Design Guidelines

Mid-Campus Parking Facility
CP&M Project No. 09-2026
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THE UNIVERSITY OF TEXAS
MD ANDERSON
CANCER CENTER
Making Cancer History®

PART 1 - OVERVIEW

1.01 GENERAL

A. The University of Texas M. D. Anderson Cancer Center Design Guidelines, referenced in the Design/Build Agreement as "Owner's Design Guidelines", defines design expectations and preferred methods and materials of construction to assure uniformity, system and component quality, compatibility, functionality, and ease of maintenance in all M. D. Anderson Cancer Center facilities.

B. Design Guideline Elements, Master Construction Specifications, and Supplemental Resources (AutoCAD Standards, Installation Details, and other referenced Standards) are combined under the heading "Owner's Design Guidelines".

C. The attached **Project Summary, Design Guideline Element 1010**, describes the facility and initial design concepts specific to the proposed Project. The proposed Project will have very unique requirements that are not yet defined. The Owner's Design Guidelines may not provide the necessary criteria to anticipate all of the unique needs of this facility. Therefore, the Design/Build Contractor shall be proactive in identification of all design issues that contradict or are not identified within the Owner's Design Guidelines and communicate such concerns to the Owner's Project Manager in writing during the design phase of the Project to allow resolution in sufficient time to meet Contract schedule obligations.

D. To facilitate project communication, all non-M.D. Anderson Project Team members will be expected to participate and use the current M.D. Anderson web based electronic collaborative application (Skire). The application will be available to all team members via the Internet.

PART 2 - ACCESS TO CURRENT OWNER'S DESIGN GUIDELINES

2.01 GENERAL

A. Current Owner's Design Guidelines are available on the Internet for reference during the Request for Qualifications process. For convenience, three separate addresses (URL's), each pointing to a general Design Guideline category, are provided below:

1. Owner's Design Guideline Elements are available online at http://www2.mdanderson.org/depts/cpm/standards/guides.htm

2. Owner's Master Construction Specifications are available online at http://www2.mdanderson.org/depts/cpm/standards/specs.htm

3. Owner's Supplemental Resources are available online at http://www2.mdanderson.org/depts/cpm/standards/supp.htm

PART 3 - TRANSMITTAL OF OWNER'S DESIGN GUIDELINES FOR THIS PROJECT

3.01 GENERAL

A. In order to establish a baseline of design criteria applicable to initiating Basic Services for the Project, M. D. Anderson will transmit the version of the Owner's Design Guidelines in effect for this Project at the time that the Agreement is transmitted to the Design/Build Contractor for execution.

B. The Design/Build Contractor and all consultants under contract to the Design/Build Contractor shall review and incorporate criteria stated in the Owner's Design Guidelines for preparation of the Contract Documents.

C. Refer also to the Preface Section of the Owner's Design Guidelines for additional information.

END OF INTRODUCTION

Project Description

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1010 Project Summary

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INTRODUCTION

1.01 DOCUMENT INTENT

A. This document provides general information and initial design concepts for the proposed building systems and components.

B. Refer to the Owner's Design Guideline Elements A though G and Element Z for technical design criteria related to general building components, requirements for preparing Project Manuals, and for additional M. D. Anderson standards and other requirements.

1. Owner's Design Guidelines are available online at http://www2.mdanderson.org/depts/cpm/standards/default.html

C. Refer to the Owner's Master Construction Specifications for product and construction execution requirements.

1. Owner's Master Construction Specifications are available online at http://www2.mdanderson.org/depts/cpm/standards/specs.htm

D. For Design/Build project delivery methods, the terms "A/E" and "Architect/Engineer" as used throughout this document shall have the same meaning as "Design/Build Contractor".

PROJECT OVERVIEW

1.02 BUILDING DESCRIPTION

A. This project includes the design and construction of a parking garage (referred to as the "Project") located on M. D. Anderson property near South Braeswood Boulevard and Bertner Avenue.

B. The Project is a multi-level parking garage that will provide employee and visitor parking for the Administrative Support Building, a separate project under design/build project delivery that is currently under construction. The Project will abut the Administrative Support Building and share foundations in selected areas..

