruct the required clear floor space.

609.8 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the grab bar, fastener, mounting device, or supporting structure.

610 Seats

610.2 Bathtub Seats. The top of bathtub seats shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. The depth of a removable in-tub seat shall be 15 inches (380 mm) minimum and 18 inches (455 mm) maximum. The seat shall be capable of secure placement. Permanent seats at the head end of the bathtub shall be 15 inches (380 mm) deep minimum and shall extend from the back wall to or beyond the outer edge of the bathtub.

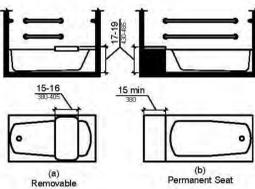


Figure 610.2 Bathtub Seats

610.3 Braille. Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.

610.3.1 Dimensions and Capitalization. Braille dots shall have a domed or rounded shape and shall comply with Table 703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.



Figure 610.3.1 Extent of Seat

610.3.2 Standard Seats. Where a seat is provided in a standard roll-in shower compartment, it shall be a folding type, shall be installed on the side wall adjacent to the controls, and shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. Where a seat is provided in an alternate roll-in type shower compartment, it shall be a folding type, shall be installed on the front wall opposite the back wall, and shall extend from the adjacent side wall to a point within 3 inches (75 mm) of the compartment entry. In transfer-type showers, the seat shall extend from the back wall to a point within 3 inches (75 mm) of the compartment entry. The top of the seat shall be 17 inches (430 mm) minimum and 19 inches (485 mm) maximum above the bathroom finish floor. Seats shall comply with 610.3.1 or 610.3.2.

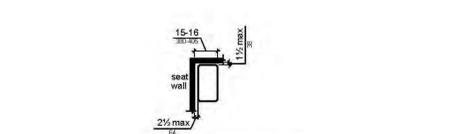


Figure 610.3.2 L-Shaped Shower Seat

610.3.1 Rectangular Seats. The rear edge of a rectangular seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The side edge of the seat shall be 1 1/2 inches (38 mm) maximum from the adjacent wall.

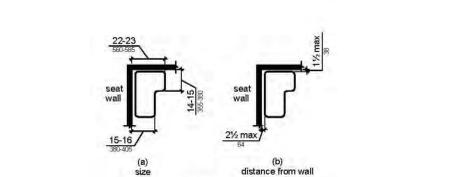


Figure 610.3.2 L-Shaped Shower Seat

610.3.2 L-Shaped Seats. The rear edge of an L-shaped seat shall be 2 1/2 inches (64 mm) maximum and the front edge 15 inches (380 mm) minimum and 16 inches (405 mm) maximum from the seat wall. The rear edge of the "L" portion of the seat shall be 1 1/2 inches (38 mm) minimum from the wall and the front edge shall be 14 inches (355 mm) minimum and 15 inches (380 mm) maximum from the wall. The end of the "L" shall be 22 inches (559 mm) minimum and 23 inches (584 mm) maximum from the main seat wall.

610.4 Structural Strength. Allowable stresses shall not be exceeded for materials used when a vertical or horizontal force of 250 pounds (1112 N) is applied at any point on the seat, fastener, mounting device, or supporting structure.

611 Washing Machines and Clothes Dryers

611.2 Clear Floor Space. A clear floor or ground space complying with 305 positioned for parallel approach shall be provided. The clear floor or ground space shall be centered on the appliance.

611.3 Operable Parts. Operable parts, including doors, lift screens, and detergent and bleach compartments shall comply with 309.

611.4 Height. Top loading machines shall have the door to the laundry compartment located 36 inches (915 mm) maximum above the finish floor. Front loading machines shall have the bottom of the opening to the laundry compartment located 15 inches (380 mm) minimum and 36 inches (915 mm) maximum above the finish floor.

611.5 Line Spacing. Spacing between the baselines of separate lines of characters within a message shall be 1.5 percent minimum and 170 percent maximum of the character height.

611.6 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

611.7 Character Height. Minimum character height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an observation point directly in front of the character.

611.8 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 10 percent minimum and 30 percent maximum of the height of the character.

611.9 Character Spacing. Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent minimum and 35 percent maximum of character height.

611.10 Line Spacing. Spacing between the baselines of separate lines of characters within a message shall be 1.5 percent minimum and 170 percent maximum of the character height.

611.11 Braille. Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.

611.12 Braille. Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.

CHAPTER 7 COMMUNICATION ELEMENTS AND FEATURES

702 TTY Alarm Systems

702.1 General. The alarm systems shall have permanently installed audible and visible alarms complying with NFPA 72 (1999 or 2002 edition), incorporated by reference, see "Referenced Standards" in Chapter 1, except that the maximum allowable sound level of audible notification appliances complying with section 4-3.2.1 of NFPA 72 (1999 edition) shall have a sound level no more than 110 dB at the minimum hearing distance from the audible appliance. In addition, alarms in guest rooms required to provide communication features shall comply with sections 4-3 and 4-4 of NFPA 72 (1999 edition) or sections 7.4 and 7.5 of NFPA 72 (2002 edition).

703 Signs

703.1 General. Signs shall comply with 703. Where both visual and tactile characters are required, either one sign with both visual and tactile characters, or two separate signs, one with visual, and one with tactile characters, shall be provided.

703.2 Raised Characters. Raised characters shall comply with 703.2 and shall be duplicated in braille complying with 703.3. Raised characters shall be installed in accordance with 703.4.

703.2.1 Depth. Raised characters shall be 1/32 inch (0.8 mm) minimum above their background.

703.2.2 Case. Characters shall be uppercase.

703.2.3 Style. Characters shall be sans serif. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.2.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

703.2.5 Character Height. Character height measured vertically from the baseline of the character shall be 5/8 inch (16 mm) minimum and 2 inches (51 mm) maximum based on the height of the uppercase letter "I".

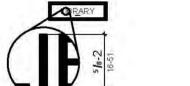


Figure 703.2.5 Height of Raised Characters

703.2.6 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 15 percent maximum of the height of the character.

703.2.7 Character Spacing. Character spacing shall be measured between the two closest points of adjacent raised characters within a message, excluding word spaces. Where characters have rectangular cross sections, spacing between individual raised characters shall be 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum. Where characters have other cross sections, spacing between individual raised characters shall be 1/16 inch (1.6 mm) minimum and 4 times the raised character stroke width maximum at the base of the cross sections, and 1/8 inch (3.2 mm) minimum and 4 times the raised character stroke width maximum at the top of the cross sections. Characters shall be separated from raised borders and decorative elements 3/8 inch (9.5 mm) minimum.

703.2.8 Line Spacing. Spacing between the baselines of separate lines of raised characters within a message shall be 1.5 percent minimum and 170 percent maximum of the raised character height.

703.3 Braille. Braille shall be contracted (Grade 2) and shall comply with 703.3 and 703.4.

703.3.1 Dimensions and Capitalization. Braille dots shall have a domed or rounded shape and shall comply with Table 703.3.1. The indication of an uppercase letter or letters shall only be used before the first word of sentences, proper nouns and names, individual letters of the alphabet, initials, and acronyms.

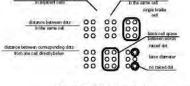


Figure 703.3.1 Braille Measurement

703.3.2 Position. Braille shall be positioned below the corresponding text. If text is multi-lined, braille shall be placed below the entire text. Braille shall be separated 3/16 inch (4.8 mm) minimum from any other tactile characters and 3/8 inch (9.5 mm) minimum from raised borders and decorative elements.

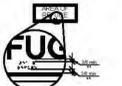


Figure 703.3.2 Position of Braille

703.4 Installation Height and Location. Signs with tactile characters shall comply with 703.4.

703.4.1 Height Above Finish Floor or Ground. Tactile characters on signs shall be located 48 inches (1220 mm) minimum above the finish floor or ground surface, measured from the baseline of the lowest tactile character and 60 inches (1525 mm) maximum above the finish floor or ground surface, measured from the baseline of the highest tactile character.

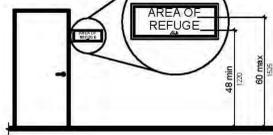


Figure 703.4.1 Height of Tactile Characters Above Finish Floor or Ground

703.4.2 Location. Where a tactile sign is provided at a door, the sign shall be located alongside the door at the latch side. Where a tactile sign is provided at double doors with one active leaf, the sign shall be located on the inactive leaf. Where a tactile sign is provided at double doors with two active leaves, the sign shall be located to the right of the right hand door. Where there is no wall door at the latch side of a single door or at the right side of double doors, signs shall be located on the nearest adjacent wall. Signs containing tactile characters shall be located on both a tactile character (455 mm) minimum and 15 inches (380 mm) minimum, centered on the tactile characters, is provided beyond the arc of any door swing between the closed position and 45 degree open position.

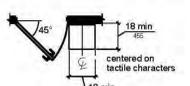


Figure 703.4.2 Location of Tactile Signs at Doors

703.5 Visual Characters. Visual characters shall comply with 703.5.

703.5.1 Finish and Contrast. Characters and their background shall have a non-gloss finish. Characters shall contrast with their background with either light characters on a dark background or dark characters on a light background.

703.5.2 Case. Characters shall be uppercase or lowercase or a combination of both.

703.5.3 Style. Characters shall be conventional in form. Characters shall not be italic, oblique, script, highly decorative, or of other unusual forms.

703.5.4 Character Proportions. Characters shall be selected from fonts where the width of the uppercase letter "O" is 55 percent minimum and 110 percent maximum of the height of the uppercase letter "I".

703.5.5 Character Height. Minimum character height shall comply with Table 703.5.5. Viewing distance shall be measured as the horizontal distance between the character and an observation point directly in front of the character.

703.5.6 Height From Finish Floor or Ground. Visual characters shall be 40 inches (1015 mm) minimum above the finish floor or ground.

703.5.7 Stroke Thickness. Stroke thickness of the uppercase letter "I" shall be 10 percent minimum and 30 percent maximum of the height of the character.

703.5.8 Character Spacing. Character spacing shall be measured between the two closest points of adjacent characters, excluding word spaces. Spacing between individual characters shall be 10 percent minimum and 35 percent maximum of character height.

703.5.9 Line Spacing. Spacing between the baselines of separate lines of characters within a message shall be 1.5 percent minimum and 170 percent maximum of the character height.

703.6 Pictograms. Pictograms shall comply with 703.6.

703.6.1 Pictogram Field. Pictograms shall have a field height of 6 inches (150 mm) minimum. Characters and braille shall not be located in the pictogram field.



Figure 703.6.1 Pictogram Field dark-on-light.

703.6.2 Finish and Contrast. Pictograms and their field shall have a non-gloss finish. Pictograms shall contrast with their field with either a light pictogram on a dark field or a dark pictogram on a light field.

703.6.3 Text Descriptors. Pictograms shall have text descriptors located directly below the pictogram field. Text descriptors shall comply with 703.2.2, 703.3 and 703.4.

703.7 Symbols of Accessibility. Symbols of accessibility shall comply with 703.7.

703.8 Finish and Contrast. Symbols of accessibility and their background shall have a non-gloss finish. Symbols of accessibility shall contrast with their background with either a light symbol on a dark background or a dark symbol on a light background.

704 Telephones

704.1 General. Public telephones shall comply with 704.

704.2 Wheelchair Accessible Telephones. Wheelchair accessible telephones shall comply with 704.2.

704.2.1 Clear Floor or Ground Space. A clear floor or ground space complying with 305 shall be provided. The clear floor or ground space shall not be obstructed by bases, enclosures, or seats.

704.2.2 Height. The tops of dining surfaces and work surfaces shall be 28 inches (710 mm) minimum and 34 inches (865 mm) maximum above the finish floor or ground.

704.2.3 Dining Surfaces and Work Surfaces for Children's Use. Accessible dining surfaces and work surfaces for children's use shall comply with 902.4.

704.2.1 Parallel Approach. Where a parallel approach is provided, the distance from the edge of the telephone enclosure to the face of the telephone unit shall be 10 inches (255 mm) maximum.



Figure 704.2.1 Parallel Approach to Telephone



Figure 704.2.2 Forward Approach to Telephone

704.2.1.2 Forward Approach. Where a forward approach is provided, the distance from the front edge of a counter within the telephone enclosure to the face of the telephone unit shall be 20 inches (510 mm) maximum.

704.2.3 Operable Parts. Operable parts shall comply with 309. Telephones shall have push-button controls where such service is available.

704.2.3 Telephone Directories. Telephone directories, where provided, shall be located in accordance with 309.

704.2.4 Cord Length. The cord from the telephone to the handset shall be 29 inches (735 mm) long minimum.

704.3 Volume Control Telephones. Public telephones required to have volume controls shall be equipped with a tactile volume control that provides a gain adjustable up to 20 dB minimum. For incremental volume control, provide at least one intermediate step of 12-dB of gain minimum. An automatic reset shall be provided.

704.4 TTYs. TTYs required at a public pay telephone shall be permanently affixed within, or adjacent to, the telephone enclosure. Where an acoustic coupler is used, the telephone cord shall be sufficiently long to allow connection of the TTY and the telephone receiver.

704.4.1 Height. When in use, the touch surface of TTY keypads shall be 34 inches (865 mm) minimum above the finish floor.

704.5 TTY Staff. Public pay telephones required to accommodate portable TTYs shall be equipped with a staff and an electrical outlet within or adjacent to the telephone enclosure. The telephone handset shall be capable of being placed flush on the surface of the staff. The staff shall be capable of accommodating a TTY and shall have 6 inches (150 mm) minimum vertical clearance above the area where the TTY is to be placed.

705 Detectable Warnings

705.1 General. Detectable warnings shall consist of a surface of truncated domes and shall comply with 705.

705.1.1 Dome Size. Truncated domes in a detectable warning surface shall have a base diameter of 0.9 inch (23 mm) minimum and 1.4 inches (36 mm) maximum, a top diameter of 50 percent of the base diameter minimum to 65 percent of the base diameter maximum, and a height of 0.2 inch (5.1 mm).

705.1.2 Dome Spacing. Truncated domes in a detectable warning surface shall have a center-to-center spacing of 1.8 inches (41 mm) minimum and 2.4 inches (61 mm) maximum, and a base-to-base spacing of 0.85 inch (17 mm) minimum, measured between the most adjacent domes on a square grid.

705.1.3 Contrast. Detectable warning surfaces shall contrast visually with adjacent walking surfaces either light-on-dark, or dark-on-light.

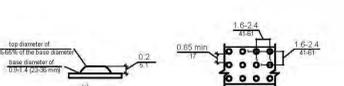


Figure 705.1 Size and Spacing of Truncated Domes

705.2 Platform Frames. Detectable warning surfaces of platform boarding edges shall be 24 inches (610 mm) wide and shall extend the full length of the public use areas of the platform.

705.3 Assistive Listening Systems. Receivers required for use with an assistive listening system shall include a 1/8 inch (3.2 mm) standard mass jack.

705.4 Sound Pressure Level. Assistive listening systems shall be capable of providing a sound pressure level of 110 dB minimum and 115 dB maximum with a dynamic range on the volume control of 50 dB.

705.5 Signal-to-Noise Ratio. The signal-to-noise ratio for internally generated noise in assistive listening systems shall be 18 dB minimum.

705.6 Peak Clipping Level. Peak clipping shall not exceed 18 dB of clipping relative to the peaks of speech.

705.7 Automatic Teller Machines and Fax Machines. Clear floor or ground space complying with 305 shall be provided.

705.8 Operable Parts. Operable parts shall comply with 309. Where a clear or correct key is provided, each operable part shall be able to be differentiated by sound or touch without activation.

EXCEPTION: Drive-up only automatic teller machines and fax machines shall not be required to comply with 309.2 and

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WALKWAY, MARKING, AND SIGNAGE NOTES

- ALL PEDESTRIAN WALKWAYS UTILIZED FOR DISABLED ACCESS ROUTE SHALL CONFORM TO LOCAL, STATE, AND FEDERAL REGULATIONS INCLUDING THE "STATE OF TEXAS PROGRAM FOR THE ELIMINATION OF ARCHITECTURAL BARRIERS," TEXAS "ACCESSIBILITY STANDARDS" (TAS) AND THE "AMERICANS WITH DISABILITIES ACT OF 1990" (ADA).
- THE CONTRACTOR SHALL OBTAIN ALL REQUIRED CITY PERMITS AND NOTIFY THE CITY PRIOR TO CONSTRUCTING PUBLIC SIDEWALKS.
- UNLESS REQUIRED OTHERWISE BY CITY REGULATIONS, ALL WALKWAYS SHALL BE CONSTRUCTED OF MINIMUM 3000 PSI CONCRETE AND A MINIMUM CEMENT CONTENT OF 5.0 SACKS PER CUBIC YARD. ALL SIDEWALKS SHALL BE REINFORCED WITH A MINIMUM OF #3 BARS AT 18-INCH CENTERS EACH WAY LOCATED AT THE CENTER OF THE THICKNESS. THE STEEL SHALL BE PLACED ON CHAIR SUPPORTS BEFORE CONCRETE PLACEMENT. IF NECESSARY DURING CONCRETE PLACEMENT, THE STEEL SHALL BE PULLED UP TO INSURE THE PROPER LOCATION OF REINFORCEMENT.
- WALKWAYS SHALL BE CONSTRUCTED TO THE LINE AND GRADE INDICATED ON THE PLANS OR THE TYPICAL LOCATIONS SHOWN ON THE PAVING PLANS IN RELATION TO PROPOSED CURB. SEE PAVEMENT NOTE #1 ABOVE.
- PRIVATE SIDEWALKS SHALL BE CONSTRUCTED ON NATIVE MATERIALS. DO NOT PLACE SAND UNDER PRIVATE SIDEWALKS OR HANDICAP RAMPS FOR LEVEL UP COURSE. PUBLIC SIDEWALKS SHALL BE CONSTRUCTED ACCORDING TO CITY DETAILS.
- FORMS SET FOR SIDEWALKS SHALL BE TRUE TO LINE AND GRADE AND SHALL PROVIDE A SLOPE OF 1/4 INCH PER FOOT ACROSS THE SIDEWALK UNLESS INDICATED OTHERWISE ON THE PLANS. FORMS SHALL BE SET TO PROVIDE FOR A FULL DEPTH OF CONCRETE INDICATED ON THE PLANS AND FORMS SHALL REMAIN IN PLACE A MINIMUM OF 24 HOURS. UPON REMOVAL OF THE FORM WORK, THE CONTRACTOR SHALL IMMEDIATELY BACKFILL THE EDGES OF THE WALK FOR A MINIMUM OF ONE FOOT (1') EACH SIDE OF THE WALK.
- 24-INCH BY 3/4-INCH DIAMETER ASPHALT-COATED DOWELS WITH FIVE INCH BY 13/16-INCH DOWEL SLEEVE SHALL BE INSTALLED ON 18-INCH CENTERS, ALONG WITH REDWOOD EXPANSION BOARD AND SEALING COMPOUND AS PER STANDARD EXPANSION JOINT DETAIL SHEET ALONG PERIMETER OF WHEELCHAIR RAMP AND SIDEWALK.
- PROVIDE 15-INCH MINIMUM LAP BETWEEN REINFORCING STEEL IN STREET AND REINFORCING STEEL IN WHEELCHAIR RAMP.
- SUBGRADE FOR WALKWAYS ABUTTING CURBS, WITHIN PARKING ISLAND AREAS OR BETWEEN THE PARKING AREA AND BUILDING, SHALL BE PLACED ON COMPACTED FILL OR FIRM COMPACTED EXCAVATED GRADE. FILLS FOR SIDEWALKS SHALL CONFORM TO THE SAME REQUIREMENTS AS CONTROLLED DENSITY FILLS IN PARKING AREAS WITH THE COMPACTED MATERIAL EXTENDING A MINIMUM 18 INCHES BEYOND THE WALKWAY.
- ALL JOINT SEALING MATERIAL TO BE UTILIZED IN WALKWAY AREAS BETWEEN THE PARKING AREA AND THE BUILDING FOR EXPANSION JOINTS SHALL BE EITHER HOT APPLIED OR READY MIXED COLD APPLIED MATERIAL MEETING MCTDCC SPECIFICATION 302.2.1.4.
- FOR WALKWAYS SIX FEET IN WIDTH OR LESS, GROOVED OR SAWED CONTRACTION JOINTS SHALL BE MADE AT UNIFORM INTERVALS EQUAL TO THE WIDTH OF THE SIDEWALK. ON WALKWAYS GREATER THAN SIX FEET IN WIDTH, CONTRACTION JOINTS SHALL BE SAWED. CONTRACTION JOINTS SHALL ONLY BE FILLED WHERE CONCENTRATED RUNOFF OCCURS IN PARKING AREAS, ENTRANCES AND WALKWAYS AT THE BUILDING. SEAL PARKING LOT CONCENTRATED RUNOFF AREAS SAME AS PARKING PAVEMENT.
- CONCRETE FINISH SHALL BE BROOMED FOR ALL WALKWAYS LESS THAN SIX FEET IN WIDTH AND MINOR ACCESS ROUTES GREATER THAN EIGHT FEET IN WIDTH. ALL HANDICAP ACCESS RAMPS SHALL HAVE A TRUNCATED DOME FINISH COMPLYING WITH TAS GUIDELINE 705.
- CLEAN ALL JOINTS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION PRIOR TO SEALING.
- ALL SIGNS, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES SHALL CONFORM TO THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- ALL PAVEMENT MARKINGS SHALL BE FOUR INCHES WIDE COLOR WHITE UNLESS INDICATED OTHERWISE ON THE DRAWINGS. STRIPING TO BE TWO COATS OF PAINT. SECOND COAT TO BE APPLIED IMMEDIATELY PRIOR TO THE BUILDING OPENING.
- A MINIMUM CLEARANCE OF TWO (2) FEET SHALL BE MAINTAINED BETWEEN THE FACE OF CURB AND ANY PART OF A TRAFFIC SIGN.
- CONTRACTOR SHALL FURNISH AND INSTALL ALL PAVEMENT MARKINGS AS SHOWN ON THE PLANS.
- CONTRACTOR SHALL COORDINATE INSTALLATION OF ALL SIGNS, PAVEMENT MARKINGS AND OTHER TRAFFIC CONTROL DEVICES WITH OTHER CONTRACTORS ON THE SITE.
- FIRE LANE STRIPING WIDTH AND RADIUS TO BE COORDINATED WITH FIRE MARSHAL WHERE FIRE LANE IS INDICATED ON PLANS. FIRE LANE IS ANTICIPATED TO REQUIRE SOLID SIX-INCH RED CONTINUOUS STRIPING ON BOTH SIDES AND CURB RETURNS. THE WORDS "FIRE LANE, NO PARKING" SHALL BE PAINTED ON MINIMUM 20-FOOT CENTERS WITH FOUR-INCH WHITE LETTERS WITHIN SOLID RED STRIPE PER FIRE CODE. PAINT TYPE AND COLOR SHALL BE APPROVED BY CITY TRAFFIC ENGINEER.

TESTING

- REFER TO PROJECT GEOTECHNICAL RECOMMENDATIONS AND SPECIFICATIONS FOR FREQUENCY OF CONCRETE TESTING AND TEST METHODS. ALL CONCRETE SHALL BE TESTED. IF TESTING IS NOT ADDRESSED IN GEOTECHNICAL RECOMMENDATIONS PROVIDE AS PER MCTDCC ITEM 303.2.1.1.3, 303.2.3.3, AND 303.8.

