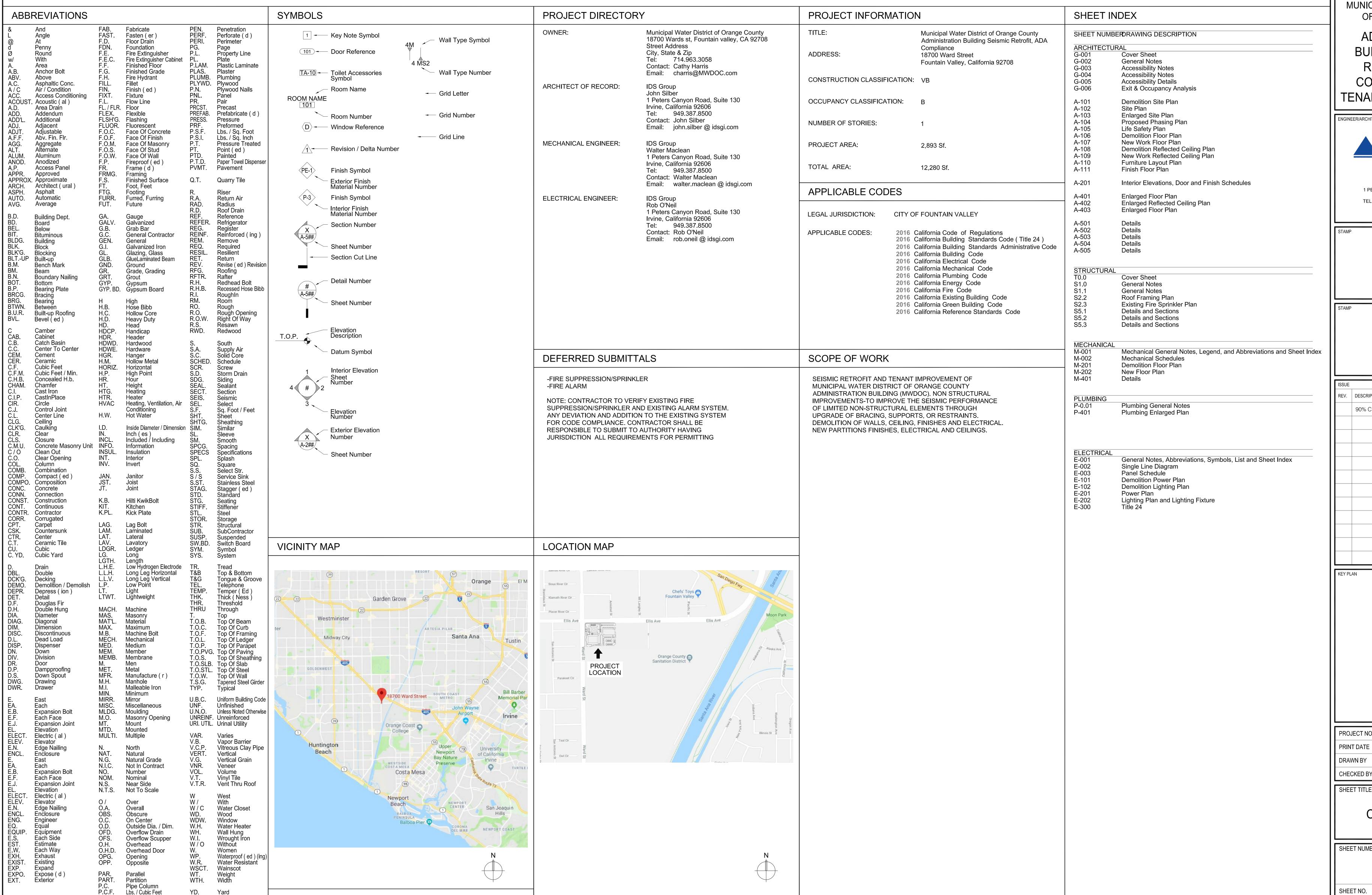
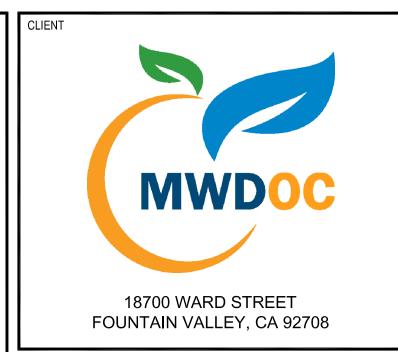
# MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

18700 WARD STREET FOUNTAIN VALLEY, CALIFORNIA 92708

# ADMINISTRATIVE BUILDING - SEISMIC RETROFIT, ADA COMPLIANCE AND TENANT IMPROVEMENT





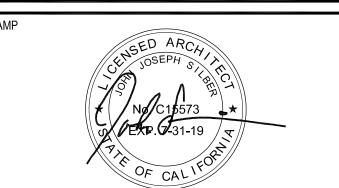
PROJECT NAME

MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

ADMINISTRATIVE
BUILDING-SEISMIC
RETROFIT, ADA
COMPLIANCE AND
TENANT IMPROVEMENT



1 PETERS CANYON ROAD, SUITE 130 IRVINE, CA 92606 TEL: 949-387-8500, FAX: 949-387-0800



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COVER SHEET

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# 18. FIELD APPLICATION OF PEDESTRIAN PROTECTION

Construction activities including additions, alterations, and demolitions shall provide pedestrian protection pursuant to section 3306 of the California building code. To determine the type of protection required for pedestrians, measure the ultimate height of construction with consideration for building setbacks and projections from the building. For sloping sites, measure the height of the building from construction edge of the walkway and the setback distance between the walkway and the building line.

- Below are requirements to be addressed in the design of pedestrian protections:
- A. Walkways shall provide sufficient width with the minimum of 4 ft. Clear.
- B. Directional barricades shell be provided as needed where the walkway extends into the street.
- C. Construction railings shall be at least 42 inches in height.
- D. Barriers shall be a minimum of 8 ft. In height and be designed to resist loads required.
- E. Such protection shall be maintained in place and kept in good order. Until work is completed.
- Whenever a walkway must extend into the roadway, a railing is required on the street side.

### 16. INSTRUMENTS OF SERVICE

- The Instruments of Services are any expression, whether tangible or intangible, of creative worked performed by a design professional for a project, such as:
  - models
  - sketches and drawings

specifications

The instruments of service are also known as design documents and construction documents.

According to the Architect's Practice Act, Business and Professions Code section 5536.4, no person may use an architect's instruments of service, as those professional services are described in paragraph (2) of subdivision (b) of section 5500.1, without the consent of the architect in a written contract, written agreement, or written license specifically authorizing that use.

The plans and specifications are complimentary and intended to convey the design intent of the project. They are not intended to supplant the general contractor's construction expertise, and, in fact, rely on the contractor to clarify and/or obtain any elements of needed information PRIOR to the submission of a bid. The contractor's bid shall be assumed to include the sufficient costs to construct all work shown on the documents, whether or not adequately described in the documents, in order to provide the owner a safe, complete and fully functional project.

- B. The scope of this project is as generally depicted in these instruments of service as part of the contract documents. Work including: points of connection, not specifically depicted, that need to be made are the responsibility of the general contractor. All work performed even in remote areas of the building or site, pertaining to this project shall comply with the intent of contract documents.
- C. These contract documents cover the furnishing and installation of materials and work as called for on the drawings or in the specifications (or in both) which are bound separately and are a part of the contract. It shall be the responsibility of each contractor to check with the architectural drawings before finalizing their bid and before the installation of their work. Any discrepancy between the architectural and the consulting engineer(s) drawings shall be brought to the architects attention by written request for clarification. Any work installed in conflict with the architectural drawings shall be corrected by the contractor at his own expense and at no expense to the owner or architect.
- D. General requirements, describing the project's administrative requirements and the physical aspects of construction, are provided within each professional discipline's project specification and general notation. General requirements are not limited to the instrument of services and may extend to the contract documents and owner requirements.
- E. The project specifications consisting of the written requirements for material, equipment, systems, standards and workmanship for the work, and performance of related services are contained within each of the architect and the architect's instrument of services. Refer to general notes for additional project standards information. Documents indicated as 'reference document' are not considered instruments of services and are being issued to provide assistance during the regulatory agency contract document review.
- F. Refer to life safety and accessibility diagrams that indicate provisions within existing conditions.
- G. These drawings are based on field observation and/or documents furnished by the owner. The architect shall be notified immediately by the contractor of any discrepancies or other questions pertaining to the contract documents.. If obvious omissions or contradictory situations in the contract documents are discovered to exist, they should be immediately called to the attention of architect for clarification.
- H. All dimensions take precedence over scale unless otherwise noted by a plus/minus dimension. Contractor shall check accuracy of dimensions on plans with actual field dimensions. The contractor shall report to the architect all conditions which prevent the proper execution of its work. Contractor shall not start any construction or any off-site fabrication of materials until the drawings dimensions are verified with actual field conditions. Do not scale drawings.
- I. The contractor shall be held responsible for the results of any errors, discrepancies or omissions that the contractor failed to notify the architect of before construction and/or fabrication of the work.
- J. Work includes demolition, removal and reinstallation where required. Remove, revise, relocate and reinstall as required.
- K. It is not the responsibility of the architect or general contractor to insure that areas of the building, not described within the scope of this project, comply with current building codes. It is the responsibility of the owner to maintain the building, so as to provide for the safety and comfort of the occupants. This includes all life safety features such as fire alarm, fire-sprinklers, nurse call, exit enclosure, accessibility, etc.. This also includes maintaining the building free of hazardous materials i.e., chemicals as described by state or federal agencies as 'hazardous' including asbestos.

# 17. HAZARDOUS MATERIALS

- A. The removal of hazardous materials is <u>not</u> intended to be included as part of this project unless specifically noted otherwise.
- B. If hazardous materials are discovered during the course of construction, the contractor shall stop <u>all</u> affected work and notify the owner and architect immediately

# 14. COORDINATION OF DEVICES

A. Exact locations and heights of electrical, low voltage, mechanical and plumbing devices, including but not limited to smoke detectors, pull stations, switches, outlets, phone jacks, and thermostats, shall be coordinated by the contractor per the applicable code for alignment and coordination with each other and other building features prior to installation.

# 15. CONTRACTOR OBLIGATIONS

- A. Contractor for the project shall be responsible for obtaining all required building permits prior to commencing work.
- The contractor shall insure that all work is done in a professional work-man-like manner by skilled mechanics and shall replace any new and/or existing materials or items indicated to remain damaged by any cause during construction.
- C. The contractor and/or subcontractor shall, prior to the submission of their bid or performance of work, notify the owner of any work called out on the drawings or in the specifications in their trade that cannot be fully guaranteed or warranted from defective workmanship or material defects.
- D. The contractor shall notify the architect if details are considered unsound, unsafe, not waterproof, or not within customary trade practice. If work is performed, it will be assumed that there is no objections to the detail. Details are intended to show end result of design, minor modifications may be required to suit job conditions and current trade practice and shall be included as part of this project.
- E. Contractor shall be responsible for all finishes at point of connections for all work (architectural, structural, mechanical and electrical) finishes will match those specified or existing in line, texture and finish. Spot painting is not acceptable. New finishes shall be from corner to corner, floor to ceiling, etc.
- F. Unless otherwise noted, all materials shall be new and of good quality. Where existing materials are indicated to be salvaged, contractor shall inventory, clean,box protect, and store items for reuse on the project. Items not reused shall be returned to owner.
- G. Coordination: the general and each sub-contractor shall be responsible for verification and coordination with other sub-contractors to assure compliance with drawings and specifications, and the accurate location of architectural, structural, mechanical and electrical building elements. Their required openings clearances support systems are all interconnected and coordinated.
- H. Contractor shall be responsible for coordinating the work of all trades and for being aware of all conditions that affect their work. Notify owner, in writing, within 3 working days of award of contract, of the proposed delivery schedule, of any equipment, finishes or material, for which that schedule will prevent the installation from being completed at the time of the scheduled project completion.
  - Coordination of work:

    the contractor shall provide and coordinate the exact dimensions sizes and positions of all systems, equipment, mounting, and attachments relating to the work.
    - the contractor shall provide and coordinate all dimensions sizes and positions of openings in slabs and walls necessary the installation of the work.
  - all equipment, controls and terminations shall be positioned for safe, direct and easy access.
  - The contractor shall verify all dimensions and conditions of existing site.

    The contractor shall report to the architect all conditions which prevent the proper execution of its work. The drawings shall not be scaled.
  - Construction shall comply with applicable edition of California Building Code, all applicable local, state and federal codes, ordinances, laws, regulations and protective covenants governing the work. In case of conflicts, the more stringent requirement shall govern.
- General contractor to arrange inspections as necessary or required.
- M. All contractor's work shall be of the quality to pass inspections by local and state authorities, lending institutions, the architect and his engineers, inspector of record, and owner. Any one or all of the above mentioned inspectors may inspect trade(s) at any time, and any corrections needed to meet the required quality of construction shall be done immediately after notifying the architect and the owner for approval.
- N. The contractor/sub contractors shall inspect the site prior to start of construction and notify owner and the architect of any existing conditions that may affect the work including elements that may be subject to damage during demolition and renovation. The contractor shall field verify existing dimensions, prior to start of construction and notify owner and architect of any discrepancies between the existing dimensions and the drawing dimensions that may affect the work. The contractor shall obtain direction from owner on resolution of the discrepancies between the existing conditions and dimensions and drawings prior to starting any work that may be affected by such discrepancies.
- Cleanup: typically each subcontractor is held responsible for cleanup of the work of their trade by the general contractor. However, the general contractor shall be held solely responsible for continuous cleanup as the job progresses, and final cleanup upon substantial completion. The contractor shall be responsible for cleaning up and removing from the job site all trash and debris, immediately upon completion of his daily work. Continuous cleanup shall keep the job free at all times from unreasonable buildup of debris, wrappers, containers, waste materials, etc., which may cause accidents, undue hardship on the tradesman, and work progress. Final cleanup includes cleaning of all surfaces to a 'like new' condition and preparing the building for its intended use.
- The contractor shall at all times maintain the site and adjacent areas in a clean, neat, and orderly manner. The contractor shall be responsible only for debris that is a result of the work, including any that may result from the workers. The contractor shall be responsible for providing his own refuse containers and shall at no time use the building refuse containers.
- The contractor shall be responsible for the complete security of the site while the job is in progress and until the job is completed.
- Contractor shall provide a portable fire extinguisher with a rating of not less than 2-a or 2-10bc within 75 feet of travel distance to all portions of the build out area during construction.
- Obtain all cal / OSHA construction activity permits, prior to obtaining the building permit, as required by and in accordance with applicable codes.
- Demarcate and notify the regional notification center (Dig Alert, 811) at least two working days prior to making any excavations
- J. Contractor will need to have the fire suppression inspected, and any necessary supplemental seismic bracing and stamped by a certified fire protection engineer per city fire department requirements.
- Contractors scope of work for their sub-contractor to review and address any outstanding issues and or work items related to the structural and non structural works and tenant improvement and obtain approval from the city authority for that work.

