

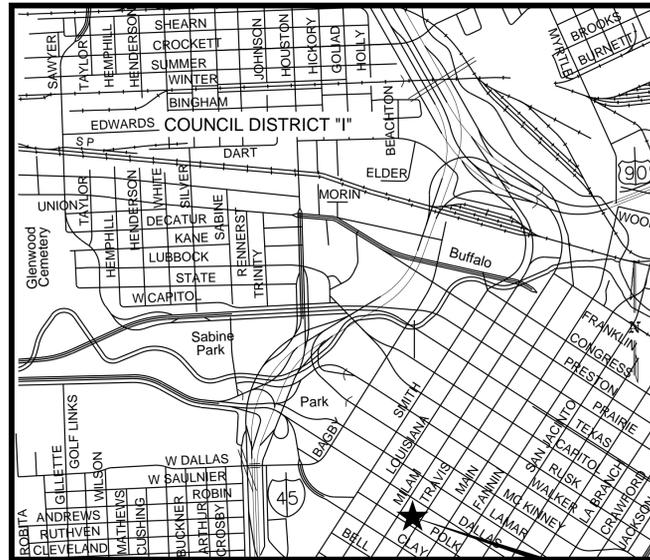
CITY OF HOUSTON

GENERAL SERVICES DEPARTMENT

1200 Travis HPD Hurricane Shutters

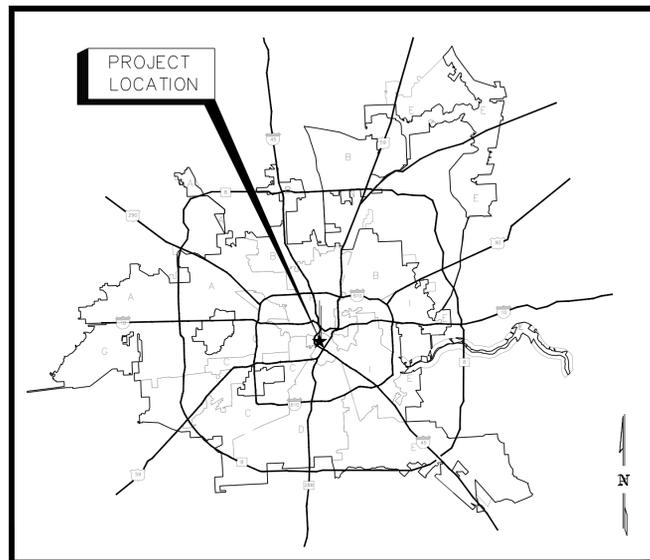
1200 Travis, Houston, TX 77002

WBS No.: G-000129-0001-4



VICINITY MAP

PROJECT SITE



LOCATION MAP



MAYOR
ANNISE D. PARKER

CONTROLLER
RONALD C. GREEN

DISTRICT COUNCIL MEMBERS

HELENA BROWN DISTRICT A	JERRY DAVIS DISTRICT B	ELLEN COHEN DISTRICT C
WANDA ADAMS DISTRICT D	MIKE SULLIVAN DISTRICT E	AL HOANG DISTRICT F
OLIVER PENNINGTON DISTRICT G	EDWARD GONZALEZ DISTRICT H	JAMES G. RODRIGUEZ DISTRICT I
MIKE LASTER DISTRICT J	LARRY GREEN DISTRICT K	

AT-LARGE COUNCIL MEMBERS

STEPHEN C. COSTELLO POSITION 1	ANDREW C. BURKS, JR. POSITION 2
MELISSA NORIEGA POSITION 3	C.O. "BRAD" BRADFORD POSITION 4
JACK CHRISTIE POSITION 5	

CONTRACTING AUTHORITY
FOR THE
CITY OF HOUSTON:

GENERAL SERVICES DEPARTMENT
SCOTT MINNIX, DIRECTOR

INDEX OF SHEETS

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G.002 General Information
G.010 Code Analysis
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A.301 Elevations
A.501 Sections and Details

STRUCTURAL

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S2.00 Floor Plan
S2.01 Floor Plan
S3.00 Sections
S3.01 Sections
S3.02 Sections
S4.01 Details
S4.02 Details

CITY DWG. No: _____
SHEET No. 1

ISSUE LOG

NO.	DATE	DESCRIPTION
1	02.14.2013	PERMIT
2	04.03.2013	BID

CONSULTANT(S):

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Contact: Daron Hester



PROJECT NAME:
City of Houston
Exterior Hurricane Shutters
1200 Travis, Houston, TX 77002



REVIEWED:

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

PROJECT MANAGER _____

DATE: 01/09/2013

G.F.S. No: _____

SCALE: AS NOTED

DRAWN BY: DN

CHECKED BY: GR

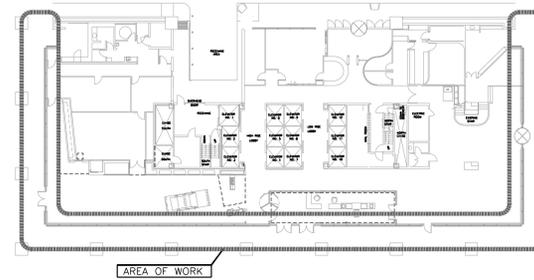
SHEET TITLE:

GENERAL INFORMATION

SHEET NO.:

G.001

CITY DWG. NO.:



1200 TRAVIS - 1st FLOOR
RENOVATION AREA CONFINED TO THE EXTERIOR PERIMETER OF THE BUILDING.

RENOVATION AREA LOCATION



1200 Travis
Houston, TX 77002

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ARCHITECTURAL

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- S2.00 Floor Plan
- S2.01 Floor Plan
- S3.00 Sections
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SCOPE OF WORK DEFINED

SCOPE INCLUDES THE INSTALLATION OF NEW HIGH FULL-HEIGHT ROLLING SHUTTERS ON A NEW STEEL GRID OF EXPOSED COLUMNS AND ABOVE SOFFIT BEAMS AND SUPPORTS ON THE EXTERIOR OF AN EXISTING BUILDING LOBBY TO PROTECT THE APPROXIMATELY 20'-0" HIGH WINDOW WALL.

ADDITIONAL WORK ALSO INCLUDES BUT IS NOT LIMITED TO SAW-CUTTING/REMOVING & PATCHING OF EXTERIOR EXPOSED AGGREGATE CONCRETE PAVING, WATERPROOFING OF THE EXISTING EXTERIOR FLOOR SLAB, NEW PLASTER SOFFIT, REINSTALLATION OF EXISTING EXTERIOR LIGHT FIXTURES, ABOVE CEILING WELDING AND FIRE-PROOFING OF NEW AND EXISTING STEEL STRUCTURAL MEMBERS AND INSTALLATION OF NEW HURRICANE RESISTANT FILM AT SELECTED AREAS OF THE BUILDING, INCLUDING FLOORS LOCATED ABOVE STREET LEVEL.

ABATEMENT OF EXISTING PLASTER SOFFIT AND EXISTING FIRE-PROOFING TO BE PROVIDED BY THE OWNER PRIOR TO START OF WORK.

SHEET INDEX

15 PROJECT DESCRIPTION

11 SITE LOCATION MAP

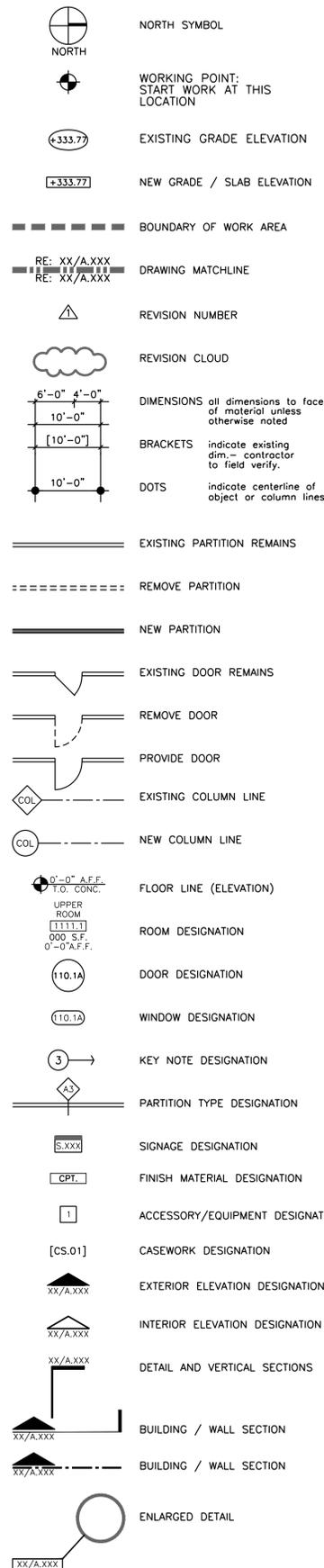
3

14 NOT USED

- 11 GENERAL INFORMATION
- THESE DRAWINGS INDICATE THE GENERAL SCOPE OF THE PROJECT IN TERMS OF THE ARCHITECTURAL DESIGN CONCEPT, THE MAJOR DIMENSIONS, AND THE MAJOR ARCHITECTURAL, STRUCTURAL, MECHANICAL & PLUMBING ELEMENTS.
 - AS SCOPE DOCUMENTS THEY DO NOT NECESSARILY INDICATE ALL WORK REQUIRED FOR FULL PERFORMANCE AND COMPLETION OF THE JOB. ON THE BASIS OF THE GENERAL WORK INDICATED, ALL CONTRACTORS (AND SUBCONTRACTORS) SHALL FURNISH ALL ITEMS REQUIRED FOR THE PROPER EXECUTION AND TIMELY COMPLETION OF THE WORK.
 - PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED. NO CONSTRUCTION OR FABRICATION OF ANY ITEM SHALL BEGIN UNTIL THE CONTRACTOR HAS RECEIVED ALL PLANS AND ANY OTHER DOCUMENTATION FROM ALL OF THE PERMITTING AND ANY OTHER REGULATORY AUTHORITIES. FAILURE OF THE CONTRACTOR TO FOLLOW THIS PROCEDURE SHALL CAUSE THE CONTRACTOR TO ASSUME FULL RESPONSIBILITY FOR ANY SUBSEQUENT MODIFICATION OF THE WORK MANDATED BY ANY REGULATORY AUTHORITY.
 - ALL WORK SHALL COMPLY WITH APPLICABLE STATE AND LOCAL CODES AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE UNLESS PREVIOUSLY OBTAINED BY THE OWNER.
 - ALL WORK SHALL BE PERFORMED IN A FINISHED AND WORKMANLIKE MANNER TO THE ENTIRE SATISFACTION OF THE OWNER & ARCHITECT AND IN ACCORDANCE WITH THE BEST RECOGNIZED TRADE PRACTICES.
 - CONTRACTOR WILL BE HELD TO HAVE STUDIED THE DRAWINGS, TO HAVE VISITED THE SITE, AND TO HAVE SATISFIED HIMSELF REGARDING ALL EXISTING CONDITIONS UNDER WHICH HE WILL BE OBLIGED TO OPERATE. CONTRACTOR SHALL IMMEDIATELY REPORT ANY ERROR, INCONSISTENCY OR OMISSION TO THE ARCHITECT.
 - CONTRACTOR IS TO PROVIDE AND INSTALL ALL NECESSARY PROTECTIVE DEVICES REQUIRED TO PROTECT ANY OWNER'S FURNISHED EQUIPMENT INSTALLED PRIOR TO THE COMPLETION OF THE WORK.
 - CONTRACTOR SHALL COORDINATE ALL DELIVERIES AND ACCESSIBILITY TO THE BUILDING FOR ALL ITEMS.
 - IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK PRIOR TO THE START OF SITE WORK. ALL DAMAGES MADE TO THE EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
 - CONTRACTOR SHALL INCLUDE ALL LABOR, MATERIALS, EQUIPMENT, FIXTURES, AND SERVICE NECESSARY FOR THE PROPER EXECUTION OF THE WORK SHOWN ON THE PLANS.
 - ALL MATERIALS AND EQUIPMENT INCORPORATED IN THE WORK SHALL BE NEW AND ALL WORK BE OF GOOD QUALITY, FREE FROM FAULTS, AND IN CONFORMANCE WITH THE PLANS.
 - CONTRACTOR SHALL KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY HIS OPERATIONS. AT THE COMPLETION OF THE WORK HE SHALL PERFORM A FINAL CLEAN-UP, INSIDE AND OUT, CLEAN ALL GLASS SURFACES AND LEAVE THE PROJECT AREA CLEAN.
 - CONTRACTOR SHALL GUARANTEE FOR 1 (ONE) YEAR THAT ALL OF THE WORK UNDER THE CONTRACT IS FREE FROM FAULTY MATERIALS, WATER-TIGHT AND LEAK-PROOF IN EVERY PARTICULAR AND FREE FROM IMPROPER WORKMANSHIP.
 - CONTRACTOR SHALL SUPERVISE THE WORK AND COORDINATE ALL PORTIONS THEREOF.
 - CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING AND NEW WORK. ANY WORK DAMAGE FOR ANY REASON SHALL BE REPLACED AT NO COST TO THE OWNER.
 - CONTRACTOR SHALL NOT SCALE DRAWINGS - LARGER DRAWINGS AND DETAILS SHALL TAKE PRECEDENCE OVER SMALLER REFERENCED DRAWINGS AND DETAILS.
 - THESE DRAWINGS AND COPIES THEREOF ARE TO BE USED ONLY FOR THIS PROJECT AND ARE NOT TO BE USED IN CONNECTION WITH ANY OTHER PROJECT. CHANGES TO THE DRAWINGS MAY ONLY BE MADE BY THE ARCHITECT. ANY SUBMISSION, DUPLICATION OR DISTRIBUTION OF THESE DRAWINGS WITHOUT THE WRITTEN CONSENT OF THE ARCHITECT MAY BE CONSIDERED AS DEROGATION OF THE ARCHITECT'S COPYRIGHT OR OTHER RESERVED RIGHTS.

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DRAWING SYMBOLS



14 NOT USED

9 GENERAL INFORMATION

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ABBREVIATIONS		7 M.E.P. FLOOR PLAN DRAWING SYMBOLS	
AB ANCHOR BOLT	FA FIRE ALARM	PART PARTITION	○ FLOOR DUPLEX OUTLET
ACOUS ACoustical	FC FIRE CODE	PCF POUNDS PER CUBIC FOOT	⊙ FLOOR TELEPHONE OUTLET
AD ACCESS DR	FD FLOOR DRAIN	PCP PORTLAND CEMENT PLASTER	⊙ FLOOR DATA OUTLET
ADA AMERICAN WITH DISABILITIES ACT	FEC FIRE EXTINGUISHER CABINET	PERF PERFORATED	⊙ FLOOR DATA / ELECTRICAL OUTLET
ADJUST. ADJUSTABLE	FHC FIRE HOSE CABINET	PLAM PLASTIC LAMINATE	⊙ WP WALL MOUNTED DUPLEX POWER OUTLET WITH WEATHERPROOF COVER
ADJ ADJACENT	FIN FINISH (ED)	PLAST PLASTER	⊙ GFI WALL MOUNTED DUPLEX POWER OUTLET (GFI)
AFF ABOVE FINISHED FLOOR	FLASH FLASHING	PLAS PLASTIC	⊙ WALL MOUNTED QUADPLEX POWER OUTLET (GROUNDED)
AGG AGGREGATE	FLR FLOORING	PLBG PLUMBING	◀ WALL MOUNTED TELEPHONE OUTLET (GROUNDED)
AHU AIR HANDLING UNIT	FLRG FLOORING	PLWD PLYWOOD	◀ D WALL MOUNTED DATA / ELECTRICAL OUTLET
ALT ALTERNATE	FLR FLOOR	PNL PANEL	◀ D WALL MOUNTED DATA OUTLET
ALUM ALUMINUM	FLSHG FLASHING	POL POLISHED	◀ D WALL MOUNTED COAX OUTLET
ANOD ANODIZED	FLUR FLUORESCENT	PRKG PARKING	◀ D WALL MOUNTED LIGHT FIXTURE
APPROX APPROXIMATELY	FLOR FLOOR	PR PAIR	⊏ ELECTRICAL J BOX
AP ACCESS PANEL	FLM FLOW LINE	PSF POUNDS PER SQUARE FOOT	▽ WALL MOUNTED TRACK LIGHTING
A-R ABUSE RESISTANT	FR FIRE RETARDANT	PSI POUNDS PER SQUARE INCH	○○○ WALL MOUNTED "HOLLYWOOD" LIGHTING
ARCH ARCHITECT (URAL)	FRPF FIREPROOF	PTD PAINTED	⊏ S.A.C. RECESS MOUNTED SECURITY ACCESS CARD
A/S AS SHOWN	FTS FOOTING	PVC POLYVINYL CHLORIDE	⊏ S.K.P. RECESS MOUNTED SECURITY KEY PAD
ASPH ASPHALT	FT FT (FEET)	PVG PAVING	⊏ S.C.P. RECESS MOUNTED SECURITY CONTROL PANEL
ATN ATTENUATION (ING)	FTN FURNISH	PVMT PAVEMENT	⊏ S. WALL MOUNTED SMOKE DETECTOR
AUTO AUTOMATIC	FURR FURRED (ING)	P.L. PROPERTY LINE	EXIT WALL MOUNTED EXIT LIGHT
AUX AUXILIARY	F.V. FIELD VERIFY	P/C PRECAST	⊕ WALL MOUNTED EMERGENCY LIGHT
AVE AVENUE	GALV GALVANIZED	R RADIUS	⊕ WALL MOUNTED BELL BUTTON
AVG AVERAGE	GAL GALLON	R/AG RETURN AIR GRILLE	⊕ WALL MOUNTED BELL CHIME
A/C AIR CONDITIONING	GAL GAGE	R/A RETURN AIR	⊕ WALL MOUNTED THERMOSTAT
AV AUDIO VISUAL	GC GENERAL CONTRACTOR	RCP REFLECTED CEILING PLAN	⊕ WALL MOUNTED CLOCK
	GD GRADE GRADING	RD ROOF DRAIN	⊕ HANGING LIGHT ABOVE
	GEN GENERAL	REBAR REINFORCING BAR	⊕ CEILING FAN ABOVE
	GI GALVANIZED IRON	RECEPT RECEPTION	⊕ CONTINUOUS SHELF LIGHTING OR UNDER COUNTER LIGHTING
	GL GLASS GLAZING	RECEP RECEPTACLE	⊕ WALL MOUNTED SUPPLY DIFFUSER
	GMMU GLASS MESH MORTAR UNIT	RECOM RECOMMENDATION	⊕ WALL MOUNTED RETURN DIFFUSER
	GMP GUARANTEED MAXIMUM PRICE	REC RECESSED	
	GR GROUND	REG REGULATION	
	GYP GYPSUM	REINF REINFORCED	
		REQD REQUIRED	
		RES RESILIENT	
		RET RETURN	
		REV REVISION	
		RE REFER TO	
		RFG ROOFING	
		RH RIGHT HAND	
		RI RISER	
		RM ROOM	
		RO RIGHT OF WAY	
		R.T.U. ROOF TOP UNIT	
		SCHED SCHEDULE	
		SC SOLID CORE	
		SECT SECTION	
		SF SQUARE FEET	
		SHLV SHELVES(ING)	
		SHTHG SHEATHING	
		SHT SHEET	
		SHWR SHOWERS(S)	
		SPEC SPECIFICATION	
		SQ SQUARE	
		SS STAINLESS STEEL	
		STAB STABILIZE (D)	
		STA STATION	
		STC SOUND TRANSMISSION COEFFICIENT	
		STD STANDARD	
		STL STEEL	
		STG STORAGE	
		STR STRUCTURE (AL)	
		SUSP SUSPENDED	
		SW SWITCH	
		LAV LAVATORY	
		LGTH LENGTH	
		LH LEFT HAND	
		LN LINEAR	
		LCKR LOCKER(S)	
		LL LIVE LOAD	
		LT LIGHT	
		LWT LIGHTWEIGHT	
		MACH MACHINE	
		MAINT MAINTENANCE	
		MAS MASONRY	
		MATL MATERIAL	
		MAX MAXIMUM	
		MB MACHINE BOLT	
		MECH MECHANICAL	
		MEMB MEMBRANE	
		MEP MECHANICAL ELECTRICAL, PLUMBING	
		MFR MANUFACTURER	
		MH MANHOLE	
		MIN MINIMUM	
		MISC MISCELLANEOUS	
		ML METAL LATH	
		MO MASONRY OPENING	
		MR MOISTURE RESISTANT	
		MTD MOUNTED	
		MTG MOUNTING	
		MTL METAL	
		MULL MULLION	
		NIC NOT IN CONTRACT	
		NOM NOMINAL	
		NO. OR # NUMBER	
		NRC NOISE REDUCTION COEFFICIENT	
		NTS NOT TO SCALE	
		OA OVERALL	
		OC ON CENTER (S)	
		OD OUTSIDE DIAMETER	
		OFCL OWNER FURNISHED / CONTRACTOR INSTALL	
		OFF OFFICE	
		OFCL OWNER FURNISHED / CONTRACTOR INSTALL	
		OH OVERHEAD	
		OPH OPPOSITE HAND	
		OPNG OPENING	
		OPF OPPOSITE	
		ORD OVERFLOW ROOF DRAIN	
		O/A OUTSIDE AIR	
		XFMR TRANSFORMER	