C. The Project will provide approximately 77,000 square feet on each typical garage level and provide a minimum of 2000 parking spaces and on nine levels. Include an alternate for approximately 700 additional spaces on three additional levels Provide at least four flat-floor parking bays with two-way speed ramps at the east edge of the garage. Ramps will provide access to two levels with each revolution. Internal garage circulation on each level will be typically one-way with 70 degree angled, 9'-0" wide parking spaces.

D. Provide an elevator bank with air-conditioned lobbies at the southwest corner of the garage. At Level 5 of the garage, provide an air-conditioned bridge from the garage elevator lobby to Level 3 of the Administrative Support Building.

E. Provide a second elevator bank at approximately the mid-point of the west side of the garage. At Level 5 of the garage, an entrance opening will be provided to allow access to Level 3 of the Administrative Service Building for the conference and retail space.

F. Provide exit stairs at the corners of the garage and as required by code.

G. A small parking office, a janitor's closet, equipment rooms for security and network communications, storage functions and separate toilet facilities for men and women shall be included in the Project design.

H. Plan for Owner-provided garage maintenance equipment, including a gasoline-powered street sweeper, to be stored in fenced areas under the speed ramps.

I. Design the garage to be naturally ventilated with the exterior walls a combination of exposed concrete structure and precast concrete panels consistent with the Administrative Support Building.

J. Provide metal frame and fabric canopies, as required, at parking control equipment.

K. Provide underground, storm water detention in the Project for the Administrative Support Building and the garage.

L. Compensatory storm water storage requirements will be met by an existing off-site Project.

1.03 SITE PLANNING

A. Master Plan

1. Coordinate with the M. D. Anderson Master Plan that identifies conceptual planning principles for the property.

B. Site Description

1. The Project will be located on approximately two acres of land near the corner of South Braeswood Boulevard and Bertner Avenue. Refer to a Site Location Map to be furnished by the Owner.

2. Building setback is 25 feet along South Braeswood Boulevard.

3. The site is essentially flat with the north part of the site in the 100-year flood plain and the rest of the site in the 500-year flood plain.

C. Planning Considerations

1. Starting at Level 3, the garage will span over the service drive for the Administration Services Building.

2. One garage entrance/exit will connect to this service drive.

3. A second entrance/exit at the east edge of the garage will connect to South Braeswood Boulevard.

1.04 RELATED PROJECTS

A. The Administrative Support Building project is currently in construction. Design/Build Contractor must coordinate foundations, tower cranes, site circulation and infrastructure issues, building façade treatment, floor levels, fire-rated walls and construction access with the Administrative Support Building project.

1.05 DESIGN AND CONSTRUCTION PHASING

A. The following are proposed bid packages for this Project; Design/Build Contractor to confirm and provide recommendations on additional or alternate bid packages:

1. Site Infrastructure and foundation package.

2. Structure, skin and build-out package.

CONSTRUCTION SYSTEMS AND ASSEMBLIES

1.06 ELEMENT A – SUBSTRUCTURE

A. This Element A section contains supplemental design criteria unique to this Project. For additional criteria not listed in this section, refer to Owner's Design Guideline Elements A.

B. Consider specifying self-consolidating concrete for cast in place and precast concrete members.

C. A1010 Standard Foundations:

1. Base the final substructure design on recommendations of the geotechnical investigation report, which will be furnished by the Owner during the Design phase.

2. If the elevated pedestrian bridge is not a free span, a likely foundation design will include concrete drilled piers and normal weight concrete columns.

D. A1030 Slab on Grade:

1. Base the final slab on grade design on recommendations of the geotechnical investigation report.

2. Level 1 will be a normal weight concrete slab on grade.

1.07 ELEMENT B – SHELL

A. This Element B section contains supplemental design criteria unique to this Project. For additional criteria not listed in this section, refer to Owner's Design Guideline Elements B.

B. Consider specifying self-consolidating concrete for cast in place and precast concrete members.

C. B1010 Floor Construction:

1. Proposed floor to floor heights (may vary based on structural system):

Level 1 to Level 2	Approximately 13'-6"
Level 2 to Level 3	Approximately 10'-6"
Level 3 to Top Level	10'-0"
Penthouse	Determined by elevator and mechanical equipment

2. The pedestrian bridge will probably be a structural steel beam and joist system spanning between the garage and the Administrative Support Building.