NOTE:

- ALL REFERENCES TO "CITY" SHALL MEAN "CITY OF FOREST HILL".
- ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE CITY OF FOREST HILL AND NORTH TEXAS COUNCIL OF GOVERNMENT STANDARD SPECIFICATIONS.

GENERAL GRADING AND DRAINAGE NOTES

- EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY VARIOUS OWNERS OF THE FACILITIES. THE ENGINEER DOES NOT ACCEPT RESPONSIBILITY FOR THE UTILITY LOCATIONS SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION, TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGES BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE. EXISTING TOPOGRAPHIC INFORMATION SHOWN IS BASED ON IN-FIELD SURVEY PREPARED BY BRITAIN AND CRAWFORD, INC. ON FEBRUARY 14, 2012, (EXCLUDES BELOW GRADE PUBLIC UTILITY LOCATIONS PROVIDED BY UTILITY FIRM/ANY AS DESCRIBED ABOVE.)
- NEW FINISHED CONTOURS SHOWN ARE TOP OF PAVING IN AREAS TO RECEIVE PAVEMENT AND TOP OF TOPSOIL IN AREAS TO BE SEEDED.
- AREAS OUTSIDE OF THE PARKING LOT PERIMETERS SHOWN TO BE SEEDED SHALL RECEIVE MINIMUM FOUR (4) INCHES OF TOPSOIL (OR TO DEPTH INDICATED ON LANDSCAPE ARCHITECT PLANS). THIS TOPSOIL TO BE PLACED AND LEVELED BY THE GRADING CONTRACTOR. THIS MATERIAL MAY BE STOCKPILED DURING STRIPPING OPERATIONS.
- ROUGH GRADING ELEVATIONS SHALL BE AS FOLLOWS:
FOUR INCHES BELOW FINISHED CONTOURS IN SEEDED AREAS.
SIX INCHES BELOW FINISHED CONTOURS IN PAVED AREAS, UNLESS OTHERWISE NOTED.
- DIMENSIONS ON BUILDINGS ARE FOR GRADING PURPOSES ONLY AND ARE NOT TO BE USED TO LAYOUT FOOTINGS.
- GRADING CONTRACTOR SHALL NOTIFY AND COOPERATE WITH ALL UTILITY COMPANIES OR FIRMS HAVING FACILITIES ON OR ADJACENT TO THE SITE BEFORE DISTURBING, ALTERING, REMOVING, RELOCATING, ADJUSTING, OR CONNECTING TO SAID FACILITIES. CONTRACTOR SHALL PAY ALL COSTS IN CONNECTION WITH THE ALTERATION OF OR RELOCATION OF THE FACILITIES. CONTRACTOR SHALL RAISE OR LOWER TOPS OF EXISTING MANHOLES AS REQUIRED TO MATCH FINISHED GRADES IN CONFORMANCE WITH CITY STANDARDS.
- GRADING CONTRACTOR SHALL COOPERATE AND WORK WITH ALL OTHER CONTRACTORS PERFORMING WORK ON THIS PROJECT TO INSURE PROPER AND TIMELY COMPLETION OF THIS PROJECT.
- THE GRADING CONTRACTOR SHALL USE WHATEVER MEASURES ARE REQUIRED TO PREVENT SILT AND CONSTRUCTION DEBRIS FROM FLOWING ONTO ADJACENT PROPERTIES. THIS CAN BE ACCOMPLISHED BY SMALL TEMPORARY SEDIMENT PONDS, SILT FENCES OF STEEL WIRE AND BURLAP OR BARRIERS OF CEDAR TREES AND/OR BALES OF STRAW. CONTRACTOR SHALL COMPLY WITH ALL LOCAL EROSION, CONSERVATION AND SILTATION ORDINANCES. CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL STRUCTURES UPON COMPLETION OF PERMANENT DRAINAGE FACILITIES AND THE ESTABLISHMENT OF A STAND OF GRASS SUFFICIENT TO PREVENT EROSION.
- FOR THE WORK ON THE STATE OR CITY RIGHT-OF-WAY, THE GRADING CONTRACTOR SHALL:
A. NOT STORE MATERIAL, EXCESS DIRT OR EQUIPMENT ON THE SHOULDERS OF PAVEMENT, IN CASE OF MULTILANE HIGHWAYS, IN THE MIDDLE STRIPS, IN THE PAVEMENT SHALL BE KEPT FREE FROM MUD OR EXCAVATION WASTE FROM TRUCKS OR OTHER EQUIPMENT, ON COMPLETION OF THE WORK, ALL EXCESS MATERIAL SHALL BE REMOVED FROM THE RIGHT-OF-WAY.
B. SHALL PROVIDE ALL NECESSARY AND ADEQUATE SAFETY PRECAUTIONS SUCH AS SIGNS, FLAGS, LIGHTS, BARRICADES AND FLAGMEN AS REQUIRED BY THE LOCAL AUTHORITIES AND IN ACCORDANCE WITH THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THE GRADING CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR AND HOLD HARMLESS THE TEXAS DEPARTMENT OF TRANSPORTATION, THE CITY, AND THE OWNER FROM ANY CLAIMS FOR DAMAGE DONE TO EXISTING PRIVATE PROPERTY, PUBLIC UTILITIES OR TO THE TRAVELING PUBLIC.
C. SHALL COMPLETE THE WORK TO THE SATISFACTION OF THE CITY PUBLIC WORKS DEPARTMENT AND OBTAIN A LETTER FROM THE DEPARTMENT STATING THAT THE WORK UNDER PUBLIC JURISDICTION IS ACCEPTABLE.
D. POST NECESSARY BONDS AS REQUIRED BY THE CITY AND/OR STATE.
- GRADING CONTRACTOR SHALL TAKE ALL AVAILABLE PRECAUTIONS TO CONTROL DUST. CONTRACTOR SHALL CONTROL DUST BY SPRINKLING, BY APPLYING CALCIUM CHLORIDE OR BY OTHER METHODS AS DIRECTED BY ENGINEER AND/OR OWNER'S REPRESENTATIVE AT NO ADDITIONAL COST TO OWNER.
- REFER TO PAVING DETAILS FOR TYPE OF PAVING AND BASE TO BE USED.
- GRADING CONTRACTOR IS RESPONSIBLE FOR REMOVING ANY EXISTING STRUCTURES, FENCES, DEBRIS OR TREES REMAINING ON SITE, UNLESS NOTED OTHERWISE ON PLANS AND SHALL COORDINATE WITH GENERAL CONTRACTOR.
- GRADING CONTRACTOR TO COMPLY WITH ALL STATE AND LOCAL SEDIMENT CONTROL AND AIR POLLUTION ORDINANCES OR RULES.
- A QUALIFIED SOILS LABORATORY SHALL DETERMINE THE SUITABILITY OF THE EXISTING SUBGRADE AND EXISTING ON-SITE MATERIAL PRIOR TO BEGINNING ANY FILLING OPERATION.
- UNSUITABLE EXCAVATED MATERIALS AND ALL WASTE RESULTING FROM CLEARING AND GRUBBING SHALL BE DISPOSED OF OFF-SITE BY GRADING CONTRACTOR.
- ALL EXCAVATING IS UNCLASSIFIED AND SHALL INCLUDE ALL MATERIALS ENCOUNTERED.
- ALL AREAS NOT COVERED BY BUILDING, PAVING OR PLANNED LANDSCAPING, SHALL BE GRASSED ON THIS LOT INCLUDING ADJACENT PARKWAYS.
- BEFORE ANY MACHINE WORK IS DONE, CONTRACTOR SHALL STAKE OUT AND MARK THE ITEMS ESTABLISHED BY THE SITE PLAN. CONTROL POINTS SHALL BE PRESERVED AT ALL TIMES DURING THE COURSE OF THE PROJECT. LACK OF PROPER WORKING POINTS AND GRADE STAKES MAY REQUIRE CESSATION OF OPERATIONS UNTIL SUCH POINTS AND GRADES HAVE BEEN PLACED TO THE OWNER'S SATISFACTION. NO EXTENSION OF TIME WILL BE GRANTED FOR THE ABOVE.
- TEMPORARY EROSION CONTROL DEVICES TO BE INSTALLED PRIOR TO BEGINNING OF GRADING. CONTRACTOR SHALL MAINTAIN ALL TEMPORARY EROSION CONTROL DEVICES AND SHALL REMOVE SILT FROM BERM DITCHES, SILT DAMS AND SILT FENCES AS NEEDED.
- ALL DISTURBED AREAS SHALL BE HYDROMULCH SEEDED UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL PREVENT SOIL STABILIZATION TREATMENT FROM LEAVING THE SITE BY WAY OF STORMWATER RUNOFF WHICH MAY DAMAGE DOWNSTREAM WATER COURSES, LAKES OR PONDS. ANY DAMAGE TO WILDLIFE OR FISH KILLS SHALL BE CORRECTED BY THE CONTRACTOR AT HIS EXPENSE.
- MAINTAIN AS MUCH EXISTING VEGETATION AS POSSIBLE AS WELL AS RE-ESTABLISHING THE GROUND COVER AS EARLY AS POSSIBLE. GRASS BUFFER STRIPS SHALL BE LEFT AROUND THE PERIMETER TO AID IN FILTERING SEDIMENTATION. A DENSITY OF TEMPORARY OR PERMANENT GROUND COVER SUFFICIENT TO PREVENT EROSION SHALL BE ESTABLISHED ON ALL BERMS, SWALES AND SLOPES.
- ALL SITE GRADING AND EARTHWORK CONSTRUCTION SHALL COMPLY TO THE GEOTECHNICAL REPORT RECOMMENDATIONS.

PAVING NOTES

PAVEMENT & JOINT SEALING NOTES

- ALL CONCRETE FOR PAVEMENT SHALL HAVE A MINIMUM 3500 PSI COMPRESSIVE STRENGTH AT 28 DAYS WITH 1 TO 6 PERCENT AIR ENTRAINMENT UNLESS OTHERWISE NOTED. PAVEMENT MATERIALS AND CONSTRUCTION SHALL CONFORM TO THE APPLICABLE SECTIONS OF THE LATEST EDITION OF THE "PUBLIC WORKS CONSTRUCTION STANDARDS" PREPARED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS. SLIP FORMED CONCRETE SHALL HAVE A MAXIMUM SLUMP OF THREE INCHES. HAND-PLACED CONCRETE SHALL HAVE A MAXIMUM FIVE-INCH SLUMP.
- THE JOINTING SHALL CONFORM TO THE LOCATIONS AND DETAILS SHOWN ON THESE PLANS. SPECIFIC SAWED CONTRACTION OR CONSTRUCTION JOINT LOCATIONS ARE NOT SHOWN. THE CONTRACTOR SHALL SUBMIT A LAYOUT INDICATING THE SAWED JOINT LOCATIONS TO BE REVIEWED AND APPROVED BY THE ENGINEER. ISOLATION JOINTS SHALL BE PROVIDED AT ALL MANHOLE RIMS, LIGHT STANDARDS AND OTHER SIMILAR INSTALLATIONS.
- PROVIDE SAWED JOINTS AT MAXIMUM 20-FOOT SPACING FOR 8-INCH CONCRETE, MAXIMUM 15 FEET FOR SIX-INCH CONCRETE AND MAXIMUM 12-FOOT SPACING FOR FIVE-INCH CONCRETE. DO NOT PLACE SAWED JOINT LONGITUDINALLY ALONG LOW POINT OR AT GUTTER LINE. SAWING OF JOINTS SHALL BEGIN AS SOON AS CONCRETE HAS HARDENED SUFFICIENTLY TO PERMIT SAWING WITHOUT EXCESSIVE RAVELING. COMPLETE ALL SAWED JOINTS BEFORE UNCONTROLLED SHRINKAGE CRACKING OCCURS.
- DO NOT PLACE SAND OR SELECT FILL BENEATH CONCRETE PAVEMENT, SIDEWALKS, DRIVE APPROACHES OR HANDICAP RAMPS FOR LEVEL UP COURSE. UTILIZE COMPACTED NATIVE MATERIALS.
- BACKFILL ALL CURBS TO EDGE OF SUBGRADE WITH ON-SITE CLAY SOILS. COMPACT TO 95% TO 100% OF STANDARD PROCTOR DENSITY AT OR ABOVE OPTIMUM MOISTURE CONTENT.
- CONTRACTOR SHALL SAW-CUT TE-INCHS AT EXISTING CURBS AS NECESSARY TO INSURE SMOOTH TRANSITIONS. CONTRACTOR SHALL SAW-CUT AND TRANSITION TO MEET EXISTING PAVEMENT AS NECESSARY TO INSURE POSITIVE DRAINAGE. (TYP. ALL INTERSECTIONS)
- ALL EXPANSION, CONTRACTION AND CONSTRUCTION JOINTS IN PAVED AREAS SHALL BE SEALED IN ACCORDANCE WITH THE PROJECT SPECIFIC DETAILS AND SPECIFICATIONS, THE JOINT SEALING MANUFACTURER'S RECOMMENDATIONS, AND THE SPECIFICATIONS SET OUT IN THE LATEST EDITION OF THE "PUBLIC WORKS CONSTRUCTION STANDARDS" BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS.
- CLEAN ALL JOINTS PRIOR TO PLACEMENT OF JOINT SEALING MATERIAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- PROVIDE BACKER RODS FOR JOINTS WITHOUT PRE-MOLDED JOINT MATERIAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.
- EXPANSION AND ISOLATION JOINT MATERIAL TO BE PRE-MOLDED EXPANSION JOINT MATERIAL AS RECOMMENDED BY JOINT SEALING MANUFACTURER WITH JOINT CAP OR BOND BREAKER TAPE TO PROTECT SEALANT RESERVOIR.
- TYPICALLY, JOINT SEALING MATERIAL IS PLACED BELOW SURFACE OF CONCRETE TO NEAR FULL LEVEL. CERTAIN PRODUCTS ARE RECOMMENDED TO BE PLACED TO FULL LEVEL. REFER TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR MAY ELECT TO USE DOWELED CURB OR MONOLITHIC CURB.
- DOWEL BARS PLACED INTO EXISTING PAVEMENT SHALL BE DRILLED INTO PAVEMENT HORIZONTALLY BY USE OF A MECHANICAL DR. DRILLING BY HAND IS NOT ACCEPTABLE. DRILLING DEBRIS INTO GREEN CONCRETE IS NOT ACCEPTABLE. SECURE DOWEL BARS INTO EXISTING PAVING WITH EPOXY GROUT.
- BACKER RODS SHOULD NOT SIT ON THE BOTTOM OF THE SAW-CUT JOINT. PROVIDE A GAP BETWEEN THE BACKER ROD AND THE BOTTOM OF THE SAWCUT JOINT AS SHOWN ON THE DETAILS.
- IF SEALANT PROTRUDES ABOVE THE SURFACE OF THE PAVEMENT, IT SHALL BE REMOVED AND REPLACED.
- CONTRACTOR SHALL SUBMIT MANUFACTURER'S LITERATURE FOR THE SEALANT. LITERATURE SHALL SHOW THAT PRODUCT COMPLES WITH ASTM SPECIFICATIONS. CONTRACTOR SHALL FOLLOW ALL OF THE MANUFACTURER'S RECOMMENDATIONS FOR THE USE OF THE SEALANT.
- A CONSTRUCTION JOINT SHALL BE USED BETWEEN SEPARATE CONCRETE POURS OF PROPOSED PAVEMENT. REINFORCEMENT SHALL BE EXTENDED THROUGH THE FORM TO TIE TO THE NEXT POUR. A BUTT JOINT SHALL BE USED BETWEEN EXISTING CONCRETE PAVEMENT AND PROPOSED PAVEMENT UNLESS A HEADER IS PROVIDED OR AN EXPANSION JOINT IS CALLED FOR.
- THE CONTRACTOR SHALL CONSTRUCT ALL DRIVEWAY APPROACHES IN CONFORMANCE WITH APPLICABLE CITY STANDARD ORDINANCES AND REQUIREMENTS. CONTRACTOR SHALL CONFIRM APPLICABLE DRIVEWAY OR ACCESS PERMITS HAVE BEEN OBTAINED PRIOR TO CONSTRUCTION.
- ALL STANDARDS REFERENCED IN THE PLANS, NOTES, DETAILS AND SPECIFICATIONS SHALL REFER TO THE MOST CURRENT EDITION OF THAT STANDARD OR REPLACEMENT STANDARD IF APPLICABLE.
- ALL DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE.

PARKING LOT GRADING NOTES

- THIS GRADING PLAN DOES NOT INCLUDE CONSTRUCTION OF THE FOUNDATION FOR THE BUILDING PAD AND THE AREAS ADJACENT TO THE BUILDING. THE OWNER SHALL SELECT THE FOUNDATION DESIGN OPTION WHICH WILL ESTABLISH THE CONSTRUCTION TECHNIQUE TO BE USED FOR THE FOUNDATION PAD AND AREAS OF THE BUILDING. REFER TO THE PROJECT GEOTECHNICAL REPORT FOR FOUNDATION CONSTRUCTION RECOMMENDATIONS.
- CONSTRUCTION OF SITE GRADING EMBANKMENT SHALL MEET OR EXCEED THE RECOMMENDATION PROVIDED IN THE PROJECT GEOTECHNICAL REPORT.
- AREAS A MINIMUM FIVE FEET HORIZONTALLY OF THE PARKING PAVEMENT AND EMBANKMENT SLOPES ADJACENT TO PARKING AREA SHALL BE CONSTRUCTED AS PER THE PROJECT GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. THE BELOW SPECIFICATIONS ARE MINIMUM REQUIREMENTS AND SHALL BE SUPERSEDED BY THE PROJECT GEOTECHNICAL RECOMMENDATIONS IF IN CONFLICT. THE SPECIFICATIONS ARE AS FOLLOWS:
A. THE AREA SHALL BE STRIPPED OF VEGETATION A MINIMUM SIX INCHES OR DEEPER AS DIRECTED BY THE PROJECT GEOTECHNICAL ENGINEER TO STABLE SUBGRADE AND PROOFROLLED. PROOFROLLING CONSISTS OF ROLLING THE ENTIRE SUBGRADE WITH A HEAVILY-LOADED TANDEM AXLE DUMP TRUCK, OR OTHER APPROVED EQUIPMENT CAPABLE OF APPLYING SIMILAR WHEEL LOADS. ANY SOFT, WET OR MEAN FILL OR NATURAL SOILS WHICH DO NOT COMPACT BY PROOFROLLING SHALL BE REMOVED AND RECOMPACTED AS OUTLINED HEREIN. THE PROOFROLLING OPERATION MUST BE PERFORMED UNDER THE OBSERVATION OF A QUALIFIED GEOTECHNICAL ENGINEER OR HIS REPRESENTATIVE AND DENSITY CONTROL TESTED.
B. ON-SITE SOILS WITH PLASTICITY INDEX ANTICIPATED TO BE GREATER THAN 15, WHICH INCLUDES ANY DARK COLORED SURFACE CLAY SOILS, CAN BE ALSO USED AS GRADE RAISE FILL OUTSIDE THE PROPOSED BUILDING AREA. THESE CLAY SOILS SHALL BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF STANDARD PROCTOR DENSITY AND NOT EXCEEDING 100 PERCENT. THE COMPACTED MOISTURE CONTENT OF THE CLAYS DURING PLACEMENT SHALL BE BETWEEN OPTIMUM AND FOUR (4) PERCENTAGE POINTS ABOVE OPTIMUM.
C. COMPACTION SHALL BE ACCOMPLISHED BY PLACING THE FILL IN SIX TO EIGHT-INCH THICK LOOSE LIFTS AND COMPACTING EACH LIFT TO AT LEAST THE SPECIFIED MINIMUM DRY DENSITY. IT IS IMPERATIVE THAT THE FILL PARTICLE SIZE BE LESS THAN SIX INCHES IN DIAMETER. IF LARGER CLOSURE ARE ENCOUNTERED DURING GRADING, THESE CLOSURE MUST BE BROKEN DOWN PRIOR TO FINAL PLACEMENT IN THE FILL. THIS MAY REQUIRE PLACEMENT OF THE MATERIAL AN INITIAL COMPACTIVE EFFORT TO BREAK THE CLOSURE DOWN, SCARIFYING, WETTING AND RECOMPACTING.
D. IN ORDER FOR THE FILL MATERIALS TO PERFORM AS INTENDED, THE FILL MATERIAL MUST BE PLACED IN A MANNER WHICH PRODUCES A GOOD UNIFORM FILL. COMPACTED WITHIN THE DENSITY AND MOISTURE RANGES OUTLINED IN THE PRECEDING PARAGRAPHS. FIELD DENSITY TESTS SHALL BE PERFORMED ON FILL SOILS TO CONFIRM THIS PERFORMANCE AS CONSTRUCTION PROGRESSES. FOR THE PROPOSED PARKING AND DRIVEWAY AREAS, TESTING AT A FREQUENCY OF NO LESS THAN ONE (1) TEST PER LIFT PER EACH 5,000 SQUARE FEET SHALL BE PROVIDED FOR FILL AND PROOFROLLING.
- THESE SPECIFICATIONS DO NOT INCLUDE GRADING AND PREPARATION OF THE BUILDING FOUNDATION AREA. THE CONTRACTOR SHALL CONFIRM FOUNDATION CONSTRUCTION, COMPACTION, MOISTURE CONTROL, SELECT FILLS AND/OR TREATMENT WITH THE OWNER, THE PROJECT GEOTECHNICAL ENGINEER AND STRUCTURAL ENGINEER.

PRELIMINARY PLANS
FOR PROJECT REVIEW,
NOT FOR CONSTRUCTION,
BIDDING OR PERMIT
PURPOSES.