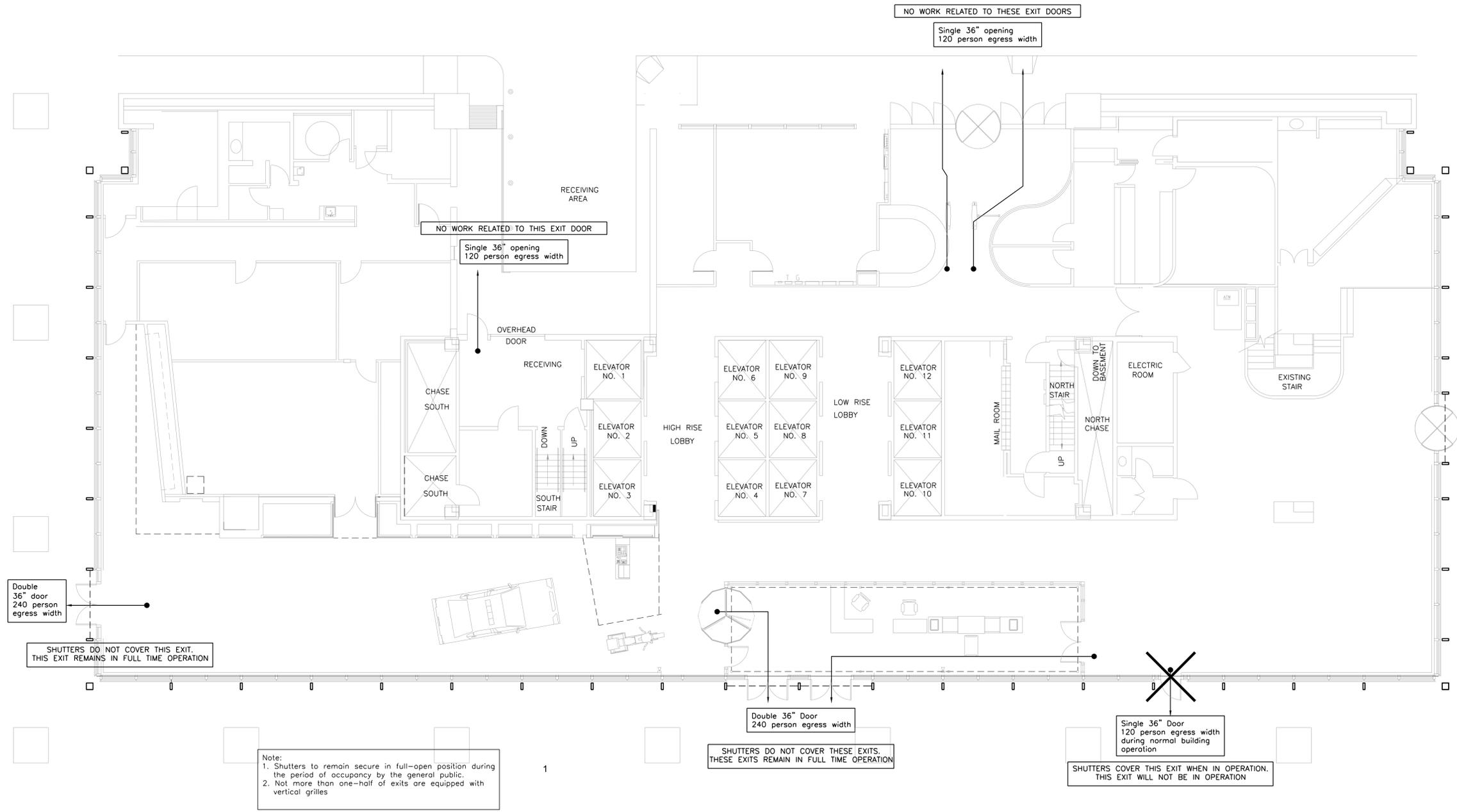
4 MATERIAL CONVENTIONS	
	LOOSE EARTH FILL (SECTION)
	COMPACTED EARTH FILL (SECTION)
	ROCK FILL (SECTION)
	COMMON BRICK (PLAN AND SECTION)
	SPECIALTY BRICK (PLAN AND SECTION)
	TYPICAL CMU (PLAN AND SECTION)
	SPECIALTY CMU (PLAN AND SECTION)
	CAST-IN-PLACE CONCRETE (SECTION)
	TYPICAL STONE (SECTION)
	MARBLE (PLAN AND SECTION)
	TERRAZZO (SECTION)
	CERAMIC TILE (SECTION)
	STEEL (PLAN AND SECTION)
	PLASTIC LAMINATE (SECTION)
	SOLID SURFACING (SECTION)
	CEMENT BOARD (SECTION)
	GYPSUM BOARD (SECTION)
	PLASTER (PLAN AND SECTION)
	PLYWOOD (SECTION)
	FINISHED WOOD (PLAN, ELEV, AND SECTION)
	BATT INSULATION (SECTION)
	ACOUSTICAL TILE (SECTION)
	GLAZING (PLAN AND SECTION)
	WOOD FRAMING - INTERRUPTED (BLOCKING, SHIM, ETC.)
	WOOD FRAMING - CONTINUOUS (SECTION)

ISSUE LOG		
NO.	DATE	DESCRIPTION
1	02.14.2013	PERMIT
2	04.03.2013	BID
CONSULTANT(S) :		
Architectural	Brave/Architecture 4617 Montrose Blvd, Suite C230 Houston, TX 77006 Voice: 713.524.5858 Fax: 713.524.5868 Contact: Greg Ryden	
Structural	Walter P. Moore & Assoc., Inc. 1301 McKinney St. Suite 1100 Houston TX 77010 P: 713.630.7300 F: 713.630.7396 Contact: Daron Hester	
SEAL(S) :		
PROJECT NAME :		
City of Houston Exterior Hurricane Shutters 1200 Travis, Houston, TX 77002		
CITY OF HOUSTON GENERAL SERVICES DEPARTMENT		
REVIEWED :		
PROGRAM MANAGER		SPONSORING DEPARTMENT
PROJECT MANAGER		
DATE : 01/09/2013		
G.F.S. No. :		
SCALE : AS NOTED		
DRAWN BY : DN		
CHECKED BY : GR		
SHEET TITLE :		
GENERAL INFORMATION		
SHEET NO. :		
G.002		
CITY DWG. NO. :		

1	
CITY DWG. NO. :	

CAD FILE :

DESIGN FILE: G:\DC-Program\Drawings\AutoCad\ESD\24436



Note:
 1. Shutters to remain secure in full-open position during the period of occupancy by the general public.
 2. Not more than one-half of exits are equipped with vertical grilles

EXISTING EGRESS PLAN

1/8" = 1'-0" 2

<p>CODE ANALYSIS</p> <p>1. PROJECT DESCRIPTION: Project is for design of exterior protection of existing lobb glazing w/ use of mechanical roll down shutters.</p> <p>Project Name: City of Houston - 1200 Travis Hurricane Shutters Project Location: 1200 Travis 1st Floor Houston, TX 77002 Brave Project No: 12183 Analysis By: Greg Ryden Date(s): 01.15.13</p> <p>2. GOVERNING AGENCY(s): City of Houston</p> <p>3. GOVERNING CODE(s): 2006 International Building Code w/ COH amendments 2009 International Fire Code 2000 Uniform Plumbing Code 2005 National Electrical Code Texas Accessibility Standards with Latest Amendments</p> <p>4. OCCUPANCY CLASSIFICATION : (EXISTING) Business 8, Office, Section 304.1, page 26</p> <p>5. CONSTRUCTION TYPE: Table 601, page 83 Type I A * BUILDING IS FULLY SPRINKLERED</p> <p>NOTE: DEPLOYED SHUTTERS WOULD AMOUNT TO THE LOSS OF (1) 180 PERSON EXIT FROM THE FIRST FLOOR LOBBY</p>	<p>DATE : 01/09/2013</p> <p>G.F.S. No : AS NOTED</p> <p>SCALE : _____</p> <p>DRAWN BY : DN</p> <p>CHECKED BY : GR</p> <p>SHEET TITLE : CODE ANALYSIS</p> <p>SHEET NO. : G.010</p> <p>CITY DWG. NO. : _____</p>
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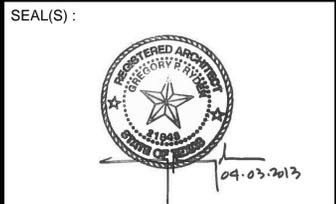
CODE ANALYSIS

ISSUE LOG		
NO.	DATE	DESCRIPTION
1	02.14.2013	PERMIT
2	03.08.2013	PERMIT COMMENTS
3	04.03.2013	BID

CONSULTANT(S) :

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 Houston TX 77010
 P: 713.630.7300
 F: 713.630.7396
 Contact: Daron Hester



PROJECT NAME :
 City of Houston
 Exterior Hurricane Shutters
 1200 Travis, Houston, TX 77002



REVIEWED :

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

PROJECT MANAGER _____

4.2 SPACE ALLOWANCES AND REACH RANGES

TAS SECTIONS 4.2.1 - WHEELCHAIR PASSAGE WIDTH

- A. The minimum clear width for single wheelchair passage shall be 32" at a point and 36" continuously

TAS SECTIONS 4.2.2 - WIDTH FOR WHEELCHAIR PASSING

- A. The minimum clear width for two wheelchairs to pass is 60"

TAS SECTIONS 4.2.4.1 - SIZE AND APPROACH

- A. Minimum clear floor space for a wheelchair and occupant shall be 30" wide x 48" long. Clear floor space shall be centered on the element it serves.

4.3 ACCESSIBLE ROUTE

TAS SECTIONS 4.3.2 - LOCATION

- A. At least one accessible route shall be provided from public transportation stops, accessible parking and loading zones, and public streets or sidewalks to the accessible building entrance.

TAS SECTIONS 4.3.3 - WIDTH

- A. The minimum clear width of an accessible route shall be 36" except at doors.

TAS SECTIONS 4.3.4 - PASSING SPACE

- A. If an accessible route is less than 60" in width, then passing spaces of at least 60"x60" shall be provided at 200' max. spacing.

TAS SECTIONS 4.3.5 - HEAD ROOM

- A. Accessible routes shall have 80" min. clear head room.

TAS SECTIONS 4.3.7 - SLOPE

- A. Running slope shall not exceed 1:20. (If slope exceeds 1:20, refer to section 4.8)
B. Cross slope shall not exceed 1:50

4.4 PROTRUDING OBJECTS (REF. DET. 5.2 & 5.3)

TAS SECTIONS 4.4.1 - GENERAL

- A. Objects projecting from walls (for example, telephones) with their leading edges between 27"-80" above the finished floor shall protrude no more than 4" into walks, halls, corridors, passageways, or aisles. Objects mounted with their leading edges at or below 27" above the finished floor may protrude any amount. Free-standing objects mounted on posts or pylons may overhang 12" maximum from 27"-80" above the ground or finished floor. Protruding objects shall not reduce the clear width of an accessible route or maneuvering space.

4.5 GROUND AND FLOOR SURFACES (REF. DET. 5.1)

TAS SECTIONS 4.5.2 - CHANGES IN LEVEL

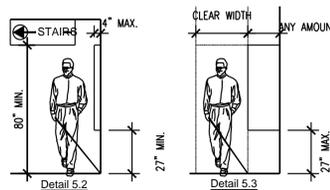
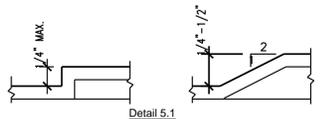
- A. Changes in level up to 1/4" may be vertice and without edge treatment
B. Changes in level between 1/4" and 1/2" shall be beveled with a slope no greater than 1:2.

TAS SECTIONS 4.5.3 - CARPET

- A. Carpet provided on a floor surface shall be securely attached; have a firm pad or backing, or no pad; and have a level loop, textured loop, level cut pile, or level cut/uncut pile texture. Maximum pile thickness shall be 1/2". Exposed edges of carpet shall be fastened to floor surfaces and have trim along the exposed edges.

TAS SECTIONS 4.5.4 - GRATINGS

- A. If gratings are located in walking surfaces or along accessible routes, then they shall have spaces no greater than 1/2" wide in one direction.
B. If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominant direction of travel.



4.6 PARKING AND PASSENGER LOADING ZONES

TAS SECTIONS 4.6.3 - PARKING SPACES

- A. Accessible parking shall be at least 96" wide.
B. Parking access aisles shall be 60" wide. Van accessible access aisles shall be 96" wide.
C. Surface slope shall not exceed 1:50 in all directions

TAS SECTIONS 4.6.4 - SIGNAGE

- A. Characters and symbols on such signs shall be located 60" minimum above the ground.
B. Signage located within an accessible route shall be located 80" min. above the walking surface.

TAS SECTIONS 4.6.5 - VERTICAL CLEARANCE

- A. Provide minimum vehicle clearance of 11'4" at accessible passenger loading zones and along at least one vehicle access route from site entrances and exits.

TAS SECTIONS 4.6.6 - PASSENGER LOADING ZONE

- A. Passenger loading zones shall provide an access aisle at least 60" wide and 20 ft long adjacent and parallel to the vehicle pull-up space. If there are curbs between the access aisle and the vehicle pull-up space, then a curb ramp complying with 4.7 shall be provided. Vehicle standing spaces and access aisles shall be level with surface slopes not exceeding 1:50 in all directions.

4.7 CURB RAMPS

TAS SECTIONS 4.7.2 - SLOPE (REFERENCE DETAIL 3.1)

- A. Slopes of curb ramps shall comply with 4.8.2.
B. Maximum slopes of adjoining gutters, road surface immediately adjacent to the curb ramp, or accessible route shall not exceed 1:20.

TAS SECTIONS 4.7.3 - WIDTH (REFERENCE DETAIL 3.1)

- A. The minimum width of a curb ramp shall be 36", exclusive of flared sides.

TAS SECTIONS 4.7.5 - SIDES OF CURB RAMPS (REFERENCE DETAIL 3.1)

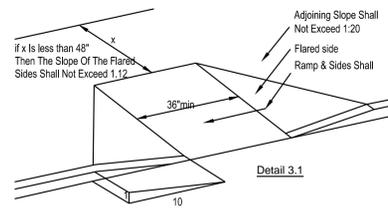
- A. If a curb ramp is located where pedestrians must walk across the ramp or where it is not protected by handrails or guardrails, it shall have flared sides; the maximum slope of the flare shall be 1:10

TAS SECTIONS 4.7.10 - DIAGONAL CURB RAMPS

- A. If diagonal curb ramps have returned curbs or other well-defined edges, such edges shall be parallel to the direction of pedestrian flow. The bottom of diagonal curb ramps shall have 48" minimum clear space. If diagonal curb ramps are provided at marked crossings, the 48" clear space shall be within the markings. If diagonal curb ramps have flared sides, they shall also have at least a 24" long segment of straight curb located on each side of the curb ramp and within the marked crossing.

TAS SECTIONS 4.7.11 - ISLANDS

- A. Any raised islands in crossings shall be cut through level with the street or curb ramps at both sides and a level area at least 48" long between the curb ramps in the part of the island intersected by the crossings.



4.8 RAMPS

TAS SECTIONS 4.8.1 - GENERAL

- A. Any part of an accessible route with a slope greater than 1:20 shall be considered a ramp and shall comply with 4.8

TAS SECTIONS 4.8.2 - SLOPE AND RISE

- A. The least possible slope shall be used for any ramp. The maximum slope of a ramp in new construction shall be 1:12. The maximum rise for any run shall be 30"

TAS SECTIONS 4.8.3 - CLEAR WIDTH

- A. The minimum clear width of a ramp 30 ft or less in length shall be 36". Ramps more than 30 ft. in length shall have a minimum clear width of 44"

TAS SECTION 4.8.4 - LANDINGS

- A. Level landings required at top and bottom of each run, with the following features:
1. Minimum Width: Equal to width of ramp
2. Length: Minimum 60" clear

TAS SECTION 4.8.5 - HANDRAILS

- A. Height: 34-38" above ramp surface
B. The clear space between the handrail and the wall shall be 1-1/2"

TAS SECTIONS 4.8.7 - EDGE PROTECTION

- A. Ramps and landings with drop offs shall have curbs, walls, railings, or projecting surfaces that prevent slipping off the ramp. Curbs shall be a minimum of 2" high.

4.9 STAIRS

TAS SECTIONS 4.9.2 - TREADS AND RISERS

- A. All steps on a flight of stairs shall have uniform riser heights and tread widths
1. Minimum tread depth shall be 11", measured from riser to riser (not including nosing)
2. Open risers are not permitted

TAS SECTION 4.9.4 - HANDRAILS

- A. Non-continuous handrails shall extend 12" beyond the top riser and 12" plus the width of one tread beyond the bottom riser. At the top, the extension shall be parallel to the floor. At the bottom, the handrail shall continue to slope for a distance of one tread width (11"); the remaining extension shall be horizontal.
B. Height: 34" - 38", measured from the stair nosing.

4.10 ELEVATORS

TAS SECTIONS 4.10.3 - HALL CALL BUTTONS

- A. Shall be centered 42" above floor

TAS SECTIONS 4.10.4 - HALL LANTERNS

- A. Visible signals shall have the following features:
1. Fixtures shall be mounted with centerline at least 72" above the lobby floor
2. Visual elements shall be at least 2-1/2" in the smallest dimension

- A. All elevator hoistway entrances shall have raised and Braille floor no. designations provided on both jamps. Centerline of the characters shall be 60" above the floor. Characters shall be 2" high.

TAS SECTIONS 4.10.6 - DOOR PROTECTIVE AND REOPENING DEVICE

- A. Elevator doors shall open and close automatically. They shall be provided with a reopening device that will stop and reopen a car door and hoistway door automatically if the door becomes obstructed by an object or person.

TAS SECTIONS 4.10.12 - CAR CONTROLS

- A. All floor buttons shall be:
1. All control buttons shall be at least 3/4" in their smallest dim. They shall be flush or raised.
2. All control buttons shall be designated by Braille and by raised standard alphabet characters for letters, arabic characters for numerals. The call button for the main entry floor shall be designated by a raised star at the left of the floor designation.
3. Maximum 54" above floor where side approach is provided
4. Maximum 48" where forward approach is provided
B. Emergency Controls:
1. Shall have centerlines 35" minimum above floor
2. Shall be grouped at bottom of panel

4.11 PLATFORM LIFTS

TAS SECTIONS 4.11.2, 4.27.3 - OTHER REQUIREMENTS, CONTROLS AND OPERATING SYSTEMS

- A. Heights permitted:
Controls and operating mechanisms shall be located for either a forward or side approach from any direction of travel. They shall be located 28" min. and 48" maximum above the floor. They shall be operable with one hand. There shall be at least one handrail complying with 4.26. Wheelstops and guardrails shall be provided where necessary.

4.13 DOORS

TAS SECTION 4.13.4 - DOUBLE - LEAF DOORWAYS

- A. Doorways with two independently operated leaves shall have at least one leaf that meets the requirements in 4.13.5 and 4.13.6.

TAS SECTION 4.13.5 - CLEAR WIDTH

- A. Doorways shall provide a clear opening of 32" minimum, with the door open 90".
1. Clear opening shall be measured between the face of the door and stop.
2. Openings more than 24" in depth shall provide a clear opening of 36" minimum.

Exception: Doors not requiring full user passage, such as shallow closets, shall have a clear opening of 20" minimum.

TAS SECTION 4.13.6 - MANEUVERING CLEARANCES AT DOORS

- A. Provide level and clear maneuvering area at doors as follows:
Front approach pull side - 18" min. beside strike edge
Front approach push side - 0" beside strike edge
12" if door has both a closer and a latch
Hinge side approach pull side - 60" min. width; 36" min. beside strike edge
Hinge side approach push side - 42" min. width
48" min. width if door has both a closer and latch
Latch side approach pull side - 48" min. width and 24" min. beside strike edge
54" min. width if door has closer
Latch side approach push side - 42" min. width and 24" min. beside strike edge
48" min. width if door has closer

TAS SECTION 4.13.8 - THRESHOLDS AT DOORWAYS

- A. Maximum threshold height: 1/2" (3/4" at exterior sliding doors). Raised thresholds and floor level changes shall be beveled with a slope no greater than 1:2.

TAS SECTION 4.13.9 - DOOR HARDWARE

- A. Handles, pulls, latches, locks, and other operating devices shall have a shape that is easy to grasp with one hand and does not require tight grasping, tight pinching, or twisting of the wrist to operate.
1. Lever-operated mechanisms, push-type mechanisms, and U-shaped handles are acceptable designs.
2. When sliding doors are fully open, operating hardware shall be exposed and usable from both sides.
3. Hardware required for passage shall be mounted no higher than 48" above finished floor.