3. Columns will be poured-in-place, normal weight concrete.

4. Beams and slabs will be cast-in-place, post tension concrete.

5. Design structure to support precast concrete panels, concrete masonry walls at elevators, stairs and office.

D. B1020 Roof Construction:

1. Roof construction at the garage stair and elevator enclosures will be a continuation of the concrete structure.

2. The pedestrian bridge roof will consist of steel joists spanning between the roof beams with metal deck and concrete fill.

E. B2010 Exterior Walls:

1. Exterior walls will be a combination of exposed concrete structure, precast concrete panels with up to three (3) colors and textures, limited use of prefinished architectural metal panels, and a limited amount of painted aluminum and glass windows.

2. Elevator penthouse structures will be precast concrete panels or a continuation of the elevator shaft enclosure.

3. Soffits will be exposed structure in the garage and prefinished architectural metal panels at the pedestrian bridge.

4. Where required, the interior face of exterior precast concrete wall panels will be concrete masonry units with insulation. Concrete masonry units exposed to the exterior will be painted or receive a stucco finish.

5. Enclose the first level of the garage with ornamental metal fencing.

6. The pedestrian bridge will be a combination of painted aluminum and glass curtain wall, and prefinished architectural metal panels.

F. B3010 Roof Coverings and Support Structures:

1. Roof covering at the Garage stair and elevator enclosures will be a modified bitumen roofing membrane system, with painted sheet metal fascia at any edges where no parapet exists.

2. The pedestrian bridge roof covering will be a modified bitumen roofing membrane system, with painted sheet metal fascia at edge.

3. The top level of the Garage and areas above conditioned spaces will be provided with a vehicular traffic waterproofing system.

1.08 ELEMENT C – INTERIORS

A. This Element C section contains supplemental design criteria unique to this Project. For additional criteria not listed in this section, refer to Owner's Design Guideline Elements C.

B. During the Project's Design phase, M. D. Anderson will furnish the A/E interior finishes standards appropriate for the Project.

C. C1010 Partitions:

1. Typical interior partitions will be concrete masonry units with insulated cores.

2. Typical interior partitions will extend to structure.

3. Minor storage areas may be enclosed with ornamental metal fencing and gates.

D. C1020 Interior Doors:

1. Typical interior doors will be painted full flush steel doors in welded steel frames, using cylindrical locksets with lever handles.

E. C1030 Fittings:

1. Typical handrails will be galvanized steel tube.

F. C2010 Stair Construction:

1. Garage stairs will consist of precast concrete tread/riser and landing units, or reinforced concrete filled metal pan treads/landings and galvanized steel risers, and structural channel stringers.

G. C2020 Stair Finishes:

1. The following table indicates finishes for stair components for this Project. This table supersedes the table in Owner's Design Guideline Element C:

Treads, Risers, Landings	Sealed concrete
Stringers, Rails	Galvanized Steel
Base	none
Walls	Paint, semi-gloss finish

H. C3010 Wall Finishes:

1. The following table indicates wall finishes for identified room types within this Project. This table supersedes the table in Owner's Design Guideline Element C:

Room Type	Wall Finish
Garage	Exposed Structure Typical. Paint, semi-gloss finish, accent colors on stairwell walls and selected building columns to coordinate with floor level.
Elevator Lobbies, Parking Office, Storage, Equipment Rooms, Miscellaneous Spaces	Paint, semi-gloss finish.
Toilet Rooms	Polished ceramic tile. Wainscot height on fixture walls and side walls next to fixtures. Paint, semi-gloss finish on concrete masonry units.
Pedestrian Bridge	Semi-gloss finish painted steel and drywall.