Prepared by
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Texas Registration
No. 819113

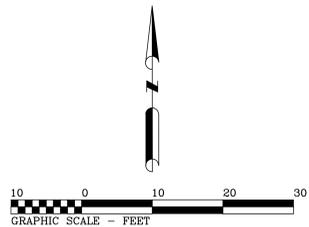
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On the following date:

05/27/14

REVISIONS

SHEET



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LEGEND

	CONCRETE PAVEMENT TO BE REMOVED
	LIMITS OF PROPOSED DEMOLITION
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER

NOTES (DENOTED ON DRAWINGS)

- 1) CONTRACTOR TO REMOVE ONLY STREET LIGHTS SHOWN ON THIS PLAN TO BE REMOVED. ALL OTHER STREET LIGHTS TO REMAIN.
- 2) MAILBOX SHALL BE RELOCATED AS DIRECTED BY OMNI AMERICAN BANK
- 3) EXISTING TRANSFORMERS TO BE PROTECTED AT ALL TIMES DURING CONSTRUCTION
- 4) CONTRACTOR TO CAP ELECTRICAL WIRING CONDUITS PER CITY OF FORT WORTH ELECTRICAL CODE FOR ALL REMOVED STREET LIGHTS AND ATM.
- 5) EXISTING IRRIGATION LINES AND SPRINKLER HEADS TO BE REMOVED AND LINES CAPPED PER DIRECTION OF LANDSCAPE ARCHITECT

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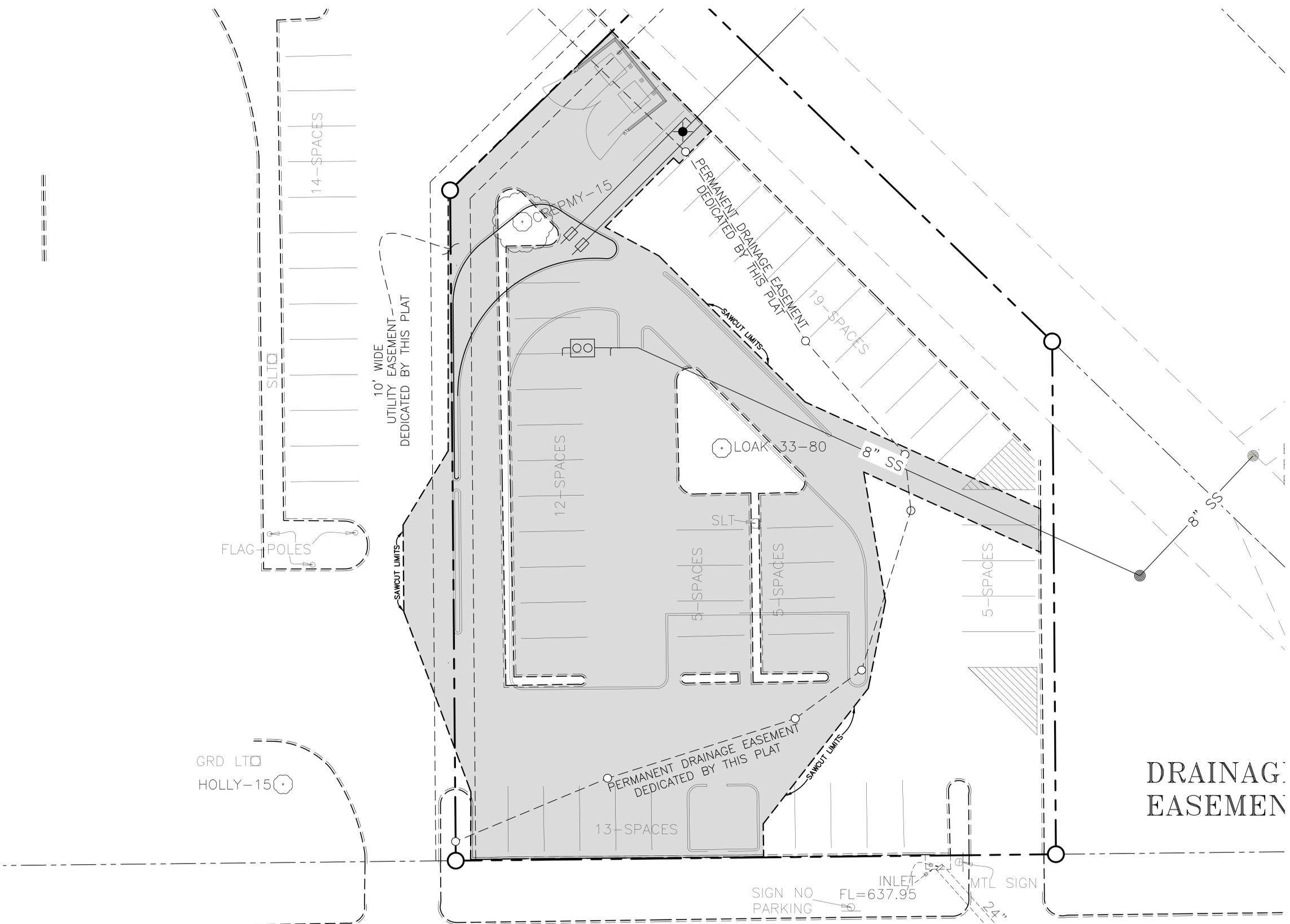
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SOUTHEAST LOOP 820
 350' WIDE RIGHT-OF-WAY

DRAINAGE EASEMENTS

PRELIMINARY PLANS FOR PROJECT REVIEW. NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

Prepared by Charles C. Crook, PE Texas Registration No. 81913

Firm Registration No. F - 10812

On the following date: 05/27/14

THE WESTOVER GROUP
FOREST HILL STARBUCKS
 FOREST HILL, TEXAS

PROJECT #: 12-078	MANAGER: AK
ISSUED FOR: BIDDING	DRAFTER: AK
DATE: 05-27-2014	CHECKED: CC

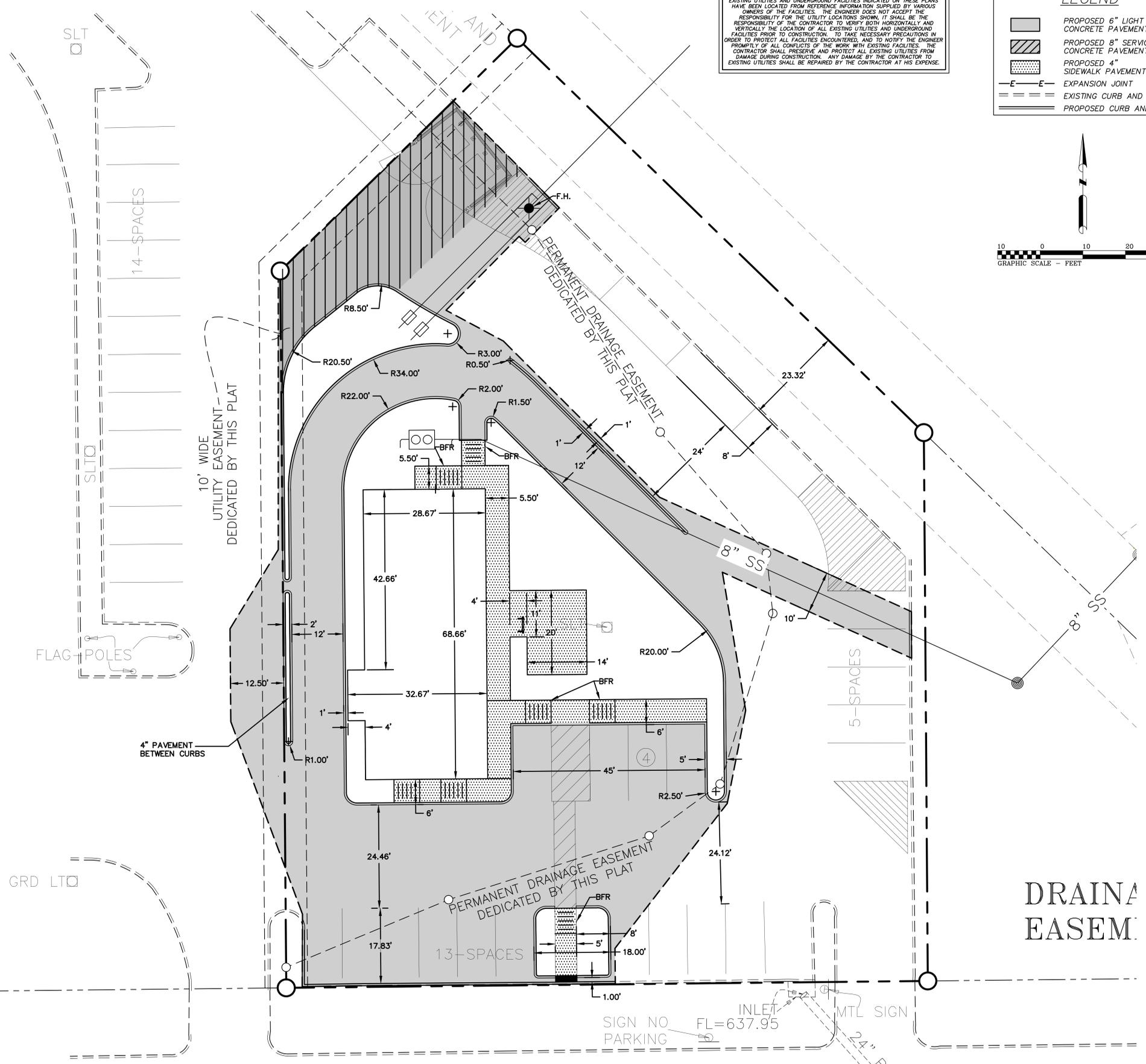
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REVISIONS

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 OF 9 CIVIL SHEETS

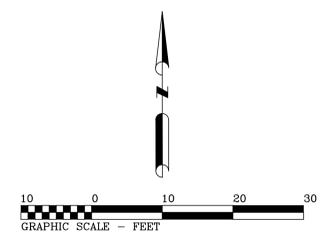
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LEGEND

	PROPOSED 6" LIGHT DUTY CONCRETE PAVEMENT
	PROPOSED 8" SERVICE AREA CONCRETE PAVEMENT
	PROPOSED 4" SIDEWALK PAVEMENT
	EXPANSION JOINT
	EXISTING CURB AND GUTTER
	PROPOSED CURB AND GUTTER



- NOTES** (DENOTED ON DRAWINGS)
- 1) ALL DIMENSIONS ARE TO FACE OF CURB UNLESS INDICATED OTHERWISE
 - 2) ALL CURB RADI ARE 3' AT THE FACE OF CURB UNLESS INDICATED OTHERWISE
 - 3) EXISTING FIRE LANE, AS CURRENTLY STRIPED, SHALL REMAIN IN THE SAME GENERAL LOCATION
 - 4) ALL PAVING AND EARTHWORK OPERATIONS SHALL CONFORM TO THE GEOTECHNICAL RECOMMENDATIONS ESTABLISHED IN THE "GEOTECHNICAL ENGINEERING SERVICES - PROPOSED STARBUCKS, FOREST HILL, TEXAS" COMPLETED BY CMJ ENGINEERING ON JANUARY 2014

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THE WESTOVER GROUP
FOREST HILL STARBUCKS
 FOREST HILL, TEXAS

SOUTHEAST LOOP 820
350' WIDE RIGHT-OF-WAY

PRELIMINARY PLANS FOR PROJECT REVIEW. NOT FOR CONSTRUCTION. BIDDING OR PERMIT PURPOSES.

Prepared by
 Charles C. Crook, PE
 Texas Registration No. 81913

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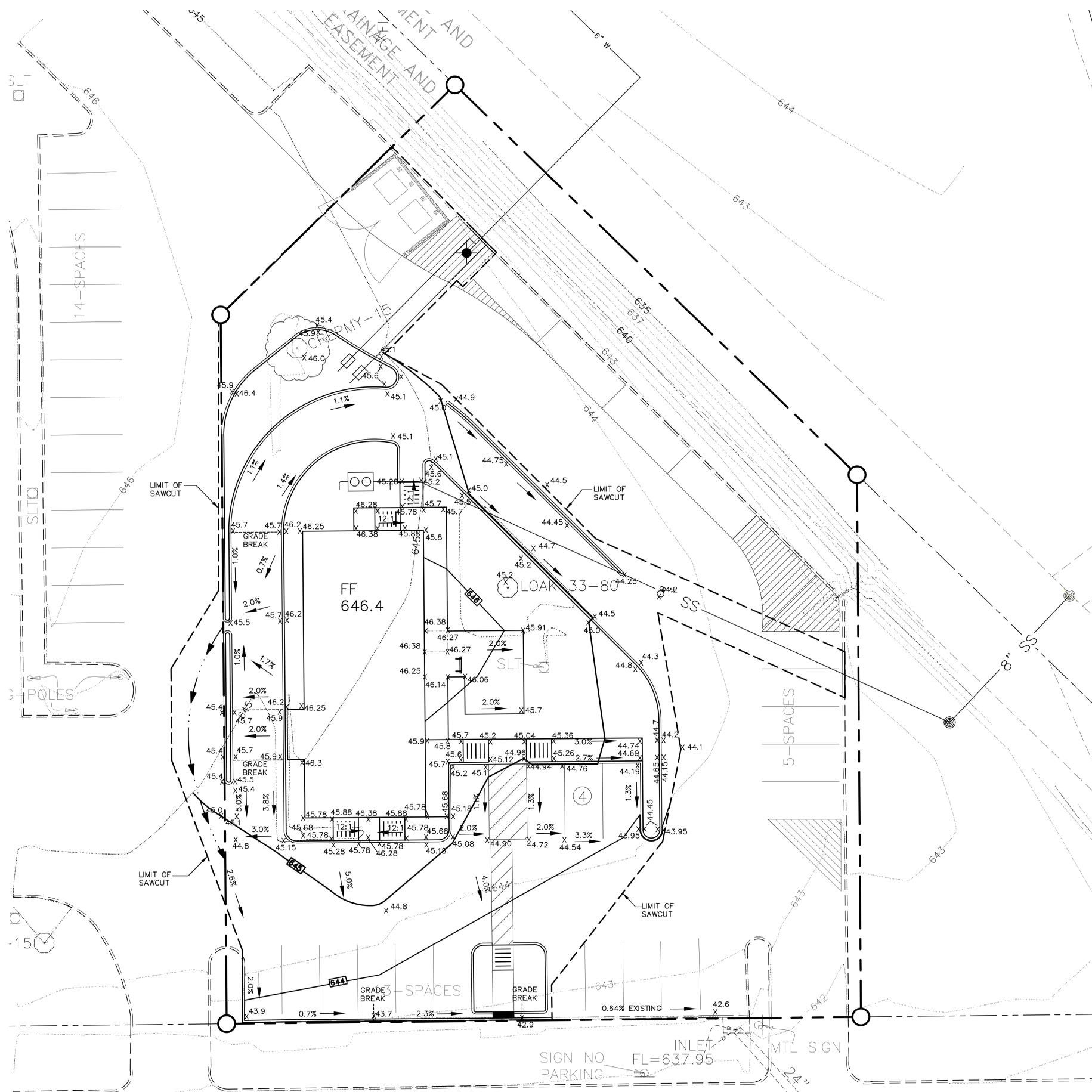
On the following date:
 05/27/14

PROJECT #: 12-078	MANAGER: AK
ISSUED FOR: BIDDING	DRAFTER: AK
DATE: 05-27-2014	CHECKED: CCJ

PAVING AND DIMENSIONAL CONTROL PLAN

REVISIONS

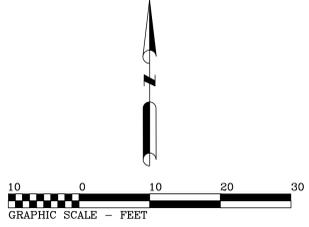
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LEGEND

- PROPOSED CONTOUR
- EXISTING CONTOUR
- SPOT ELEVATION
- FLOW ARROW
- GRADE BREAK

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SOUTHEAST LOOP 820
350' WIDE RIGHT-OF-WAY

NOTES (DENOTED ON DRAWINGS)

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THE WESTOVER GROUP
FOREST HILL STARBUCKS
FOREST HILL, TEXAS

PRELIMINARY PLANS FOR PROJECT REVIEW. NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

Prepared by
 Charles C. Crook, PE
 Texas Registration No. 81913

Firm Registration No.
 F - 10812

On the following date:
 05/27/14

PROJECT #: 12-078
 ISSUED FOR: BIDDING
 DATE: 05-27-2014

MANAGER: AJK
 DRAFTER: AJK
 CHECKED: CCJ

GRADING PLAN

REVISIONS

SHEET

C-4
 OF 9 CIVIL SHEETS

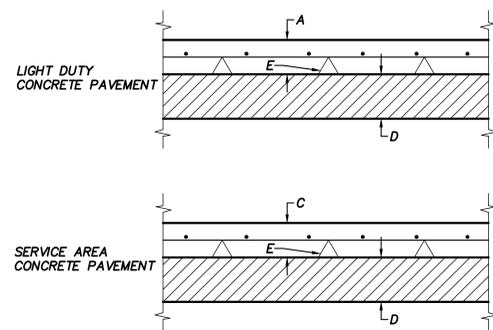
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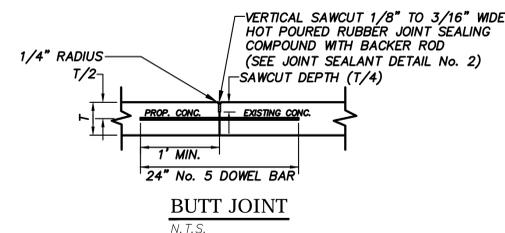


TYPICAL PAVEMENT SECTION

N.T.S.

NOTES:

- 1) A 6" - 3500 PSI CONCRETE REINFORCED WITH #3 BARS @ 18" O.C.E.W. ON CHAIRS
- C 8" - 3500 PSI CONCRETE REINFORCED WITH #3 BARS @ 18" O.C.E.W. ON CHAIRS
- D 8" OF PROPERLY SCARIFIED AND RECOMPACTED SUBGRADE TO A MINIMUM OF 95% OF THE MAXIMUM DRY DENSITY AS DETERMINED BY ASTM D-698 (STANDARD PROCTOR) THE MOISTURE CONTENT AT THE TIME OF COMPACTION SHOULD BE IN THE RANGE OF TWO PERCENT BELOW OPTIMUM TO FOUR PERCENT ABOVE OPTIMUM. IF MATERIALS HAVING A PLASTICITY INDEX GREATER THAN 20 ARE ENCOUNTERED THEN THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER AND PROJECT GEOTECHNICAL ENGINEER PRIOR TO CONTINUATION OF SUBGRADE CONSTRUCTION.
- E PLACE ALL REINFORCING STEEL ON CHAIRS AT A HEIGHT OF HALF THE THICKNESS OF THE CONCRETE. THE CHAIRS SHALL BE SPACED AT A SUFFICIENT DISTANCE TO PREVENT SAGGING.
- 2) MATERIAL AND CONSTRUCTION METHODS SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE PUBLIC WORKS CONSTRUCTION STANDARDS PREPARED BY THE NORTH CENTRAL TEXAS COUNCIL OF GOVERNMENTS.
- 3) DO NOT PLACE SAND OR SELECT FILL BENEATH PAVEMENT FOR LEVEL UP COURSE. UTILIZE ONLY RECOMPACTED NATURAL SUBGRADE OR LIME STABILIZED SUBGRADE.
- 4) COMPACTION OF THE PAVEMENT SUBGRADES, BASES, AND NEW FILL SHALL BE VERIFIED BY FIELD MOISTURE AND DENSITY TESTS MADE AT A FREQUENCY OF ONE TEST PER LIFT PER 5000 S.F. OF COMPACTED AREA. FOR SMALL AREAS OR CRITICAL AREAS THE FREQUENCY SHALL BE INCREASED TO ONE TEST PER LIFT PER 2500 S.F. THERE SHALL BE A MINIMUM OF TWO TESTS PER LIFT.
- 5) ON-SITE FILL OR SCARIFIED MATERIAL SHALL BE COMPACTED IN LOOSE LIFTS NOT EXCEEDING 8" UNCOMPACTED THICKNESS.

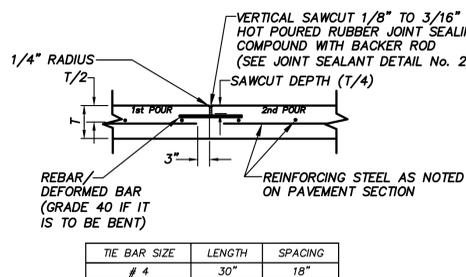


BUTT JOINT

N.T.S.

NOTES:

- 1) REINFORCEMENT OMITTED FOR CLARITY BUT SHALL BE AS PER PAVEMENT SECTION
- 2) DOWEL BARS TO BE SPACED AS PER PAVEMENT SECTION



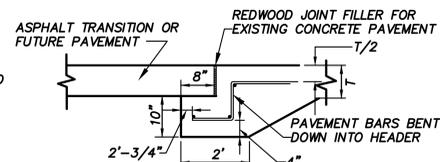
LONGITUDINAL CONSTRUCTION JOINT

N.T.S.

NOTES:

- 1) CONSTRUCTION JOINTS TO BE USED BETWEEN PAVEMENT POURS IF CONCRETE PLACEMENT IS STOPPED OR INTERRUPTED FOR MORE THAN 30 MINUTES.

TIE BAR SIZE	LENGTH	SPACING
# 4	30"	18"

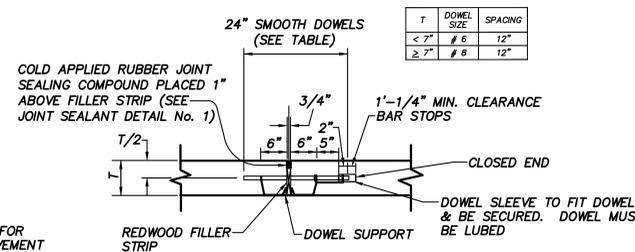


PAVEMENT HEADER

N.T.S.

NOTES:

- PAVEMENT AND HEADER TO BE POURED MONOLITHICALLY



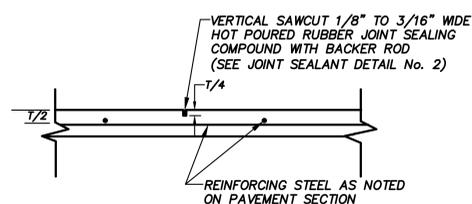
TRANSVERSE EXPANSION JOINT

N.T.S.

NOTES:

- 1) PAVEMENT STEEL IS NOT SHOWN FOR CLARITY AND SHALL STOP 3 INCHES FROM JOINT.
- 2) EXPANSION JOINTS SHALL BE PLACED AT ALL POINTS OF CURVATURE, POINTS OF TANGENCY AND ALL INTERSECTION CURB RETURN POINTS. MAXIMUM SPACING SHALL BE 600 FEET.

T	DOWEL SIZE	SPACING
< 7"	# 6	12"
≥ 7"	# 8	12"

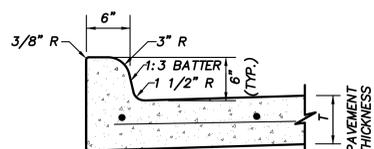


SAWED CONTRACTION JOINT

N.T.S.

NOTES:

- SAWED CONTRACTION JOINTS SHALL BE PLACED AT INTERVALS AS STATED IN THE PAVING NOTES

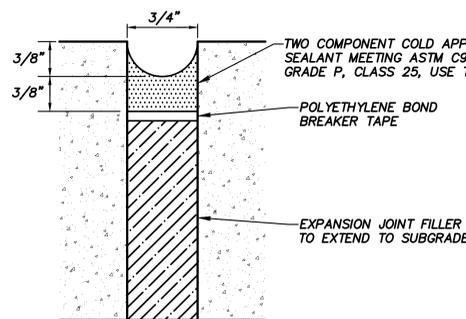


INTEGRAL CONCRETE CURB AND GUTTER

N.T.S.

NOTES:

- 1) REINFORCEMENT SHALL BE AS PER PAVEMENT SECTION
- 2) CONCRETE SHALL BE 5 1/2 SACK - 3500 PSI

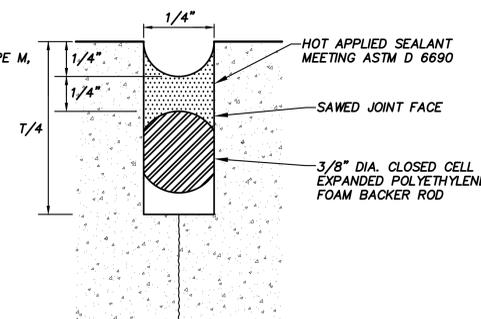


JOINT SEALANT DETAIL No. 1

N.T.S.

NOTES:

- 1) THIS JOINT SHALL BE USED FOR EXPANSION JOINTS.



JOINT SEALANT DETAIL No. 2

N.T.S.

NOTES:

- 1) THIS JOINT SHALL BE USED FOR CONSTRUCTION, CONTRACTION, AND BUTT JOINTS.

ALL DETAILS SHOWN ON THIS PAGE ARE FOR PRIVATE ON-SITE PAVING.
ALL PUBLIC PAVEMENT SHALL CONFORM TO CITY STANDARD DETAILS.

PRELIMINARY PLANS FOR PROJECT REVIEW, NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.