TAS SECTION 4.13.10 - DOOR CLOSERS

- A. If a door has a closer, then the sweep period of the closer shall be adjusted so that from an open position of 70°, the door will take at least 3 seconds to move to a point 3" from the latch, measured to the leading edge of the door.

TAS SECTION 4.13.11 - DOOR OPENING FORCE

- A. The maximum force for pushing or pulling open a door shall be as follows:
1. Fire doors shall have the minimum opening force allowable by the appropriate administrative authority.
2. Other doors
a. Exterior hinged doors: no requirement.
b. Interior hinged doors: 5.0 lbf.
c. Sliding or folding doors: 5.0 lbf.
These forces do not apply to the force required to retract latch bolts or disengage the devices that may hold the door in a closed position.

4.15 DRINKING FOUNTAINS

TAS SECTION 4.15.2 - SPOUT HEIGHT (REFERENCE DETAIL 11.1)

- A. Spouts shall be no higher than 36", measured from the floor or ground surface to the spout outlet.

TAS SECTION 4.15.3 - SPOUT LOCATION

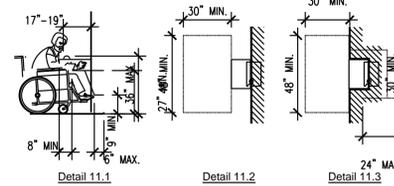
- A. Spouts shall be located at the front of the unit and shall direct the water flow in a trajectory that is parallel or nearly parallel to the front of the unit.
1. The spout shall provide a flow of water at least 4" high.
2. If the fountain has a round or oval bowl, the spout must be positioned so the flow of water is within 3" of the front edge of the fountain.

TAS SECTION 4.15.4 - CONTROLS

- A. Unit controls shall be front mounted or side mounted near the front edge.

TAS SECTION 4.15.5 - CLEARANCES (REFERENCE DETAIL 11.1)

- A. Wall and post mounted cantilever fountains shall have clear knee space as follows:
1. Minimum 27" high (from apron bottom to floor) minimum 30" wide, and 17" - 19" deep.
2. A minimum 30" by 48" clear floor space allowing a forward approach to the unit shall be provided.
B. Free standing or built-in units not having a clear knee space shall have a minimum 30" by 48" clear floor space allowing a parallel approach to the unit.



4.16 WATER CLOSETS

TAS SECTION 4.16.2 - CLEAR FLOOR SPACE

- A. Clear floor space for water closets not in stalls shall be provided as follows:
Front approach - 48" min. wide x 66" min. long
Side approach - 56" min. to front of toilet x 48" min. wide
Both approach - 60" min. wide x 56" min. long

TAS SECTION 4.16.3 - HEIGHT (REFERENCE DETAIL 12.1.1)

- A. The height to the top of the toilet seat shall be 17" - 19" above floor.
1. Seats shall not be sprung to return to a lifted position.

TAS SECTIONS 4.16.4, 4.26 - GRAB BARS (REFERENCE DETAILS 12.1.1 AND 12.1.2)

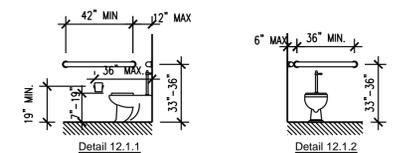
- A. For water closets not located in toilet stalls, the following grab bars shall be provided, 33" - 36" above the finish floor:
1. Side wall: 42" long minimum, 12" from back wall.
2. Back wall: 36" long minimum, 12" minimum each side of water closet centerline.
Refer to 4.26 Grab Bars for size and structural elements.

TAS SECTIONS 4.16.5, 4.27.4 - FLUSH CONTROLS (REFERENCE DETAIL 12.1.2)

- A. Controls shall be 44" maximum above the finish floor.
1. Controls for flush valves shall be mounted on the wide side of toilet areas.
2. Controls shall be hand operated or automatic.
3. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
4. The force required to activate controls shall be no greater than 5 lbf.

TAS SECTION 4.16.6 - DISPENSERS (REFERENCE DETAIL 12.1.1)

- A. Toilet paper dispensers shall be installed on the side wall, a minimum 19" above the floor, and a maximum 36" from the rear wall.
1. Dispensers that control delivery or do not permit continuous paper flow shall not be used.



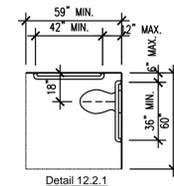
4.17 TOILET STALLS

TAS SECTION 4.22.4 - WHERE APPLICABLE

- A. If toilet stalls are provided in a toilet room or bathroom, then at least one shall be a "standard" accessible toilet stall (for wheelchair users) complying with this section.
B. If 6 or more toilet stalls are provided in a toilet room or bathroom in addition to the "standard" accessible stall required, an additional "alternate A" accessible stall 36" wide (for ambulatory persons with disabilities) complying with this section shall be provided.
C. Alterations/Existing Conditions: In alteration work, where provision of a "standard" accessible stall is technically infeasible, or where plumbing code requirements prevent combining existing stalls to provide space, either "alternate" stall (A or B) complying with this section may be provided in lieu of the standard stall.

TAS SECTION 4.17.3 - SIZE AND ARRANGEMENT (REFERENCE DETAIL 12.2.1)

- A. Toilet stalls may be arranged to provide either a left or a right handed approach. Accessible toilet stalls shall have the following dimensions:
1. "Standard" Accessible Stall
60" minimum width.
60" minimum depth, with floor mounted water closet
56" minimum depth, with wall mounted water closet
Door: outward swinging (if door swings into stall, depth shall be increased by 30")
2. "Alternate A" Accessible Stall (required when more than 6 stalls provided, permitted in lieu of standard stall in certain alterations)
48" minimum width.
69" minimum depth, with floor mounted water closet.
66" minimum depth with wall mounted water closet
Door: outward swinging.
3. "Alternate B" Accessible Stall (permitted in lieu of standard stall only in certain alterations)
48" minimum width.
54" minimum depth.
Door: outward swinging.



TAS SECTION 4.17.4 - TOE CLEARANCES

- A. In "Standard" accessible stalls, the front partition and at least one side partition shall provide a toe clearance of at least 9" above the floor.
B. If the depth of the stall is greater than 60", the toe clearance is not required.

TAS SECTION 4.17.5 - DOORS

- A. Toilet stall doors, including hardware, shall comply with ELEMENT 10: DOORS
B. If toilet stall approach is from the latch side of the stall door, clearance between the door side of the stall and any obstruction shall be 42" minimum. (This is an exception from typical door maneuvering clearances)

TAS SECTION 4.17.6 - GRAB BARS (REFERENCE DETAILS 12.1.1, 12.1.2, AND 12.2.1)

- A. Grab Bars mounted 33" - 36" above the floor, shall be provided as follows:
1. "Standard" Accessible Stall: One 40" side wall grab bar (on rear wall) and one rear wall grab bar.
2. "Alternate A" Accessible Stall: 42" side wall grab bar each side.
3. "Alternate B" Accessible stall: One 42" side wall grab bar (on rear wall), one rear wall grab bar.
4. Side Wall Grab Bar: Minimum length as indicated, mounted 12" maximum off rear wall.
5. Rear Wall Grab Bar: Minimum length 36", 12" minimum each side of water closet centerline.
Refer to 4.26 Grab Bars for size and structural requirements.

4.18 URINALS

TAS SECTION 4.18.2 - HEIGHT (REFERENCE DETAIL 12.3.1)

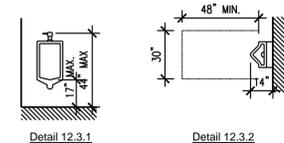
- A. Urinals shall be stall-type or wallhung with a tapered, elongated rim at 17" maximum above the finished floor. The rim shall extend a minimum of 14" from the wall.

TAS SECTION 4.18.3 - CLEAR FLOOR SPACE (REFERENCE DETAIL 12.3.2)

- A. A clear floor space 30" wide by 48" deep minimum shall be provided in front of urinal to allow frontal approach.
1. This space shall adjoin or overlap an accessible route.
2. Urinal shield that do not extend beyond the front edge of the urinal rim may be provided with 29" clearance between them.
3. Urinals installed in alcoves deeper than 24" require a maneuvering area of at least 36" minimum wide.

TAS SECTION 4.18.4 - FLUSH CONTROLS (REFERENCE DETAIL 12.3.1)

- A. Controls shall be 44" maximum above the finished floor.
1. Controls shall be hand operated or automatic.
2. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
3. The force required to activate controls shall be no greater than 5 lbf.



ISSUE LOG

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1	02.14.2013	PERMIT
2	04.03.2013	BID

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PROJECT NAME :
City of Houston
Exterior Hurricane Shutters
1200 Travis, Houston, TX 77002



CITY OF HOUSTON
GENERAL SERVICES
DEPARTMENT

REVIEWED :

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

PROJECT MANAGER _____

DATE : 01/09/2013

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SHEET TITLE :

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GUIDELINES

SHEET NO. :

G.020

CITY DWG. NO. :

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4.19 LAVATORIES & MIRRORS

TAS SECTION 4.19.2 - HEIGHT & CLEARANCES (REFERENCE DETAIL 12.5.1 AND 12.5.2)

- A. Lavatories shall be mounted with the rim or counter surface no higher than 34" above the finished floor.
1. Lavatories shall extend 17" minimum from the wall.
2. Clearance of 29" minimum shall be provided from the finished floor to bottom of apron.
3. Knee clearance of 27" minimum shall extend 8" minimum under the edge of the lavatory.
4. Toe clearance of 9" minimum shall be provided for the full depth of the lavatory.

TAS SECTION 4.19.4 - EXPOSED PIPES AND SURFACES

- A. Hot water and drain pipes under lavatories shall be insulated or otherwise configured to protect against contact.
B. There shall be no sharp or abrasive surfaces under lavatories.

TAS SECTIONS 4.19.5, 4.27.4 - FAUCETS

- A. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
B. The force required to activate controls shall be no greater than 5 lbf.
C. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs.
D. If self-closing valves are used the faucet shall remain open for at least 10 seconds.

TAS SECTION 4.19.6 - MIRRORS (REFERENCE DETAIL 12.5.1)

- A. Mirrors shall be mounted with the bottom edge of the reflecting surface 40" maximum above the finished floor.

4.20 BATHTUBS

TAS SECTION 4.20.2 - FLOOR SPACE

- A. Clear floor space shall be provided in front of bathtubs as follows: 30" wide x 60" long beside the bathtub for side approach; 48" wide x 60" long beside the bathtub for front approach with seat at head of tub - 30" wide x 75" long beside tub

TAS SECTION 4.20.3 - SEAT

- A. An in-tub seat or a seat at the head end of the tub shall be provided. Seats shall be mounted securely and shall not slip during use.

TAS SECTIONS 4.20.4 - GRAB BARS

- A. Heights permitted:
1. With in Tub Seat: Control wall: 24" long minimum, from outside wall, 33-36" above floor. Back wall: 2 bars, 24" long minimum, 12" maximum from foot end, 24" maximum from head end; one 33-36" above floor, one 9" above the tub. Head wall: 12" minimum, from outside wall, 33-36" above floor.
2. With Seat at Head of Tub: Control wall: 24" long minimum, from outside wall, 33-36" above floor. Back wall: 2 bars, 48" long minimum, 12" maximum from foot end, 15" maximum from head end; one 33-36" above floor, one 9" above the tub. Head wall: none

TAS SECTION 4.20.6 - SHOWER UNIT

- A. A shower spray unit with a hose at least 60" long shall be provided.

4.21 SHOWER STALLS

TAS SECTION 4.21.2 - SIZE AND CLEARANCES

- A. Shower stalls shall be either 36"x36" clear inside dimension or 30" min. x 60" min. clear inside dimension.

TAS SECTIONS 4.21.3 - SEAT

- A. Seat is required in 36"x36" stalls, and shall have the following features:
1. Shall be 17"-19" above bathroom floor
2. Shall extend the full depth of the stall
3. Shall be located on the wall opposite control wall
4. Maximum space between wall and seat edge shall be 1-1/2"
5. Shall project 16" maximum into stall width, except at the rear 15" maximum of the stall, where the seat may project 23"

TAS SECTIONS 4.21.4 - GRAB BARS

- A. Grab bars shall be mounted 33-36" above floor

TAS SECTIONS 4.21.5 - CONTROLS

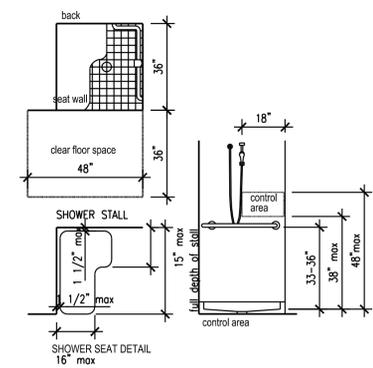
- A. All shower controls shall be located 38" minimum and 48" maximum above the floor

TAS SECTION 4.21.6 - SHOWER UNIT

- A. A shower spray unit with a hose at least 60" long that can be used both as a fixed shower head and as a hand held shower shall be provided. The mounting device shall comply with the requirements for forward reach.

TAS SECTIONS 4.21.7 - CURBS

- A. If provided, curbs on transfer showers shall be no higher than 1/2" roll-in showers shall not have curbs



4.22 TOILET ROOMS

TAS SECTIONS 4.22.2 - DOORS

- A. All doors to accessible toilet rooms shall comply with 4.13. Doors shall not swing into clear floor space required for any fixture. Clear floor turning space may overlap door swings.

TAS SECTIONS 4.22.3 - CLEAR FLOOR SPACE

- A. The accessible fixtures and controls required in 4.22.4, 4.22.5, 4.22.6, 4.22.7 shall be on an accessible route. An unobstructed turning space complying with 4.2.3 shall be provided within an accessible toilet room. The clear floor space at fixtures and controls, the accessible route, and the turning space may overlap, however, the only turning space provided shall not be located within a stall.

TAS SECTIONS 4.22.4 - WATER CLOSETS

- A. If toilet stalls are provided, then at least one shall be a standard toilet stall complying with 4.17, where 6 or more stalls are provided in addition to the stall complying with 4.17.3, at least one shall 36" wide with an outward swinging, self-closing door and parallel grab bars shall be provided. Water closets in such stalls shall comply with 4.16.

TAS SECTIONS 4.22.5 - URINALS

- A. If urinals are provided, then at least one shall comply with 4.18.

TAS SECTIONS 4.22.6 - LAVATORIES AND MIRRORS

- A. If lavatories and mirrors are provided, then at least one of each shall comply with 4.19. Accessible lavatories and mirrors shall not be located within toilet stalls unless other accessible lavatories and mirrors are provided in the toilet room.

TAS SECTIONS 4.22.7 - CONTROLS AND DISPENSERS

- A. If controls, dispensers, receptacles, or other equipment are provided, then at least one of each shall be on an accessible route and shall comply with 4.27 - (Controls & Operating Mechanisms).

4.23 - BATHROOMS, BATHING FACILITIES, AND SHOWER ROOMS

TAS SECTION 4.23.8 - BATHING AND SHOWER FACILITIES

- A. If tubs and showers are provided, then at least one accessible tub that complies with 4.20 or at least one accessible shower that complies with 4.21 shall be provided

4.24 - SINKS

TAS SECTION 4.24.2 - HEIGHT (REFERENCE DETAIL 12.5.1)

- A. Sinks shall be mounted with the rim or counter surface no higher than 34" above the finished floor.

TAS SECTIONS 4.24.3 - KNEE CLEARANCE (REFERENCE DETAIL 12.5.1)

- A. Knee clearance of 27" high minimum, 30" wide minimum, and 19" deep minimum shall be provided underneath sinks.

TAS SECTION 4.24.4 - DEPTH

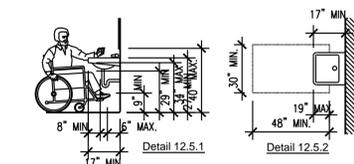
- A. Each sink shall be a maximum of 6-1/2" deep.

TAS SECTION 4.24.6 - EXPOSED PIPES AND SURFACES

- A. Hot water and drain pipes under sinks shall be insulated or otherwise configured to protect against contact.
B. There shall be no sharp or abrasive surfaces under sinks.

TAS SECTION 4.24.7, 4.27.4 - FAUCETS

- A. Controls shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
B. The force required to activate controls shall be no greater than 5 lbf.
C. Lever-operated, push-type, and electronically controlled mechanisms are examples of acceptable designs.
D. If self-closing valves are used the faucet shall remain open for at least 10 seconds.



4.25 - STORAGE

TAS SECTION 4.25.1 - DEPTH (REFERENCE DETAIL 14.1)

- A. Storage areas may be 36" in depth or less. If more than 36" in depth then area must allow 60" diameter of clear floor space for turning.

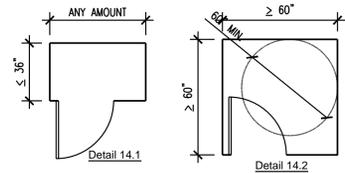
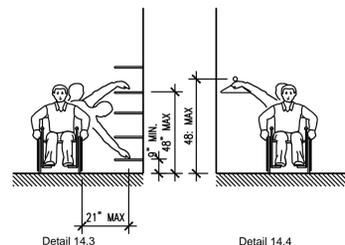
TAS SECTION 4.25.2 - CLEAR FLOOR SPACE: (REFERENCE DETAIL 14.2)

TAS SECTION 4.25.3 - HEIGHT (REFERENCE DETAIL 14.3 AND 14.4)

- A. Where a forward reach is required, accessible storage spaces shall be 48" maximum and 15" minimum above the floor. If the forward reach is over an obstruction (with knee space equal to or greater than reach distance) 20"-25" deep, the maximum height shall be 44"; if the obstruction is less than 20", maximum height shall be 48".
B. Where a side reach is provided, accessible storage spaces shall be 54" maximum and 9" minimum above the floor. Maximum height shall be 46" for side reach over an obstruction 34" maximum high and 24" maximum deep.
C. Clothes rods or shelves shall be a maximum 54" above floor where a side reach is required.
D. Where the distance from the wheelchair to the clothes rod or shelf exceeds 10" (as at closets with inaccessible doors) the following criteria shall be met:
1. Shelves: Reach: 21" maximum; height: 48" maximum, 9" minimum.
2. Clothes rods: reach 21" maximum; height: 48" maximum.

TAS SECTIONS 4.25.4, 4.27.4 - HARDWARE

- A. Hardware for accessible storage facilities shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist.
B. The force required to activate the hardware shall be no greater than 5 lbf



4.26 - GRAB BARS

TAS SECTION 4.26.2 - SIZE AND SPACING

- A. Diameter or width of gripping surface shall be 1-1/4" to 1-1/2", or the shape shall provide an equivalent gripping surface.
1. The space between grab bars and adjacent walls shall be 1-1/2"

TAS SECTION 4.26.3 - STRUCTURAL STRENGTH

- A. Grab bars and mounting devices shall meet the following requirements:
1. Bending stress induced by maximum bending moment from application of 250 lbf shall be less than allowable stress for material used.
2. Shear stress induced by application of 250 lbf shall be less than allowable shear stress for material used. If connection between grab bar and mounting bracket is considered to be fully restrained, then direct and torsional shear stresses shall be totaled for the combined shear stress, which shall not exceed the allowable shear stress.
3. Shear force induced in a fastener or mounting device from application of 250 lbf shall be less than allowable lateral load of either the fastener or mounting device or the supporting structure, whichever is the smaller allowable load.
4. Tensile force induced in a fastener by a direct tension force of 250 lbf plus the maximum moment from the application of 250 lbf shall be less than the allowable withdrawal load between the fastener and the supporting structure.
5. Grab bars shall not rotate within their fittings.

TAS SECTION 4.26.4 - ELIMINATING HAZARDS

- A. Grab bars and adjacent wall surfaces shall be free of sharp or abrasive surfaces.
B. Edges shall have a radius of 1/8" minimum.

4.27 - CONTROLS AND OPERATING MECHANISMS

TAS SECTION 4.27.3 - HEIGHT (REFER TO DETAIL 16.3)

- A. Front approach - 48" max. to 15" min.
B. Side approach - 54" max. to 9" min., except per below.
C. Electrical & communication system receptacles shall be mounted no less than 15" above the floor.

4.28 - ALARMS

TAS SECTION 4.28.1 - GENERAL

- A. When required, visual alarms shall be provided in each of the following areas, as a minimum: restrooms and any other general usage areas (e.g., meeting rooms), hallways, lobbies, and any other area for common use.

TAS SECTION 4.28.2 - AUDIBLE ALARMS

- A. If provided, audible alarms shall produce a sound that exceeds the prevailing equivalent sound level in the room or space by at least 15 dba or exceeds any maximum sound level with a duration of 60 seconds by 5 dba, whichever is louder.
B. Sound levels for alarm signals shall not exceed 120 dba.