## 8. EXITS

- A. Exit doors shall be of the pivoted or side-hinged swinging type. Exit doors shall swing in the direction of exit travel when the area served has an occupant load of 50 or more.
- B. Every exit door shall be openable from the inside without the use of a key or any special knowledge or effort. Note also that flush bolts or surface bolts are prohibited.
- . Panic hardware shall be provided on exit doors of rooms, corridors, stairways, handling an occupant capacity of 50 or more persons.
- necessary to clearly indicate the direction of egress in compliance with the code of jurisdiction.
- Stairways shall not be less than 44 inches wide with risers not to exceed 7 inches and treads not less than 11 inches.

Exit signs shall be installed at required exit doorways and where otherwise

- Egress doors shall be set in motion when subjected to a 30lb. force. The door shall swing to the fully open position when an opening force not exceeding 15 lbs is applied to the latch side.
- Each door in a means of egress from a group 'a' occupancy shall not be provided with a latch or lock unless it is panic hardware or fire exit hardware (CBC 1010.1.9).
- H. Door handles, lock and other operating devices shall be installed at a min. 34" and a max. 48" a.F.F.

Exit signs shall be connected to an emergency power system that will

provide an illumination of not less that 90min. in case of primary power

J. The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

# 9. FIREPROOFING

loss (CBC 1013.6.3)

- A. Fire protection of structural members shall be in compliance with state regulations.
- 3. Steel fireproofing thickness shall be in compliance with the current edition of the CBC.
- C. Periodic inspections shall be provided for all required sprayed-on fireproofing to the requirements of CBC Chapter 17a Special Inspections and Tests. The inspector shall submit a signed affidavit that all sprayed-on fireproofing, where required, is applied according to code and manufacturer's specifications.

# 10. RATED ASSEMBLY PENETRATIONS

- A. Mechanical ducts, etc. Penetrating fire-rated ceilings and fire walls shall be correspondingly rated or dampered. Cabinets, electrical panels, lights, etc. Recessed into fire rated walls or ceilings shall be backed with corresponding fire-resistive construction as required to maintain the integrity of the fire protection.
- B. Fire resistive assemblies for protection of openings shall comply with CBC.Penetration of fire rated assemblies which require opening protection shall be fire stopped. Fire stopping shall be identical to an approved underwriters laboratories (UL) listed assembly with an "f" of "t" rating. Penetrations must also consist of approved materials for through wall penetrations fire stop systems as prescribed in CBC standard 7-5 fire rating for fire stop systems shall be equal to the assembly penetrated.
- C. Shaft enclosures: openings extending vertically through floors shall be enclosed in a shaft of 1-hour fire-resistive construction. Shafts shall include a gypsum board horizontal termination at bottom, engineered by general contractor. Protection for stairways shall be as specified in code of jurisdiction.

# 11. DISSIMILAR METALS

All dissimilar metals shall be effectively isolated.

# 12. ELECTRICAL BACKBOARDS

A. Refer to electrical, telephone/data and security electronics drawings for location of and specifications for the installation of fire retardant treated plywood backboards required in electrical and communication rooms. These required plywood backboards have not been shown on the architectural drawings, but must be furnished and installed as a part of the overall contract. Backboards shall be painted white.

# 13. SIGNAGE

- A. Furnish and install supports and other necessary finish materials for a complete signage installation.
- B. Accessible signage / identification

along approaching pedestrian ways.

- 1. The international symbol of accessibility shall be the standard used to identify facilities that are accessible to and useable by physically disabled
- 2. Letters and numbers on signs have a width to height ratio of between 3:5 and 1:1 and stroke width to height ratio of between 1:5 and 1:10.
- 3. Characters and symbols shall contrast with their background, either light characters on a dark background or dark characters on a light
- 4. All building entrances that are accessible to and usable by physically handicapped persons shall be identified with at least one standard sign and with additional directional signs as required to be visible to persons
- 5. All sanitary facilities will be provided with appropriate identification symbols.
- C. Area and occupancy signage requirements occupant load sign shall be posted in each classroom, assembly room or similar purpose room having an occupant load of 50 or more.

# 1. GENERAL

- A. All work shall conform to contract documents. No changes therefrom shall be made without written approval of the architect. Where more information or when an interpretation of the contract documents is needed, the contractor before proceeding with work, shall refer the matter to the architect who will furnish information or interpretation in the form of supplemental information or other written form or drawing.
- B. Where only part of the work is indicated, similar parts shall be considered repetitions. Where any detail is shown and the components are described elsewhere, similar details shall be constructed as described in the original details.
- C. Drawings are generic in nature. Contractor shall fully coordinate all aspects of the work to be performed. Details are not intended to show method and manner of accomplishing the work.
- D. All dimensions originating at, connected to, or continuing through existing conditions, including previous phases, must be coordinated and field verified by the contractor prior to fabrication installation, and construction of building elements or systems.
- Verify all dimensions, elevations, and all existing conditions at the site before commencing work and report any discrepancies to the architect and owner.
- F. Should a conflict be discovered within the contract documents, the contractor shall be deemed to have included in his work the highest quality way of doing the work unless he shall have asked for and obtained a decision in writing from the architect and owner.

# CODES

- A. All construction is to comply with the applicable codes as adapted by the regional, state, and national authorities having jurisdiction.
- B. For list of codes applicable to this project, see 'applicable codes' on cover sheet.

## 3. PERMITS

The contractor shall procure all permits, and licenses required for the completion of the work. The cost of these notices, permits, and licenses is incidental to other items of work and no additional payment will be made for costs incurred in obtaining notices, permits, and licenses or in conforming to the requirements thereof.

# **COORDINATION & VERIFICATION**

- The drawings are divided into separate sheets and the project manual into separate sections for general convenience only. Sheet designation or numbers shall not be considered to limit areas of the work or responsibility of trades. Coordinate the work shown on the drawings and in the project manual in order to complete the project as designed.
- B. Verify all sizes of and prepare work for equipment of others and coordinate work on this contract with items of work not in contract (N.I.C.) or work furnished by others.
- C. Locations and sizes of equipment are based on available information. Provide and coordinate the exact dimensions, sizes, and positions.
- Provide and coordinate the exact dimensions, sizes and positions of openings in slabs and walls necessary for the installation of the work.
- E. Provide reinforcing steel, mesh, and dowels required by the structural general notes and drawings for architectural details indicated on the architectural drawings.
- F. Quantities indicated on the drawings are approximate. Contractor shall verify quantities and include accurate quantities as part of the work.
- G. Notes and details: specific notes or keynotes on details apply to similar conditions on other details on all drawings unless specifically noted

# 5. UTILITIES AND DEMOLITION

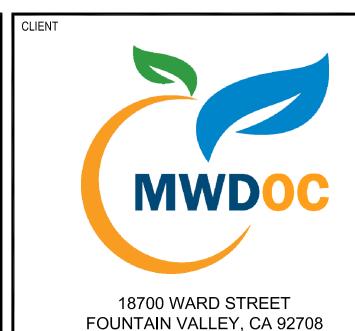
- The drawings show diagrammatically the approximate location of underground utilities where information is available, but the drawings are not exact as to the quantity, extent or location.
- B. Prepare surfaces of floor areas which have finishes demolished to receive new finish material as specified.
- C. For additional demolition requirements, see specifications.

# 6. DIMENSIONS

- A. Overall dimensions are to face of finish, and/or nominal face of masonry unless noted otherwise.
- Elevations and vertical dimensions are to top of finish floor material. Thickness of all floor finish material must be fully coordinated.
- C. Grid line to center of column.
- D. Dimension to center of column & grid line.
- . Exterior dimensions are from face to face of concrete stem walls.
- F. Interior dimensions are from finish to finish.
- G. Do not scale drawings.

# 7. FIRE PROTECTION

- A. The contractor shall provide portable fire extinguishers as required by code, and authority having jurisdiction, at all portions of the building on each floor. These extinguishers shall be installed in the locations approved by the fire department and the architect.
- Where testing laboratory design numbers are listed for fire rated construction, the components and installation details must conform with the design number specified.



PROJECT NAME

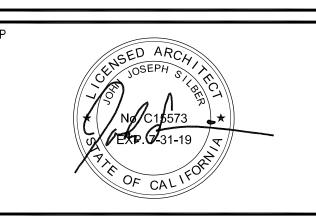
MUNICIPAL WATER DISTRICT
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ADMINISTRATIVE
BUILDING-SEISMIC
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NGINEER/ARCHITECT



1 PETERS CANYON ROAD, SUITE 130 IRVINE, CA 92606 TEL: 949-387-8500, FAX: 949-387-0800



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KEY PLAN

PROJECT NO. 18X093.00
PRINT DATE
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SHEET TITLE

GENERAL NOTES

SHEET NUMBER

G-002

SHEET NO. OF

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#### CLEAR FLOOR SPACE FOR WHEELCHAIRS

- 1. Minimum clear floor or ground space required to accommodate a single, stationary wheelchair and occupant is 30" x 48". Minimum clear floor or ground space for wheelchairs may be positioned for forward or parallel approach to an object. Floor or ground space for wheelchairs may be part of the knee space required under some
- 2. Provide an additional 12" width on one side for alcoves greater than 15" deep and designed for side approach.
- 3. Provide additional 6" width on one side for alcoves greater than 24" deep and designed for front approach.

#### HAZARDS AND PROTRUDING OBJECTS

- 1. Objects projecting from walls with their leading edges between 27" and 80" above the finished floor shall protrude no more than 4" into walks, halls, corridors, passageways or
- 2. Objects mounted with their leading edges at or below 27" above the finished floor may protrude any amount.
- 3. Free standing objects mounted on posts or pylons may overhang 12" maximum from 27" to 80" above the ground or finished floor.
- 4. Protruding objects shall not reduce the required clear width of an accessible route or maneuvering space.
- 5. Any obstruction overhanging a pedestrian way shall be a minimum of 80" above the

walking surface as measured to the bottom of the obstruction.

#### WALKS AND SIDEWALKS

- 1. Walks and Sidewalks shall have a continuous common surface not interrupted by steps or by abrupt changes in level which exceed 1/2", and shall be a minimum of 48" width.
- 2. Surface cross slope shall not exceed 1/4 inch per foot.
  - Walks, sidewalks, and pedestrian ways shall be free of grating whenever possible. Grid openings within gratings located in the surface of any of these areas shall be limited to 1/2" in the direction of the traffic flow.
  - When the slope in the direction of travel of any walk exceeds 1 vertical to 20 horizontal, it shall comply with the provisions of pedestrian ramps.

#### ENTRANCES / DOORS

- 1. All primary entrances and exterior ground floor exit doors to buildings and facilities shall be made accessible to the physically disabled
- 2. All accessible entrances shall be identified with at least (1) standard sign and with additional directional signs, as required, visible from approaching pedestrian ways.
- 3. Every required entrance or passage doorway shall be of a size as to permit the installation of a door not less than 36" in width, and not less than 80" in ht. Doors shall be capable of opening at least 90 degrees and shall be mounted so that the clear width of the doorway is not less than 32". Latching and locking doors that are hand activated and which are in a path of travel, shall be operable with a single effort by lever type hardware, panic bars, push - pull.
- 4. Activating bars, or other hardware designed to provide passage without requiring the ability to grasp the opening hardware. Lever hand activated door opening shall be centered between 30" and 44" maximum above the floor.
- 5. The floor or landing length on each side of an entrance or passage door shall be level and clear at least 60" in the direction of the door swing, and at least 48".
- 6. Opposite the direction of the door swing as measured at right angles to the face of the door in the closed position. The side of the level and clear area on the side which the door swings shall extend a minimum of 18" ( 24" at exterior doors ) past the strike edge of the door for doors with front approach, 24" for doors requiring latch side approach, and 36" for doors with hinge side approach. Refer to detail no. 3 on this drawing for additional clearance requirements
- 7. The floor or landing shall not be more than 1/2" lower than the threshold of the doorway. Changes in level between 1/4" and 1/2" shall be leveled with a slope not greater than 1:2.
- 8. The bottom 10" of all doors (except automatic and sliding) shall have a smooth uninterrupted surface to allow the door to be opened by a wheelchair foot rest without creating a trap or hazardous condition. Where narrow frame doors are used, a 10 inch high smooth panel shall be installed on the push side of the door, which will allow the door to be opened by a wheelchair footrest.
- 9. Maximum effort to operate doors shall not exceed 5 pounds for exterior doors and 5 pounds for interior doors. Such pull or push effort being applied at right angles to hinged doors and at the center plane of sliding or folding doors. Compensating devices or automatic door operators may be increased to the minimum allowable by the appropriate administrative authority, not to exceed 15 pounds. CBC section 1133b. 2. 5
- 10. All hand activated door opening hardware shall meet the following requirements:
- A. Shall be centered between 30" and 44" above the floor
- B. Latching and locking doors shall be operated with a single effort by lever type hardware, panic bars, push - pull activating bars or other hardware designed to provide passage without the ability to grasp
- 11. Thresholds shall not exceed 1/2" in height.
- 12. The tenant space, a primary entrance to the building, the primary path of travel from the entrance to the tenant space and the sanitary facilities, drinking fountains and public telephones serving the tenant space must be accessible to the handicapped.
- 13. Food service aisles shall be 36" minimum clear width with a preferred width of 42" where passage around stopped wheelchairs by others is desired.
- 14. Entrance (s) to the building or facility and the primary path of travel to the specific area of new work, alteration, structural repair or addition shall be accessible. Path - of - travel incorporated all elements from the exterior arrival site to the remodeled area. Section 1114b.1.2 and 1114b.1.3.