Prepared by Charles C. Crook, PE
Texas Registration No. 81913

Firm Registration No. F-10812

On the following date:

05/27/14

PROJECT #: 12-078 MANAGER: A.K.

ISSUED FOR: BIDDING DRAFTER: A.K.

DATE: 05-27-2014 CHECKED: C.C.

PAVING DETAILS
(SHEET 1 OF 2)

REVISIONS

SHEET

C-5

OF 9 CIVIL SHEETS

THE WESTOVER GROUP
FOREST HILL STARBUCKS
FOREST HILL, TEXAS

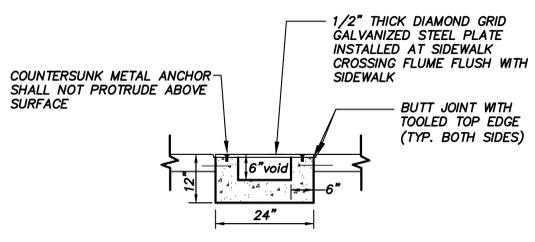
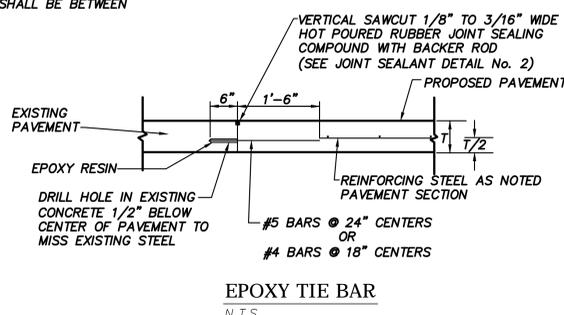
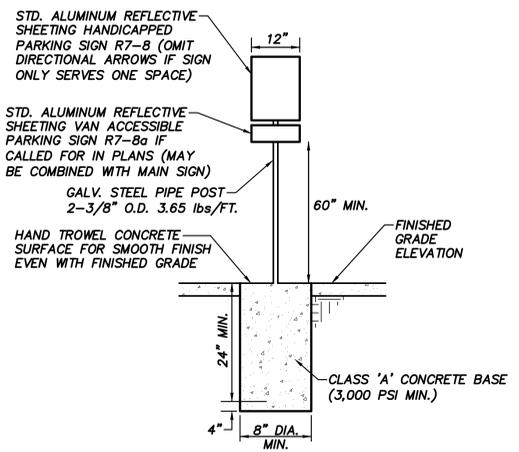
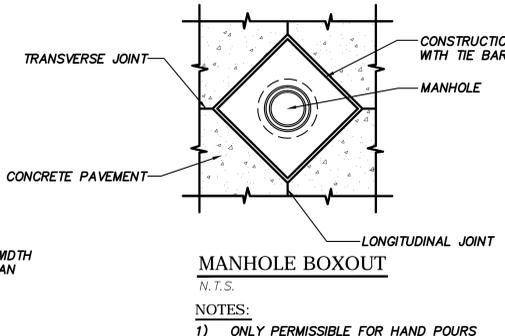
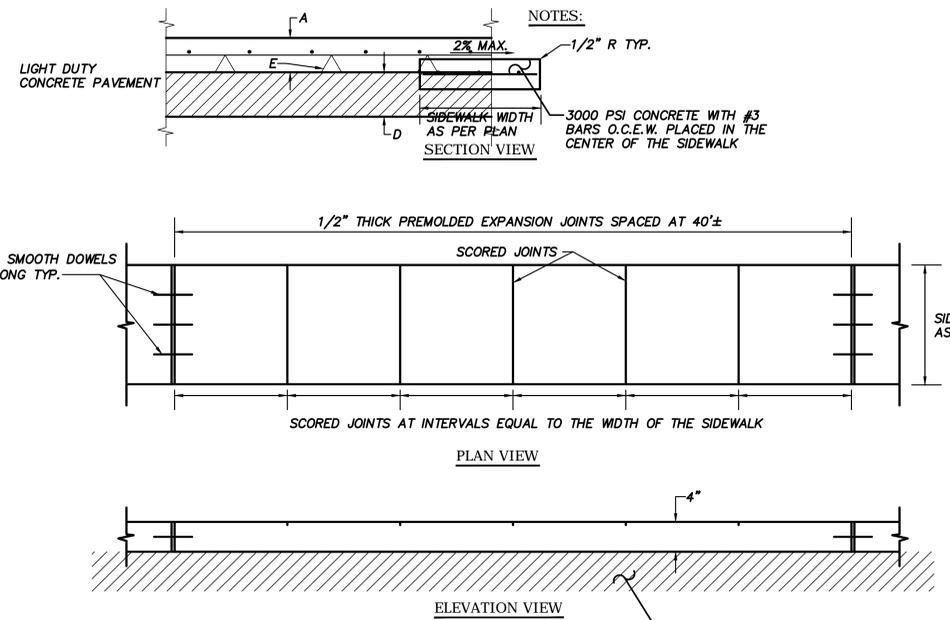
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**THE WESTOVER GROUP
FOREST HILL STARBUCKS
FOREST HILL, TEXAS**

PRELIMINARY PLANS FOR PROJECT REVIEW. NOT FOR CONSTRUCTION, BIDDING OR PERMIT PURPOSES.
Prepared by Charles C. Crook, PE Texas Registration No. 81913
Firm Registration No. F - 10812
On the following date: 05/27/14

PROJECT #: 12-078 MANAGER: AJK
ISSUED FOR: BIDDING DRAFTER: AJK
DATE: 05-27-2014 CHECKED: CCZ

PAVING DETAILS
(SHEET 2 OF 2)

REVISIONS

SHEET

UTILITY NOTES

1. THIS SECTION IS FOR SANITARY SEWER, WATER LINE AND STORM DRAINAGE CONSTRUCTION ONLY. DO NOT USE FOR GRADING CONSTRUCTION.
2. ALL PIPE LENGTHS ARE HORIZONTAL DISTANCES AND ARE APPROXIMATE.
3. ALL WATER AND SANITARY SEWER BULKHEADS TO TERMINATE APPROXIMATELY FIVE FEET OUTSIDE THE BUILDING UNLESS OTHERWISE NOTED. THE END OF THESE SERVICE LINES SHALL BE TIGHTLY PLUGGED OR CAPPED AND MARKED UNTIL SUCH TIME AS CONNECTION IS MADE INSIDE BUILDING.
4. CONTRACTOR SHALL PROVIDE ALL THE MATERIALS AND APPURTENANCES NECESSARY FOR THE COMPLETE INSTALLATION OF THE UTILITIES. ALL PIPE AND FITTINGS SHALL BE INSPECTED BY THE BUILDING DEPARTMENT INSPECTOR PRIOR TO BEING COVERED. THE INSPECTOR MUST ALSO BE PRESENT DURING PRESSURE TESTING AND DISINFECTION OF MAINS AND HIS SIGNATURE OF APPROVAL IS REQUIRED.
5. ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, REGULATIONS AND/OR LOCAL STANDARDS IMPOSED BY LOCAL UTILITY AND THE CITY.
6. CONTRACTOR SHALL MAKE ARRANGEMENTS WITH THE LOCAL UTILITY AUTHORITY FOR CONNECTION TO THE EXISTING MAINS.
7. ALL FIRE HYDRANTS ARE SIX-INCH DIAMETER WITH A 6-INCH DIAMETER LINE AND A SIX-INCH DIAMETER SHUT OFF VALVE. FIRE HYDRANTS SHALL BE SET SUCH THAT NOZZLE CONNECTIONS FACE THE FIRE LANE. FIRE HYDRANTS SHALL BE SET MINIMUM THREE FEET TO FIVE FEET BACK OF CURB UNLESS NOTED OTHERWISE IN THE PLANS OR SPECIFICATIONS.
8. ALL WATER LINES SHALL HAVE A MINIMUM COVER OF 42 INCHES ABOVE TOP OF PIPE, UNLESS NOTED OTHERWISE.
9. CONTRACTOR SHALL ADJUST LOCATION OF PROPOSED WATER LINES AS REQUIRED TO AVOID CONFLICTS WITH STORM SEWER OR OTHER UTILITIES.
10. THRUST BLOCKS OR MECHANICAL JOINT RESTRAINTS SHALL BE PROVIDED AT ALL TEES, ELBOWS AND BENDS OF SUFFICIENT SIZE TO COMPLY WITH MINIMUM STANDARDS OF NCTCOG 502.4 FOR EXISTING SOIL CONDITIONS.
11. ALL GATE VALVES TO BE PROVIDED WITH CAST IRON BOXES. SIZE OF GATE VALVE (WHERE TAP IS MADE INTO EXISTING WATER LINE) WILL BE DETERMINED BY THE WATER DEPARTMENT.
12. SHOULD LATENT SOIL CONDITIONS NECESSITATE, CONTRACTOR SHALL INSTALL SPECIAL SUPPORTS FOR PIPING AND/OR APPURTENANCES INCLUDING THE REMOVAL OF UNSUITABLE MATERIAL AND BACKFILLING WITH GRAVEL OR OTHER MATERIAL. CONTRACTOR SHALL PERFORM ANY SUCH WORK AS DIRECTED BY THE CIVIL ENGINEER AND/OR SOILS ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
13. THE SITE UTILITY CONTRACTOR SHALL COOPERATE AND WORK WITH OTHER CONTRACTORS ON THE SITE.
14. ALL MANHOLES OVER FIVE FEET IN DEPTH SHALL HAVE A STANDARD ECCENTRIC CONE.
15. ALL MATERIALS SHALL BE U.L. LISTED AND FACTORY MUTUAL APPROVED UNLESS DIRECTED OTHERWISE BY THE ENGINEER.
16. EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY VARIOUS OWNERS OF THE FACILITIES. THE ENGINEER DOES NOT ACCEPT RESPONSIBILITY FOR THE UTILITY LOCATIONS SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION, TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGES BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.
17. UTILITY CONTRACTOR SHALL VERIFY WITH LOCAL AND STATE AUTHORITIES THAT ALL EXISTING STREET LIGHT AND TRAFFIC SIGNAL WIRES HAVE BEEN LOCATED PRIOR TO CONSTRUCTION.
18. PIPE THREE INCHES AND SMALLER SHALL BE TYPE K COPPER. FITTINGS SHALL BE COPPER OR CAST BRONZE. JOINTS SHALL BE SOLDER OR FLARE TUBE TYPE.
19. UTILITY LEAD-INS TO BUILDING SHALL NOT BE INSTALLED UNTIL BUILDING PLANS ARE COMPLETED AND LOCATIONS ESTABLISHED ON THE ARCHITECTURAL PLUMBING PLANS. LEAD-INS MAY CHANGE 15 FEET HORIZONTALLY AND THREE FEET VERTICALLY PRIOR TO INSTALLATIONS AT NO ADDITIONAL COST TO OWNER. LOCATION, SIZE AND INVERT ELEVATIONS OF SANITARY SEWER SHALL BE COORDINATED WITH THE APPROVED PLUMBING PLANS FOR THE BUILDING.
20. ALL TRENCHES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND THE STANDARDS THEREIN AND APPLICABLE STATE AND LOCAL REGULATIONS.
21. CONTRACTOR SHALL REFER TO SITE GEOTECHNICAL REPORT FOR RECOMMENDATIONS ON COMPACTING AND BACKFILLING TRENCHES. IF NO TRENCH COMPACTION RECOMMENDATIONS ARE PROVIDED, TRENCHES BENEATH OR WITHIN FIVE FEET OF PAVEMENT SHALL BE COMPACTED TO 95% OF STANDARD PROCTOR DENSITY AT A MOISTURE CONTENT BETWEEN OPTIMUM TO FOUR PERCENT ABOVE OPTIMUM. TRENCHES OUTSIDE OF PAVED AREAS SHALL BE COMPACTED TO A MINIMUM 90% OF STANDARD PROCTOR DENSITY AT A MOISTURE CONTENT BETWEEN OPTIMUM TO FOUR PERCENT ABOVE OPTIMUM.
22. TRENCHES SHALL BE TESTED FOR COMPACTION AT A MINIMUM OF ONE TEST PER 300 LINEAR FEET PER LAYER.
23. TRENCHES ENTERING THE BUILDING SHALL BE BACKFILLED WITH CLAY SOIL MATERIAL WITH P.I. EXCEEDING 30 WITHIN FIVE FEET OF THE BUILDING.
24. ANY WATER OR SANITARY SEWER SERVICE LOCATED OUTSIDE OF A STREET RIGHT-OF-WAY, ALLEY OR EASEMENT SHALL BE INSTALLED BY A PLUMBER AND BE INSPECTED BY CODE ENFORCEMENT.
25. FIRE SPRINKLER LINE SHALL BE SIZED AND INSTALLED BY A STATE LICENSED FIRE SPRINKLER CONTRACTOR.

PRELIMINARY PLANS
FOR PROJECT REVIEW,
NOT FOR CONSTRUCTION,
BIDDING OR PERMIT
PURPOSES.

Prepared by
Charles C. Crook, PE
Texas Registration
No. 81913

Firm Registration No.
F - 10812

On the following date:

05/27/14

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architects planners interiors

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THE WESTOVER GROUP
FOREST HILL STARBUCKS

FOREST HILL, TEXAS

PROJECT #: 12-078 MANAGER: AJK

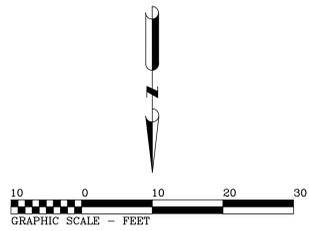
ISSUED FOR: BIDDING DRAFTER: AJK

DATE: 05-27-2014 CHECKED: CCZ

PRIVATE WATER AND
SANITARY SEWER NOTES

SHEET

C-7
OF 9 CIVIL SHEETS



CAUTION!!!
 EXISTING UTILITIES AND UNDERGROUND FACILITIES INDICATED ON THESE PLANS HAVE BEEN LOCATED FROM REFERENCE INFORMATION SUPPLIED BY VARIOUS OWNERS OF THE FACILITIES. THE ENGINEER DOES NOT ACCEPT THE RESPONSIBILITY FOR THE UTILITY LOCATIONS SHOWN. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY BOTH HORIZONTALLY AND VERTICALLY THE LOCATION OF ALL EXISTING UTILITIES AND UNDERGROUND FACILITIES PRIOR TO CONSTRUCTION. TO TAKE NECESSARY PRECAUTIONS IN ORDER TO PROTECT ALL FACILITIES ENCOUNTERED, AND TO NOTIFY THE ENGINEER PROMPTLY OF ALL CONFLICTS OF THE WORK WITH EXISTING FACILITIES. THE CONTRACTOR SHALL PRESERVE AND PROTECT ALL EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

LEGEND

- 8" W — PROPOSED WATER LINE
- 8" W — PROPOSED WATER VALVE
- 8" W — PROPOSED FIRE HYDRANT
- - - 8" W - - - EXISTING WATER LINE
- 8" W — EXISTING WATER VALVE
- 8" W — EXISTING FIRE HYDRANT
- 8" SS — PROPOSED SANITARY SEWER LINE
- 8" SS — PROPOSED SANITARY SEWER MANHOLE
- - - 8" SS - - - EXISTING SANITARY SEWER LINE
- 8" SS — EXISTING SANITARY SEWER MANHOLE
- — — PROPOSED STORM DRAIN LINE
- - - - - EXISTING STORM DRAIN LINE

NOTES (DENOTED ON DRAWINGS)

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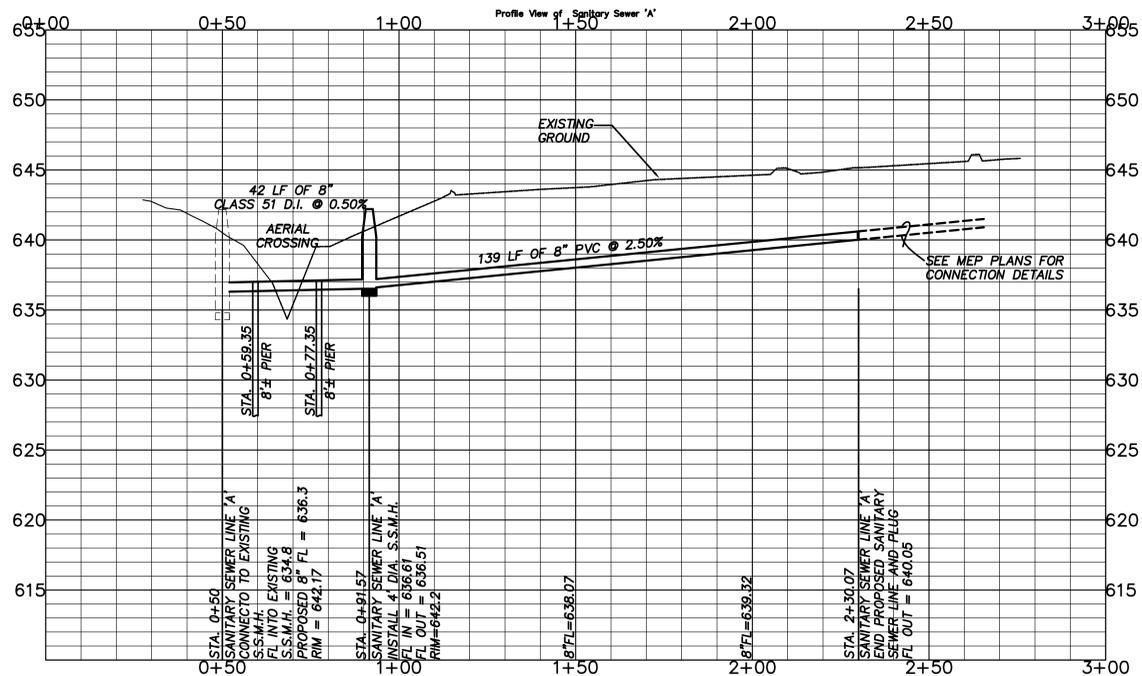
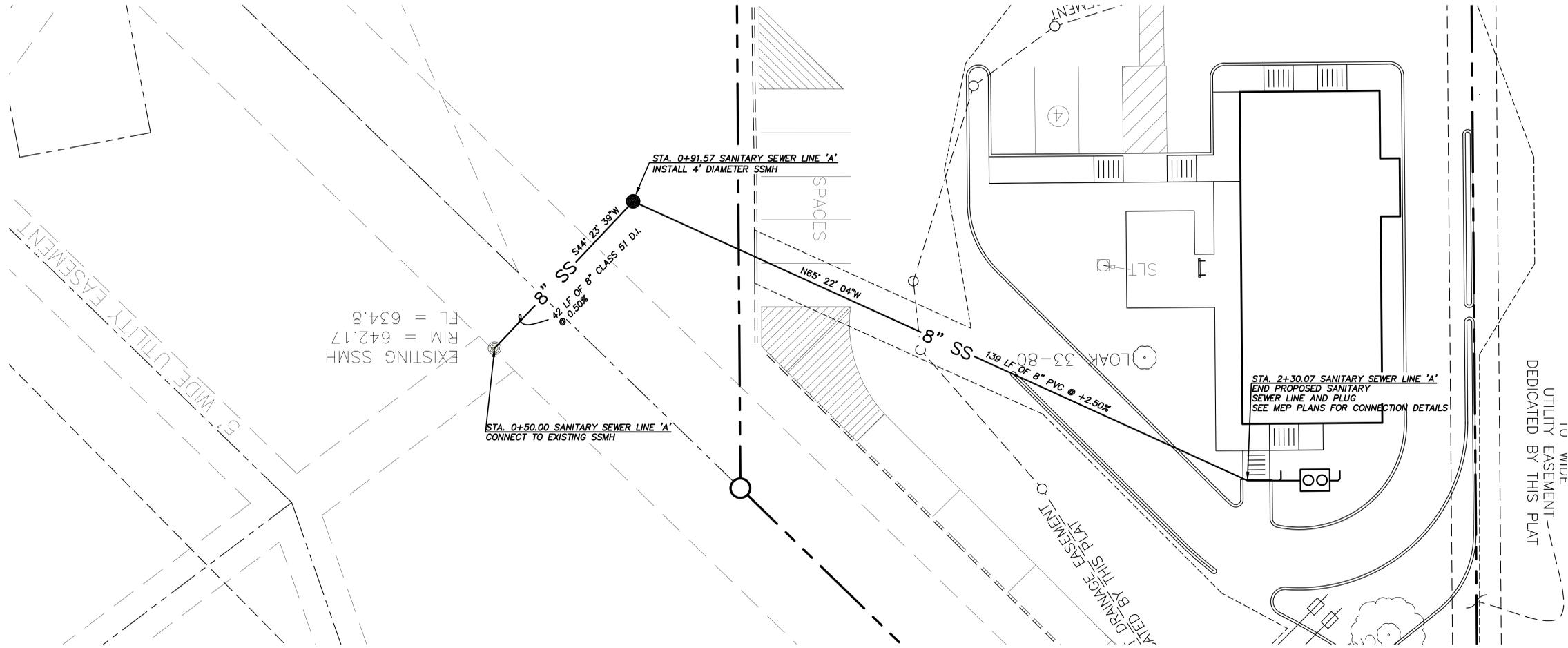
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Prepared by
 Charles C. Crook, PE
 Texas Registration No. 81913

Firm Registration No.
 F - 10812

On the following date:
 05/27/14

REVISIONS

SHEET

THE WESTOVER GROUP
FOREST HILL STARBUCKS
FOREST HILL, TEXAS

PROJECT #: 12-078
 MANAGER: A.K.

ISSUED FOR: BIDDING
 DRAFTER: A.K.

DATE: 05-27-2014
 CHECKED: C.C.