I. C3020 Floor Finishes:

1. The following table indicates floor finishes for identified room types within this Project. This table supersedes the table in Owner's Design Guideline Element C:

Room Type	Floor Finish
Garage	Sealed concrete, painted parking space striping, accessible path and pedestrian travel striping, and direction arrows. Provide a single, solid yellow line denoting two-way traffic on all drive areas where applicable.
Speed Ramps	Raked, textured concrete
Parking Office	Non-static vinyl composition tile (VCT).
Toilet Rooms	Porcelain ceramic tile with stone or solid surface material door threshold.
Storage, Equipment Rooms, Miscellaneous Spaces,	Sealed concrete.
Enclosed Elevator Lobbies	Walk-off carpet tile
Pedestrian Bridge	Carpet tile

J. C3025 Base Finishes:

1. The following table indicates base finishes for identified room types within this Project. This table supersedes the table in Owner's Design Guideline Element C:

Room Type	Base Finish
Parking Office, Elevator Lobbies, Storage, Pedestrian Bridge	4-inch high, coved, vulcanized rubber.
Toilet Rooms	Polished ceramic tile base, coved on all walls.
Mechanical/Electrical Equipment Rooms, Storage and Miscellaneous Spaces	No base required.

K. C3030 Ceiling Finishes:

1. The following table indicates ceiling finishes for identified room types within this Project. This table supersedes the table in Owner's Design Guideline Element C:

Room Type	Ceiling Finish
Garage	Painted structure/exposed structure. For light reflectance, paint underside of entire structural slab 10-feet in each direction from each ceiling-mounted garage lighting fixture; include beams.
Elevator Lobbies, Storage, Equipment Rooms, Miscellaneous Spaces	Painted exposed structure.
Parking Office, Toilet Rooms	2 x 2 lay-in acoustical tile.
Pedestrian Bridge	Combination of 2 x 2 lay-in acoustical tile and painted drywall.

1.09 ELEMENT D – SERVICES

A. This Element D section contains supplemental design criteria unique to this Project. For additional criteria not listed in this section, refer to Owner's Design Guideline Elements D.

B. Conveying:

1. All elevators shall be geared, traction type.

2. Passenger elevators from Level 1 to top of building will be 3,500 lb. capacity, 500 fpm with nominal 6'-8" wide x 5'-5" deep x 8'-0" high cabs with 3'-6" wide x 7'-0" high doors. Quantity of elevators and any adjustments to capacity, size and/or speed will be determined following an elevator study.

3. Access to elevator equipment rooms shall be in accordance with ASME 17.1./CSA B44 Handbook.

C. Plumbing:

1. Treat potentially contaminated, impacted, and contaminated water in accordance with all applicable City of Houston requirements before discharging to city storm or sanitary sewers. Provide oil/water separator as required.

2. All storm water discharging into the municipal sewer shall comply with the City of Houston Stormwater Quality Management Plan and Stormwater Design Requirements.

3. Provide water connections on each floor level of the garage for cleaning and maintenance of equipment. Coordinate quantity, locations and related equipment (tanks, pumps, etc.) with Owner.

4. Connect the underground storm water detention to existing storm drain piping located at the north side of the Administrative Support Building.

D. Heating, Ventilating, and Air Conditioning:

1. Chilled water to air-condition the pedestrian bridge and elevator lobbies will be supplied from the Administrative Support Building. Plan for chilled water fan-coil units to serve the bridge with electric zone heat.

2. Air-conditioning provided for enclosed areas such as the parking office, toilet rooms, security / network / telecommunications room, storage and elevator machine rooms shall be supplied from either air-cooled heat pump packaged units or air-cooled heat pump with split system components.

3. The air-cooled heat pumps shall meet or exceed the minimum energy efficiency ratings per ANSI/ASHRAE/IESNA Standard 90.1.

4. If refrigerant piping is outdoors and is exposed to sunlight, then piping insulation must be protected from ultraviolet radiation, or be resistant to ultraviolet radiation so it will not deteriorate and lose its insulating properties.

5. Piping hangers are to be properly spaced to provide support to refrigerant liquid and suction lines for split systems.

6. Condensate drain lines will have their P-traps configured at the cooling coil drain connection. The P-trap will be equipped with a clean out plug and be located to make the P-trap easily accessible for cleaning purposes. The condensate piping will be properly supported with hangers and sloped to assure that the condensate cannot collect in the sloped piping run. Avoid routing condensate piping from cooling coil drain pans across rooms containing electrical or telecommunication equipment.