TAS SECTION 4.28.3 - VISUAL ALARMS

- A. Visual alarm signal appliances shall be integrated into the building or facility alarm system. If single station audible alarms are provided then single station visual alarm signals shall be provided. Visual Alarm appliances shall have the following features:
1. The lamp shall be a xenon strobe type or equivalent.
2. The color shall be clear or nominal white (i.e. unfiltered or clear filtered white light).
3. The maximum pulse duration shall be two-tenths of one second with a maximum duty cycle of 40%. (The pulse duration is defined as time interval between initial and final points of 10% of max signal)
4. The intensity shall be a minimum of 75 candela.
5. The flash rate shall be a minimum of 1 Hz and a maximum of 3 Hz
6. The appliance shall be placed 80" above the highest floor level within the space or 6" below the ceiling, whichever is lower.
7. In general, no place in any room or space shall be more than 50' from the signal (measured in a horizontal plane).
a. In large rooms and spaces exceeding 100' across, without obstructions 6' above the finished floor, such as auditoriums, devices may be placed around the perimeter, spaced a maximum 100' apart, in lieu of suspending appliances from the ceiling.
8. No place in common corridors or hallways shall be more than 50' from the signal.

4.30 - SIGNAGE

TAS SECTIONS 4.1.2(7), 4.1.3(16)(a) - WHERE APPLICABLE

- A. Signs which designate permanent rooms and spaces shall comply with the requirements listed below for:
1. Raised and Braille Characters, and Pictograms
2. Finish and Contrast
Mounting Location and Height

TAS SECTIONS 4.1.2(7), 4.1.3(16)(b) - WHERE APPLICABLE

- A. Signs which provide direction to, or information about, functional spaces of the building shall comply with the requirements listed below for:
1. Character Proportion
2. Character Height
3. Finish and Contrast
Exception: Building directories, menus, and all other signs which are temporary are not required to comply.

TAS SECTION 4.1.2(7) - WHERE APPLICABLE

- A. Element and spaces of accessible facilities which shall be identified by the International Symbol of Accessibility are:
1. Parking spaces designated as reserved for persons with disabilities.
2. Accessible passenger loading zones.
3. Accessible entrances when not all are accessible (inaccessible entrances shall have directional signage to indicate route to nearest accessible entrance).
4. Accessible toilet and bathing facilities when not all are accessible.

TAS SECTION 4.30.2 - CHARACTER PROPORTION (REFERENCE DETAIL 16.2)

- A. Letters and numbers on signs shall have a width-to-height ratio between 3:5 and 1:1, and a stroke-width-to-height ratio between 1:5 and 1:10.

TAS SECTION 4.30.3 - OVERHEAD SIGNS

- A. Characters and numbers on overhead signs shall be sized according to the viewing distance from which they are to be read.
1. For signs higher than 80" above the finished floor, character size shall be 3" minimum.
2. The minimum height is measured using an upper case X.
3. Lower case letters are permitted.

TAS SECTION 4.30.4 - RAISED AND BRAILLE CHARACTERS AND PICTOGRAMS

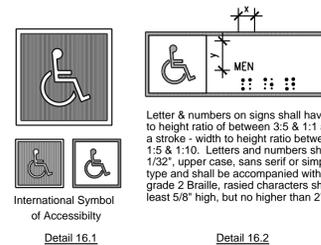
- A. Letter and numerals shall be raised 1/32", upper case, sans serif and shall be accompanied by grade 2 Braille.
1. Raised character height: 5/8" minimum, 2" high maximum
2. Pictograms shall be accompanied by the equivalent verbal description placed directly below the pictogram.
3. The border dimension of the pictogram shall be 6" minimum

TAS SECTION 4.30.5 - FINISH AND CONTRAST

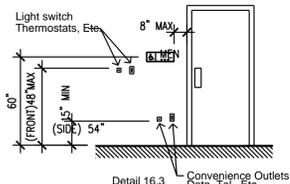
- A. The character and background of the signs shall be eggshell, matte, or other non-glare finish. Characters and symbols shall contrast with their background (either light characters on a dark background or dark characters on a light background).

TAS SECTION 4.30.6 - MOUNTING LOCATION AND HEIGHT (REFERENCE DETAIL 16.3)

- A. Where permanent identification is provided for rooms and spaces, signs shall be installed on the wall adjacent to the latch side of the door.
B. Where there is no wall space to the latch side of the door, including at double-leaf doors, signs shall be placed on the nearest adjacent wall.
C. Mounting height shall be 60" above the finished floor to the centerline of the sign.
D. Mounting location for such signage shall be so that a person may approach within 3' of signage without encountering protruding objects or standing within the swing of a door.



Detail 16.1, Detail 16.2



Detail 16.3

4.31 - PUBLIC TELEPHONES

TAS SECTION 4.1.3(17)(a) - WHERE APPLICABLE

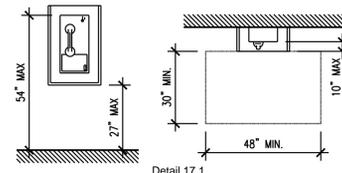
- A. If public pay telephones, public closed circuit telephones, or other public telephones if provided, then they shall comply with this section in the quantities below:
1. If one or more single unit of a type of public telephone is provided on a floor, then at least one of those phones shall comply with this section.
2. If one bank (defined as two or more adjacent public telephones, often installed as a unit) of a type of telephone is provided on a floor, then at least one of the telephones at the bank shall comply with this section.
3. If two or more banks of a type of public telephone are provided on a floor, then at least one telephone per bank shall comply with this section. The accessible unit may be installed as a single unit in proximity (either visible or with signage) to the bank. At least one public telephone per floor shall meet the requirements for a forward reach telephone.
Additional public telephones may be installed at any height. Unless otherwise specified, accessible telephones may be either forward or side reach telephones.

TAS SECTION 4.1.3(17)(b) - WHERE APPLICABLE

- A. All telephones required to be accessible shall be equipped with a volume control.
B. In addition, 25%, but never less than one, of all other public telephones provided shall be equipped with a volume control and shall be dispersed all type of telephones, including closed circuit telephones, throughout the building or facility.
C. Signage displaying the International Symbol of Access for Hearing Loss shall be provided at each telephone equipped with a volume control.

TAS SECTION 51.3 - MOUNTING HEIGHT (REFERENCE DETAIL 17.1)

- A. The highest operable part of the telephone shall be 48" maximum above the floor where a forward reach is required, and 54" maximum where a side reach is required.
B. If the forward reach is over an obstruction (with knee space equal to or greater than reach distance) 20"-25" deep the maximum height shall be 44"; if the obstruction is less than 20", maximum height shall be 48"
C. Maximum height shall be 48" for side reach over an obstruction 34" maximum high and 24" maximum deep.



Detail 17.1

4.32 - SEATING AND TABLES

TAS SECTION 4.32.2 - SEATING

- A. If seating spaces for people in wheelchairs are provided at fixed tables or counters, clear floor space of 30" x 48" shall be provided. Floor space shall not overlap required knee space by more than 19"

TAS SECTION 4.32.3 - KNEE SPACE

- B. If seating for people in wheelchairs is provided at fixed tables or counters, knee space at least 27" high, 30" wide and 19" deep shall be provided.

TAS SECTION 4.32.4 - HEIGHT OF TABLES OR COUNTER

- C. All type of accessible tables and counters shall be 28" minimum, and 34" maximum, above the finished floor.

4.34 - AUTOMATIC TELLER MACHINES

TAS SECTIONS 4.34.2 - CLEAR FLOOR SPACE

- A. Floor space shall comply with 4.2.4 to allow a forward, parallel approach or both.

TAS SECTIONS 4.34.3 - REACH RANGES

- A. Forward approach only: controls within forward approach specified in 4.2.5.

- B. Parallel approach: controls within unobstructed reach range from clear floor space at protrusion of teller machine surround per table as follows:

Table with 6 columns: Reach Depth, Max. Height, Reach Depth, Max. Height, Reach Depth, Max. Height. Rows show dimensions in inches for different reach depths and heights.

Note: above does not apply to drive up machines.

4.35 DRESSING AND FITTING ROOMS

TAS SECTIONS 4.35.4 - BENCH

- A. Every accessible dressing room shall have a 24" x 48" bench fixed to the wall along the larger dimension. The bench shall be mounted 17" to 19" above the finish floor.

TAS SECTIONS 4.35.5 - MIRROR

- A. A full-length mirror, measuring at least 18" wide by 54" high, shall be mounted in a position affording a view to a person on the bench as well as to a person in a standing position.

ISSUE LOG

Table with 3 columns: NO., DATE, DESCRIPTION. Contains two entries for permit and bid.

CONSULTANT(S) :

- Architectural: Brave/Architecture, 4617 Montrose Blvd, Suite C230, Houston, TX 77006, Voice: 713.524.5858, Fax: 713.524.5868, Contact: Greg Ryden
Structural: Walter P. Moore & Assoc., Inc., 1301 McKinney St, Suite 1100, Houston TX 77010, P: 713.630.7300, F: 713.630.7396, Contact: Daron Hester

SEAL(S) :

DOCUMENT IS HEREBY INCLUDED AS REFERENCE ONLY

PROJECT NAME :

City of Houston, Exterior Hurricane Shutters, 1200 Travis, Houston, TX 77002



CITY OF HOUSTON GENERAL SERVICES DEPARTMENT

REVIEWED :

PROGRAM MANAGER, SPONSORING DEPARTMENT

PROJECT MANAGER

DATE : 01/09/2013

G.F.S. No. :

SCALE : NTS

DRAWN BY : DN

CHECKED BY : GR

SHEET TITLE :

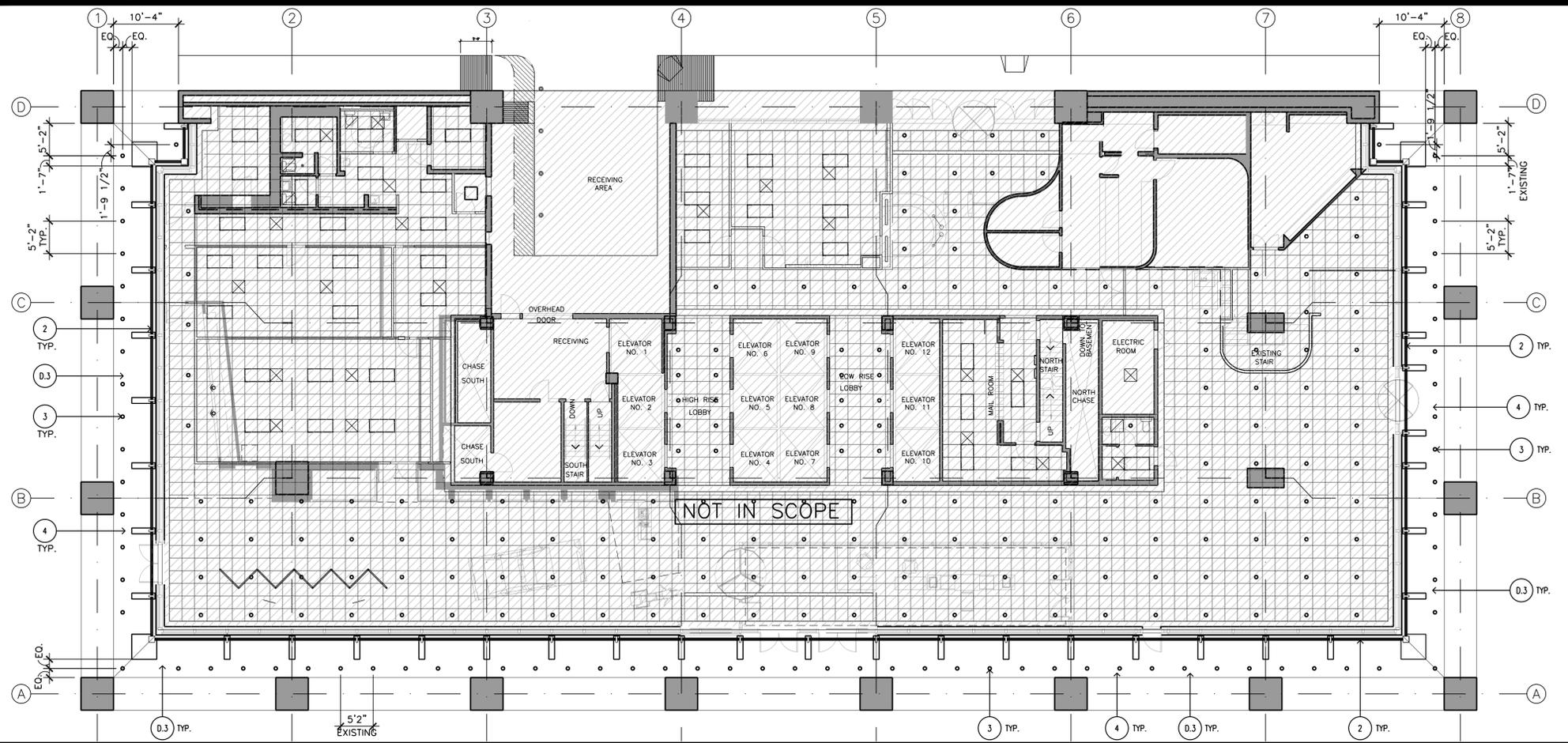
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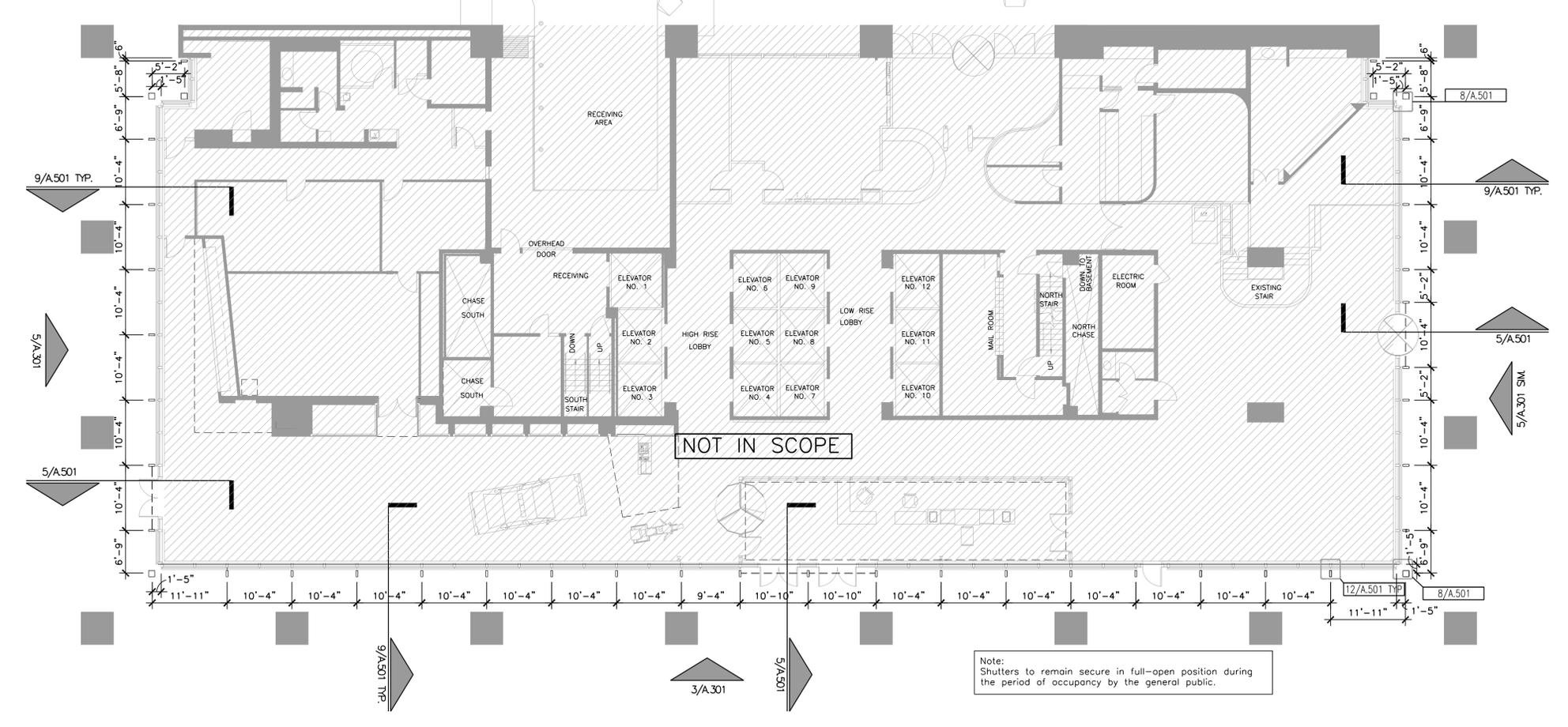
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CITY DWG. NO. :

CAD FILE :



PROPOSED REFLECTED CEILING PLAN 3/16"=1'-0" 8



PROPOSED FLOOR PLAN 3/32"=1'-0" 5

- DEMOLITION NOTES**
- D.1 Sawcut & remove existing exposed aggregate concrete surface. Maintain base waterproofing material at concrete slab.
 - D.2 Existing construction to remain. Protect during demo/renovation
 - D.3 Existing plaster soffit to be removed by Owner prior to start of construction. Ensure and maintain use of existing overhead lighting fixture during work. Prep area for new plaster soffit.
 - D.4 Reconfigure existing overhead window wall bracing as required for new rolling door enclosure cabinet assembly. Re: Structural.
 - D.5 Remove/ Replace existing fireproofing material as needed for installation of new steel/ rolling door assembly.

- CONSTRUCTION NOTES**
1. New exposed aggregate concrete topping slab with divider strips to match existing adjacent area.
 2. Slotted opening of new above soffit mounted rolling shutter. Light fixture reinstalled at same location.
 3. New plaster ceiling and plaster joints to match existing; paint/finish TBD.
 4. 4" x 12" steel column; align with existing mullions; Re: Struct.
 5. 10" x 12" steel column at all corner locations; Re: Struct.
 6. Hurricane shutter & track; centered in all column locations.
 7. Overhead rolling door cabinet assembly.
 8. Existing window wall system to remain.
 9. Existing glazing in window wall.
 10. Existing exposed aggregate concrete topping slab to remain.
 11. Provide isolation strips between new & existing exposed aggregate concrete.
 12. Provide fluid applied waterproofing material at area of concrete removed for new column.
 13. "L" Strip at exposed aggregate concrete.
 14. Provide 1/2" expansion joint at perimeter of column base & soffit.
 15. Divider Strip at exposed aggregate concrete.
 16. Existing aluminum handrail at exterior window wall.
 17. Refer to structural drawing requirements of new & reconfigured overhead steel bracing.
 18. Location of baseplate for column. Re: 4 & 8/S.302.
 19. Provide impact resistant film at all glazing not scheduled to have coverage by roll-down shutters. Re: Scope of Work description G.010 for add'l info.
 20. Remove existing 1/2" glazing @ doors & sidelites. Salvage hardware for reuse. Install new 1/2" impact resistive laminated glazing in these areas. Reinstall interior UV resistive & monumetal frosted lettering film & graphics @ window and doors.
 21. Crank connections: Provide gear driven crank with drill connection for lifting door and push button with cable to above ceiling unit for lowering.
 22. 16 GA crank cover. Finish to match window wall system.
 23. Lockable hinged access panel to crank gear/ door release.

KEYNOTES 3

- G1. Refer to index sheet G.001 & G.002 for typical graphical symbols and abbreviation index.
- G2. All horizontal dimensions are provided on plans, and all vertical dimensions are provided on elevations and/or sections unless otherwise noted.
- G3. Patch/repair flooring or wall surface material where areas have been damaged by construction staging or ongoing work, etc. Match existing.
- G4. Enlarged plans indicate interior building dimensions to face of partition material, interior plan detail designations, interior elevation designations, partition type designations, finish designations, and general building material.
- G5. Refer to sheet A.501 for door & window elevations requiring new impact-resistive film.
- G6. Provide access panel at underside of soffit at each shutter assembly not shown on architectural RCP. Coordinate with shutter manufacturer/installer locations and with architect prior to installation.
- G7. Provide adequate blocking as required at every location where required.
- G8. Provide new fire-proofing material at all new and existing structural members located above the soffit.
- G9. All wood blocking to be Fire Resistant.