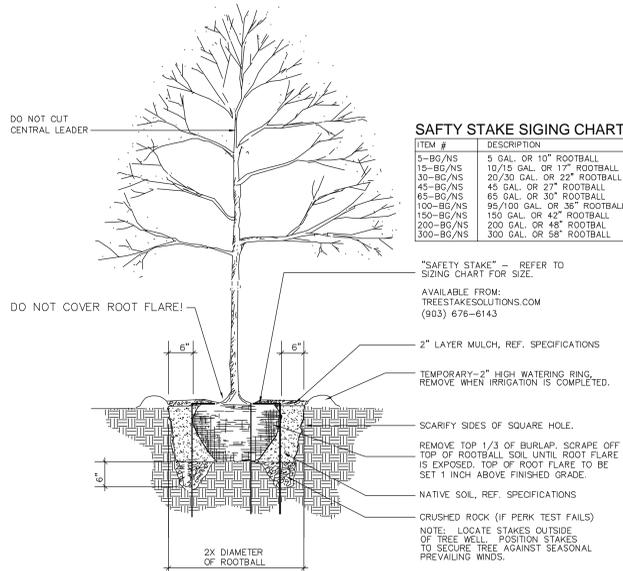
SANITARY SEWER PLAN & PROFILE

OF 9 CIVIL SHEETS

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LANDSCAPE NOTES:

- ALL LANDSCAPE REQUIREMENTS AND UNDERGROUND IRRIGATION SYSTEM WILL CONFORM TO THE LOCAL CITY ORDINANCE AND DESIGN STANDARDS AND ANY REQUIREMENTS OF THE STATE, IF APPLICABLE.
- NO PLANT MATERIAL SHALL BE PLANTED UNTIL THE LANDSCAPE IRRIGATION SYSTEM HAS BEEN INSTALLED AND IS OPERATING WITH 100% COVERAGE OF PROPOSED LANDSCAPE AREAS.
- THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING HIMSELF FAMILIAR WITH ALL UNDERGROUND UTILITIES, PIPES, CABLES, STRUCTURES AND LINE RUNS.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFICATION OF ALL QUANTITIES BASED ON THE DRAWINGS AND ACTUAL FIELD DIMENSIONS. PLANT QUANTITIES HAVE BEEN PROVIDED AS A CONVENIENCE ONLY TO THE OWNER(S) AND SHALL NOT BE CONSIDERED ABSOLUTE. CONTRACTOR SHALL FOLLOW DESIGN INTENT.
- ALL PROPOSED SUBSTITUTIONS MUST BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO INSTALLATION.
- NOTIFY THE LANDSCAPE ARCHITECT IF LAYOUT OF TREES, BEDS AND/OR PLANTS REQUIRE ALTERATION FROM THE LANDSCAPE PLAN. NOTIFICATION WILL BE REQUIRED PRIOR TO ALTERING THE LAYOUT.
- TREES SHALL BE HANDLED BY ROOT BALLS ONLY. DO NOT DAMAGE BALL, TRUNK, OR LOOSEN TRUNK FROM BALL. TREE TRUNKS ARE TO BE PLANTED STRAIGHT AND MAY BE REQUIRED BY THE OWNER AND/OR THE LANDSCAPE ARCHITECT TO BE STAKED.
- ALL TREES REQUIRED TO BE STAKED AND GUIDED SHALL CONTINUE TO BE SO THROUGH THE WARRANTY PERIOD AT WHICH TIME THE OWNER AND/OR THE LANDSCAPE ARCHITECT SHALL DETERMINE IF REMOVAL IS APPROPRIATE.
- ALL TREE LOCATIONS SHALL BE APPROVED BY THE OWNER OR OWNER'S REPRESENTATIVE PRIOR TO PLANTING.
- AT NO TIME WILL ANY PLANT MATERIAL BE ALLOWED TO SETTLE BEYOND THE TOP OF THE ROOT FLARE OR PROTECTED SOIL LINE. SHOULD PLANT MATERIAL SETTLE, THE PLANT(S) WILL BE REPLANTED AT THE PROPER HEIGHT AND/OR REPLACED IF NECESSARY AT THE CONTRACTOR'S COST.
- ALL PROPOSED BED AREAS SHALL BE TILLED TO A DEPTH OF SIX INCHES (6"), ADDING A THREE INCH (3") MINIMUM LAYER OF ORGANIC COMPOST DURING THE PROCESS. THE LEVEL OF THE BED AREAS SHOULD BE LEFT THREE INCHES (3") ABOVE THE PROPOSED FINISHED GRADE TO ALLOW FOR COMPACTION AND SETTLEMENT.
- ALL BED AREAS SHALL BE SEPARATED FROM TURF AREAS USING 1/8" X 4" STEEL EDGING PAINTED GREEN. ALL ENDS OF STEEL EDGING SHALL HAVE A RADIUS OR 45 DEGREE ANGLE TO ELIMINATE SHARP EDGES. HAND FINISH MAY BE REQUIRED TO ACHIEVE A SMOOTH EDGE.
- TRIM STEEL EDGING AT A 45 DEGREE ANGLE WHEN EDGING INTERSECTS WITH A WALK OR CURB. DO NOT INSTALL EDGING ALONG CURBS OR WALKS.
- ALL LANDSCAPE BEDS SHALL RECEIVE A TWO INCH (2") TOP DRESS LAYER OF HARDWOOD MULCH AND ALL TREE WELLS SHALL RECEIVE A THREE INCH (3") LAYER OF SHREDED HARDWOOD MULCH. DO NOT COVER ROOT FLARE.
- TURF AREAS SHALL BE CLEAN OF DEBRIS AND RAKED (GRADED) SMOOTH PRIOR TO HYDROMULCH OR SOD INSTALLATION. LANDSCAPE CONTRACTOR TO RECEIVE GRADE WITHIN APPROX. 1/10th OF FINAL GRADE.
- OWNER RESPONSIBLE TO PROVIDE ELECTRICAL SERVICE FOR THE IRRIGATION SYSTEM, WHICH INCLUDES A HARDWIRE OF 110 VOLTS AT MINIMUM FOR THE CONTROLLER.
- ALL LANDSCAPING LOCATED WITHIN THE VISIBILITY TRIANGLES SHALL COMPLY WITH THE VISIBILITY TRIANGLE REQUIREMENTS AS PER THE CITY STANDARDS.
- ALL TREES TO BE UNIFORM BY SPECIES WITH STRAIGHT TRUNKS AND MATCHING CHARACTER AND BRANCHING STRUCTURE.
- ALL PLANTS AND TREES ARE TO CONFORM TO AMERICAN ASSOCIATION OF NURSERYMEN AND TEXAS ASSOCIATION OF NURSERYMEN STANDARDS.
- THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO REFUSE ANY LANDSCAPE MATERIAL ON SITE.



4 TREE PLANTING/STAKING DETAIL
NOT TO SCALE

EXISTING TREE PROTECTION:

All trees shown on this plan to be preserved shall be protected during construction with temporary fencing. Tree protection fences shall be installed prior to the commencement of any site preparation work (clearing, grubbing or grading).

Fences shall completely surround the tree or clusters of trees. The fence shall be located at the outermost limits of the tree branches or drip-line. The fence will be maintained throughout the construction project in order to prevent the following:

- Soil compaction in the critical root zone resulting from vehicular traffic or storage of equipment or materials.
- Critical root zone disturbances due to grade changes greater than two inches (2") cut or fill or boring which was not authorized by the city.
- Wounds to the trunk, limbs or exposed roots by mechanical equipment.
- Other activities detrimental to trees such as chemical storage, concrete truck cleaning and fires.

In cases of area constraints where the protective fence is closer to the trunk than four feet (4'), the trunk must be protected with stepped or plankling to a height of eight feet (8') or to the limits of the lower branching. In addition to the reduced fencing.

All grading within critical root zones of specimen trees shall be performed by hand or small equipment to minimize damage. Prior to grading, relocate the protective fencing to two feet (2') behind the grade change area.

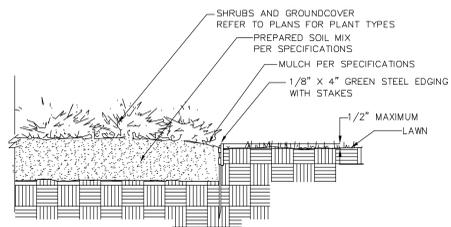
Trees most heavily impacted by construction activities should be watered deeply once a week during periods of hot and dry weather. Tree crowns should be sprayed with water periodically to reduce dust accumulation on the leaves.

Trenching for landscape irrigation shall be located as far from the existing trunks as possible.

Pruning to provide clearance for structures, vehicular traffic and equipment shall take place before construction begins.

Within the area of the dripline of protected trees, material storage, equipment cleaning, tree attachments or vehicular traffic or parking will not be permitted.

All trees to be removed from the construction site shall be flagged with bright red vinyl tape wrapped around the main trunk at a height of four feet (4') or more such that the tape is visible to workers on foot or driving equipment.



3 STEEL EDGING DETAIL
NOT TO SCALE

PLANTING SPECIFICATIONS:

PLANTING BEDS:
PLANTING BED BACKFILL SHALL BE "SCREENED BEDDING SOIL" FROM CLEAR FORK MATERIALS, 800 OLD ANNETTA RD., ALEDO, TX 78008, 817-441-7777.
COMMERCIAL FERTILIZER SHALL BE 5-10-5 WITH IRON AND SULFUR.
MULCH SHALL BE SHREDED CEDAR BARK MULCH.

THE LANDSCAPE CONTRACTOR SHALL REMOVE ANY SOIL IN PROPOSED PLANTING BEDS TO A SUBGRADE OF FOUR INCHES BELOW PROPOSED FINAL GRADES (SHOWN ON THE ENGINEER'S GRADING PLAN). ROTOTILL AND LOOSEN THE SUBGRADE. REMOVE ALL GRASS TOPS, DEBRIS AND ROCKS OVER ONE INCH IN DIAMETER. THE LANDSCAPE CONTRACTOR SHALL APPLY AND COVER ALL AREAS TO BE PLANTED WITH PLANTING BED BACKFILL TO A BED LEVEL, AS DESCRIBED BELOW. BEFORE BEGINNING ANY PLANTING OPERATIONS, THE SOIL MUST BE LOOSE, LOOSEN COMPACTED TOPSOIL BY ROTOTILLING. DO NOT PLANT ON COMPACTED TOPSOIL. HAND RAKE PROPOSED PLANTING BED SURFACES CLEAN OF WEEDS, DEBRIS AND ROCK ONE INCH OR LARGER. FINAL GRADES SHALL HAVE A SMOOTH AND CONTINUOUS GRADE BETWEEN EXISTING FIXED CONTROLS SUCH AS WALKS, TOP OF CURB, CATCH BASINS, ETC. PLANTING BEDS TO BE MOIST BEFORE PLANTING.

AFTER PLANTING, BROADCAST FERTILIZER OVER PLANTING BEDS AT THE RATE OF 4 LBS. PER 100 SQ. FT.
FINAL PLANTING BED LEVEL SHALL BE TWO INCHES HIGHER THAN ADJACENT CONSTRUCTION FEATURES, IE. SIDEWALKS, ETC. OR ADJACENT GRASS. COVER ENTIRE PLANTING BED WITH A TWO INCH BLANKET OF MULCH.

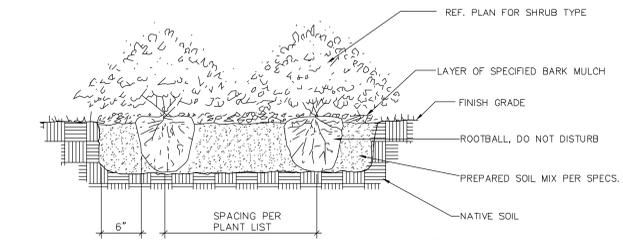
SHRUBS:
EXCAVATE SHRUB PITS TWICE AS WIDE AS THE SHRUB BALL AND SAME DEPTH AS SHRUB BALL. BACKFILL WITH PLANTING BED SOIL. "ROOT FLARE" SHALL BE EXPOSED AND LEVEL WITH TOP OF FINISHED GRADE. WATER EACH PLANT TO ELIMINATE AIR POCKETS. COVER ENTIRE SHRUB BED WITH A TWO INCH BLANKET OF MULCH.

GRASS AREAS:
TOPSOIL FOR LANDSCAPE LAWN AREAS SHALL BE ORGANICALLY ENRICHED TOPSOIL FROM CLEAR FORK MATERIALS.
*OPTION--USE SCREENED TOPSOIL FROM CLEAR FORK MATERIALS.
FERTILIZER SHALL BE 12-12-12 WITH IRON AND SULFUR.

THE TOP ONE INCH OF ALL PROPOSED LAWN AREAS SHALL HAVE A ONE INCH BLANKET OF TOPSOIL. BEFORE APPLYING TOPSOIL, ROTOTILL OR DISC SUBGRADE. REPEAT AS NEEDED TO THOROUGHLY LOOSEN SUBGRADE. REMOVE ALL CLODS AND ROCK. RAKE SMOOTH. APPLY TOPSOIL. RAKE SMOOTH. APPLY SOD. ROLL ALL LAWN AREAS TO REMOVE UNDULATIONS AND PROVIDE COMPLETE SOIL CONTACT. ALL LAWN AREAS TO BE SOLID SODDED. APPLY TOPSOIL TO FILL GAPS. APPLY FERTILIZER. WATER THOROUGHLY. FINAL GRASS GRADE SHALL BE LEVEL WITH ADJACENT CONSTRUCTION FEATURES, IE. SIDEWALKS, ETC.

MAINTENANCE:
THE LANDSCAPE CONTRACTOR SHALL MAINTAIN THE LANDSCAPE INCLUDING: WATERING, MOWING, ETC. UNTIL FINAL ACCEPTANCE BY THE OWNER REPRESENTATIVE.

GUARANTY:
ALL PLANTS INCLUDING TREES SHALL BE GUARANTEED FOR ONE YEAR AFTER FINAL ACCEPTANCE BY THE PROJECT OWNER.
REPLACE ALL DEAD PLANTS WITH THE SAME PLANT VARIETY AND SIZE AS SPECIFIED ON THE PLANT LIST.
ALL GRASS SOD SHALL BE HEALTHY AND GROWING AT THE END OF SIX WEEKS AFTER SODDING OPERATIONS ARE COMPLETE AND ACCEPTED BY THE PROJECT OWNER. REPLACE ANY AND ALL DEAD OR DAMAGED SOD.

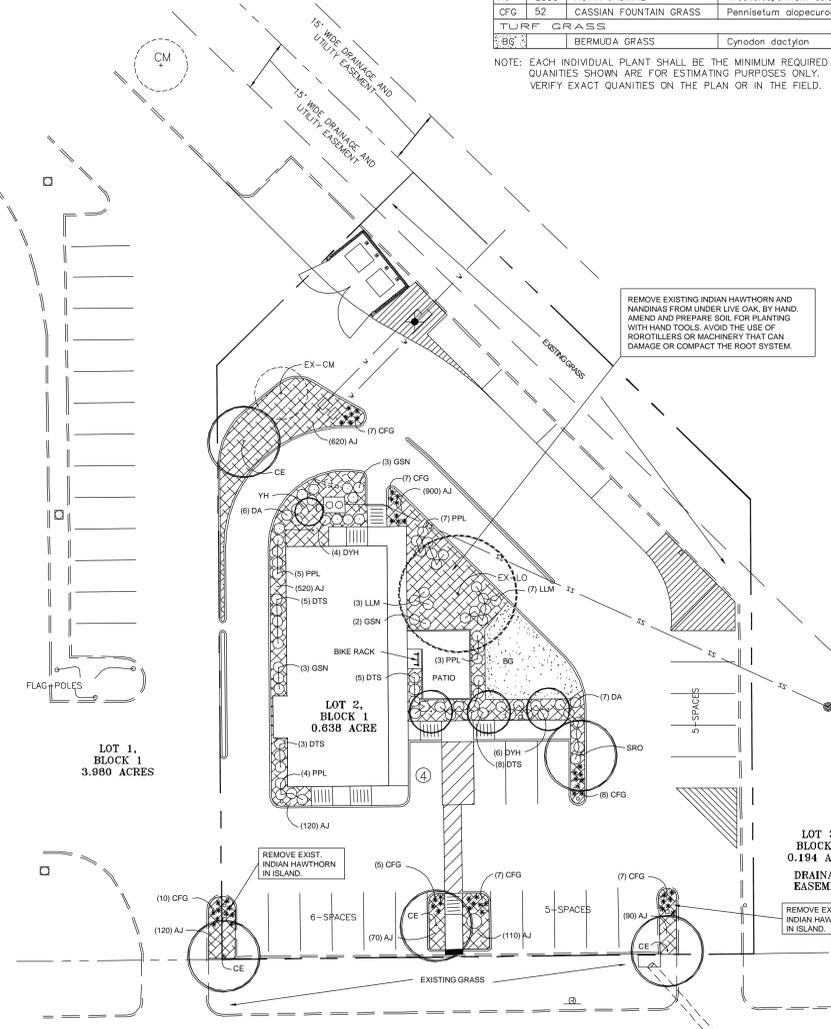


2 SHRUB/GROUND COVER DETAIL
NOT TO SCALE

PLANT MATERIAL SCHEDULE

KEY	QUAN.	COMMON NAME	BOTANICAL NAME	SPECIFICATIONS
TREES				
CE	4	CEDAR ELM	Ulmus crassifolia	3" cal., 6'-8' spd., b&b.
SRO	1	SHUMARD RED OAK	Quercus shumardi	3" cal., 6'-8' spd., b&b.
CM	3	CRAPE MYRTLE	Lagerstroemia indica	8' tall, multi-trnk, bab.
YH	1	YALPON HOLLY	Ilex vomitoria	6' tall, multi-trnk, bab.
SHRUBS				
DA	13	DWARF ABELIA	Abelia - 'Edward Goucher'	5 gallon, 36" on center.
DTS	21	DWARF TEXAS SAGE	Leucophyllum frutescens - 'Compactum'	5 gallon, 36" on center.
DYH	6	DWARF YALPON HOLLY	Ilex vomitoria 'Nano'	5 gallon, 36" on center.
LLM	10	LEATHER LEAF MAHONIA	Mahonia bella	5 gallon, 36" on center.
GSN	8	GULF STREAM NANDINA	Nandina spp. 'Gulf Stream'	5 gallon, 36" on center.
PPL	19	PURPLE PIXIE LOROPETALUM	Loropetalum spp. 'Purple Pixie'	5 gallon, 36" on center.
GROUND COVER & ORNAMENTAL GRASS				
AJ	1	Z550 ASIAN JASMINE	Trachelospermum asiaticum	4" pots, 12" on center.
CFG	52	CASSIAN FOUNTAIN GRASS	Pennisetum alopecuroides 'Cassian'	1 gallon, 18" on center.
TURF GRASS				
BB	3	BERMUDA GRASS	Cynodon dactylon	solid sod

NOTE: EACH INDIVIDUAL PLANT SHALL BE THE MINIMUM REQUIRED SIZE AS NOTED. QUANTITIES SHOWN ARE FOR ESTIMATING PURPOSES ONLY. VERIFY EXACT QUANTITIES ON THE PLAN OR IN THE FIELD.



LANDSCAPE CALCULATIONS

5 FT. LANDSCAPE STRIP BETWEEN VECH. P.V.M.T AND R.O.W. W/ (1) TREE PER 40'
150' LESS 18' APPROACHES = 132'/40' = (3) TREES REQ'D.
(3) NEW TREES PROVIDED.

INTERIOR PARKING LOT:
(1) TREE PER (12) SPACES REQ'D. 24/12 = (2) TREES REQ'D.
(2) TREES PROVIDED.

TREES REQ'D PER ORD NO. 2009005, SEC. 8
(1) TREE PER 4,365 SF. 27,788/4,365 = (7) TREES REQ'D. *NOTE: EXIST. LIVE OAK CREDITED AS TWO TREES.
(5) NEW TREES & (*2) EXISTING TREES PROVIDED.

1 LANDSCAPE PLANTING PLAN
SCALE: 1"=20'-0" 0' 5' 10' 20' 40'

REVISIONS

SHEET

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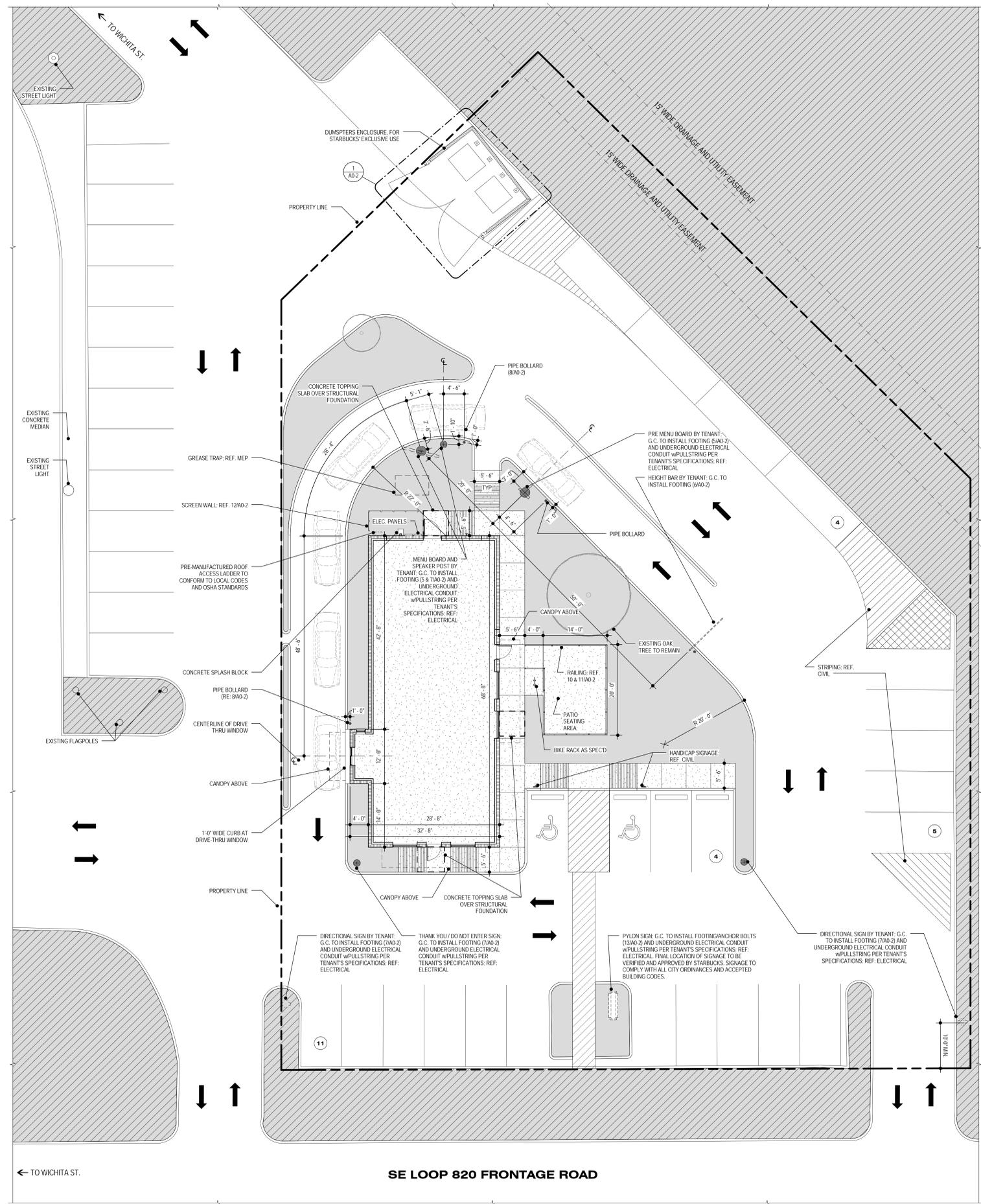
THE WESTOVER GROUP
FOREST HILL STARBUCKS
FOREST HILL, TEXAS

PROJECT #: 13040-01 MANAGER: --
ISSUED FOR: CONSTRUCTION DRAFTER: --
DATE: 05-27-2014 CHECKED: --

LANDSCAPE PLAN, NOTES, DETAILS

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CODE INFORMATION		
FOREST HILL STARBUCKS FOREST HILL, TEXAS		
CURRENT CODES: 2009 IBC WITH LOCAL AMENDMENTS 2009 IFC WITH LOCAL AMENDMENTS 2009 IMC WITH LOCAL AMENDMENTS 2009 IPC WITH LOCAL AMENDMENTS 2009 IECC WITH LOCAL AMENDMENTS 2008 NEC WITH LOCAL AMENDMENTS 2012 TEXAS ACCESSIBILITY STANDARDS (TAS)	OCCUPANCY CLASSIFICATION: GROUP A-2-RESTAURANT CONSTRUCTION TYPE/ALLOWABLE AREAS: (TABLE/SECTIONS 503) TYPE V-B w/NO SPRINKLER ALLOWABLE AREA: 6000 S.F. ALLOWABLE HEIGHT: 40' ACTUAL GROSS AREA: 2016 S.F.	SPACES WITH ONE MEANS OF EGRESS (TABLE 1015.1) A-2 49 MAX. OCCUPANT LOAD MAXIMUM TRAVEL DISTANCE (TABLE 1015.1) A-2 200' WITHOUT SPRINKLERS OCCUPANCY LOAD (TABLE 1004.1.1) ASSEMBLY w/OUT FIXED SEATS 15 NET UNCONCENTRATED (TABLE & CHAIR) 200 GROSS COMMERCIAL KITCHEN
ZONING: PROPERTY ZONED AS: "LR" (LOCAL RETAIL) MIN. FRONT YARD: 0 MIN. SIDE YARD: 0 MIN. REAR YARD: 0 PARKING REQUIRED: MIN. 1/125 S.F. (2)	FIRE RESISTIVE RATING REQUIREMENTS: (TABLE 601) TYPE VB = 0HR FIRE RESISTIVE RATING REQUIREMENTS - EXT. WALL (TABLE 602) TYPE VB = 0HR	REQUIRED EGRESS (1005.1) WIDTH (OCCUPANCY X0.2' PER PERSON)