# EXIT / MEANS OF EGRESS notes

- a. Exit signs shall be internally or externally illuminated.
- b. Internally illuminated exit signs shall be listed and labeled and shall be installed in accordance with manufacturer's instructions and section 2702.
- c. Externally illuminated exit signs shall comply with the graphics and power source requirements in sections 1011. 5. 1 and 1011. 5. 3, respectively. When the face of an exit sign is illuminated from an external source, it shall have an intensity of not less than 5 - foot - candles ( 54 lux ) ( 1011. 2 ) exit signs shall be located so that they are clearly visible.
- 2. Exit signs shall be illuminated at all times. (1011.3)
- 3. Any time a building or a portion of a building is occupied, the means of egress serving the occupied portion shall be illuminated at an intensity of not less than 1 - foot - candle (54 lux) at the walking surface level.
- 4. The power supply for means of egress illumination shall be provided by the premise's electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.
- 5. The EXIT sign shall also be connected to an emergency electrical system which is to provide continued illumination for a duration of not less than 1 1/2 hours in case of primary power loss. Continued illumination is to be provided from storage batteries, unit equipment, or an on - site generator and the installation of the emergency power system shall be installed in accordance with Chapter 27. (1006.3)
- 6. Emergency lighting facilities shall be arranged to provide initial illumination that is at least an average of 1 - foot - candle ( 11 lux ) and a minimum at any point of 0.1 foot - candle (1 lux) measured along the path of egress at floor level. A maximum - to - minimum illumination uniformity ratio of 40 to 1 shall not be exceeded. (1006.4)
- 7. Exit signs shall be connected to an emergency power system that will provide an illumination of not less than 90 min. In case of primary power loss (1011.6.3).
- 8. Egress doors shall be readily openable from the egress side without the use of a key or special knowledge or effort. See 1008.1.9 for exceptions.
- 9. Door handles, lock and other operating devices shall be installed at a minimum 34" and a maximum 48" above finished floor.
- 10. This door to remain unlocked when building is occupied.
- 11. All egress door operation shall also comply with section 1008.1.9 1008.1.9.12.
- 12. The means of egress, including the exit discharge, shall be illuminated at all times the building space served by the means of egress is occupied.

- 1. All ramps used as exits and any path of travel having a slope greater than 1:20 shall comply with the requirements of this section. Ramps shall have the least possible slope.
- 2. Pedestrian ramps serving primary entrances to a building shall have a minimum width of 48". Ramps serving an occupancy load greater than 300 shall have a minimum width of
- 3. All ramps in areas accessible to persons with disabilities on a path of travel or serving exits shall have a 1:12 maximum slope with cross slopes no greater than 1:50.
- 4. The level landing width of any ramp shall extend past the strike edge of any door or gate as shown on detail no. 3 on this drawing.
- 5. Doors in any position shall not reduce the minimum dimension of the ramp landing to less than 42", and shall not reduce the required width by more than 3", when fully open.

#### SANITARY FACILITIES (GENERAL)

- 1. All doorways leading to sanitary facilities shall have clear unobstructed openings of 32"
- 2. All sinks, faucet controls, and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbs, lever operated, push type, and electronically controlled mechanisms are examples of acceptable designs. Self closing valves are allowed if the faucet remains open for at least 10 seconds.
- 3. Lavatories shall be mounted with a minimum distance of 18" from a wall or partition to the center of the fixture. Accessible lavatories shall be mounted with the rim or counter surface no higher than 34" above the floor.
- 4. Switches for control of lights, ventilation, fire alarms, etc. Shall be installed minimum 36" and maximum 48" above the finished floor. Electrical outlets shall be installed not less than 15" above the finished floor.
- TOILET ROOM FIXTURES AND ACCESSORIES
- 1. The height of accessible water closets shall be a minimum of 17" and a maximum of 19" measured to the top of the toilet seat.
- 2. Provide 18" from the centerline of the water closet to the adjacent wall.
- 3. Toilet and urinal flush controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. Controls for the flush valves valves shall be mounted on the open ( wide ) side of the toilet stall, no more than 44" above the floor. The force required to activate controls shall be no greater than 5 lbs.
- 4. Where urinals are provided, at least one shall have a clear space 30" wide by 48" long in front of the urinal. At least one urinal with a rim projecting a minimum of 14" from the wall and a maximum of 17" above the floor shall be installed.
- 5. A clear floor space 30" wide by 48" long shall be provided in front of a lavatory to allow forward approach. Such clear space shall adjoin or overlap an accessible route and shall
- extend into knee and toe space underneath lavatory. See detail no. 6 on this drawing. 6. Lavatories shall be mounted with a clearance of at least 29" from the floor to the bottom of the apron with knee clearance under the front lip extending a minimum of 30" in width with

from the floor and a minimum of 17" deep from the front of the lavatory.

7. Hot water and drain pipes under lavatories shall be insulated or otherwise covered. There shall be no sharp or abrasive surfaces under lavatories.

8" minimum depth at the top. Toe clearance shall be same width and minimum of 9" high

- 8. Mirrors shall be mounted with bottom edge of the reflective surface not more than 40"
- 9. Locate paper towel dispensers, sanitary napkin dispensers and waste receptacles with all operable parts not more than 40" from the floor.
- 10. Locate toilet tissue dispensers on the wall within 12" of the front edge of toilet seat. Dispensers that control delivery or that do not permit continuous paper flow shall not be

### MULTIPLE ACCOMMODATION TOILET FACILITIES

- 1. A clear space measured from the floor to a height of 27" above the floor, within the sanitary facility room, of sufficient size to inscribe a circle of a diameter not less than 60", or a clear space not less than 56" x 63" in size shall be provided. Doors other than the door to the disabled toilet compartment, in any position, may encroach into this space by not more than 12".
- 2. An accessible individual toilet stall shall provide at least 28" clear space from a fixture or 32" clear space from a wall at one side of the water closet. A 48" long clear space in front of water closet shall be provided if the compartment has an end opening door (facing the water closet ). A 60" long clear space shall be provided when door is located at the side of compartment. Grab bars shall not project more than 3" into clear space specified above.
- . Water closet compartment shall be equipped with a door that has an automatic closing device, and shall provide a clear unobstructed opening width of 32" when located at the end, and 34" when located at the side ( measured when when the door is positioned at an angle of 90 degrees from its closed position)
- 4. Toilet partitions for the accessible toilet shale be provided with a latch that does not require grasp of twisting, and a u-shape or loop immediately below the latch on the inside

and outside of the partition door. CBC 1115b. 3. 1. 4. 5.

5. Except for door openings, a clear unobstructed access not less than 44" shall be provided to all water closet compartments designed for use by the disabled. The space immediately in front of a water closet compartment shall be not less than 48" as measured at right angles to the compartment door in its closed position.

- 1. Grab bars shall be located on one side and the back of the physically disabled toilet stall or compartment and shall be securely attached 33" above and parallel to the floor.
- 2. Grab bars at the side shall be minimum 42" long with the front end positioned 24" from front of the water closet. Grab bars at the back shall not be less than 36".
- 3. The diameter or width of the gripping surfaces of a grab bar shall be between 1 1/4" and 1 1/2" or the shape shall provide an equivalent gripping surface. If the grab bars are mounted adjacent to a wall. The space between the wall and the grab bars shall be 1 1/2".
- 4. Grab bars, and any wall or other surface adjacent to it, shall be free of any sharp or abrasive elements. Grab bar edges shall have a minimum radius of 1/8".

# 5. Grab bars shall not rotate within their fittings.

6. Grab bars shall be designed to support a 250 pound force.

### SIGNAGE

- 1. Braille symbols. Contracted grade 2 braille shall be used used wherever braille symbols are specifically required. Dots shall be 1/10 inch on center in each cell with 2/10 inch space between cells. Dots shall be raised a minimum of 1/40 inch above the background.
- 2. Proportions. Letters and numbers on signs shall have a width to height ratio of between 3:5 and 1:1 and a stroke width - to - height ratio of between 1:5 and 1:10.
- 3. Character height. Characters and numbers on signs shall be sized according to the viewing distance from which they are to be read, the minimum height is measured using an uppercase 'x'. Lowercase characters are permitted. For signs suspended or projected above the finish floor the minimum character height shall be 3".
- 4. Contrast of symbol. Characters and symbols shall contrast with their background, either light characters on a dark background or dark characters on a light background.
- 5. Raised characters and pictorial symbol signs. When raised characters or symbols are used, they shall conform to the following:
- a. Letter type. Letters and numbers on signs shall be raised 1/32 inch minimum and shall be sans - serif uppercase characters accompanied by grade 2 braille.
- b. Symbol size. Raised characters or symbols shall be a minimum of 5/8 inch high.

c. Pictorial symbol signs (pictograms). Pictorial symbol signs (pictograms) shall be

finish floor to the center line of the sign. Mounting location shall be determined so that a

The border dimension of the pictogram shall be a minimum of 6" in height.

accompanied by the equivalent verbal description placed directly below the pictogram.

Mounting location and height. Where permanent identification is provided for rooms and spaces, raised letters shall be provided and shall be accompanied by braille. Signs shall be installed on the wall adjacent to the latch outside of the door. Where there is no wall space on the latch side, including at double leaf doors, signs shall be placed on the nearest adjacent wall, preferably on the right. Mounting height shall be 60" above the

protruding objects.

1. If seating spaces for person in wheelchairs are provided at fixed tables or counters, clear floor space complying with section 1118b.4 shall be provided. Such clear floor space shall not overlap knee and 19" deep shall be provided section 1122b.2

person may approach the swing of a door. Within 3" of the signage encountering

### KNEE CLEARANCE

- 1. If seating for person in wheelchairs are provided at fixed tables or counters, knee space at least 27" height, 30" wide and 19" deep shall be provided section 1122b.3.
- HEIGHT OF WORK SURFACES
- 1. The tops of tables and counters shall be 28" to 34" from the floor ground. Section 1122b.4.

# REACH REQUIREMENTS

- 1. Public cashier counters shall be 34" in height.
- 2. Relationship of maneuvering clearances to wheelchair spaces. One full unobstructed side of the clear floor or ground space for a wheelchair shall adjoin another wheelchair clear floor space. If a clear floor space is located in an alcove or otherwise confined all or part of three sides, additional maneuvering clearances shall be provided
- 3. Forward reach. If the clear floor space allows only forward approach to an object, the maximum high forward reach allowed shall be 48". The minimum low forward reach is 15".
- Side reach. If the clear floor space allows parallel approach by a person in a wheelchair,
- 5. The operating part of all accessories shall be installed at 40' maximum to the centerline of

the operating part from finished floor surface. CBC 1115b. 8. 3

the maximum high side reach allowed shall be 54" and the low side reach shall be no less

### ELECTRICAL NOTES

than 9" above the floor.

- 1. Controls and switches intended to be used by the occupant of the room or area to control lighting and receptacle outlets, appliances, or cooling, heating, and ventilating equipment, shall be located no more than 48" measured from the top of the outlet box nor less than 15" measured from the bottom of the outlet box to the level of the finish floor or working platform. ( 1117b. 6. 5. 1 )
- Electrical receptacle outlets on branch circuits of 30 amperes or less and communication system receptacles shall be located no more than 48" measured from the top of the receptacle outlet box or receptacle housing nor less than 15" measured from the bottom of the receptacle outlet box or receptacle housing to the level of the finish floor or working platform. (1117b. 6. 5. 2)
- The power supply for means of egress illumination shall be provided by the premise's electrical supply. In the event of power supply failure, illumination shall be automatically provided from an emergency system for aisles and unenclosed egress stairways in rooms and spaces that require two or more means of egress.

# NOTIFICATION APPLIANCES FOR THE HEARING IMPAIRED

1. If emergency warning systems are provided, they shall include both audible alarms and visual alarms complying with NFPA 72 and Chapter 9, Sections 907. 5. 2. 1 and 907. 5. 2. 3. (1114B. 2. 2)

### **ENTRANCES AND EXITS**

- Exit as defined is "that portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protective's as required to provide a protected path of egress travel between the exit access and the exit discharge. Exits include exterior exit doors at ground level, exit enclosures, exit passageways, exterior exit stairs, exterior exit ramps and horizontal exits." ( 1002.1 ).
- Public way as defined is "a street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, 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. ( 1002.1 ).
- All entrances and exterior ground floor exit doors to buildings and facilities shall be made accessible to persons with disabilities. (1133b.1.1.1.1). 2. Revolving doors shall not be used as a required entrance for persons with disabilities.
- 3. During periods of partial or restricted use of a building or facility, the entrances used for primary access shall be accessible to and usable by persons with disabilities. (1133b.1.1.1.2).
- 4. Recessed doormats shall be adequately anchored to prevent interference with wheelchair traffic. (1133b.1.1.1.3, fig. 11b-25).
- 5. All gates, including ticket gates, shall meet all applicable accessibility specifications of
- 6. Every required exit doorway shall be capable of opening at least 90 degrees, shall have a minimum clear opening of 32", and shall be of a size as to permit the installation of a door not less than 3 feet in width and not less than 6'-8" in height. (1133b.2.2).
- 7. The space between two consecutive door openings in a vestibule, serving other than a required exit stairway, shall provide a minimum of 48" of clear space from any door opening into such vestibule when the door is positioned at an angle of 90 degrees from its closed position. Doors in a series shall swing either in the same direction or away from the space between the doors. See figures 11b-30 & 11b-31. ( 1133b.2.4.4 ).

( 1133b.2.3.3 ).

doors. (1133b.1.1.1.4).