E. Fire Protection:

1. All portions of the parking garage building shall be protected with manual standpipe protection in accordance with 2007 NFPA 88A, 2006 International Fire Code, the City of Houston Fire Department, and Owner's Underwriter requirements.

2. Provide automatic sprinkler protection for garage office, janitor's closet, storage (including fenced areas beneath ramps), and equipment rooms. Sprinklers for these small areas and rooms may receive water from the garage domestic water system if quantity of sprinkler heads and capacity of water supply allows compliance with all applicable Codes and Regulations.

3. Provide fire department connections at clear, accessible locations and where approved by the City of Houston Fire Department. Provide signage to identify location of fire department connection and fire tanker truck travel route to fire department connections as approved by the City of Houston Fire Department.

4. Locate fire extinguisher cabinets per code.

F. Electrical:

1. Provide emergency power for all life safety components, elevator air-conditioning units, emergency fans for garage elevators, gate control arms and other items as may be determined during the Design phase.

2. Lighting Fixtures (refer also to Design Guideline Element D5022 Master Lighting Fixture Schedule):

   a. Linear fluorescent fixtures with vapor-tight housings.

   b. 100 Watt metal halide, ceiling mounted fixtures for garage, including hot lamp restrike for fixtures on emergency power.

   c. 400 Watt metal halide, pole-mounted fixtures for the roof level.

   d. 50 Watt metal halide wall-pack fixtures for garage exterior.

   e. 26 Watt fluorescent wall-pack fixtures at exterior exit discharge points.

   f. LED exit signs.

3. Lighting fixtures along perimeter of each floor shall be controlled separately with a photo-cell.

4. Provide photo-cell for reverse control at entry gates for transitional lighting from the outdoors.

5. Provide dedicated conduit for security cameras.

6. Install conduit for Code Blue telephones and Code Blue pull stations for University of Texas Police Department (UTPD) security requirements.

7. All floor fixtures shall be provided with separate home run conduit. All fixtures shall have circuit identifiers attached to the fixture.

1.10 ELEMENT E – EQUIPMENT AND FURNISHINGS

A. This Element E section contains supplemental design criteria unique to this Project. For additional criteria not listed in this section, refer to Owner's Design Guideline Elements E.

B. E1030 Other Equipment:

1. Owner will provide and install room number signage. All other signage, including wayfinding and striping, will be provided in the Project scope.

2. Provide vehicular access control equipment, including card readers, cameras, gate control arms, and vehicle sensors at entrances and exits of the garage. Include equipment as appropriate for both contract and public parking conditions.

1.11 ELEMENT F – SPECIAL CONSTRUCTION

A. No additional requirements; refer to Owner's Design Guideline Elements F.

1.12 ELEMENT G – BUILDING SITEWORK

A. This Element G section contains supplemental design criteria unique to this Project. For additional criteria not listed in this section, refer to Owner's Design Guideline Element G.

1. Provide metered domestic and fire protection water service to the facility.

2. Provide a separately metered tap off the main incoming City water service for site landscape irrigation.

3. Provide storm and sanitary sewer services to the facility.

1.13 ELEMENT Z – GENERAL DESIGN REQUIREMENTS

A. Refer to Element Z2045 for network and telecommunications requirements.

B. Supplemental security design requirements unique to this Project are included as follows. For additional criteria not listed in this section, refer to Owner's Design Guideline Element Z2055.

1. Provide a security system, which will include cameras, Code Blue stations, and card readers for the Project. Owner will furnish general system design parameters during the Design phase.

a. Provide a card reader at the entrances to the Administrative Support Building from the garage.

b. Provide Code Blue Emergency Stations at each garage stair and at the elevators.

c. Provide cameras at all entry points into the garage, elevator lobbies, and stairs.

d. Provide card readers to gain access into the garage.

SPECIAL ISSUES AND CONSIDERATIONS

1.14 TECHNICAL EVALUATIONS

A. In addition to technical evaluations that are described within the Design Guideline Elements, Elements A through G, the A/E shall perform the following written technical evaluations with recommendations in a “Ben Franklin” format for M. D. Anderson review and approval. The Ben Franklin shall identify reasons for and against (pros and cons) a particular design alternative or issue to aid in the decision-making process.