N
1
ARCHITECTURAL SITE PLAN
1" = 10'-0"

ABBREVIATION

AFF ABOVE FINISH FLOOR	ACRUS ACROUSTICAL	ALUM ALUMINUM	BLYD BEYOND	BLDG BUILDING	BSMT BASEMENT	BO BY OWNER	CL CONTROL JOINT	CO CASED OPENING	CL CENTER LINE	CLG CEILING	CLR CLEAR	CMU CONCRETE MASONRY UNIT	COL COLUMN	CONC CONCRETE	CONT CONTINUOUS	DET DETAIL	DM DAMSTER	DM DIMENSION	DR DOOR	DS DOWNSPOUT	DWG DRAWING	EA EACH	EJ EXPANSION JOINT	ELEV ELEVATION	EQ EQUIPMENT	EWIC ELECTRIC WATER COOLER	ETR EXISTING TO REMAIN	FE FIRE EXTINGUISHER	FEC FIRE EXTINGUISHER WITH CABINET	FF FINISH FLOOR	FR FINISHED FLOOR	GA GAUGE	HC HANDICAP	HT HEIGHT	ID INSIDE DIAMETER	KO KNOCK OUT	LAM LAMINATED	LF LINEAR FEET	MAX MAXIMUM	MB MARKER BOARD	MEG MANUFACTURER	MN MINIMUM	MO MASONRY	MO MOUNTED	MTD MOUNTED	MTL METAL	NIC NOT IN CONTRACT	NTS NOT TO SCALE	NOM NOMINAL	OC ON CENTER	OH OPPOSITE HAND	PL PLASTIC LAMINATE	PL PROPERTY LINE	QTY QUANTITY	RD ROOF DRAIN	RM ROOM	RTU ROOF TOP UNIT	SM SIMILAR	SP SPACE(S)	TB TACKBOARD	TBD TO BE DETERMINED	TOM TOP OF MASONRY	TOS TOP OF STEEL	TOW TOP OF WALL	UC UNDER COUNTER	UL UNDERWRITERS LABORATORIES	UNO UNLESS NOTED OTHERWISE	VCT VINYL COMPOSITION TILE	VWC VINYL WALL COVERING	WP WORKPOINT	WSCOT WAINSCOT	W WITH	W/O WITHOUT
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LEGEND

	SIDEWALK CONCRETE BROOM FINISH
	LANDSCAPE
	EXISTING LANDSCAPE TO REMAIN

REVISIONS

NO.	DATE	DESCRIPTION	BY

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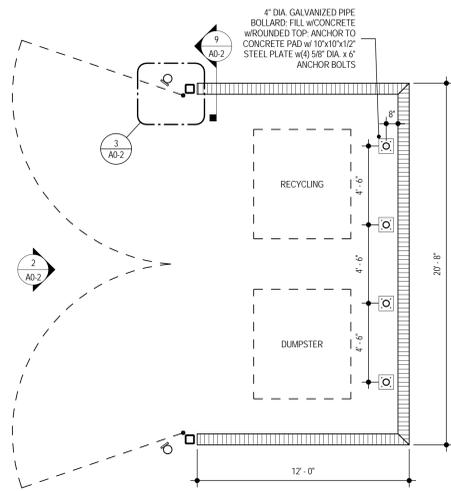
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THE WESTOVER GROUP
FOREST HILL STARBUCKS
FOREST HILL, TEXAS

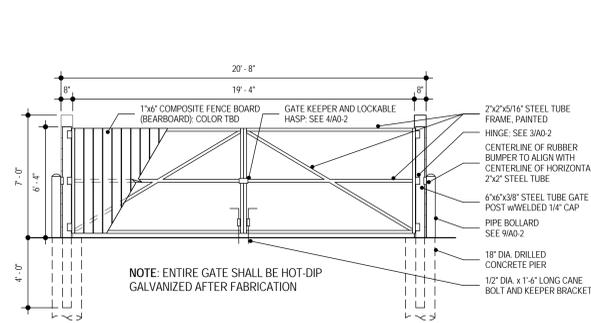
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DATE:	05.27.2014	CHECKED:	ELH

ARCHITECTURAL SITE PLAN AND CODE INFORMATION

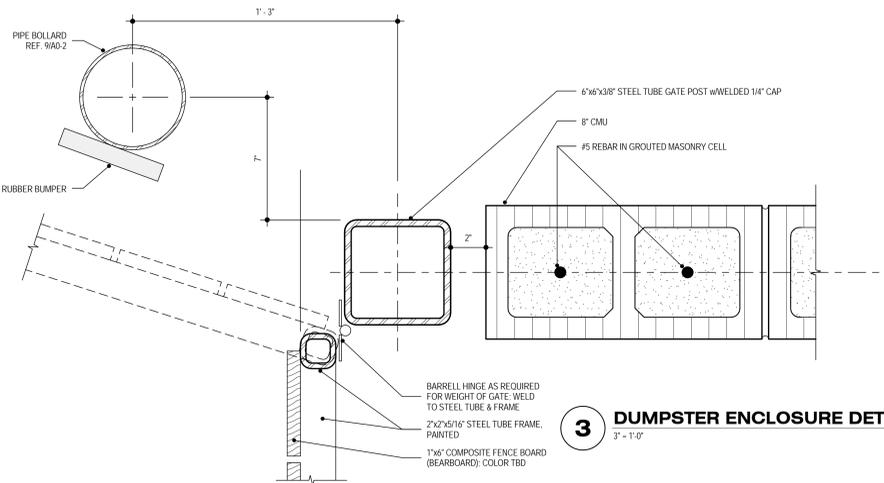
SHEET
A0-1
OF 2 A0 SHEETS
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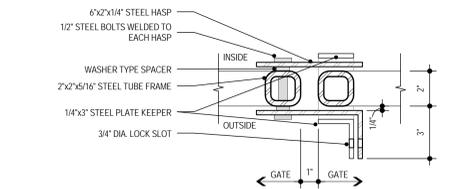
1 DUMPSTER ENCLOSURE PLAN
1/4" = 1'-0"



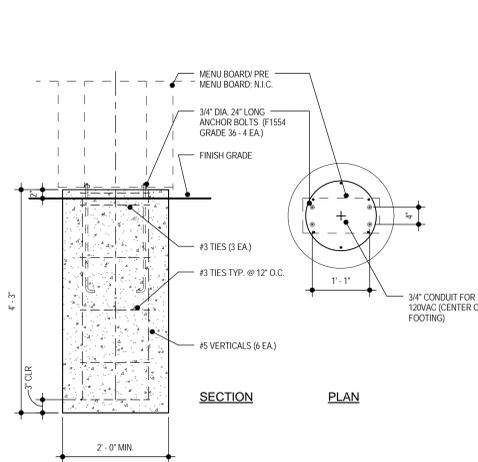
2 DUMPSTER ENCLOSURE ELEVATION
1/4" = 1'-0"



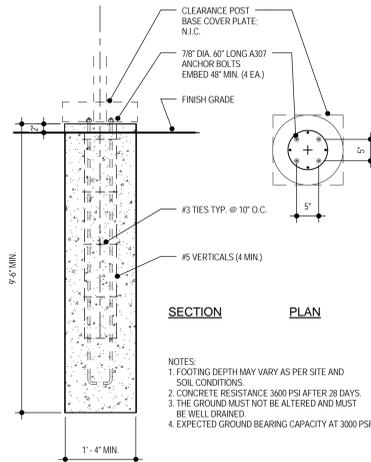
3 DUMPSTER ENCLOSURE DETAIL
3" = 1'-0"



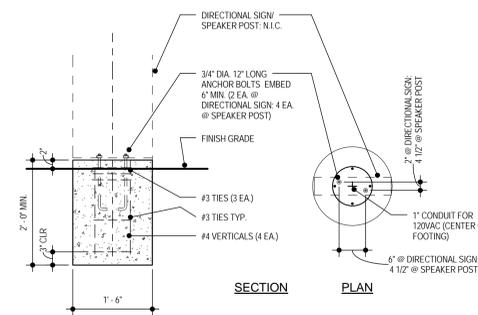
4 DUMPSTER ENCLOSURE DETAIL
3" = 1'-0"



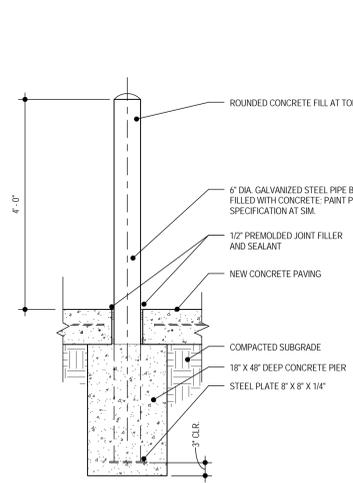
5 MENU BD./ PRE MENU BD. FOOTING DETAIL
3/4" = 1'-0"



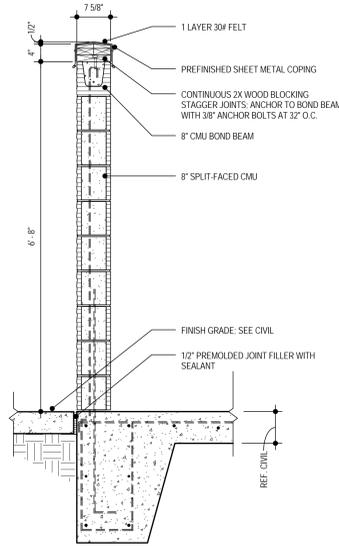
6 CLEARANCE BAR FOOTING DETAIL
3/4" = 1'-0"



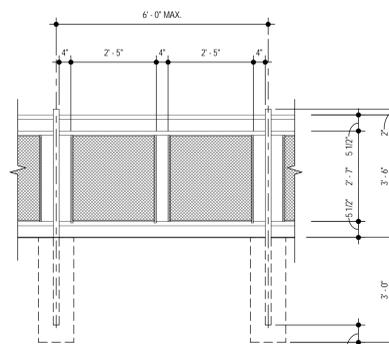
7 DIRECTIONAL SIGN/ SPEAKER POST FOOTING DETAIL
3/4" = 1'-0"



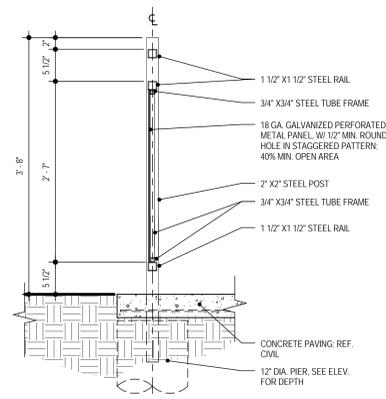
8 BOLLARD DETAIL
3/4" = 1'-0"



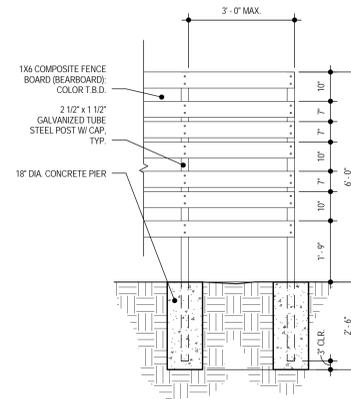
9 DUMPSTER ENCLOSURE SECTION
3/4" = 1'-0"



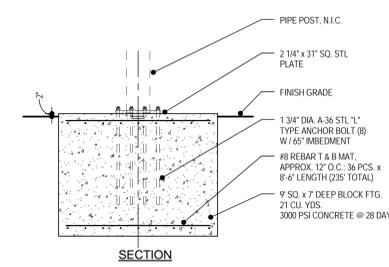
10 RAILING ELEVATION
1/2" = 1'-0"



11 RAILING DETAIL @ SEATING AREA
1" = 1'-0"



12 YARD SCREEN ELEVATION
1/2" = 1'-0"



13 PYLON SIGN FOOTING DETAIL
1/4" = 1'-0"

KEY PLAN

REVISIONS

DATE

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**THE WESTOVER GROUP
FOREST HILL STARBUCKS
FOREST HILL, TEXAS**

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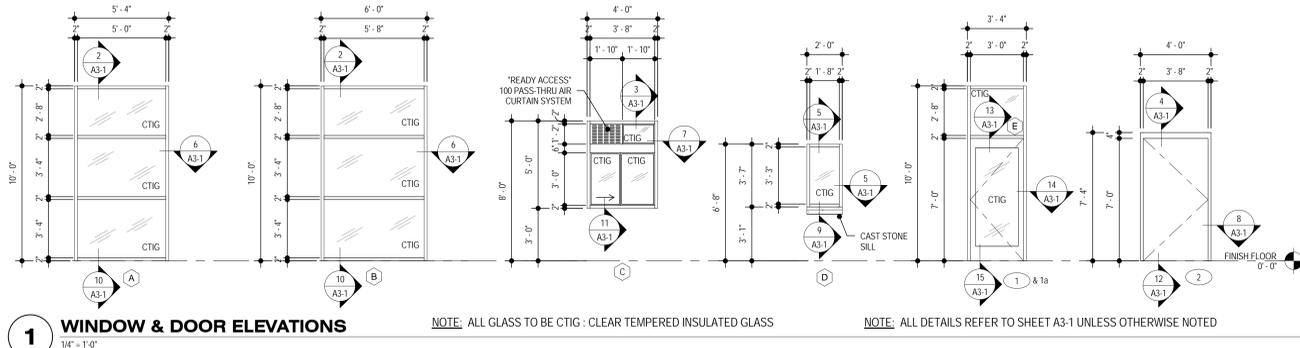
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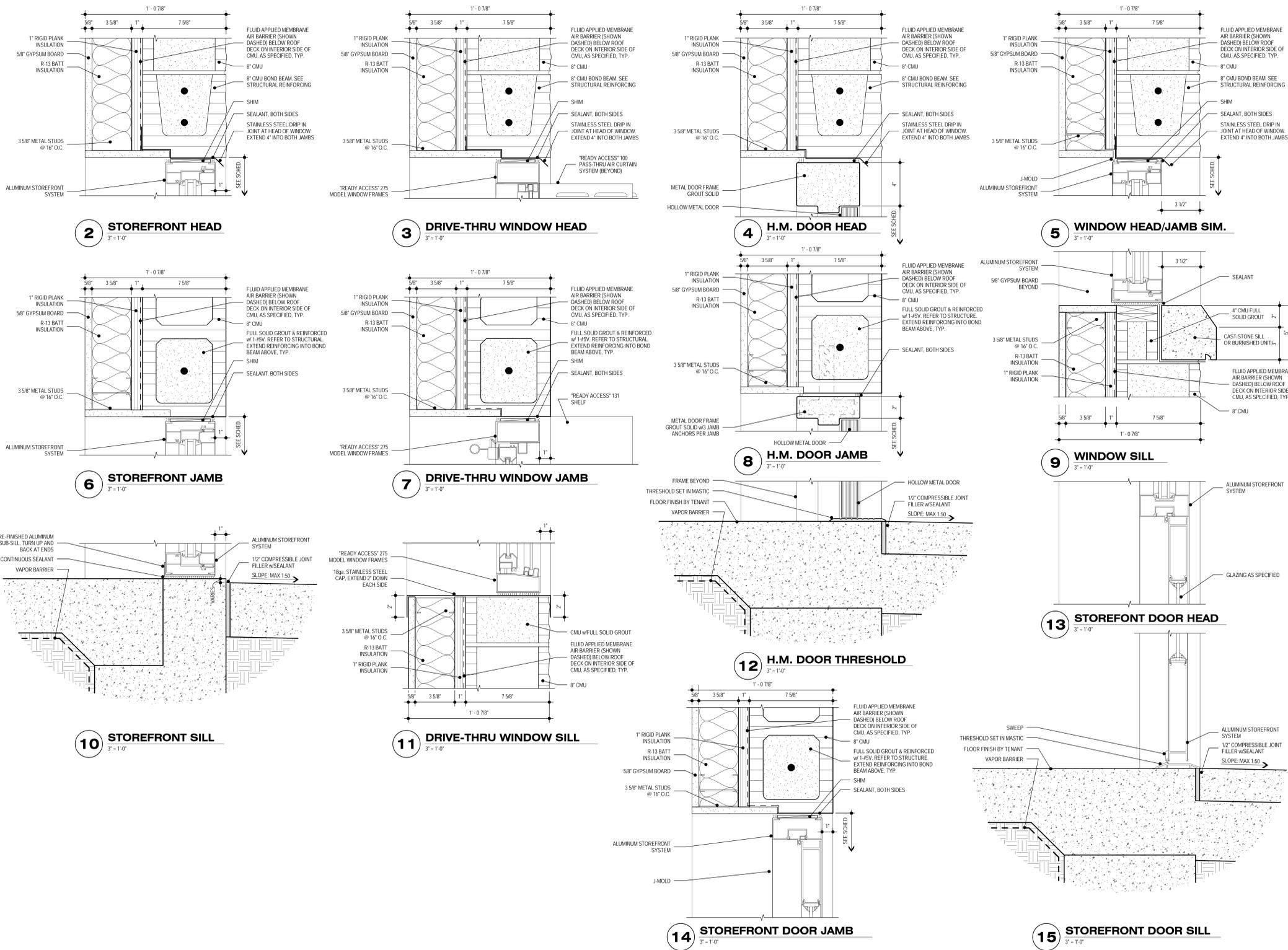
A0-2

OF 2 A0 SHEETS

HARDWARE SCHEDULE		
DOOR 1 & 1a SHALL HAVE:	1 HINGE 2 DEADLOCKS** 1 CLOSER 1 PULL/PUSH BAR SETS 1 THRESHOLD* 1 SWEEP	(ROTON) 780-224 HD x US28 (ADAMS RITE) MS1850S x US26D (SCHLAGE) TYPE REQUIRED x C135 KEYWAY x IC x US26D (LCN) P4040 x SPRING CUSH x AL x BRACKET RECD x SNB (TRIMCO) 1737 x US32D (NATIONAL GUARD) 325 (NATIONAL GUARD) 200NA
DOOR 2 SHALL HAVE:	1 HINGE (STOREROOM)** 1 LOCK (STOREROOM)** 1 CLOSER 1 SET WEATHERSTRIP 1 SWEEP 1 DRIP CAP 1 THRESHOLD* 1 ARMOR PLATE 1 DOOR VIEWER 1 DOOR BELL	(ROTON) 780-224 HD x US28 (SCHLAGE) L9480 x 06 x IC x US26D (LCN) P4040 x SPRING CUSH x H.O. x AL x SNB (NATIONAL GUARD) 700NA (NATIONAL GUARD) 200NA (NATIONAL GUARD) 16A (NATIONAL GUARD) 513HD (TRIMCO) DW - 2'x3'x.050 x US32D (SECURITY PRODUCTS) DOOR SPY DS-6 (NUTONE) MCN-304
*COORDINATE EXACT THRESHOLD TYPE WITH FLOORING MATERIAL **MATCH OWNER'S GRAND MASTER KEY SYSTEM.		



DOOR SCHEDULE																				
MARK	DOOR SIZE		DOOR	FINISH	MATERIAL	FRAME	FINISH	RATING	FIRE	ACOUS.	HEAD	JAMB	JAMB	SILL	OTHER	VISION PANEL	NOTES	REVISIONS	MARK	
	WIDTH	HEIGHT																		
1	3'-0"	7'-0"	ALUM/GLASS	SEE FINISH SCHEDULE	ALUM	SEE FINISH SCHEDULE	---	---	---	---	13/A3-1	14/A3-1	---	15/A3-1	---	---	---	---	---	1
1a	3'-0"	7'-0"	ALUM/GLASS	SEE FINISH SCHEDULE	ALUM	SEE FINISH SCHEDULE	---	---	---	---	13/A3-1	14/A3-1	---	15/A3-1	---	---	---	---	---	1a
2	3'-8"	7'-0"	HM	SEE FINISH SCHEDULE	HM	SEE FINISH SCHEDULE	---	---	---	---	4/A3-1	8/A3-1	---	12/A3-1	---	---	---	---	---	2



- NOTES**
- DOOR, WINDOW AND FRAMES ARE NOMINAL ONLY. COORDINATE DOOR, WINDOW AND FRAMES WITH ACTUAL MASONRY DIMENSIONS. USE MANUFACTURER RECOMMENDATIONS FOR CLEARANCES AROUND ALL OPENINGS.
 - PROVIDE CONTINUOUS SEALANT WITH PROPERLY SIZED BACKER ROD EACH SIDE OF FRAME. SEALANT COLOR TO BE SELECTED BY ARCHITECT.
 - PROVIDE SHIM AS REQUIRED TO ACHIEVE PLUMB AND SQUARE FRAMES ON ALL SIDES.
 - PROVIDE A MINIMUM OF THREE (3) JAMB ANCHORS EACH SIDE OF STEEL FRAMES.
 - EXTERIOR SILL FRAMES WILL BE PLACED UPON HIGH PERFORMANCE ALUMINUM SUB-SILLS. TURN EACH END OF SUB-SILL UP.
 - PROVIDE INTERNAL STEEL STIFFENERS WITHIN ALUMINUM FRAMES EACH SIDE OF DOORS AND AS REQUIRED BY SUB-CONTRACTORS' STRUCTURAL CALCULATION PER CODE REQUIREMENTS.