GENERAL NOTES 2



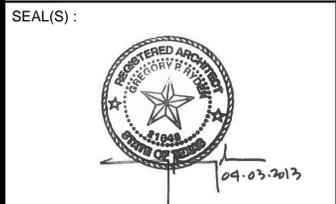
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ISSUE LOG		
NO.	DATE	DESCRIPTION
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2	03.08.2013	PERMIT COMMENTS
3	04.03.2013	BID

CONSULTANT(S):

Architectural: Brave/Architecture
4617 Montrose Blvd, Suite C230
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Structural: Walter P. Moore & Assoc., Inc.
1301 McKinney St.
Suite 1100
Houston TX 77010
P: 713.630.7300
F: 713.630.7396
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PROJECT NAME:
City of Houston
Exterior Hurricane Shutters
1200 Travis, Houston, TX 77002



REVIEWED:

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

PROJECT MANAGER _____

DATE: 01/09/2013
G.F.S. No.: _____
SCALE: AS NOTED
DRAWN BY: DN
CHECKED BY: GR

SHEET TITLE:
FLOOR PLAN

SHEET NO.:
A.101

CITY DWG. NO.:

DESIGN FILE: G:\DC-Proj\gmt\Drawings\AutoCad\ESD\24436

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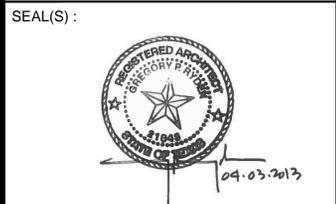
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NO.	DATE	DESCRIPTION
1	02.14.2013	PERMIT
2	04.03.2013	BID

CONSULTANT(S):

Architectural: Brave/Architecture
 4617 Montrose Blvd, Suite C230
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PROJECT NAME:
 City of Houston
 Exterior Hurricane Shutters
 1200 Travis, Houston, TX 77002



REVIEWED:

PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____

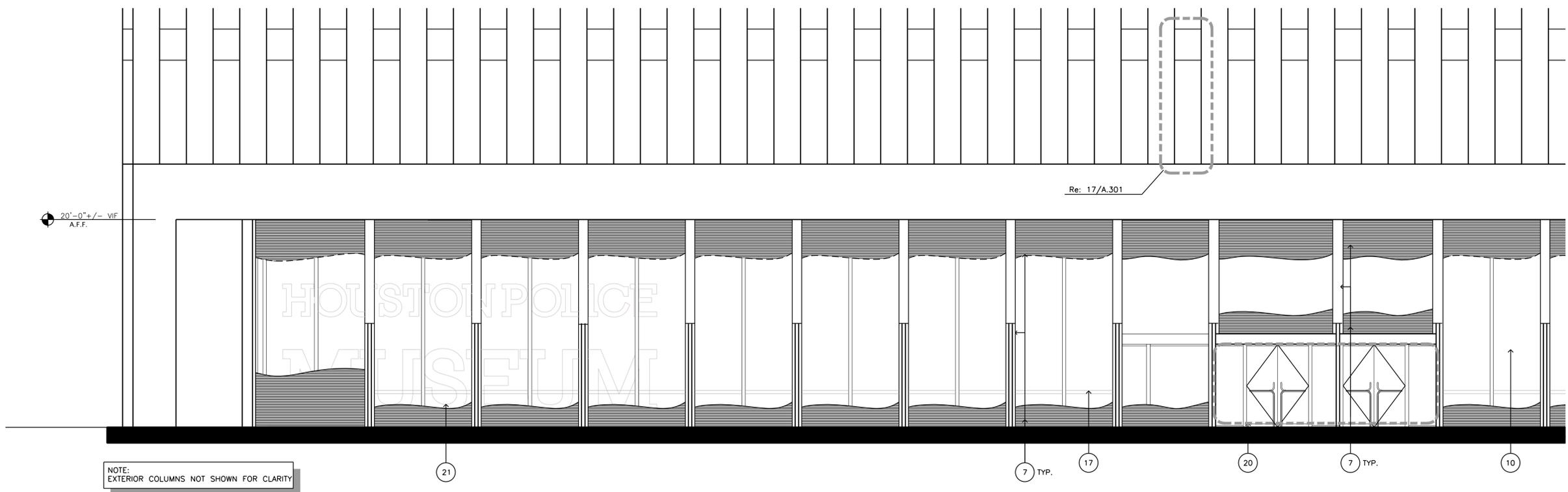
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DATE: 01/09/2013
 G.F.S. No.: _____
 SCALE: AS NOTED
 DRAWN BY: DN
 CHECKED BY: GR

SHEET TITLE:
EXTERIOR ELEVATIONS

SHEET NO.:
A.301

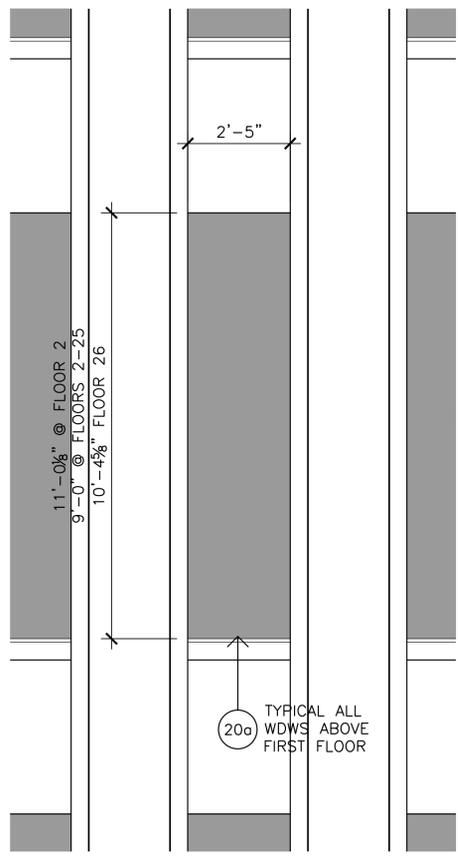
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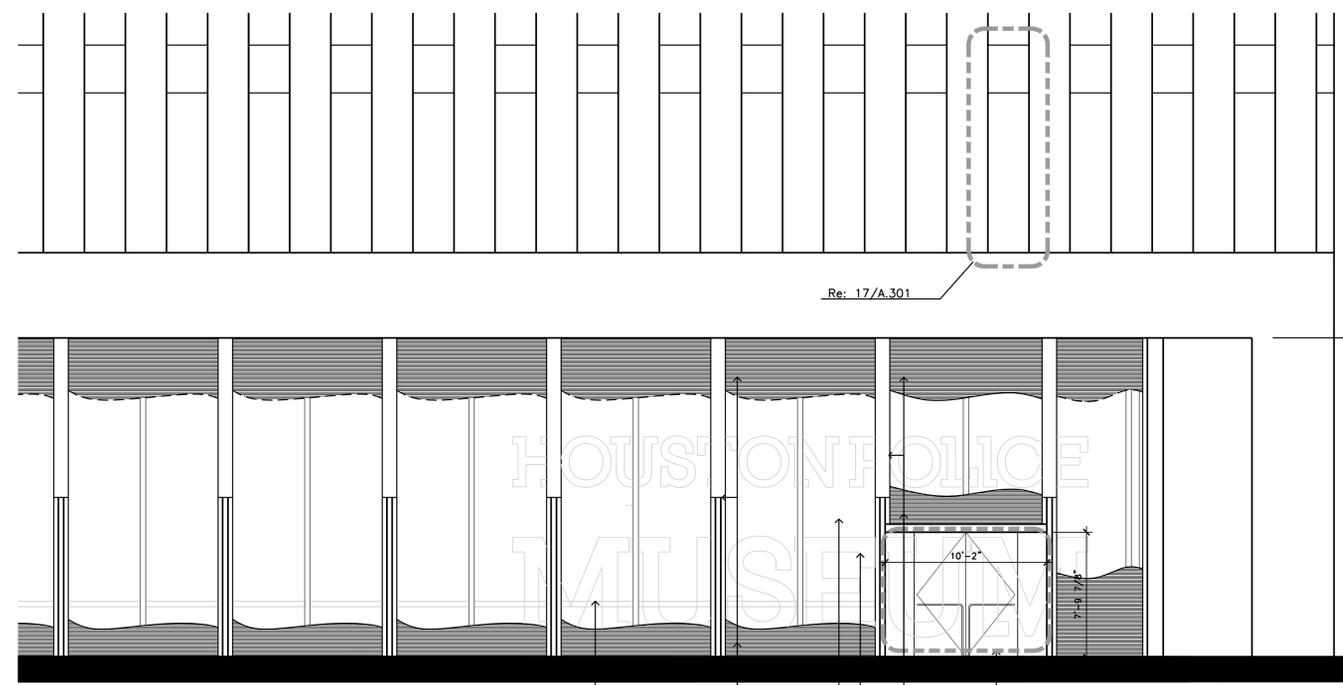
NOTE:
 EXTERIOR COLUMNS NOT SHOWN FOR CLARITY

EXTERIOR ELEVATION

3/8"=1'-0" 3



20a TYPICAL ALL WDWs ABOVE FIRST FLOOR



FOR REPLACEMENT FILM:
 Translucent polyester UV protectant window film graphic over entire window panel - 17
 Color: "Etch Frost" & "Clear" translucent graphic. Film to be installed on interior of existing glazing. Obtain graphic design from Architect.
 Contact: Solar Graphics
 12167 49th Street
 Clearwater, FL 33762
 1.800.869.8468
 Attn: Richard Purdum

NOTE:
 EXTERIOR COLUMNS NOT SHOWN FOR CLARITY

DEMOLITION NOTES

- D.1 Sawcut & remove existing exposed aggregate concrete surface. Maintain base waterproofing material at concrete slab.
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3. Light fixture reinstalled at same location.
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10. Existing glazing in window wall.
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17. Existing aluminum handrail at exterior window wall. Refer to structural drawing requirements of new & reconfigured overhead steel bracing.
18. Location of baseplate for column. Re: 4 & 8/S.302.
- 20a. Provide impact resistant film at all glazing not scheduled to have coverage by roll-down shutters. Re: Scope of Work description G.010 for add'l info.
- 20b. Remove existing 1/2" glazing @ doors & sidelites. Salvage hardware for reuse. Install new 1/2" impact resistive laminated glazing in these areas. Reinstall interior UV resistive & monumental frosted lettering film & graphics @ window and doors.
21. Crank connections: Provide gear driven crank with drill connection for lifting door and push button with cable to above ceiling unit for lowering.
22. 16 GA crank cover. Finish to match window wall system.
23. Lockable hinged access panel to crank gear/ door release.

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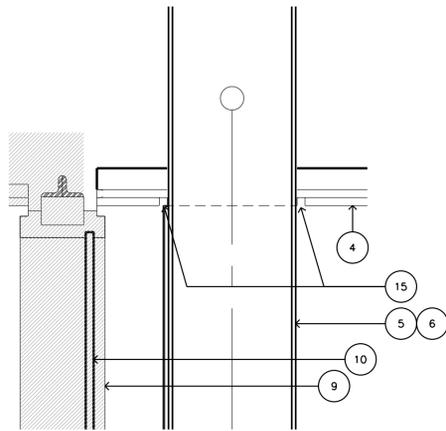
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EXTERIOR ELEVATION 3/8"=1'-0" 5

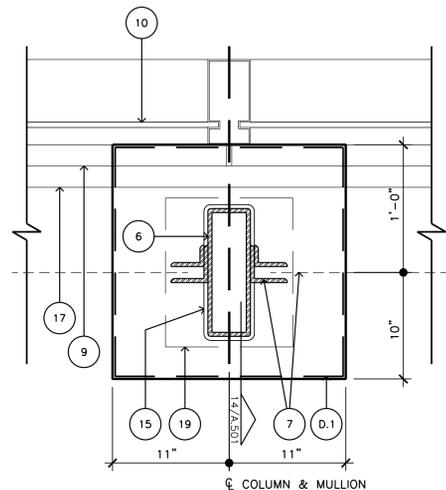
KEYNOTES 1

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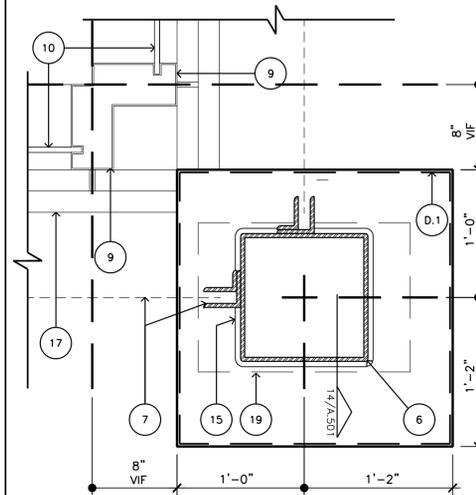
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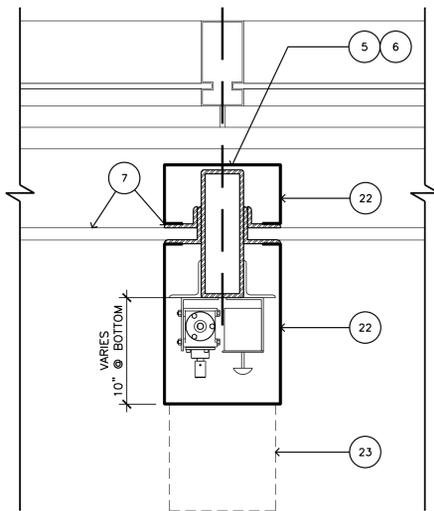
20 COLUMN @ SOFFIT 1-1/2" = 1'-0" 16



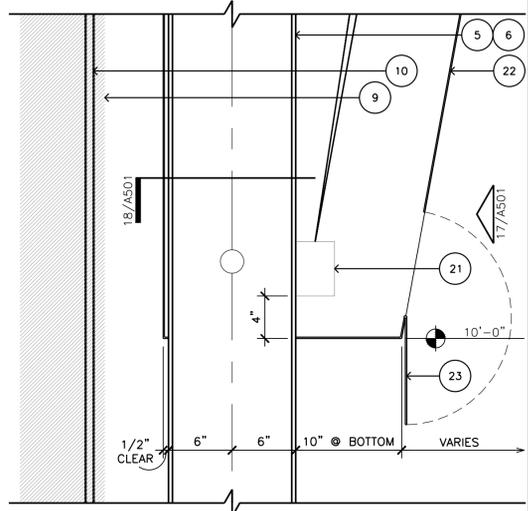
16 TYPICAL DETAIL 1-1/2" = 1'-0" 12



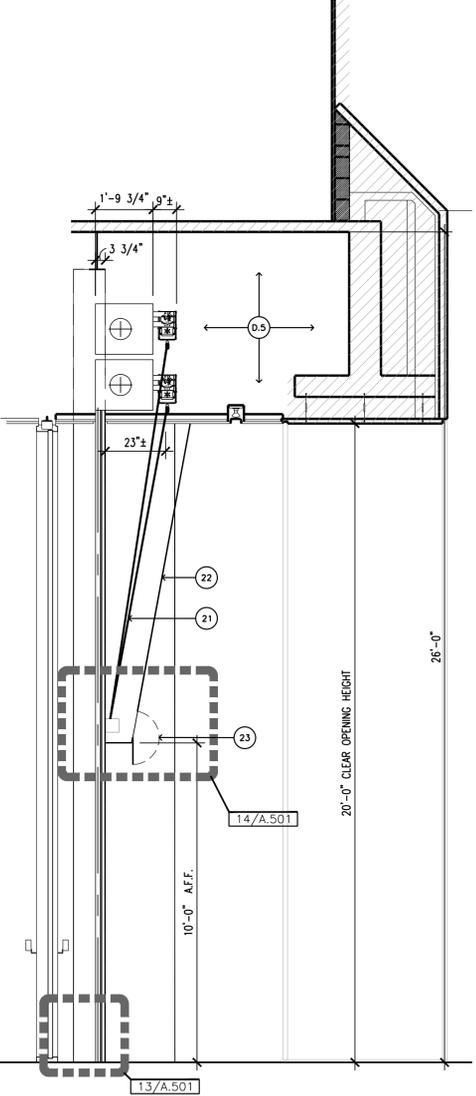
12 CORNER DETAIL 1-1/2" = 1'-0" 8



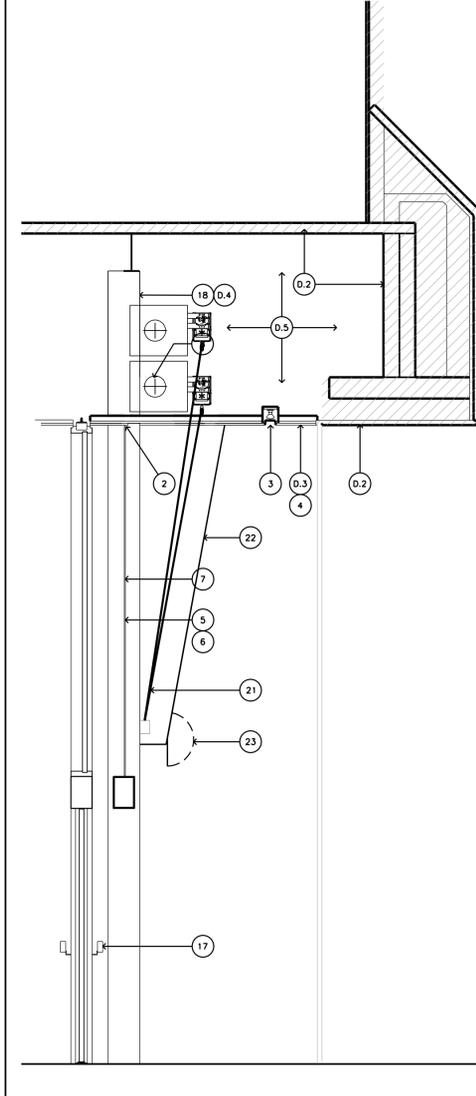
18 CRANK ENCLOSURE PLAN 1-1/2" = 1'-0" 18



14 CRANK @ COLUMN 1-1/2" = 1'-0" 14



9 TYPICAL WALL SECTION 3/8" = 1'-0" 9



5 WALL SECTION @ DOOR 3/8" = 1'-0" 5

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- G7. Provide adequate blocking as required at every location where required.
- G8. Provide new fire-proofing material at all new and existing structural members located above the soffit.
- G9. All wood blocking to be Fire Resistive.

1 GENERAL NOTES

ISSUE LOG

NO.	DATE	DESCRIPTION
1	02.14.2013	PERMIT
2	04.03.2013	BID

CONSULTANT(S):
 Architectural Brave/Architecture
 4617 Montrose Blvd, Suite C230
 Houston, TX 77006
 Voice: 713.524.5858
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 Structural Walter P. Moore & Assoc., Inc.
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 Houston TX 77010
 P: 713.630.7300
 F: 713.630.7396
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PROJECT NAME:
 City of Houston
 Exterior Hurricane Shutters
 1200 Travis, Houston, TX 77002



REVIEWED:
 PROGRAM MANAGER _____ SPONSORING DEPARTMENT _____
 PROJECT MANAGER _____
 DATE: 01/09/2013
 G.F.S. No.: _____
 SCALE: AS NOTED
 DRAWN BY: DN
 CHECKED BY: GR

SHEET TITLE:
 DETAILS
 SHEET NO.:
 A.501
 CITY DWG. NO.:

GENERAL NOTES

1

II. DESIGN CRITERIA

A. GENERAL BUILDING CODE

- The Construction Documents are based on the requirements of the International Building Code 2006 with Houston Amendments to the 2006 International Building Code.

B. WIND LOADS

- Wind pressures are based on the American Society of Civil Engineers, Minimum Design Loads for Buildings and Other Structures, ASCE 7-05 and the following criteria:
 - Basic wind speed: 135 MPH (3 second gust)
 - Wind importance factor (I): 1.0
 - Building category: II
 - Wind exposure category: B
 - Internal pressure coefficient: +0.18/-0.18
- Wind pressures used for the design of hurricane shutters are shown in the following table:

COMPONENT TYPE	LOCATION OR ZONE	EFFECTIVE WIND AREA (SQ-FT)	WIND LOAD (PSF)
Hurricane Shutter	Interior	200	+29.2/-53
Hurricane Shutter	End Zone	200	+29.2/-79.4

Notes:

- Width of end zone/edge/corner strip: 22 feet
- Pressures on hurricane shutters act normal to the surface. Positive pressures act towards the surface and negative pressures act away from the surface.
- The effective wind area is the span length multiplied by an effective width that need not be less than one-third the span length. For cladding fasteners, the effective wind area shall not be greater than the area that is tributary to an individual fastener.
- The design pressures listed above are calculated using a value of Kd of 0.85.

II. STRUCTURAL STEEL

A. MATERIAL

- Hot Rolled Structural Members: All hot rolled steel plates, shapes, sheet piling, and bars shall be new steel conforming to ASTM Specification A 6.
- ASTM Specification and Grade: Clearly mark the grade of steel on each piece, with a distinguishing mark visible from floor surfaces, for the purpose of field inspection of proper grade of steel. Unless noted otherwise on the drawings, structural steel shall be as follows:
 - W- and WT-Shapes: ASTM A 992.
 - L-Shapes: ASTM A 36.
 - Rectangular HSS: ASTM A 500, Grade B (Fy=46 ksi).
 - Base Plates: All base plates shall conform to ASTM A 36 unless noted otherwise on the drawings.
 - Connection Material:
 - All connection material, except as noted otherwise herein or on the drawings, including bearing plates, gusset plates, stiffener plates, filler plates, angles, etc. shall conform to ASTM A 36 unless a higher grade of steel is required by strength and provided the resulting sizes are compatible with the connected members.

B. STRUCTURAL BOLTS AND THREADED FASTENERS

- A 325 Bolts: All bolts in structural connections shall conform to ASTM A 325 Type 1, unless indicated otherwise on the drawings.

C. WELDING

- Unless noted otherwise, electrodes for welding shall conform to E70XX (SMAW), F7XX-E0XX (SAW), ER70S-X (GMAW), or E7XT-X (FCAW).

D. POST-INSTALLED ANCHOR RODS

- Unless indicated otherwise on the drawings, post-installed anchor rods shall conform to ASTM A 193 Grade B7 installed with an epoxy system indicated in the drawings per Evaluation Service Report ESR 2322. The size of anchors and embedment depth into the concrete shall be as shown on the drawings.