- 1. Door handles, pulls, latches, locks and other operating devices on doors required to be accessible shall not require tight grasping, tight pinching or twisting of the wrist to operate. Manually operated bolts or surface bolts are not permitted. The unlatching of any door or leaf shall not require more than one operation. (1008).
- Latching and locking doors that are hand activated and which are in a path of travel shall be operable with a single effort by lever type hardware, by panic bars, push-pull activating bars, or other hardware designed to provide passage without requiring the ability to grasp the opening hardware. (1133b.2.5.2).
- 3. Hand-activated door opening hardware shall be centered between 30" and 44" above the floor. (1133b.2.5.2).
- 4. When installed, doorways shall have a minimum clear opening of 32" with the door open 90 degrees. ( 1133b.1.1.1.1, fig 11b -5b & 11b-33 ).
- 5. For hinged doors, the opening width shall be measured with the door positioned at an angle of 90 degrees from its closed position. (1133b.2.3, fig 11b-5b).
- 6. Where a pair of doors is utilized, at least one of the doors shall provide a clear unobstructed opening width of 32" with the leaf positioned at an angle of 90 degrees from
- its closed position. (1133b.2.3.1). 7. When an automatic or power assisted door operator is utilized to operate a pair of doors, at least one of the doors shall provide a clear, unobstructed opening width of 32" with the door positioned at an angle of 90 degrees from its closed position. Automatic doors shall
- 8. Minimum maneuvering clearances at doors shall be as shown in figure 11b-26a & 11b-26b. The floor or ground area within the required clearances shall be level and clear. ( 1133b.2.4.2 ).

comply with BHMA a156.10 or BHMA a156.19. ( 1133b.2.3.2 ).

1133b.2.5.3, fig. 11b-26, fig. 11b-33a).

- 9. There shall be a level and clear floor or landing on each side of a door. The level area shall have a length in the direction of door swing of at least 60" and the length opposite the direction of door swing of 48" as measured at right angles to the plane of the door in the closed position. Where the plane of the doorway is offset or located in an alcove a distance more than 8" measured from the plane of the doorway to the face of the wall, the door shall be provided with 60" maneuvering clearance for front approach. ( 1133b.2.4.2,
- 10. The width of the level area on the side to which the door swings shall extend 24" past the strike edge of the door for exterior doors and 18" past the strike edge for interior doors. Where the plane of the doorway is offset 8 or more" from any obstruction within 18" measured laterally on the latch side, the door shall be provided with maneuvering clearance for front approach. (1133b.2.4.3, 1133b.2.4.5, 1133b.2.5.3, fig. 11b-33(a)).
- 11. Provide clear space of 12" past strike edge of the door on the opposite side to which the door swings if the door is equipped with both a latch and a closer. (fig 11b-26 (a)).
- 12. The floor or landing shall be not more than  $\frac{1}{2}$  inch lower than the threshold of the doorway. ( 1133b.2.4.1 ). 13. The bottom 10" of all doors except automatic and sliding shall have a smooth, uninterrupted surface to allow the door to be opened by a wheelchair footrest without creating a trap or

hazardous condition. Where narrow frame doors are used, a 10" high smooth panel shall be

- installed on the push side of the door, which will allow the door to be opened by a wheelchair footrest without creating a trap or hazardous condition. (1133b.2.6, fig 11b-29). 14. Maximum effort to operate exterior and interior doors shall not exceed 5 pounds, with such pull or push effort being applied at right angles to hinged doors and at the center plane of sliding or folding doors. Compensating devices or automatic door operators may be
- operate the door may be increased to the minimum allowable by the appropriate administrative authority, not to exceed 15 lbf. (1133b.2.5). 15. When the door has a closer, then the sweep period of the closer shall be adjusted so that from an open position of 70 degrees, the door will take at least 3 seconds to move to a

utilized to meet the above standards. When fire doors are required, the maximum effort to

point 3" from the latch, measured to the landing edge of the door. (1133b.2.5.1). 16. Where turnstiles and crowd control barriers are utilized in a facility for the purpose of providing fully controlled access, such as where an admission price is charged, a door or gate that is accessible to persons with disabilities shall be provided adjacent to each turnstile exit or entrance. This alternate passageway shall be maintained in an unlocked condition during business hours and the door or gate shall not activate a publicly audible alarm system. The door or gate may be latched where all gates are restricted and controlled by an attendant and a sign is posted stating, "all gates are restricted and controlled by an attendant." the accessible door or gate shall provide the same use pattern. Where posts, rails, or other pedestrian controls are utilized to create crowd control aisles or lanes, a minimum aisle width not less than indicated in figure 11b-5e (a) and (b)

# FLOORS AND LEVELS

with 32" of clear opening. (1133b.2.3.4).

- Level area is defined as "a specified surface that does not have a slope in any direction exceeding 1/4 inch in one foot from the horizontal ( 2.083% gradient )." ( 1102b ).
- 1. In buildings and facilities, floors of a given story shall be a common level throughout, or shall be connected by pedestrian ramps, passenger elevators, or special access lifts. (1120b.1).
- 2. Ground and floor surfaces along accessible routes and in accessible rooms and spaces, including floors, walks, ramps, stairs, and curb ramps, shall be stable, firm, and slip-resistant. ( 1120b.2 & 1124b.1 ).
- 3. Changes in level up to 1/4" may be vertical and without edge treatment. (1124b.2, fig.

4. Changes in level between 1/4" inch and 1/2" shall be beveled with a slope no steeper that

1:2. ( 1124b.2, fig 11b-5e (d) ). 5. If carpet or carpet tile is used on a ground or floor surface, it shall be securely attached; have a firm cushion, pad or backing or no cushion or pad; and have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. The maximum pile height shall be 1/2" exposed edges of carpet shall be fastened to floor surfaces and have trim along the entire

length of the exposed edge. Carpet edge trim shall comply with section 1124b.2. (1124b.3,

6. F gratings are located on floors, then they shall have spaces no greater than 1/2" wide in one direction. If gratings have elongated openings, they shall be placed so that the long dimension is perpendicular to the dominant direction of travel. (1124b.4, fig 11b-7e).

### **CORRIDORS AND AISLES**

( 1133b.3.2, fig 11b-34 ).

- 1. Every corridor and hallway serving an occupant load of 10 or more shall not be less than 44" in width (1133b 3 1)
- 2. Corridors and hallways serving an occupant load of less than 10 shall not be less than 36"
- in width. ( 1133b.3.1 ) 3. Corridors which are located on accessible route and exceed 200 feet in length shall:
  - a. Have a minimum clear width of 60"; or
  - b. Have, at reasonable intervals, a 60" by 60" minimum wheelchair turning space or passing alcove; not to exceed 200 feet; or
  - c. Have, at a central location, an intervening crossing or tee corridor, a minimum of 44" in width
- 4. Circulation aisles and pedestrian ways shall be sized according to functional requirements and in no case shall be less than 36" in clear width. ( 1105b.3.6 ).
- 5. Every portion of every building in which are installed seats, tables, merchandise, equipment, or similar materials shall be provided with aisles leading to an exit. ( 1133b.6.1 ).
- 6. Every aisle shall be not less than 36" wide if serving only one side, and not less than 44" wide if serving both sides. (1133b.6.2).

### HAZARDS AND PROTRUDING OBJECTS

space. ( 1133b.8.6.1, fig 11b-7d ).

- 1. Abrupt changes in level, except between a walk or sidewalk and an adjacent street or driveway, exceeding 4" in a vertical dimension, such as at planters or fountains located in or adjacent to walks, sidewalks, or other pedestrian ways, shall be identified by warning curbs projecting at least 6" in height above the walk or sidewalk surface to warn the blind of a potential drop off. (1133b.8.1).
- 2. When a guard or handrail is provided, no curb is required when a guide rail is provided centered 3" plus or minus 1 inch above the surface of the walk or sidewalk, the walk is 5 percent or less gradient or no adjacent hazard exists. (1133b.8.1, fig. 11b-27 (c)).
- 3. Objects projecting from walls with their leading edges between 27" and 80" above the finished floor shall protrude no more than 4" into walks, halls, corridors, passageways, or aisles. ( 1133b.8.6.1, fig 11b-7a ).
- 4. Objects mounted with their leading edges at or below 27" above the finished floor may protrude any amount into walks, halls, corridors, passageways, or aisles. ( 1133b.8.6.1, fig
- 5. Free standing objects mounted on posts or pylons may overhang 12" maximum from 27" to 80" above the ground or finished floor. (1133b.8.6.1, fig. 11b-7b). 6. Protruding objects shall not reduce the clear width of an accessible route or maneuvering
- 7. Walks, halls, corridors, passageways, aisles, or other circulation spaces shall have 80" minimum clear head room. (1133b.8.6.2, fig. 11b-7a & 7c).

walking surface as measured from the bottom of the obstruction. (1133b.8.2, fig. 11b-28).

9. Where a guy support is used parallel to a path of travel, including, but not limited to sidewalks, a guy brace, sidewalk guy or similar device shall be used to prevent an overhanging obstruction as defined. ( 1133b.8.2 ).

8. Any obstruction that overhangs a pedestrian way shall be a minimum of 80" above the

- 10. If a walk crosses or adjoins a vehicular way, and the walking surfaces are not separated by curbs, railings, or other elements between the pedestrian areas and vehicular areas. the boundary between the areas shall be defined by a continuous detectable warning which is 36" wide, complying with section 1121b.3.1, item 8(a). (1133b.8.5).
- 11. Transit boarding platforms shall conform to the requirements of section 1121b.3.1, item 8(b). Only approved dsa/ac detectable warning products and directional surfaces shall be installed as provided in the California code of regulations, title 24, part 1, articles 2, 3, and 4. (1133b.8.4 &1133b.8.5).

# **STAIRWAYS**

- 1. Stairways shall have handrails on each side, and every stairway required to be more than 88" in width shall be provided with not less than one intermediate handrail for each 88" of required width. Intermediate handrails shall be spaced approximately equally across the entire width of the stairway. Handrails shall be continuous along both sides of the
- stairway. ( 1133b.4.1.1 ). 2. The top of handrail gripping surface shall be mounted 34 to 38" above the nosing of the treads (1133b,4,2,1, fig. 11b-35).
- 3. Handrails shall extend a minimum of 12" beyond the top nosing and 12" plus the tread width beyond the bottom nosing and ends shall be returned or terminate in newel posts or safety terminals. ( 1133b.4.2.2, 1133b4.2.3, fig. 11b-35, 37 ).
- 4. The handgrip portion of handrails shall be not less than 1 1/4" or more than 1 1/2" in cross-sectional nominal dimension or the shape shall provide an equivalent gripping surface. The handgrip portion of handrails shall have a smooth surface with no sharp corners. Gripping surfaces (top or sides) shall be uninterrupted by newel posts, other construction elements, or obstructions. Any wall or other surface adjacent to the handrail shall be free of sharp or abrasive elements. Edges shall have a minimum radius of 1/8
- inch. (1133b.4.2.6, fig 11b-36). 5. The orientation of at least one handrail shall be in the direction of the run of the stair and perpendicular to the direction of the stair nosing, and shall not reduce the minimum
- 6. Handrails projecting from a wall shall have a space of 1-1/2" between the wall and the handrail. Handrails may be located in a recess if the recess is a maximum of 3 inch deep and extends at least 18" above the top of the rail. Handrails shall not rotate within their fitting. (1133b.4.2.5, fig 11b-36).
- 7. The upper approach and the lower tread of each stair shall be marked by a strip of clearly contrasting color at least 2" wide placed parallel to and not more than one inch from the nose of the step or landing to alert the visually impaired. The strip shall be of material that is at least as slip resistant as the other treads of the stair. ( 1133b.4.4, fig 11b-35 ). 3. Where stairways occur outside a building, the upper approach and all treads shall be

marked by a strip of clearly contrasting color at least 2" wide and placed parallel to and

not more than 1" from the nose of the step or landing to alert the visually impaired. The

strip shall be of a material that is at least as slip-resistant as the other treads of the stair. A painted strip shall be acceptable. ( 1133b.4.4, fig 11b-35 ). 9. All tread surfaces shall be slip-resistant. Weather exposed stairs and their approaches shall be designed so that water will not accumulate on walking surfaces. Treads shall

have smooth, rounded, or chamfered exposed edges, and no abrupt edges at the nosing (

10. The nosing shall not project more than 1 1/2" past the face of the riser below. (1133b.4.5.2, 11. Open risers are not permitted. On any given flight of stairs, all steps shall have uniform

riser height and uniform tread widths consistent with 1133b.4. Stair treads shall be no less

than 11" deep, measured from riser to riser. Risers shall be sloped or the underside of the nosing shall have an angle not less than 60 degrees from the horizontal. ( 1133b.4.5.3, fig 12. Tactile floor designation signs that comply with section 1117b.5.1 shall be located at each floor level landing in all enclosed stairways in buildings two or more stories in height to

identify the floor level. At exit discharge level, the sign shall include a raised five-pointed

star located to the left of the identifying floor level. The outside diameter of the star shall

of accessible elements and those in section 109.1 are required to be accessible. (1117b.6.1).

# be the same as the height of the raised characters. ( 1133b.4.3 ).

lower front edge ). ( 1133b.4.5.1, fig 11b-35 ).

required width of stairs. (1133b.4.2.4).

- CONTROLS AND OPERATING MECHANISMS 1. Controls and operating mechanisms in accessible spaces, along accessible routes or as part
- 2. Clear floor space complying with section 1118b.4 that allows a forward or parallel approach by a person using a wheelchair shall be provided at controls, dispensers, receptacles, and other operable equipment. (1117b.6.2).

3. The highest and lowest operable part of all controls, dispensers, receptacles, and other

1118b.5 and 1118b.6. Electrical and communication system receptacles on walls shall be mounted no less than 15" above the floor. (1117b.6.3). 4. Controls and operating mechanisms shall be operable with one hand and shall not require

tight grasping, punching, or twisting of the wrist. To force required to activate controls shall

operable equipment shall be placed within one of the reach ranges specified in sections

be no greater than 5 pounds of force. (1117b.6.4). 5. For accessible lavatories, faucet controls and operating mechanisms shall be operable with one hand and shall not require grasping, pinching, or twisting of the wrist. The force required to active faucet controls and operating mechanisms shall be no greater than 5 lbf. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs. Self-closing valves are allowed if the faucet remains open for at least 10 seconds. ( 1115b.4.3 ).

#### SPACE ALLOWANCE AND REACH RANGES

- 1. The minimum clear floor or ground space required to accommodate a single, stationary wheelchair and occupant is 30" by 48". The minimum clear floor or ground space for wheelchairs may be positioned for forward or parallel approach to an object. Clear floor or ground space for wheelchairs may be a part of the knee space required under some
- objects. (1117b.2.3, 1118b.4.1, fig 11-b-5a). 2. One full unobstructed side of the clear floor or ground space for a wheelchair shall adjoin or overlap an accessible route or adjoin another wheelchair clear floor space. If a clear
- 3. The space required for a wheelchair to make a 180 degree turn is a clear space of 60"

sides, additional maneuvering clearances shall be provided. (1117b.2.4, 1118b.4.2, fig.