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FOREST HILL STARBUCKS
FOREST HILL, TEXAS

REVISIONS	DATE	BY	REASON

PROJECT #: 13040-01 MANAGER: PC
ISSUED FOR: CONSTRUCTION DOCUMENTS DRAFTER: CTW
DATE: 05.27.2014 CHECKED: ELH

DOOR AND WINDOW SCHEDULES AND ELEVATIONS

SHEET
A3-1
OF 1 A3 SHEETS
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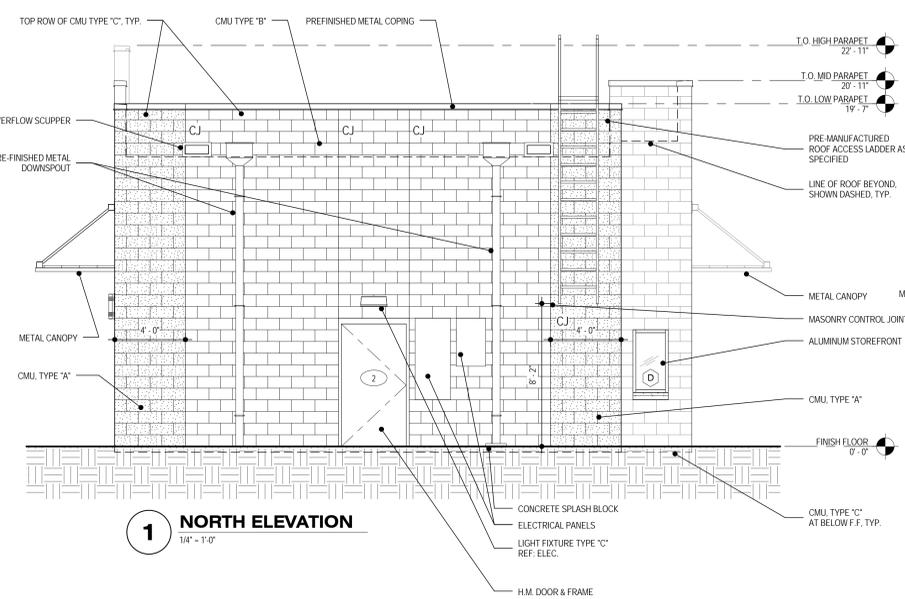
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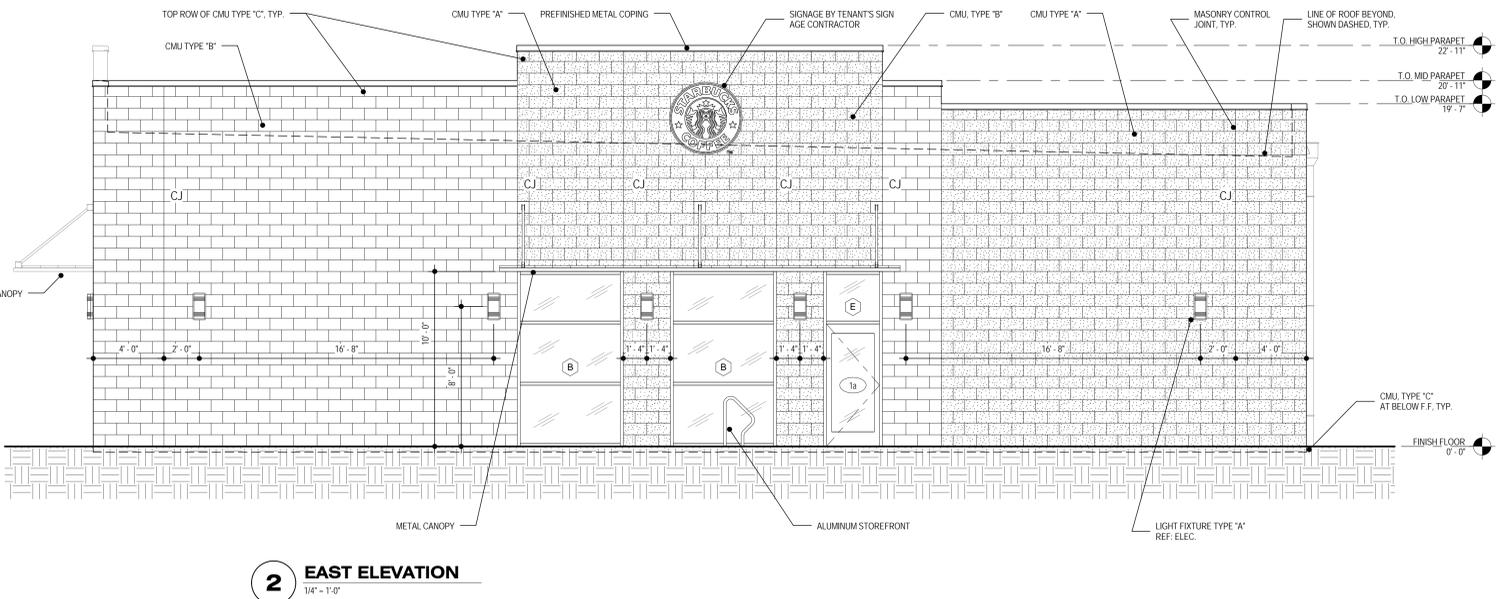


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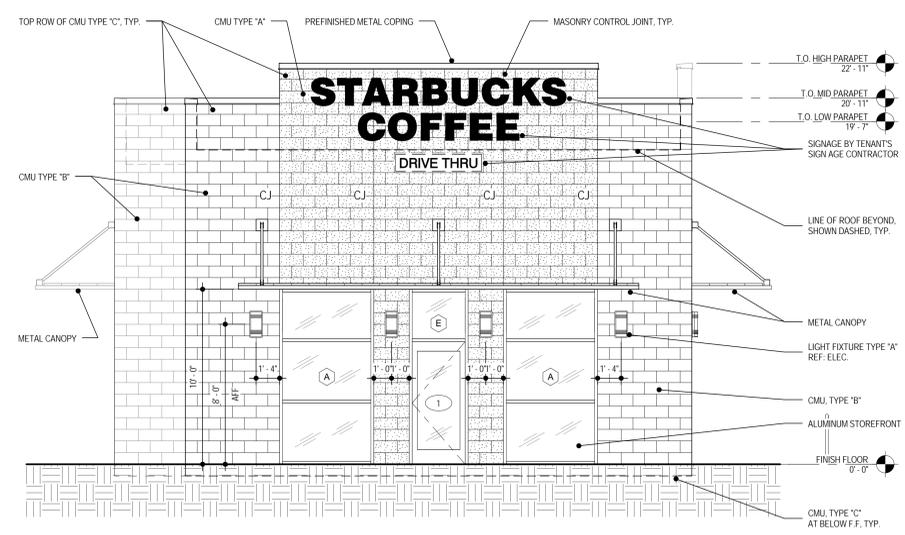
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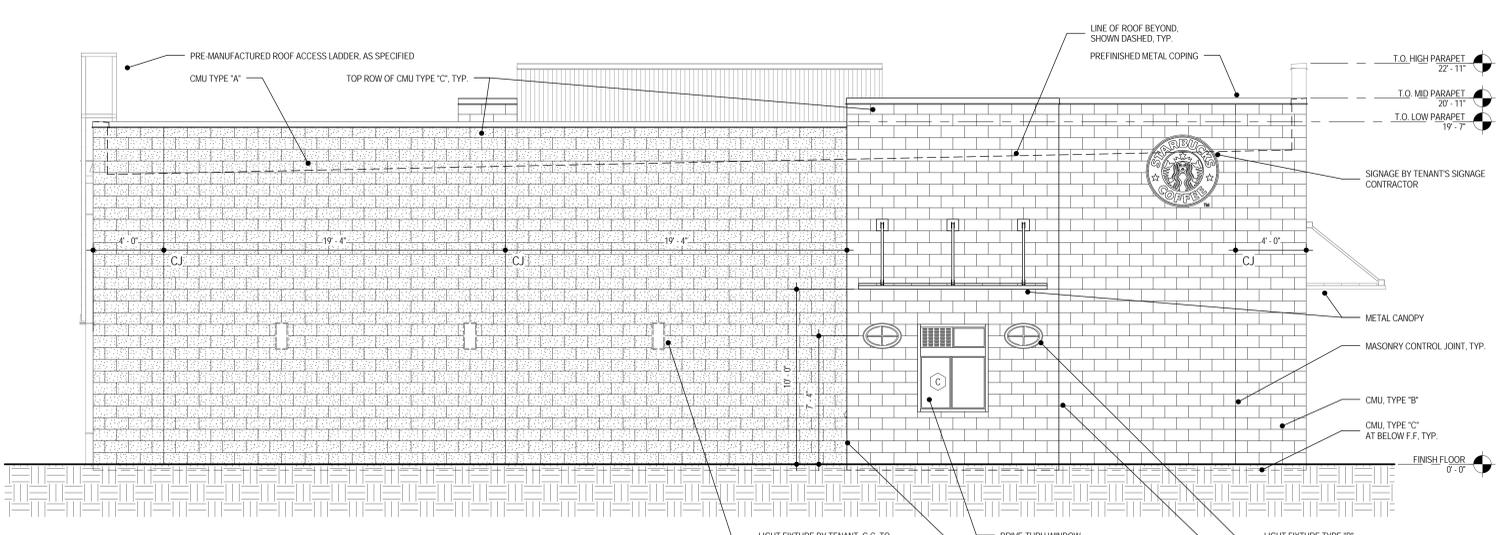
1 NORTH ELEVATION
1/4" = 1'-0"



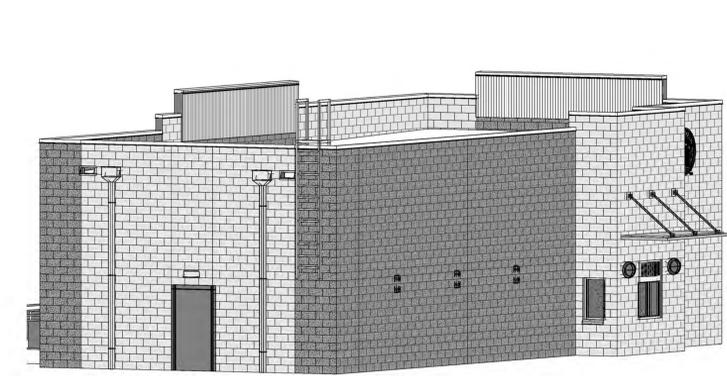
2 EAST ELEVATION
1/4" = 1'-0"



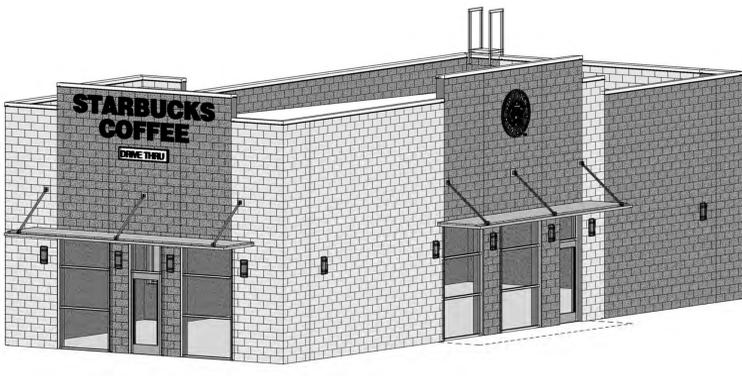
3 SOUTH ELEVATION
1/4" = 1'-0"



4 WEST ELEVATION
1/4" = 1'-0"



6 3D VIEW - NORTHWEST
FOR REFERENCE ONLY



7 3D VIEW - SOUTHEAST
FOR REFERENCE ONLY

EXTERIOR FINISH SCHEDULE			
ITEM	COLOR	MANUFACTURER	REMARKS
CMU A	APACHE BROWN - 707	FEATHERLITE	SPLIT FACE
CMU A MORTAR	GRAY	---	---
CMU B	LIMESTONE - 707	FEATHERLITE	SPLIT FACE
CMU B MORTAR	LIMESTONE	---	FLUSH JOINTS
CMU C	MATCH COLOR WITH CMU ABOVE OR BELOW	FEATHERLITE	BURNISHED
CMU C MORTAR	MATCH COLOR WITH CMU ABOVE OR BELOW	---	---
METAL CAP FLASHING	TBD	---	---
STOREFRONT FRAME	CLEAR ANODIZED ALUMINUM	KAWNEER	RE: WINDOW SCHED.
HARDWARE	CLEAR ANODIZED ALUMINUM	FACTORY FINISHED	RE: HARDWARE SCHED.
METAL AWNING	---	---	GALV.
H.M. DOOR & FRAME	TBD	---	---
DOWNSPOUTS/CONDUCTOR HEADS/SCUPPERS	TBD	---	---
MISCELLANEOUS METALS	TBD	---	---

KEY PLAN	

REVISIONS	

PROJECT #: 13040-01 MANAGER: PC
ISSUED FOR: CONSTRUCTION DOCUMENTS DRAFTER: CTW
DATE: 05.27.2014 CHECKED: ELH

EXTERIOR ELEVATIONS

SHEET

A4-1

OF 1 A4 SHEETS

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FOREST HILL STARBUCKS
FOREST HILL, TEXAS**

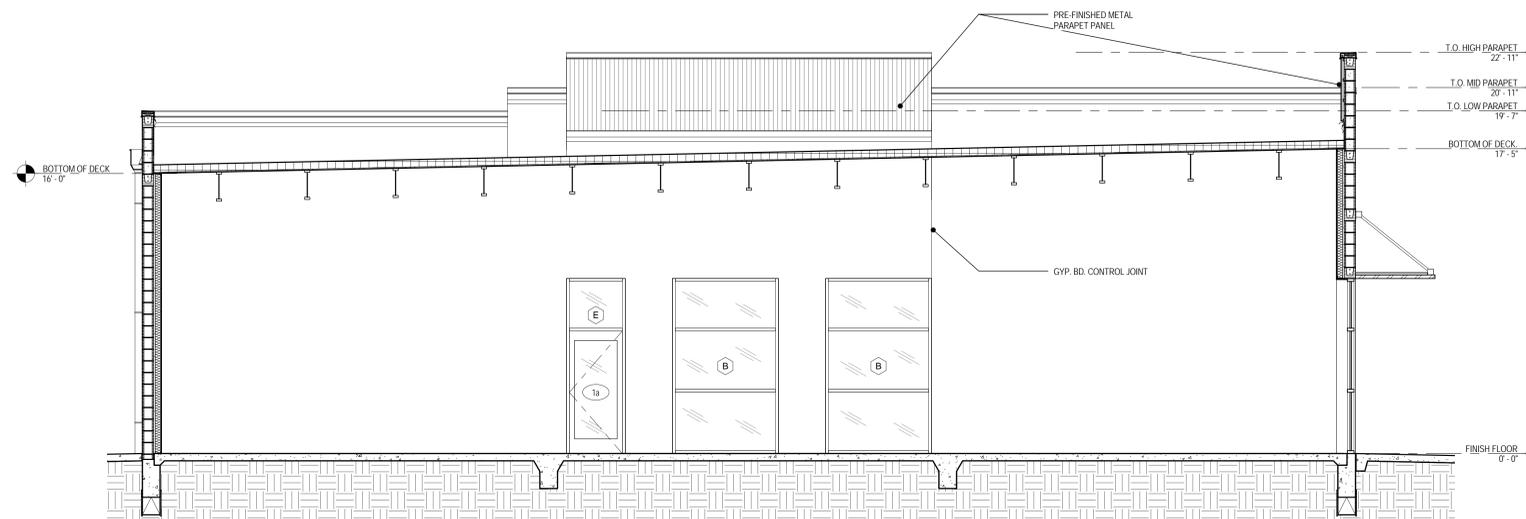
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BUILDING AND WALL
SECTIONS

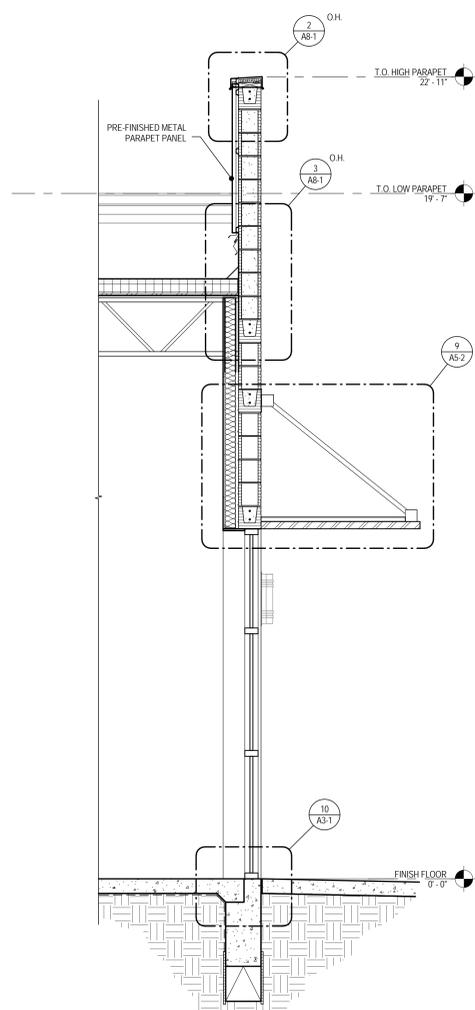
SHEET

A5-1

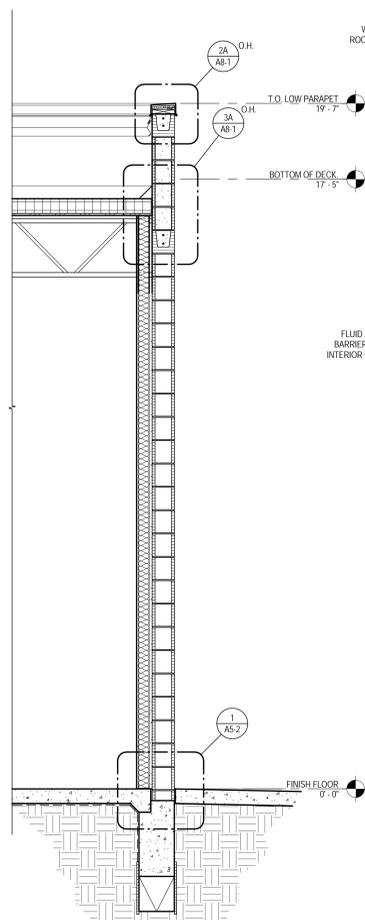
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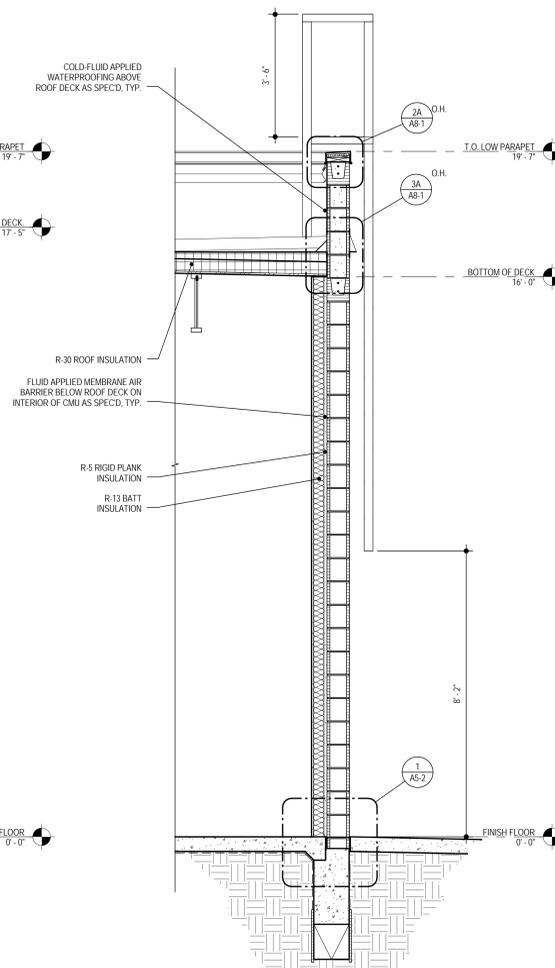
1 EAST - WEST BUILDING SECTION
1/4" = 1'-0"



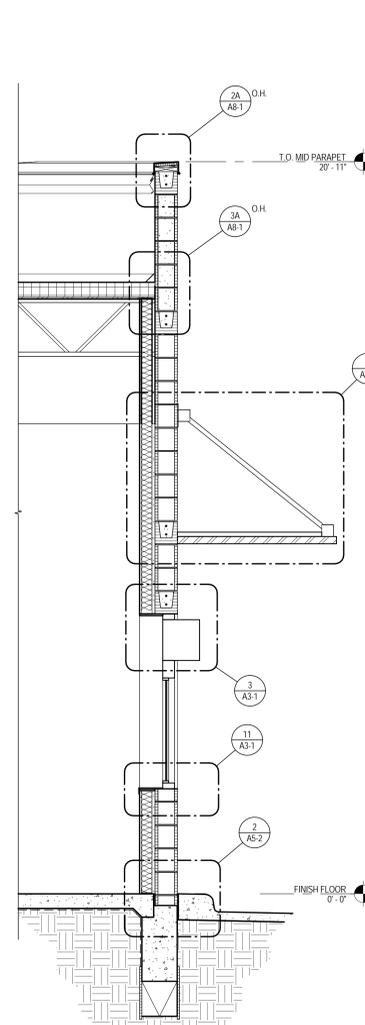
2 WALL SECTION
1/2" = 1'-0"



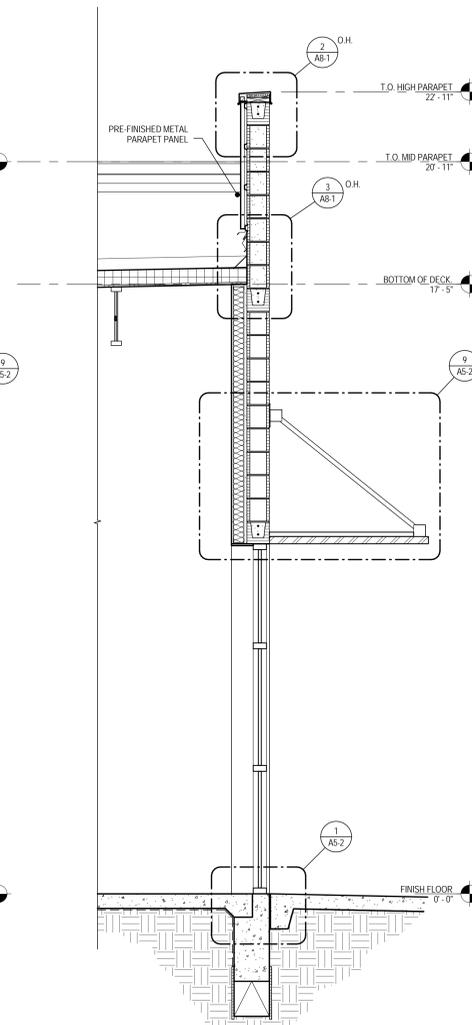
3 WALL SECTION
1/2" = 1'-0"



4 WALL SECTION
1/2" = 1'-0"



5 WALL SECTION
1/2" = 1'-0"



6 WALL SECTION
1/2" = 1'-0"

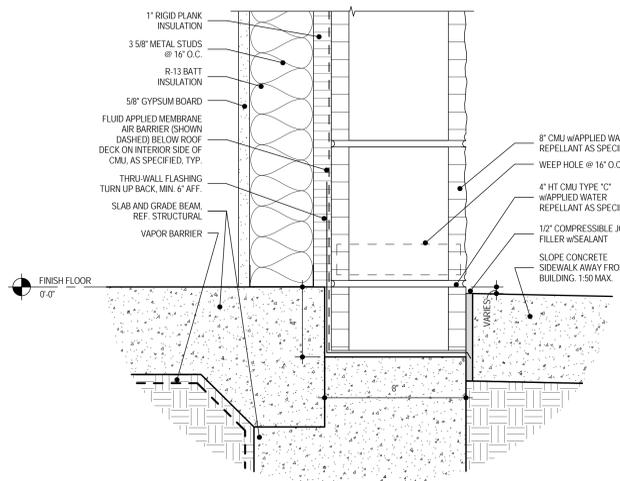
CMU WATERPROOFING NOTES:

A: ABOVE ROOF DECK, COLD-FLUID APPLIED WATERPROOFING AS SPEC'D, TYP.

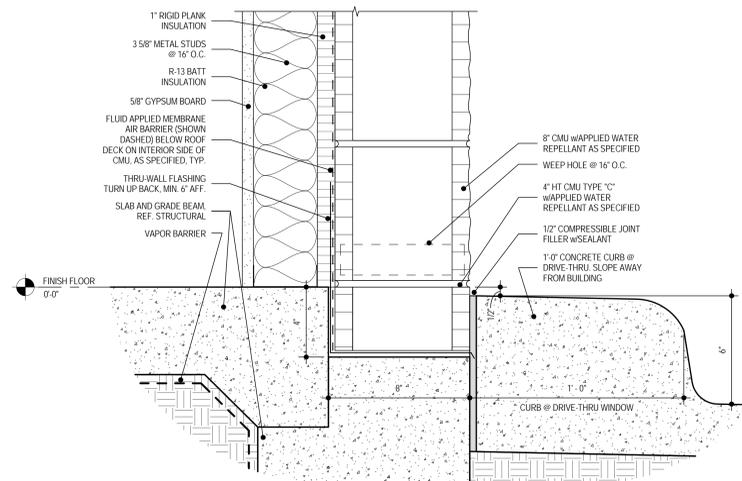
B: BELOW ROOF DECK, FLUID APPLIED MEMBRANE AIR BARRIER AS SPEC'D, TYP.

REVISIONS

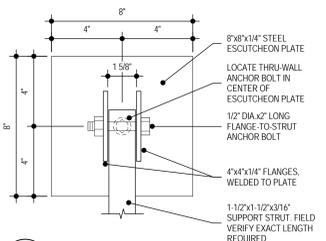
DESIGNED BY:



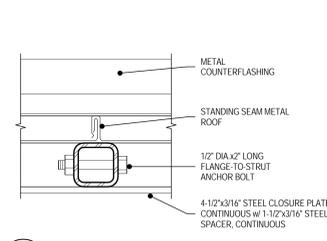
1 DETAIL
3" = 1'-0"



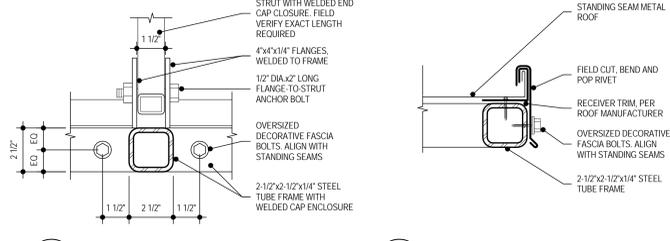
2 DETAIL
3" = 1'-0"



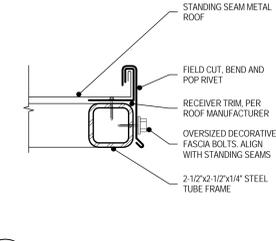
4 CANOPY DETAIL
3" = 1'-0"



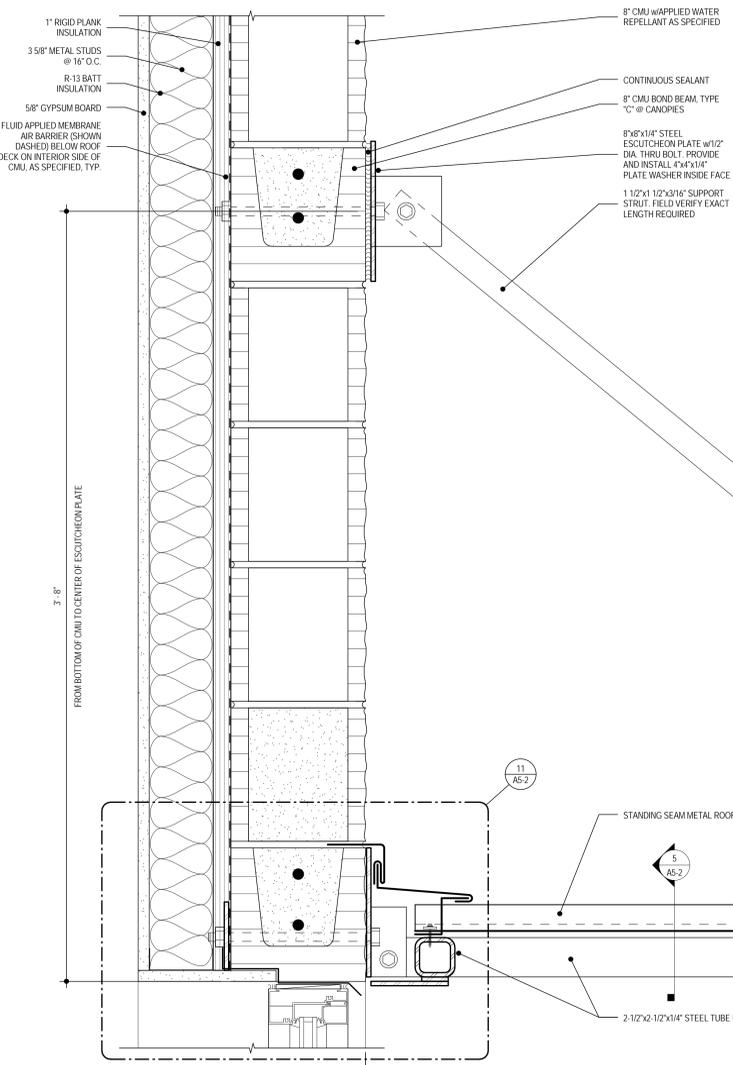
5 CANOPY DETAIL
3" = 1'-0"



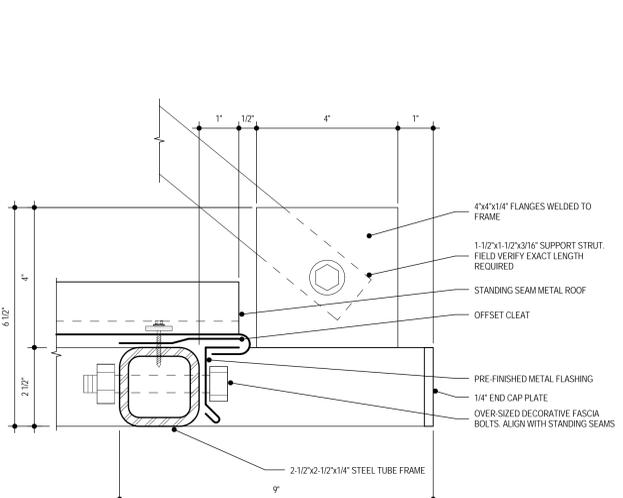
6 CANOPY DETAIL
3" = 1'-0"



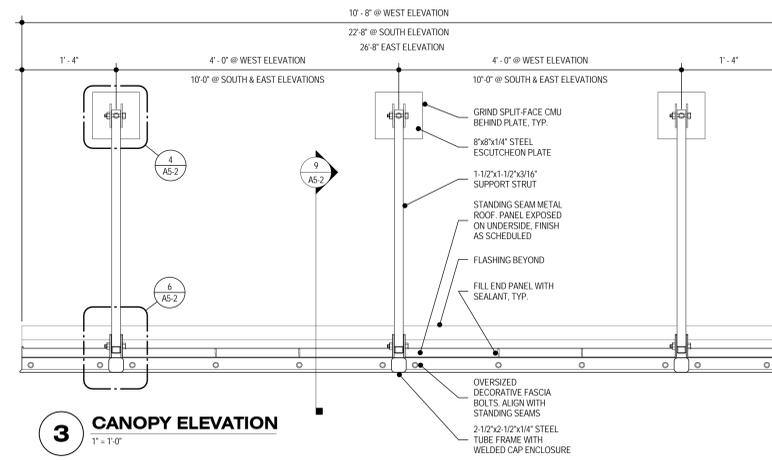
7 CANOPY DETAIL
3" = 1'-0"



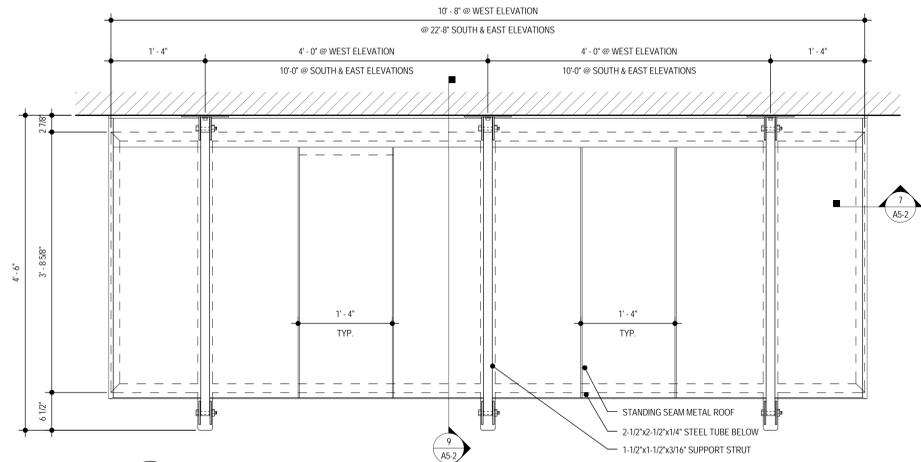
9 CANOPY SECTION
3" = 1'-0"



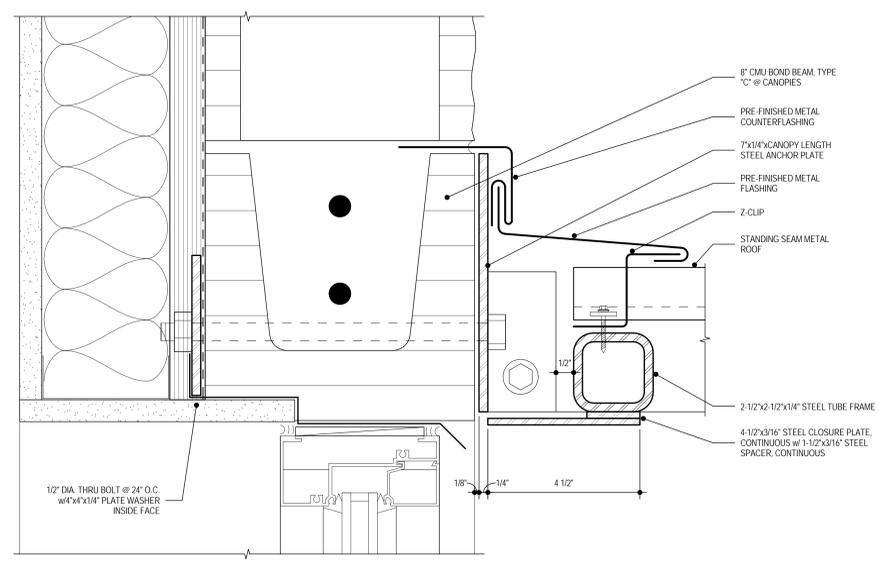
10 CANOPY DETAIL
6" = 1'-0"



3 CANOPY ELEVATION
1" = 1'-0"



8 CANOPY PLAN
1" = 1'-0"



11 CANOPY DETAIL
6" = 1'-0"

REVISIONS	DATE	BY	REASON

PROJECT #:	13040-01	MANAGER:	PC
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DETAILS

SHEET
A5-2
OF 2 A5 SHEETS

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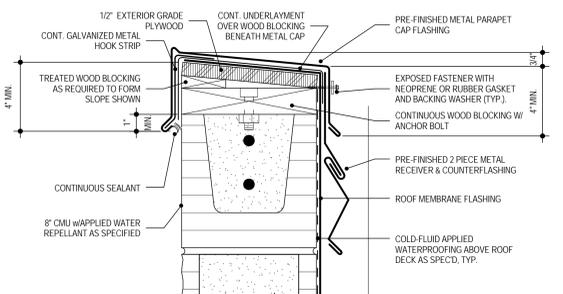
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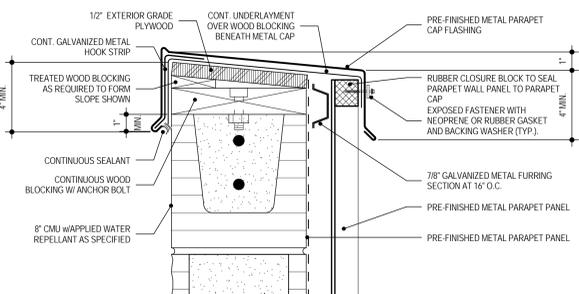
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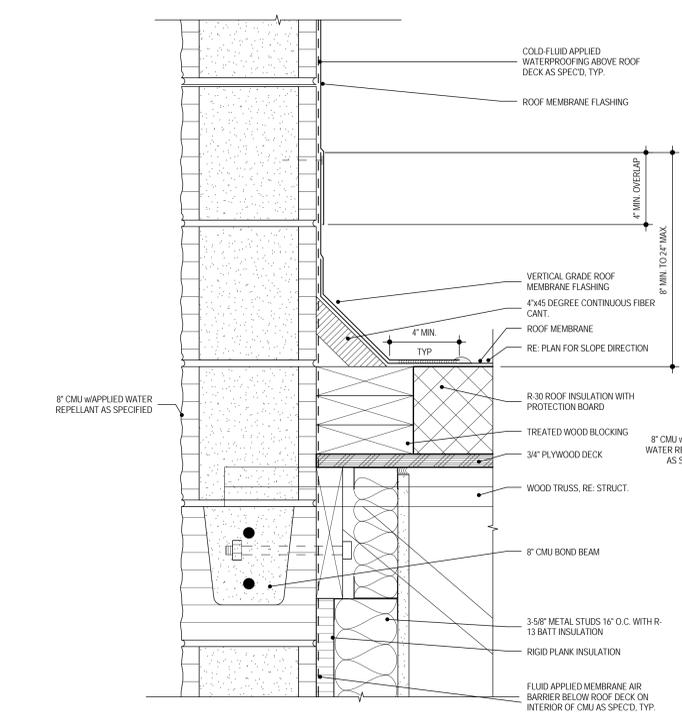
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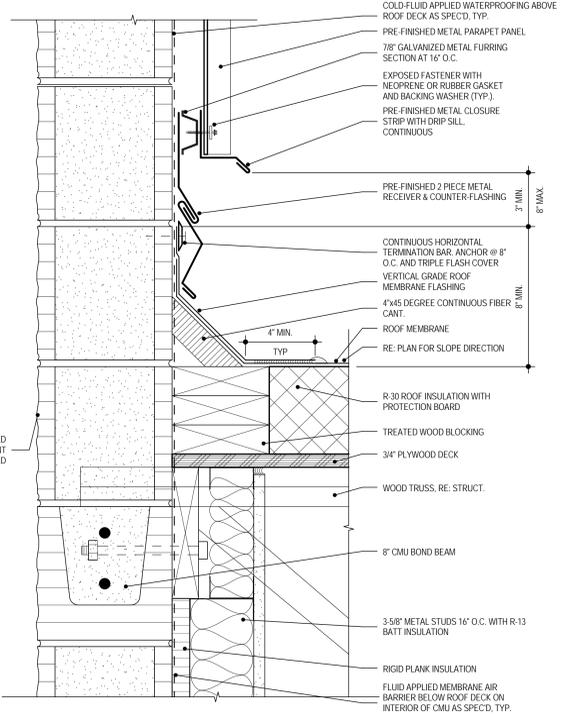
2A PARAPET CAP DETAIL
3" = 1'-0"



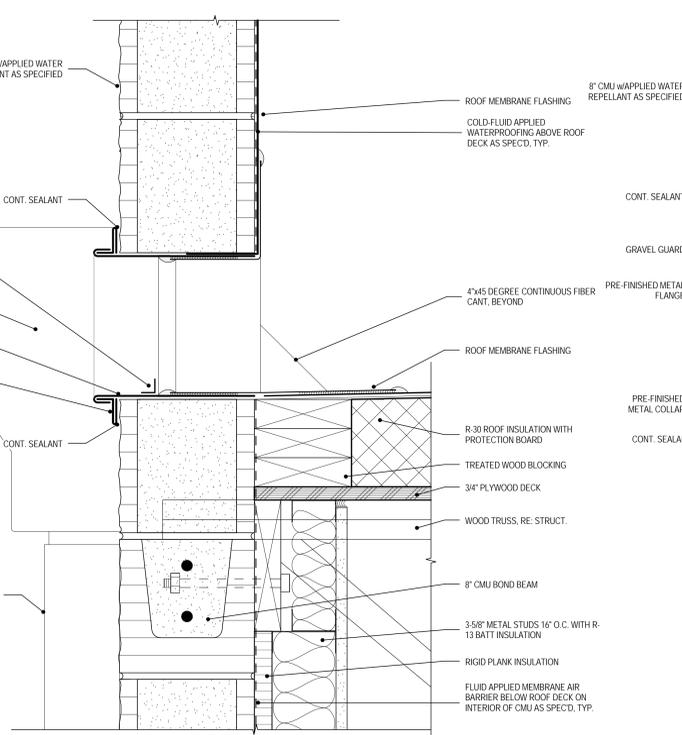
2 PARAPET CAP DETAIL
3" = 1'-0"



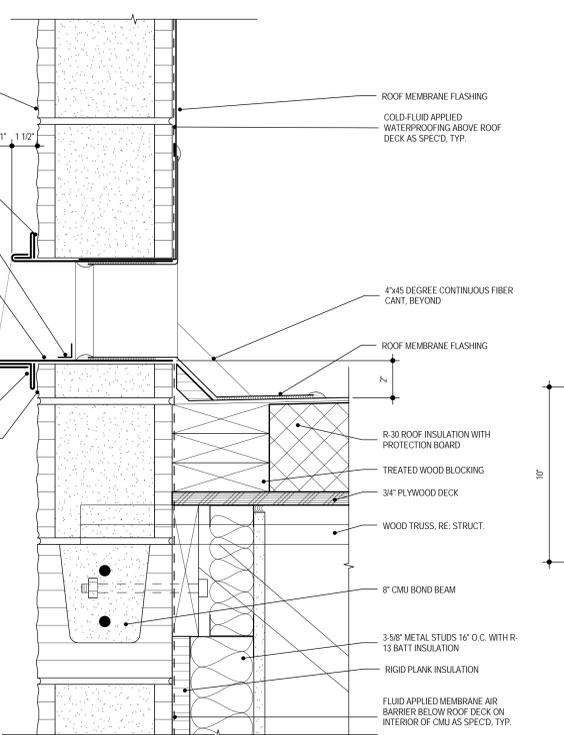
3A ROOF/WALL TRANSITION DETAIL
3" = 1'-0"



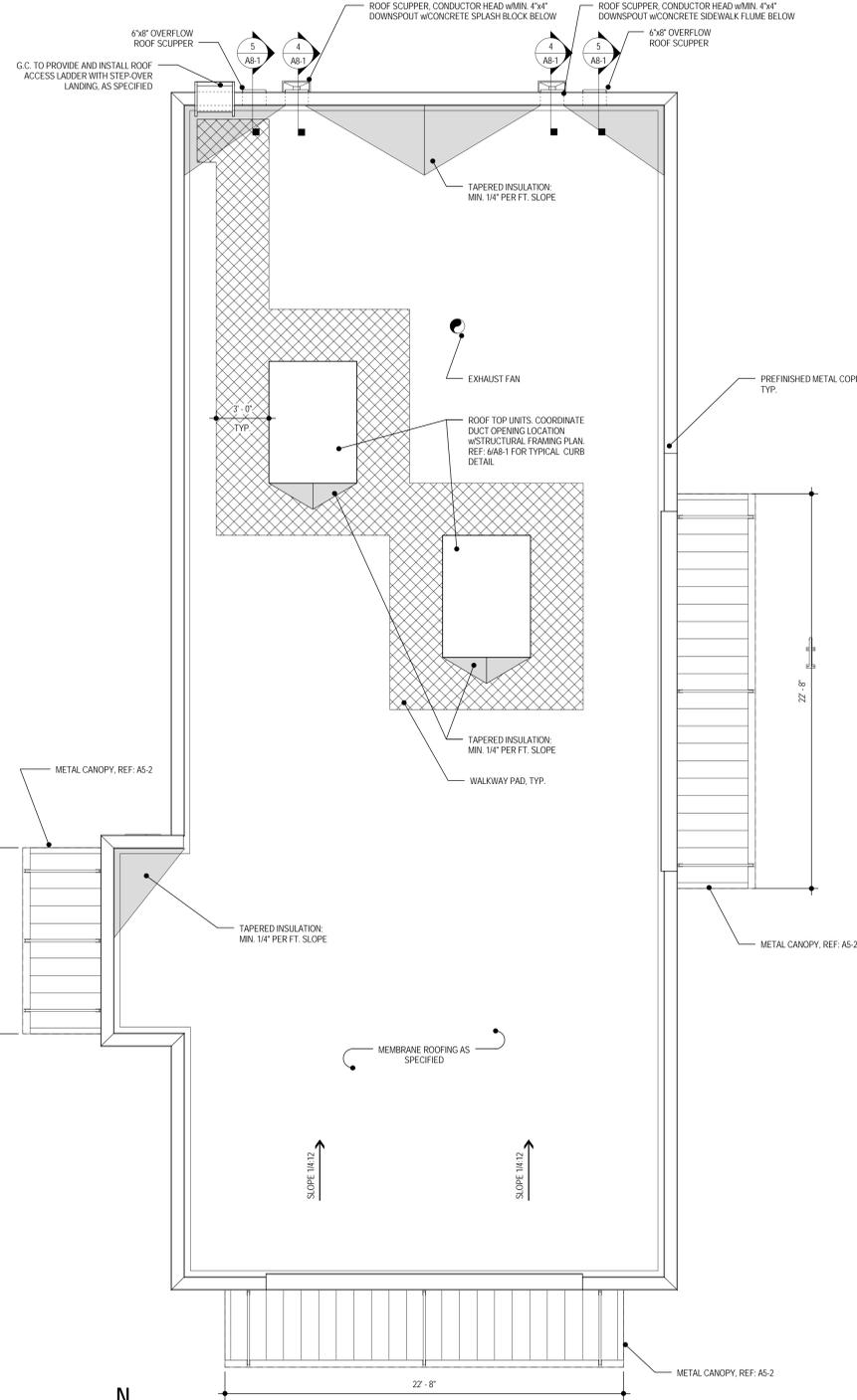
3 ROOF/WALL TRANSITION DETAIL
3" = 1'-0"



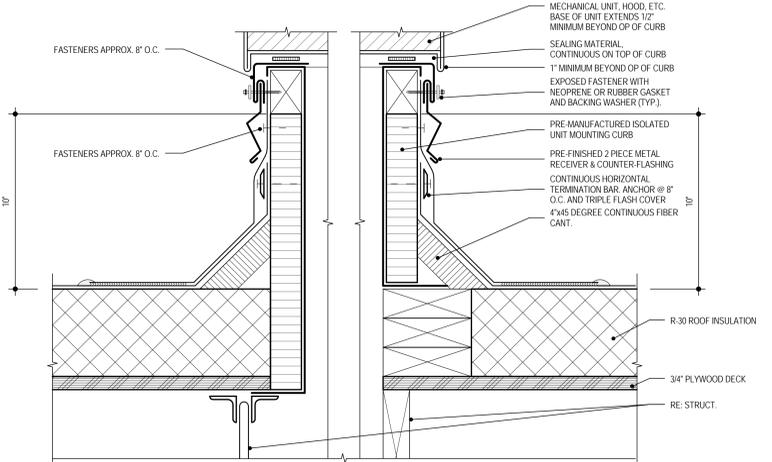
4 SCUPPER & DOWNSPOUT DETAIL
3" = 1'-0"



5 OVERFLOW SCUPPER DETAIL
3" = 1'-0"



1 ROOF PLAN
1/4" = 1'-0"



6 RTU RAISED CURB DETAIL
3" = 1'-0"

REVISIONS

NO.	DESCRIPTION	DATE

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FOREST HILL, TEXAS

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ROOF PLAN AND DETAILS

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A8-1
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