E. GROUT

- Grout below structural steel base plates shall be non-metallic, non-shrink grout with a minimum strength of 6,000 psi.

III. SPECIAL INSPECTIONS

A. The Owner's testing laboratory shall provide special inspection services in accordance with the International Building Code for the following items.

- Steel Construction:
 - All Field Welding
 - High-Strength Bolting
 - Inspection of Structural Steel, Bolting, Welding Material
 - Welding of Structural Steel
- Concrete Construction:
 - Epoxy Bolts
- Sprayed Fire-Resistant Materials
- Wind Requirements:
 - Wind-Resisting Components (Hurricane Shutters)

B. STATEMENT OF SPECIAL INSPECTIONS

- Special inspection is required for the items listed above. Refer to Specification Section 051200 and to the Architectural Specifications for type and extent of each special inspection and each test. The Specification also indicates whether continuous or periodic inspection is required for the items listed above additional information.

IV. SUBMITTALS

A. SUBMITTAL LIST AND SCHEDULE

- The General Contractor shall prepare a detailed list and schedule of all submittal items to be sent to the Structural Engineer prior to the start of construction. This list shall be updated and revised and kept current as the job progresses. The submittal list shall be organized as shown below:
 - Shop Drawings
 - Design Calculations
 - Product Data, Certificates, Reports, and Other Literature

2

B. SUBMITTALS TO BE PROVIDED TO STRUCTURAL ENGINEER

- Structural Submittals: Required submittals are indicated in the structural specifications.
- Deferred Submittals:
 - The following items are considered deferred submittals by the registered design professional in responsible charge:
 - Hurricane Shutters and Connections to New Steel Frame (S&S, REC)

Notes:

(S&S) Items marked thus shall have the shop drawings and delegated design submittals (including calculations) sealed per the project specifications by an engineer registered in the state where the project is located.

(REC) Items marked thus shall be submitted to Engineer for Record Only and will not have the Engineer's shop drawing stamp affixed.

- Documents for deferred submittal items shall be submitted to the registered design professional and shall be forwarded to the building official.
- Deferred submittal items shall not be installed until the deferred submittal documents have been approved by the building official.

4. Submittal Requirements:

- All shop drawings must be reviewed and electronically stamped by the General Contractor prior to submittal.
- Contractor shall provide the submittal in electronic portable document format (PDF) per the Specifications.
- The omission from the shop drawings of any materials required by the Contract Documents to be furnished shall not relieve the Contractor of the responsibility of furnishing and installing such materials, regardless of whether the shop drawings have been reviewed and approved.

C. REPRODUCTION

- The use of electronic files or reproductions of these contract documents by any contractor, subcontractor, erector, fabricator, or material supplier in lieu of preparation of shop drawings signifies their acceptance of all information shown hereon as correct, and obligates themselves to any job expense, real or implied, arising due to any errors that may occur hereon.

V. MISCELLANEOUS

A. CONTRACT DOCUMENTS

- It is the responsibility of the General Contractor to obtain all Contract Documents and latest addenda and to submit such documents to all subcontractors and material suppliers prior to the submittal of shop drawings, fabrication of any structural members, and erection in the field.
- The contract structural drawings and specifications represent the finished structure, and, except where specifically shown, do not indicate the method or means of construction. The Contractor shall supervise and direct the work and shall be solely responsible for all construction means, methods, procedures, techniques, and sequence.
- Refer to drawings other than Structural for complete information including: Extent of topping slab removal for installation of new posts, types of floor slab finish after patching, elevation of new beams above existing doors, attachment of hurricane shutters to new steel frame, etc.
- Where member locations are not specifically dimensioned, members are either located on columns lines or are equally spaced between located members.
- If certain features are not fully shown or specified on the drawings or in the specifications, their construction shall be of the same character as shown or specified in similar conditions.

B. DRAWING CONFLICTS

- The General Contractor shall compare the Architectural and Structural drawings and report any discrepancy between each set of drawings and within each set of drawings to the Architect and Engineer prior to the fabrication and installation of any structural members.

C. CONFLICTS IN STRUCTURAL REQUIREMENTS

- Where conflict exists among the various parts of the structural contract documents, structural drawings, general notes, and specifications, the strictest requirements, as indicated by the Engineer, shall govern.

D. EXISTING CONDITIONS

- The General Contractor shall verify all dimensions and conditions of the existing building at the job site and report any discrepancies from assumed conditions shown on the drawings to the Architect and Engineer prior to the fabrication and erection of any members.
- Work shown on the drawings is New, unless noted as Existing.
- Existing construction shown on the drawings was obtained from existing construction documents and limited site observation. These drawings of existing construction are available for contractor use. However, the available drawings of existing construction are not necessarily complete. The contractor shall field verify all pertinent information.
- Demolition, cutting, drilling, etc. of existing work shall be performed with great care so as not to jeopardize the structural integrity of the existing building. If any architectural, structural, or MEP members not designated for removal interfere with the new work, the Architect shall be notified immediately and approval obtained prior to removal of those members.
- Existing steel members are fireproofed. Localized removal of fireproofing needs to be performed to allow for connections of new members to the existing steel members. Contractor shall verify if the existing fireproofing contains asbestos prior to fireproofing removal and shall perform asbestos abatement measures if applicable.
- The contractor shall safely shore existing construction wherever existing supports are removed to allow the installation of new work. All shoring methods and sequencing of demolition shall be the responsibility of the contractor and his engineer.
- The contractor shall verify the location of existing utilities prior to the start of construction and take care to protect existing utilities that are to remain in service.
- The contractor shall repair all damage caused during construction with similar materials and workmanship to restore conditions to levels acceptable to the Architect.

E. RESPONSIBILITY OF THE CONTRACTOR FOR STABILITY OF THE NEW STRUCTURAL ELEMENTS DURING CONSTRUCTION

- All structural elements of the project have been designed by the Structural Engineer to support new shutters designed by others intended to resist the required code lateral forces that could occur in the final completed structure only. The ability of the new components to resist the required code forces derives from the complete installation of the new steel frame shown in the drawings. It is the responsibility of the Contractor to provide all required bracing during construction to maintain the stability and safety of all structural elements during the construction process until the new elements are completely installed.

F. RESPONSIBILITY OF THE CONTRACTOR FOR CONSTRUCTION LOADS

- The Contractor shall not overload the structure during construction. The Contractor shall be responsible for checking the adequacy of the structure to support any applied construction loads, including those due to construction vehicles or equipment, material handling or storage, shoring or reshoring, or any other construction activity. The Contractor shall submit calculations signed and sealed by an engineer licensed in the state of Texas verifying the adequacy of the structure for any proposed construction loads that are in excess of the design loads stated in the original drawings. The Structural Engineer is not responsible to design or check the structure for loads applied to the structure for any construction activity.

3

G. CONTRACTOR SUBSTITUTIONS

- Any materials or products submitted for approval that are different from the material or products specified in the structural contract documents will be approved only if the following criteria are satisfied:
 - A cost savings to the Owner is documented and submitted with the request.
 - The material or product has been approved by the International Code Council (ICC) and the ICC report is submitted with the request.
 - The ICC ESR that is submitted must reference the building code under which the project is permitted.
 - ICC reports that have been discontinued at the time of product installation will not be accepted.
- Submittals not satisfying the above criteria will not be considered.

H. THE STRUCTURAL ENGINEER'S ROLE DURING CONSTRUCTION

- The Engineer shall not have control nor charge of, and shall not be responsible for, construction means, methods, techniques, sequences, or procedures, for safety precautions and programs in connection with the work, for the acts or omission of the Contractor, Subcontractor, or any other persons performing any of the work, or for the failure of any of them to carry out the work in accordance with the contract documents.
- Periodic site observation by field representatives of Walter P. Moore and Associates is solely for the purpose of becoming generally familiar with the progress and quality of the Work completed and determining, in general, if the Work observed is being performed in a manner indicating that the Work, when fully completed, will be in accordance with the structural contract documents. This limited site observation should not be construed as exhaustive or continuous to check the quality or quantity of the work, but rather periodic in an effort to guard the Owner against defects or deficiencies in the work of the Contractor.

I. MAINTENANCE STATEMENT

- All structures require periodic maintenance to extend lifespan and to ensure structural integrity from exposure to the environment. A planned program of maintenance shall be established by the building owner. This program shall include such items such as but not limited to painting of structural steel, protective coating for concrete, sealants, caulked joints, expansion joints, control joints, and spalls and cracks in concrete.

VI. DRAWING INTERPRETATION

A. DRAWING VIEWS LABELED AS "TYPICAL"

- Partial plans, elevations, sections, details, or schedules labeled with "Typical" at the beginning of their title shall apply to all situations occurring on the project that are the same or similar to those specifically shown. The applicability of the content of these views to locations on the plan can be determined from the title of the views. Such views shall apply whether or not they are keyed in at each location. Decisions regarding applicability of these "Typical" views shall be determined by the Structural Engineer.

@	AT	LBS	POUNDS
&	AND	MAX	MAXIMUM
#	NUMBER	MC	MOMENT CONNECTION
o	ROUND, DIAMETER	MFR	MANUFACTURE(R)
ADDL	ADDITIONAL	MIN	MINIMUM
AHR	ANCHOR	MTL	METAL
AR	ANCHOR ROD	NIC	NOT IN CONTRACT
ARCH	ARCHITECTURAL	NTS	NOT TO SCALE
BM	BEAM	OC	ON CENTER
BO	BOTTOM OF	OPH	OPPOSITE HAND
BOT	BOTTOM	OPNG	OPENING
BTWN	BETWEEN	OPP	OPPOSITE
CL	CENTER LINE	OVS	OVERSIZED HOLE
COL	COLUMN	PL	PLATE
CONC	CONCRETE	PRELIM	PRELIMINARY
CONN	CONNECTION	PROP	PROPERTY
CONST	CONSTRUCTION	PSF	POUNDS PER SQUARE FOOT
CONT	CONTINUOUS	PSI	POUNDS PER SQUARE INCH
COORD	COORDINATE	R	RADIUS, REACTION, REMAINDER
db	BAR DIAMETER	REF	REFERENCE
DET	DETAIL	REINF	REINFORCING
DIA	DIAMETER	REQD	REQUIRED
DIM	DIMENSION	REV	REVISION
DWG	DRAWING	SHT	SHEET
EA	EACH	SIM	SIMILAR
EF	EACH FACE	SQ	SQUARE
EJ	EXPANSION JOINT	STD	STANDARD
EL	ELEVATION	STIF	STIFFENER
ELEV	ELEVATOR	STL	STEEL
EMBED	EMBEDMENT	STRUCT	STRUCTURE, STRUCTURAL
EQ	EQUAL	t	PLATE THICKNESS, TREAD
EQUIP	EQUIPMENT	THD	THREADED
EXIST	EXISTING	TO	TOP OF
EXP	EXPANSION	TOC	TOP OF CONCRETE
EXT	EXTERIOR	TOS	TOP OF STEEL, TOP OF SLAB
FAB	FABRICATE	TYP	TYPICAL
Fc=	28 DAY CONCRETE STRENGTH FINISH(ED)	UNO	UNLESS NOTED OTHERWISE
FIN	FLOOR	VERT	VERTICAL
FLR	FLOOR	WF	WIDE FLANGE
FV	FIELD VERIFY	WT	WEIGHT
GALV	GALVANIZE(D)		
GEN	GENERAL		
GR	GRADE		
HORIZ	HORIZONTAL		
INFO	INFORMATION		
INT	INTERIOR		
JT	JOINT		

4

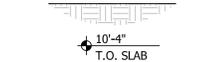
A. TYPICAL DETAILS

Details labeled "Typical Details" on the drawings shall apply to all situations occurring on the project that are the same or similar to those specifically detailed. The applicability of the detail to its location on the plans can be determined by the title of the detail. Such details shall apply whether or not they are keyed in at each location. Decisions regarding applicability of Typical Details shall be determined by the Engineer.

B. SYMBOLS AND NOTATIONS

Grid and/or Center Line 

Concrete 

Earth (refer to specifications) 

Elevation Designation 

Existing Building Area 

NOTE:
ITEMS SHOWN ON THIS SYMBOLS AND NOTATIONS LIST MAY OR MAY NOT APPLY TO THIS PROJECT.
ITEMS SHOWN ARE FOR REFERENCE ONLY.

ISSUE LOG

NO.	DATE	DESCRIPTION
	2/13/2013	PERMIT SET

CONSULTANT(S) :

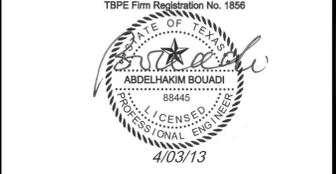
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SEAL(S) :



PROJECT NAME :
**City of Houston
HPD Lobby Entrance A
1200 Travis, Houston, TX 77002**



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PROJECT MANAGER _____

DATE : 02/13/2013

G.F.S. No. : _____

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CHECKED BY : EV/HB

SHEET TITLE :
GENERAL NOTES

SHEET NO. :
50.00

CITY DWG. NO. : _____

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TBPPE Firm Registration No. 1856

PROJECT NAME:
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HPD Lobby Entrance A
1200 Travis, Houston, TX 77002



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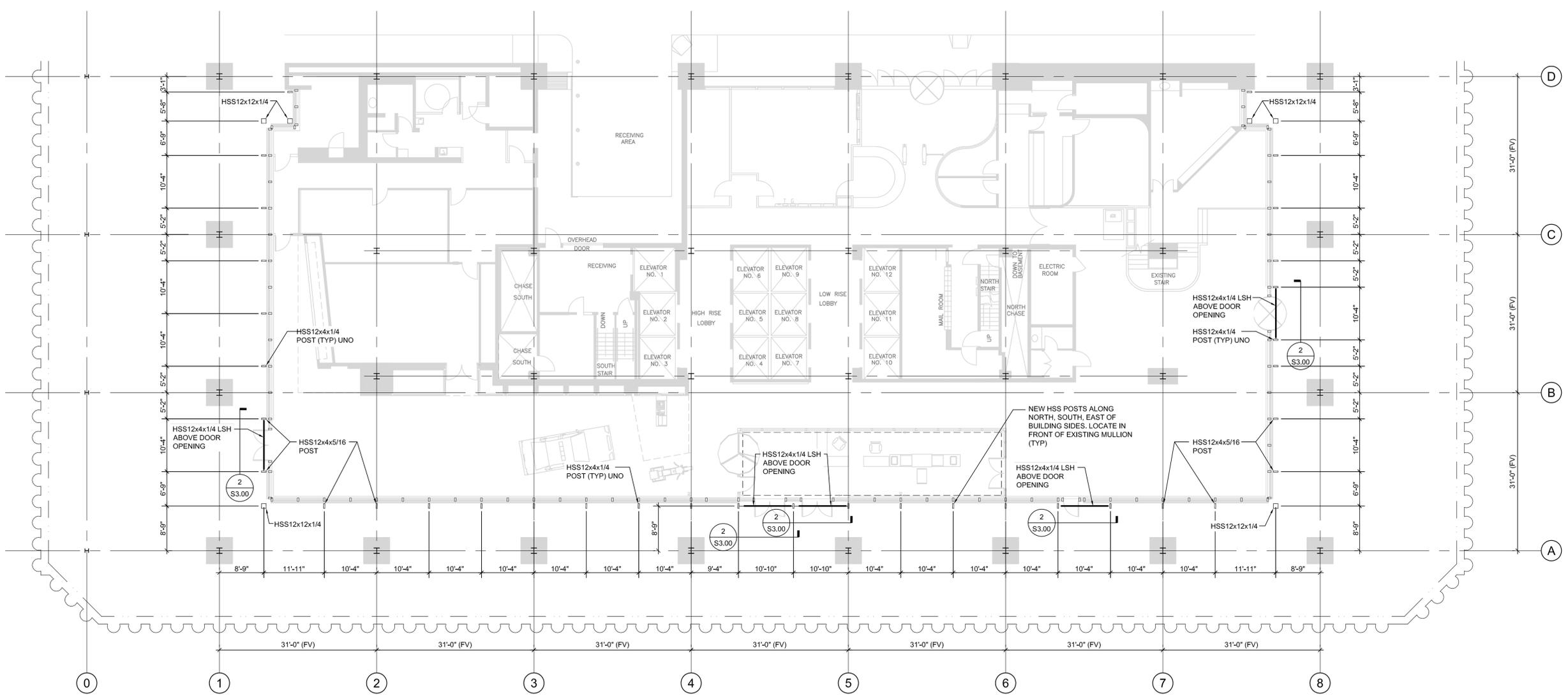
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CHECKED BY: EV/HB

SHEET TITLE:
FLOOR PLAN

SHEET NO.:
S2.00

CITY DWG. NO.:



- NOTES:**
- DIMENSIONS PROVIDED ARE FOR BIDDING PURPOSES ONLY; FIELD VERIFY (FV) ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO DETAILING AND CONSTRUCTION.
 - COORDINATE LOCATION OF NEW SUPPORT FOR HURRICANE SHUTTERS WITH ARCHITECTURAL DRAWINGS.
 - REMOVE EXISTING FIREPROOFING AS REQUIRED FRO CONNECTION OF NEW STEEL TO EXISTING. REPAIR FIREPROOFING AFTER STEEL INSTALLATION. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.

1 LEVEL 1 - FRAMING PLAN
3/32" = 1'-0"

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ISSUE LOG

NO.	DATE	DESCRIPTION
	2/13/2013	PERMIT SET

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SCALE : AS SHOWN
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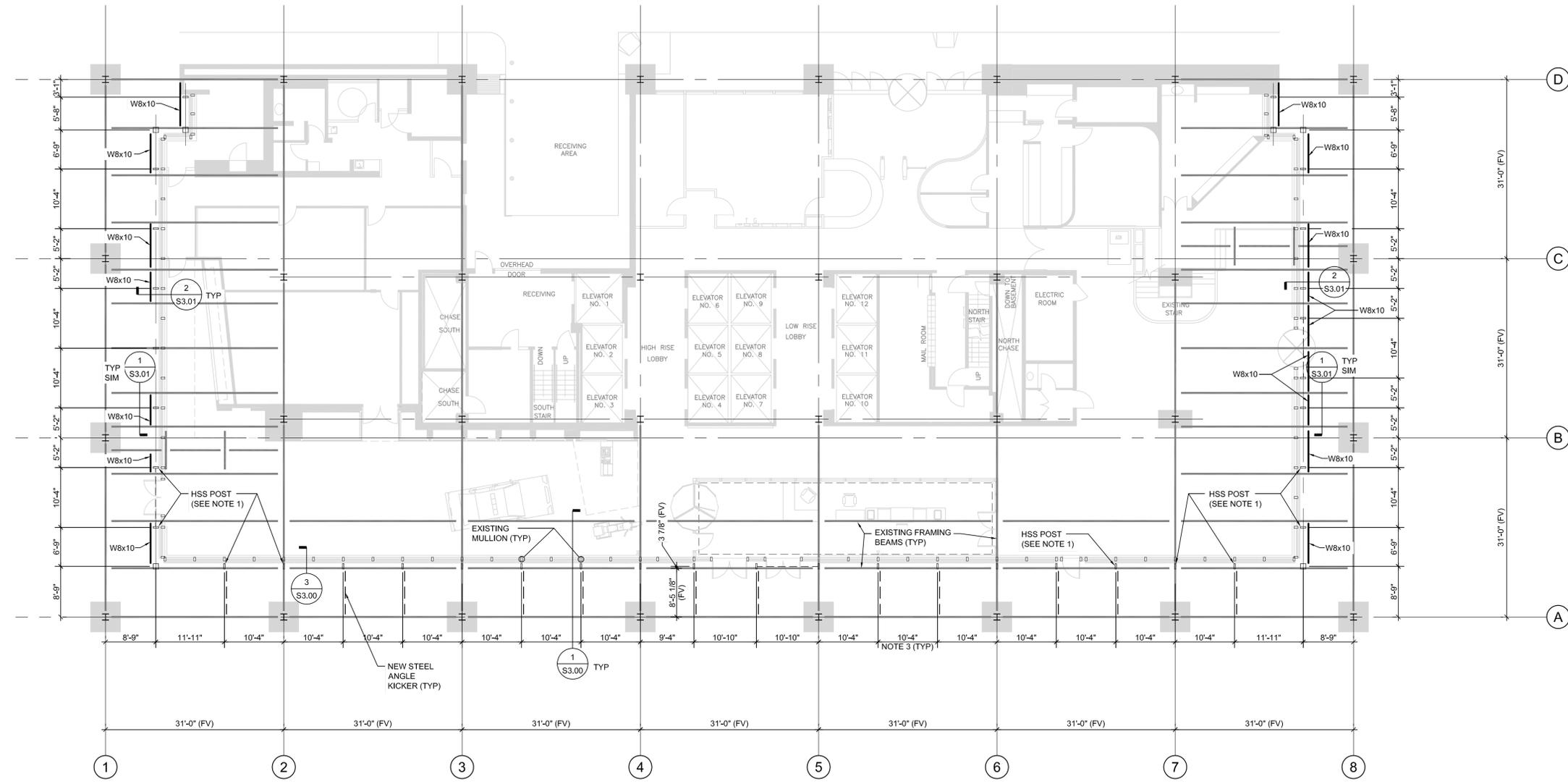
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FLOOR PLAN