- 4. The minimum clear width required for a wheelchair to turn around an obstruction shall be is less than 48" in length. (fig. 11b-5e).
- continuously. ( 1118b.1, fig. 11b-10 ).
- If the clear floor space only allows forward approach to an object, the maximum high forward reach allowed shall be 48". See figure 11b-5c (a). The minimum low forward reach is 15". If the high forward reach is over an obstruction, reach and clearances shall be as shown in figure 11b-5c (b) . ( 1118b.5 ).
- 8. If the clear floor space allows parallel approach by a person in a wheelchair, the maximum the floor as shown in figures i 1 b-5d(a) & (b). If the side reach is over and obstruction,

# EMPLOYEE WORK AREAS AND WORKSTATIONS

- Work station is defined as "an area defined by equipment and / or work surfaces intended for use by employees only, generally for one or a small number of
- employees at a time..." ( 1102b ).

2. Specific workstations need only comply with aisle width and floors and levels, and

side, and not less than 44" wide if serving both sides. (1123b.2,1133b.6.2).

required in section 1122b. (1122b.1).

- FIXED OR BUILT IN SEATING, TABLES AND COUNTERS Where fixed or built-in seating, tables, or counters are provided for the public, and in general employee areas, five percent but never less than one must be accessible, as
- If seating spaces for persons in wheelchairs are provided at fixed tables or counters, clear floor space complying with section 1118b.4 shall be provided. Such clear floor space shall not overlap knee space by more than 19". (1122b.2, fig 11b-13).
- 3. If seating for persons in wheelchairs is provided at fixed tables or counters, knee spaces at least 27" high, 30" wide, and 19" deep shall be provided. (1122b.3, fig 11b-13).
- Where a single counter contains more than one transaction station, such as a bank counter with multiple teller windows or a retail sales counter with multiple cash register stations, at least 5 percent, but never less than one of each type of station shall be located at a section of counter that is at least 36" long and no more than 28 to 34" high. (1122b.4).

# SIGNS AND IDENTIFICATION

of a door. (1117b.5.1, 1117b.5.7).

- California's standards for signage are more stringent and are significantly larger and wider than federal law, americans with disabilities act (ADA) section 4.30. ( 1117b.5). The international symbol of accessibility shall be the standard used to identify facilities that are accessible to and usable by physically disabled persons as set forth in title 24 and as specifically required in this section. (1117b.5.8.1, fig
- All building and facility entrances that are accessible to and usable by persons with disabilities and at every major junction along or leading to an accessible route of travel shall be identified with a sign displaying the international symbol of accessibility and with additional directional signs, as required, to be visible to persons along approaching
- 3. When permanent identification is provided for rooms and spaces of a building or site, section 1117b.5.2 through 1117b.5.7. Signs shall be installed on the wall adjacent to the latch outside of the door. Where there is no wall space on the latch side, including at double leaf doors, signs shall be placed on the nearest adjacent wall, preferably on the right. Mounting height shall be 60" above the finished floor to the centerline of the sign. Mounting location shall be determined so that a person may approach within
- When signs direct to or give information about permanent rooms and functional spaces of a building or site, they shall comply with sections 1117b.5.2, 1117b.5.3, 1117b.5.4. Means of egress signs and identification for visual exit signs, graphics, illumination, power source, tactile exit signage, tactile stair level identification and special egress control devices shall comply

3inches of signage without encountering protruding objects or standing within the swing

- When raised characters or when pictogram symbols are used, they shall conform to the following: ( 1117b.5.5 ).
- sans serif uppercase characters accompanied by grade 2 braille complying with section 1117b.5.6. ( 1117b.5.5.1 ).

b. Raised characters or symbols shall be a minimum of 5/8 inch high and a

maximum of 2" high. ( 1117b.5.5.2 ).

width-to-height ratio between 1:5 and 1:10. (1117b.5.3).

- c. Pictorial symbol signs (pictograms) shall be accompanied by the verbal description placed directly below the pictogram. The outside dimension of the pictogram field shall be a minimum of 6" in height. ( 1117b.5.5.3 ). d. Characters and braille shall be in a horizontal format. Braille should be placed a
- flush left or centered. When tactile sign is multi-lined, all braille shall be placed together below all lines of tactile text. (1117b.5.5.4). Characters on signs shall have a width-to-height ratio of between 3:5 and 1:1 and a stroke

Characters, symbols and their background shall have a non-glare finish. Characters and

symbols shall contrast with their background, either light characters on a dark background

compliance with section 1133b.8.6, the minimum character height shall be 3 ". (1117b.5.4).

- or dark characters on a light background. (1117b.5.2). 8. Characters and numbers on signs shall be sized according to the viewing distance from which they are to be read. The minimum height is measured using an upper case 'x'. Lower
- Contracted grade 2 braille shall be used wherever braille is required in other portions of these standards. Dots shall be 1/10" on centers in each cell with 2/10" space between

#### immediately above the control button. Control buttons shall be located no higher than 48" above the surface adjacent to the pole. (1117b.5.9).

**ELECTRICAL** The highest operable part of all controls, dispensers, receptacles and other operable equipment shall be shall be installed at an accessible location meeting the clearances and

wide dark border band above and below this yellow band. Color-coding should be placed

- The center of the grip of the operating handle of controls or switches intended to be used by the occupant of the room or area to control lighting and receptacle outlets, appliances, or cooling, heating, and ventilating equipment shall be 48" above the floor or working platform. ( 1117b.6. 5.1 ).

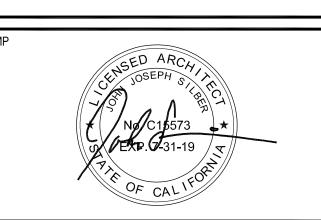


MUNICIPAL WATER DISTRICT OF ORANGE COUNTY

**ADMINISTRATIVE BUILDING-SEISMIC** RETROFIT, ADA **COMPLIANCE AND** TENANT IMPROVEMENT

NGINEER/ARCHITECT





TEL: 949-387-8500, FAX: 949-387-0800

DATE

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REV. DESCRIPTION

SHEET TITLE **ACCESSIBILITY** 

SHEET NUMBER

- - floor or ground space is located in an alcove or otherwise confined on all or part of three
  - diameter or a t-shaped space. (1118b.3, fig. 11b-12 (a) & (b) ).
  - 36" where the obstruction is 48" or more in length and 42" and 48" where the obstruction
  - 5. The minimum clear width for single wheelchair passage shall be 32" at a point and 36"
  - 6. The minimum width for two wheelchairs to pass is 60". (1118b.2, fig 11b-11)
  - high side reach allowed shall be 54" and the low side reach shall be no less than 9" above the reach and clearances shall be as shown in figure 11b-5d (c). (1118b.6).
  - 1. Employee areas shall conform to all requirements of the division of the state architect access compliance in the california building code, plumbing code, and electrical code. (1123b.1).

entry-ways shall be 32" in clear width. Aisles shall not be less than 36" if serving only one

Employee work areas shall be accessible by means of 36 inch minimum aisle and 32 inch minimum clear opening door width. ( 1105b.3.2.3 ).

### 1 PETERS CANYON ROAD, SUITE 130 IRVINE, CA 92606

- 4. The tops of tables and counters shall be 28" to 34" from the floor or ground. (1122b.4).
- 1. The international symbol of accessibility shall consist of a white figure on a blue background. The blue shall be equal to color no. 15090 in federal standard 595b. (1117b5.8.1.1).
- circulation paths. ( 1117b.5.8.1.2. & 1127b.3 ). raised letters shall be provided and shall be accompanied by braille in conformance with
- with sections 1003.2.8.1, 1003.2.8.5, 1003.2.9, 1003.2.10 and 1003.3.1.10. (1117b.5.1.2).
- a. Characters on signs shall be raised or recessed 1/32 inch minimum and shall be
- minimum of 3/8" and a maximum of 1/2" directly below the tactile characters;
- case characters are permitted. For signs suspended or projected above the finish floor in
- cells. Dots shall be raised a minimum of 1/40 inch above the background. (1117b.5.6). 10. Pole supported pedestrian traffic control buttons shall be identified with color coding consisting of a textured horizontal yellow band 2" in width encircling the pole, and a 1 inch
- reach range requirements of section 1118b.5 and 1118b.6 and not less than 15" above the floor or working platforms. ( 1117b.6.3 ).
- 3. The center of electrical receptacle outlets on branch circuits of 30 amperes or less shall be installed not more than 48" nor less than 14" above the floor or working platform. (

#### **ENTRANCES AND EXITS**

- Exit as defined is "that portion of a means of egress system which is separated from other interior spaces of a building or structure by fire-resistance-rated construction and opening protective's as required to provide a protected path of egress travel between the exit access and the exit discharge. Exits include exterior exit doors at ground level, exit enclosures, exit passageways, exterior exit stairs, exterior exit ramps and horizontal exits." (1002.1).
- Public way as defined is a street, alley or other parcel of land open to the outside air leading to a street, that has been deeded, 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. ( 1002.1 ).
- 1. All entrances and exterior ground floor exit doors to buildings and facilities shall be made accessible to persons with disabilities. ( 1133b.1.1.1.1 ).
- 2. Revolving doors shall not be used as a required entrance for persons with disabilities. ( 1133b.2.3.3).
- 3. During periods of partial or restricted use of a building or facility, the entrances used for primary access shall be accessible to and usable by persons with disabilities. ( 1133b.1.1.1.2).
- 4. Recessed doormats shall be adequately anchored to prevent interference with wheelchair traffic. (1133b.1.1.1.3, fig. 11b-25).
- 5. All gates, including ticket gates, shall meet all applicable accessibility specifications of doors. (1133b.1.1.1.4).

not less than 3 feet in width and not less than 6'-8" in height. ( 1133b.2.2 ).

- 6. Every required exit doorway shall be capable of opening at least 90 degrees, shall have a minimum clear opening of 32", and shall be of a size as to permit the installation of a door
- 7. The space between two consecutive door openings in a vestibule, serving other than a required exit stairway, shall provide a minimum of 48" of clear space from any door opening into such vestibule when the door is positioned at an angle of 90 degrees from its closed position. Doors in a series shall swing either in the same direction or away from the space between the doors. See figures 11b-30 & 11b-31. ( 1133b.2.4.4 ).

#### **ENTRANCES AND EXITS**

less then 6'-8" in height.

- 1. All entrances and all exterior ground floor exit doors to buildings and facilities shall be made accessible to persons with disabilities.
- 2. All accessible entrances shall be identified with at least one standard sign and with additional directional signs, as required, visible from approaching pedestrian ways.

3. All gates, including ticket gates, shall meet all applicable accessibility specifications of

4. Every required exit doorway which is located within an accessible path of travel shall be capable of opening at least 90 degrees, shall have a minimum clear opening of 32", and

shall be of a size as to permit the installation of a door not less than 3' in width and not

- 5. Latching and locking doors that are hand activated and which are in a path of travel shall be operable with a single effort by lever type hardware, by panic bars, push-pull activating bars, or other hardware designed to provide passage without requiring the ability to grasp the opening hardware.
- 6. Hand-activated door opening hardware shall be centered between 30" and 44" above the
- 7. The floor and landing on each side of an entrance or passage door shall be level and clear. The level and clear area shall have a length in the direction of door swing of at least 60" and the length opposite the direction of door swing of 44" as measured at right angles to the plane of the door in its closed position.
- 8. The floor or landing shall be not more than 1/2" lower than the threshold of the doorway. Change in level between 1/4" and 1/2" shall be beveled with a slope no greater than 1:2.
- 9. The bottom 10" of all doors except automatic and sliding shall have a smooth uninterrupted surface to allow the door to be opened by a wheelchair footrest without creating a trap or hazardous condition. Where narrow frame doors are used, a 10" high smooth panel shall be installed on the push side of the door, which will allow the door to be opened by a wheelchair footrest without creating a trap or hazardous condition.
- 10. Maximum effort to operate interior and exterior doors shall not exceed 5 pounds, with such pull or push effort being applied at right angles to hinged doors and at the center plane of sliding or folding doors. Compensating devices or automatic door operators may be utilized to meet the above standards. When fire doors are required, the maximum effort to operate the door may be increased to the minimum allowable by the appropriate administrative authority, not to exceed 15 pounds.
- 11. For hinged doors, the opening width shall be measured with the door position at an angle of 90 degrees from the closed position.
- 12. Where a pair of doors is utilized, at least one of the doors shall provide a clear, unobstructed opening width of 32" with the leaf positioned at an angle of 90 degrees from
- 13. When an automatic door operator is utilized to operate a pair of doors, at least one of the doors shall provide a clear unobstructed opening width of 32" with the door positioned at an angle of 90 degrees from its closed position.
- 14. Minimum maneuvering clearances at doors shall be as shown in figure 11b-26. The floor or ground area within the required clearances shall be level and clear.
- 15. There shall be a level and clear floor or landing on each side of a door. The level area shall have a length in the direction of door swing of at least 60" and the length opposite the direction of door swing of 48" as measured at right angles to the plane of the door in the closed position. Where the plane of the doorway is offset or located in an alcove a distance more than 8" measured from the plane of the doorway to the face of the wall, the door shall be provided with 60" maneuvering clearance for front approach.
- 16. Provide clear space of 12" past strike edge of the door on the opposite side to which the door swings if the door is equipped with both a latch and a closer.
- 17. Where the door opens into a stair of a smoke proof enclosure, the landing need not have a length of 60".
- 18. When the door has a closer, then the sweep period of the closer shall be adjusted so that from an open position of 70 degrees, the door will take at least 3 seconds to move to a point 3" from the latch, measured to the landing edge of the door.
- 19. Where turnstiles and crowd control barriers are utilized in a facility for the purpose of providing fully controlled access, such as where an admission price is charged, a door or gate that is accessible to persons with disabilities shall be provided adjacent to or within a distance not to exceed 30' from each turnstile exit or entrance. This alternate passageway shall be maintained in an unlocked condition during business hours and the door or gate shall not activate a publicly audible alarm system. A sign is posted stating "the door or gate may be latched where all gates are restricted and controlled by an attendant and a sign". "all gates are restricted and controlled by attendant." the accessible door or gate shall provide the same use pattern. Where posts, rails, or other pedestrian controls are utilized to create crowd control aisles or lanes, an minimum aisle width not less than indicated in figure 11b-5e (a) and (b) with 32" of clear opening.
- 20. Accessible entrances to and from exits from a building must be provided, according to ADA ag 4.1.3 (8) and applicable codes.
- 21. Maneuvering clearances at doors shall be level (1:50 max. Slope) and clear if doors are not automatic or power assisted.
- 22. Revolving doors shall not be used as a required entrance for persons with disabilities.
- 23. All doors in alcoves shall comply with the clearances for front approaches. 24. Provide tactile exit sign per section.
- 25. Accessible stall in multi-accommodation toilet facilities shall be a minimum of 60" wide per

- 1. Every corridor shall be as shown on the plans and shall be determined as per CBC chapter 10, but shall not be less than 44" in width.
- 2. Every portion of every building in which are installed seats, tables, merchandise, equipment or similar materials shall be provided with aisles leading to an exit.