B. Technical evaluations must be prepared during the Schematic Design Phase so that progress during the Design Development phase will not be impacted.

1. Codes and standards analysis, including compliance with ANSI/ASHRAE/IESNA Standard 90.1 and Texas Department of Licensing and Regulation (TDLR) Requirements. Refer to Design Guideline Element Z2005 for additional requirements.

2. Structural system evaluation for the building floors, with cost and constructability input from the Contractor.

3. Elevator study to confirm quantity, size, and speed of elevators.

4. Traffic study to determine capacity of streets and intersections.

5. Evaluate applicability, code compliance, cost, life and asset protection issues related to providing a Class 1 manual dry fire standpipe system versus an automatic (with fire pump) fire standpipe system.

6. Evaluate the use of photovoltaic solar panels and an inverter to provide electrical power for lights used to illuminate floor or room areas inside the garage during daylight hours only. This evaluation should not consider storage battery applications.

PRODUCTS

1.15 GENERAL

A. This section clarifies certain specification requirements and identifies deviations from the M. D. Anderson Master Construction Specifications to assist the A/E with specification editing. Refer to Owner's Design Guideline Element 2010 "Instructions for the Preparation of Project Manuals" for additional information.

B. In general, the A/E shall develop and furnish Contract Specification sections for Divisions 02-13, written to meet specific project requirements. Specification sections developed by the A/E must follow the same formatting conventions as the Owner's Master Construction Specifications. Use applicable sections of the Owner's Master Construction Specifications Division 14 and Divisions 20 through 28 as template documents for this Project.

1.16 DIVISION 00 AND 01

A. This Project falls under the Owner Controlled Insurance Program (OCIP). The Owner will provide Project Insurance Specification 00 73 16 with supporting documentation and forms to the A/E separate from this Design Guideline document.

1.17 DIVISION 08

A. The A/E shall specify door hardware and full interface between specified door hardware, life safety / fire alarm, security (electronic and mechanical), and Texas Department of Licensing and Regulation (TDLR) connections for proper operation under normal and emergency operation.

1.18 DIVISION 09

A. Specify sustainable finishes and materials where appropriate.

1.19 DIVISION 20

A. No additional requirements.

1.20 DIVISION 21

A. Specify Schedule 40 minimum thickness for all unburied fire protection piping (including standpipes) with the following exception:

1. Non-threaded wet fire sprinkler branch piping sizes 2-½ inches and larger may be Schedule 10.

B. All pre-action and dry-type piping shall be Schedule 40 galvanized steel.

1.21 DIVISION 22

A. No additional requirements.

1.22 DIVISION 23

A. No additional requirements.

1.23 DIVISION 25

A. Owner has two (2) different versions of DDC building automation specifications. For this Project, edit the Owner's BAS master construction specifications.

B. In addition, edit M. D. Anderson Control Standard Drawings for this Project. Create control drawings as necessary using the same format as the M. D. Anderson Control Standard Drawings. For additional information visit the following Internet URL: http://www2.mdanderson.org/depts/cpm/standards/bas.htm

1.24 DIVISION 26

A. Specify non draw-out (bolt-on) type circuit breakers for switchgear at main electrical gear, if applicable to the Project.

B. Automatic transfer switches shall be bypass isolation closed transition type.

C. Delete requirement for permanent load banks on the garage emergency generator.

D. Install lighting conduit in the slab; security and network / telecommunications conduit should be surface mounted.

E. Occupancy sensors shall be installed in all locations per ANSI/ASHRAE/IESNA Standard 90.1.

F. Stairway lighting to be four (4) foot fixtures with one lamp on occupancy control.

G. Commercial (non-hospital) specification grade wiring devices are acceptable.

H. Specify a lightning protection system.

I. Specify grounding counterpoise loop.

1.25 DIVISION 28

A. Install smoke and heat fire alarm sensor in elevator equipment room per code requirements.

B. Specify manual fire pull stations at exit doors to garage stairs, per M. D. Anderson fire alarm system master construction specification.

C. Specify smoke detectors in garage elevator lobbies.

D. Specify security and CATV systems per M. D. Anderson requirements.

END OF ELEMENT 1010