SHEET NO. :

S2.01

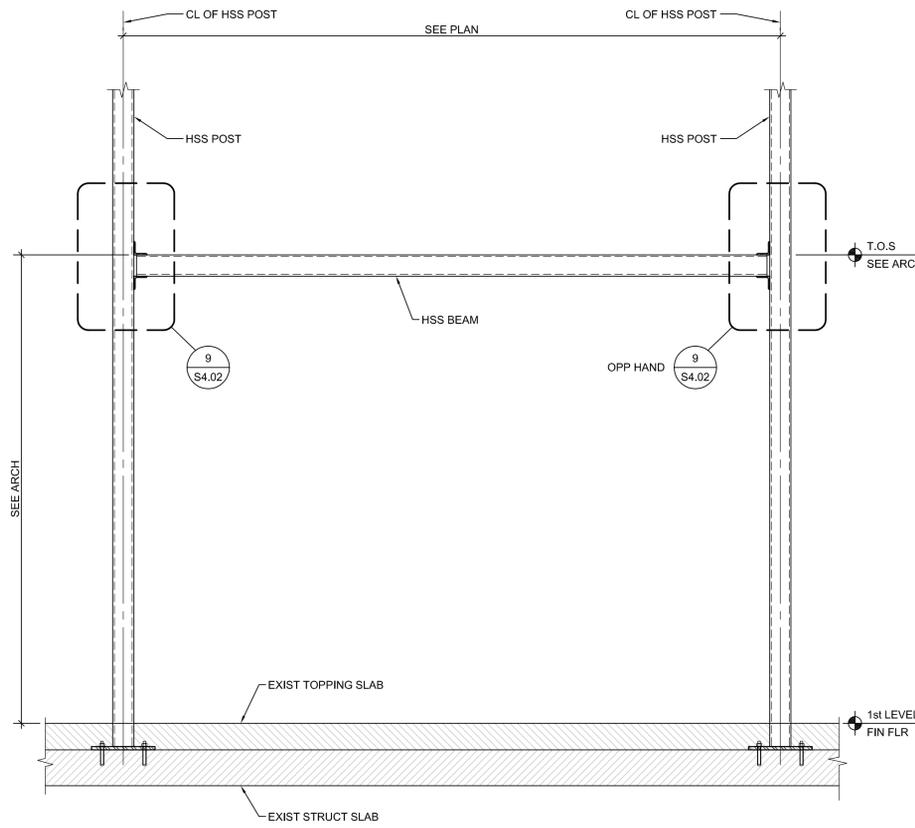
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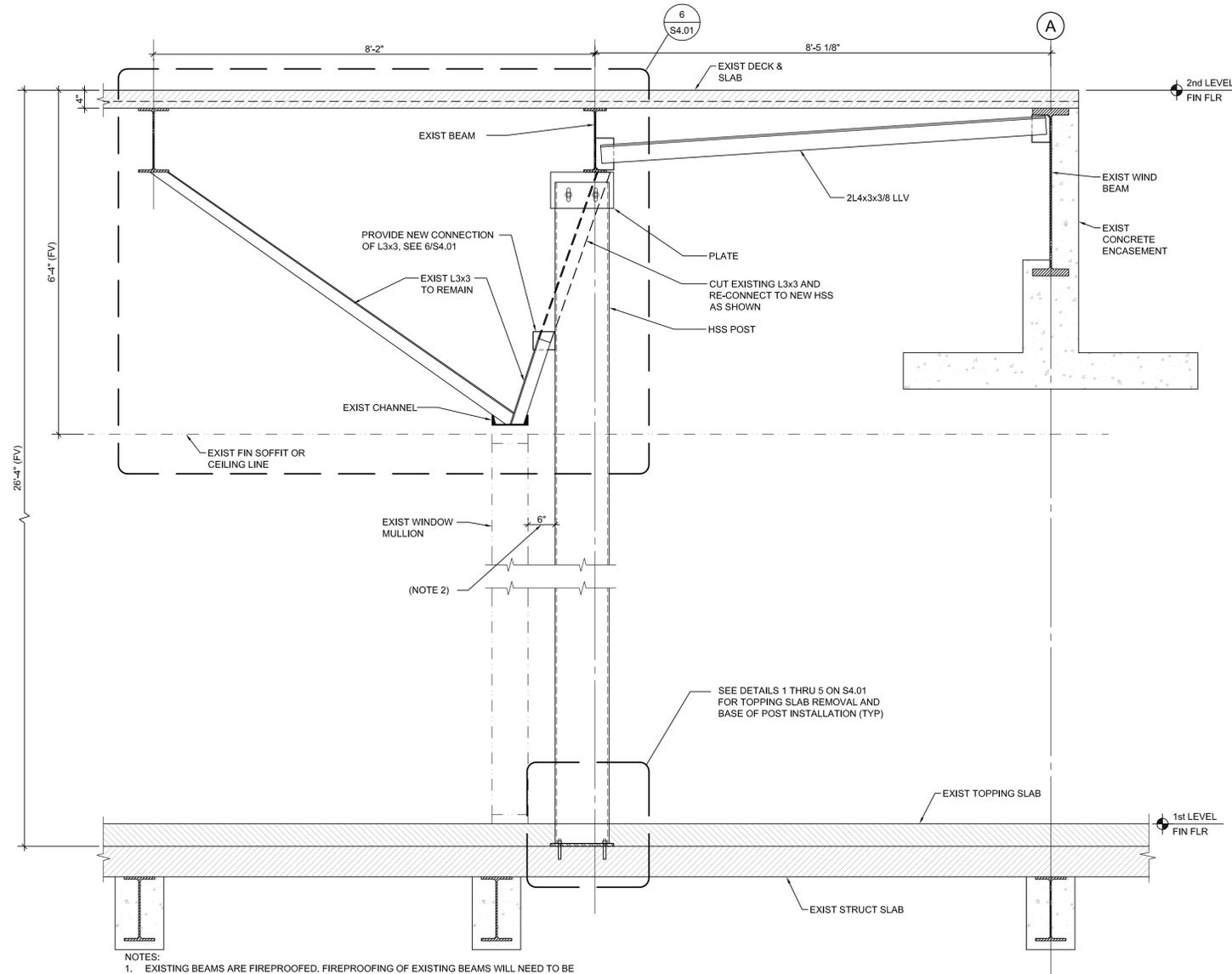
- NOTES:**
- SEE LEVEL 1 FRAMING PLAN FOR SIZE OF NEW HSS POSTS.
 - MEMBERS SHOWN ON THIS PLAN ARE AT THE OVERHEAD OF LEVEL 1 (WORK TO BE PERFORMED FROM LEVEL 1).
 - FIELD VERIFY LOCATION OF NEW POST AND COORDINATE WITH ARCHITECTURAL DRAWINGS. ALL NEW POSTS TO BE IN FRONT OF EXISTING MULLIONS.
 - SEE SHEET S2.00 FOR PLAN NOTES.

1 LEVEL 2 - FRAMING PLAN
3/32" = 1'-0"

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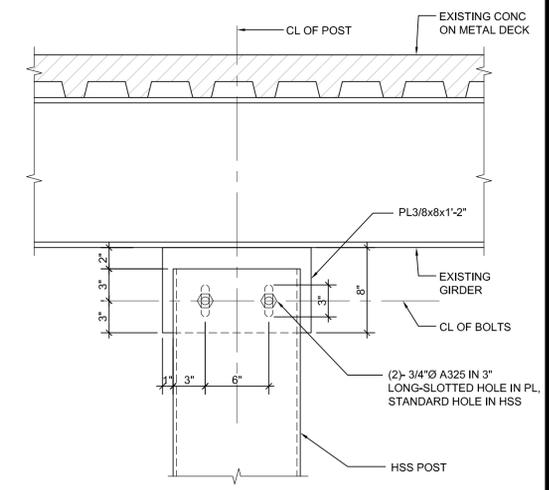


2 SECTION - NEW HSS BEAM
3/4" = 1'-0"



1 SECTION
3/4" = 1'-0"

- NOTES:
- EXISTING BEAMS ARE FIREPROOFED. FIREPROOFING OF EXISTING BEAMS WILL NEED TO BE REMOVED AND REPLACED TO ALLOW CONNECTIONS OF NEW STEEL MEMBERS TO EXISTING BEAMS. REFER TO ARCHITECTURAL SPECIFICATIONS FOR FIREPROOFING REQUIREMENTS.
 - COORDINATE WITH ARCHITECTURAL DRAWINGS.



3 STEEL TUBE POST CONNECTION TO EXISTING GIRDER
1 1/2" = 1'-0"

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	2/13/2013	PERMIT SET

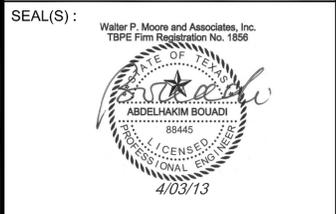
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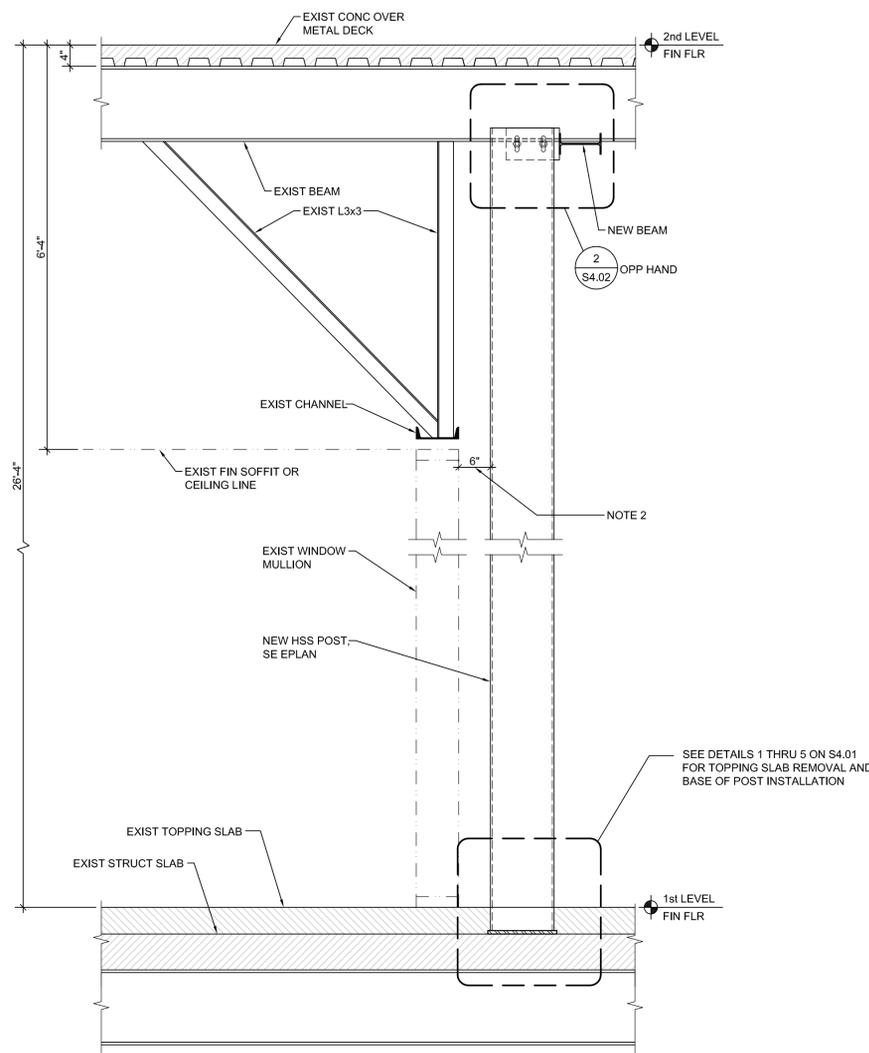
PROJECT MANAGER _____

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G.F.S. No.: _____
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SECTIONS

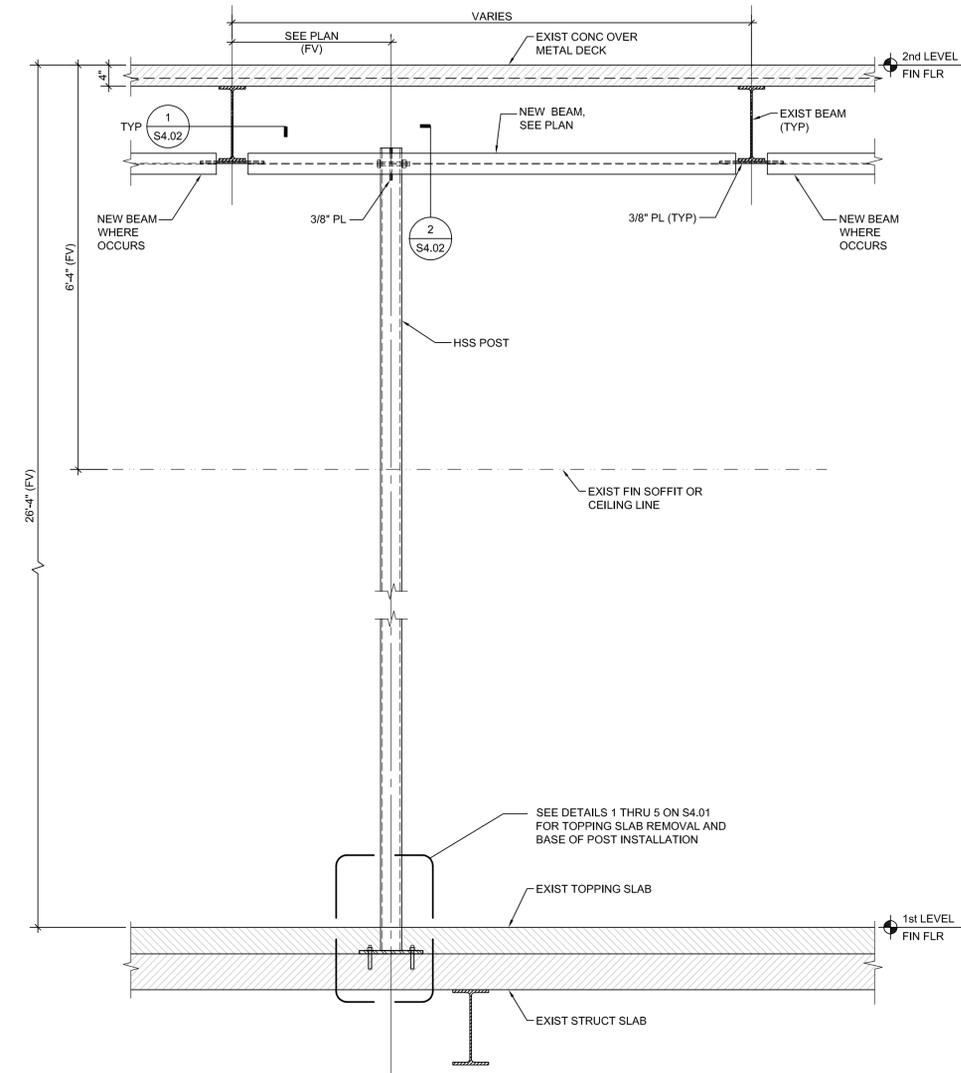
SHEET NO.:
S3.00

CITY DWG. NO.:



NOTE:
 1. SEE NOTE 1 OF SECTION 1/S3.00.
 2. COORDINATE WITH ARCHITECTURAL DRAWINGS.

2 TYPICAL STEEL TUBE CONNECTION TO EXISTING STRUCTURE
 3/4" = 1'-0"



NOTE:
 1. SEE NOTE 1 ON DETAIL 1/S3.00.

1 TYPICAL STEEL TUBE CONNECTION TO EXISTING STRUCTURE
 3/4" = 1'-0"

ISSUE LOG		
NO.	DATE	DESCRIPTION
	2/13/2013	PERMIT SET

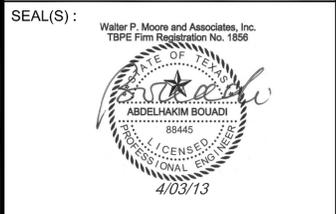
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PROJECT MANAGER _____

DATE: 02/13/2013

G.F.S. No. _____

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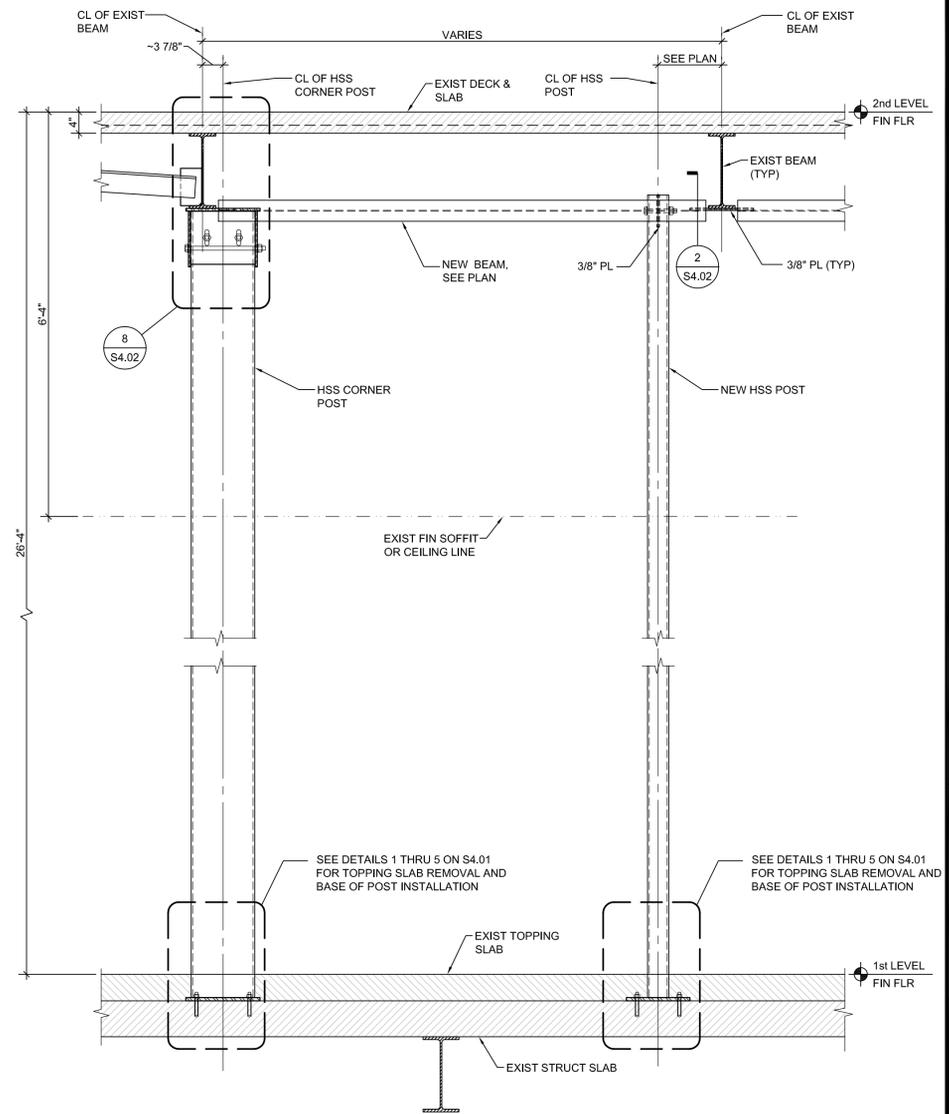
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SHEET TITLE:
SECTIONS

SHEET NO.:
S3.01

CITY DWG. NO.:

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NOTE:
1. SEE NOTE 1 ON DETAIL 1/S3.00.