# NOTIFICATION APPLIANCES FOR THE HEARING IMPAIRED

1. Approved notification appliances for the hearing impaired shall be installed in accordance

g. Occupational Shops

Meeting Rooms

i. Lobbies

k. Classrooms

h. Occupied Rooms where Ambient

Noise impairs hearing of the Fire Alarm.

with the provisions of NFPA 72 and CBC, chapter 9, section 907.9.1 and 907.9.2. a. Restrooms b. Corridors c Music Practice Rooms

f. Multipurpose Rooms

d. Band Rooms

e. Gymnasium

- 2. Strobe signaling devices required for the hearing impaired shall be state fire marshall,
- NFPA 72: per chapter 6, section 6-4, visible characteristics, public mode. 3. The flash rate shall not exceed 3 flashes per second nor be less than 1 flash every three seconds NFPA 72: per chapter 6, section 6-4.2, light pulse characteristics.
- 4. Audible signals intended for operation in the public mode shall have a sound level of not less than 75 dba at 10' or more than 130 dba at the minimum hearing distance from the audible appliance. NFPA 72: per chapter 6, section 6-3, audible characteristics, public
- 5. Audible signals intended for operation in the private mode shall have a sound level of not less than 45 dba at 10' or more than 130 dba at the minimum hearing distance from the audible appliance. NFPA 72: per chapter 6, section 6-3.2, audible characteristics, private
- 6. The light source color shall be clear or nominal white and shall not exceed 1000 candela ( effective intensity). (NFPA 72 sec 4-4.2.2).
- 7. Wall mounted appliances shall be mounted such that the entire lens is not less than 80" and not greater than 96" above the finished floor. Ceiling-mounted appliances shall be installed per table 4-4.4.1.1. ( NFPA 72 sec 4-4.4 ).
- 8 Notification appliances installed in rooms shall be spaced as follows: ( NFPA 72 sec4-4.4.1)
- 1). Spacing shall be in accordance with figure 4-4.4.1. And tables 4-4.4.1 and (b). The separation between appliances shall not exceed 100'. (NFPA 72 sec 4-4.4.1).
- 2). Visible notification appliances shall be installed in accordance with table 4-4.4.1.1 (a), using one of the following: (NFPA 72 sec 4-4.4.1.1).
- a. A single visible notification appliance. b. Two visible notification appliances located on opposite walls. c. In rooms 80' x 80' or greater, where there are more than two appliances in any field of view, they shall be spaced a minimum of 55' from each other.

More than two visible notification appliances that flash in synchronization.

9. Notification appliances installed in corridors shall be spaced as follows: ( NFPA 72 sec.

- Note: Where a room configuration is not square, the square room size that entirely encompasses the room or subdivides the room into multiple squares shall be
- a. Table 4-4.4.2.1 shall apply to corridors not exceeding 20' in width. For corridors greater than 20' in width, refer to figure 4-4.4.1.1 and tables 4-4.4.1.1 (a) and (b).

- b. Visual appliances shall be rated not less than 15 candela. ( NFPA 72 sec
- c. The visible appliances shall be located no more than 15' from the end of the corridor with a separation no greater than 100' between appliances. ( NFPA 72
- d. Where there is an interruption of the concentrated viewing path, such as a fire door, an elevation change, or any other obstruction, the area shall be considered
- 10. An electrical plan check and fire dept. Plan check is required prior to installation of visual notification appliances

as a separate corridor. (NFPA 72 sec 4-4.4.2.2).

#### SANITARY FACILITIES

- 1. Toilet facilities that serve buildings, facilities or portions of buildings or facilities that are required by these standards to be accessible to persons with disabilities, shall be on an accessible route and shall conform to the requirements of section 1115b. (1115b.1).
- 2. Where separate facilities are provided for persons of each sex, these facilities shall be accessible to persons with disabilities. Where unisex facilities are provided, these facilities shall be accessible to persons with disabilities. (1115b.1.1, fig. 11b-1a).
- a. Toilet centering from wall 18" 15"\* 12" toilet seat height 17"-19" 15" 10"-12" grab bar height (side) 33" 27"\* 20"-22" toilet paper in front of toilet 12" maximum 6"
  - b. 6" max napkin disposal in front of toilet 12" max 12" maximum n/a dispenser or
  - c. Height 40" max 36" max 32" max lavatory/sink top height 34" max 29" max 24"
  - d. Lavatory/sink knee clearance 27" min 24" min 19" min urinal lip height 17" max

f. 13" min urinal flush handle height 44" max 37" max 32" max drinking fountain

- e. 13" min urinal flush handle height 44" max 37" max 32" max drinking fountain
- g. Ramp/stair handrail height 34"-38" 27" 22"
- 3. Doorways leading to men's sanitary facilities shall be identified by an equilateral triangle 1/4" thick with edges 12" long and a vertex pointing upward. Women's sanitary facilities shall be identified by a circle 1/4" thick and 12" in diameter. ( 1115b.6 ).
- 4. Unisex sanitary facilities shall be identified by a circle 1/4" thick, 12" in diameter, with a

1/4" thick triangle superimposed on the circle and within the 12" diameter. ( 1115b.6 ).

5. Geometric (circle & triangle) symbols on sanitary facility doors shall be centered on the door at a height of 60" and their color and contrast shall be distinctly different from the color and contrast of the door. (1115b.6).

Note: See also section 1117b.5.1 for additional signage requirements applicable to sanitary facilities.

#### SINGLE ACCOMMODATION SANITARY FACILITIES

- Note: Single accommodation sanitary facility is defined as "a room that has not more than one of each type of sanitary fixture, is intended for use by only one person at a time, has no partition around the toilet, and has a door that can be locked on the inside by the room occupant". (202).
- 1. Show sufficient space in the toilet room for a wheelchair measuring 30" wide by 48" long to enter the room and permit the door to close. (1115.B.3.2.1).
- 2. Show a clear floor space of at least 60" in diameter, or a t-shaped space complying with figures 11b-12(a) and (b). No door shall encroach into this space for more than 12". ( 1115b.3.2.1, fig 11b-1a).
- 3. Doors shall not swing into the clear floor space required for any fixture. ( 1115b.3.2.2 ).
- 4. Show that the centerline of the water closet fixture shall be 18" from the side wall or partition. On the other side of the water closet, provide a minimum 28" wide clear floor space if the water closet is adjacent to a fixture or a minimum of 32" wide clear floor space if the water closet is adjacent to a wall or partition. This clear space shall extend from the rear wall to the front of the water closet. (1115b.4.1, fig 11b-1a).
- 5. All doors, fixtures, and controls shall be on an accessible route with a minimum clear width of 36" except at doors. If a person in a wheelchair must make a turn around an obstruction, the minimum clear width of the accessible route shall be as shown in figure
- 11b-5e. ( 1115b.3.2.4 ). 6. The entrance door shall contain a privacy latch which complies with section 1117b.6. (
- 7. Provide 18" clearance on the strike side of the door. (1115b.3.1).
- 8. In existing buildings, a single accommodation toilet water closet may be located in an area which provides a clear space of 36"wide by 48" long in front of the water closet. 1115b.3.2 ).

### MULTIPLE ACCOMMODATION SANITARY FACILITIES

- Note: Multiple accommodation sanitary facility is defined as "a room that has more than one sanitary fixture, is intended for the use of more than one person at a time, and which usually is provided with privacy compartments or screens shielding some fixtures from view". (202).
- 1. Show a clear space measured from the floor to a height of 27" above the floor, within the sanitary facility room, of sufficient size to inscribe a circle with a diameter not less than 60". Doors shall not swing into the floor space required for any fixture. Other than the door to the accessible water closet compartment, a door, in any position, may encroach into this space by not more than 12". (1115b.3.1.1 & 1115b3.1.2, fig 11b-1b).
- 2. A water closet fixture located in a compartment shall provide a minimum 28" wide clear space from a fixture or a minimum 32" wide clear space from a wall at one side of the water closet. The other side of the water closet shall provide 18" from the centerline of the water closet to the wall. Grab bars shall not project more than 3" into these clear spaces. The stall shall be minimum of 60" wide. ( 1115b.4.1.1, fig 11b-1b ).
- 3. If the compartment has a side-opening door, show a minimum 60" wide and 60" deep clear floor space in front of the water closet. (1115b.3.1.4.2).

4. If the compartment has an end-opening door, show a minimum 60" wide and 48" deep

- clear floor space in front of the water closet. The door shall be located in front of the clear floor space and diagonal to the water closet, with a maximum stile width of 4". ( 1115b.3.1.4.3, fig. 11b-1a & b ). 5. Note that the water closet compartment shall be equipped with a door that has an
- automatic-closing device, and shall have a clear, unobstructed opening width of 32" when located at the end and 34" when located at the side with the door positioned at an angle of 90 degrees from its closed position. (1115b.3.1.4.4, fig 11b-1a & b).
- 6. Note that the inside and outside of the compartment door shall be equipped with a loop or u-shaped handle immediately below the latch. The latch shall be flip-over style, sliding, or other hardware not requiring the user to grasp or twist. ( 1115b.3.1.4.5 ).
- 7. Except for door opening widths and door swings, show a clear unobstructed access not less than 44" shall be provided to water closet compartments designed for use by persons with disabilities. The space immediately in front of a water closet compartment shall be not less than 48" as measured at right angles to compartment door in its closed position. ( 1115b.3.1.4.5, fig 11b-1b).
- 8. Where six or more compartments are provided within a multiple accommodation toilet room, in addition to the standard accessible stall required above, at least one additional ambulatory accessible compartment shall be 36" wide with an outward swinging self closing door and parallel grab bars complying with sections 1115b.4.1, item 3. (
- 9. Provide an 18" clearance at the strike side of water closet compartment doors ( no exception) (1115b.3.1, item 4.4).

# SANITARY FACILITY FIXTURES AND ACCESSORIES

- 1. Show the height of accessible water closets shall be a minimum of 17" and a maximum of 19" measured to the top of a maximum 2" high toilet seat, except that 3" seats shall be permitted only in alterations where the existing fixture is less than 15" high. (1115b.4.4).
- 2. Show a clear floor space 30" by 48" in front of a lavatory to allow a forward approach. Such clear floor space shall adjoin or overlap an accessible route and shall extend a maximum of 19" into knee and toe space underneath the lavatory. A door swing shall not encroach into this clear space. ( 1115b.4.3.3, 1115b.3.2.2, fig. 11b-1b ).
- 3. Show that all layatories, when located adjacent to a side wall or partition, shall be a minimum distance of 18" to the center line of the fixture. ( 1115b.4.3.2. fig. 11b-1a ).
- 4. Show that lavatories that are designated to be accessible shall be a minimum 17" in horizontal depth and mounted with the rim or counter edge no higher than 34" above the finished floor and with vertical clearance measured from the bottom of the apron or the outside bottom edge of the lavatory of 29", reducing to 27" at a point located 8" back from the front edge. In addition, a minimum 9" high toe clearance must be provided extending back toward the wall to a distance no more than 6" from the back wall. The toe clearance space must be free of equipment or obstructions. (1115b.4.3.2, fig.11b-1d).
- 5. Show that hot water and drain pipes under accessible lavatories shall be insulated or otherwise covered. There shall be no sharp or abrasive surfaces under lavatories. ( 1115b.4.3.4).
- 6. Where urinals are provided, at least one shall have a clear floor space 30" by 48" in front of the urinal to allow forward approach. (1115b.4.2.3).
- 7. Show that urinals shall be floor mounted, stall-type or wall hung. Where one or more wall hung urinals are provided, at least one with an elongated rim projecting a minimum of 14" from the wall, a maximum of 17" from the wall, and a maximum of 17" above the floor shall be provided. (1115b.4.2.1).
- 8. Note that controls for water closet flush valves shall be mounted on the wide side of toilet areas. Automatic spring to lifted position seats are not allowed. (1115b.4.1.5, 1115b.4.1.7
- 9. Note that water closet and urinal flush valve controls, and faucet and operating mechanism controls, shall be operable with one hand, shall not require tight grasping, pinching, or twisting of the wrist, and shall be mounted no more than 44" above the floor. 1115b.4.1.5, 1115b.4.2.2, 1115b.4.3.1 ).
- 10. Note the force required to activate water closet and urinal flush valve controls, and faucet and operating mechanism controls, shall be no greater than 5 lbf. Electronic or automatic flushing controls are acceptable and preferable. (1115b.4.1.5, 115b.4.2.2, 1115b.4.3.1)

- 11. Note that self-closing faucet control valves are allowed if the faucet remains open for at
- least 10 seconds. (1115b.4.3.1). 12. Show that mirrors shall be mounted with the bottom edge of the reflecting surface no
- higher than 40" from the floor. (1115b.8.1). 13. If medicine cabinets are provided, at least one shall be located with a usable shelf no higher than 44" above the floor. A clear floor space 30" by 48" complying with section
- 14. Where towel, sanitary napkins, waste receptacles, dispensers, or other equipment and controls are provided, show at least one of each type shall be located on an accessible route, with all operable parts, including coin slots, within 40" from the finished floor and shall comply with section 1117b.6. (1115b.8.3).

1118b.4 shall be provided in front of a medicine cabinet to allow a forward or parallel

- 15. Show that toilet tissue dispensers shall be located on the wall within 12" of the front edge of the toilet seat, mounted below the grab bar at a minimum height of 19", and 36" maximum to the far edge from the rear wall. Dispensers that control delivery or that do not
- permit continuous paper flow shall not be used. (1115b.8.4, fig. 11b-1a). 16. Show that toilet room floors shall have a smooth, hard, non-absorbent surface such as portland cement, concrete, ceramic tile or other approved material which extends upward onto the walls at least 5". Walls within water closet compartments and walls within 24" of

the front and sides of urinals shall be similarly finished to a height of 48" and, except for

structural elements, the materials used in such walls shall be a type which is not adversely

MULTIPLE ACCOMMODATION SANITARY FACE. GRAB BARS

affected by moisture. (1115b.3.1.6).

approach. ( 1115b.8.2 ).

- 1. Show that grab bars for water closets not located within a compartment shall comply with section 1115b.7 and shall be provided on the side wall closest to the water closed and on the rear wall. ( 1115b.4.1.3 ).
- 2. Show that grab bars for water closets located within an accessible compartment shall comply with section 1115b.7 and shall be provided on the side wall closest to the water closet and on the rear wall. (1115b.4.1.3).
- 3. How that grab bars for water closets located within ambulatory accessible compartments shall be provided on both sides of the compartment. (1115b.4.1.3).
- 4. Show that the side grab bars shall be 42" long minimum, located 12" maximum from the rear wall, and extend 54" minimum from the rear wall. The front end shall be positioned 24" minimum in front of the water closet, and shall be securely attached and centered 33" above and parallel to the floor. (1115b.4.1.3.1, fig 11b 1a & 1b).
- 5. Show that the rear grab bars shall be 36" long minimum and extend from the centerline of the water closet 12" minimum on one side and 24" minimum on the other side. The rear grab bar shall be securely attached and centered 33" above and parallel to the floor, except that where a tank-type toilet is used, which obstructs placement at 33", the bar may be as high as 36", with 1 1/2" minimum between the bar and top of tank. ( 1115b.4.1.3.2, fig 11b-1a).
- 6. Show the diameter or width of the gripping surfaces of a grab bar shall be 1 1/4" to 1 1/2" nominal, or the shape shall provide an equivalent gripping surface. If grab bars are mounted adjacent to a wall, the space between the wall and the grab bars shall be 1 1/2". ( 1115b.7.1, fig 11b-1c ).
- 7. Note that the structural strength of grab bars, tub and shower seats, fasteners, and mounting devices shall meet the following specifications: (1115b.7.2).
  - a. Bending stress in a grab bar or seat induced by the maximum bending moment from the application of a 250 lb. Point load shall be less than the allowable stress for the material of the grab bar or seat. ( 1115b.7.2.1 ).
  - b. Shear stress induced in a grab bar or seat by the application of a 250 lb. Point load shall be less than the allowable shear stress for the material of the grab bar or seat, and its mounting bracket or other support is considered to be fully restrained, then direct and torsional shear stresses shall not exceed the allowable shear stress. (1115b.7.2.2).
  - c. Shear force induced in fastener or mounting devices from the application of a 250 lb. Point load shall be less than the allowable lateral load of either the fastener or mounting device or the supporting structure, whichever has the smaller allowable load. (1115b.7.2.3).
  - d. Tensile force induced in a fastener by a direct tension force of a 250 lb. Point load, plus the maximum moment from the application of a 250-lb point load, shall be less than the allowable withdrawal load between the fastener and supporting structure. ( 1115b.7.2.4 ).
  - e. Grab bars shall not rotate within their fittings. (1115b.7.2.5).
- 8. Note that the grab bar and any wall or other surface adjacent to it shall be free of any sharp or abrasive elements. Edges shall have a minimum radius of 1/8". (1115b.7.3).

### DRINKING FOUNTAIN ( as required by CBC Section 1117B.1)

- Where only one drinking fountain area is provided on a floor, there shall be a drinking fountain which is accessible to individuals who use wheelchairs, and one accessible to those who have difficulty bending or stooping. This can be accommodated by the use of "hi-low" fountains, or by such other means as would achieve the required accessibility for
- each group on each floor. (1117b.1.1). Where more than one drinking fountain is provided on a floor, 50% of those provided shall comply with items 1, 2, 4, and 5 of section 1115b.4.6 and shall be on an accessible route. All drinking fountains shall comply with section 1117b.1.1.
- 3. Shall have a clear knee space between the bottom of the apron and the floor or ground not less than 27" in height, 30" in width, and 8" in depth. The depth shall be taken from the
- 4. Note that the knee and toe clearance space shall be free of equipment or obstructions. ( 2010 CBC 1117b.1.2).

front edge of the fountain back toward the wall or mounting post. (1117b.1.2).

5. Show a toe clearance of 9" in height above the floor, and 17" in depth from the front edge of the fountain. (1117b.1.2).

6. Show a clear floor space at least 30" by 48" shall be provided in front of the drinking

fountain to allow forward approach. A side approach drinking fountain is not acceptable. ( All drinking fountains shall be located completely within alcoves or otherwise positioned so as not to encroach into pedestrian ways. The alcove in which the drinking fountain is located shall not be less than 32" in width and 18" in depth. Protruding objects located in

alcoves or encroaching into pedestrian ways are permitted to project 4" into walks, halls,

8. Show that the drinking fountain bubbler shall be activated by a manually operated system not requiring a force greater than 5 lbf., that is front mounted or side mounted and located within 6" of the front edge of the fountain or preferably an electronically controlled device. ( 1117b.1.4, fig 11b-3).

corridors, passageways, or aisles. (1117b.1.3, fig 11b-3).

- 9. Note that the bubbler outlet orifice shall be located within 6" of the front of the drinking fountain and shall be within 36" of the floor. The water stream from the bubbler shall be substantially parallel to the front edge of the drinking fountain. (1115b.1.4, fig 11b-3).
- 10. Note that the spout shall provide a flow of water at least 4" high so as to allow the insertion of a cup or glass under the flow of water. On an accessible drinking fountain with a round or oval bowl, the spout must be positioned so the flow of water is within 3" of the front

# ACCESSIBLE SINKS

edge of the fountain. (1117b.1.7).

. Where provided, show that accessible kitchen sinks and noncommercial kitchen and counter bar sinks shall have a clear floor space at least 30" by 48" complying with 1118b.4 and providing a forward approach. The clear floor space shall be on an accessible route

and shall extend a maximum of 19" underneath the sink. (1115b.4.3.1, fig 11b-1d).

- 2. Show that each accessible sink shall be a maximum of 6 1/2" deep. Sinks shall be mounted with the counter or rim no higher than 34" above the finish floor. Show knee clearance that is at least 27" high, 30" wide, and 19" deep under sinks. (1115b.4.3.2, item
- Note that hot water and drain pipes exposed under sinks shall be insulated or otherwise configured so as to protect against contact. There shall be no sharp or abrasive surfaces under sinks. (1115b.4.3.4, item 1).
- 4. Note that faucet controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be not greater than 5 lbs. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs. ( 1115b.4.3.1,
- Note that self-closing faucet control valves are allowed if the faucet remains open for at least 10 seconds. ( 1115b.4.3.1. item 1 ).

### RAMPS (EXTERIOR OR INTERIOR)

width of 60". (1133b.5.2).

11b-27(b) & (c) ).

- 1. Any path of travel shall be considered a ramp if its slope is greater than 1' rise in 20' of horizontal run. ( 1133b.5.1 ).
- 2. The maximum slope of a ramp that serves any exit way, provides access for persons with physical disabilities, or is in the accessible route of travel shall be 1 foot rise in 12 feet of horizontal run ( 8.3 percent gradient ). The least possible slope shall be used for any ramp. ( 1133b.5.3 ).
- 3. The cross slope of ramp surfaces shall be no greater than 1:50. (1133b.5.3.1).
- 4. Pedestrian ramps shall have a minimum clear width of 48", unless required to be wider by some other provision of this code. (1133b.5.2) (1133b.5.2).
- Where a pedestrian ramp is the only exit discharge path serving entrances to buildings or when it serves an occupant load of 300 or more, the ramp shall have a minimum clear
- 6. Level landings shall be provided at the top and bottom of each ramp. (1133b.5.4.1, fig. 11b-38 & 39 ).
- Intermediate landings shall be provided at intervals not exceeding 30" of vertical rise and at each change of direction. ( 1133b.5.4.1, fig 11b-38 & 39 ).
- Top landings shall be not less than 60" wide and shall have a length of not less than 60" in the direction of ramp run. Landings at the bottom of ramps shall have a dimension in the direction of ramp run of not less than 72". (1133b.5.4.2, fig. 11b-38 & 39).
- 9. Doors in any position shall not reduce the minimum dimension of the landing to less than 42" and shall not reduce the required width by more than 3" when fully open. (
- 1133b.5.4.3, fig 11b-39(b)). 10. The width of the landing shall extend 24" past the strike edge of any door or gate for
- 11. All ramp landings shall be level with maximum slope in any direction not to exceed 1/4"

exterior ramps and 18" past the strike edge for interior ramps. (1133b.5.4.4, fig. 11b-39).

- per foot ( 2.083 percent slope ). ( 1133b.5.4.1, 1102b ).
- the ramp. (1133b.5.4.5, fig 11b-38 & 39). 13. Intermediate and bottom landings at a change of direction in excess of 30 degrees shall

12. At bottom and intermediate landings, the width shall be at least the same as required for

have a dimension in the direction of ramp run of not less than 72" to accommodate the handrail extension. (1133b.5.4.6, fig 11b-38).

14. Other intermediate landings shall have a dimension in the direction of ramp run of not less

- than 60". ( 1133b.5.4.7, fig 11b-38 ). 15. Handrails are required on ramps that provide access if the ramp slope exceeds 1 foot rise in 20 feet of horizontal run (5 percent gradient), except that at exterior door landings, handrails are not required on ramps less than 6" rise or 72" in length. ( 1133b.5.5.1 ).
- 16. Handrails shall be placed on each side of each ramp, shall be continuous the full length of the ramp, shall be 34 to 38" above the ramp surface to the top of the handrails, shall extend a minimum of 1 foot beyond the top and bottom of the ramp, and shall parallel the floor or ground surface. Handrails shall always be continuous and the ends of handrails shall be either rounded or returned smoothly to the floor, wall or post. ( 1133b.5.5.1, fig
- 17. The grip portion of handrails shall be not less than 1 1/4" nor more than 1 1/2" in cross sectional nominal dimension, or the shape shall provide an equivalent gripping surface. and all surfaces shall be smooth with no sharp corners. Handrails shall not rotate within

a. Handrails may be located in a recess if the recess is a maximum of 3" deep and

elements. Edges shall have a minimum radius of 1/8 i inch. ( 1133b.5.5.1, fig.

- their fittings. ( 1133b.5.5.1, fig 11b-36 ). 18. Handrail projecting from a wall shall have a space of 1 1/2" between the wall and the handrail. (1133b.5.5.1, fig. 11b-36).
- extends at least 18" above the top of the rail. (1133b.5.5.1, fig. 11b-36). b. Any wall or other surface adjacent to handrails shall be free of sharp or abrasive
- 19. Where the ramp surface is not bounded by a wall, the ramp shall comply with one of the following requirements. ( 1133b.5.6, fig. 11b-27(b) & (c) ).
- a. A guide curb a minimum of 2" in height shall be provided at each side of the ramp; (1133b.5.6.1) or b. A wheel guide rail shall be provided, centered 3", plus or minus 1 inch above the

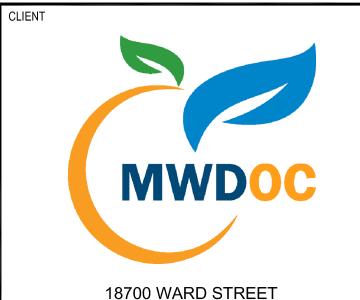
20. In existing buildings or facilities where the extension of the handrail in the direction of the

surface of the ramp. (1133b.5.6.2).

bottom of the ramp. (1133b.5.7).

ramp run would create a hazard, the extension may be turned 90 degrees to the run of the ramp. (1133b.5.5.1.1, 1133b.4.2.4). 21. Ramps more than 30" above the adjacent ground shall be provided with guards that

comply with section 1013. Such guards shall be continuous from the top of the ramp to the



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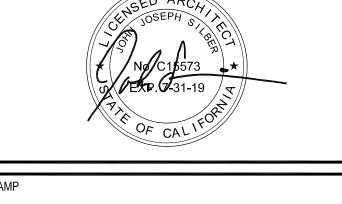
**ADMINISTRATIVE BUILDING-SEISMIC** RETROFIT, ADA **COMPLIANCE AND** TENANT IMPROVEMENT

NGINEER/ARCHITECT



IRVINE, CA 92606 TEL: 949-387-8500, FAX: 949-387-0800

1 PETERS CANYON ROAD, SUITE 130



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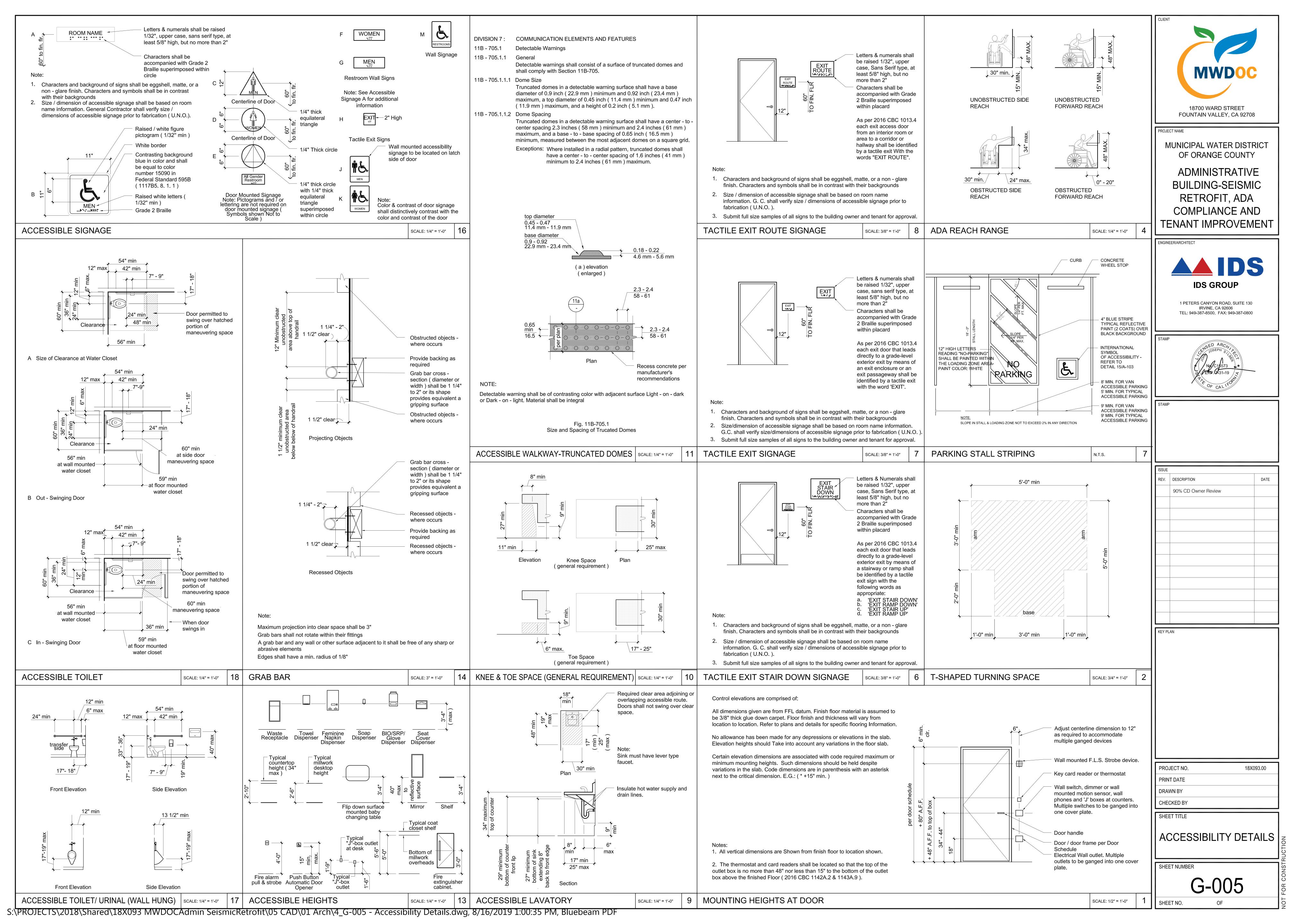
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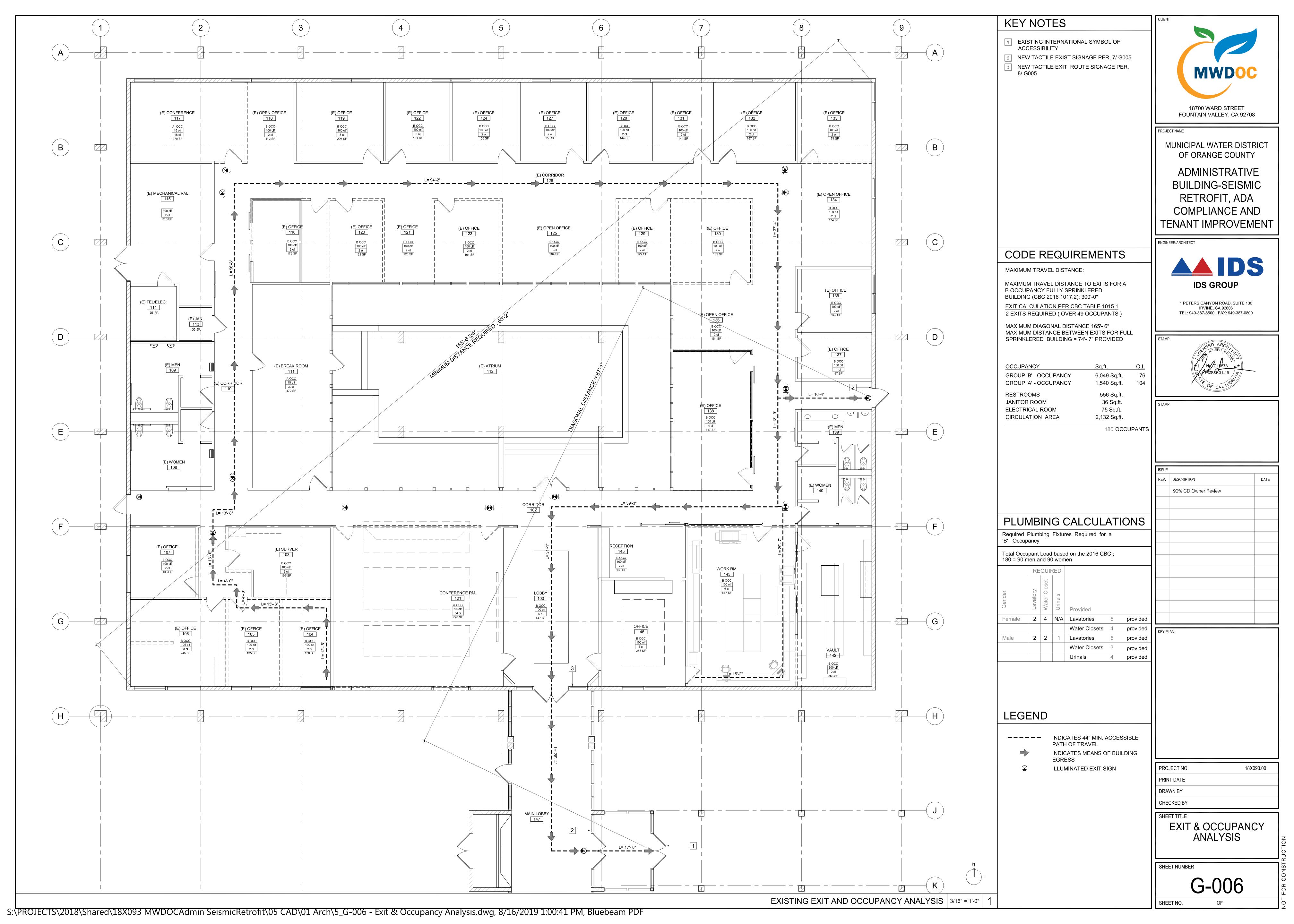
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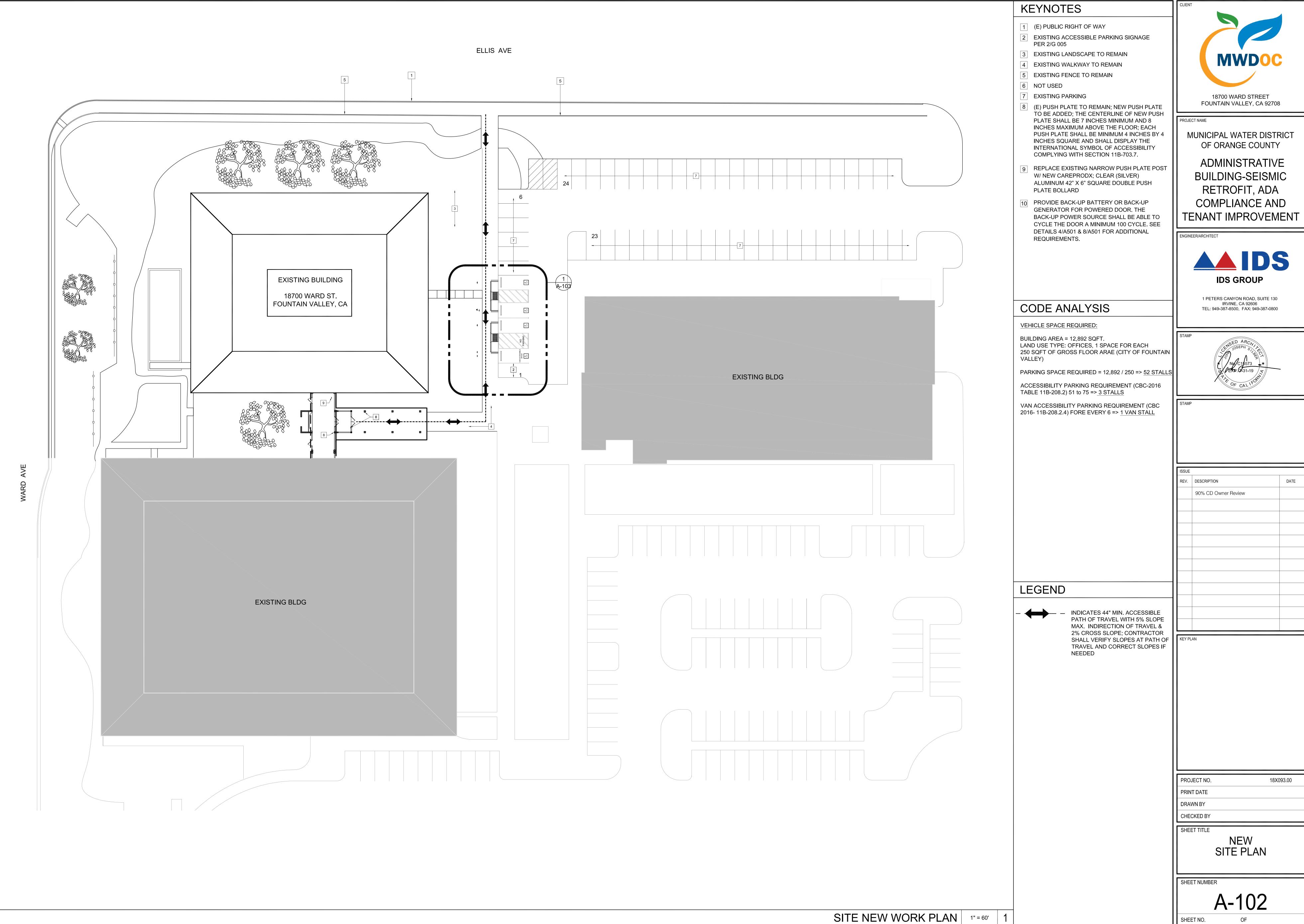
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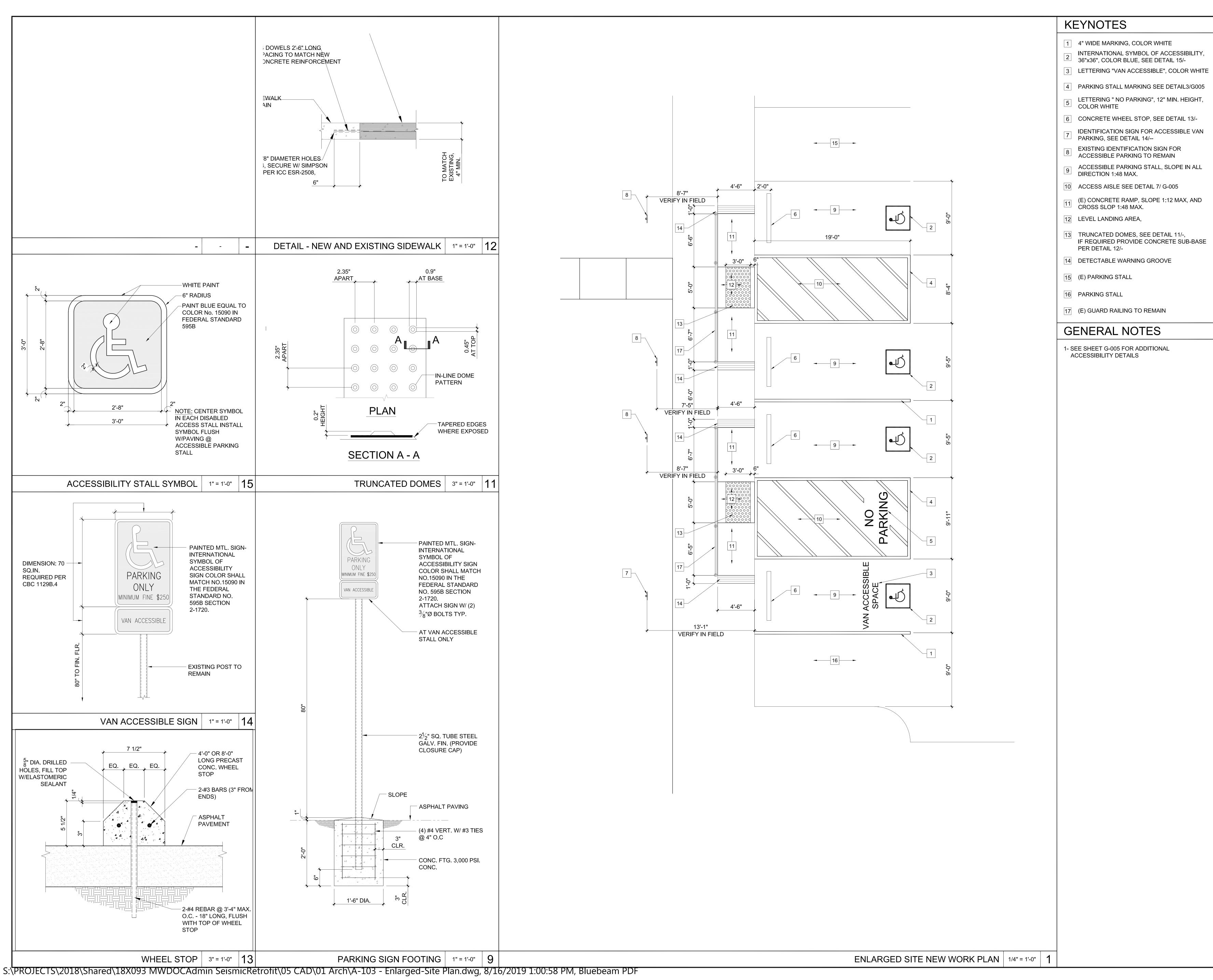
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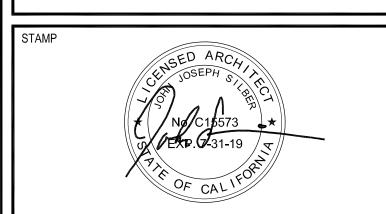
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