1 SECTION
3/4" = 1'-0"

ISSUE LOG

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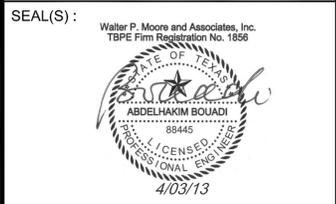
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Fax: 713.524.5868
Contact: Greg Ryden

Structural: CSF Civil, Structural and Forensic Engineering Solutions
11210 Steeplecrest Dr
Suite # 202
Houston, Texas 77065
Voice: 713-678-2110
Fax: 932-678-2115
Contact: Carlos A. Gutierrez

MEP: Robert W. Young & Assoc., Inc.
P.O. Box 711207
Houston, TX 77271-1027
Voice: 713-981-4746
Fax: 713-981-1651
Contact: Robert W. Young

Structural: Walter P Moore and Assoc., Inc.
1301 McKinney St.
Suite 1100
Houston, Texas 77010
Voice: 713-630-7300
Fax: 713-630-7396
Contact: Daron Hester



PROJECT NAME:
City of Houston
HPD Lobby Entrance A
1200 Travis, Houston, TX 77002



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PROJECT MANAGER _____

DATE: 02/13/2013

G.F.S. No. _____

SCALE: AS SHOWN

DRAWN BY: RC

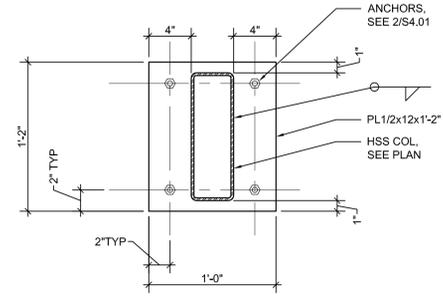
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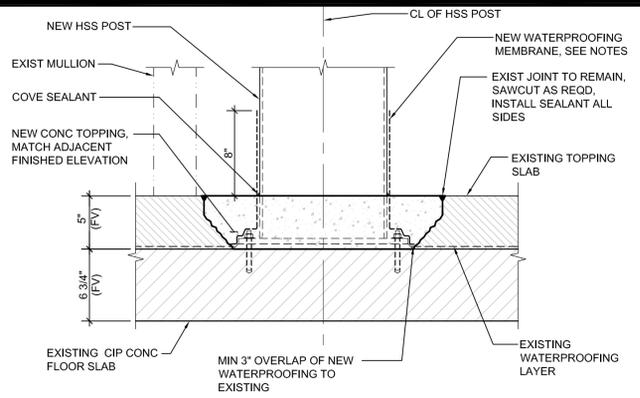
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S3.02

CITY DWG. NO.:

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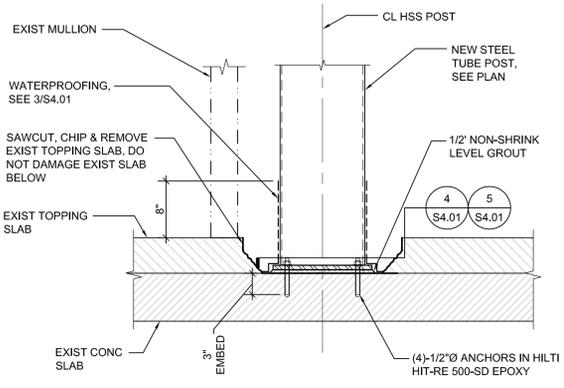


4 TYPICAL BASE PLATE
DETAIL AT HSS12x4 POST
1 1/2" = 1'-0"



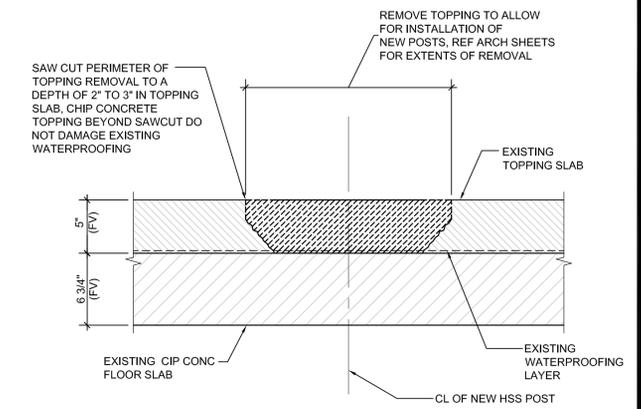
NOTES:
1. CONTRACTOR TO SUBMIT FOR APPROVAL A WATERPROOFING MEMBRANE WHICH IS COMPATIBLE WITH THE EXISTING WATERPROOFING SYSTEM. EXISTING SYSTEM IS BELIEVED TO BE A MULTIPLY HOT-APPLIED REINFORCED ASPHALTIC MEMBRANE. CONTRACTOR TO FIELD VERIFY.
2. OVERLAP AND BOND NEW MEMBRANE TO EXISTING FOR A LENGTH AS REQUIRED BY THE MANUFACTURER OR 3 INCHES WHICHEVER IS GREATER.
3. PROVIDE FLASHING AT WATERPROOFING TERMINATION ON NEW HSS POST.

3 TYPICAL TOPPING REPAIR DETAIL
1 1/2" = 1'-0"



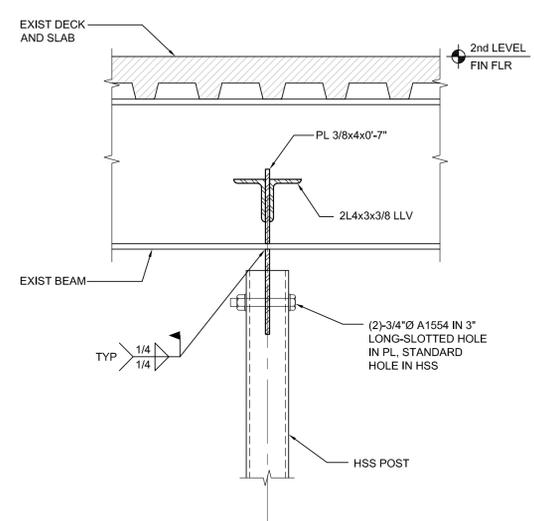
NOTES:
1. REMOVE CONCRETE AS SHOWN IN 1/S4.01 PRIOR TO COLUMNS INSTALLATION.
2. FOLLOWING COLUMN INSTALLATION REPAIR AS SHOWN IN 3/S4.01.

2 DETAIL
1" = 1'-0"

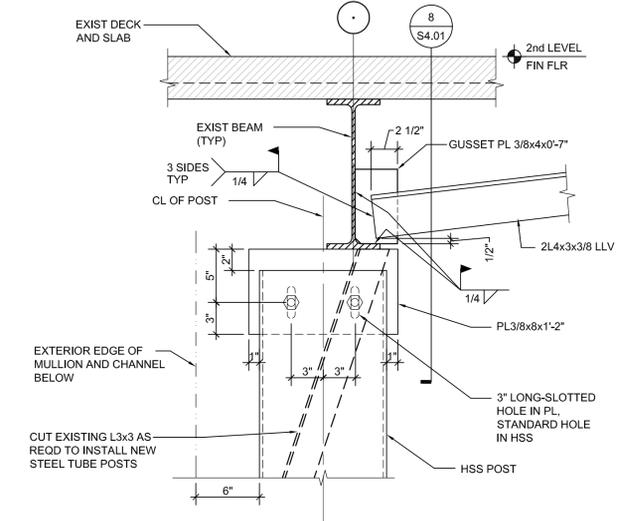


NOTES:
1. DO NOT REMOVE EXISTING WATERPROOFING. PROTECT EXPOSED AREAS OF WATERPROOFING MEMBRANE TO REMAIN.
2. USE 15 LBS AIR HAMMER FOR CHIPPING.

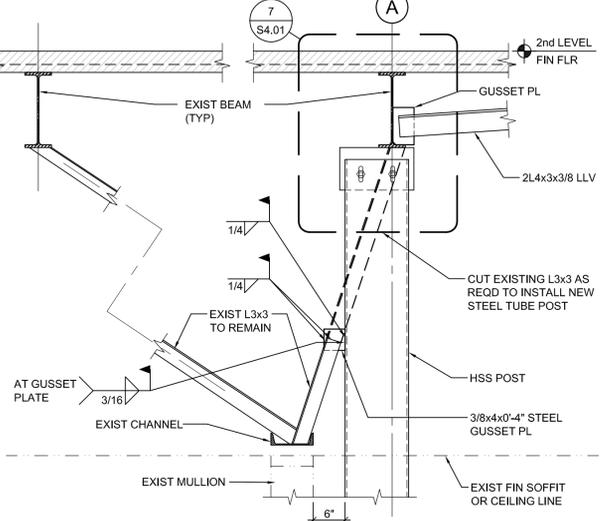
1 TYPICAL -
FLOOR SLAB SELECTIVE DEMOLITION DETAIL
1 1/2" = 1'-0"



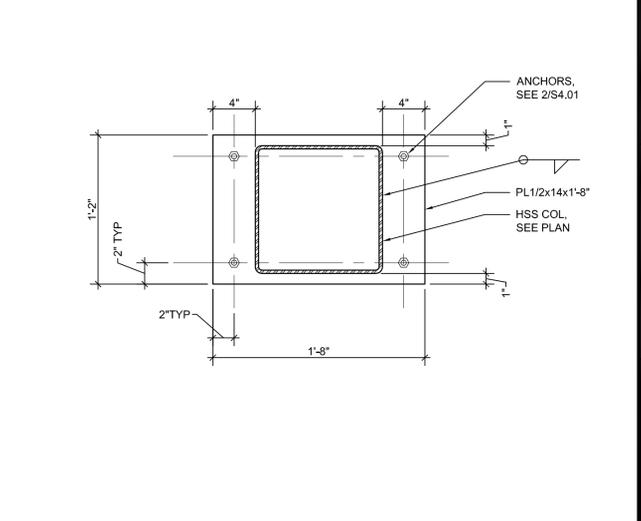
8 DETAIL - TOP POST CONNECTION
TO EXISTING PURLIN
1 1/2" = 1'-0"



7 TYPICAL STEEL POST CONNECTION
TO EXISTING STRUCTURE
1 1/2" = 1'-0"

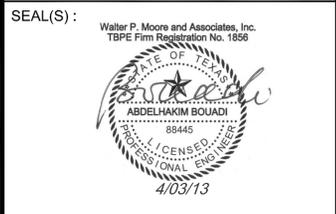


6 TYPICAL STEEL POST CONNECTION
TO EXISTING STRUCTURE
3/4" = 1'-0"



5 TYPICAL BASE PLATE DETAIL AT HSS12x12
1 1/2" = 1'-0"

ISSUE LOG		
NO.	DATE	DESCRIPTION
	2/13/2013	PERMIT SET
CONSULTANT(S):		
Architectural	Brave/Architecture 4617 Montrose Blvd, Suite C230 Houston, TX 77006 Voice: 713.524.5858 Fax: 713.524.5868 Contact: Greg Ryden	
Structural	CSF Civil, Structural and Forensic Engineering Solutions 11210 Steeplecrest Dr Suite # 202 Houston, Texas 77065 Voice: 713-678-2110 Fax: 932-678-2115 Contact: Carlos A. Gutierrez	
MEP	Robert W. Young & Assoc., Inc. P.O. Box 711207 Houston, TX 77271-1027 Voice: 713-981-4746 Fax: 713-981-1651 Contact: Robert W. Young	
Structural	Walter P Moore and Assoc., Inc. 1301 McKinney St. Suite 1100 Houston, Texas 77010 Voice: 713-630-7300 Fax: 713-630-7396 Contact: Daron Hester	



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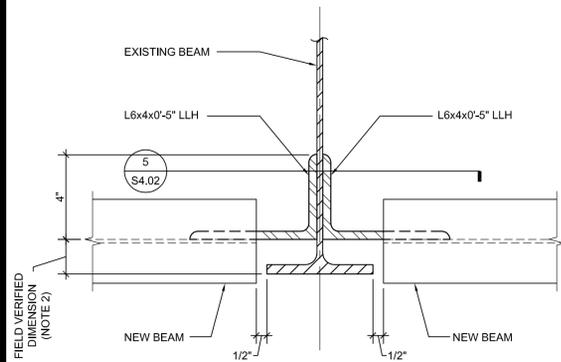
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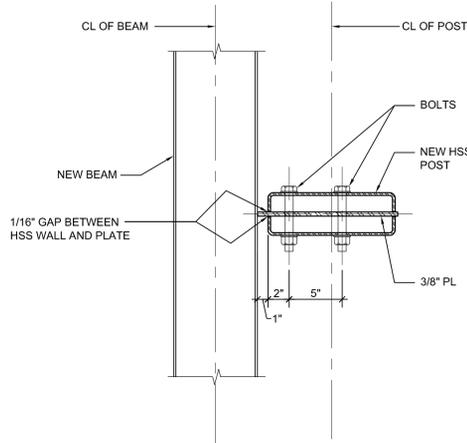
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S4.01

CITY DWG. NO.:

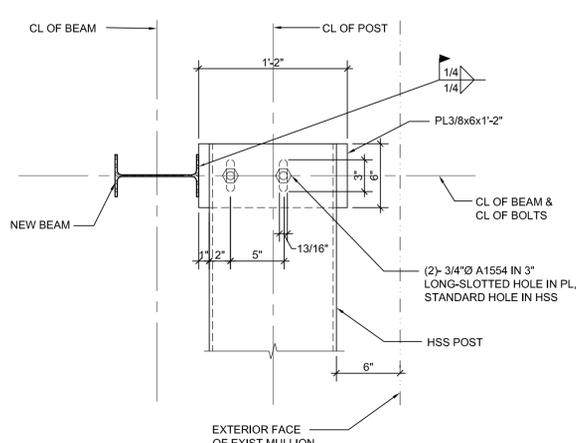


NOTES:
 1. WHERE A NEW BEAM CONNECTS TO EXISTING BEAMS OF DIFFERENT DEPTH AT EACH END, THE CONNECTION SHOWN IN THIS DETAIL OCCURS AT THE EXISTING BEAM THAT IS DEEPER.
 2. THIS DIMENSION NEEDS TO BE FIELD VERIFIED AND SHALL ALIGN WITH THE CONNECTION AT THE OTHER END OF THE NEW BEAM SO THAT THE BEAM IS INSTALLED LEVEL AND HORIZONTAL.

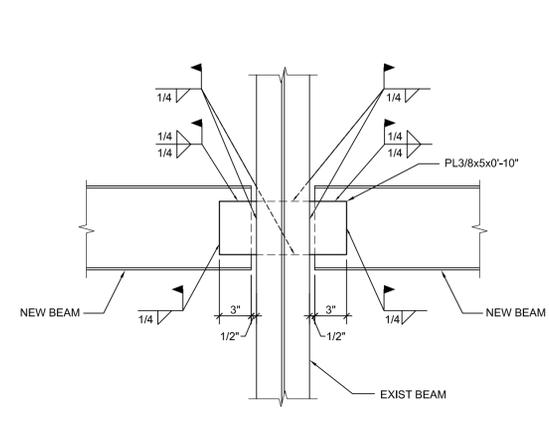
4 DETAIL - CONNECTION OF NEW BEAMS TO EXISTING DEEP BEAM
 3" = 1'-0"



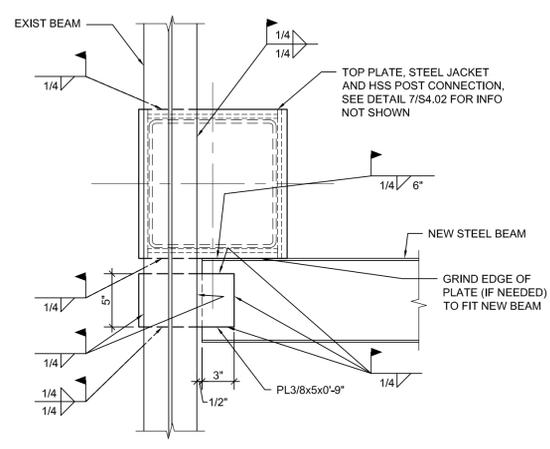
3 DETAIL - CONNECTION OF HSS POST TO NEW BEAM
 1 1/2" = 1'-0"



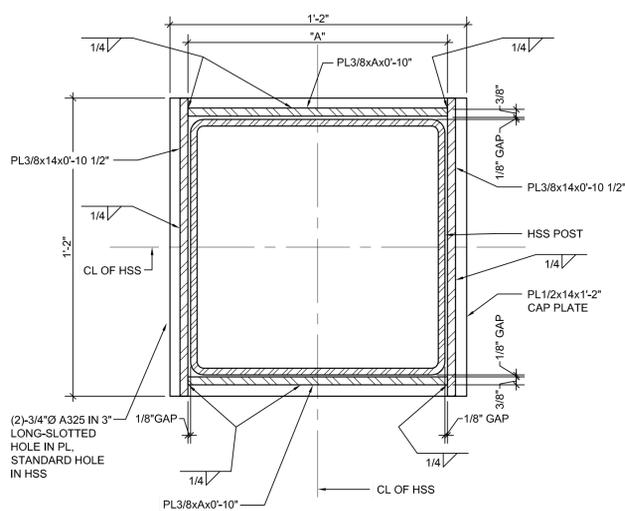
2 DETAIL - CONNECTION OF HSS POST TO NEW BEAM
 1 1/2" = 1'-0"



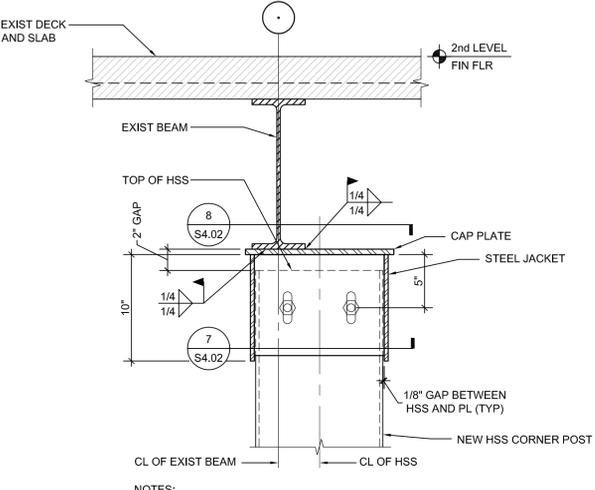
1 DETAIL - CONNECTION OF NEW BEAMS TO EXISTING BEAM
 1 1/2" = 1'-0"



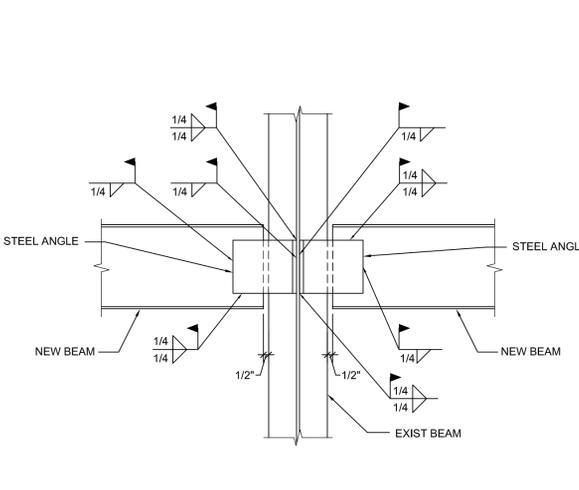
8 DETAIL - CONNECTION OF CORNER POST AND NEW BEAM TO EXISTING BEAM
 1 1/2" = 1'-0"



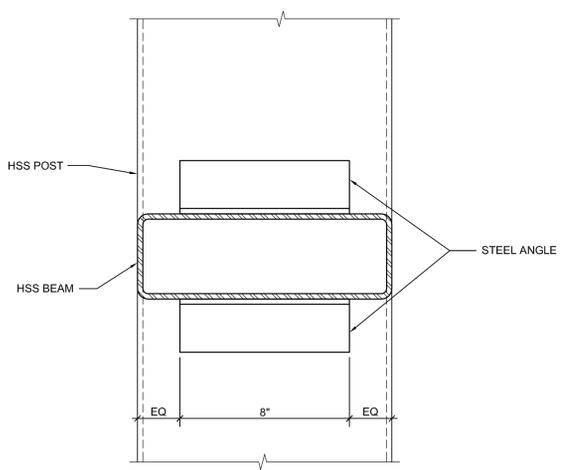
7 DETAIL - STEEL JACKET FOR CONNECTION OF CORNER POST TO EXISTING STEEL BEAM
 3" = 1'-0"



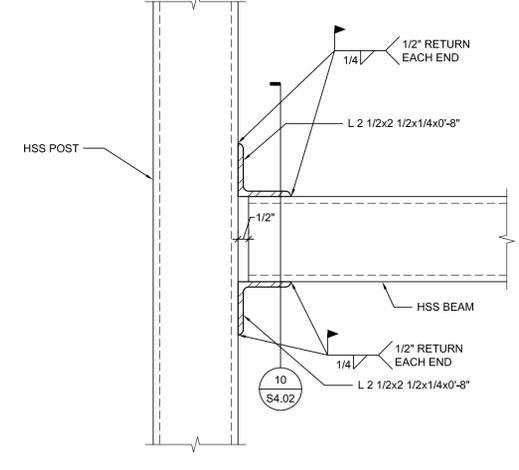
6 DETAIL - CONNECTION OF CORNER POST TO EXISTING STEEL BEAM
 1 1/2" = 1'-0"



5 DETAIL - CONNECTION OF NEW BEAMS TO EXISTING DEEP BEAM
 1 1/2" = 1'-0"



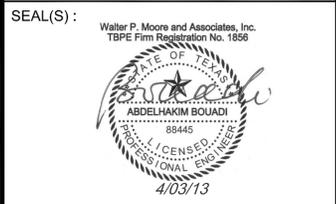
10 DETAIL - CONNECTION BETWEEN HSS BEAM AND HSS POST
 3" = 1'-0"



9 DETAIL - CONNECTION BETWEEN HSS BEAM AND HSS POST
 3" = 1'-0"

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S4.02

CITY DWG. NO.:

DESIGN FILE: P:\D03\2012\12007-01\CADD\Sheets\S4.02.dwg

CAD FILE: