



City of Jonesboro

900 West Monroe
Jonesboro, AR 72401

Council Agenda Public Works Council Committee

Tuesday, August 6, 2013

5:00 PM

Huntington Building

1. Call To Order

2. Approval of minutes

MIN-13:054 Minutes for the Public Works Committee meeting on July 2, 2013

Attachments: [Minutes](#)

MIN-13:063 Minutes for the special called Public Works Committee meeting on July 30, 2013

Attachments: [Minutes](#)

3. New Business

Ordinances To Be Introduced

ORD-13:035 AN ORDINANCE TO AMEND CHAPTER 117, KNOWN AS THE ZONING ORDINANCE, WITHIN THE CODE OF ORDINANCES FOR THE CITY OF JONESBORO, ARKANSAS, ADDING SECTION 117-228, HELIPAD/HELIPORT USES; AND, DECLARING AN EMERGENCY FOR THE PURPOSE OF PRESERVING THE PUBLIC PEACE, HEALTH AND SAFETY WITH RESIDENTIAL AREAS AND CREATING MINIMUM STANDARDS AND GUIDELINES IN THE CODE FOR SUCH USES

Sponsors: Planning

Attachments: [FAA Advisory Circular 150_5390_2c](#)

ORD-13:040 AN ORDINANCE TO AMEND CHAPTER 117, KNOWN AS THE ZONING ORDINANCE, WITHIN THE CODE OF ORDINANCES FOR THE CITY OF JONESBORO, ARKANSAS, MODIFYING SECTION 117-138, 14 (D) (2), RESIDENTIAL DISTRICTS, AND SECTION 117-139, (E) (1) COMMERCIAL AND INDUSTRIAL DISTRICTS, LOT, YARD, AND HEIGHT REGULATIONS; AND, DECLARING AN EMERGENCY FOR THE PURPOSE OF PRESERVING THE PUBLIC PEACE, HEALTH AND SAFETY AND TO PROVIDE AN INCENTIVE FOR REDEVELOPMENT WITHIN OUR HISTORICAL NEIGHBORHOODS AREAS

Sponsors: Planning

ORD-13:041 AN ORDINANCE TO AMEND CHAPTER 117, KNOWN AS THE ZONING ORDINANCE, WITHIN THE CODE OF ORDINANCES FOR THE CITY OF JONESBORO, ARKANSAS, MODIFYING SECTION 117-256 - MANUFACTURED HOUSING UNITS, AGE LIMITATION REQUIREMENTS AND, DECLARING AN

EMERGENCY FOR THE PURPOSE OF PRESERVING THE PUBLIC PEACE,
HEALTH AND SAFETY WITHIN RESIDENTIAL AREAS AND TO PROVIDE CLARITY
IN THE CODE REGULATIONS

Sponsors: Planning

Attachments: [Existing Mobile Homes Code of Ordinances Chpt 117](#)
[Evaluation of Affordable Housing Accessibility Act 2](#)

Resolutions To Be Introduced

RES-13:106 A RESOLUTION TO ACCEPT A MAINTENANCE AGREEMENT FOR STORMWATER
MANAGEMENT FACILITIES FOR FAIRWAY #14 DRAINAGE EASEMENT, A
RESIDENTIAL DEVELOPMENT

Sponsors: Engineering

Attachments: [Maintenance Agreement.pdf](#)
[Minor Plat.pdf](#)

RES-13:108 A RESOLUTION OF THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE
MAYOR AND CITY CLERK TO GRANT AN EASEMENT FOR FACILITIES (UTILITY
EASEMENT) TO CITY WATER AND LIGHT PLANT OF JONESBORO, ARKANSAS

Sponsors: Engineering

Attachments: [Map of CWL Easement - Moore Rd.pdf](#)
[Easement.pdf](#)

RES-13:112 RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS
FOR THE SUGGESTED RENAMING OF STADIUM BOULEVARD TO RED WOLVES
BOULEVARD AS REQUESTED BY ARKANSAS STATE UNIVERSITY.

Sponsors: Mayor's Office

Attachments: [Stadium Blvd Street Name Change Letter](#)
[Hwy Dept Response Letter Stadium Blvd](#)
[Stadium Blvd Retailers](#)
[Postal Service Response Letter](#)

RES-13:113 RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS
APPROVING A CONTRACT FOR PROFESSIONAL SERVICES WITH BRACKETT
KRENNERICH & ASSOCIATES, P.A. FOR ARCHITECTURAL SERVICES FOR A
POLICE FACILITY LOCATED IN THE ARMORY BUILDING ON CARAWAY ROAD

Sponsors: Mayor's Office

Attachments: [Armory Bldg Renovations Contract Brackett Krennerich](#)

RES-13:114 RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS
APPROVING A CONTRACT FOR ARCHITECTURAL SERVICES WITH BRACKETT
KRENNERICH & ASSOCIATES, P.A. FOR ARCHITECTURAL SERVICES FOR FIRE
STATION #5 LOCATED ON NEELY ROAD

Sponsors: Mayor's Office

Attachments: [Fire Station 5 Brackett Krennerich Contract](#)

RES-13:115 RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS AUTHORIZING THE MAYOR AND CITY CLERK TO SELL PROPERTY LOCATED AT 1103 COBB STREET, JONESBORO, ARKANSAS TO TED HERGETT

Sponsors: Mayor's Office

Attachments: [Building Facilities Meeting July 10 2013](#)

RES-13:121 A RESOLUTION TO ACCEPT A MAINTENANCE AGREEMENT FOR STORMWATER MANAGEMENT FACILITIES FOR BECKY ISLAS AND RIAN SNELL REPLAT, A RESIDENTIAL DEVELOPMENT

Sponsors: Engineering

Attachments: [Maintenance Agreement.pdf](#)

[Replat of Lots 267A and 268A of Sage Meadows Phase II-B.pdf](#)

RES-13:122 RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS REQUESTING FREE UTILITIES FOR THE ARMY RESERVE CENTER LOCATED AT 1001 S. CARAWAY ROAD

Sponsors: Mayor's Office

RES-13:124 RESOLUTION TO SET A PUBLIC HEARING REGARDING THE ABANDONMENT OF AN UNDEVELOPED RIGHT-OF-WAY IN SOUTH OAKS ADDITION PHASE II AS REQUESTED BY DR. JACK JONES

Attachments: [Petitions](#)

[Plat](#)

[Utility Letters](#)

[Planning Letter](#)

[Engineering letter](#)

RES-13:126 A RESOLUTION TO ACCEPT A MAINTENANCE AGREEMENT FOR STORMWATER MANAGEMENT FACILITIES FOR WILLOW CREEK APARTMENTS PHASE II MINOR PLAT, A COMMERCIAL DEVELOPMENT

Sponsors: Engineering

Attachments: [Maintenance Agreement.pdf](#)

[Plat.pdf](#)

RES-13:128 A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS AUTHORIZING THE MAYOR AND THE CITY CLERK TO ACCEPT THE PROPERTY DONATED BY JONESBORO REAL ESTATE HOLDINGS COMPANY, INC.

Sponsors: Grants and Engineering

Attachments: [Agreement.pdf](#)

[Job 100728 Crowleys Ridge.pdf](#)

4. Pending Items

5. Other Business

6. Public Comments

7. Adjournment



City of Jonesboro

300 S. Church Street
Jonesboro, AR 72401

Legislation Details (With Text)

File #: MIN-13:054 **Version:** 1 **Name:**
Type: Minutes **Status:** To Be Introduced
File created: 7/3/2013 **In control:** Public Works Council Committee
On agenda: **Final action:**
Title: Minutes for the Public Works Committee meeting on July 2, 2013
Sponsors:
Indexes:
Code sections:
Attachments: [Minutes](#)

Date	Ver.	Action By	Action	Result
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Minutes for the Public Works Committee meeting on July 2, 2013



City of Jonesboro

900 West Monroe
Jonesboro, AR 72401

Meeting Minutes - Draft Public Works Council Committee

Tuesday, July 2, 2013

5:00 PM

Huntington Building

1. Call To Order

Mayor Perrin was also in attendance.

Present 6 - Gene Vance;Chris Moore;John Street;Mitch Johnson;Darrel Dover and Charles Coleman

2. Approval of minutes

MIN-13:045 Minutes for the Public Works Committee meeting on June 4, 2013

Attachments: [Minutes](#)

A motion was made by Councilman Chris Moore, seconded by Councilman Mitch Johnson, that this matter be Passed . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

3. New Business

Ordinances To Be Introduced

ORD-13:025 AN ORDINANCE AMENDING APPENDIX 7 OF THE STORMWATER DRAINAGE DESIGN MANUAL

Sponsors: Engineering

Attachments: [Appendix 7.pdf](#)

Mayor Perrin stated this item has to be done yearly.

A motion was made by Councilman Mitch Johnson, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

Resolutions To Be Introduced

RES-13:086 A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE MAYOR AND CITY CLERK TO ACCEPT A PERMANENT DRAINAGE

EASEMENT FROM SAGE MEADOWS - POA FOR THE PURPOSE OF MAKING DRAINAGE IMPROVEMENTS

Sponsors: Engineering

Attachments: [Permanent Drainage Easement.pdf](#)

A motion was made by Councilman Mitch Johnson, seconded by Councilman Charles Coleman, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

RES-13:094

A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE MAYOR AND CITY CLERK TO ACCEPT A PERMANENT DRAINAGE EASEMENT FROM LEE T. ROBERTS AND FAY D. ROBERTS FOR THE PURPOSE OF MAKING DRAINAGE IMPROVEMENTS

Sponsors: Engineering

Attachments: [Permanent Drainage Easement.pdf](#)

A motion was made by Councilman Darrel Dover, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

RES-13:097

RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS AUTHORIZING THE MAYOR AND CITY CLERK TO SELL PROPERTY LOCATED AT 508 WEST MONROE, JONESBORO, ARKANSAS TO BRYANT MARSHALL

Sponsors: Mayor's Office

Attachments: [Building Facilities Minutes May 2013](#)

Chairman Street explained this property is located behind the Justice Complex. Mayor Perrin stated this matter has been brought before the Building Facilities Committee and their recommendation was to sell the property. He noted the City did advertise and take bids on the property and the price was for \$16,500.

A motion was made by Councilman Mitch Johnson, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

RES-13:098

RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS AUTHORIZING THE MAYOR AND CITY CLERK TO SELL PROPERTY LOCATED AT 5300 C.W. POST ROAD, JONESBORO, ARKANSAS TO LINDA WOFFORD (ENGINES, INC.)

Sponsors: Mayor's Office

Attachments: [Building Facilities Minutes May 2013](#)

Mayor Perrin explained this property contains approximately 5 acres and is located behind World Color. He added there is no ingress or digress on the property and the price was for \$16,000. He further explained the Building Facilities Committee is reviewing all the City owned property and they will meet again in 2 weeks. He added the City currently has two properties that are under contract and once they are sold that will allow the City to receive \$100,000 and that money will be put in the general fund and can be used for other projects.

Councilman Dover asked if the money will be earmarked for a certain project or if it will be put in the general fund. Mayor Perrin answered it will be put in the general fund. He added he does not see a need for this property.

A motion was made by Councilman Mitch Johnson, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

RES-13:100

A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE MAYOR AND CITY CLERK TO ACCEPT RIGHT-OF-WAY FROM FIRST SECURITY BANK TO ADD A RIGHT TURN LANE AT NORTHWEST CORNER OF STADIUM BOULEVARD AND NETTLETON AVENUE

Sponsors: Engineering

Attachments: [Dedication Deed.pdf](#)
[Right-of-Way.pdf](#)

Chairman Street noted a study was done on this property. Mayor Perrin stated 30% of the cars at this intersection turned right.

Councilman Dover asked when the completion date is for this project. Mayor Perrin answered this year.

A motion was made by Councilman Mitch Johnson, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

RES-13:101

A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE MAYOR AND CITY CLERK TO ACCEPT A PERMANENT DRAINAGE EASEMENT FROM THOMAS ROUSH AND DIANA BROWN ROUSH FOR THE PURPOSE OF MAKING DRAINAGE IMPROVEMENTS

Sponsors: Engineering

Attachments: [Permanent Drainage Easement.pdf](#)

City Engineer Craig Light stated this is a standard drainage easement for the Bennett Addition off of Thomas Green Road. He added this will allow the City to make a drainage swell between the lots and houses so water could run around the properties.

A motion was made by Councilman Darrel Dover, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

RES-13:102 A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE MAYOR AND CITY CLERK TO ACCEPT A PERMANENT DRAINAGE EASEMENT FROM BARRY E. BRYANT AND SANDRA D. BRYANT FOR THE PURPOSE OF MAKING DRAINAGE IMPROVEMENTS

Sponsors: Engineering

Attachments: [Permanent Drainage Easement.pdf](#)

A motion was made by Councilman Darrel Dover, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

RES-13:103 A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE MAYOR AND CITY CLERK TO ACCEPT A PERMANENT DRAINAGE EASEMENT FROM REBECCA COOPER FOR THE PURPOSE OF MAKING DRAINAGE IMPROVEMENTS

Sponsors: Engineering

Attachments: [Permanent Drainage Easement.pdf](#)

A motion was made by Councilman Darrel Dover, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

RES-13:104 A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE MAYOR AND CITY CLERK TO ACCEPT A PERMANENT DRAINAGE EASEMENT FROM DONALD C. MATTHEWS AND NANCY L. MATTHEWS FOR THE PURPOSE OF MAKING DRAINAGE IMPROVEMENTS

Sponsors: Engineering

Attachments: [Permanent Drainage Easement.pdf](#)

A motion was made by Councilman Darrel Dover, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

RES-13:107 RESOLUTION TO SET A PUBLIC HEARING TO ABANDON A 10 FOOT DRAINAGE EASEMENT AT 4628 KEELY COVE AS REQUESTED BY QUENTIN DUFF AIDMORE PROPERTY GROUP, LLC.

Attachments: [Plat](#)
[Planning letter](#)
[Petition](#)
[Application](#)
[Note saying why no abutting property owner letters](#)

Mayor Perrin stated the Public Hearing should be held on July 16, 2013, at 5:20 p.m.

A motion was made by Councilman Mitch Johnson, seconded by Councilman Chris Moore, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

4. Pending Items

5. Other Business

Fair Park & Highland Drive update

Councilman Moore asked for an update concerning the intersection of Fair Park and Highland Drive. Mayor Perrin answered the project should be done next week. He added Bittle Road will be repaved all the way from Nettleton Avenue down to Highland Drive.

6. Public Comments

7. Adjournment

A motion was made by Councilman Chris Moore, seconded by Councilman Darrel Dover, that this meeting be Adjourned. The motion CARRIED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman



City of Jonesboro

300 S. Church Street
Jonesboro, AR 72401

Legislation Details (With Text)

File #: MIN-13:063 **Version:** 1 **Name:**
Type: Minutes **Status:** To Be Introduced
File created: 7/31/2013 **In control:** Public Works Council Committee
On agenda: **Final action:**
Title: Minutes for the special called Public Works Committee meeting on July 30, 2013
Sponsors:
Indexes:
Code sections:
Attachments: [Minutes](#)

Date	Ver.	Action By	Action	Result
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Minutes for the special called Public Works Committee meeting on July 30, 2013



City of Jonesboro

900 West Monroe
Jonesboro, AR 72401

Meeting Minutes - Draft Public Works Council Committee

Tuesday, July 30, 2013

5:20 PM

Huntington Building

Special Called Meeting

1. Call To Order

Mayor Perrin was also in attendance.

Present 6 - Gene Vance;Chris Moore;John Street;Mitch Johnson;Darrel Dover and Charles Coleman

2. New Business

Resolutions To Be Introduced

RES-13:123

RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS ACCEPTING THE DEED FOR THE ARMY RESERVE CENTER

Sponsors: Mayor's Office

Attachments: [Army Reserve Quitclaim Deed](#)
[Army Reserve Comments July 2013](#)

Councilman Dover noted this needs to be placed on tonight's Council agenda.

A motion was made by Councilman Chris Moore, seconded by Councilman Darrel Dover, that this matter be Recommended to Council . The motion PASSED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman

3. Public Comments

4. Adjournment

A motion was made by Councilman Chris Moore, seconded by Councilman Darrel Dover, that this meeting be Adjourned. The motion CARRIED with the following vote:

Aye: 5 - Gene Vance;Chris Moore;Mitch Johnson;Darrel Dover and Charles Coleman



Legislation Details (With Text)

File #:	ORD-13:035	Version:	1	Name:	Amend Code of Ordinances concerning helipad/heliport
Type:	Ordinance	Status:			To Be Introduced
File created:	7/15/2013	In control:			Public Works Council Committee
On agenda:	8/6/2013	Final action:			
Title:	AN ORDINANCE TO AMEND CHAPTER 117, KNOWN AS THE ZONING ORDINANCE, WITHIN THE CODE OF ORDINANCES FOR THE CITY OF JONESBORO, ARKANSAS, ADDING SECTION 117-228, HELIPAD/HELIPORT USES; AND, DECLARING AN EMERGENCY FOR THE PURPOSE OF PRESERVING THE PUBLIC PEACE, HEALTH AND SAFETY WITH RESIDENTIAL AREAS AND CREATING MINIMUM STANDARDS AND GUIDELINES IN THE CODE FOR SUCH USES				
Sponsors:	Planning				
Indexes:	Code of Ordinances amendment				
Code sections:	Chapter 117 - Zoning				
Attachments:	FAA Advisory Circular 150_5390_2c				

Date	Ver.	Action By	Action	Result
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AN ORDINANCE TO AMEND CHAPTER 117, KNOWN AS THE ZONING ORDINANCE, WITHIN THE CODE OF ORDINANCES FOR THE CITY OF JONESBORO, ARKANSAS, ADDING SECTION 117-228, HELIPAD/HELIPORT USES; AND, DECLARING AN EMERGENCY FOR THE PURPOSE OF PRESERVING THE PUBLIC PEACE, HEALTH AND SAFETY WITH RESIDENTIAL AREAS AND CREATING MINIMUM STANDARDS AND GUIDELINES IN THE CODE FOR SUCH USES

WHEREAS, It has been determined that the City of Jonesboro Code Ordinances lacked minimum guidelines for regulating private use heliport/helipad uses within the city limits: The Metropolitan Area Planning Commission reviewed and approved the proposed guidelines on July 9, 2013, and hereby recommend approval to the City Council in the interest of public health, public safety, and general welfare for the locating of such facilities.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS THAT: Code Chapter 117:228 be amended as follows:

Section 117:228, Helipad/Heliport Uses:

Section I. Purpose

It is determined the creation or establishment of a heliport/helipad in certain areas may have the potential of being a public nuisance and may injure the community. Thus, it is in the interest of public health, public safety, and general welfare that the creation or establishment of heliports/helipads of any sort be regulated with minimal standards established by the City of Jonesboro. Such minimal standards will be examined on a case-by-case process through the Conditional Use Permit process pursuant to Chapter 117, as set out in the City of Jonesboro's Code of Ordinances.

Section II. Definitions

(1) A heliport is permanent facility where helicopters take off and land. The FAA defines a heliport as any formalized helicopter landing area. Additionally, any helicopter landing area offering fueling, passenger building, hangar and support services is considered a heliport. The FAA compares this with a bus stop/bus terminal relationship in respect to services.

(2) A helipad describes the actual landing surface of the heliport. The FAA and other international regulators have adopted the term of Touchdown and Lift-off Area (TLOF) as the official term to describe all such areas. (See FAA, Advisory Circular, AC No: 150/5390-2C, or any updates).

(3) An emergency landing zone is a designated site in which public safety agencies select to evacuate trauma or disaster victims.

(4) A helistop refers to a minimally developed facility for boarding and discharging passengers or cargo.

Section III. Allowable Use Districts

(a) Personal use heliports shall be permitted as an accessory use in the Commercial C-1, C-2, C-3, I-1, I-2 Zoning Districts only when licensed upon approval by the Planning/Zoning Officer subject to full compliance with FAA requirements of construction, operation, and licensing (per Advisory Circular, AC No: 150/5390-2C and any updates). If the heliport/helipad is located within a distance of 1,000 ft. of a residential structure, a conditional use application shall be required.

Helicopters must not be operated below 500' AGL (above ground or highest building, tree, or feature) before it approaches the property of which the landing site or helipad/helistop is located.

(b) Heliport/Helipads that are located or proposed in Districts zoned as Residential or Agricultural shall be permitted by Conditional Use Application and Approval by the MAPC, if and only if the property is 5 or more acres in size. Pad location shall be located at a minimum distance of 1,000 ft. of any existing residential structure.

(c) Permits for establishing and maintaining sites shall be issued to the owner or lessee of a site by the Planning/Zoning Officer. All heliports/helipads must meet any and all Fire Code Requirements of the local Fire District.

(d) The permit shall be deemed automatically revoked if:

(1) Found in violation of any and all FAA requirements, and owner revokes the license or refuses to re-license the site after one of its periodic inspections; or (2) Thirty (30) days after the Planning/ Zoning Officer has notified the permit holder in writing that the site is no longer in compliance with the requirements set forth herein for the initial granting of the permit, provided the alleged defect has not been cured within the said thirty (30) day period.

(e) In all instances, all new helipad/heliport installations shall require a permit review process through the Departments of Planning, Engineering, and Inspections.

Section IV. Exemptions:

Hospital/Emergency response facilities located at or near a hospital shall be exempt.

Section V. Notifications

Courtesy notification area shall be required within a distance of 1,000 feet measured from all subject property lines. As required for Conditional Use Permits, the established notification boundary of 200 feet of prospect site via certified letter shall be adhered to.

Section VI. Conditional Use Approval

A conditional use permit for a heliport or helipad shall be approved by the Metropolitan Area Planning Commission in accordance with (Sec 117-199) upon meeting all satisfactory requirements for said structures. The commission may also provide other conditions and restrictions which the City determines at the time of granting the specific use permit to protect and provide for the health, safety, and general welfare of the community.

Conditional use permit approval shall be valid for three years. Renewal application is required. (See below)

Section VI. Reapplication

An application for subsequent conditional use permits on the same site shall be subject to the same procedures and standards as a first-use permit.

SECTION VII: This ordinance, being necessary for the preservation of the public peace, health and safety, is hereby declared to be an emergency and this ordinance shall take effect and be in full force from and after its passage and approval. The purpose for this emergency is set on the reasoning that in certain areas heliports/helistops uses may have the potential of being a public nuisance and may injure the community.



U.S. Department
of Transportation

Federal Aviation
Administration

Advisory Circular

Subject: Heliport Design

Date: 4/24/2012

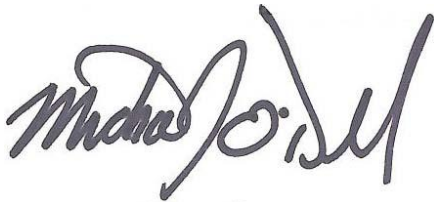
AC No: 150/5390-2C

Initiated by: AAS-100

Change:

- 1. Purpose.** This advisory circular (AC) provides standards for the design of heliports serving helicopters with single rotors. Apply basic concepts to facilities serving helicopters with tandem (front and rear) or dual (side by side) rotors, however many standards will not apply.
- 2. Cancellation.** This AC cancels AC 150/5390-2B, Heliport Design, dated September 30, 2004.
- 3. Application.** The Federal Aviation Administration (FAA) recommends the guidelines and specifications in this AC for materials and methods used in the construction of heliports. In general, use of this AC is not mandatory. However, use of this AC is mandatory for all projects funded with federal grant monies through the Airport Improvement Program (AIP) and with revenue from the Passenger Facility Charge (PFC). See Grant Assurance No. 34, Policies, Standards, and Specifications, and PFC Assurance No. 9, Standards and Specifications. For information about grant assurances, see http://www.faa.gov/airports/aip/grant_assurances/. The use of terms implying strict compliance applies only to those projects. Other federal agencies, states, or other authorities having jurisdiction over the construction of other heliports decide the extent to which these standards apply.
- 4. Principal changes.**
 - a. Changed the term for the helicopter overall length (OL) to ‘D’ or ‘D-value.’
 - b. Added definitions for design loads for static and dynamic load-bearing areas (LBA).
 - c. Added guidance for pavement or structure larger than the touchdown and liftoff area (TLOF), but less than the size of the final approach and take off (FATO).
 - d. Added guidance for turbulence effects.
 - e. Added guidance to provide adequate clearance between parking areas and taxi routes and within parking areas.
 - f. Added guidance for minimum dimensions of curved approach/departure airspace.
 - g. Added guidance for Touchdown/Positioning Circle (TDPC) Marking.
 - h. Added guidance for Flight Path Alignment Guidance markings and lights.
 - i. Added an appendix providing guidance for Emergency Helicopter Landing Facility Requirements (EHLF).
 - j. Added FATO to FATO separation distance for simultaneous operations.
 - k. Revised standards for size of “H” for general aviation heliports.
 - l. Added increased TLOF size when the FATO of a hospital heliport is not load bearing.

- n.** Combined chapter 6, Non-Precision Instrument Operations and Chapter 7, Precision Approach Operations into chapter 6, Instrument Operations. Reference FAA Order 8620 series.
 - o.** To improve the legibility of the AC, changed the format to a single column and nested the tables in the text.
 - p.** Deleted requirements for load bearing capacity of a FATO at general aviation and hospital heliports when the TLOF is marked.
 - q.** Changed color of landing direction lights from yellow to green.
 - r.** Added references to Engineering Brief 87, Heliport Lights for Visual Meteorological Conditions (VMC).
- 5. Use of metrics.** This AC includes both English and metric dimensions. The metric conversions may not be exact equivalents, and the English dimensions govern.
- 6. Copies of this AC.** This and other advisory circulars published by the Office of Airport Safety and Standards are available on the FAA Office of Airports web page at www.faa.gov/airports.



MICHAEL J. O'DONNELL

Director of Airport Safety and Standards

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Chapter 1. Introduction

101. Background. Section 103 of the Federal Aviation Act of 1958 states in part, “In the exercise and performance of his power and duties under this Act, the Secretary of Transportation shall consider the following, among other things, as being in the public interest: (a) The regulation of air commerce in such manner as to best promote its development and safety and fulfill the requirements of defense; (b) The promotion, encouragement, and development of civil aeronautics . . .” This public charge, in effect, requires the development and maintenance of a national system of safe heliports. Using the standards and recommendations contained in this publication in the design of heliports supports this public charge. These standards and recommendations, however, do not limit or regulate the operations of aircraft. When it is not feasible to meet all the standards and recommendations in this AC, consult with the appropriate offices of the Federal Aviation Administration (FAA) Office of Airports and Flight Standards Service to identify any adjustments to operational procedures necessary to accommodate operations to the maximum extent.

102. General. This chapter provides an explanation of terms used in this AC, describes the notification responsibilities of heliport proponents to FAA, provides general siting guidance, and identifies sources of technical information relating to heliport planning and design of a civil heliport.

103. Facilities. While heliports can be large and elaborate, most are not. The basic elements of a heliport are clear approach/departure paths, a clear area for ground maneuvers, final approach and takeoff area (FATO), touchdown and liftoff area (TLOF), safety area, and a wind cone. This minimal facility may be adequate as a private use prior permission required (PPR) heliport, and may even suffice as the initial phase in the development of a public use heliport capable of serving the general aviation segment of the helicopter community.

104. Planning. While the heliport itself may be simple, the planning and organization required to properly put one into place can be intimidating. Consider the physical, technical, and public interest matters described in this document in the planning and establishment of a heliport. While this AC is a technical document intended to help engineers, architects, and city planners design, locate, and build the most effective heliport, anyone considering the construction of a heliport can use it. Figures in this document are general representations and are not to scale.

105. Existing heliports. When a change to an existing heliport requires the submission of FAA Form 7460-1, Notice of Proposed Construction or Alteration, or FAA Form 7480-1, Notice of Landing Area Proposal, bring the heliport up to current standards. It may not, however, be feasible to meet all current standards at existing heliports. In those cases, consult with the appropriate offices of the FAA Office of Airports and Flight Standards Service to identify any adjustments to operational procedures necessary to accommodate operations to the maximum extent.

106. Location. The optimum location for a heliport is near the desired origination and/or destination of the potential users. Industrial, commercial, and business operations in urban locations are demand generators for helicopter services, even though they often compete for the limited ground space available. Heliport sites may be adjacent to a river or a lake, a railroad, a freeway, or a highway, all of which offer the potential for multi-functional land usage. These locations also have the advantage of relatively unobstructed airspace, which can be further protected from unwanted encroachment by properly enacted zoning. As vertical flight transportation becomes more prevalent, requirements for scheduled “airline type” passenger services may necessitate the development of an instrument procedure to permit “all-weather” service.

107. AC organization. This AC is structured to provide communities and persons intending to develop a heliport, or become involved in regulating helicopter facilities, with general guidance on heliport requirements. The AC covers general aviation heliports (including PPR), transport heliports, hospital heliports, and emergency landing facilities. It is important for a heliport proponent to be familiar with the terminology used in this specialized field. This chapter defines terms used in the industry and identifies actions common to developing a heliport.

a. General aviation heliports. The term “general aviation” is technically defined as “flights conducted by operators other than Title 14 of the Code of Federal Regulations (CFR) Part 121 or Part 135 certificate holders.”¹ However, for the purposes of this AC, “general aviation” refers to all helicopter operations other than scheduled passenger service. Hospital heliports and emergency landing facilities fall under general aviation, but are treated separately in the AC due to their unique requirements. General aviation heliports are normally privately owned although they can be publicly owned. Find design standards for general aviation heliports in Chapter 2.

b. Transport heliports. Transport heliports will provide the community with a full range of vertical flight services including scheduled service by air carriers (airlines) using helicopters. These operations will require a more extensive airside and landside infrastructure with the potential capability to operate in instrument meteorological conditions. Find design standards for transport heliports in Chapter 3.

c. Hospital heliports. Hospital heliports are general aviation heliports that provide a unique public service. They are normally located close to the hospital emergency room or a medical facility. Find design standards for hospital heliports in Chapter 4.

d. Helicopter facilities on airports. When there are a significant number of helicopter operations on an airport, consider developing separate facilities specifically for helicopter use. Chapter 5 addresses helicopter facilities on airports.

e. Instrument operations. With the introduction of the global positioning system (GPS), it is now practical for heliports to have instrument approach procedures. Good planning suggests that heliport proponents plan for the eventual development of instrument approaches to their heliports. Consider the recommendations in Chapter 6 in contemplating future instrument operations at a heliport. It is wise to consider these issues during site selection and design.

f. Heliport gradients and pavement design. Chapter 7 addresses heliport gradients and pavement design issues.

g. The appendices provide information about emergency helicopter landing facilities, helicopter dimensional data, form and proportions of certain heliport markings, and a list of publications and resources referenced in this AC.

108. Explanation of terms. The Pilot/Controller Glossary of the Aeronautical Information Manual (AIM) defines terms used in the Air Traffic System. Copies of the AIM are available from the FAA web site <http://www.faa.gov/atpubs>. Other terms used in this publication follow:

a. Air taxi. Used both to refer to on-demand air carriers and as a synonym for “hover taxi.” See hover taxi.

b. Approach/departure path. The flight track helicopters follow when landing at or departing from a heliport. The approach/departure paths may be straight or curved.

¹Plane Sense General Aviation Information, U.S. Department of Transportation FAA-H-8083-19A, <http://www.faa.gov/library/manuals/aviation/media/faa-h-8083-19A.pdf>

c. Design helicopter. A single or composite helicopter that reflects the maximum weight, maximum contact load/minimum contact area, overall length (D), rotor diameter (RD), tail rotor arc radius, undercarriage dimensions, and pilot's eye height of all helicopters expected to operate at the heliport.

d. D (Formerly "OL"). The overall length of the helicopter, which is the dimension from the tip of the main or forward rotor to the tip of the tail rotor, fin, or other rear-most point of the helicopter. This value is with the rotors at their maximum extension. See Figure B-1. If only the value of the rotor diameter (RD) is known, estimate the value for D using the relationship $D = 1.2 RD$ (or conversely, $RD = 0.83 D$).

e. Design loads. Design and construct the TLOF and any load-bearing surfaces to support the loads imposed by the design helicopter and any ground support vehicles and equipment.

(1) Static load. For design purposes, the design static load is equal to the helicopter's maximum takeoff weight applied through the total contact area of the wheels or skids. See paragraph 707.

(2) Dynamic load. For design purposes, assume the dynamic load at 150 percent of the maximum takeoff weight of the design helicopter applied through the main undercarriage on a wheel-equipped helicopter or aft contact areas of skid-equipped helicopter. See paragraph 707.

f. Elevated heliport. A heliport located on a rooftop or other elevated structure where the TLOF is at least 30 inches (76 cm) above the surrounding surface (a ground level heliport with the TLOF on a mound is not an elevated heliport).

g. Emergency helicopter landing facility (EHLF). A clear area at ground level or on the roof of a building capable of accommodating helicopters engaged in fire fighting and/or emergency evacuation operations. An EHLF meets the definition of a heliport in this AC and under Title 14 CFR Part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports.

h. Final approach and takeoff area (FATO). A defined area over which the pilot completes the final phase of the approach to a hover or a landing and from which the pilot initiates takeoff. The FATO elevation is the lowest elevation of the edge of the TLOF. See Figure 7-3.

i. Final approach reference area (FARA). An obstacle-free area with its center aligned on the final approach course. It is located at the end of a precision instrument FATO.

j. Flush lights. Where the term "flush lights" is specified in this AC, interpret it as including semi-flush lights.

k. Frangible/frangibly mounted. While there is no accepted standard for frangibility in regard to helicopter operations, remove all objects from a FATO or safety area except those of the lowest mass practicable and frangibly mounted to the extent practicable.

l. General aviation heliport. A heliport intended to accommodate individuals, corporations, helicopter air taxi operators, and public safety agencies. For the purposes of this AC, "general aviation" refers to all helicopter operations other than scheduled passenger service. Hospital heliports and emergency landing facilities fall under general aviation, but are treated separately in the AC due to their unique requirements.

m. Ground taxi. The surface movement of a wheeled helicopter under its own power with wheels touching the ground.

n. Hazard to air navigation. Any object having a substantial adverse effect upon the safe and efficient use of the navigable airspace by aircraft, upon the operation of air navigation facilities, or upon existing or planned airport/heliport capacity as determined by the FAA.

o. Heliport. The area of land, water, or a structure used or intended to be used for the landing and takeoff of helicopters, together with appurtenant buildings and facilities.

p. Heliport elevation. The highest point of the TLOF expressed as the distance above mean sea level.

q. Heliport imaginary surfaces. The imaginary planes defined in Title 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace, centered about the FATO and the approach/departure paths, which are used to identify the objects where notice to and evaluation by the FAA is required. Recommendations may include realignment of approach/departure paths or removal, lowering, marking and lighting of objects.

r. Heliport layout plan. The plan of a heliport showing the layout of existing and proposed heliport facilities including the approach/departure paths.

s. Heliport protection zone (HPZ). An area off the end of the FATO and under the approach/departure path intended to enhance the protection of people and property on the ground.

t. Heliport reference point (HRP). The geographic position of the heliport expressed as the latitude and longitude at:

(1) The center of the FATO, or the centroid of multiple FATOs, for heliports having visual and non-precision instrument approach procedures; or

(2) The center of the FARA when the heliport has a precision instrument procedure.

u. Helistop. A term sometimes used to describe a minimally developed heliport for boarding and discharging passengers or cargo. This AC does not use this term, as the design standards and recommendations this AC apply to all heliports.

v. Hospital heliport. A heliport limited to serving helicopters engaged in air ambulance, or other hospital related functions. A designated helicopter landing area located at a hospital or medical facility is a heliport and not a medical emergency site.

w. Hover taxi (also called air taxi). The movement of a wheeled or skid-equipped helicopter above the surface. Generally, this takes place at a wheel/skid height of 1 to 5 feet (0.3 to 1.5 m) and at a ground speed of less than 20 knots (37 km/h). For facility design purposes, assume a skid-equipped helicopter to hover-taxi.

x. Landing position. An area, normally located in the center of an elongated TLOF, on which the helicopter lands.

y. Large helicopter. A helicopter with a maximum takeoff weight of more than 12,500 lbs.

z. Load-bearing area (LBA). The portion of the FATO capable of supporting the dynamic load of the design helicopter.

aa. Medical emergency site. An unprepared site at or near the scene of an accident or similar medical emergency on which a helicopter may land to pick up a patient in order to provide emergency medical transport. A medical emergency site is not a heliport as defined in this AC.

bb. Medium helicopter. A helicopter with a maximum takeoff weight of 7,001 to 12,500 lbs.

cc. Obstruction to air navigation. Any fixed or mobile object, including a parked helicopter, of greater height than any of the heights or surfaces presented in subpart C of part 77 (see also paragraph 111 in this AC).

dd. Overall length (D). See D, paragraph 108.d.

ee. Parking pad. The paved center portion of a parking position.

ff. Prior permission required (PPR) heliport. A heliport developed for exclusive use of the owner and persons authorized by the owner and about which the owner and operator ensure all authorized pilots are thoroughly knowledgeable. These features include but are not limited to: approach/departure path characteristics, preferred heading, facility limitations, lighting, obstacles in the area, and size and weight capacity of the facility.

gg. Public use heliport. A heliport available for use by the general public without a requirement for prior approval of the owner or operator.

hh. RD. Rotor Diameter. The length of the main rotor, from tip to tip.

ii. Rotor downwash. The downward movement of air caused by the action of the rotating main rotor blades. When this air strikes the ground or some other surface, it causes a turbulent outflow of air from beneath the helicopter.

jj. Safety area. A defined area on a heliport surrounding the FATO intended to reduce the risk of damage to helicopters accidentally diverging from the FATO.

kk. Shielded obstruction. A proposed or existing obstruction that does not need to be marked or lighted due to its close proximity to another obstruction whose highest point is at the same or higher elevation.

ll. Shoulder line. A marking line perpendicular to a helicopter parking position centerline that is intended to provide the pilot with a visual cue to assist in parking.

mm. Small helicopter. A helicopter with a maximum takeoff weight of 7,000 lbs or less.

nn. Tail rotor arc radius. The distance from the hub of the main rotor to the outermost tip of the tail rotor or the rear-most point of the helicopter tail, whichever is farther.

oo. Takeoff position. An area, normally located on the centerline and at the ends of an elongated TLOF, from which the helicopter takes off. Typically, there are two such positions on an elongated TLOF, one at each end.

pp. Taxi route. An obstruction-free corridor established for the movement of helicopters from one part of a heliport/airport to another. A taxi route includes the taxiway plus the appropriate clearances on both sides.

qq. Taxiway. A marked route between the TLOF and other areas on the heliport. This AC defines two types of helicopter taxiways:

(1) Ground taxiway. A taxiway intended to permit the surface movement of a wheeled helicopter under its own power with wheels on the ground. The minimum dimensions defined for a ground taxiway may not be adequate for hover taxi.

(2) Hover taxiway. A taxiway intended to permit the hover taxiing of a helicopter.

rr. Touchdown and liftoff area (TLOF). A load-bearing, generally paved area, normally centered in the FATO, on which the helicopter lands and/or takes off.

ss. Transport heliport. A heliport intended to accommodate air carrier operators providing scheduled service.

tt. Touchdown/positioning circle (TDPC) marking. A circular marking located in the center of a TLOF or a parking position. When the pilot's seat is over the TDPC, the whole of the helicopter undercarriage will be within the TLOF or parking position and all parts of the helicopter rotor system will be clear of any obstacle by a safe margin.

uu. Unshielded obstruction. A proposed or existing obstruction that may need to be marked or lighted since it is not near another marked and lighted obstruction whose highest point is at the same or higher elevation.

109. Selection of approach/departure paths. Design heliports to the extent practicable for two approach/departure paths. Consider items such as the following in selecting the approach/departure paths:

a. Wind. Well-designed approach/departure paths permit pilots to avoid downwind conditions and minimize crosswind operations. Align the preferred flight approach/departure path, to the extent feasible, with the predominant wind direction. Base other approach/departure paths on the assessment of the prevailing winds or, when this information is not available, separate such flight paths and the preferred flight path by at least 135 degrees. If it is not feasible to provide complete coverage of wind through multiple approach/departure paths, operational limitations may be necessary under certain wind conditions. See paragraph 101.

b. Obstructions. In determining approach/departure paths, take into account the obstructions in the vicinity of the heliport and, in particular, those likely to be a hazard to air navigation. See paragraph 111.

c. Environmental impacts. In environmentally sensitive areas, select the final approach/departure path(s) to minimize any environmental impact, providing it does not decrease flight safety. See paragraph 113.

110. Notification requirements. Part 157 sets requirements for persons proposing to construct, activate, deactivate, or alter a heliport to give advance notice of their intent to the FAA. This includes changing the size or number of FATOs; adding, deleting, or changing an approach or departure route; or changing heliport status. An example of a heliport status change would be a change from private to public use or vice versa. When notification is required, file Form 7480-1 (see Figure 1-1) with the appropriate FAA Airports Regional or District Office at least 90 days before construction, alteration, deactivation, or change in use. See the FAA Airports web site at <http://www.faa.gov/airports/> for contact information.

a. Draw the heliport layout plan to scale showing key dimensions, such as the heliport elevation, TLOF size, FATO size, safety area size, distance from safety area perimeter to property edges, and approach/departure paths showing locations of buildings, trees, fences, power lines, obstructions (including elevations), schools, churches, hospitals, residential communities, waste disposal sites, and other significant features as specified on Form 7480-1 and as suggested in Figure 1-2.

b. The preferred type of location map is the 7.5-minute U.S. Geological Survey Quadrangle Map, available from the US Geological Survey at nationalmap.gov. Web-based maps are also acceptable. Show the location of the heliport site and the approach/departure paths on the map. Point out the heliport site on this map with an arrow. Indicate the latitude and longitude of the proposed heliport in North American Datum of 1983 (NAD-83) coordinates. See Figure 1-3.

c. The FAA role. The FAA will conduct an aeronautical study of the proposed heliport under part 157. Title 14 CFR Part 157.7, FAA determinations, states: "The FAA will conduct an aeronautical study of an airport proposal and, after consultations with interested persons, as appropriate, issue a determination to the proponent and advise those concerned of the FAA determination. The FAA will consider matters such as the effects the proposed action would have on existing or contemplated traffic patterns of neighboring airports; the effects the proposed action would have on the existing airspace structure and projected programs of the FAA; and the effects that existing or proposed manmade objects (on file with the FAA) and natural objects within the affected area would have on the airport proposal. While determinations consider the effects of the proposed action on the safe and efficient use of airspace by aircraft and the safety of persons and property on the ground, the determinations are only advisory. Except for an objectionable determination, each determination will contain a determination-void date to

facilitate efficient planning of the use of the navigable airspace. A determination does not relieve the proponent of responsibility for compliance with any local law, ordinance or regulation, or state or other federal regulation. Aeronautical studies and determinations will not consider environmental or land use compatibility impacts.”

Form approved OMB No. 2120-0036

U.S. Department of Transportation Federal Aviation Administration		NOTICE OF LANDING AREA PROPOSAL								
Name of Proponent, Individual, or Organization			Address of Proponent, Individual, or Organization (No., Street, City, State, Zip Code)							
<input type="checkbox"/> Check if the property owner's name and address are different than above, and list property owner's name and address on the reverse.										
<input type="checkbox"/> Establishment or Activation <input type="checkbox"/> Alteration		<input type="checkbox"/> Deactivation or Abandonment <input type="checkbox"/> Change of Status		<input type="checkbox"/> Airport <input type="checkbox"/> Heliport			<input type="checkbox"/> Ultralight Flightpark <input type="checkbox"/> Seaplane Base		<input type="checkbox"/> Vertiport <input type="checkbox"/> Other (Specify)	
A. Location of Landing Area										
1. Associated City/State			2. County/State (Physical Location of Airport)			3. Distance and Direction From Associated City or Town				
4. Name of Landing Area			5. Latitude ° ' "	6. Longitude ° ' "	7. Elevation	Miles	Direction			
B. Purpose										
Type Use <input type="checkbox"/> Public <input type="checkbox"/> Private <input type="checkbox"/> Private Use of Public Land/Waters		If Change of Status or Alteration, Describe Change			<input type="checkbox"/> Establishment or change to traffic pattern (Describe on reverse)	Construction Dates		To Begin/Began		Est. Completion
C. Other Landing Areas		Ref. A5 above	D. Landing Area Data			Existing (if any)			Proposed	
		Direction From Landing Area	Distance From Landing Area	1. Airport, Seaplane Base, or Flightpark	Rwy #1	Rwy #2	Rwy #3	Rwy	Rwy	Rwy
			Magnetic Bearing of Runway (s) or Sealane							
			Length of Runway (s) or Sealane (s) in Feet							
			Width of Runway (s) or Sealane (s) in Feet							
			Type of Runway Surface (Concrete, Asphalt, Turf, Etc.)							
			2. Heliport							
			Dimensions of Final Approach and Take off Area (FATO) in Feet							
			Dimensions of Touchdown and Lift-Off Area (TLOF) in Feet							
			Magnetic Direction of Ingress/Egress Routes							
E. Obstructions		Direction From Landing Area	Distance From Landing Area	Type of Surface (Turf, concrete, rooftop, etc.)						
Type	Height Above Landing Area									
				3. All Landing Areas	Description of Lighting (If any)			Direction of Prevailing Wind		
F. Operational Data										
1. Estimated or Actual Number Based Aircraft										
Airport, Flightpark, Seaplane base	Present (If est. indicate by letter "E")	Anticipated 5 Years Hence	Heliport	Present (If est. indicate by letter "E")	Anticipated 5 Years Hence					
Multi-engine			Under 3500 lbs. MGW							
Single-engine			Over 3500 lbs. MGW							
Glider										
G. Other Considerations										
Identification		Direction From Landing Area	Distance From Landing Area	2. Average Number Monthly Landings						
				Present (If est. indicate by letter "E")	Anticipated 5 Years Hence	Heliport	Present (If est. indicate by letter "E")	Anticipated 5 Years Hence		
				Jet		Helicopter				
				Turboprop		Ultralight				
				Prop		Glider				
3. Are IFR Procedures For The Airport Anticipated										
<input type="checkbox"/> No	<input type="checkbox"/> Yes	Within _____ Years	Type Navaid:							
H. Application for Airport Licensing										
<input type="checkbox"/> Has Been Made	<input type="checkbox"/> Not Required	<input type="checkbox"/> County	<input type="checkbox"/> Will Be Made	<input type="checkbox"/> State	<input type="checkbox"/> Municipal Authority					
I. CERTIFICATION: I hereby certify that all of the above statements made by me are true and complete to the best of my knowledge.										
Name, title (and address if different than above) of person filing this notice -- type or print				Signature (in ink)						
				Date of Signature			Telephone No. (Precede with area code)			

FAA Form 7480-1 (1-93) Supersedes Previous Edition Central Region Electronic Revision per ACE-625 (1-97)

Figure 1-1. Form 7480-1, Notice of Landing Area Proposal

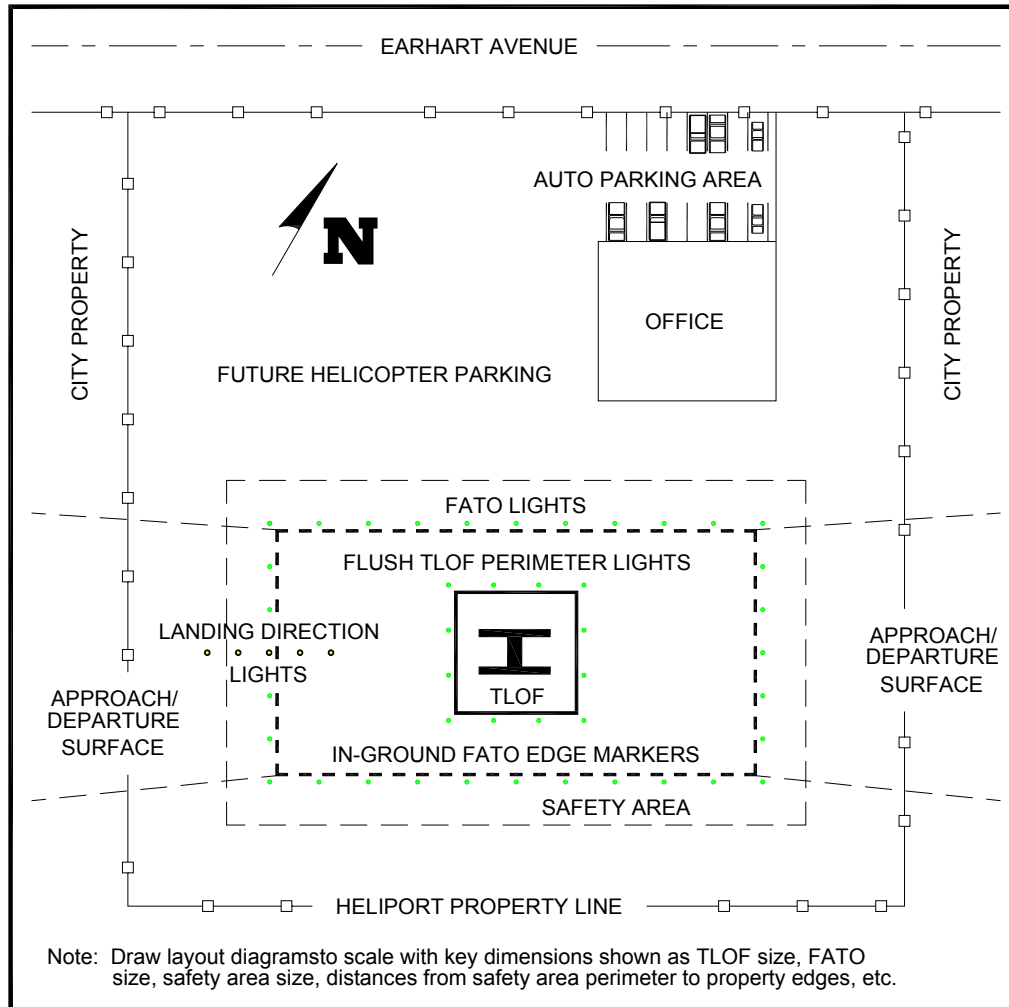


Figure 1-2. Example of a Heliport Layout Plan

d. Penalty for failure to provide notice. Persons who fail to give notice are subject to civil penalty under Title 49 United States Code 46301, Civil Penalties, of not more than \$25,000 (or \$1,100 if the person is an individual or small business concern).

e. Notice exemptions. Paragraph 157.1, Applicability, of part 157 exempts sites meeting one of the conditions below from the requirement to submit notice. These exemptions do not negate a notice or formal approval requirement prescribed by state law or local ordinance. For the purposes of applying the part 157 exemption criteria cited in (2) and (3) below, a landing and associated takeoff is considered to be one operation. Part 157.1 projects are:

(1) [A heliport] subject to conditions of a federal agreement that requires an approved current heliport layout plan to be on file with the FAA, or

(2) [A heliport] at which flight operations will be conducted under visual flight rules (VFR) and which is used or intended to be used for a period of less than 30 consecutive days with no more than 10 operations per day.

(3) The intermittent use of a site that is not an established airport, that is used or intended to be used for less than 1 year, and at which flight operations will be conducted only under VFR. For the purpose of this part, “intermittent use of a site” means:

(a) the site is used or is intended to be used for no more than 3 days in any one week and

(b) no more than 10 operations will be conducted in any one day at that site.

111. Hazards to air navigation. Part 77 establishes requirements for notification to the FAA of objects that may affect navigable airspace. It sets standards for determining obstructions to navigable airspace and provides for aeronautical studies of such obstructions to determine their effect on the safe and efficient use of airspace. Part 77 applies only to public airports and heliports, airports operated by a federal agency or the Department of Defense, and private airports and heliports with at least one FAA-approved instrument approach procedure. See Figure 1–4.

a. FAA studies.

(1) **Part 77.** Part 77 defines objects that are obstructions to surfaces. Presume these objects to be hazards unless an FAA study determines otherwise. The FAA conducts aeronautical studies to determine the physical and electromagnetic effect on the use of navigable airspace, air navigational facilities, public airports and heliports, and private airports and heliports with at least one FAA-approved instrument approach procedure. The FAA encourages public agencies to enact zoning ordinances to prevent man-made features from becoming hazards to navigation.

(2) **Part 157.** While the FAA performs aeronautical studies under part 157 (see paragraph 110.c), such studies do not identify hazards to private facilities that do not have an FAA-approved instrument approach.

b. Mitigation of hazards. You may mitigate the adverse effect of an object presumed or determined to be a hazard by:

(1) Removing the object.

(2) Altering the object, for example, reducing its height.

(3) Marking and/or lighting the object, provided an FAA aeronautical study has determined that the object would not be a hazard to air navigation if it were marked and/or lighted. Find guidance on marking and lighting objects in AC 70/7460-1, Obstruction Marking and Lighting.

c. Notification requirements. Part 77 requires persons proposing certain construction or alteration to give 45-day notice to the FAA of their intent. Use FAA Form 7460-1, Notice of Proposed Construction or Alteration to provide notification. See <https://oeaaa.faa.gov> for more information and to download the form.

d. Heliport development plans. Future public heliport development plans and feasibility studies on file with the FAA may influence the determinations resulting from part 77 studies. Owners of public heliports and owners of private heliports with FAA-approved instrument approach procedures can ensure full consideration of future heliport development in part 77 studies only when they file plans with the FAA. Include in heliport plan data the coordinates and elevations of planned FATO(s), approach/departure paths including their azimuths, and types of approaches for any new FATO or modification of an existing FATO.

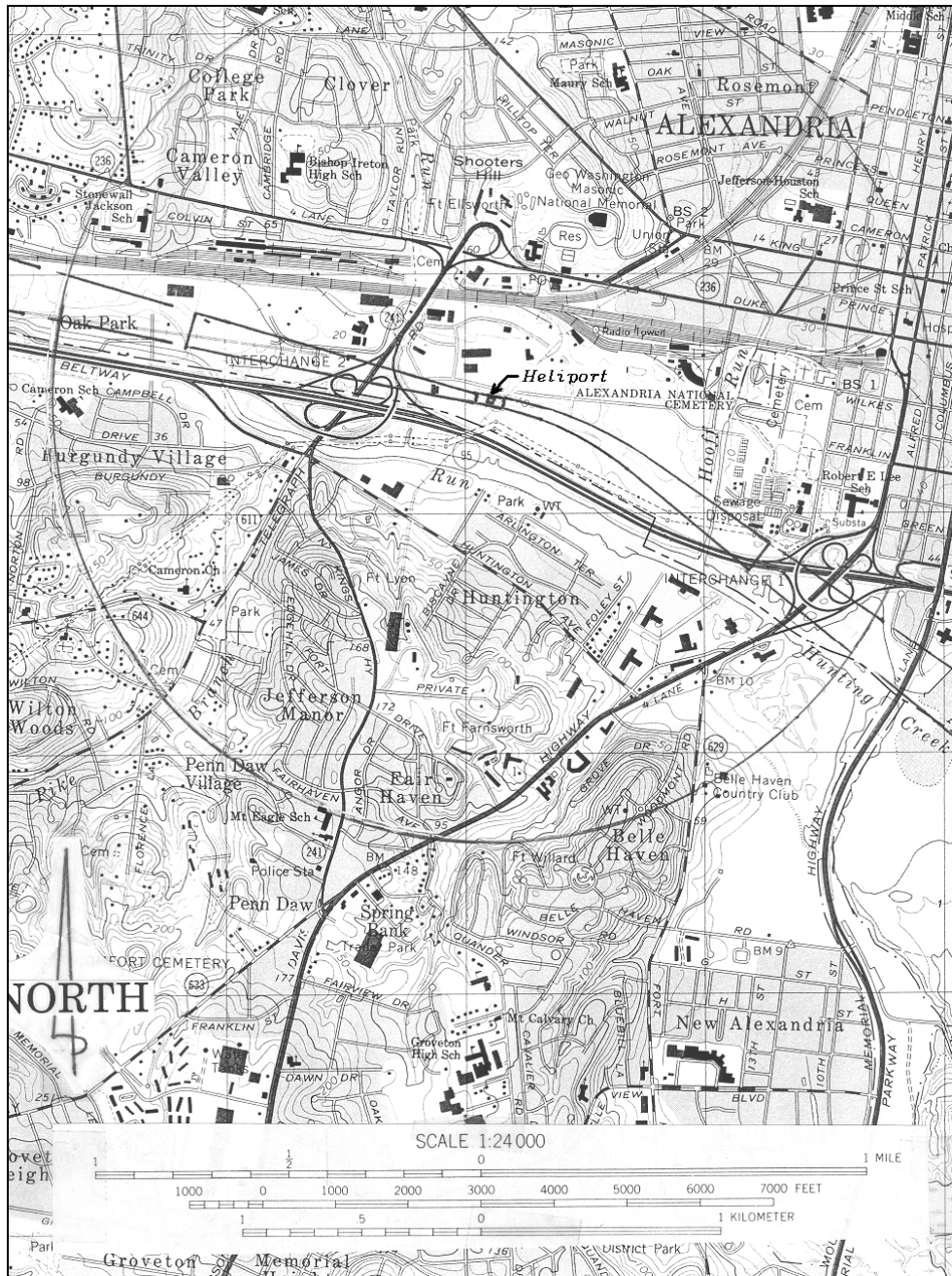


Figure 1–3. Example of a Heliport Location Map

112. Federal assistance. The FAA administers a grant program that provides financial assistance to eligible sponsors to develop a public use heliport. Information on federal aid program eligibility requirements is available from FAA Airports Regional and District Offices and on the FAA Airports web site, www.faa.gov/airports.

113. Environmental impact analyses. The National Environmental Policy Act of 1969 requires the FAA to consider potential environmental impacts prior to agency decision making, including, for example, the decision to fund or approve a project, plan, license, permit, certification, rulemaking, or operations specification, unless these actions are within an existing categorical exclusion and no

extraordinary circumstances exist. Actions that may require an environmental assessment are normally associated with federal grants or heliport layout plan approvals leading to the construction of a new heliport or significant expansion of an existing heliport.

a. Assessment items. An environmental assessment addresses noise, historic and cultural resources, wildlife, energy conservation, land usage, air quality, water quality, pollution prevention, light emissions and other visual effects, electromagnetic fields, other public health and safety issues, the “no action” alternative and a reasonable range of feasible alternatives, including mitigation not integrated into the alternative initially. It also describes the action taken to ensure public involvement in the planning process. An opportunity for a public hearing may be required for the federally funded development of, or significant improvement to, an existing heliport.

b. Guidance. FAA Order 5050.4, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects, and FAA Order 1050.1, Policies and Procedures for Considering Environmental Impacts, and other supplemental guidance from FAA Air Traffic and Flight Standards provide guidance on environmental impact analysis. Contact state and local governments, including metropolitan planning organizations and local transit agencies, directly as they may also require an environmental report. The procedures in AC 150/5020-1, Noise Control and Compatibility Planning for Airports, describe a means of assessing the noise impact. Contact the appropriate FAA Airports Regional or District Office for current information related to assessing noise impact of heliports. Proponents of non-federally assisted heliports work with local governmental authorities concerning environmental issues.

114. Access to heliports by individuals with disabilities. Congress has passed various laws concerning access to airports. Since heliports are a type of airport, these laws are similarly applicable. Find guidance in AC 150/5360-14, Access to Airports by Individuals with Disabilities.

115. State role. Many state departments of transportation, aeronautical commissions, or similar authorities require prior approval and, in some instances, a license for the establishment and operation of a heliport. Several states administer a financial assistance program similar to the federal program and are staffed to provide technical advice. Contact your respective state aeronautics commissions or departments for particulars on licensing and assistance programs. Contact information for state aviation agencies is available at http://www.faa.gov/airports/resources/state_aviation.

116. Local role. Some communities have enacted zoning laws, building codes, fire regulations, etc. that can affect heliport establishment and operation. Some have or are in the process of developing codes or ordinances regulating environmental issues such as noise and air pollution. A few localities have enacted specific rules governing the establishment of a heliport. Therefore, make early contact with officials or agencies representing the local zoning board, the fire, police, or sheriff's department, and the elected person(s) who represent the area where the heliport is to be located.

117. Related referenced material. Find a list of related and referenced publications in Appendix D.

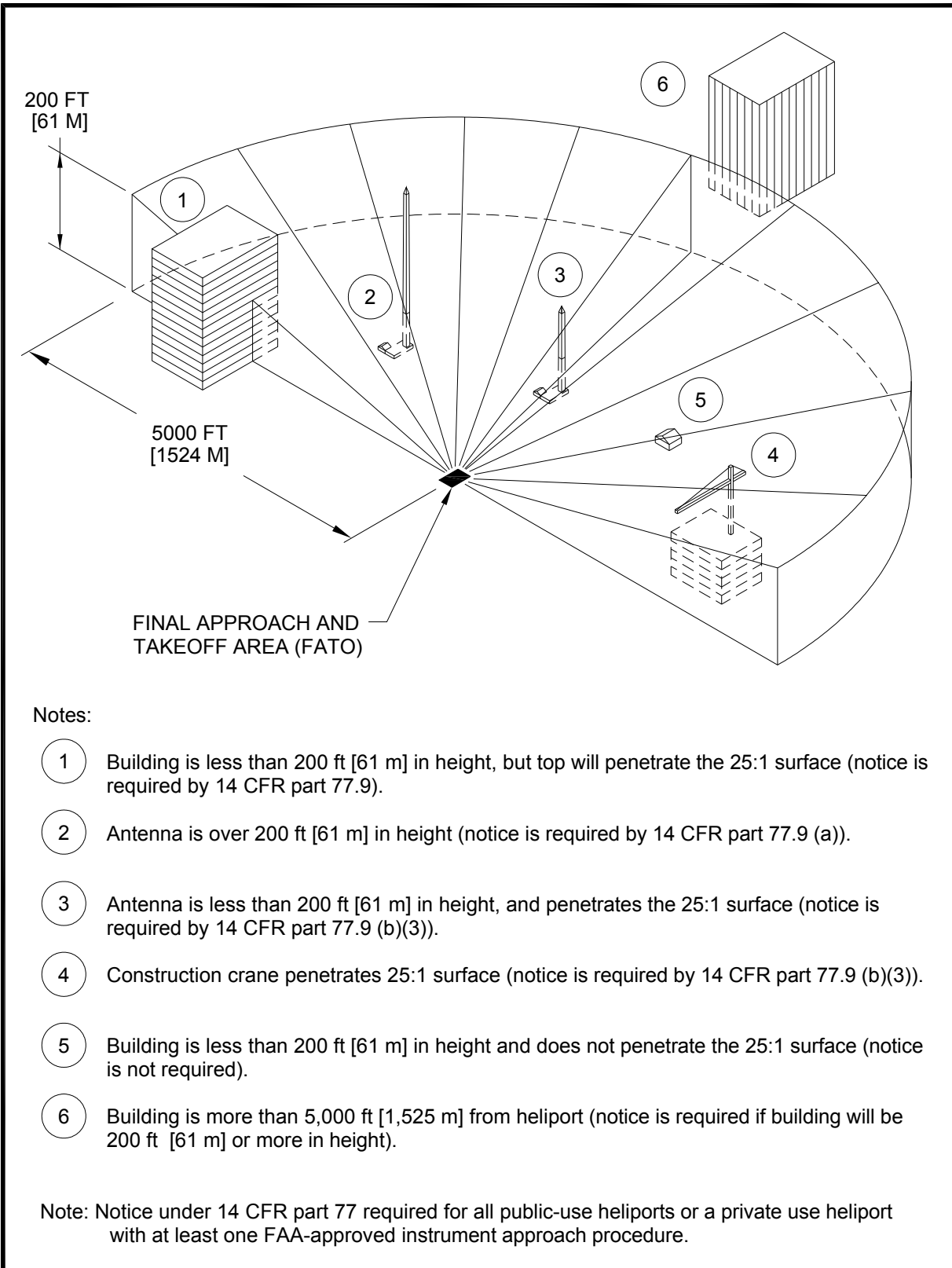


Figure 1-4. Offsite Development Requiring Notice to the FAA

Chapter 2. General Aviation Heliports

201. General. A general aviation heliport accommodates helicopters used by individuals, corporations, and helicopter air taxi services. While general aviation heliports may be publicly owned, this is not required. Most general aviation heliports are privately owned.

202. Applicability. The standards in this chapter apply to projects funded under the Airport Improvement Program (AIP) or the Passenger Facility Charge (PFC) program. For other projects/heliports, these standards are the FAA's recommendations for designing all general aviation heliports. The design standards in this chapter assume that there will never be more than one helicopter within the final approach and takeoff area (FATO) and the associated safety area. If there is a need for more than one touchdown and liftoff area (TLOF) at a heliport, locate each TLOF within its own FATO and within its own safety area. Figure 2-1 illustrates the essential features of a general aviation heliport.

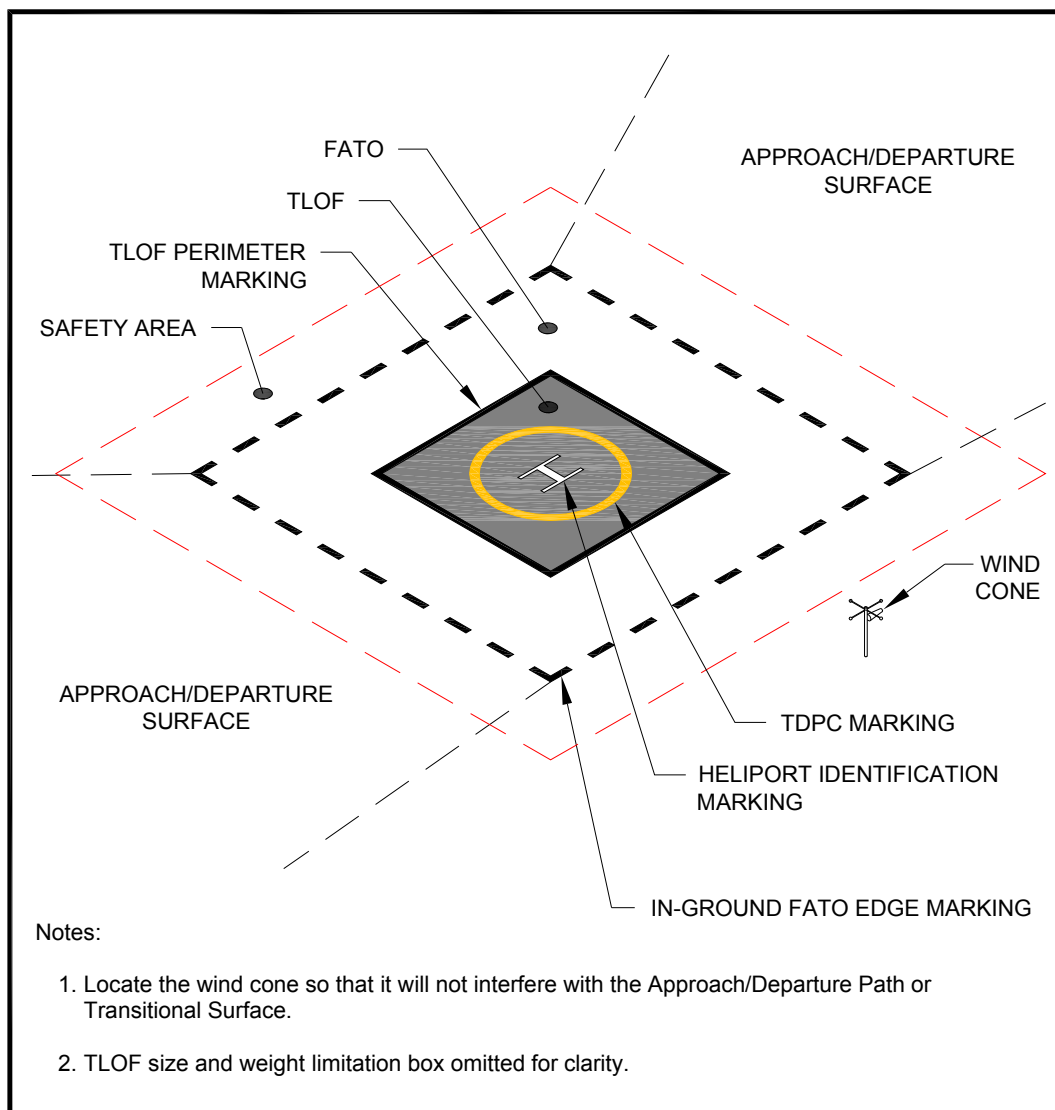


Figure 2-1. Essential Features of a Heliport: General Aviation

203. Prior permission required (PPR) facilities. The standards in this AC are recommended for all heliports. As PPR heliports are never eligible for federal financial assistance, do not interpret any recommendation in this AC that is not required by federal law or regulation as mandatory for PPR heliports. Recommendations for PPR heliports are provided in recognition of the unique nature of facilities where the operator ensures pilots are thoroughly familiar with the heliport, its procedures, and any facility limitations.

204. Access by individuals with disabilities. Various laws require heliports operated by public entities and those receiving federal financial assistance to meet accessibility requirements. See paragraph 114.

205. Heliport site selection.

a. Long term planning. The FAA encourages public agencies and others planning to develop a general aviation heliport to consider the possible future need for instrument operations and expansion.

b. Property requirements. The property needed for a general aviation heliport depends upon the volume and types of users, size of helicopters, and the scope of amenities provided. Property needs for helicopter operators and for passenger amenities frequently exceed those for “airside” purposes.

c. Turbulence. Air flowing around and over buildings, stands of trees, terrain irregularities, etc. can create turbulence on ground-level and roof-top heliports that may affect helicopter operations. Where the FATO is located near the edge and top of a building or structure, or within the influence of turbulent wakes from other buildings or structures, assess the turbulence and airflow characteristics in the vicinity of, and across the surface of the FATO to determine if an air-gap between the roof, roof parapet or supporting structure, and/or some other turbulence mitigating design measure is necessary. FAA Technical Report FAA/RD-84/25, Evaluating Wind Flow around Buildings on Heliport Placement, addresses the wind’s effect on helicopter operations. Take the following actions in selecting a site to minimize the effects of turbulence.

(1) Ground-level heliports. Features such buildings, trees, and other large objects can cause air turbulence and affect helicopter operations from sites immediately adjacent to them. Therefore, locate the landing and takeoff area away from such objects in order to minimize air turbulence in the vicinity of the FATO and the approach/departure paths.

(2) Elevated heliports. Establishing a 6 foot (1.8 m) or more air gap on all sides above the level of the roof will generally minimize the turbulent effect of air flowing over the roof edge. Keep air gaps free at all times of objects that would obstruct the airflow. If it is not practical to include an air gap or some other turbulence mitigating design measure where there is turbulence, operational limitations may be necessary under certain wind conditions. See paragraph 101.

d. Electromagnetic effects. Nearby electromagnetic devices, such as a large ventilator motor, elevator motor or other devices that consume large amounts of electricity may cause temporary aberrations in the helicopter magnetic compass and interfere with other onboard navigational equipment.

206. Basic layout. A basic heliport consists of a TLOF contained within a FATO. A safety area surrounds the FATO. Table 2-1 shows how the standards for safety area width vary as a function of heliport markings. The relationship of the TLOF to the FATO and the safety area is shown in Figure 2–2. A FATO contains only one TLOF. Provide appropriate approach/departure airspace to allow safe approaches to and departures from landing sites. To the extent feasible, align the preferred approach/departure path with the predominant winds. See paragraph 210.

**Table 2-1. Minimum VFR Safety Area Width
as a Function of General Aviation and PPR Heliport Markings**

General aviation heliports	$\frac{1}{3}$ RD but not less than 20 ft (6 m)**	$\frac{1}{3}$ RD but not less than 30 ft (9 m)**	$\frac{1}{2}$ D but not less than 20 ft (6 m)	$\frac{1}{2}$ D but not less than 30 ft (9 m)
PPR heliports	$\frac{1}{3}$ RD but not less than 10 ft (3 m) **	$\frac{1}{3}$ RD but not less than 20 ft (6 m)**	$\frac{1}{2}$ D but not less than 20 ft (6 m)	$\frac{1}{2}$ D but not less than 30 ft (9 m)
TLOF perimeter marked	Yes	Yes	No	No
FATO perimeter marked	Yes	Yes	Yes	Yes
Standard “H” marking	Yes	No	Yes	No
D: Overall length of the design helicopter RD: Rotor diameter of the design helicopter ** Also applies when the FATO is not marked. Do not mark the FATO if (a) the FATO (or part of the FATO) is a non-load bearing surface and/or (b) the TLOF is elevated above the level of a surrounding load-bearing area.				

207. Touchdown and liftoff area (TLOF).

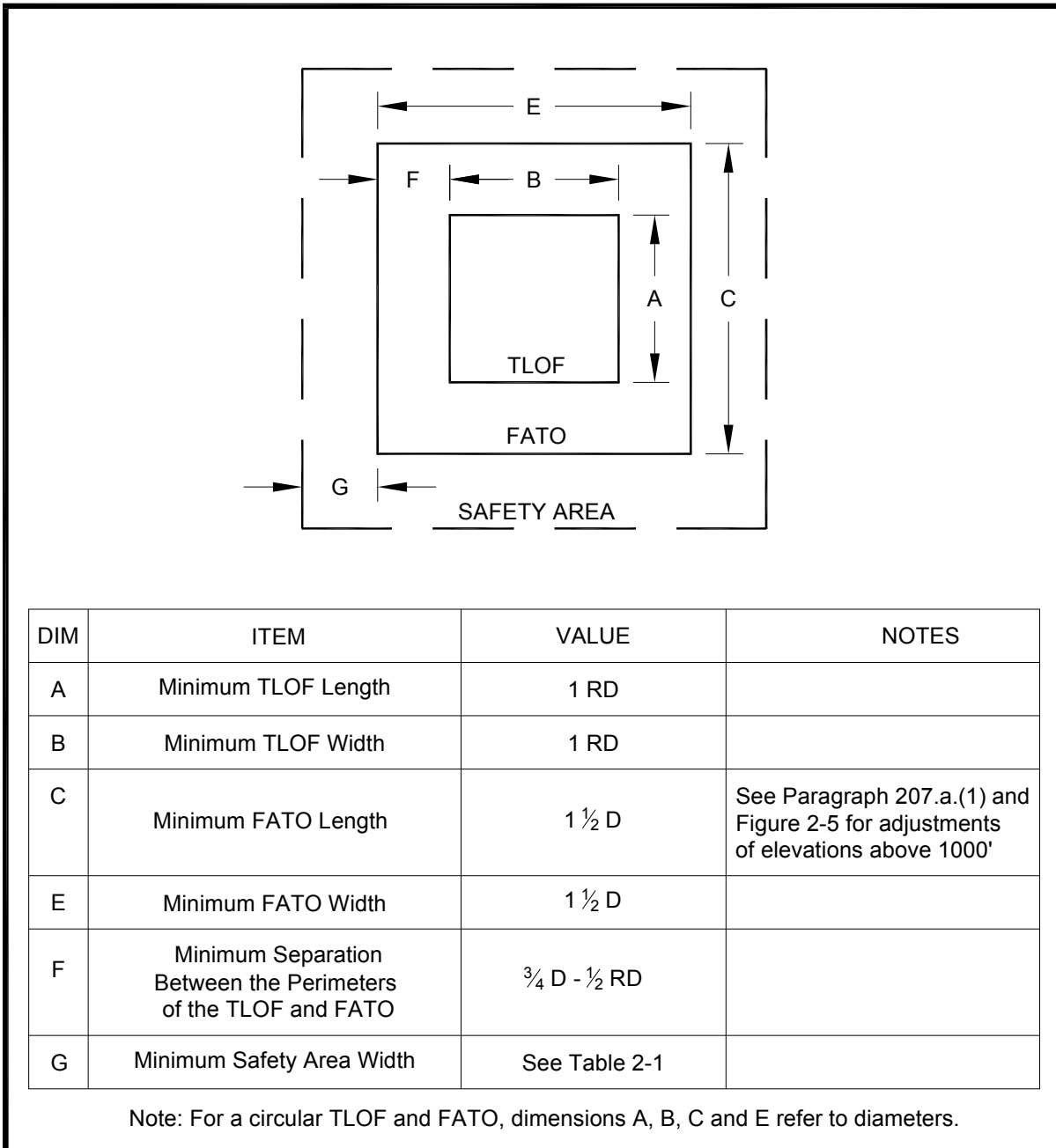
a. TLOF location. TLOFs of general aviation heliports are at ground level, on elevated structures, and at rooftop level. Center the TLOF within the FATO. At a PPR rooftop or other PPR elevated facility, where the entire FATO is not load-bearing, locating the TLOF in a load-bearing area (LBA) that is as large as possible may provide some operational advantages. In this case, locate the TLOF in the center of the LBA.

b. TLOF size. Design the TLOF so the minimum dimension (length, width, or diameter) is at least equal to the RD of the design helicopter (except as noted in (2) below). Design the TLOF to be rectangular or circular. Each has its advantages. A square or rectangular shape provides the pilot with better alignment cues than a circular shape, but a circular TLOF may be more recognizable in an urban environment. Increasing the LBA centered on the TLOF may provide some safety and operational advantages. At PPR facilities, if only a portion of the TLOF is paved, design the TLOF so the minimum length and width of this paved portion is not less than two times the maximum dimension (length or width) of the undercarriage of the design helicopter. Locate the center of the TLOF in the center of this paved portion. To avoid the risk of catching a skid and the potential for a dynamic rollover, make sure there is no difference in elevation between the paved and unpaved portions of the TLOF.

(1) Elevated public general aviation heliport. If the FATO outside the TLOF is not load-bearing, increase the minimum width, length or diameter of the TLOF to the overall length (D) of the design helicopter. See paragraph 207.b(3).

(2) Elevated PPR heliports. At PPR rooftop or elevated facilities where the height of the TLOF surface above the adjacent ground or structure is no greater than 30 inches (76 cm), and there is a solid adjacent ground or structure equal to the rotor diameter (RD) able to support 20 lbs/sq ft (98 kg/sq m) live load, design the minimum dimension of the TLOF to be at least the smaller of the RD and two times the maximum dimension (length or width) of the undercarriage of the design helicopter. Locate the center of the LBA of the TLOF in the center of the FATO.

(3) Elongated TLOF. An elongated TLOF can provide an increased safety margin and greater operational flexibility. As an option, design an elongated TLOF with a landing position in the center and two takeoff positions, one at either end. Design the landing position to have a minimum length equal to the RD of the design helicopter. If the TLOF is elongated, also provide an elongated FATO. Figure 2–3 shows an elongated TLOF and an elongated FATO.



**Figure 2-2. TLOF/FATO Safety Area Relationships and Minimum Dimensions:
General Aviation**

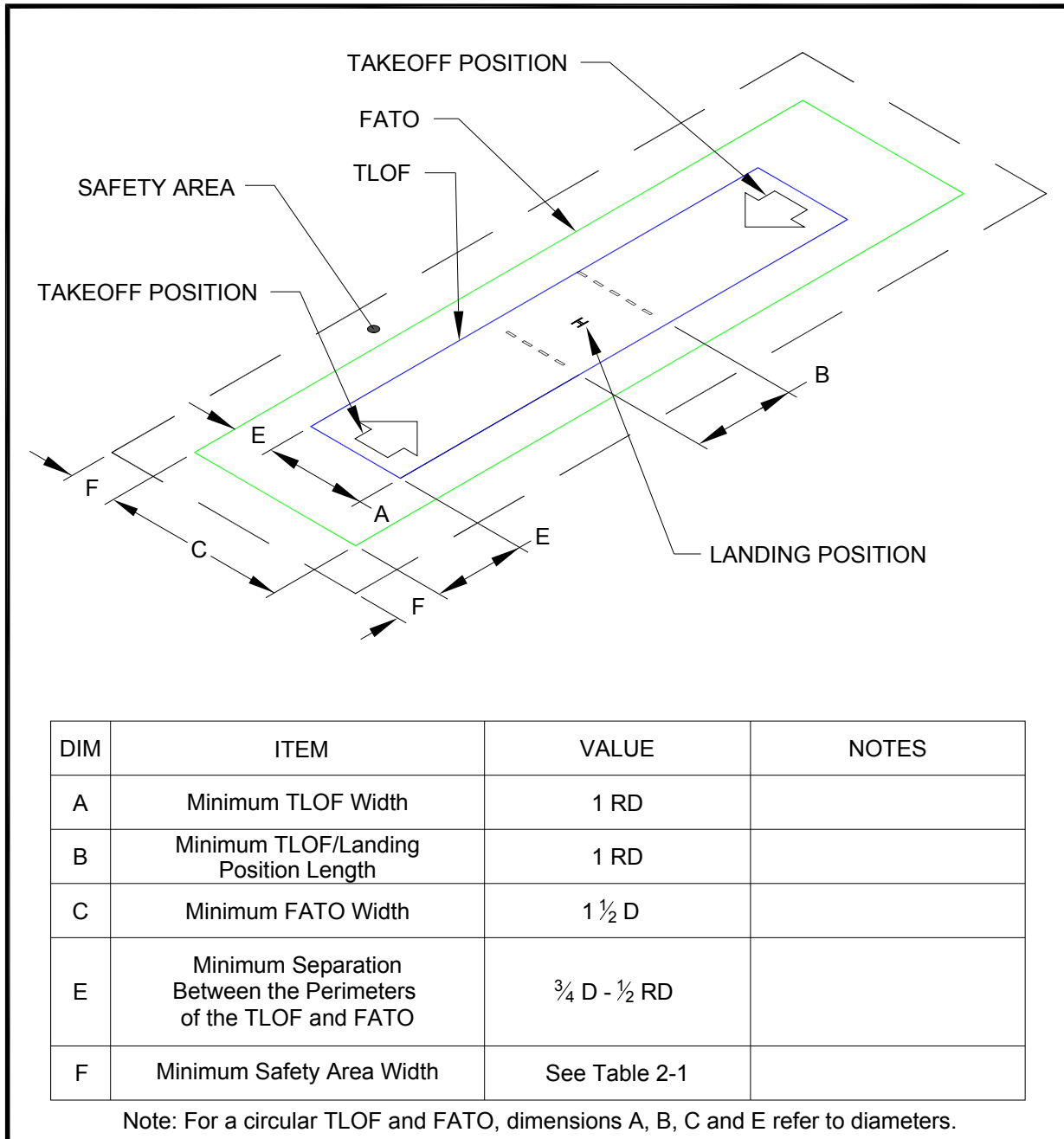


Figure 2–3. Elongated FATO with Two Takeoff Positions: General Aviation

c. Ground-level TLOF surface characteristics.

(1) Design loads. Design the TLOF and any supporting TLOF structure to be capable of supporting the dynamic loads of the design helicopter.

(2) Paving. Provide either a paved or aggregate-turf surface for the TLOF (see AC 150/5370-10, Standards for Specifying Construction of Airports items P-217, Aggregate-Turf Pavement and P-501, Portland Cement Concrete Pavement). Use portland cement concrete (PCC) when feasible for ground-level facilities. An asphalt surface is less desirable for heliports as it may rut under the wheels or skids of

a parked helicopter. This has been a factor in some rollover accidents. Use a broomed or roughened pavement finish to provide a skid-resistant surface for helicopters and non-slippery footing for people. For PPR heliports where only a portion of the TLOF is paved, design the paved portion to dynamic load-bearing. Design the adjacent ground or structure of the TLOF for the static loads of the design helicopter.

d. Rooftop and other elevated TLOFs.

(1) Design loads. Design elevated TLOFs and any TLOF supporting structure to capable of supporting the dynamic loads of the design helicopter described in paragraph 707.b. An elevated heliport is illustrated in Figure 2–4.

(2) Elevation. Elevate the TLOF above the level of any obstacle in the FATO and safety area that cannot be removed.

(3) Obstructions. Elevator penthouses, cooling towers, exhaust vents, fresh-air vents, and other raised features can affect heliport operations. Establish control mechanisms to ensure obstruction hazards are not installed after the heliport is operational.

(4) Air quality. Helicopter exhaust can affect building air quality if the heliport is too close to fresh air vents. When designing a building intended to support a helipad, locate fresh air vents accordingly. When adding a heliport to an existing building, relocate fresh air vents if necessary or, if that is not practical, installing charcoal filters or a fresh air intake bypass louver system for HVAC systems may be adequate.

(5) TLOF surface characteristics. Construct rooftop and other elevated heliport TLOFs of metal or concrete (or other materials subject to local building codes). Use a finish for TLOF surfaces that provides a skid-resistant surface for helicopters and non-slippery footing for people.

(6) Safety net. If the platform is elevated 4 feet (1.2 m) or more above its surroundings, Title 29 CFR Part 1910.23, Guarding Floor and Wall Openings and Holes, requires the provision of fall protection. The FAA recommends such protection for all platforms elevated 30 inches (76 cm) or more. However, do not use permanent railings or fences since they would be safety hazards during helicopter operations. As an option, install a safety net meeting state and local regulations but not less than 5 feet (1.5 m) wide. Design the safety net to have a load carrying capability of 25 lbs/sq ft (122 kg/sq m). Make sure the net, as illustrated in Figure 2–28, does not project above the level of the TLOF. Fasten both the inside and outside edges of the safety net to a solid structure. Construct nets of materials that are resistant to environmental effects.

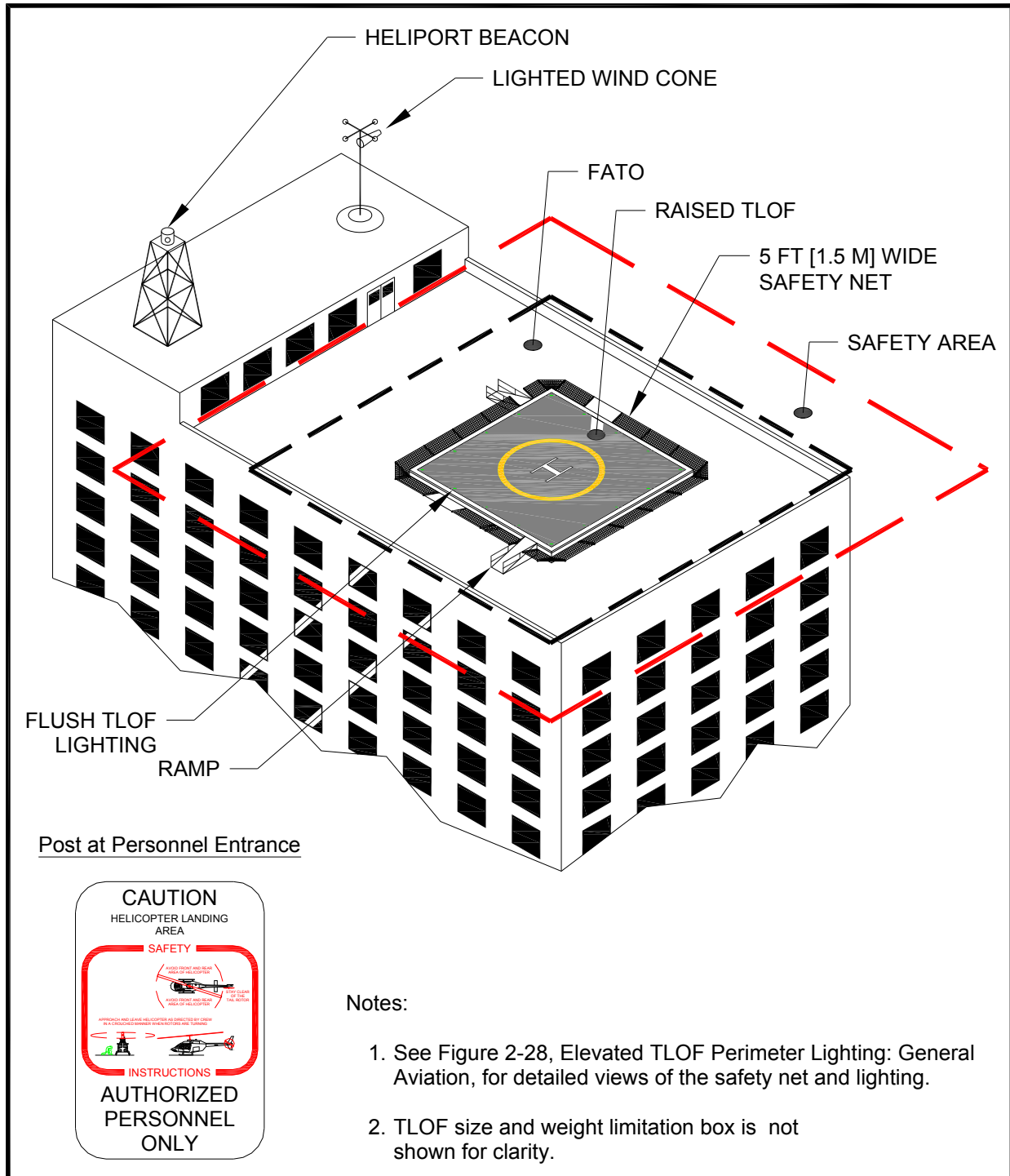


Figure 2-4. Elevated Heliport: General Aviation

(7) Access to elevated TLOFs. Title 29 CFR Part 1926.34, Means of Egress, requires two separate access points for an elevated structure such as one supporting an elevated TLOF. Title 29 CFR Part 1910.24, Fixed Industrial Stairs applies to stairs. Design handrails required by this regulation to fold down or be removable to below the level of the TLOF so they will not be hazards during helicopter operations.

e. TLOF gradients. See paragraph 702 for TLOF gradient standards.

208. Final approach and takeoff area (FATO). A general aviation heliport has at least one FATO. The FATO contains a TLOF within its borders at which arriving helicopters terminate their approach and from which departing helicopters take off.

a. FATO size.

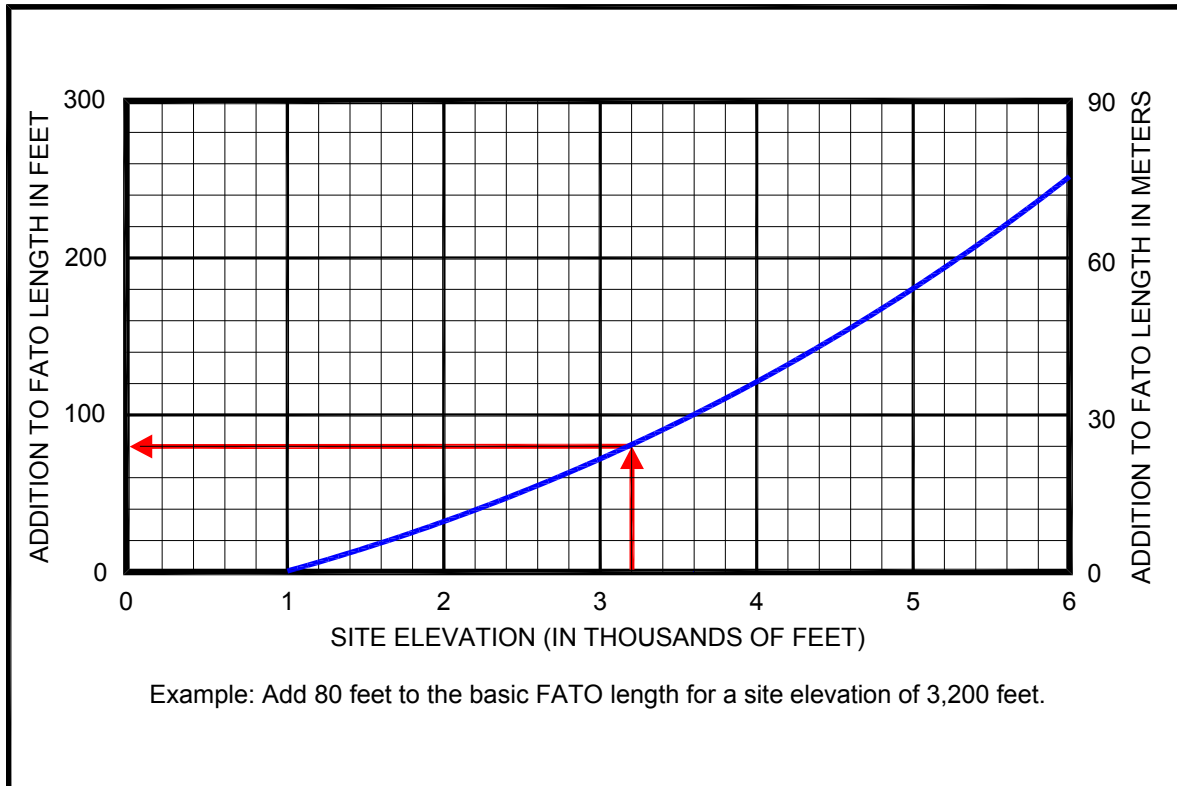
(1) Design the minimum width, length, or diameter of a FATO to be at least 1.5 times the overall length (D) of the design helicopter. Design the FATO to be circular or rectangular, regardless of the shape of the TLOF. At elevations above 1,000 feet MSL, include a longer, rectangular FATO to provide an increased safety margin and greater operational flexibility. Use the additional FATO length depicted in Figure 2–5. Where the operator of a PPR heliport chooses not to provide additional FATO length, the operator makes sure that all pilots using the facility are thoroughly knowledgeable with this and any other facility limitations.

(2) Design the minimum distance between the TLOF perimeter and the FATO perimeter to be not less than the distance ($\frac{3}{4}D - \frac{1}{2}RD$) where D is the overall length and RD is the rotor diameter of the design helicopter. Note that if the TLOF and FATO are not of similar shape, this applies at all points of the TLOF perimeter. The relationship of the TLOF to the FATO and the safety area is shown in Figure 2–2.

b. FATO surface characteristics. If the heliport operator marks the TLOF, the FATO outside the TLOF need not load-bearing.

(1) Ground level public general aviation heliports. If the heliport operator does not mark the TLOF (see paragraph 215.a), and/or intends that the helicopter be able to land anywhere within the FATO, design the FATO outside the TLOF and any FATO supporting structure, like the TLOF, to be capable of supporting the dynamic loads of the design helicopter, as described in paragraph 707.b.

(2) Ground level PPR heliports. If the heliport operator does not mark the TLOF, and/or intends for the helicopter to be able to land anywhere within the FATO, design the FATO outside the TLOF and any FATO supporting structure, like the TLOF, to be capable of supporting the dynamic loads of the design helicopter, as described in paragraph 707.b.



**Figure 2-5. Additional FATO Length for Helicopters at Higher Elevations:
General Aviation**

(3) Elevated helicopters. As an option, design the FATO outside the TLOF to extend into clear airspace. However, there are some helicopter performance benefits and increased operational flexibility if the FATO outside the TLOF is load bearing. Design the FATO outside of the TLOF to be load-bearing, or increase the minimum width and length or diameter of TLOF to the overall length of the design helicopter.

(4) Elevated PPR helicopters. For elevated PPR helicopters, if the heliport operator intends to mark the TLOF, as an option design the FATO outside the TLOF and the safety area to extend into the clear airspace (see Figure 2-4). If the heliport operator does not mark the TLOF, and/or intends that the helicopter be able to land anywhere within the FATO, design the FATO outside the TLOF and any FATO supporting structure, like the TLOF, to support the dynamic loads of the design helicopter. As an option, increase the length and width or diameter of the LBA without a corresponding increase in the size of the FATO.

(5) If the FATO is load-bearing, design the portion abutting the TLOF to be contiguous with the TLOF, with the adjoining edges at the same elevation.

(6) If the FATO is unpaved, treat the FATO to prevent loose stones and any other flying debris caused by rotor downwash.

(7) When the FATO or the LBA in which it is located is elevated 4 feet (1.2 m) or more above its surroundings, part 1910.23 requires the provision of fall protection. The FAA recommends such protection for all platforms elevated 30 inches (76 cm) or more. However, do not use permanent railings or fences since they would be safety hazards during helicopter operations. As an option, install a safety net meeting state and local regulations but not less than 5 feet (1.5 m) wide. Design the safety net to have a load carrying capability of 25 lbs/sq ft (122 kg/sq m). Make sure the net, as illustrated in Figure 2-28,

does not project above the level of the TLOF. Fasten both the inside and outside edges of the safety net to a solid structure. Construct nets of materials that are resistant to environmental effects.

c. Mobile objects within the FATO. The FATO design standards of this AC assume the TLOF and FATO are closed to other aircraft if a helicopter or other mobile object is within the FATO or the safety area.

d. Fixed objects within the FATO. Remove all fixed objects projecting above the FATO elevation except for lighting fixtures, which may project a maximum of 2 inches (5 cm). See Figure 7-3. For ground level heliports, remove all above-ground objects to the extent practicable.

e. FATO/FATO separation. If a heliport has more than one FATO, separate the perimeters of the two FATOs so the respective safety areas do not overlap. This separation assumes simultaneous approach/departure operations will not take place. If the heliport operator intends for the facility to support simultaneous operations, provide a minimum 200 foot (61 m) separation.

f. FATO gradients. See paragraph 703 for FATO gradient standards.

209. Safety area. A safety area surrounds a FATO.

a. Safety area width. The standards for the width of the safety area are shown in Table 2-1. The value is the same on all sides. The provision or absence of standard heliport markings affects the width standards. As an option, design the safety area to extend into clear airspace.

b. Mobile objects within the safety area. The safety area design standards of this AC assume the TLOF and FATO are closed to other aircraft if a helicopter or other mobile object is within the FATO or the safety area.

c. Fixed objects within a safety area. Remove all fixed objects within a safety area projecting above the FATO elevation except for lighting fixtures, which may project a maximum of 2 inches (5 cm). See Figure 7-3. For ground level heliports, remove all above-ground objects to the extent practicable.

d. Safety area surface. The safety area need not be load bearing. Figure 2-6 depicts a safety area extending over water. If possible, design the portion of the safety area abutting the FATO to be contiguous with the FATO with the adjoining edges at the same elevation. This is needed to avoid the risk of catching a helicopter skid or wheel. Clear the safety area of flammable materials and treat the area to prevent loose stones and any other flying debris caused by rotor wash.

e. Safety area gradients. Find safety area gradient standards in Chapter 7.

210. VFR approach/departure paths. The purpose of approach/departure airspace, shown in Figure 2-7 and Figure 2-8 is to provide sufficient airspace clear of hazards to allow safe approaches to and departures from the TLOF.

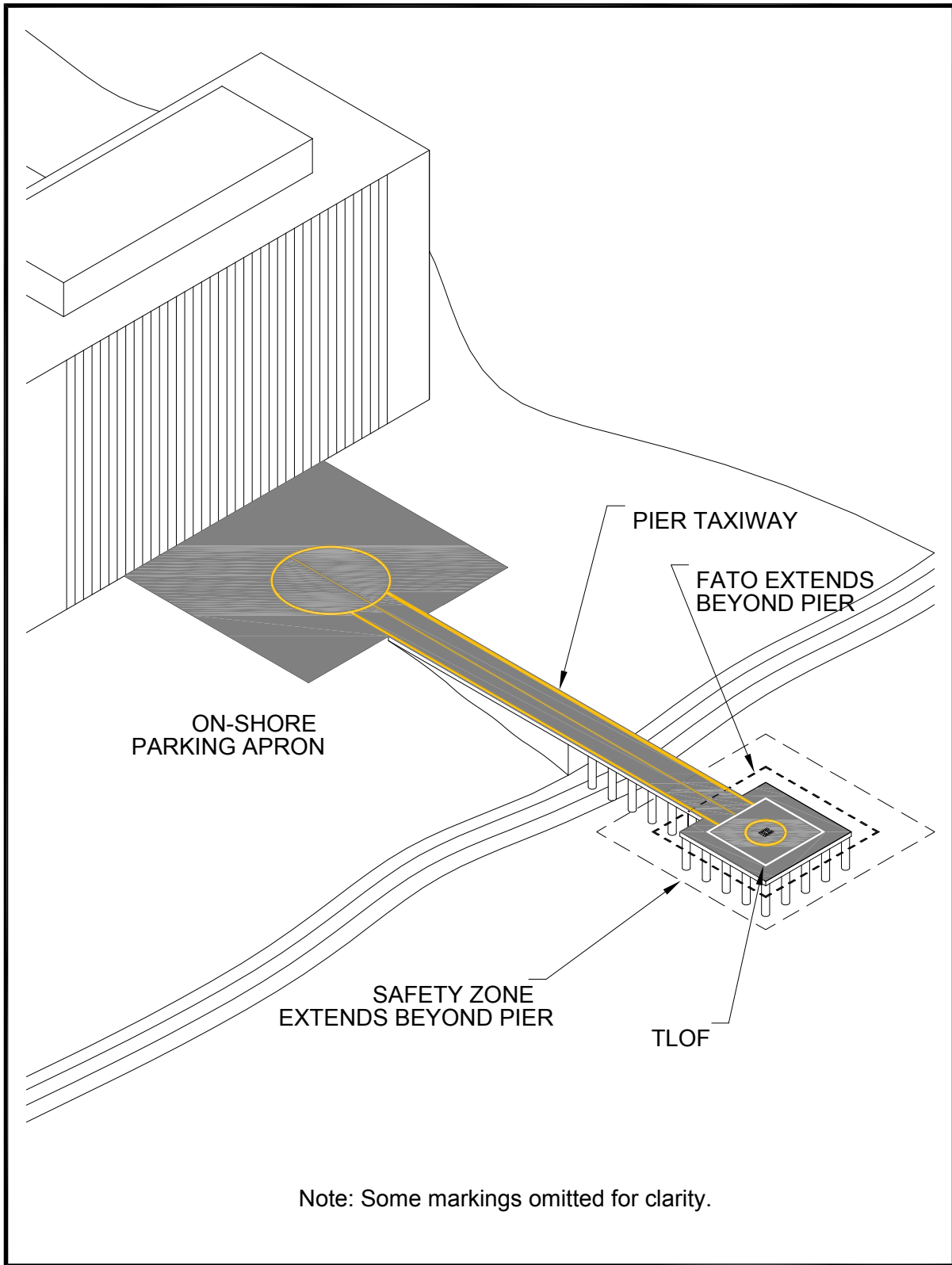


Figure 2-6. Non-load-bearing FATO and Safety Area: General Aviation

a. Number of approach/departure paths. Align preferred approach/departure paths with the predominant wind direction to avoid downwind operations and minimize crosswind operations. To accomplish this, design the heliport with more than one approach/departure path. Base other approach/departure paths on the assessment of the prevailing winds or, when this information is not available, separate such flight paths and the preferred flight path by at least 135 degrees. See Figure 2-7, Figure 2-8, and Figure 2-9. At a PPR heliport that has only one approach/departure path, the operator makes sure all pilots using the facility are thoroughly knowledgeable with this and any other facility limitations. A second flight path provides additional safety margin and operational flexibility. If it is not feasible to provide complete coverage of wind through multiple approach/departure paths, operational limitations may be necessary under certain wind conditions. See paragraph 101.

b. VFR approach/departure and transitional surfaces. Figure 2-7 illustrates the approach/departure and transitional surfaces.

(1) An approach/departure surface is centered on each approach/departure path. The approach/departure path starts at the edge of the FATO and slopes upward at 8:1 (8 units horizontal in 1 unit vertical) for a distance of 4,000 feet (1,219 m) where the width is 500 feet (152 m) at a height of 500 feet (152 m) above the heliport elevation.

(2) The transitional surfaces start from the edges of the FATO parallel to the flight path center line, and from the outer edges of the 8:1 approach/departure surface, and extend outwards at a slope of 2:1 (2 units horizontal in 1 unit vertical) for a distance of 250 feet (76 m) from the centerline. The transitional surface does not apply to the FATO edge opposite the approach/departure surface.

(3) Make sure the approach/departure and transitional surfaces are free of penetrations unless an FAA aeronautical study determines such penetrations not to be hazards. The FAA conducts such aeronautical studies only at public heliports, heliports operated by a federal agency or the Department of Defense, and private airports with FAA-approved approach procedures. Paragraph 111 provides additional information on hazards to air navigation.

(4) At PPR facilities, an alternative to considering transitional surfaces is to increase the size of the 8:1 approach/departure surface for a distance of 2,000 feet (610 m) as shown in Figure 2-9 and Figure 2-11. The lateral extensions on each side of the 8:1 approach/departure surface start at the width of the FATO and are increased so at a distance of 2,000 feet (610 m) from the FATO they are 100 feet (30 m) wide. Make sure obstacles do not penetrate into both Area A and Area B. Make sure obstacles do not penetrate into Area A or Area B unless the FAA determines that the penetration is not a hazard. Mark or light all such penetrations. See paragraph 111 for more information on hazard determinations.

c. Curved VFR approach/departure paths. As an option, include one curve in VFR approach/departure paths. As an option, design these paths to use the airspace above public lands, such as freeways or rivers. When including a curved portion in the approach/departure path, make sure the sum of the radius of the arc defining the center line and the length of the straight portion originating at the FATO is not less than 1,886 feet (575 m). Design the approach/departure path so the minimum radius of the curve is 886 feet (270 m) and the curve follows a 1,000 feet (305 m) straight section. Design the approach/departure path so the combined length of the center line of the curved portion and the straight portion is 4,000 feet (1,219 m). See Figure 2-8. Figure 2-10 shows a curved approach/departure path for an 8:1 approach/departure surface.

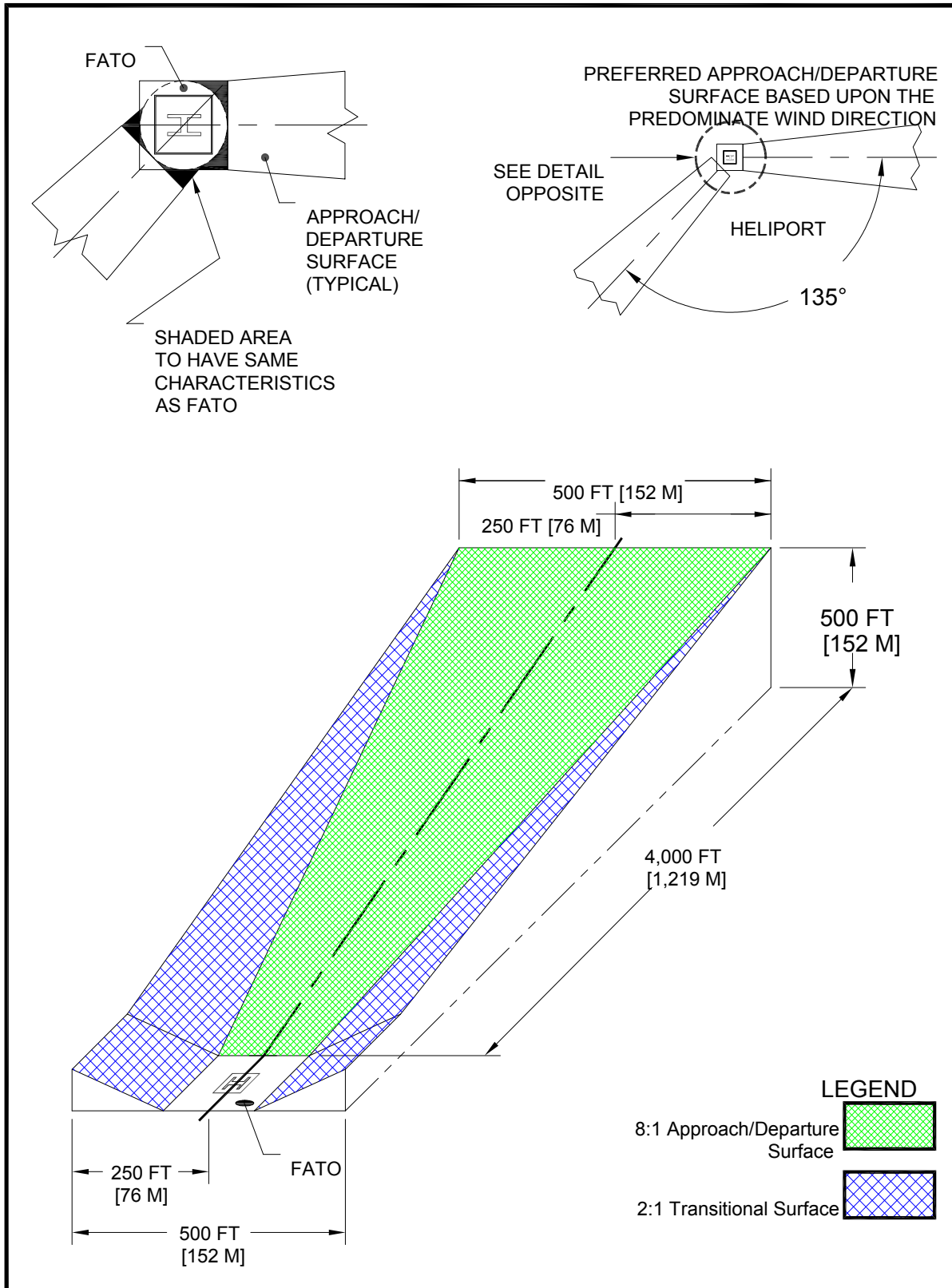


Figure 2-7. VFR Heliport Approach/Departure and Transitional Surfaces: General Aviation

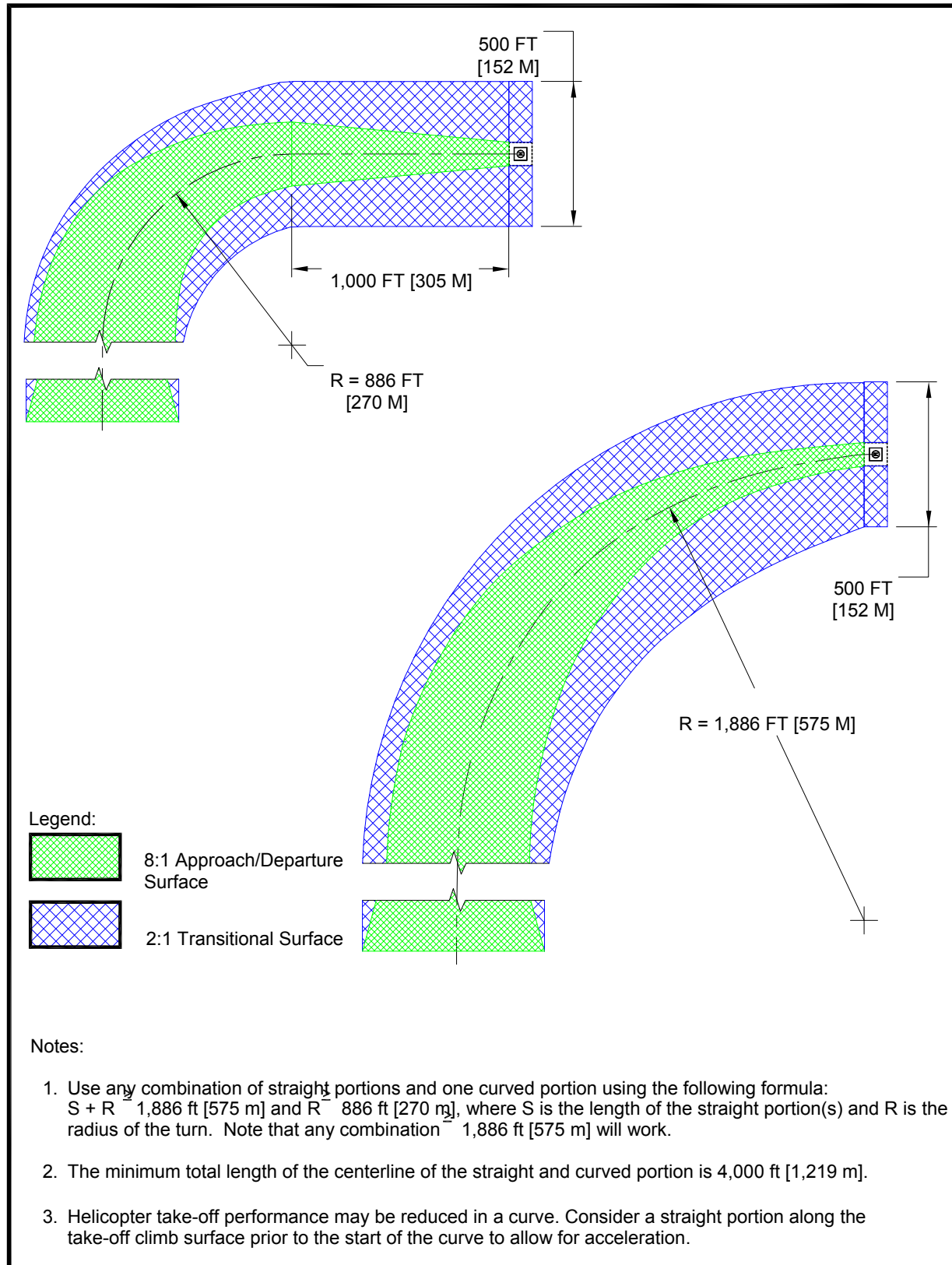


Figure 2–8. Curved Approach/Departure: General Aviation

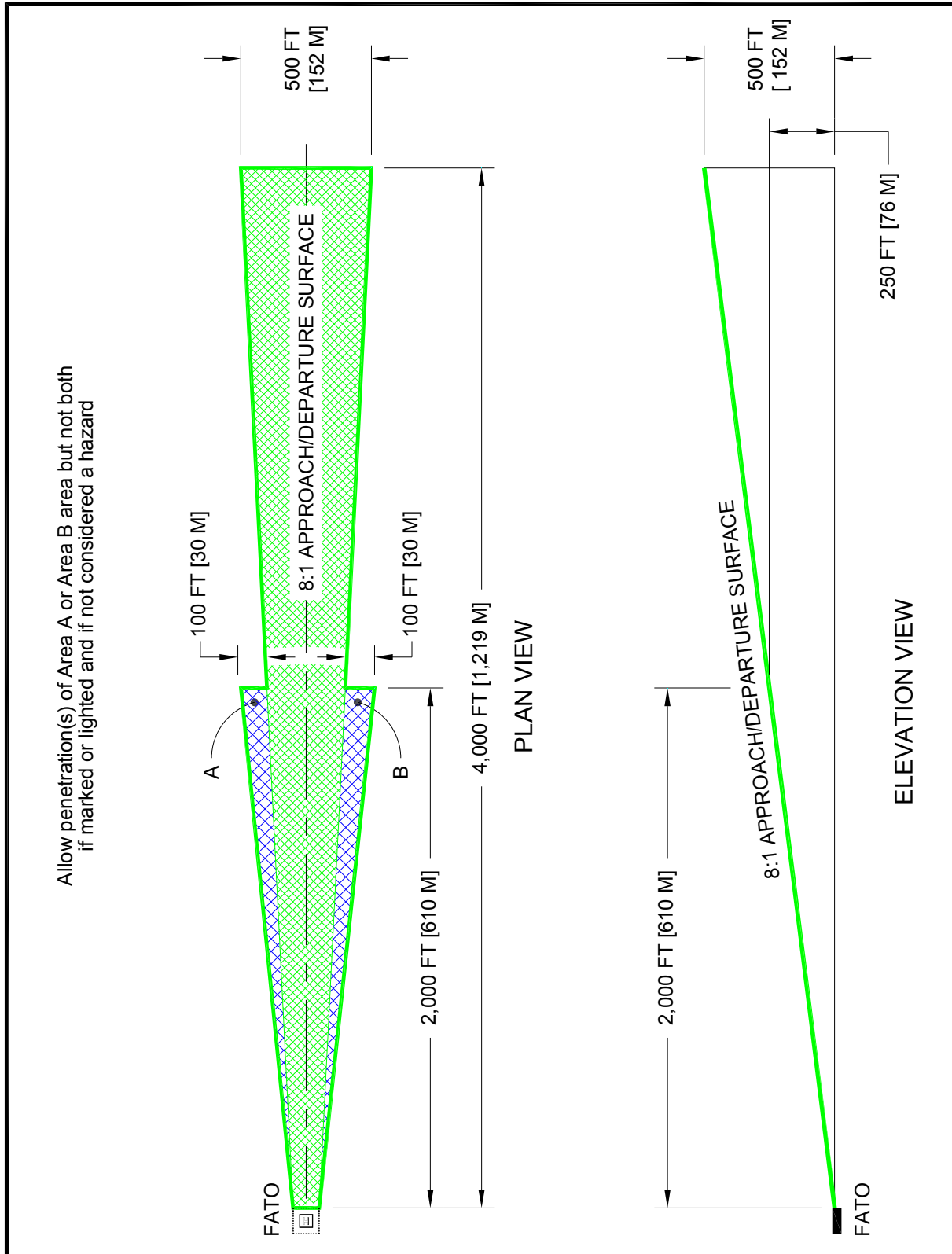


Figure 2-9. VFR PPR Heliport Lateral Extension of the 8:1 Approach / Departure Surface: General Aviation

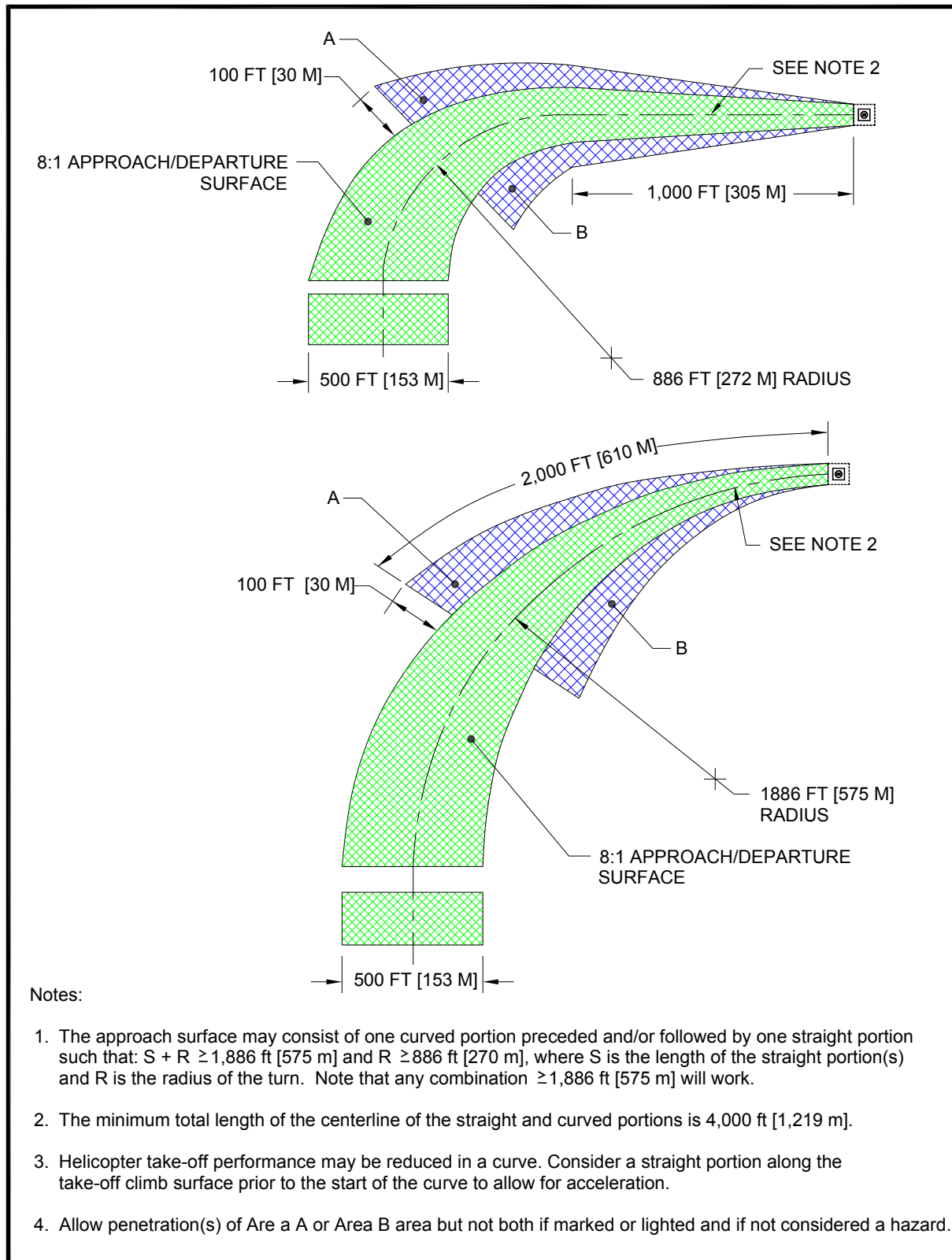


Figure 2-10. VFR PPR Heliport Lateral Extension of the Curved 8:1 Approach / Departure Surface: General Aviation

d. Flight path alignment guidance. As an option, use flight path alignment markings and/or flight path alignment lights (see paragraphs 215 and 216) where it is desirable and practicable to indicate available approach and/or departure flight path direction(s). See Figure 2–11.

e. Periodic review of obstructions. Vigilant heliport operators reexamine obstacles in the vicinity of approach/departure paths on at least an annual basis. This reexamination includes an appraisal of the growth of trees near approach and departure paths. Paragraph 111 provides additional information on hazards to air navigation. Pay particular attention to obstacles that need to be marked or lighted. It may be helpful to maintain a list of the GPS coordinates and the peak elevation of obstacles.

211. Heliport protection zone (HPZ). The FAA recommends the establishment of an HPZ for each approach/departure surface. The HPZ is the area under the 8:1 approach/departure surface starting at the FATO perimeter and extending out for a distance of 280 feet (85.3 m), as illustrated in Figure 2–12. The HPZ is intended to enhance the protection of people and property on the ground. This is achieved through heliport owner control over the HPZ. Such control includes clearing HPZ areas (and maintaining them clear) of incompatible objects and activities. The FAA discourages residences and places of public assembly in an HPZ. (Churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons typify places of public assembly.) Do not locate hazardous materials, including fuel, in the HPZ.

212. Wind cone.

a. Specification. Use a wind cone conforming to AC 150/5345-27, Specification for Wind Cone Assemblies, to show the direction and magnitude of the wind. Use a color that provides the best possible color contrast to its background.

b. Wind cone location. Locate the wind cone so it provides the pilot with valid wind direction and speed information in the vicinity of the heliport under all wind conditions.

(1) At many landing sites, there may be no single, ideal location for the wind cone. At other sites, it may not be possible to site a wind cone at the ideal location. In such cases, install more than one wind cone in order to provide the pilot with all the wind information needed for safe operations.

(2) Place the wind cone so a pilot on the approach path can see it clearly when the helicopter is 500 feet (150 m) from the TLOF.

(3) Place the wind cone so pilots can see it from the TLOF.

(4) To avoid presenting an obstruction hazard, locate the wind cone(s) outside the safety area, and so it does not penetrate the approach/departure or transitional surfaces.

c. Wind cone lighting. At a heliport intended for night operations, illuminate the wind cone, either internally or externally, to ensure it is clearly visible.

213. Taxiways and taxi routes. Taxiways and taxi routes provide for the movement of helicopters from one part of a landing facility to another. They provide a connecting path between the FATO and a parking area. They also provide a maneuvering aisle within the parking area. A taxi route includes the taxiway plus the appropriate clearances needed on both sides. The relationship between a taxiway and a taxi route is illustrated in Figure 2–13, Figure 2–14, and Figure 2–15. At heliports with no parking or refueling area outside the TLOF(s), it is not necessary to provide a taxi route or taxiway.

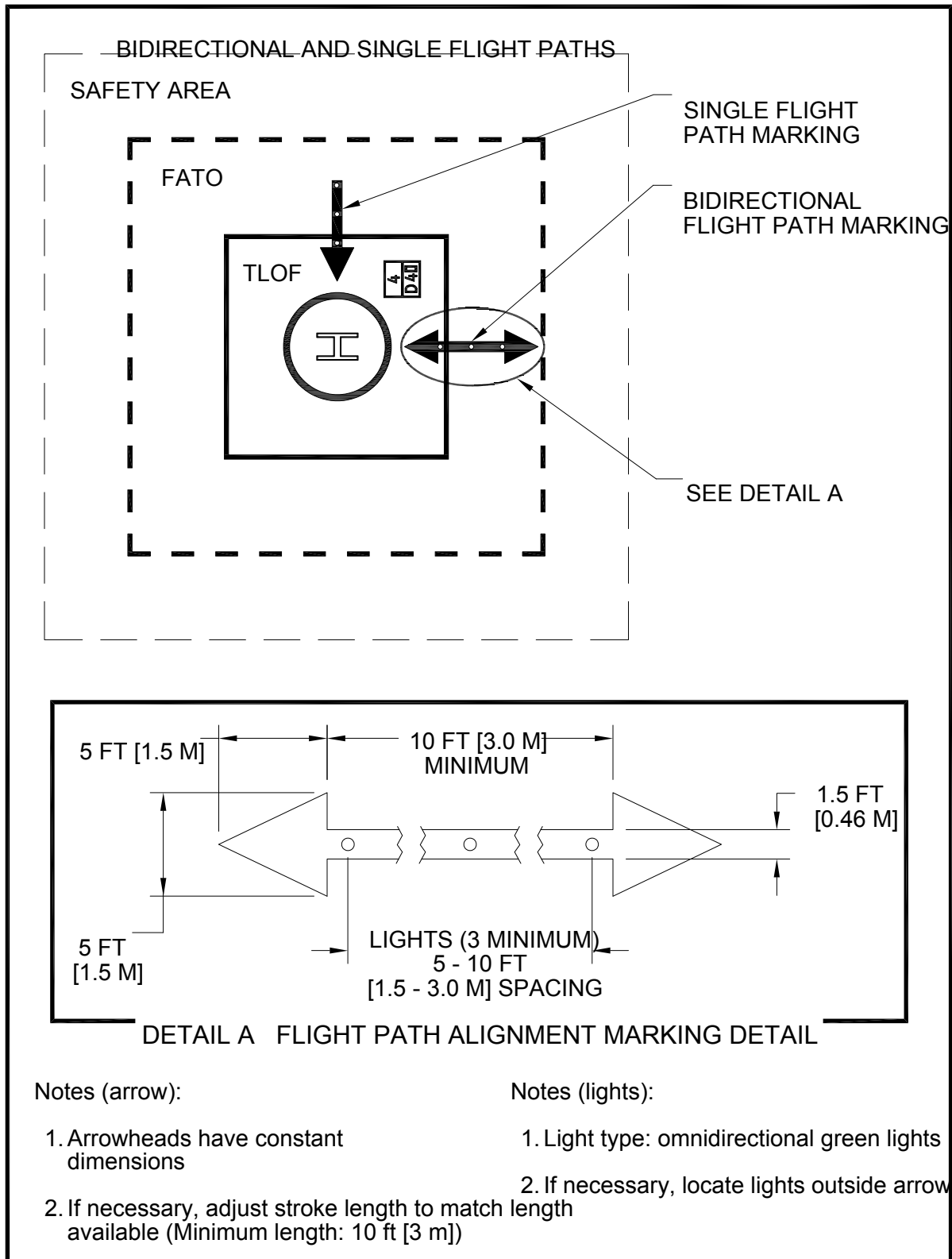


Figure 2-11. Flight Path Alignment Marking and Lights: General Aviation

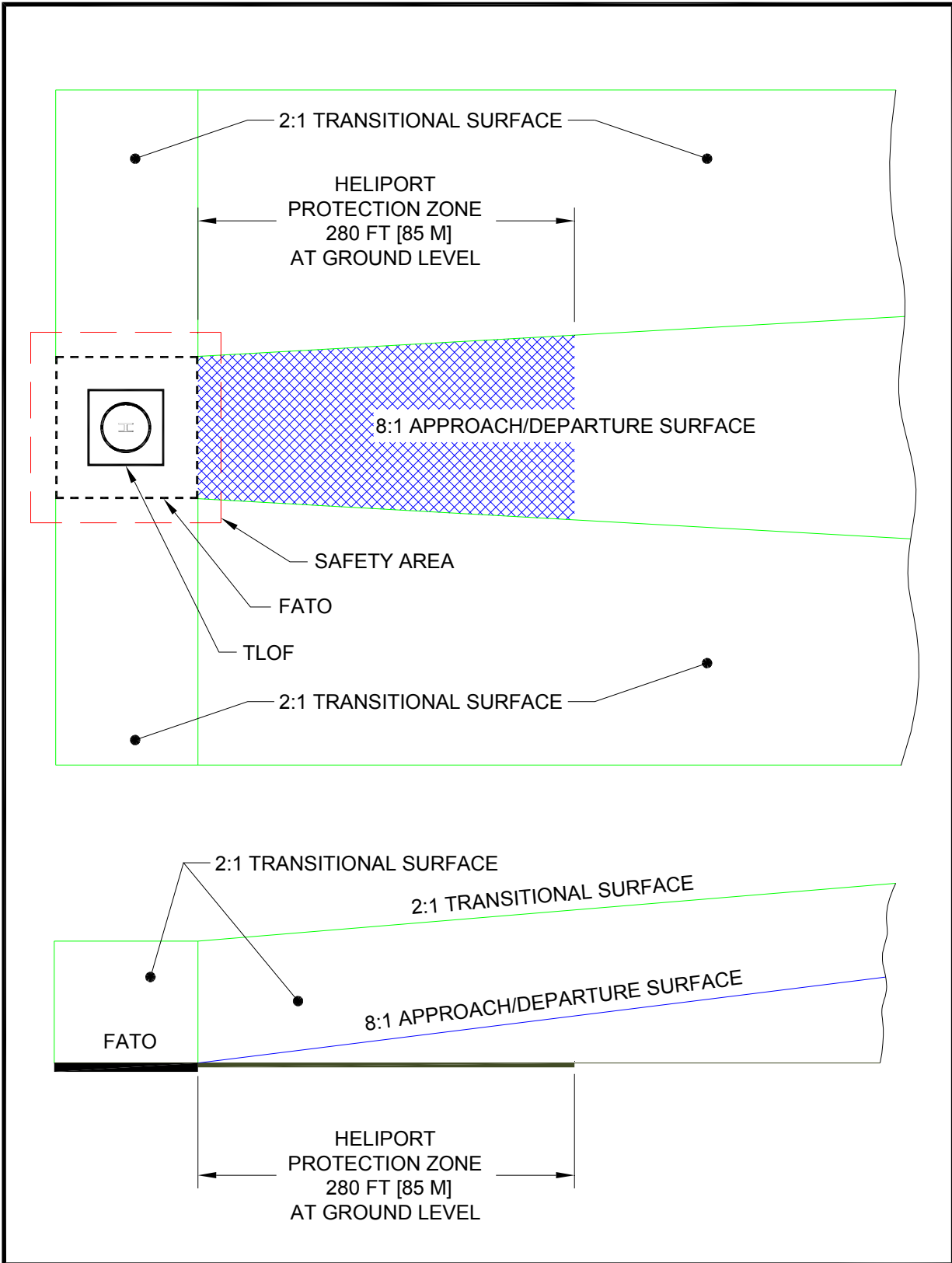


Figure 2-12. Heliport Protection Zone: General Aviation

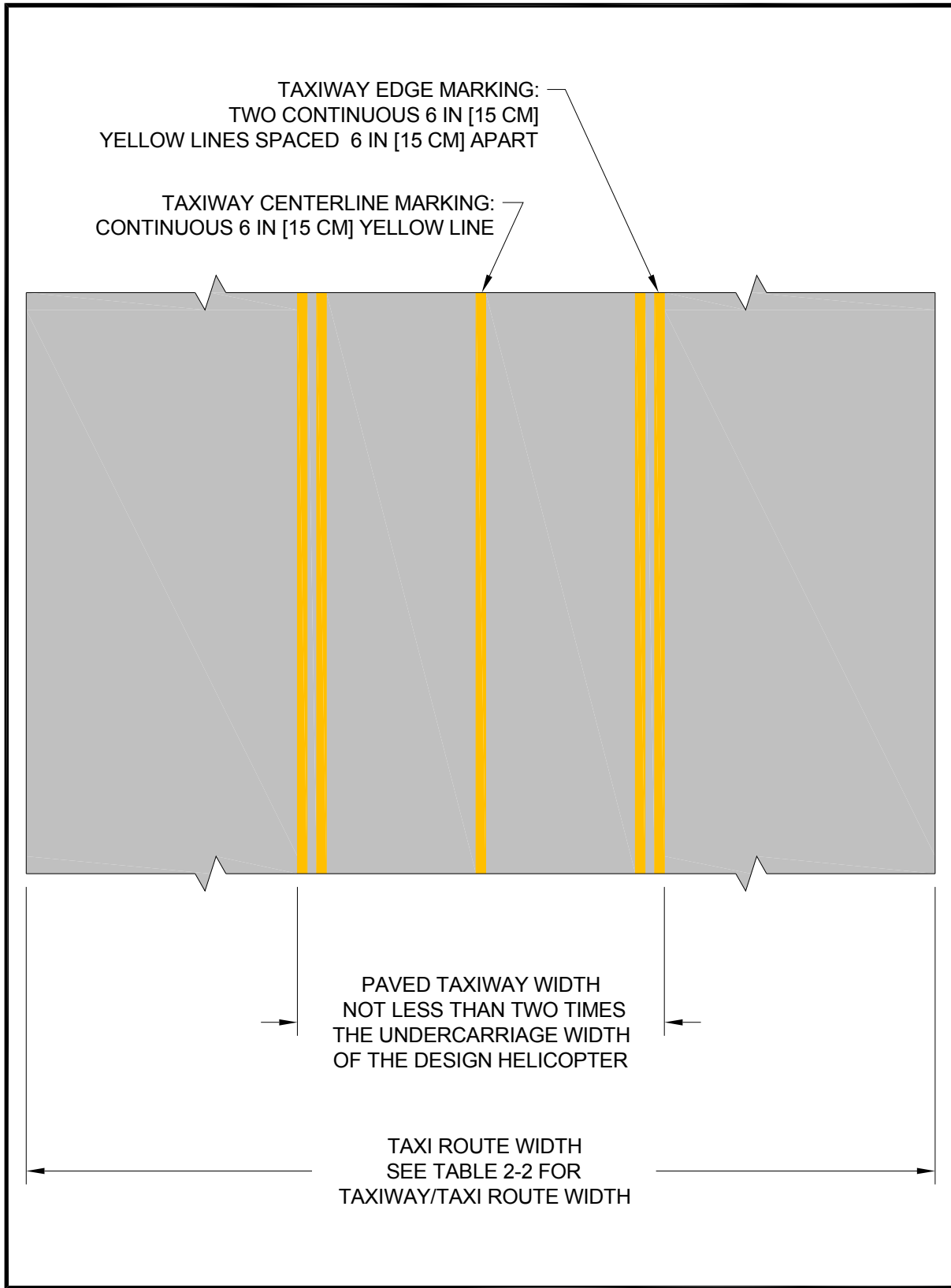


Figure 2–13. Taxiway/Taxi Route Relationship – Paved Taxiway: General Aviation

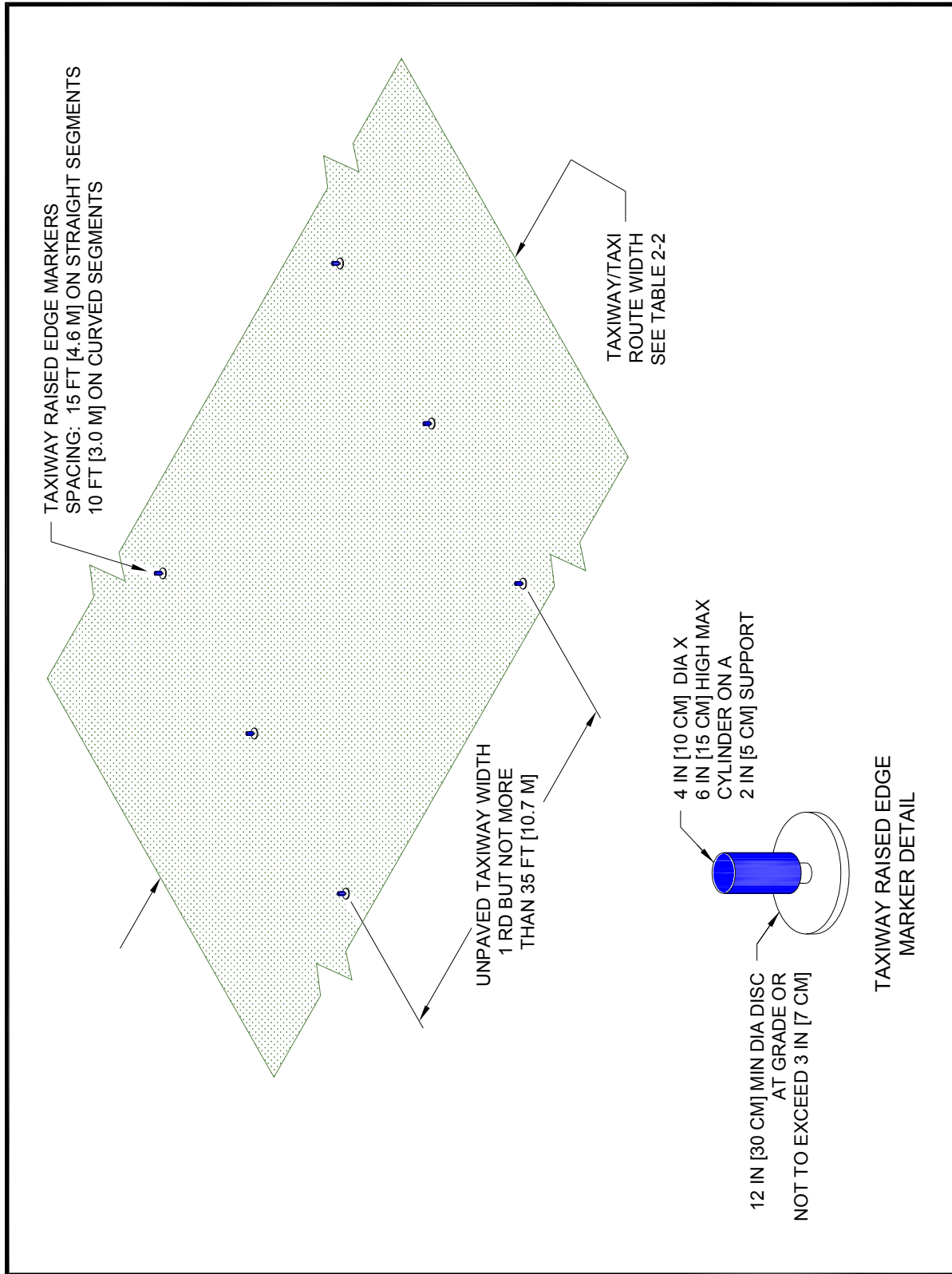
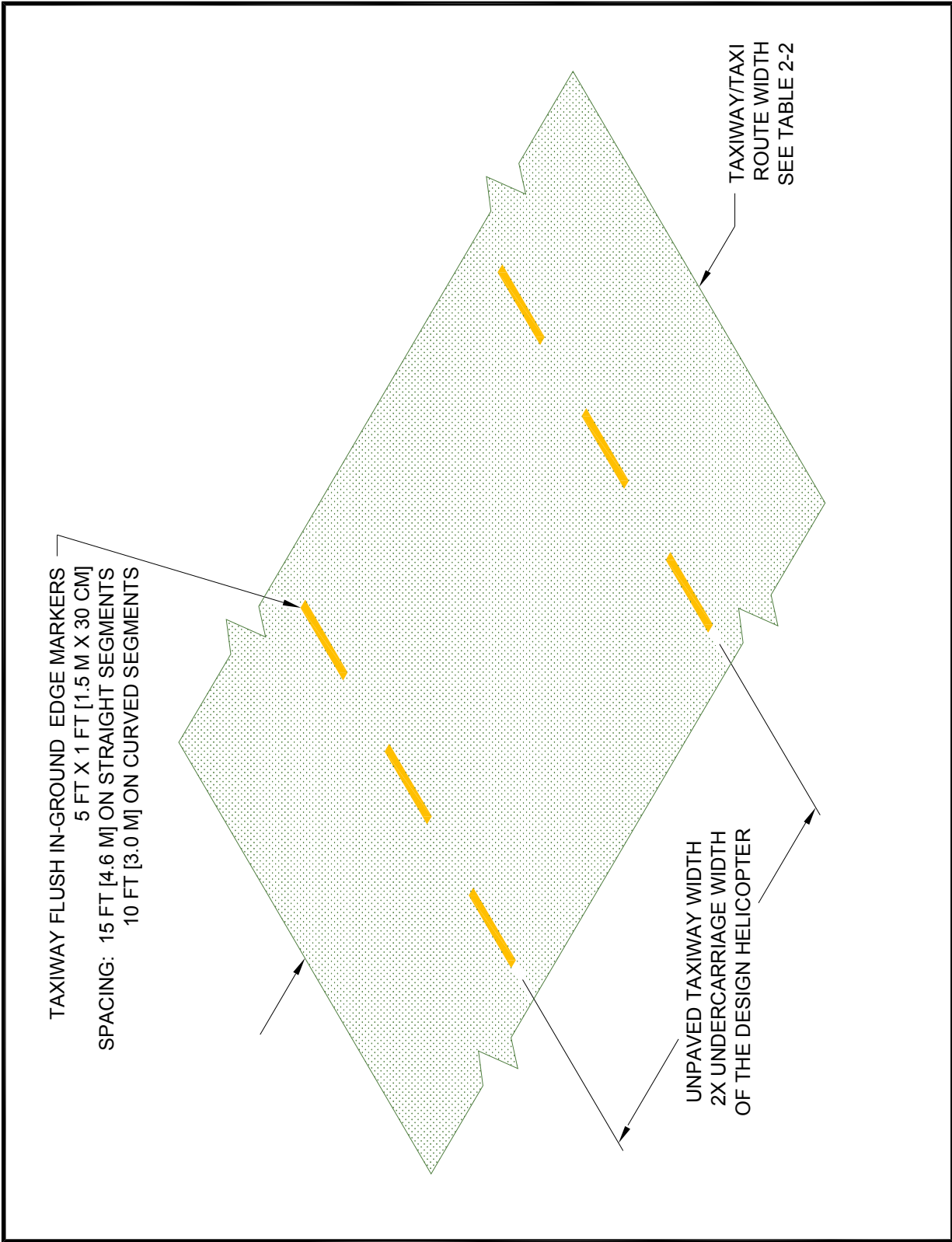


Figure 2-14. Taxiway/Taxi Route Relationship – Unpaved Taxiway with Raised Edge Markers: General Aviation



**Figure 2-15. Taxiway/Taxi Route Relationship –
Unpaved Taxiway with Flush Edge Markers: General Aviation**

a. Taxiway/taxi route widths. The dimensions of taxiways and taxi routes are a function of helicopter size, taxiway/taxi route marking, and type of taxi operations (ground taxi versus hover taxi). These dimensions are defined in Table 2-2. Normally, the requirement for hover taxi dictates the taxiway/taxi route widths. However, when the fleet comprises a combination of large ground taxiing helicopters and smaller air taxiing helicopters, the larger aircraft may dictate the taxiway/taxi route widths. If wheel-equipped helicopters taxi with wheels not touching the surface, design the facility with hover taxiway widths rather than ground taxiway widths. Where the visibility of the centerline marking cannot be guaranteed at all times, such as locations where snow or dust commonly obscure the centerline marking and it is not practical to remove it, determine the minimum taxiway/taxi route dimensions as if there was no centerline marking.

b. Surfaces. For ground taxiways, provide a portland cement concrete, asphalt, or stabilized surfaces, such as turf, in accordance with the standards of items P-217 of AC 150/5370-10. For unpaved portions of taxiways and taxi routes, provide a turf cover or treat the surface in some way to prevent dirt and debris from being raised by a taxiing helicopter's rotor wash.

c. Gradients. Taxiway and taxi route gradient standards are defined in Chapter 7.

214. Helicopter parking. If more than one helicopter at a time is expected at a heliport, design the facility with an area designated for parking helicopters. The size of this area depends on the number and size of specific helicopters to be accommodated. It is not necessary that every parking position accommodate the design helicopter. Construct individual parking positions to accommodate the helicopter size and weights expected to use the parking position at the facility. However, use the design helicopter to determine the separation between parking positions and taxi routes. Use the larger helicopter to determine the separation between parking positions intended for helicopters of different sizes. Build the parking positions to support the static loads of the helicopter intended to use the parking area. Design parking areas as one large, paved, apron or as individual, paved, parking positions. Ground taxi turns of wheeled helicopters are significantly larger than a hover turn. Consider the turn radius of helicopters when designing taxi intersections and parking positions for wheeled helicopters. Design heliport parking areas so helicopters will be parked in an orientation that keeps the "avoid areas" around the tail rotors clear of passenger walkways. See Figure 2-16, Figure 2-17, and Figure 2-19.

a. Location. Do not locate aircraft parking areas under an approach/departure surface. However, as an option, allow aircraft parking areas under the transitional surfaces.

(1) For "turn around" parking positions, locate the parking position to provide a minimum distance between the tail rotor circle and any object, building, safety area, or other parking position. The minimum distance is 10 feet (3 m) for ground taxi operations and the greater of 10 feet (3 m) or $\frac{1}{3}$ RD for hover taxi operations. See Figure 2-19.

(2) For "taxi-through" and "back-out" parking positions, locate the parking position to provide a minimum distance between the main rotor circle and any object, building, safety area, or other parking position. The minimum distance is 10 feet (3 m) for ground taxi operations and the greater of 10 feet (3 m) or $\frac{1}{3}$ RD for hover taxi operations. See Figure 2-20.

(3) Locate the parking position to provide a minimum distance between the main rotor circle and the edge of any taxi route. Design parking positions such that the helicopter taxis through, turns around, or backs out to depart. The minimum distance is $\frac{1}{3}$ RD for "turn around" and "taxi through" parking areas, and $\frac{1}{2}$ RD for "back-out" parking areas. See Figure 2-16, Figure 2-17, and Figure 2-18.

Table 2-2. Taxiway/Taxi Route Dimensions – General Aviation Heliports

Taxiway (TW) Type	Minimum Width of Paved Area	Centerline Marking Type	TW Edge Marking Type	Lateral Separation Between TW Edge Markings	Total Taxi Route Width
Ground Taxiway	2 x UC	Painted	Painted	2 x UC	1 ½ RD
			Elevated	1 RD but not greater than 35 ft (10.7 m)	
	Unpaved but stabilized for ground taxi	None	Flush	2 x UC	
			Elevated	1 RD but not greater than 35 ft (10.7 m)	
Hover Taxiway	2 x UC	Painted	Painted	2 x UC	2 RD
	Unpaved	None	Elevated or Flush	1 RD but not greater than 35 ft (10.7 m)	
RD: rotor diameter of the design helicopter TW: taxiway UC: undercarriage length or width (whichever is greater) of the design helicopter					

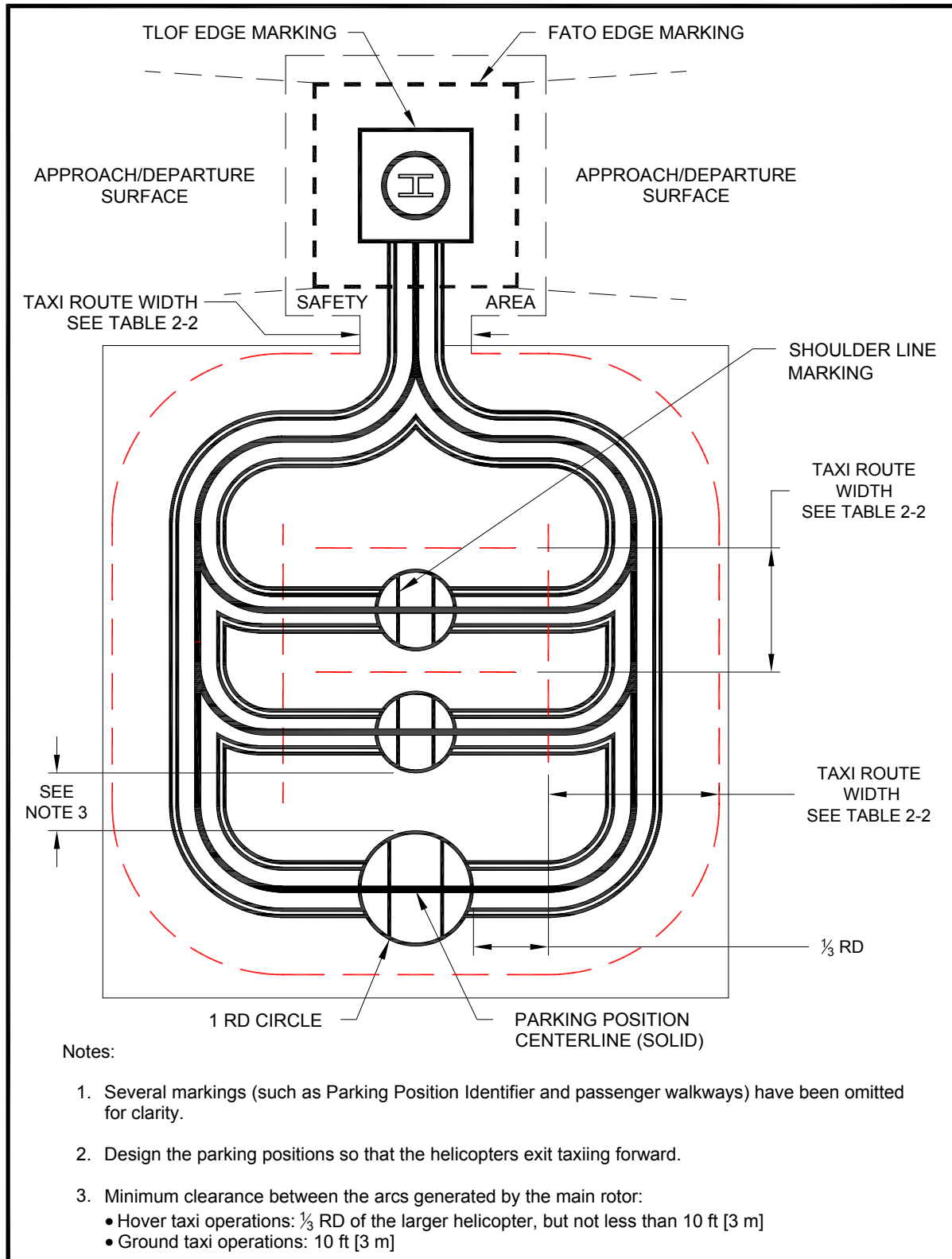


Figure 2–16. Parking Area Design – “Taxi-through” Parking Positions: General Aviation

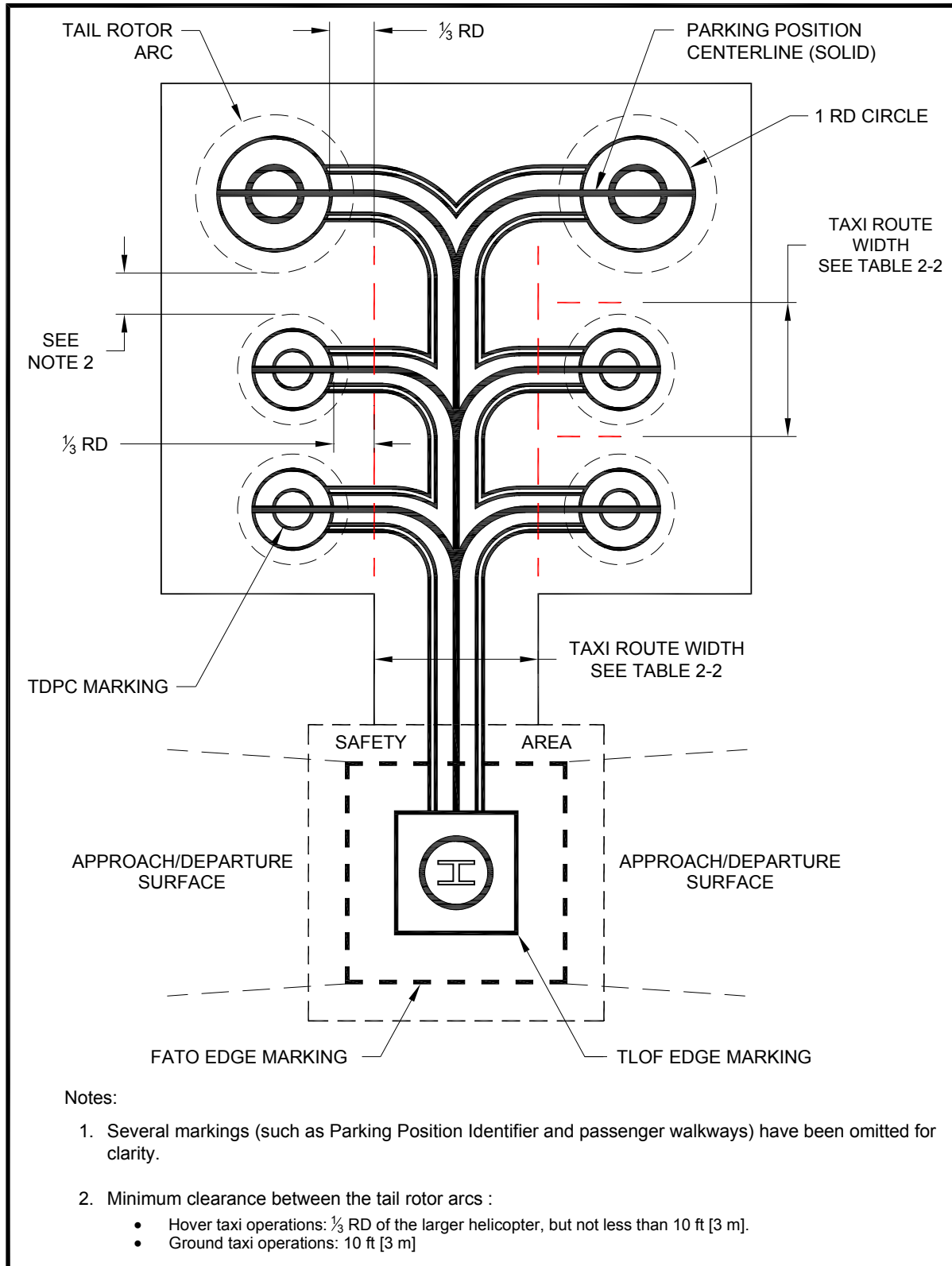


Figure 2-17. Parking Area Design – “Turn-around” Parking Positions: General Aviation

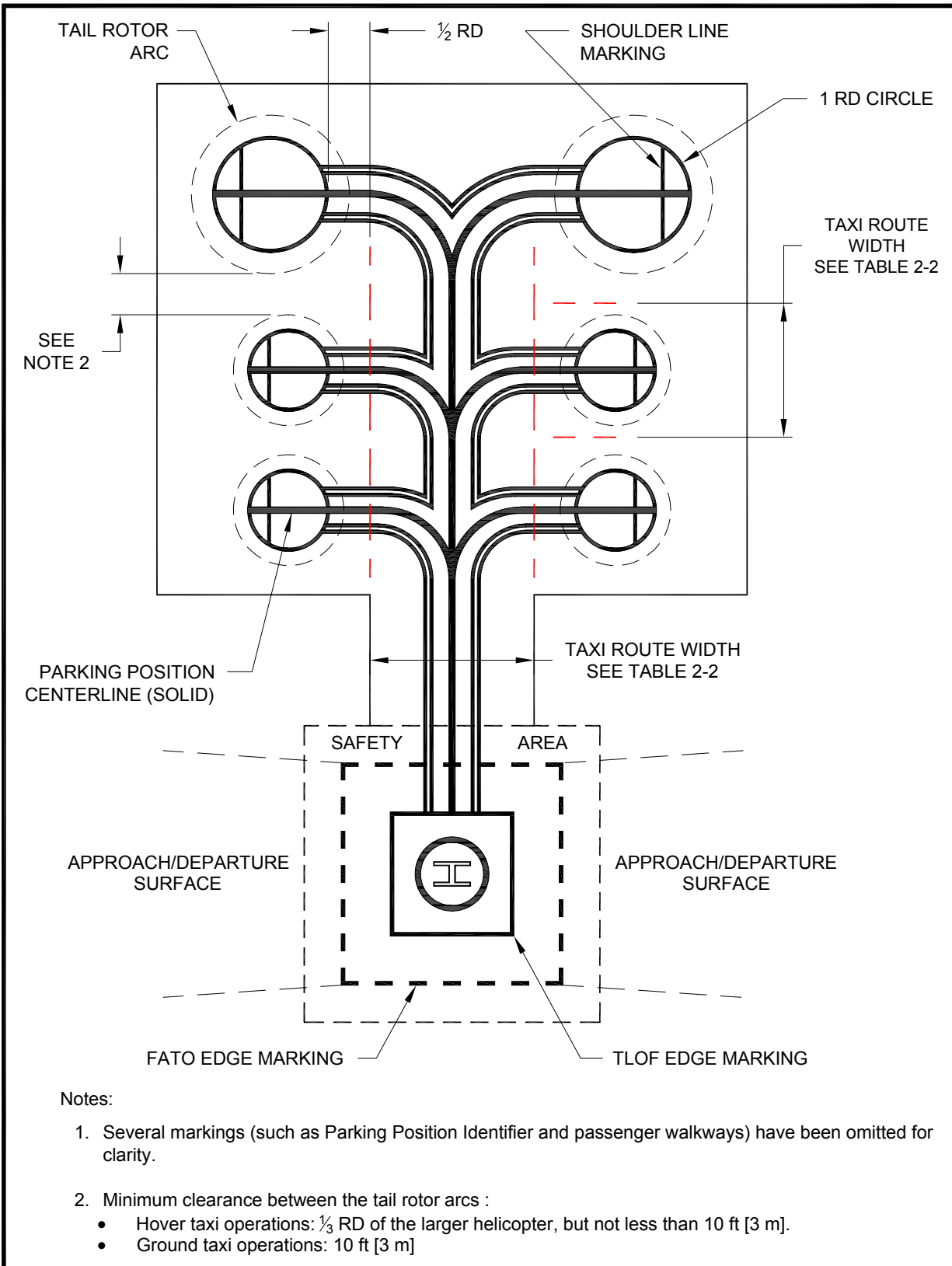


Figure 2–18. Parking Area Design – “Back-out” Parking Positions: General Aviation

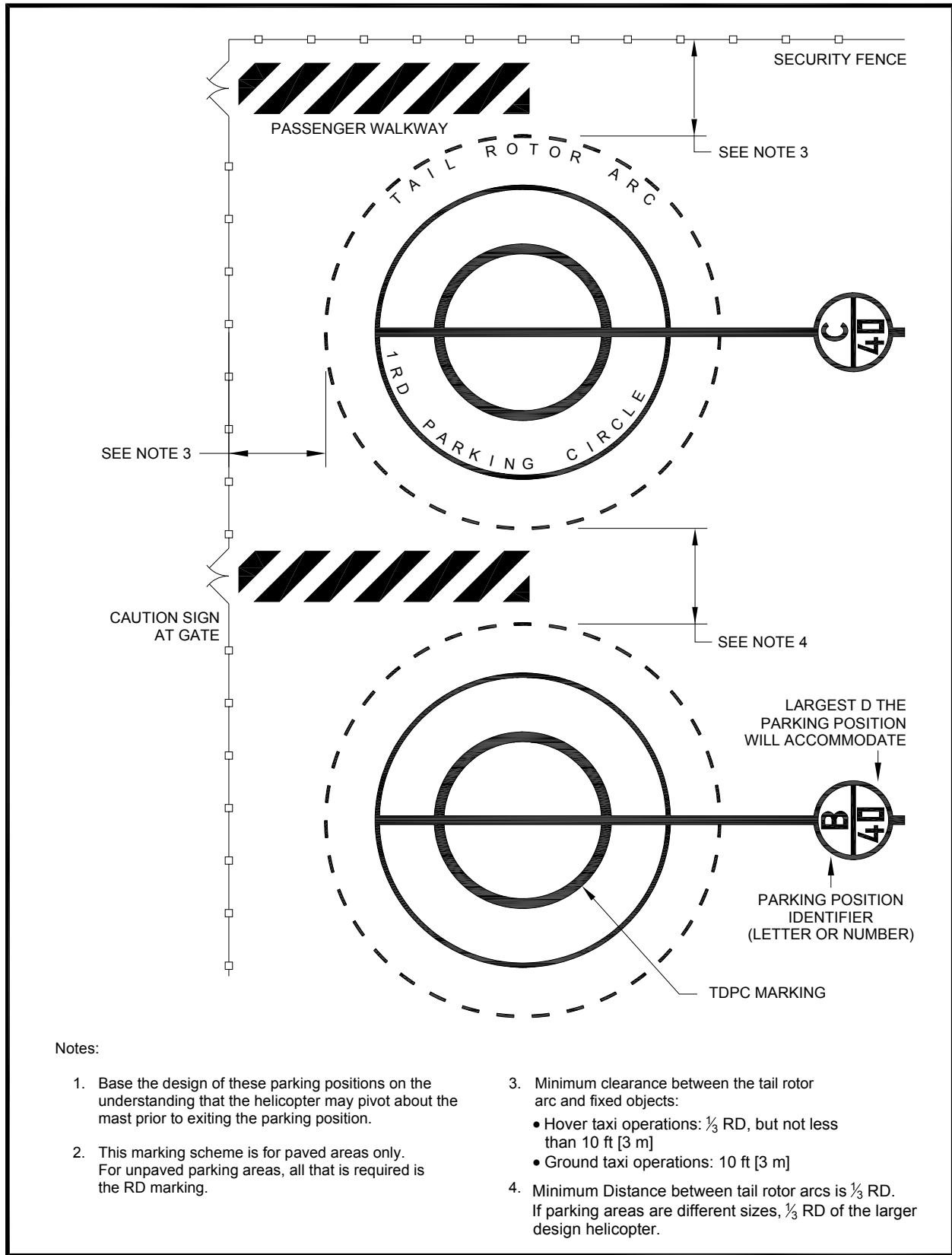


Figure 2-19. "Turn-around" Parking Position Marking: General Aviation

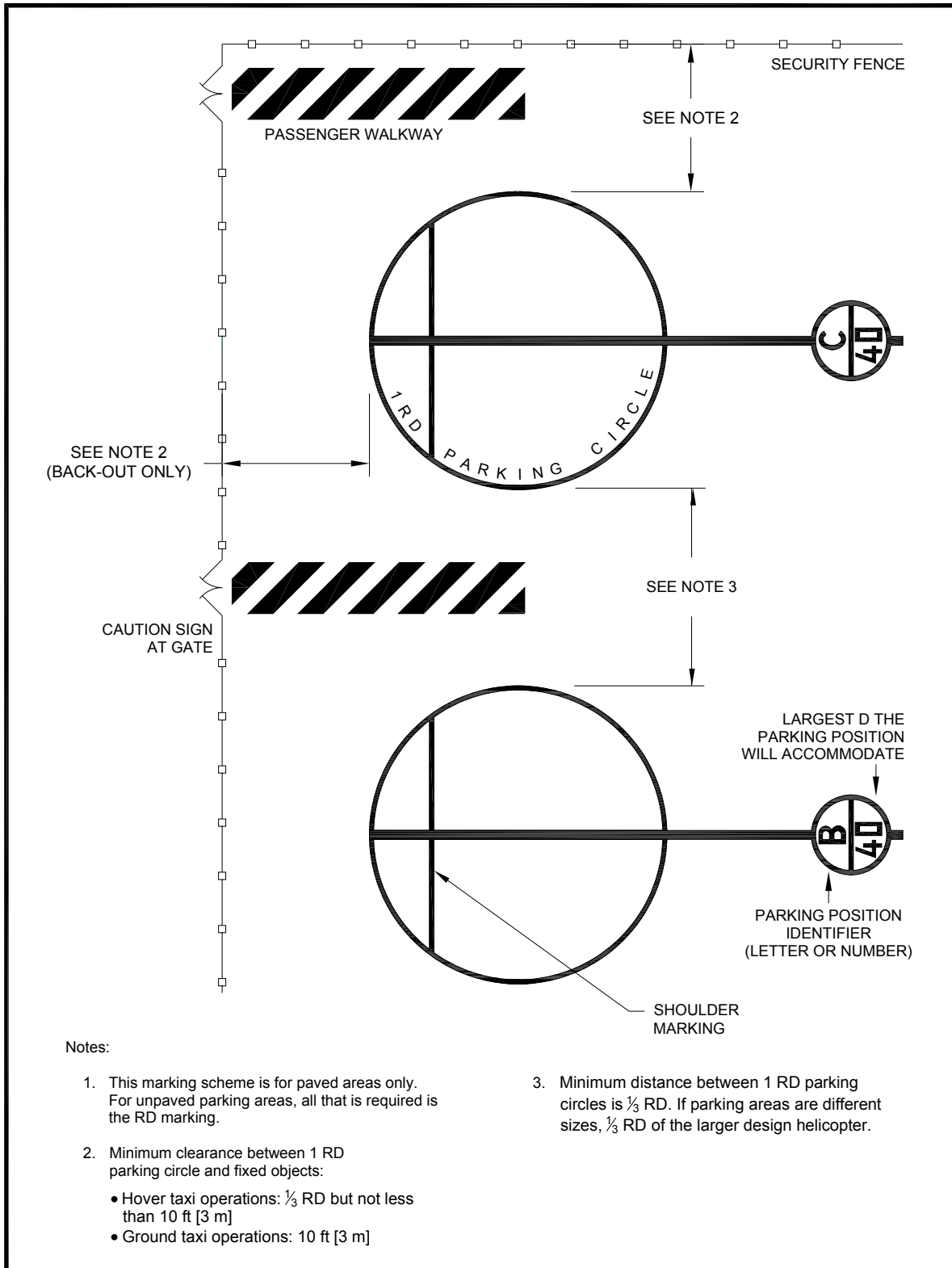


Figure 2–20. “Taxi-through” and “Back-out” Parking Position Marking: General Aviation

b. Size. Parking position sizes are dependent upon the helicopter size. The clearance between parking positions are dependent upon the type of taxi operations (ground taxi or hover taxi) and the intended paths for maneuvering in and out of the parking position. The more demanding requirement will dictate what is required at a particular site. Usually, the parking area requirements for skid-equipped helicopters will be the most demanding. However, when the largest helicopter is a very large, wheeled aircraft (for example, the S-61), and the skid-equipped helicopters are all much smaller, the parking requirements for wheeled helicopters may be the most demanding. If wheel-equipped helicopters taxi with wheels not touching the surface, design parking areas based on hover taxi operations rather than ground taxi operations.

(1) If all parking positions are the same size, design them to accommodate the largest helicopter that will park at the heliport.

(2) When there is more than one parking position, as an option design the facility with parking positions of various sizes with at least one position that will accommodate the largest helicopter that will park at the heliport. Design other parking positions to be smaller, for the size of the individual or range of individual helicopters parking at that position. Figure 2–21 provides guidance on parking position identification, size, and weight limitations.

(3) “Taxi-through” parking positions are illustrated in Figure 2–16. When using this design for parking positions, the heliport owner and operator take steps to ensure all pilots are informed that “turn-around” or “back-up” departures from the parking position are not permitted.

(4) “Turn-around” parking positions are illustrated in Figure 2–17.

(5) “Back-out” parking positions are illustrated in Figure 2–18. When using this design for parking positions, design the adjacent taxiway to accommodate hover taxi operations so the width of the taxiway will be adequate to support “back-out” operations.

c. Parking pads. When partially paving a parking area, design the smallest dimension of the paved parking pad to be a minimum of two times the maximum dimension (length or width, whichever is greater) of the undercarriage or the RD, whichever is less, of the largest helicopter that will use the parking position. Place the parking pad in the center of the parking position circle.

d. Walkways. At parking positions, provide marked walkways where practicable. Design the pavement to drain away from walkways.

e. Fueling. Design the facility to allow fueling with the use of a fuel truck or a specific fueling area with stationary fuel tanks.

(1) Various federal, state, and local requirements for petroleum handling facilities apply to systems for storing and dispensing fuel. Guidance is found in AC 150/5230-4, Aircraft Fuel Storage, Handling, and Dispensing on Airports. Additional information may be found in various National Fire Protection Association (NFPA) publications. For more reference material, see Appendix D.

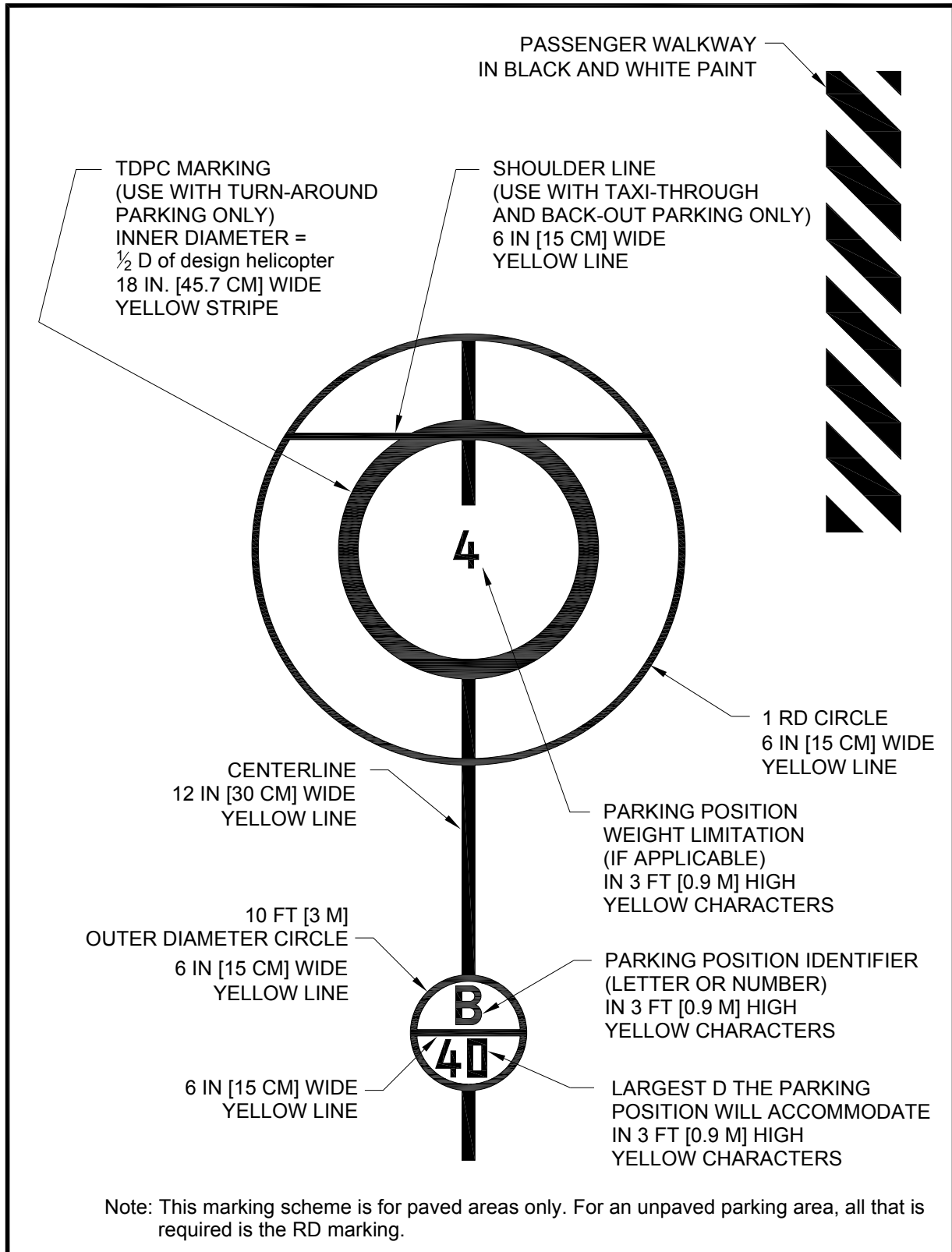


Figure 2–21. Parking Position Identification, Size, and Weight Limitations: General Aviation

(2) Do not locate fueling equipment in the TLOF, FATO, or safety area. Design and mark separate fueling locations to minimize the potential for helicopters to collide with the dispensing equipment. Design fueling areas so there is no object tall enough to be hit by the main or tail rotor blades within a distance of RD from the center point of the position where the helicopter would be fueled (providing $\frac{1}{2}$ RD clearance from the rotor tips). If this is not practical at an existing facility, install long fuel hoses.

(3) **Lighting.** Light the fueling area if night fueling operations are contemplated. Ensure any light poles do not constitute an obstruction hazard.

f. **Tiedowns.** Install recessed tiedowns to accommodate extended or overnight parking of based or transient helicopters. Recess any tiedowns so they will not be a hazard to helicopters. Ensure any depression associated with the tiedowns is of a diameter not greater than $\frac{1}{2}$ the width of the smallest helicopter landing wheel or landing skid anticipated to be operated on the heliport surface. In addition, provide storage for tiedown chocks, chains, cables and ropes off the heliport surface to avoid fouling landing gear. Find guidance on recessed tiedowns in AC 20-35, Tiedown Sense.

215. Heliport markers and markings. Markers and/or surface markings identify the facility as a heliport. Use paint or preformed materials for surface markings. (See AC 150/5370-10, Item P-620, for specifications for paint and preformed material.) As options, use reflective paint and reflective markers, though overuse of reflective material can be blinding to a pilot using landing lights. As an option, outline lines/markings with a 6-inch (15 cm) wide line of a contrasting color to enhance conspicuity. Place markings that define the edges of a TLOF, FATO, taxiway or apron within the limits of those areas. Use the following markers and markings.

a. **Heliport identification marking.** The identification marking identifies the location as a heliport, marks the TLOF and provides visual cues to the pilot.

(1) **Standard heliport identification symbol.** Mark the TLOF with a white “H” marking. The “H” has a minimum height of the lesser of 0.3 D or 10 feet (3 m). Locate the “H” in the center of the TLOF and orient it on the axis of the preferred approach/departure path. Place a one-foot wide bar under the “H” when it is necessary to distinguish the preferred approach/departure direction. The proportions and layout of the letter “H” are illustrated in Figure 2–23. For a height of “H” less than 10 feet (3 m), reduce other dimensions proportionately.

(2) **Nonstandard heliport identification marking.** As an option use a distinctive marking, such as a company logo, to identify the facility as a PPR heliport. However, a nonstandard marking does not necessarily provide the pilot with the same degree of visual cueing as the standard heliport identification symbol. To compensate, increase the size of the safety area when the standard heliport identification symbol “H” is not used. See Table 2-1.

b. **TLOF markings.**

(1) **TLOF perimeter marking.** Define the TLOF perimeter with markers and/or lines. If the heliport operator does not mark the TLOF, increase the size of the safety area as described in paragraph 209.a and Table 2-1.

(a) **Paved TLOFs.** Define the perimeter of a paved or hard surfaced TLOF with a continuous, 12-inch-wide (30 cm), white line. See Figure 2–25.

(b) **Unpaved TLOFs.** Define the perimeter of an unpaved TLOF with a series of 12-inch-wide (30 cm), flush, in-ground markers, each approximately 5 feet (1.5 m) in length with end-to-end spacing of not more than 6 inches (15 cm). See Figure 2–25.

(2) **Touchdown/positioning circle (TDPC) marking.** A TDPC marking provides guidance to allow a pilot to touch down in a specific position on paved surfaces. When the pilot’s seat is over the

marking, the undercarriage will be inside the LBA, and all parts of the helicopter will be clear of any obstacle by a safe margin. A TDPC marking is a yellow circle with an inner diameter of $\frac{1}{2}$ D and a line width of 18 in (46 m). Locate a TDPC marking in the center of a TLOF. (See Figure 2–23). As an option, at PPR heliports where the TLOF width is less than 16 feet (5 m), omit the TDPC marking.

(3) TLOF size and weight limitations. Mark the TLOF to indicate the length and weight of the largest helicopter it will accommodate, as shown in Figure 2–23. Place these markings in a box in the lower right-hand corner of a rectangular TLOF, or on the right-hand side of the “H” of a circular TLOF, when viewed from the preferred approach direction. The box is 5 feet (1.5 m) square. The numbers are 18 inches (46 cm) high. (See Figure C–1). If necessary, allow this marking to interrupt the TDPC marking. (See Figure 2–23 and Figure C–1.) The numbers are black with a white background. This marking is optional at a TLOF with a turf surface. This marking is also optional at PPR heliports, since the operator ensures all pilots using the facility are thoroughly knowledgeable with this and any other facility limitations.

(a) TLOF size limitation. This number is the length (D) of the largest helicopter the TLOF will accommodate, as shown in Figure 2–23. The marking consists of the letter “D” followed by the dimension in feet. Do not use metric equivalents for this purpose. Center this marking in the lower section of the TLOF size/weight limitation box.

(b) TLOF weight limitations. If a TLOF has limited weight-carrying capability, mark it with the maximum takeoff weight of the design helicopter, in units of thousands of pounds, as shown in Figure 2–23. Do not use metric equivalents for this purpose. Center this marking in the upper section of a TLOF size/weight limitation box. If the TLOF does not have a weight limit, add a diagonal line, extending from the lower left hand corner to the upper right hand corner, to the upper section of the TLOF size/weight limitation box. See Figure 2–23.

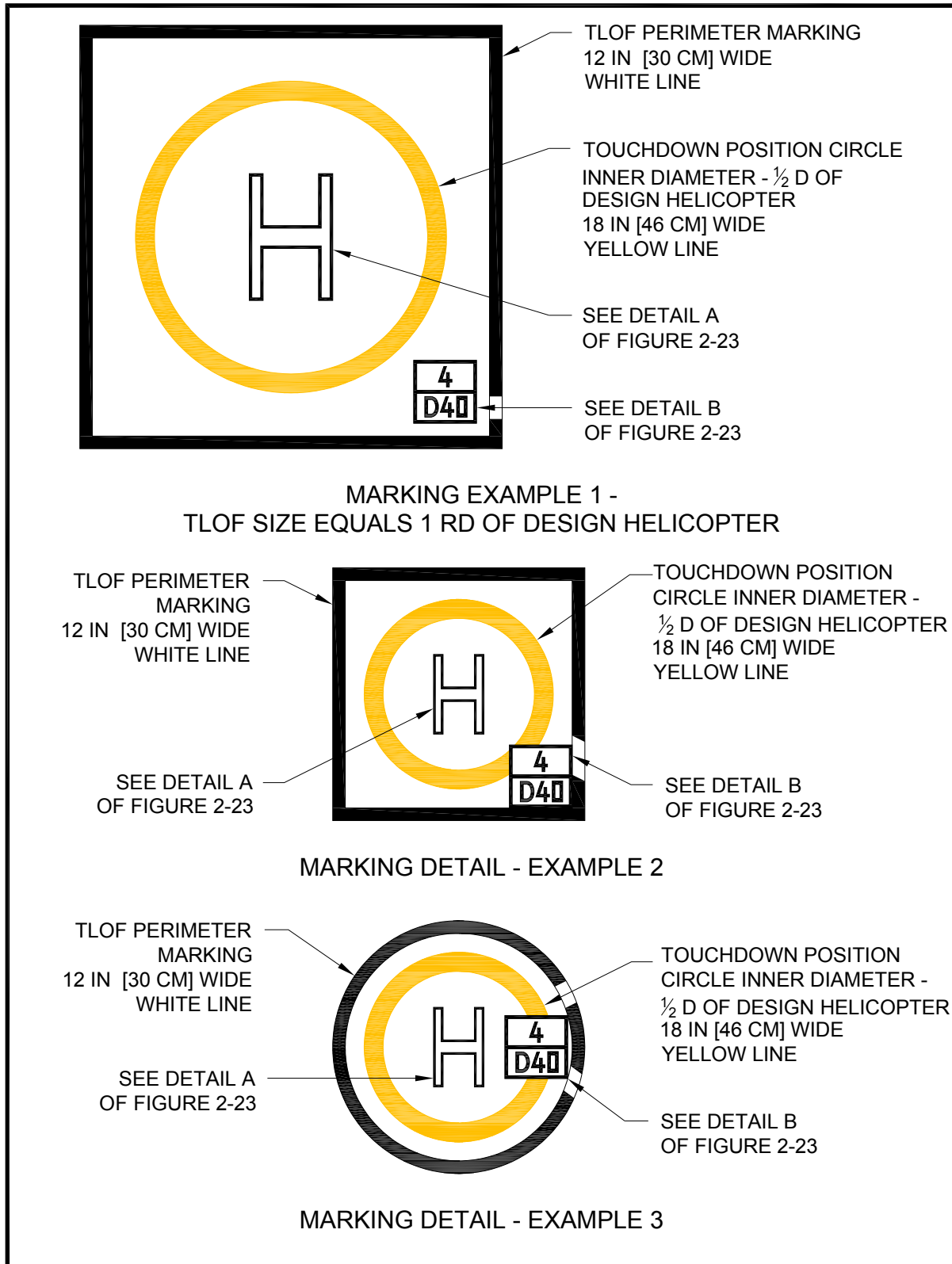
c. Extended pavement/structure markings. As an option, increase the pavement or structure without a corresponding increase in the length and width or diameter of the FATO to accommodate pedestrians and/or support operations. Whether or not this increased area is part of the LBA, mark the area outside the TLOF with 12-inch-wide (30 cm) diagonal black and white stripes. See Figure 2–24 for marking details.

d. FATO markings.

(1) FATO perimeter marking. Define the perimeter of a load-bearing FATO with markers and/or lines. Do not mark the FATO perimeter if any portion of the FATO is not a load-bearing surface. In such cases, mark the perimeter of the LBA (see paragraph (b) below).

(a) Paved FATO. Define the perimeter of a paved load-bearing FATO with a 12-inch-wide (30 cm) dashed white line. Define the corners of the FATO. The perimeter marking segments are approximately 5 feet (1.5 m) in length, and with end-to-end spacing of approximately 5 feet (1.5 m). See Figure 2–25.

(b) Unpaved FATO. Define the perimeter of an unpaved load-bearing FATO with 12-inch-wide (30 cm), flush, in-ground markers. Define the corners of the FATO. The rest of the perimeter markers are approximately 5 feet (1.5 m) in length, and have end-to-end spacing of approximately 5 feet (1.5 m). See Figure 2–26.



**Figure 2-22. Standard and Alternate TLOF Marking:
General Aviation**

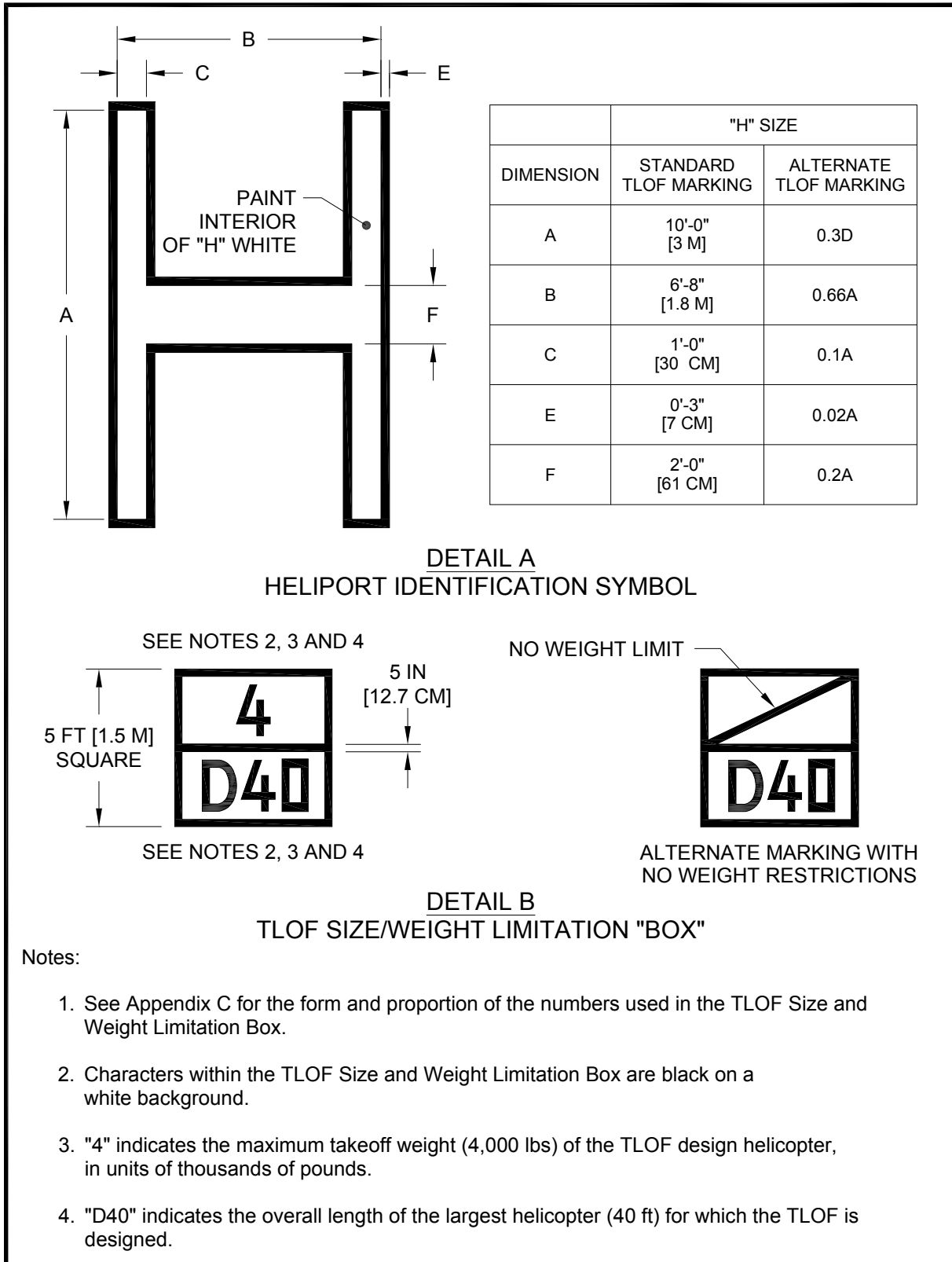


Figure 2-23. Standard Heliport Identification Symbol, TLOF Size and Weight Limitations: General Aviation

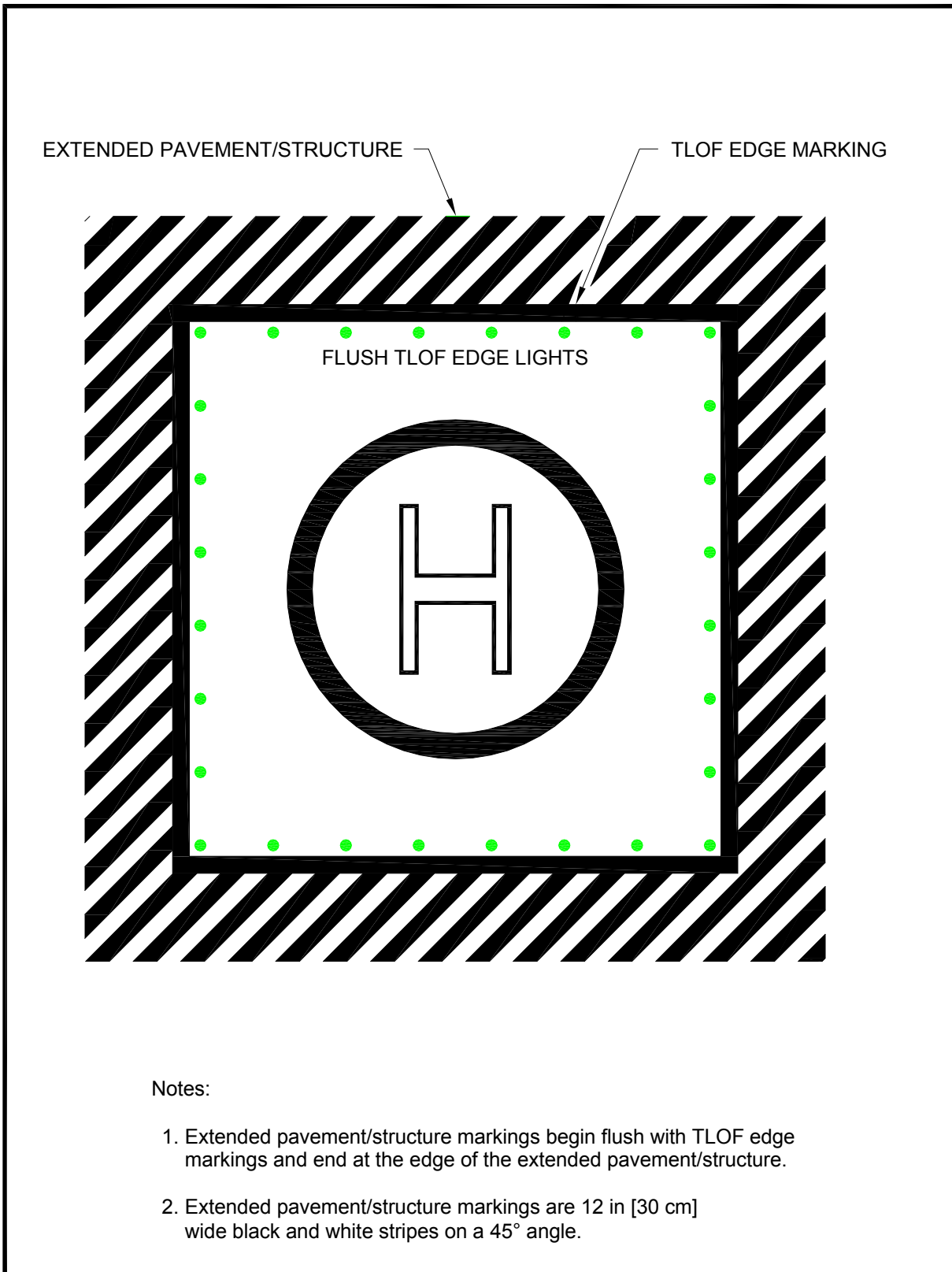
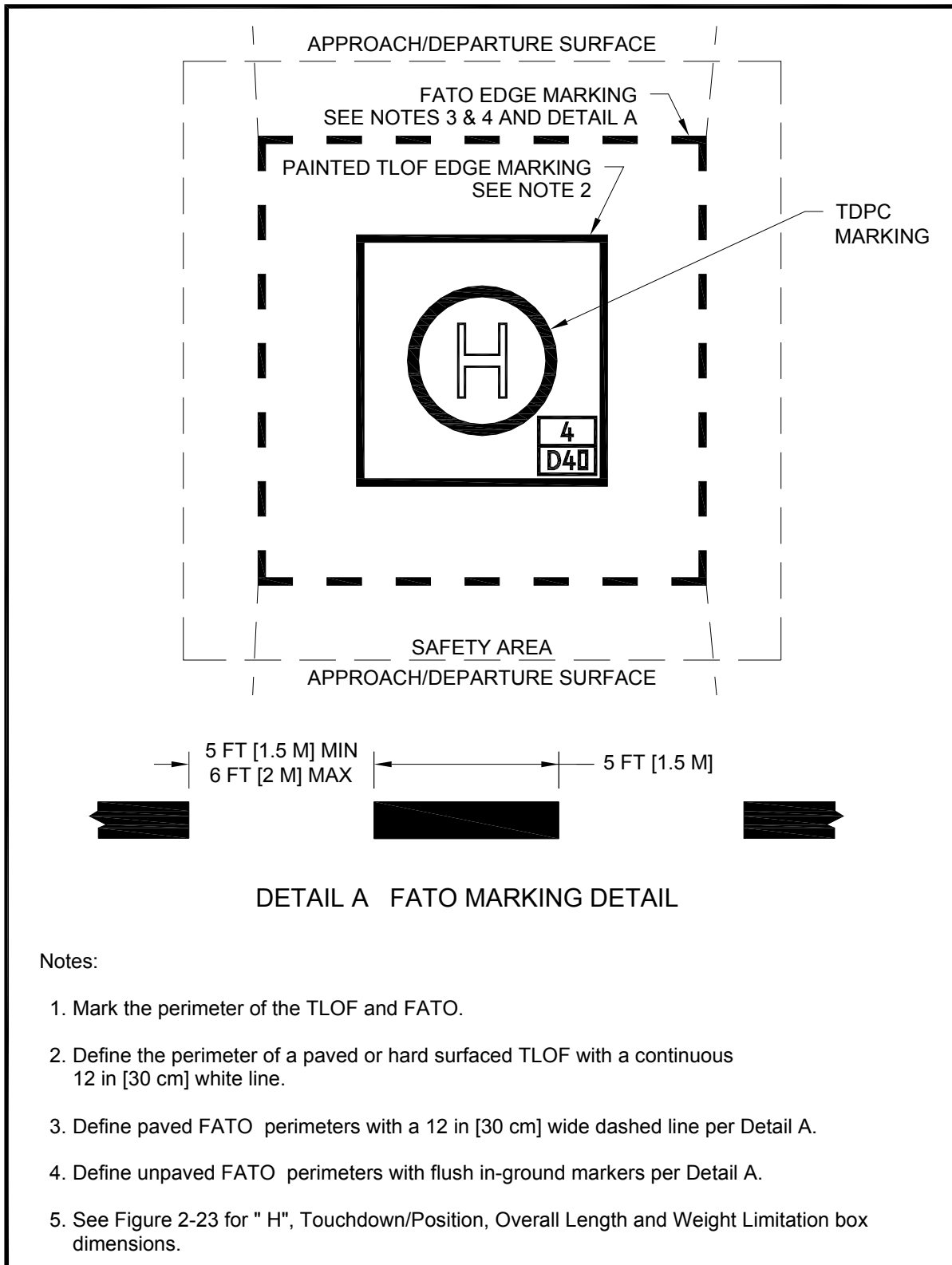


Figure 2–24. Extended Pavement / Structure Marking: General Aviation



**Figure 2–25. Paved TLOF/Paved FATO –
Paved TLOF/ Unpaved FATO – Marking: General Aviation**

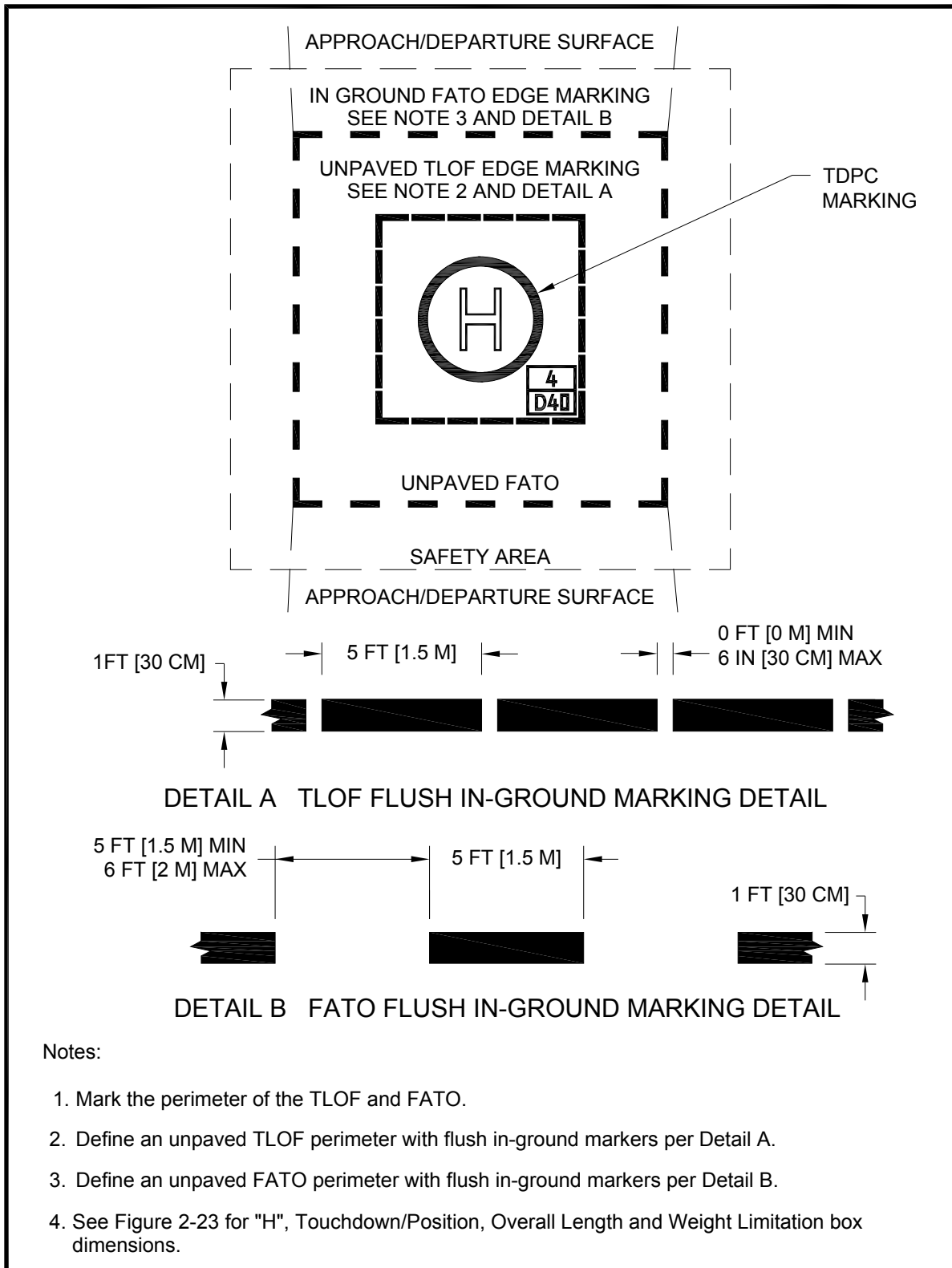


Figure 2-26. Unpaved TLOF/Unpaved FATO – Marking: General Aviation

e. Flight path alignment guidance marking. An optional flight path alignment guidance marking consists of one or more arrows to indicate the preferred approach/departure direction(s). Mark it on the TLOF, FATO and/or safety area surface as shown in Figure 2–11. The shaft of the each arrow is 18 inches (50 cm) in width and at least 10 feet (3 m) in length. Use a color which provides good contrast against the background color of the surface. An arrow pointing toward the center of the TLOF depicts an approach direction. An arrow pointing away from the center of the TLOF depicts a departure direction. In the case of a flight path limited to a single approach direction or a single departure path, the arrow marking is unidirectional. In the case of a heliport with only a bidirectional approach/takeoff flight path available, the arrow marking is bidirectional.

f. Taxiway and taxi route markings.

(1) Paved taxiway markings. Mark the centerline of a paved taxiway with a continuous 6-inch (15 cm) yellow line. As an option, mark both edges of the paved portion of the taxiway with two continuous 6-inch (15 cm) wide yellow lines spaced 6 inches (15 cm) apart. Figure 2–13 illustrates taxiway centerline and edge markings.

(2) Unpaved taxiway markings. Use either raised or in-ground flush edge markers to provide strong visual cues to pilots. Space them longitudinally at approximately 15-foot (5 m) intervals on straight segments and at approximately 10-foot (3 m) intervals on curved segments. Figure 2–14 and Figure 2–15 illustrate taxiway edge markings.

(a) Raised-edge markers are blue, 4 inches (10 cm) in diameter, and 8 inches (20 cm) high, as illustrated in Figure 2–14.

(b) In-ground, flush edge markers are yellow, 12 inches (30 cm) wide, and approximately 5 feet (1.5 m) long.

(3) Raised edge markers in grassy areas. Tall grass sometimes obscures raised edge markers. Address this issue by using 12-inch (30 cm) diameter solid material disks around the poles supporting the raised markers.

(4) Taxiway to parking position transition requirements. For paved taxiways and parking areas, taxiway centerline markings continue into parking positions and become the parking position centerlines.

g. Helicopter parking position markings. Helicopter parking positions have the following markings:

(1) Paved parking position identifications. Mark parking position identifications (numbers or letters) if there is more than one parking position. These markings are yellow characters 36 inches (91 cm) high. See Figure 2–21 and Figure C–1.

(2) Rotor diameter circle. Define the circle of the RD of the largest helicopter that will park at that position with a 6-inch (15 cm) wide, solid yellow line with an outside diameter of RD. In paved areas, this is a painted line (see Figure 2–21). In unpaved areas, use a series of flush markers, 6 inches (15 cm) in width, a maximum of 5 feet (1.5 m) in length, and with end-to-end spacing of approximately 5 feet (1.5 m).

(3) Touchdown/positioning circle (TDPC) marking. An optional TDPC marking provides guidance to allow a pilot to touch down in a specific position on paved surfaces. When the pilot's seat is over the marking, the undercarriage will be inside the LBA, and all parts of the helicopter will be clear of any obstacle by a safe margin. A TDPC marking is a yellow circle with an inner diameter of $\frac{1}{2} D$ and a line width of 18 in (46 cm). Locate a TDPC marking in the center of a parking area. See Figure 2–21 and Figure 2–25. The FAA recommends a TDPC marking for "turn-around" parking areas.

(4) Maximum length marking. This marking on paved surfaces indicates the D of the largest helicopter that the position is designed to accommodate (for example, 49). This marking consists of yellow characters at least 36 inches (91 cm) high. See Figure 2–21 and Figure C–1.

(5) Parking position weight limit. If a paved parking position has a weight limitation, mark it in units of 1,000 lbs as illustrated in Figure 2–21. (A 4 indicates a weight-carrying capability of up to 4,000 lbs. Do not use metric equivalents for this purpose.) This marking consists of yellow characters 36 inches (91 cm) high. When necessary to minimize the possibility of being misread, place a bar under the number. See Figure 2–21, Figure 2–25, and Figure C–1.

(6) Shoulder line markings. As an option, use shoulder line markings for paved parking areas (Figure 2–21) to ensure safe rotor clearance. Locate a 6-inch (15 cm) wide solid yellow shoulder line, perpendicular to the centerline and extending to the RD marking, so it is under the pilot’s shoulder such that the main rotor of the largest helicopter the position will accommodate will be entirely within the rotor diameter parking circle (see Figure 2–21). Use $\frac{1}{4}$ D from the center of parking area to define the location of shoulder line. The FAA recommends a shoulder line marking for “taxi-through” and “back-out” parking areas.

h. Walkways. Figure 2–21 illustrates one marking scheme.

i. Closed heliport. Obliterate all markings of a permanently closed heliport, FATO, or TLOF. If it is impractical to obliterate markings, place a yellow “X” over the “H” as illustrated in Figure 2–27. Make the yellow “X” large enough to ensure early pilot recognition that the heliport is closed. Remove the wind cone(s) and other visual indications of an active heliport.

j. Marking sizes. See Appendix C for guidance on the proportions of painted numbers.

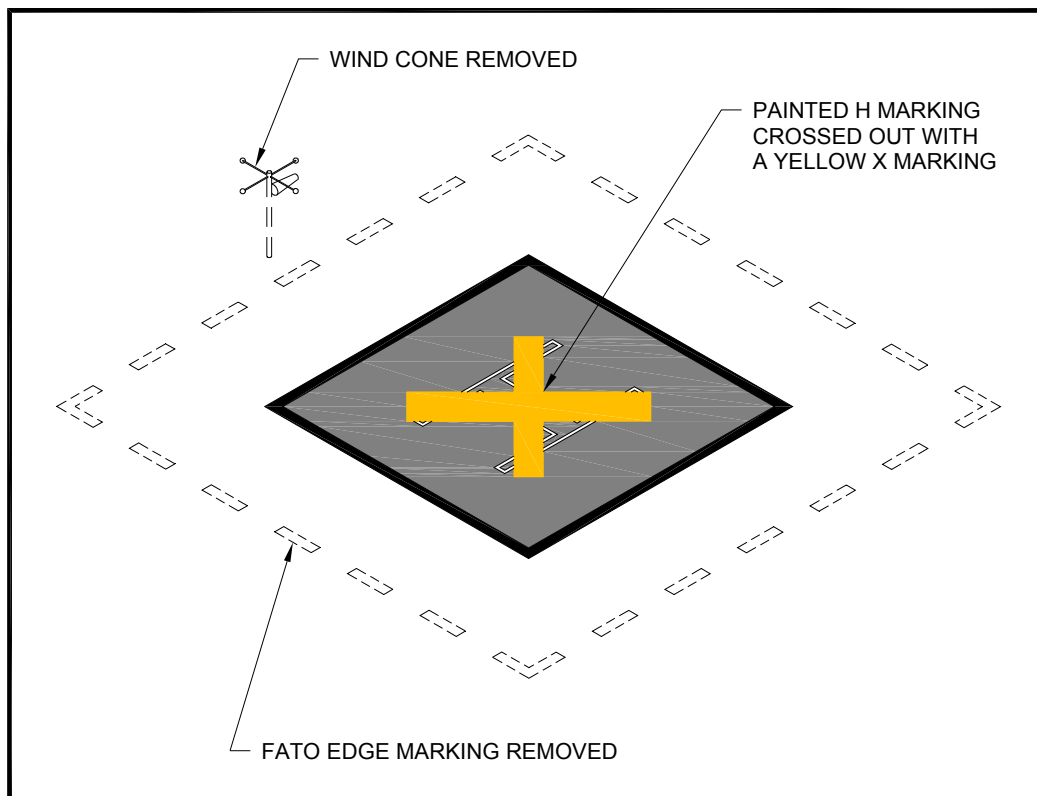


Figure 2–27. Marking a Closed Heliport: General Aviation

216. Helicopter lighting. If the heliport operator intends for the facility to support night operations, light it with FATO and/or TLOF perimeter lights as described below. Design flush light fixtures and installation methods to support point loads of the design helicopter transmitted through a skid or wheel.

a. TLOF perimeter lights. Use flush green lights meeting the requirements of FAA Airports Engineering Brief 87, Heliport Perimeter Light for Visual Meteorological Conditions (VMC), to define the TLOF perimeter. Use a minimum of 6. As an option at PPR facilities, use three light fixtures per side of a square or rectangular TLOF. Locate a light at each corner, with additional lights uniformly spaced between the corner lights. Using an odd number of lights on each side will place lights along the centerline of the approach. Define a circular TLOF using an even number of lights, with a minimum of eight, uniformly spaced. Space the lights at a maximum of 25 feet (7.6 m). Locate flush lights within 1 foot (30 cm) inside or outside of the TLOF perimeter.

(1) Raised TLOF perimeter lights. As an option, use raised, omnidirectional lights meeting the requirements of EB 87. Locate them on the outside edge of the TLOF or the outer edge of the safety net, as shown in Figure 2–28. Lighting on the outer edge of the safety net provides better visual cues to pilots at a distance from the heliport since it outlines a larger area. Make sure the raised lights do not penetrate a horizontal plane at the FATO elevation by more than 2 inches (5 cm). See Figure 7–3.

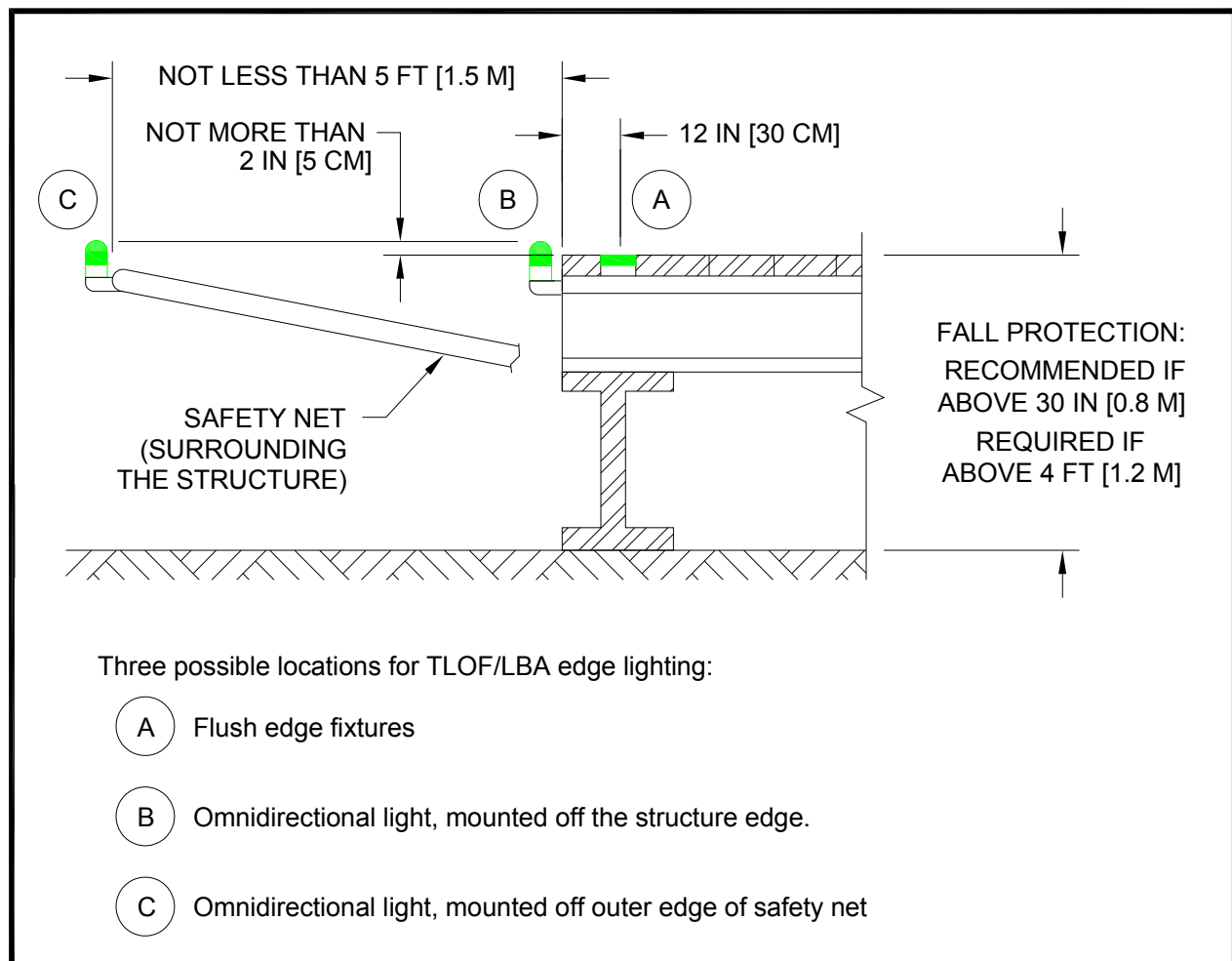


Figure 2–28. Elevated TLOF – Perimeter Lighting: General Aviation

(2) PPR facilities. Use flush lights for PPR heliports. As an option if only the TLOF is load bearing, use raised omnidirectional lights. Locate the raised lights outside and within 10 feet (3 m) of the edge of the TLOF. Make sure the lights do not penetrate a horizontal plane at the TLOF elevation by more than 2 inches (5 cm). As an option when the pavement or structure is larger than the TLOF, mount perimeter lights on the outer edge of the pavement or structure or the inner or outer edge of the safety net.

b. Load-bearing FATO perimeter lights. Green lights meeting the requirements of EB 87 define the perimeter of a load bearing FATO. Do not light the FATO perimeter if any portion of the FATO is not a load-bearing surface. Use a minimum of four. As an option at PPR facilities, use a minimum of three flush or raised light fixtures per side of a square or rectangular FATO. Locate a light at each corner, with additional lights uniformly spaced between the corner lights. Using an odd number of lights on each side will place lights along the centerline of the approach. To define a circular FATO, use an even number of lights, with a minimum of eight, uniformly spaced. Space lights at a maximum of 25 feet (7.6 m). Locate flush lights within 1 foot (30 cm) inside or outside of the FATO perimeter (See Figure 2–29). As an option, use a square or rectangular pattern of FATO perimeter lights even if the TLOF is circular. At a distance during nighttime operations, a square or rectangular pattern of FATO perimeter lights provides the pilot with better visual alignment cues than a circular pattern, but a circular pattern may be more effective in an urban environment. In the case of an elevated FATO with a safety net, mount the perimeter lights a similar manner as discussed in paragraph 215.a(1). As an option, locate raised FATO perimeter lights, no more than 8 inches (20 cm) high, 10 feet (3 m) from the FATO perimeter. (See Figure 2–30.) When a heliport on an airport is sited near a taxiway, there may be a concern that a pilot may confuse the green taxiway centerline lights with the FATO perimeter lights. As an option in such cases, use yellow lights as an alternative color for marking the FATO.

c. Floodlights. The FAA has not evaluated floodlights for effectiveness in visual acquisition of a heliport. However, if ambient light does not adequately illuminate markings for night operations, use floodlights to illuminate the TLOF, the FATO, and/or the parking area. If possible, mount these floodlights on adjacent buildings to eliminate the need for tall poles. Take care, however, to place floodlights clear of the TLOF, the FATO, the safety area, and the approach/departure surfaces, and transitional surfaces and ensure floodlights and their associated hardware do not constitute an obstruction hazard. Aim floodlights down to provide adequate illumination on the surface. Make sure floodlights that might interfere with pilot vision during takeoff and landings are capable of being turned off by pilot control or at pilot request.

d. Landing direction lights. As an option when it is necessary to provide directional guidance, install landing direction lights. Landing direction lights are a configuration of five green, omnidirectional lights meeting the standards of EB 87, on the centerline of the preferred approach/departure path. Space these lights at 15-foot (5 m) intervals beginning at a point not less than 20 feet (6 m) and not more than 60 feet (18 m) from the TLOF perimeter and extending outward in the direction of the preferred approach/departure path, as illustrated in Figure 2–31.

e. Flight path alignment lights. As an option, install flight path alignment lights meeting the requirements of EB 87. Place them in a straight line along the direction of approach and/or departure flight paths. If necessary, extend them across the TLOF, FATO, safety area or any suitable surface in the immediate vicinity of the FATO or safety area. Install three or more green lights spaced at 5 feet (1.5 m) to 10 feet (3.0 m). See Figure 2–11.

f. Taxiway and taxi route lighting.

(1) Taxiway centerline lights. Use flush bidirectional green lights meeting the standards of AC 150/5345-46, Specification for Runway and Taxiway Light Fixtures for type L-852A (straight segments) or L-852B (curved segments) to define taxiway centerlines. Space these lights at maximum 50-foot (15 m) longitudinal intervals on straight segments and at maximum 25-foot (7.6 m) intervals on curved segments, using a minimum of four lights to define the curve. Uniformly offset taxiway centerline lights

no more than two feet (0.6 m) if necessary to ease painting the taxiway centerline. As an option, use green retroreflective markers meeting requirements for Type I markers in AC 150/5345-39, Specification for L-853, Runway and Taxiway Retroreflective Markers, in lieu of the L-852A or L-852B lighting fixtures.

(2) Taxiway edge lights. Use omnidirectional blue lights to light the edges of a taxiway. As an option, use blue retroreflective markers to identify the edges of the taxiway in lieu of lights. Make sure retroreflective markers are no more than 8 inches (20 cm) tall.

(a) Straight segments. Space lights at 50-foot (15.2 m) longitudinal intervals on straight segments.

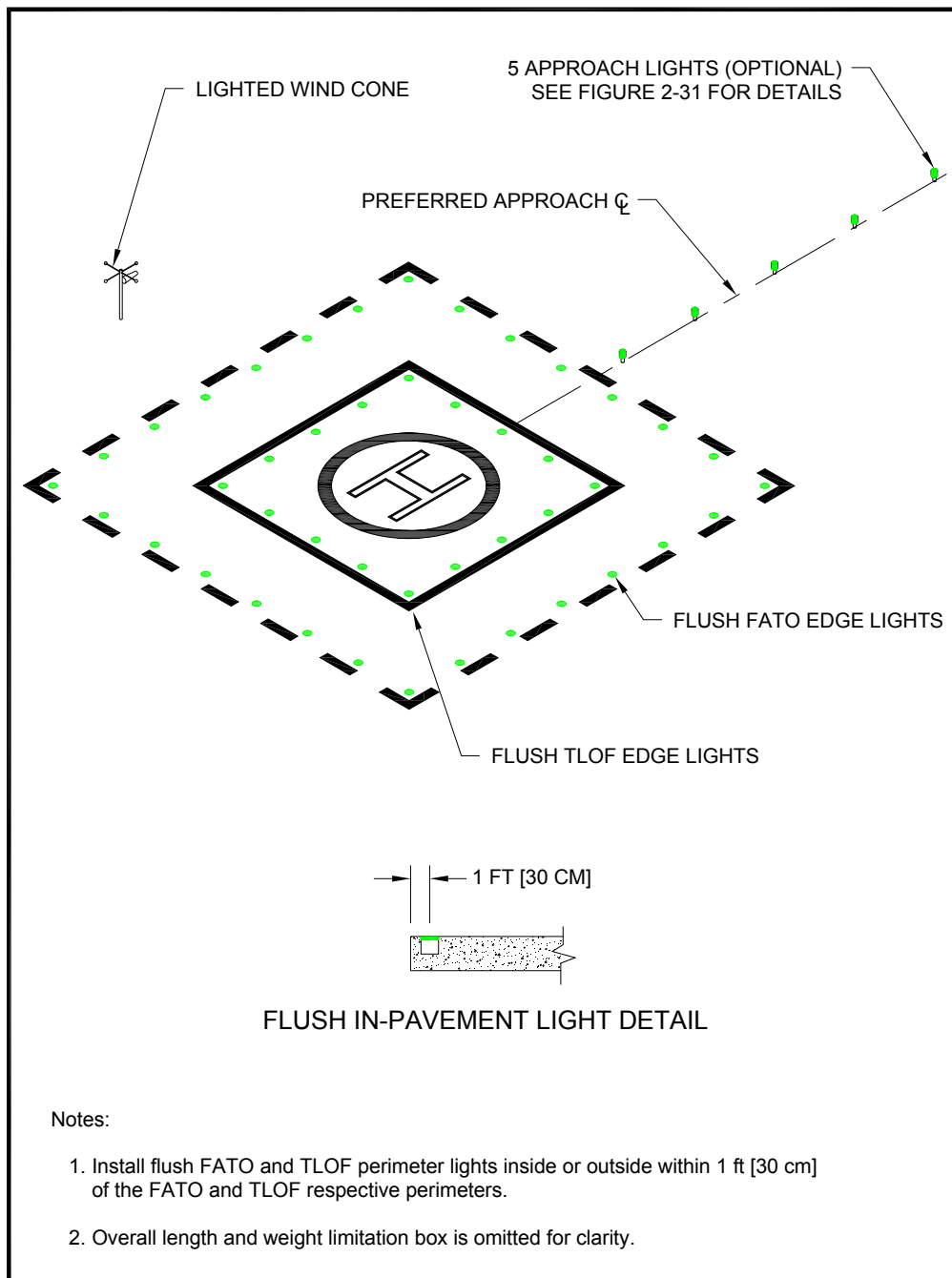


Figure 2–29. TLOF/FATO Flush Perimeter Lighting: General Aviation

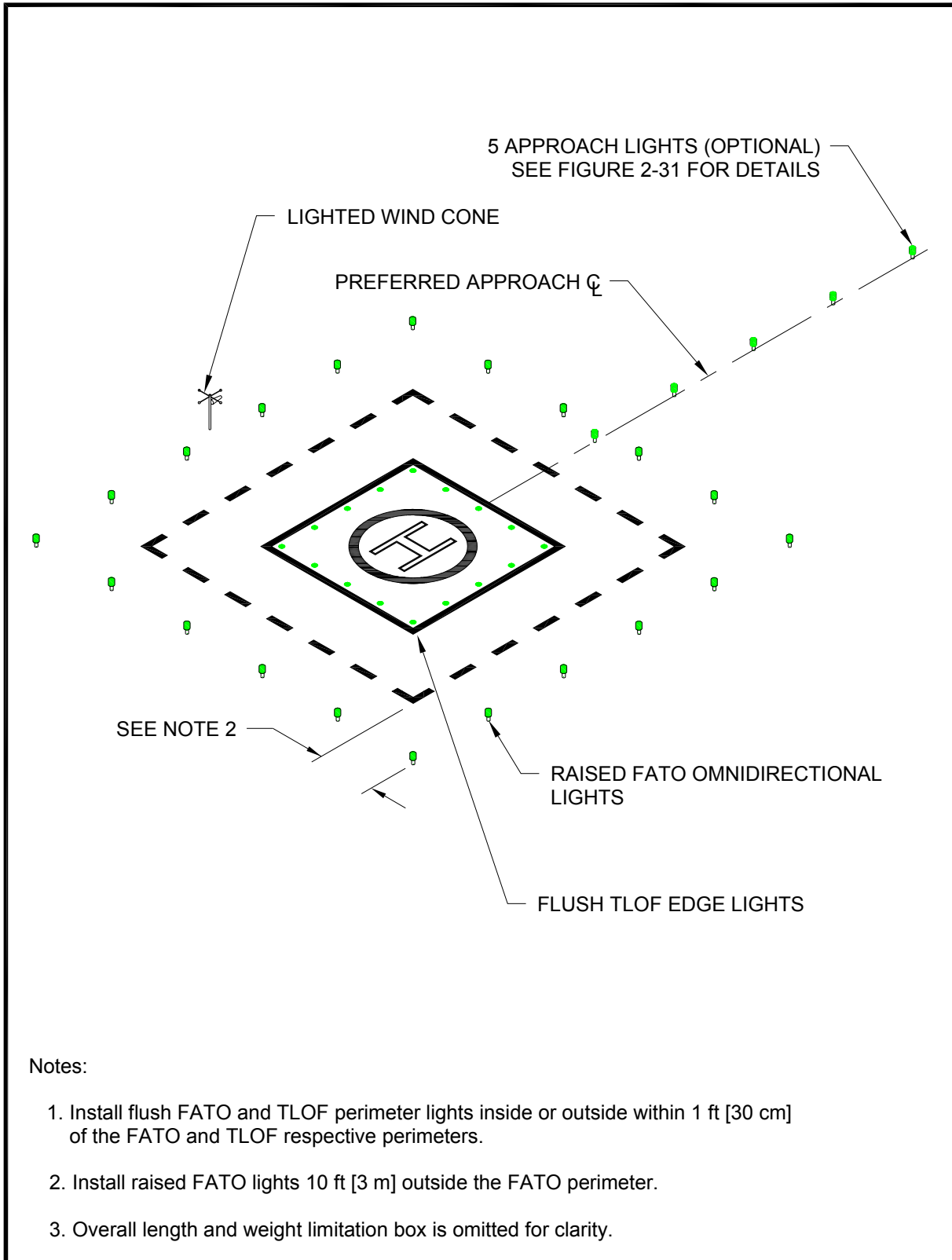


Figure 2–30. TLOF Flush and FATO Raised Perimeter Lighting: General Aviation

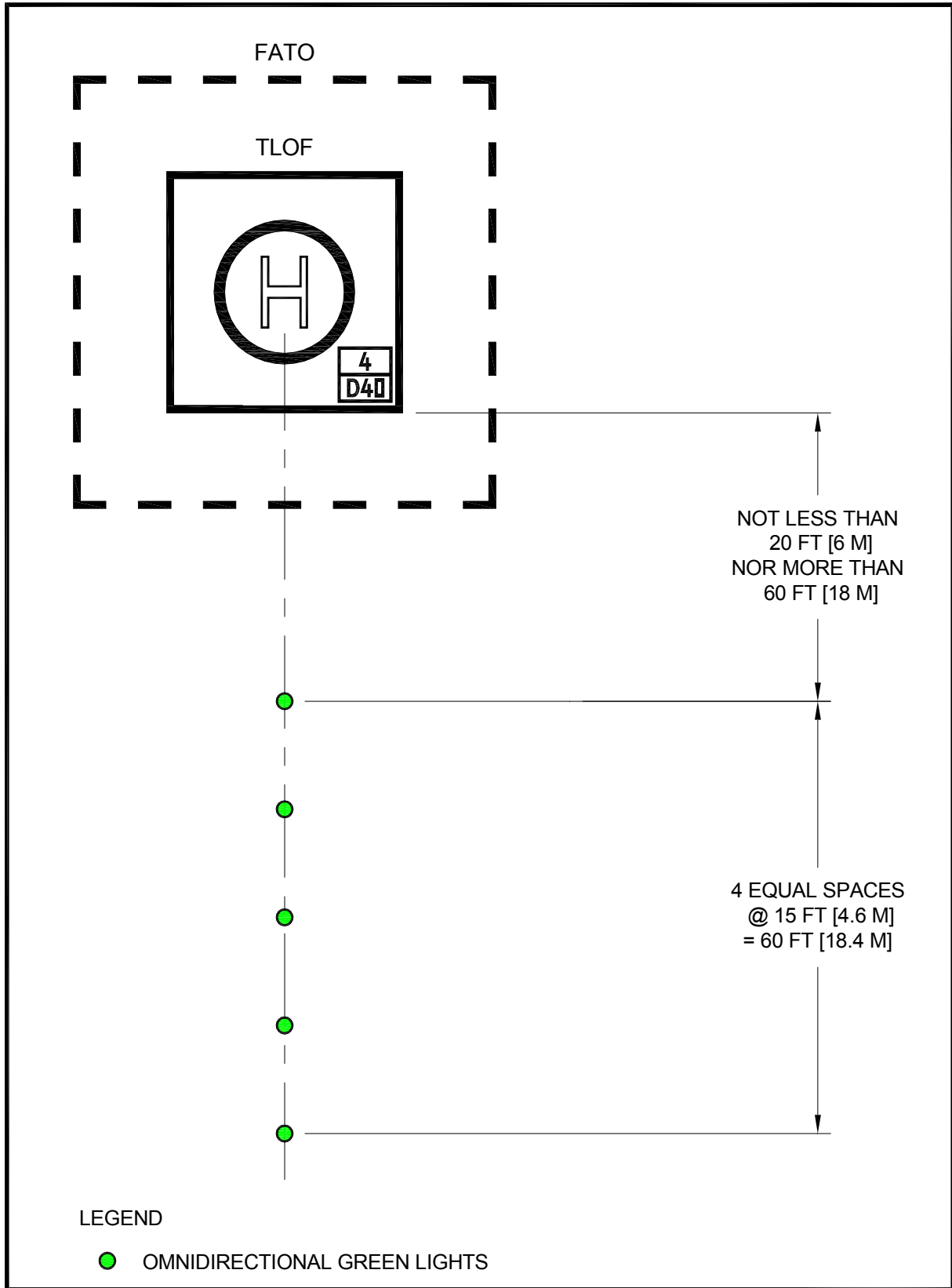


Figure 2–31. Landing Direction Lights: General Aviation

(b) Curved segments. Curved taxiway edges require shorter spacing of edge lights. Base the spacing on the radius of the curve. AC 150/5340-30, Design and Installation Detail for Airport Visual Aids, shows the applicable spacing for curves. Space taxiway edge lights uniformly. On curved edges of more than 30 degrees from point of tangency (PT) of the taxiway section to PT of the intersecting surface, install at least three edge lights. For radii not listed in AC 150/5340-30, determine spacing by linear interpolation.

(c) Paved taxiways. Use flush lights meeting the standards of AC 150/5345-46 for type L-852T.

(d) Unpaved taxiways. Use raised lights meeting the standards of AC 150/5345-46 for type L-861T. The lateral spacing for the lights or reflectors is equal to the RD of the design helicopter, but not more than 35 feet (10.7 m).

g. Heliport identification beacon. A heliport identification beacon is optional equipment. It is the most effective means to aid the pilot in visually locating the heliport. Locate the beacon, flashing white/green/yellow at the rate of 30 to 45 flashes per minute, on or close to the heliport. Find guidance on heliport beacons in AC 150/5345-12, Specification for Airport and Heliport Beacon. As an option, allow the beacon to be pilot controllable such that it is “on” only when needed.

217. Marking and lighting of difficult-to-see objects. It is difficult for a pilot to see unmarked wires, antennas, poles, cell towers, and similar objects, even in the best daylight weather, in time to take evasive action. While pilots can avoid such objects during en route operations by flying well above them, approaches and departures require operations near the ground where obstacles may be a factor. This paragraph discusses the marking and lighting of objects near, but outside and below the approach/departure surface. Find guidance on marking and lighting objects in AC 70/7460-1, Obstruction Marking and Lighting.

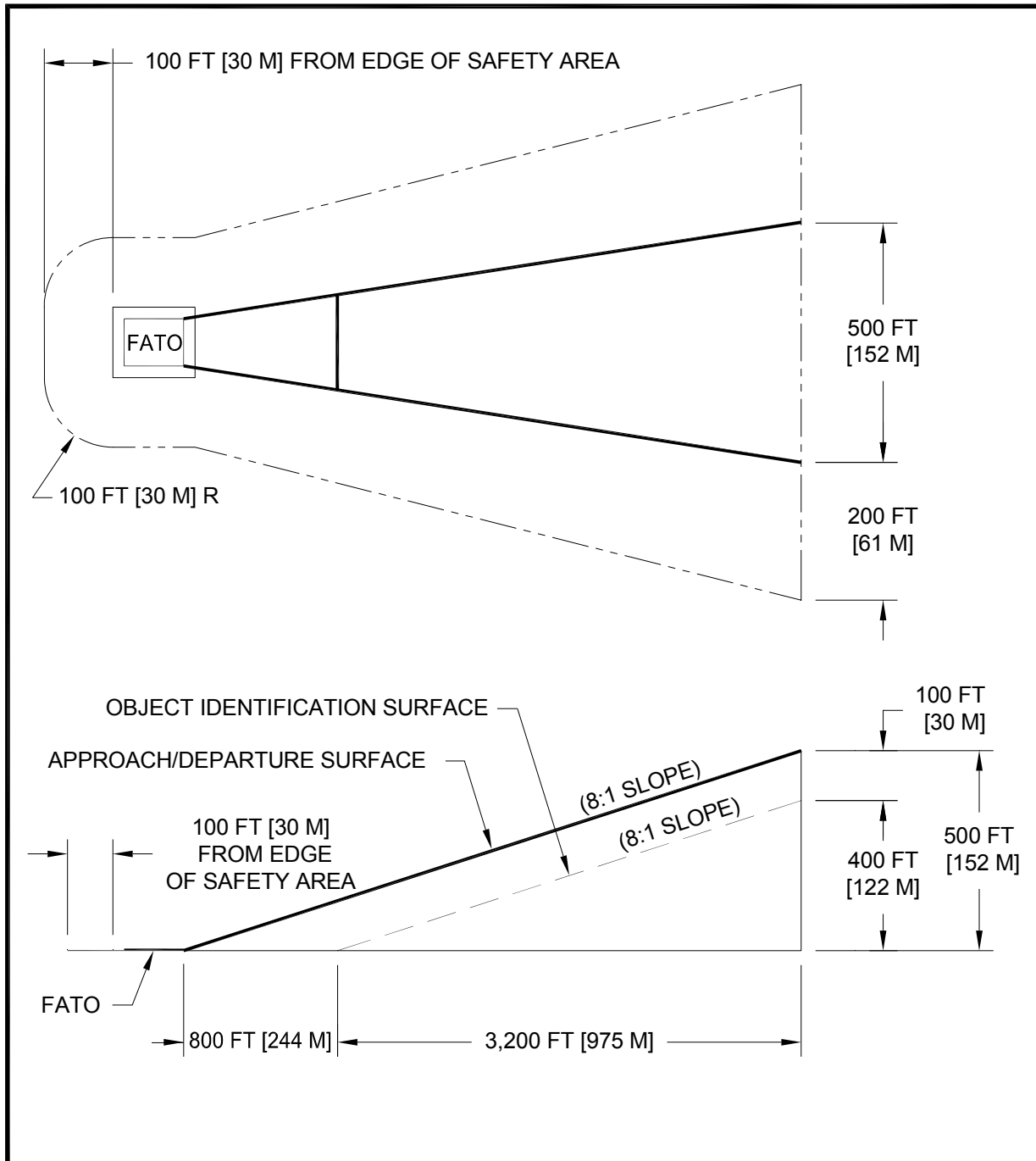
a. Airspace. If difficult-to-see objects penetrate the applicable object identification surfaces illustrated in Figure 2-32 and Figure 2-33, mark these objects to make them more conspicuous. If a heliport supports operations between dusk and dawn, light these difficult-to-see objects. The object identification surfaces in Figure 2-32 and Figure 2-33 are described as follows:

(1) In all directions from the safety area except under the approach/departure paths, the object identification surface starts at the safety area perimeter and extends out horizontally for a distance of 100 feet (30.5 m).

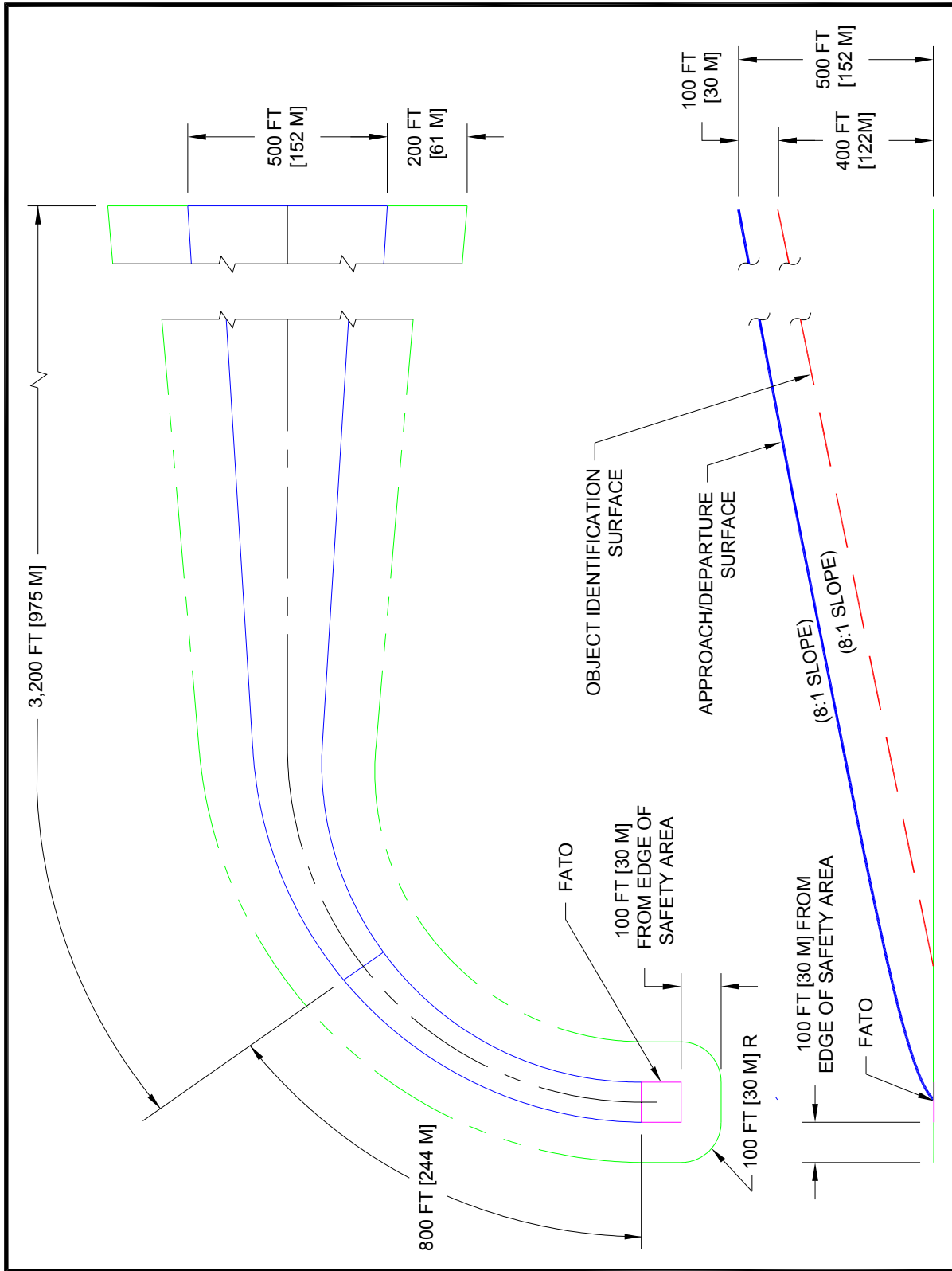
(2) Under the approach/departure surface, the object identification surface starts from the outside edge of the FATO and extends horizontally out for a distance of 800 feet (244 m) along the approach path. From this point, the object identification surface extends out for an additional distance of 3,200 feet (975 m) along the approach path while rising on an 8:1 slope (8 units horizontal in 1 unit vertical). From the point 800 feet (244 m) from the FATO perimeter, the object identification surface is 100 feet (30.5 m) beneath the approach/departure surface.

(3) The width of this object identification surface under the approach/departure surface increases as a function of distance from the safety area. From the safety area perimeter, the object identification surface extends laterally to a point 100 feet (30.5 m) outside the safety area perimeter. At the upper end of the surface, the object identification surface extends laterally 200 feet (61 m) on either side of the approach/departure path.

b. Shielding of objects. Title 14 CFR Part 77.9, Construction or alteration requiring notice, provides that if there are a number of objects close together, it may not be necessary to mark all of them if they are shielded. To meet the shielding guidelines, part 77 requires that an object “be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation.”



**Figure 2–32. Airspace Where Marking and Lighting are Recommended:
Straight Approach: General Aviation**



**Figure 2-33. Airspace Where Marking and Lighting are Recommended:
Curved Approach: General Aviation**

c. Equipment/object marking. Make heliport maintenance and servicing equipment, as well as other objects used in the airside operational areas, conspicuous with paint, reflective paint, reflective tape, or other reflective markings. Reference AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport.

218. Safety considerations. Consider the following safety enhancements in the design of a heliport. Address other areas, such as the effects of rotor downwash, based on site conditions and the design helicopter.

a. Security. Provide a heliport with appropriate means of keeping the operational areas clear of people, animals, and vehicles. Use a method to control access depending upon the helicopter location and types of potential intruders.

(1) Safety barrier. At ground-level general aviation heliports, erect a safety barrier around the helicopter operational areas in the form of a fence or a wall. Construct the barrier no closer to the operation areas than the outer perimeter of the safety area. Make sure the barrier does not penetrate any approach/departure (primary or transitional) surface. If necessary in the vicinity of the approach/departure paths, install the barrier well outside the outer perimeter of the safety area.

(2) Make sure any barrier is high enough to present a positive deterrent to persons inadvertently entering an operational area and yet low enough to be non-hazardous to helicopter operations.

(3) Control access to airside areas in a manner commensurate with the barrier (for example, build fences with locked gates). Display a cautionary sign similar to that illustrated in Figure 2–34 at access points.

b. Rescue and fire-fighting services. Heliports are subject to state and local rescue and fire-fighting regulations. Provide a fire hose cabinet or extinguisher at each access gate/door and each fueling location. Locate fire hose cabinets, fire extinguishers, and other fire-fighting equipment near, but below the level of, the TLOF. Find additional information in various NFPA publications. For more reference material, see Appendix D.

c. Communications. Use a Common Traffic Advisory Frequency (CTAF) radio to provide arriving helicopters with heliport and traffic advisory information but do not use this radio to control air traffic. Contact the Federal Communications Commission (FCC) for information on CTAF licensing.

d. Weather information. An automated weather observing system (AWOS) measures and automatically broadcasts current weather conditions at the heliport site. When installing an AWOS, locate it at least 100 feet (30 m) and not more than 700 feet (213 m) from the TLOF and such that its instruments will not be affected by rotor wash from helicopter operations. Find guidance on AWOS systems in AC 150/5220-16, Automated Weather Observing Systems (AWOS) for Non-Federal Applications, and FAA Order 6560.20, Siting Criteria for Automated Weather Observing Systems (AWOS). Other weather observing systems will have different siting criteria.

e. Winter operations. Swirling snow raised by a helicopter's rotor wash can cause the pilot to lose sight of the intended landing point and/or hide objects that need to be avoided. Design the heliport to accommodate the methods and equipment used for snow removal. Design the heliport to allow the snow to be removed sufficiently so it will not present an obstruction hazard to the tail rotor, main rotor, or undercarriage. Find guidance on winter operations in AC 150/5200-30, Airport Winter Safety and Operations.

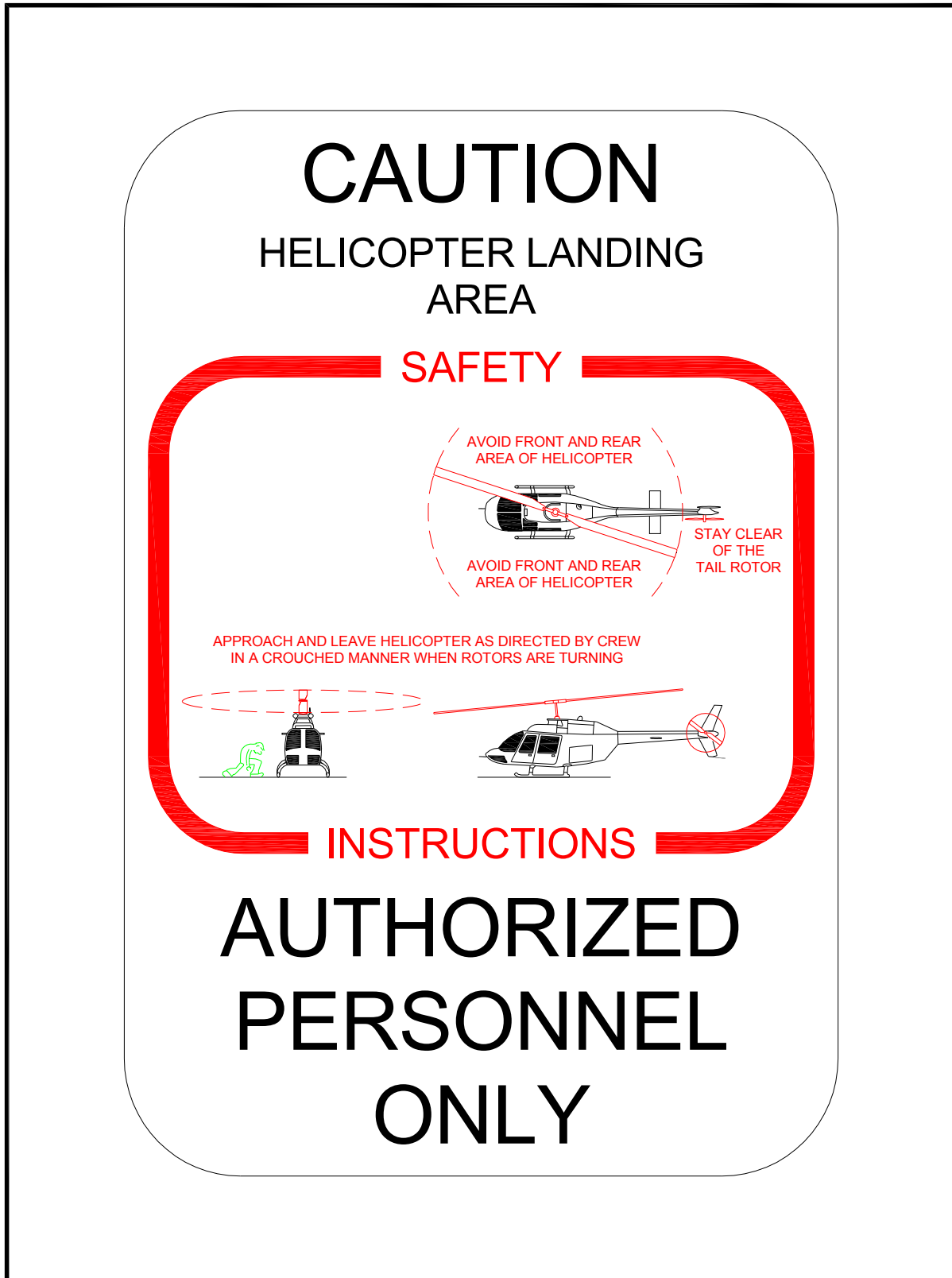


Figure 2-34. Caution Sign: General Aviation

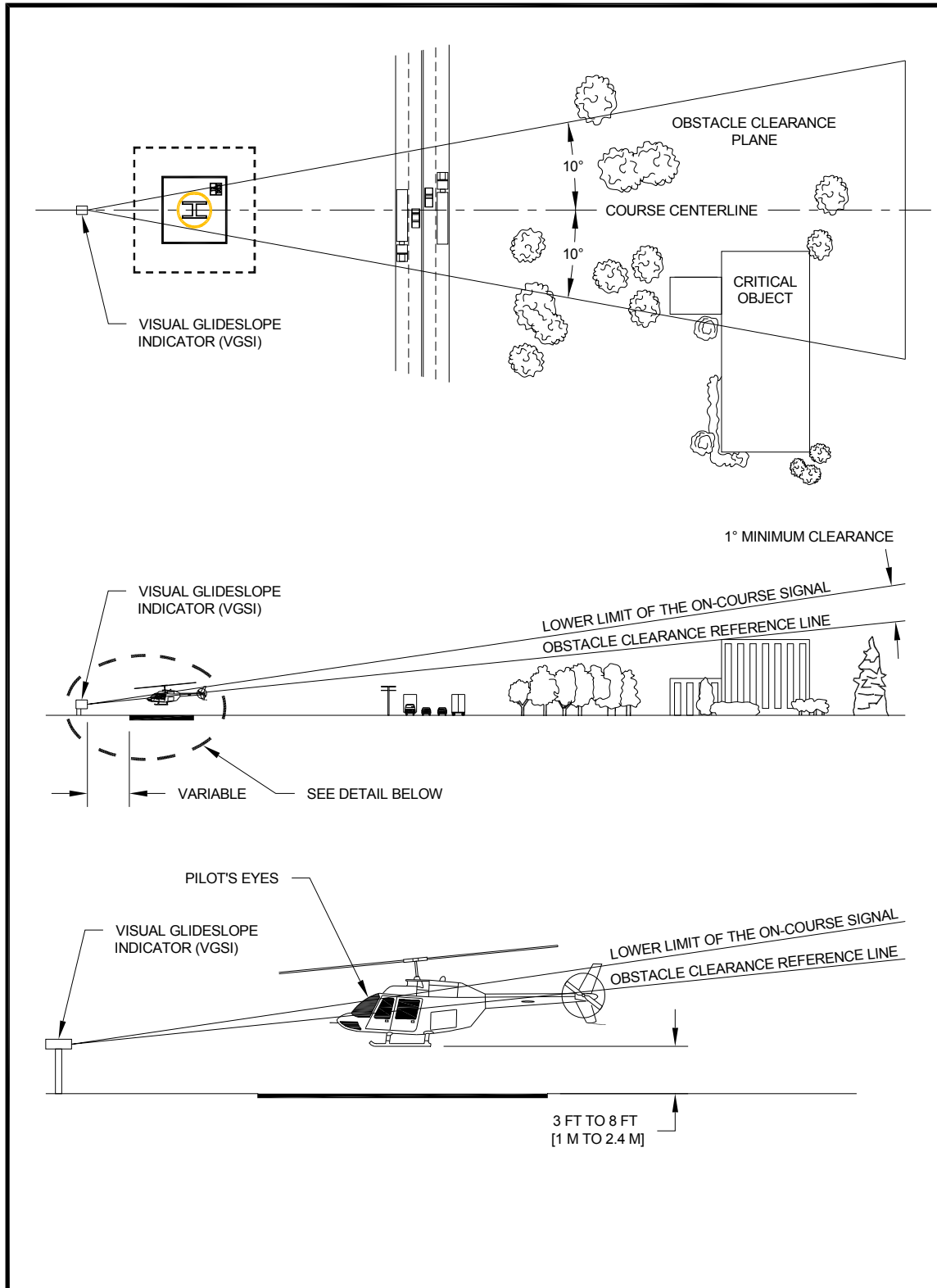


Figure 2-35. Visual Glideslope Indicator Siting and Clearance Criteria: General Aviation

219. Visual glideslope indicators (VGSI). A visual glideslope indicator (VGSI) provides pilots with visual vertical course and descent cues. Install the VGSI such that the lowest on-course visual signal provides a minimum of 1 degree of clearance over any object that lies within 10 degrees of the approach course centerline.

a. Siting. The optimum location of a VGSI is on the extended centerline of the approach path at a distance that brings the helicopter to a hover with the undercarriage between 3 and 8 feet (0.9 to 2.5 m) above the TLOF. Figure 2–35 illustrates VGSI clearance criteria. To properly locate the VGSI, estimate the vertical distance from the undercarriage to the pilot’s eye.

b. Control of the VGSI. As an option, allow the VGSI to be pilot controllable such that it is “on” only when needed.

c. VGSI needed. A VGSI is an optional feature. However, provide a VGSI if one or more of the following conditions exist, especially at night:

(1) Obstacle clearance, noise abatement, or traffic control procedures require a particular slope to be flown.

(2) The environment of the heliport provides few visual surface cues.

d. Additional guidance. Find additional guidance in AC 150/5345-52, Generic Visual Glideslope Indicators (GVGI), and AC 150/5345-28, Precision Approach Path Indicator (PAPI) Systems.

220. Terminal facilities. A heliport terminal provides curbside access for passengers using private autos, taxicabs, and public transit vehicles. Public waiting areas need the usual amenities, and a counter for rental car services may be desirable. Design passenger auto parking areas to accommodate current requirements, with the ability to expand them to meet future requirements. Readily available public transportation may reduce the requirement for employee and service personnel auto parking spaces. Build attractive and functional heliport terminal buildings or sheltered waiting areas. Find guidance on designing terminal facilities in AC 150/5360-9, Planning and Design of Airport Terminal Building Facilities at Non-Hub Locations. At PPR heliports, the number of people using the facility may be so small that there is no need for a terminal building, and minimal needs for other facilities and amenities.

221. Zoning and compatible land use. The FAA encourages general aviation heliport operators to promote the adoption of the following zoning measures where state and local statutes permit to ensure the heliport will continue to be available and to protect the investment in the facility.

a. Zoning to limit building/object heights. Find general guidance on drafting an ordinance that would limit building and object heights in AC 150/5190-4, A Model Zoning Ordinance to Limit Height of Objects Around Airports. Substitute the heliport surfaces for the airport surfaces in the model ordinance.

b. Zoning for compatible land use. The FAA encourages public agencies to enact zoning ordinances to control the use of property within the HPZ and the approach/departure path environment, restricting activities to those that are compatible with helicopter operations. See paragraph 211.

c. Air rights and property easements. Use air rights and property easements as options to prevent the encroachment of obstacles in the vicinity of a heliport.

Chapter 3. Transport Heliports

301. General. A transport heliport is intended to accommodate air carrier operators providing scheduled service, or unscheduled service with large helicopters.

302. Applicability. The standards in this chapter apply to projects funded under the Airport Improvement Program (AIP) or Passenger Facility Charge (PFC) program. For other projects/heliports, these standards are the FAA's recommendations for designing all transport heliports. The design standards in this chapter assume there will never be more than one helicopter within the final approach and takeoff area (FATO) and the associated safety area. If there is a need for more than one touchdown and lift-off area (TLOF) at a heliport, locate each TLOF within its own FATO and within its own safety area. Figure 3-1 illustrates a typical transport heliport.

303. Access by individuals with disabilities. Various laws require heliports operated by public entities and those receiving federal financial assistance to meet accessibility requirements. See paragraph 114.

304. Heliport site selection.

a. Long term planning. Public agencies and others planning to develop a transport heliport consider the possible future need for instrument operations and future expansion.

b. Property requirements. The property needed for a transport heliport depends upon the volume and types of users and the scope of amenities provided. Property requirements for helicopter operators and for passenger amenities frequently exceed that required for "airside" purposes.

c. Turbulence. Air flowing around and over buildings, stands of trees, terrain irregularities, etc. can create turbulence on ground-level and roof-top heliports that may affect helicopter operations. Where the FATO is located near the edge and top of a building or structure, or within the influence of turbulent wakes from other buildings or structures, assess the turbulence and airflow characteristics in the vicinity of, and across the surface of the FATO to determine if an air-gap between the roof, roof parapet or supporting structure, and/or some other turbulence mitigating design measure is necessary. FAA Technical Report FAA/RD-84/25, Evaluating Wind Flow around Buildings on Heliport Placement addresses the wind's effect on helicopter operations. Take the following actions in selecting a site to minimize the effects of turbulence.

(1) Ground-level heliports. Features such buildings, trees, and other large objects can cause air turbulence and affect helicopter operations from sites immediately adjacent to them. Therefore, locate the landing and takeoff area away from such objects in order to minimize air turbulence in the vicinity of the FATO and the approach/departure paths.

(2) Elevated heliports. Establishing a 6 foot (1.8 m) or more air gap on all sides above the level of the roof will generally minimize the turbulent effect of air flowing over the roof edge. If an air gap is included in the design, keep it free at all times of objects that would obstruct the airflow. If it is not practical to include an air gap or some other turbulence mitigating design measure where there is turbulence, operational limitations may need to be considered under certain wind conditions (see paragraph 101).

d. Electromagnetic effects. Nearby electromagnetic devices, such as a large ventilator motor, elevator motor or other large electrical consumer may cause temporary aberrations in the helicopter magnetic compass and interfere with other onboard navigational equipment.

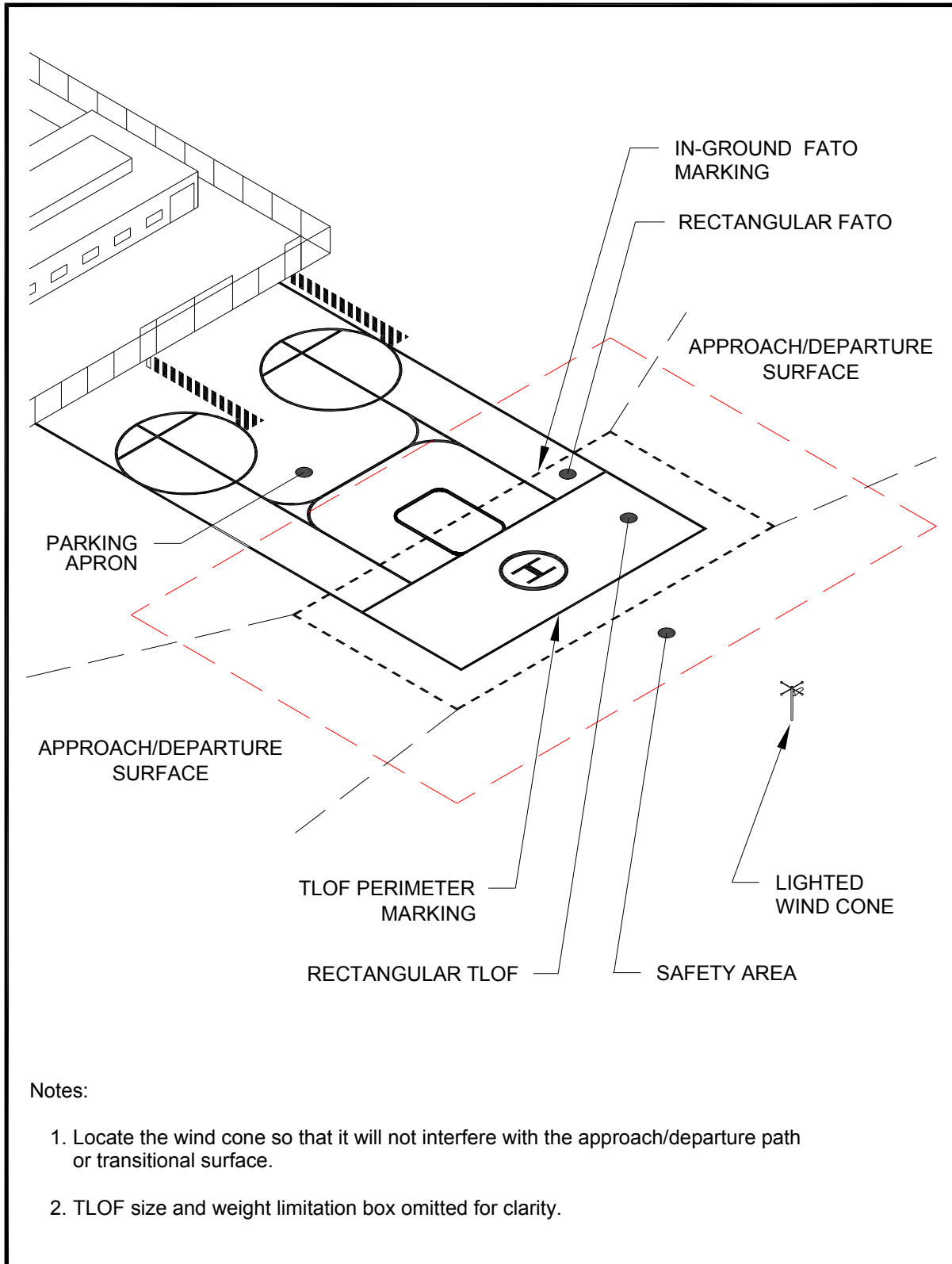


Figure 3-1. Typical Transport Heliport: Transport

305. Basic layout. The heliport consists of a TLOF contained within a FATO. A safety area surrounds the FATO. The relationship of the TLOF to the FATO and the safety area is shown in Figure 3–2. A FATO contains only one TLOF. Provide appropriate approach/departure airspace to allow safe approaches to and departures from landing sites. To the extent feasible, align the preferred approach/departure path with the predominant winds (see paragraph 309). Where helicopter flight manuals specify the minimum size required for operations, take the size into account in the design of the facility.

306. Touchdown and liftoff area (TLOF).

a. TLOF location. The TLOF of a transport heliport is normally at ground level but may be developed with the TLOF located on a pier or, when carefully planned, on the roof of a building. The TLOF is centered in the load-bearing area (LBA), and on the major axis of the FATO.

b. TLOF size. The TLOF is a square or rectangular surface whose minimum length and width is the rotor diameter (RD) of the design helicopter but not less than 50 feet (15.2 m). Increasing the LBA centered on the TLOF may provide some safety and operational advantages.

c. Elongated TLOF: An elongated TLOF can provide an increased safety margin and greater operational flexibility. As an option, design an elongated TLOF with a landing position in the center and two takeoff positions, one at either end, as illustrated in Figure 3–3. Design the landing position to have a minimum length of the RD of the design helicopter, but not less than 50 feet (15.2 m). If the TLOF is elongated, also provide an elongated FATO.

d. Ground-level TLOF surface characteristics.

(1) Design loads. Design the TLOF and any supporting TLOF structure to be capable of supporting the dynamic loads of the design helicopter.

(2) Paving. Construct the TLOF of portland cement concrete (PCC) (see AC 150/5370-10, Standards for Specifying Construction of Airports items P-501) where feasible. Use a broomed or roughened pavement finish to provide a skid-resistant surface for helicopters and non-slippery footing for people.

e. Rooftop and other elevated TLOFs.

(1) Design loads. Design elevated TLOFs and any TLOF supporting structure to be capable of supporting the dynamic loads of the design helicopter. An elevated heliport is illustrated in Figure 3–4.

(2) TLOF surface characteristics. Construct rooftop and other elevated heliport TLOFs of metal, concrete, or other materials subject to local building codes. Provide TLOF surfaces with a skid-resistant surface finish for helicopters and non-slippery footing for people.

f. TLOF gradients. Recommended TLOF gradients are defined in Chapter 7.

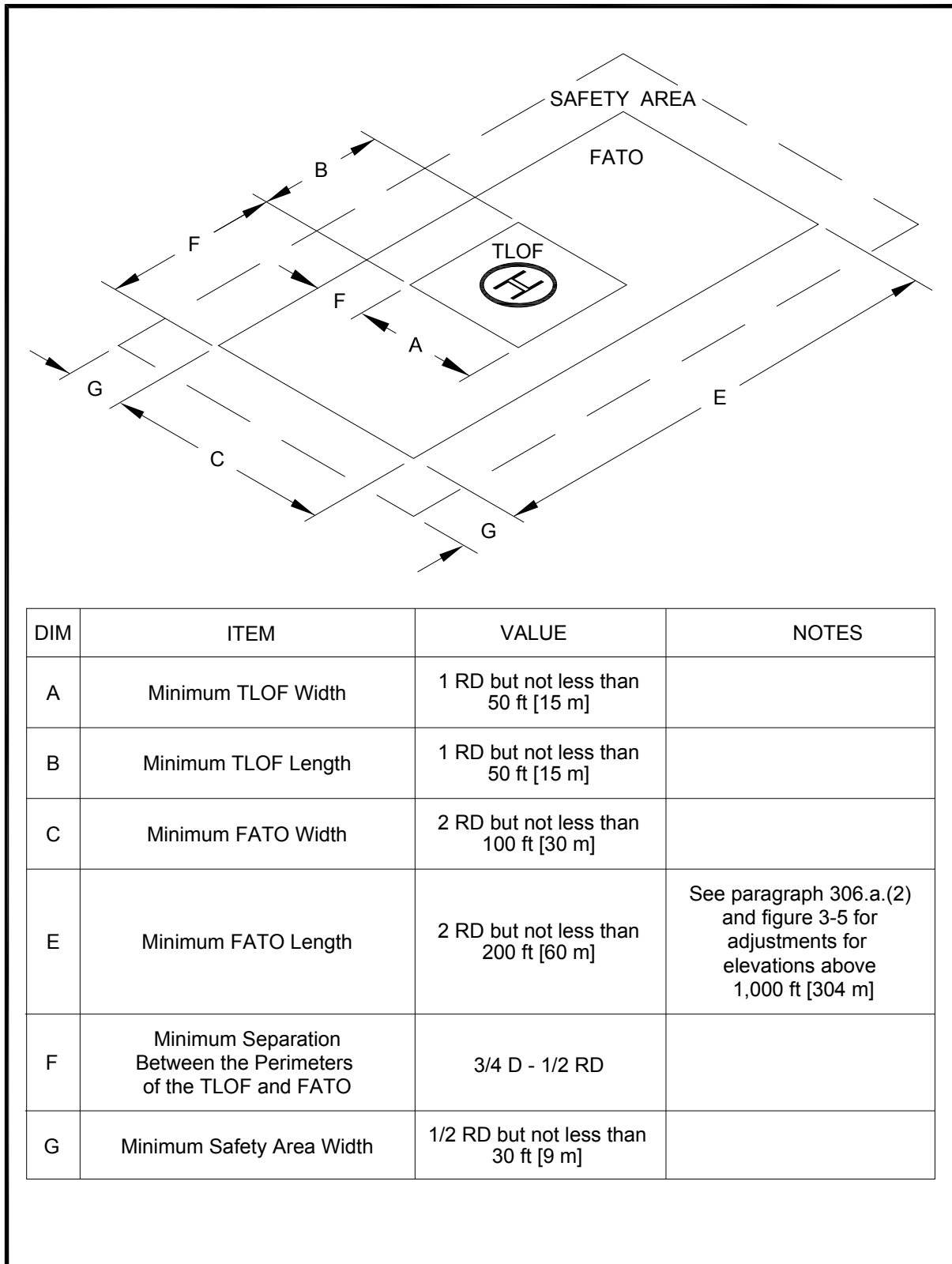


Figure 3–2. TLOF/FATO Safety Area Relationships and Minimum Dimensions: Transport

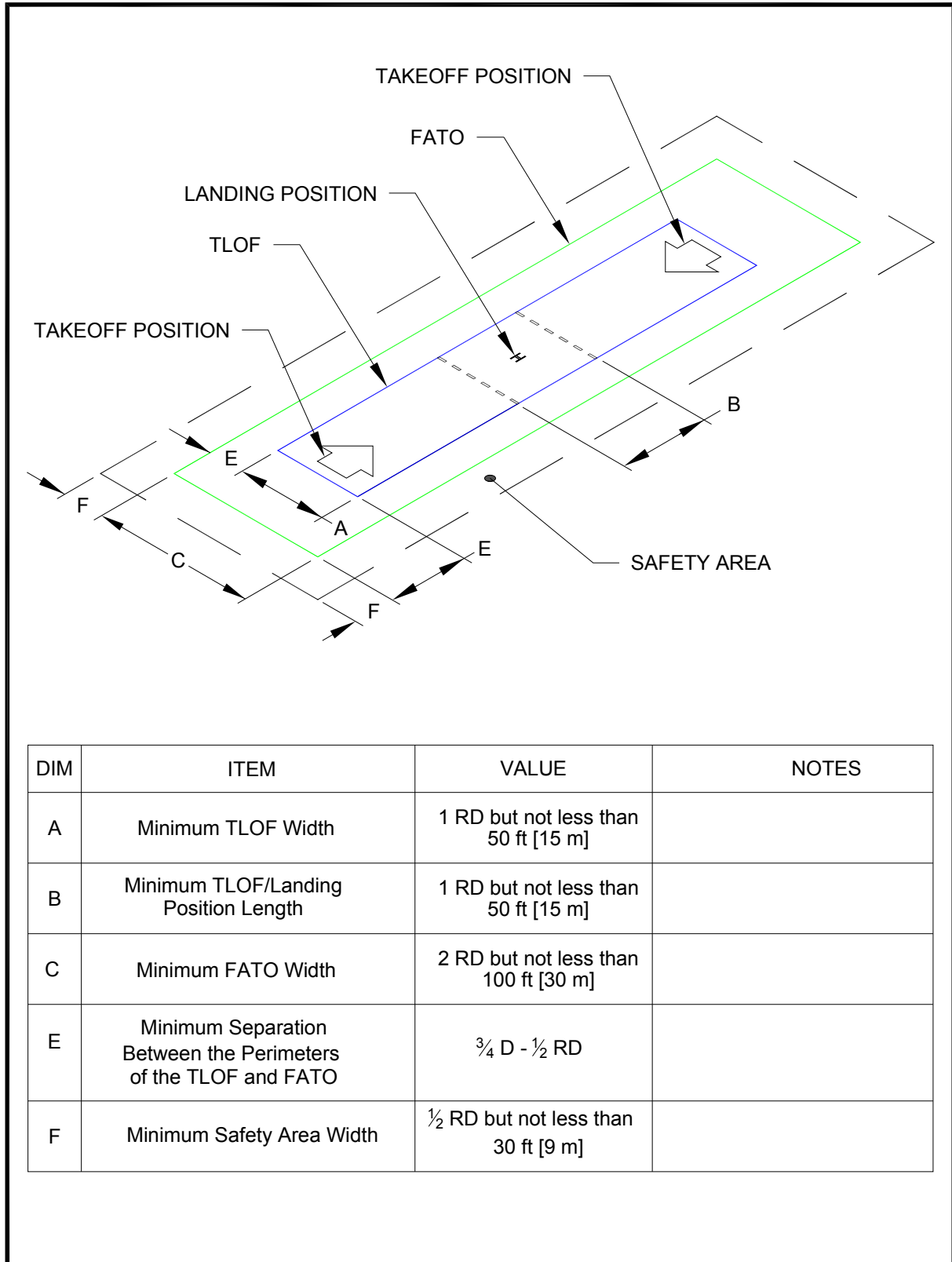


Figure 3–3. Elongated FATO with Two Takeoff Positions: Transport

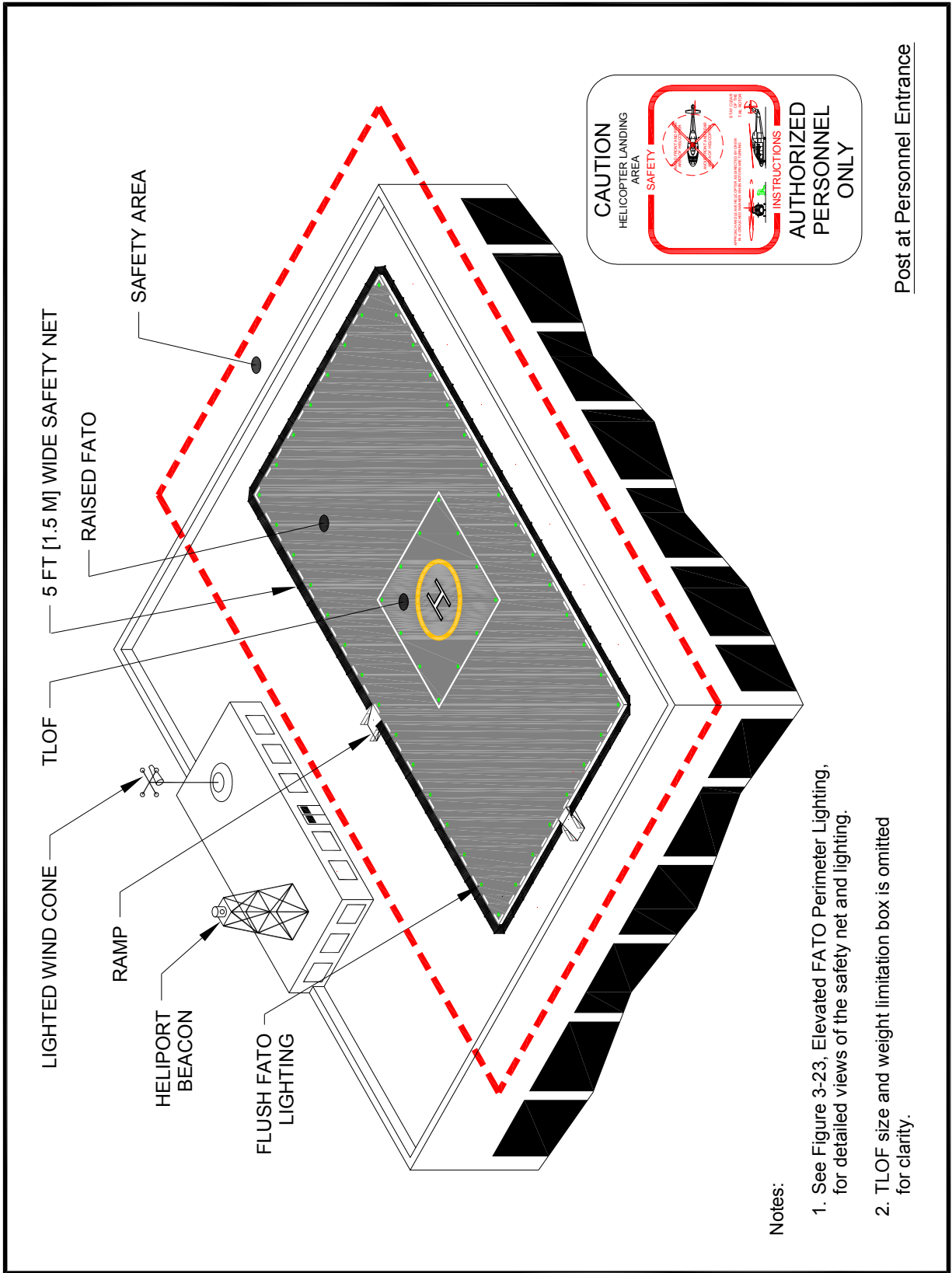


Figure 3-4. Elevated Heliport: Transport

307. Final approach and takeoff area (FATO). A transport heliport has at least one FATO. The FATO contains a TLOF within its borders at which arriving helicopters terminate their approach, and from which departing helicopters take off.

a. FATO size. The FATO is a rectangular surface with the long axis aligned with the preferred flight path. See Figure 3–2.

(1) FATO width. The minimum width of a FATO is at least 2.0 times the RD of the design helicopter but not less than 100 feet (30.5 m).

(2) FATO length. The minimum length of the FATO is 2.0 times the RD of the design helicopter but not less than 200 feet (61 m). At elevations above 1000 feet MSL, a longer FATO is required to provide an increased safety margin and greater operational flexibility. Use the additional FATO length depicted in Figure 3–5.

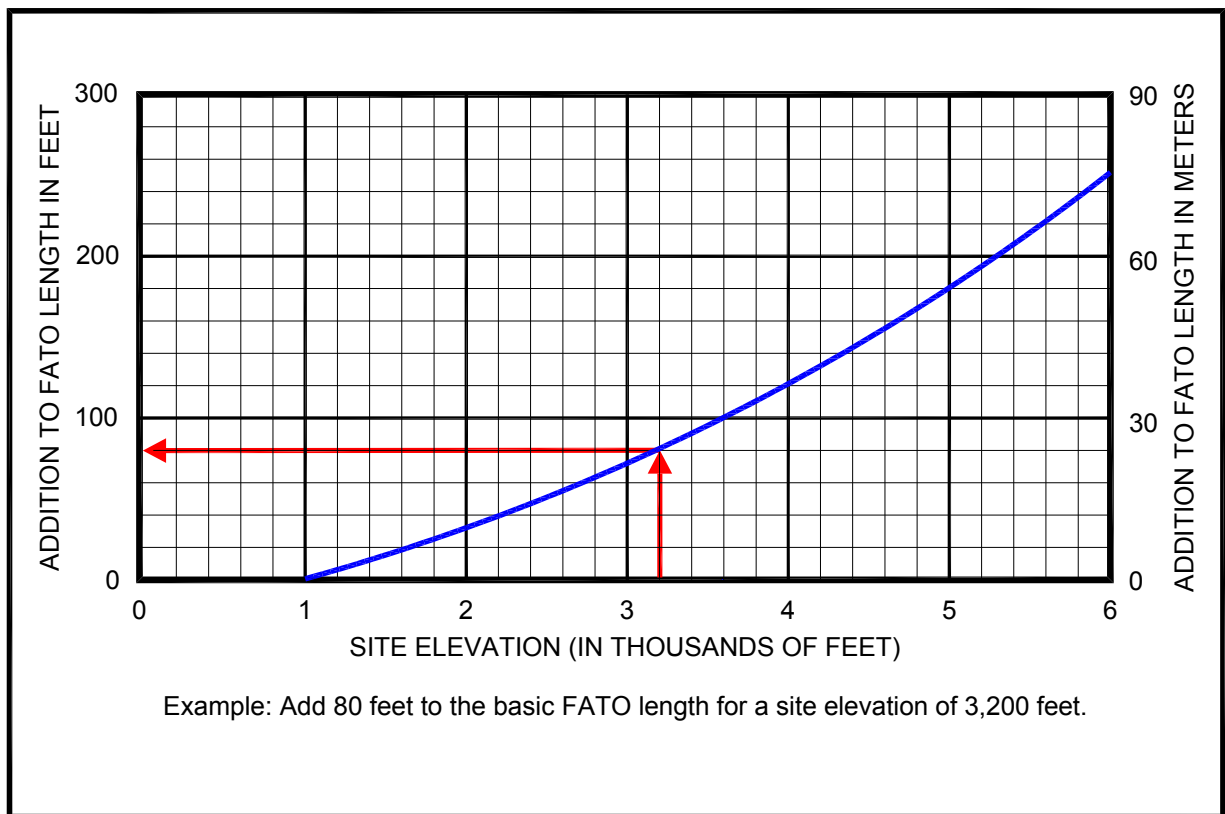


Figure 3–5. Additional FATO Length for Heliports at Higher Elevations: Transport

(3) Design the minimum distance between the TLOF perimeter and the FATO perimeter to be not less than $\frac{3}{4} D - \frac{1}{2} RD$, where D and RD are of the design helicopter.

b. FATO surface characteristics.

(1) Design the entire FATO to support the dynamic loads of the design helicopter.

(2) If the FATO surface is unpaved, treat it to prevent loose stones and any other flying debris caused by rotor wash.

(3) Design the portion of the FATO abutting the TLOF to be contiguous with the TLOF, with the adjoining edges at the same elevation.

c. Rooftop and other elevated FATOs.

(1) Design loads. Design elevated FATOs and any FATO supporting structure to be capable of supporting the dynamic loads of the design helicopter

(2) Elevation. Elevate the FATO above the level of any object in the safety area that cannot be removed.

(3) Obstructions. Elevator penthouses, cooling towers, exhaust vents, fresh air vents, and other raised features can affect heliport operations. Establish control mechanisms to ensure obstruction hazards are not installed after the heliport is operational.

(4) Air quality. Helicopter exhaust can affect building air quality if the heliport is too close to fresh air vents. When designing a building intended to support a helipad, locate fresh air vents accordingly. When adding a helipad to an existing building, relocate fresh air vents if necessary or, if relocation is not practical, installing charcoal filters or a fresh air intake bypass louver system for HVAC systems may be adequate.

(5) FATO surface characteristics. Construct rooftop and other elevated heliport FATOs of metal, concrete, or other materials subject to local building codes. Provide the FATO surface with non-slippery footing for people.

(6) Safety net. If the platform is elevated 4 feet (1.2 m) or more above its surroundings, Title 29 CFR Part 1910.23, Guarding Floor and Wall Openings and Holes, requires the provision of fall protection. The FAA recommends such protection for all platforms elevated 30 inches (76 cm) or more. However, do not use permanent railings or fences since they would be safety hazards during helicopter operations. As an option, install a safety net, meeting state and local regulations but not less than 5 feet (1.5 m) wide. Design the safety net to have a load-carrying capability of 50 lb/sq ft (244 kg/sq m). Do not allow the net, as illustrated in Figure 3–23, to project above the level of the FATO. Fasten both the inside and outside edges of the safety net to a solid structure. Construct nets of materials that are resistant to environmental effects.

(7) Access to elevated FATOs. Title 29 CFR Part 1926.34, Means of Egress, requires two separate access points for an elevated structure such as one supporting an elevated FATO. Design stairs in compliance with Title 29 CFR Part 1910.24, Fixed Industrial Stairs. Design handrails required by this standard to fold down or be removable to below the level of the FATO so they will not be hazards during helicopter operations.

d. Mobile objects within the FATO. The FATO design standards in this AC assume the TLOF and FATO are closed to other aircraft if a helicopter or other mobile object is within the FATO or the safety area.

e. Fixed objects within the FATO. Remove all fixed objects projecting above the FATO elevation except for lighting fixtures, which may project a maximum of 2 inches (5 cm). See Figure 7–3. For ground level heliports, remove all above-ground objects to the extent practicable.

f. FATO/FATO separation. If a heliport has more than one FATO, separate the perimeters of two FATOs so the respective safety areas do not overlap. This separation assumes simultaneous approach/departure operations will not take place. If the heliport operator intends for the facility to support simultaneous operations, provide a minimum 200 foot (61 m) separation.

g. FATO gradients. Recommended FATO gradients are defined in Chapter 7.

308. Safety area. The safety area surrounds the FATO.

a. Safety area width. The safety area extends outward on all sides of the FATO for a distance of at least $\frac{1}{2}$ RD but not less than 30 feet (9 m).

b. Mobile objects within the safety area. The safety area design standards of this AC assume the TLOF and FATO are closed to other aircraft if a helicopter or other mobile object is within the FATO or the safety area.

c. Fixed objects within a safety area. Remove all fixed objects within a safety area projecting above the FATO elevation except for lighting fixtures, which may project a maximum of 2 inches (5 cm). See Figure 7–3. For ground level heliports, remove all above-ground objects to the extent practicable.

d. Safety area surface. The safety area need not be load bearing. Figure 3–6 depicts a safety area extending over water. If possible, make the portion of the safety area abutting the FATO contiguous with the FATO with the adjoining edges at the same elevation. This is needed to avoid the risk of catching a helicopter skid or wheel. Clear the safety area of flammable materials and treat the area to prevent loose stones and any other flying debris caused by rotor wash.

e. Safety area gradients. Safety area gradients are detailed in Chapter 7.

309. VFR approach/departure paths. The purpose of approach/departure airspace, shown in Figure 3–7 and Figure 3–8, is to provide sufficient airspace clear of hazards to allow safe approaches to and departures from the TLOF.

a. Number of approach/departure paths. Align preferred approach/departure paths with the predominant wind direction so downwind operations are avoided and crosswind operations are kept to a minimum. To accomplish this, design a transport heliport to have more than one approach/departure path. Base other approach/departure paths on the assessment of the prevailing winds or, when this information is not available, separate such flight paths and the preferred flight path by at least 135 degrees. See Figure 3–7.

b. VFR Approach/Departure and Transitional Surfaces. Figure 3–7 and Figure 3–8 illustrate the approach/departure and transitional surfaces.

(1) An approach/departure surface is centered on each approach/departure path. The approach /departure path starts at the edge of the FATO and slopes upward at 8:1 (8 units horizontal in 1 unit vertical) for a distance of 4,000 feet (1,219 m) where the width is 500 feet (152 m) at a height of 500 feet (152 m) above the heliport elevation.

(2) The transitional surfaces start from the edges of the FATO parallel to the flight path center line, and from the outer edges of approach/departure surface, and extend outwards at a slope of 2:1 (2 units horizontal in 1 units vertical) for a distance of 250 feet (76 m) from the centerline. The transitional surfaces start at the edge of the FATO parallel to the approach/departure surfaces and extend to the end of the approach/departure surface. The transitional surface does not apply on the FATO edge opposite the approach/departure surface.

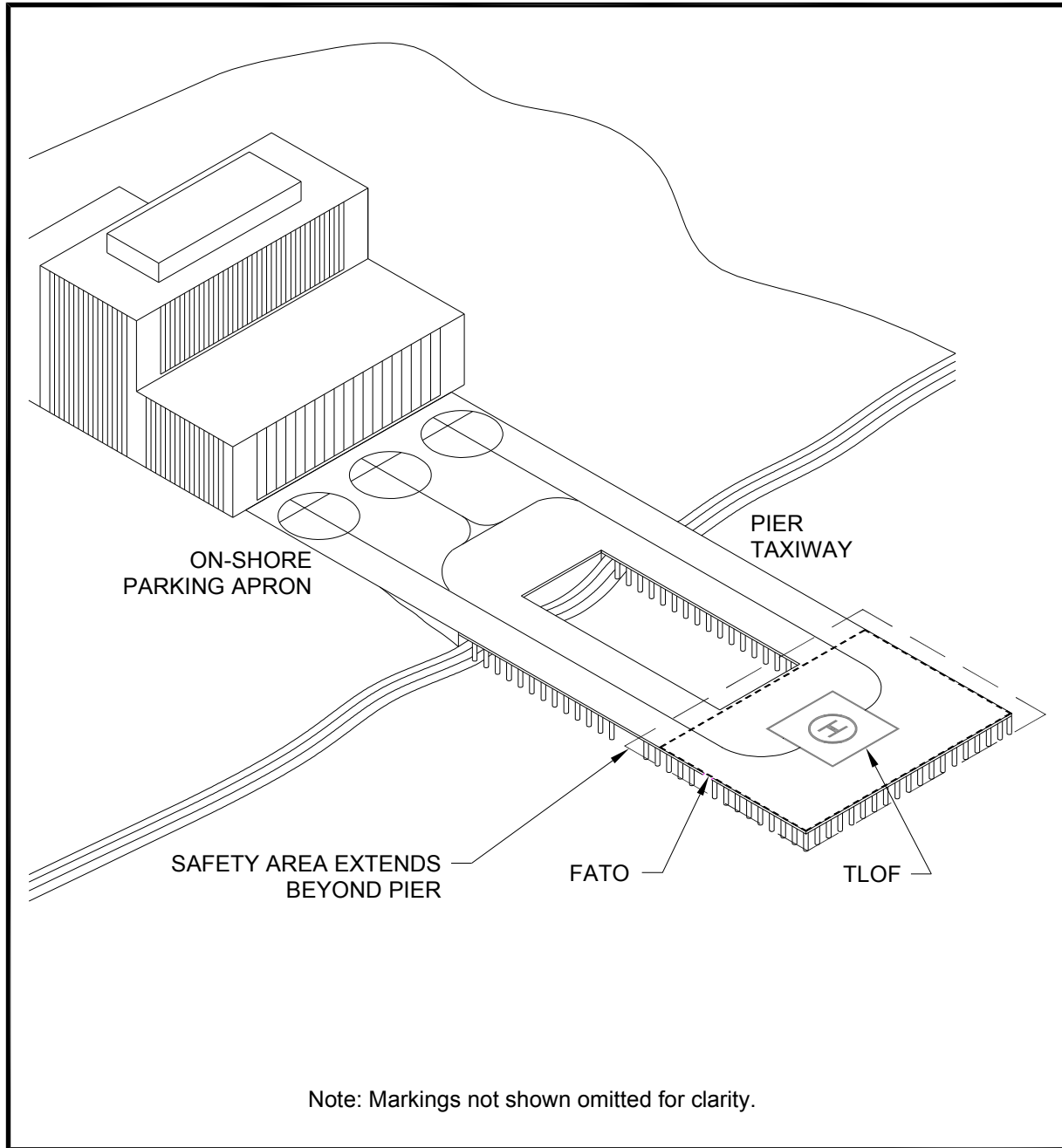


Figure 3-6. Non-load-bearing Safety Area: Transport

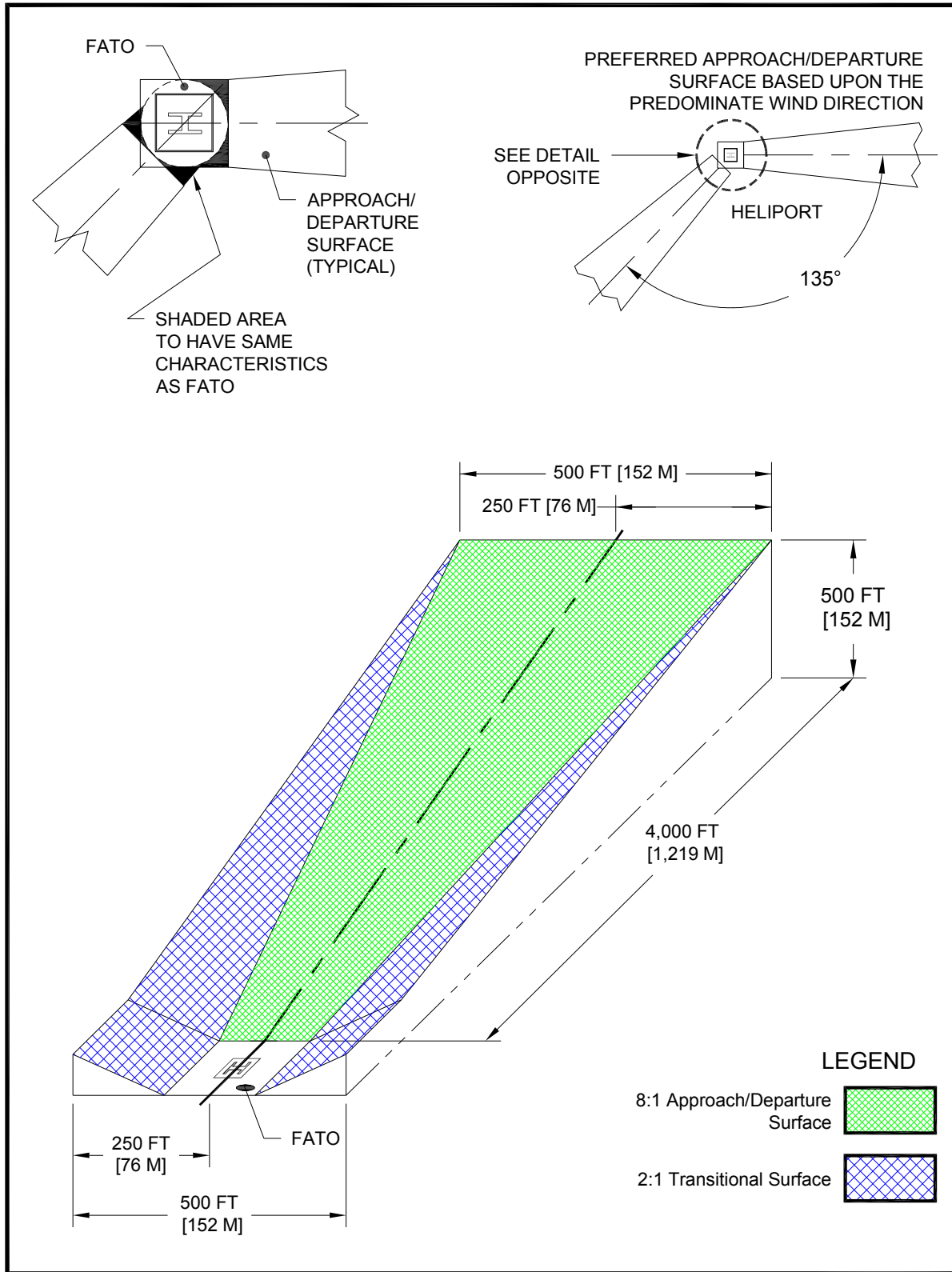


Figure 3-7. VFR Heliport Approach/Departure and Transitional Surfaces: Transport

(3) Make sure the approach/departure and transitional surfaces are free of penetrations unless an FAA aeronautical study determines such penetrations not to be hazards. The FAA conducts such aeronautical studies only at public heliports and private airports with FAA-approved approach procedures. Paragraph 111 provides additional information on hazards to air navigation.

c. Curved VFR approach/departure paths. As an option, include one curve in VFR approach/departure paths. As an option, design these paths to use the airspace above public lands, such as freeways or rivers. When including a curved portion in the approach/departure path, make sure the sum of the radius of arc defining the center line and the length of the straight portion originating at the FATO is not less than 1,886 feet (575 m). Design the approach/departure path so the minimum radius of the curve is 886 feet (270 m) and that the curve follows a 1,000 feet (305 m) straight section. Design the approach/departure path so the combined length of the center line of the curved portion and the straight portion is 4,000 feet (1,219 m). See Figure 3–8.

d. Flight path alignment guidance. As an option, use flight path alignment markings and/or flight path alignment lights (see paragraphs 301.d and 301.g) where it is desirable and practicable to indicate available approach and/or departure flight path direction(s). See Figure 3–9.

e. Periodic review of obstructions. Vigilant heliport operators reexamine obstacles in the vicinity of approach/departure paths on at least an annual basis. This reexamination includes an appraisal of the growth of trees near approach and departure paths. Paragraph 111 provides additional information on hazards to air navigation. Pay particular attention to obstacles that need to be marked or lighted. It may be helpful to maintain a list of the GPS coordinates and the peak elevation of obstacles.

310. Heliport protection zone (HPZ). The FAA recommends the establishment of an HPZ for each approach/departure surface. The HPZ is the area under the approach/departure surface starting at the FATO perimeter and extending out for a distance of 400 feet (122 m), as illustrated in Figure 3–10. The HPZ is intended to enhance the protection of people and property on the ground. This is achieved through heliport owner control over the HPZ. Such control includes clearing HPZ areas (and maintaining them clear) of incompatible objects and activities. The FAA discourages residences and places of public assembly in an HPZ. (Churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons typify places of public assembly.) Do not locate hazardous materials, including fuel, in the HPZ.

311. Wind cone.

a. Specification. Use a wind cone conforming to AC 150/5345-27, Specification for Wind Cone Assemblies, to show the direction and magnitude of the wind. Use a color that provides the best possible color contrast to its background.

b. Wind cone location. Locate the wind cone so it provides the pilot with valid wind direction and speed information in the vicinity of the heliport under all wind conditions.

(1) At many landing sites, there may be no single, ideal location for the wind cone. At other sites, it may not be possible to site a wind cone at the ideal location. In such cases, install more than one wind cone in order to provide the pilot with all the wind information needed for safe operations.

(2) Place the wind cone so a pilot on the approach path can see it clearly when the helicopter is 500 feet (150 m) from the TLOF.

(3) Place the wind cone so pilots can see it from the TLOF.

(4) To avoid presenting an obstruction hazard, locate the wind cone(s) outside the safety area, and so it does not penetrate the approach/departure or transitional surfaces.

c. Wind cone lighting. For night operations, illuminate the wind cone, either internally or externally, to ensure it is clearly visible.

312. Taxiways and taxi routes. Taxiways and taxi routes provide for the movement of helicopters from one part of a landing facility to another. They provide a connecting path between the FATO and a parking area. They also provide a maneuvering aisle within the parking area. A taxi route includes the taxiway plus the appropriate clearances needed on both sides. The relationship between a taxiway and a taxi route is illustrated in Figure 3–11.

a. Taxiway/taxi route widths. The dimensions of taxiways and taxi routes are a function of helicopter size and type of taxi operations (ground taxi or hover taxi). Find these dimensions in Table 3-1. Normally, the requirement for hover taxi dictates the taxiway/taxi route widths. However, when the fleet comprises a combination of large ground taxiing helicopters and smaller air taxiing helicopters, the larger aircraft may dictate the taxiway/taxi route widths. If wheel-equipped helicopters taxi with wheels not touching the surface, design the facility with hover taxiway widths rather than ground taxiway widths. Where the visibility of the centerline marking cannot be guaranteed at all times, such as locations where snow or dust commonly obscure the centerline marking and it is not practical to remove it, determine the minimum taxiway/taxi route dimensions as if there was no centerline marking.

b. Surfaces. For ground taxiways, provide a portland cement concrete or asphalt surface. For unpaved portions of taxi routes, provide a turf cover or treat the ground in some way to prevent dirt and debris from being raised by a taxiing helicopter’s rotor wash.

c. Gradients. See Chapter 7 for taxiway and taxi route gradient standards.

313. Helicopter parking. A transport heliport has a paved apron for parking helicopters. The size of the apron depends on the number and size of specific helicopters to be accommodated. It is not necessary that every parking position accommodate the design helicopter. Design individual parking positions to accommodate the helicopter size and weight expected to use the parking position at the facility. However, use the design helicopter to determine the separation between parking positions and taxi routes. Use the larger helicopter to determine the separation between parking positions intended for helicopters of different sizes. Design parking positions to support the static loads of the helicopter intended to use the parking area. Ground taxi turns of wheeled helicopters are significantly larger than a hover turn. Consider the turn radius of helicopters when designing taxi intersections and parking positions for wheeled helicopters. Design heliport parking areas so helicopters will be parked in an orientation that keeps the “avoid areas” around the tail rotors (see Figure 3–12) clear of passenger walkways. Establish separate aprons for specific functions such as passenger boarding, maintenance, and parking of based and transient helicopters.

Table 3-1. Taxiway and Taxi Route Dimensions – Transport Heliports

Taxiway (TW)	Centerline Marking Type	TW Edge Marking Type	Minimum Width of Paved Area	Lateral Separation Between TW Edge Markings	Total Taxi Route Width
Ground Taxiway	Painted	Painted	2 x UC	2 x UC	1½ RD
Hover Taxi	Painted	Painted	2 x UC	2 x UC	2 RD
RD: rotor diameter of the design helicopter TW: taxiway UC: undercarriage length or width (whichever is larger) of the design helicopter					

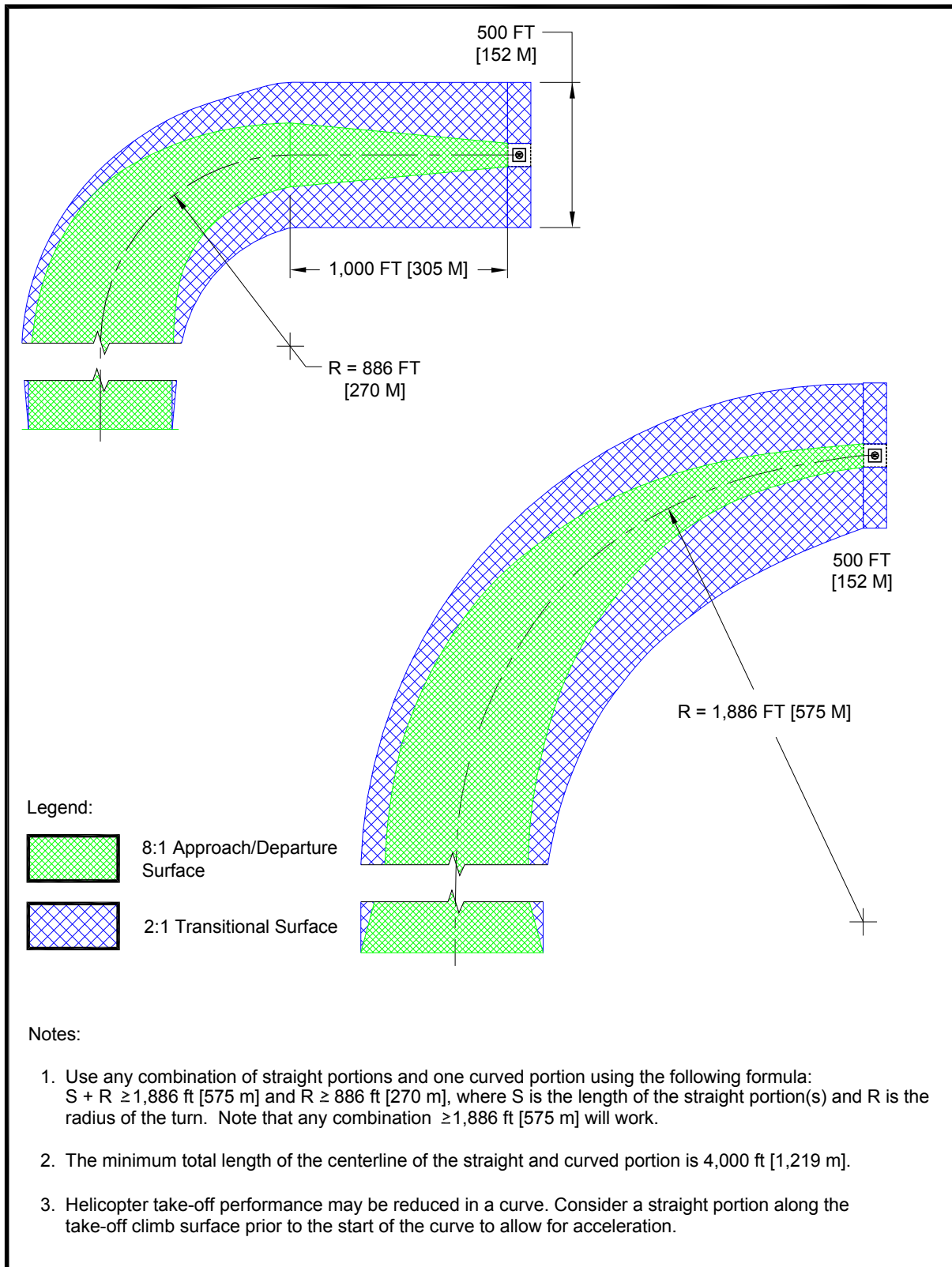


Figure 3–8. Curved Approach/Departure: Transport

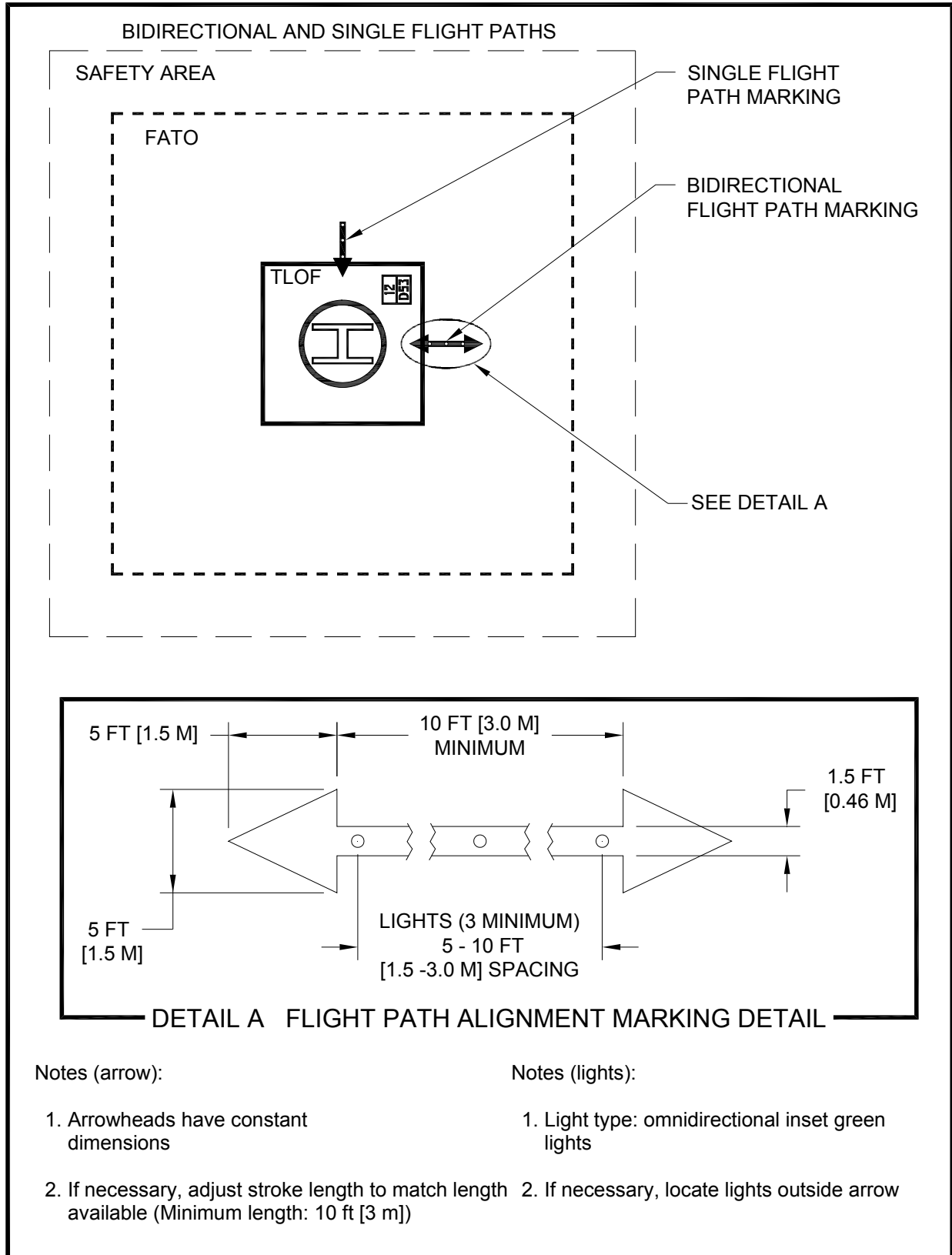


Figure 3-9. Flight Path Alignment Marking and Lights: Transport

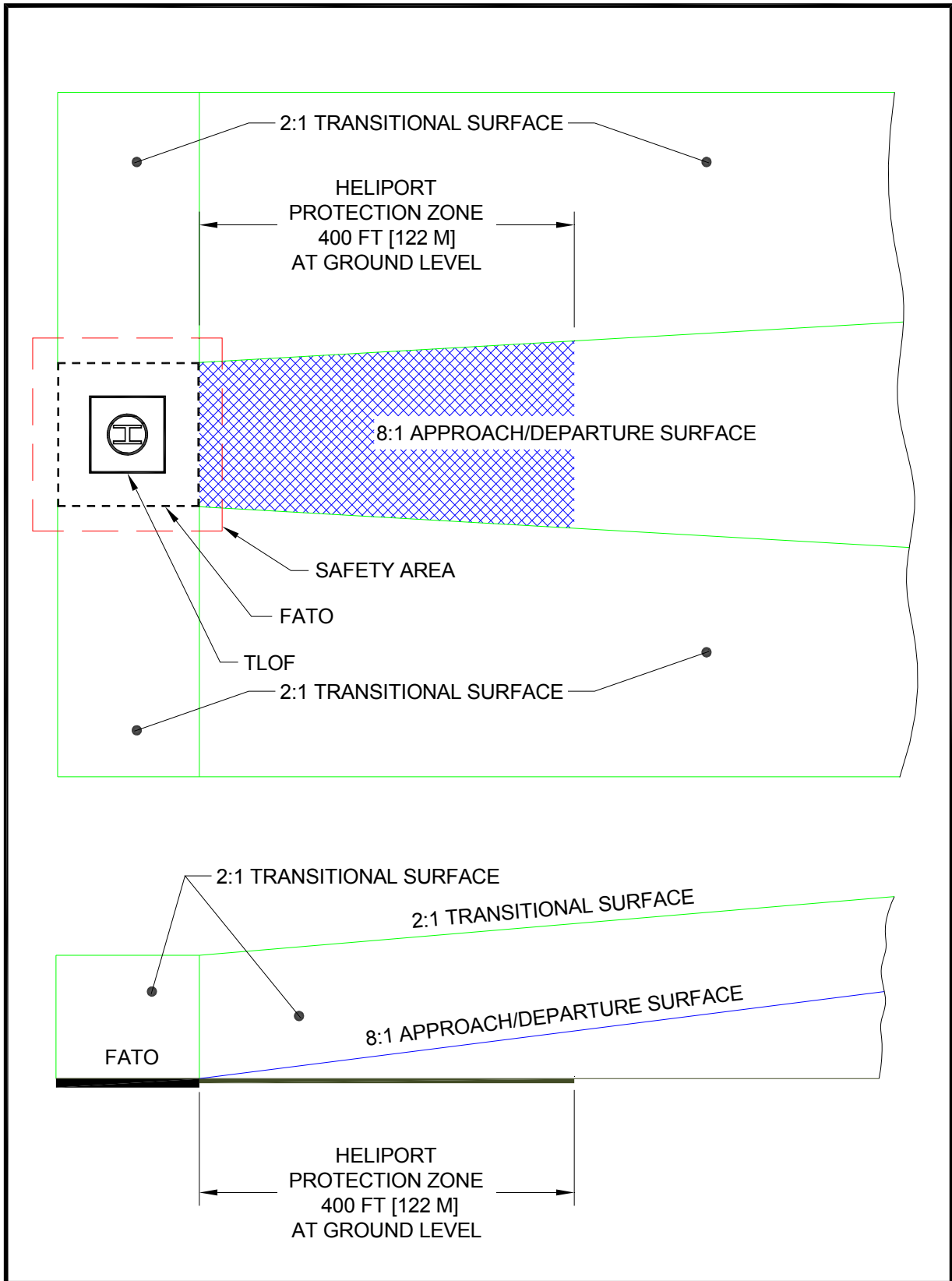
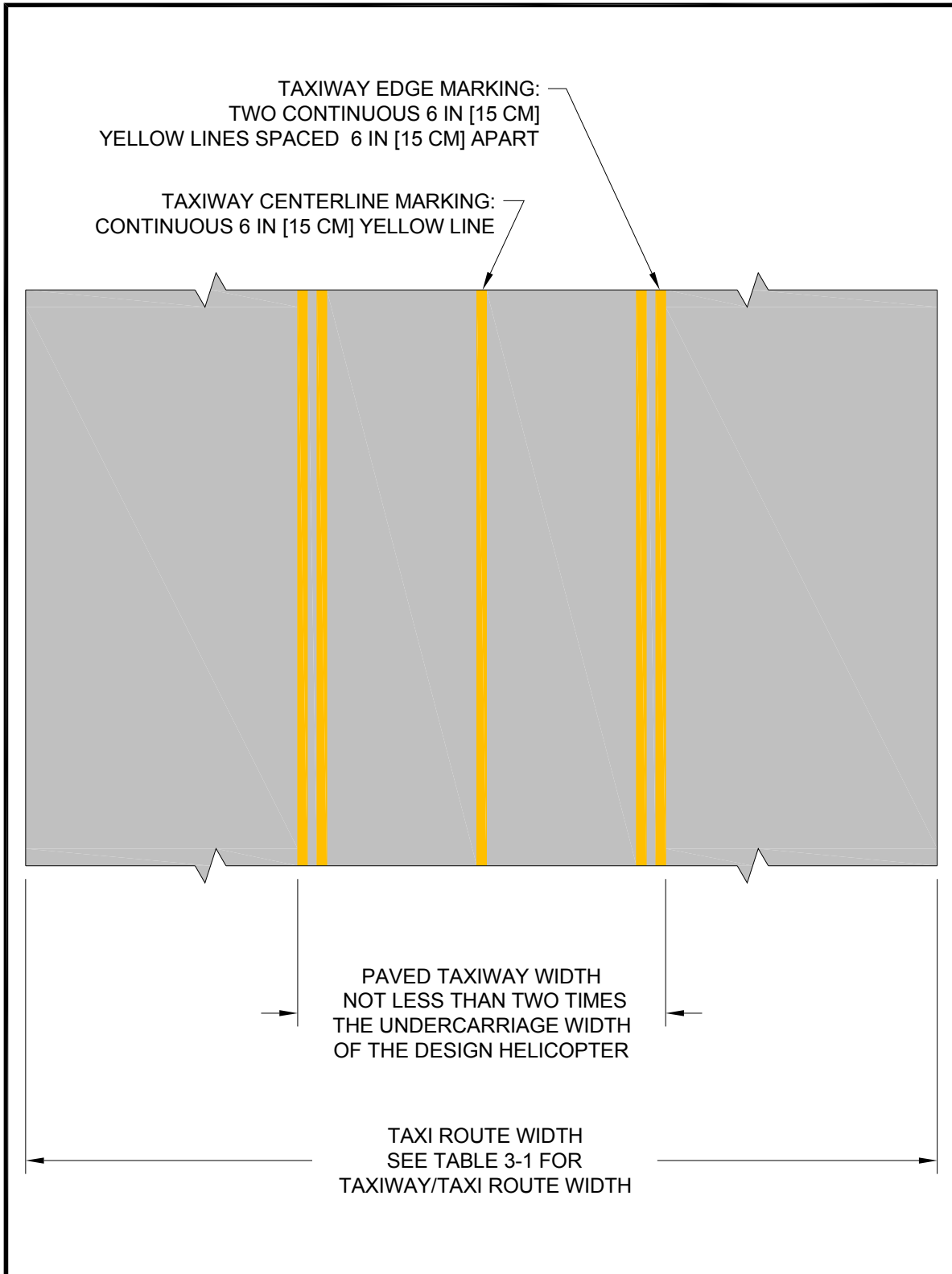


Figure 3–10. Heliport Protection Zone: Transport



**Figure 3–11. Taxiway/Taxi Route Relationship,
Centerline and Edge Marking: Transport**

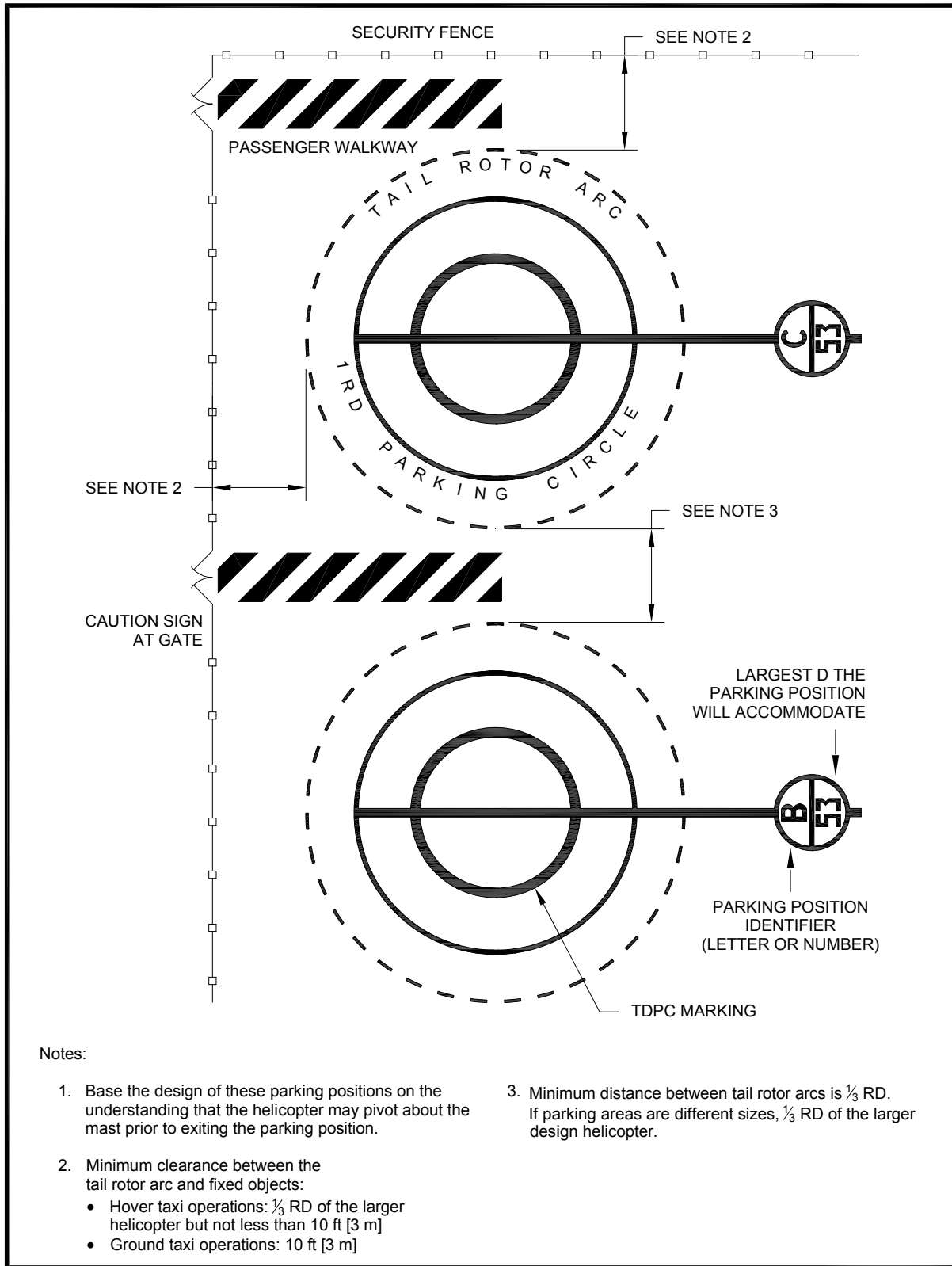


Figure 3–12. “Turn-around” Helicopter Parking Position Marking: Transport

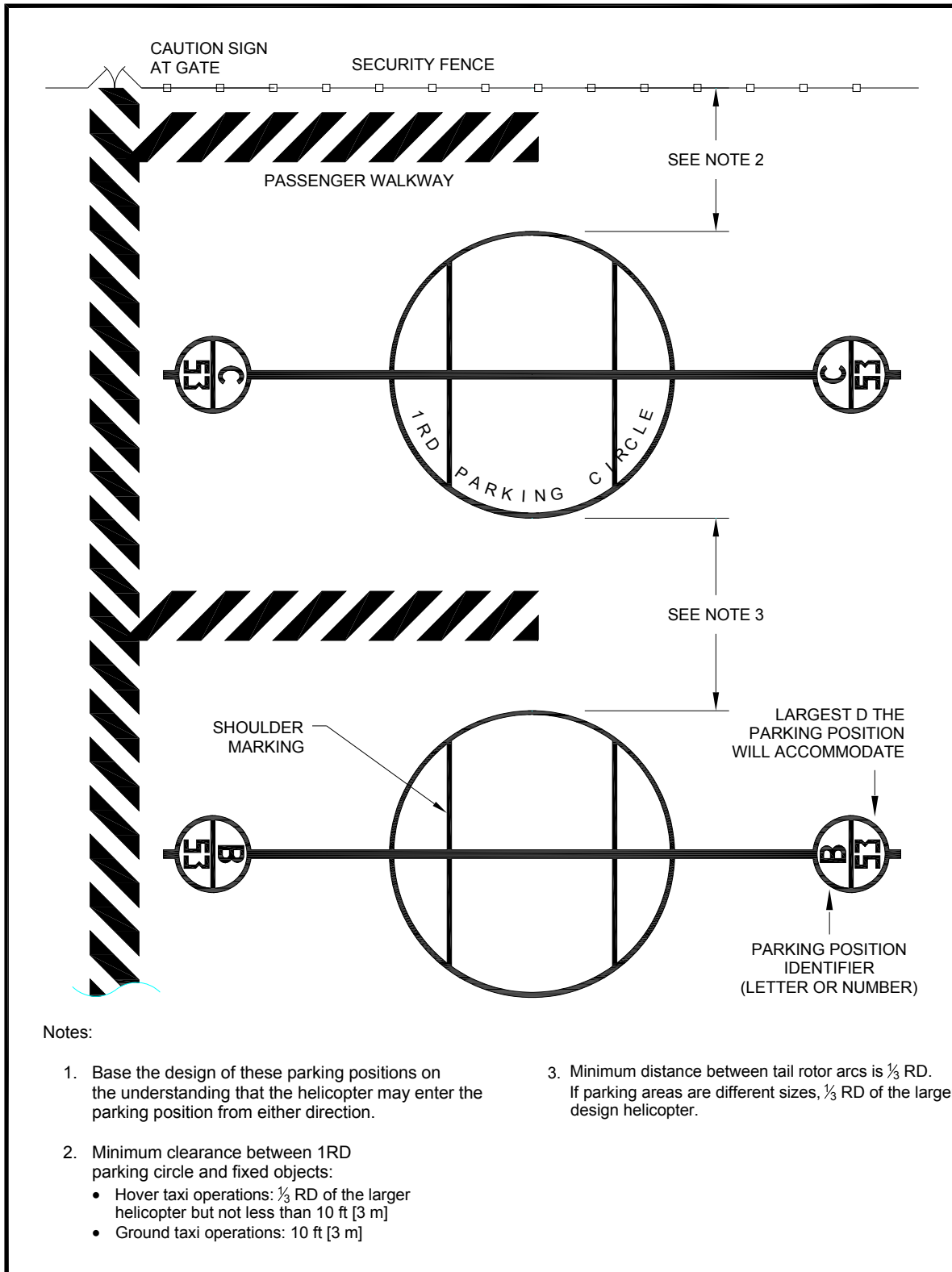


Figure 3-13. “Taxi-through” Helicopter Parking Position Marking: Transport

a. Location. Do not locate aircraft parking areas under an approach/departure surface. As an option, allow aircraft parking areas under the transitional surfaces.

(1) For “turn around” parking positions, locate the parking position to provide a minimum distance between the tail rotor arc and any object, building, or safety area. The standard for this distance is 10 feet (3 m) for ground taxi operations and the greater of 10 feet (3 m) or $\frac{1}{3}$ RD for hover taxi operations. See Figure 3–12 and Figure 3–14.

(2) For “taxi-through” parking positions, locate the parking position to provide a minimum distance between the main rotor circle and any object, building, or safety area. The standard for this distance is 10 feet (3 m) for ground taxi operations and the greater of 10 feet (3 m) or $\frac{1}{3}$ RD for hover taxi operations. See Figure 3–13 and Figure 3–15.

(3) Locate the parking position to provide a minimum distance between the tail rotor arc and the edge of any taxi route. The standard for this distance is $\frac{1}{2}$ RD but not less than 30 feet (9.1 m).

b. Size. Parking position sizes are dependent upon the helicopter size. The clearances between parking positions are dependent upon the type of taxi operations (ground-taxi or hover/ taxi) and the intended paths for maneuvering in and out of the parking position. The more demanding operation will dictate what is needed at a particular site. Usually, the parking area needs for skid-equipped helicopters will be the most demanding. However, when the largest helicopter is a very large, wheeled aircraft (for example, the S-61), and the skid-equipped helicopters are all much smaller, the parking size needs for wheeled helicopters may be the most demanding. If wheel-equipped helicopters taxi with wheels not touching the surface, design parking areas based on hover taxi operations rather than ground taxi operations.

(1) If all parking positions are the same size, design them to be large enough to accommodate the largest helicopter that will operate at the heliport.

(2) As an option when there is more than one parking position, design the facility with parking positions of various sizes with at least one position that will accommodate the largest helicopter that will park at the heliport. Design other parking positions to be smaller, for the size of the individual or range of individual helicopters parking at that position.

(3) “Turn-around” parking positions are illustrated in Figure 3–14.

(4) “Taxi-through” parking positions are illustrated in Figure 3–15. When using this design for parking positions, the heliport owner and operator take steps to ensure all pilots are informed that “turn-around” departures from the parking position are not permitted.

(5) Do not design “back-out” parking positions at transport heliports.

c. Passenger walkways. Provide marked walkways at parking positions. Locate passenger walkways to minimize passenger exposure to various risks during passenger loading and unloading. Design the pavement so spilled fuel does not drain onto passenger walkways or toward parked helicopters.

d. Fueling. Design the facility to allow fueling with the use of a fuel truck or a specific fueling area with stationary fuel tanks.

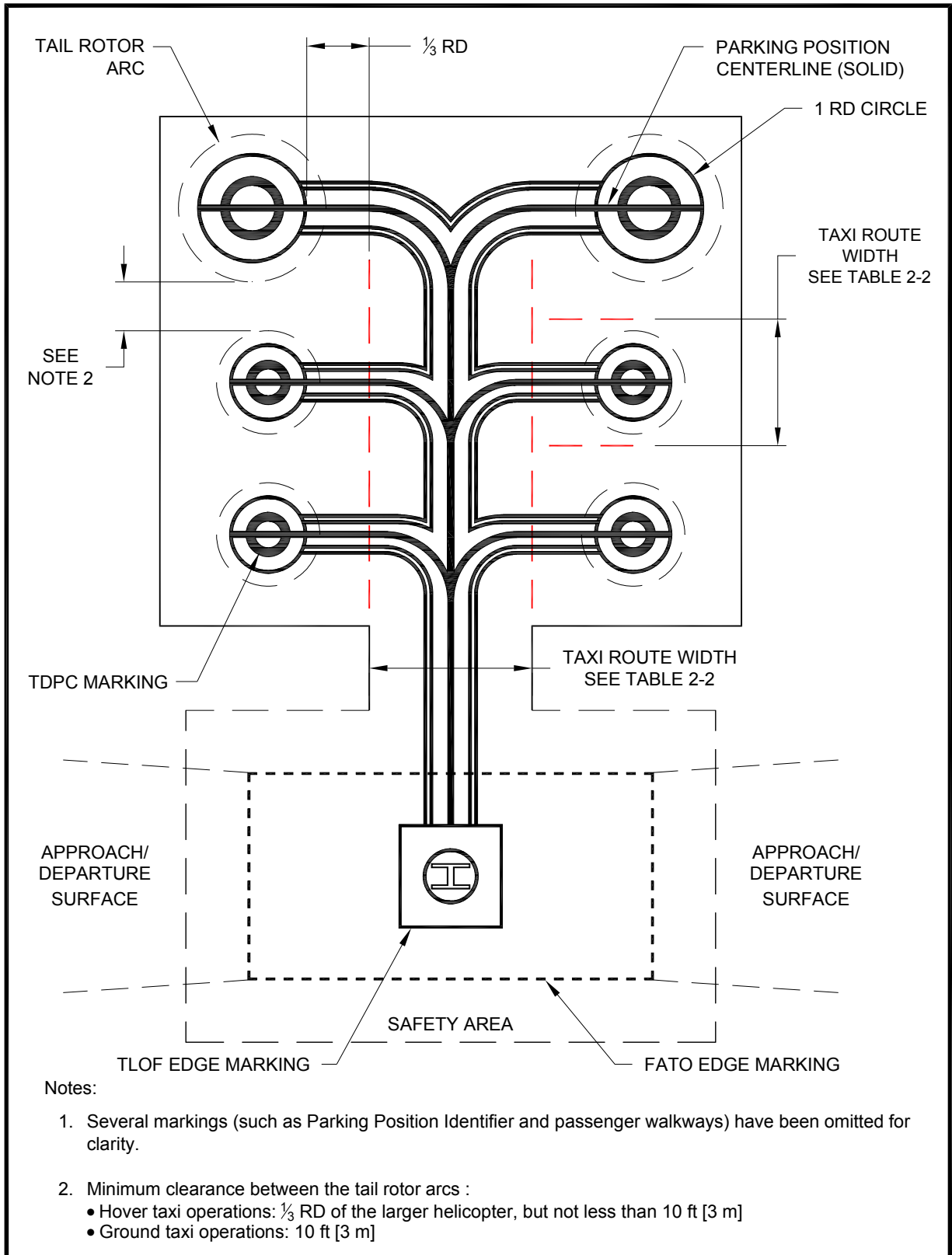


Figure 3-14. Parking Area Design – “Turn-around” Parking Positions: Transport

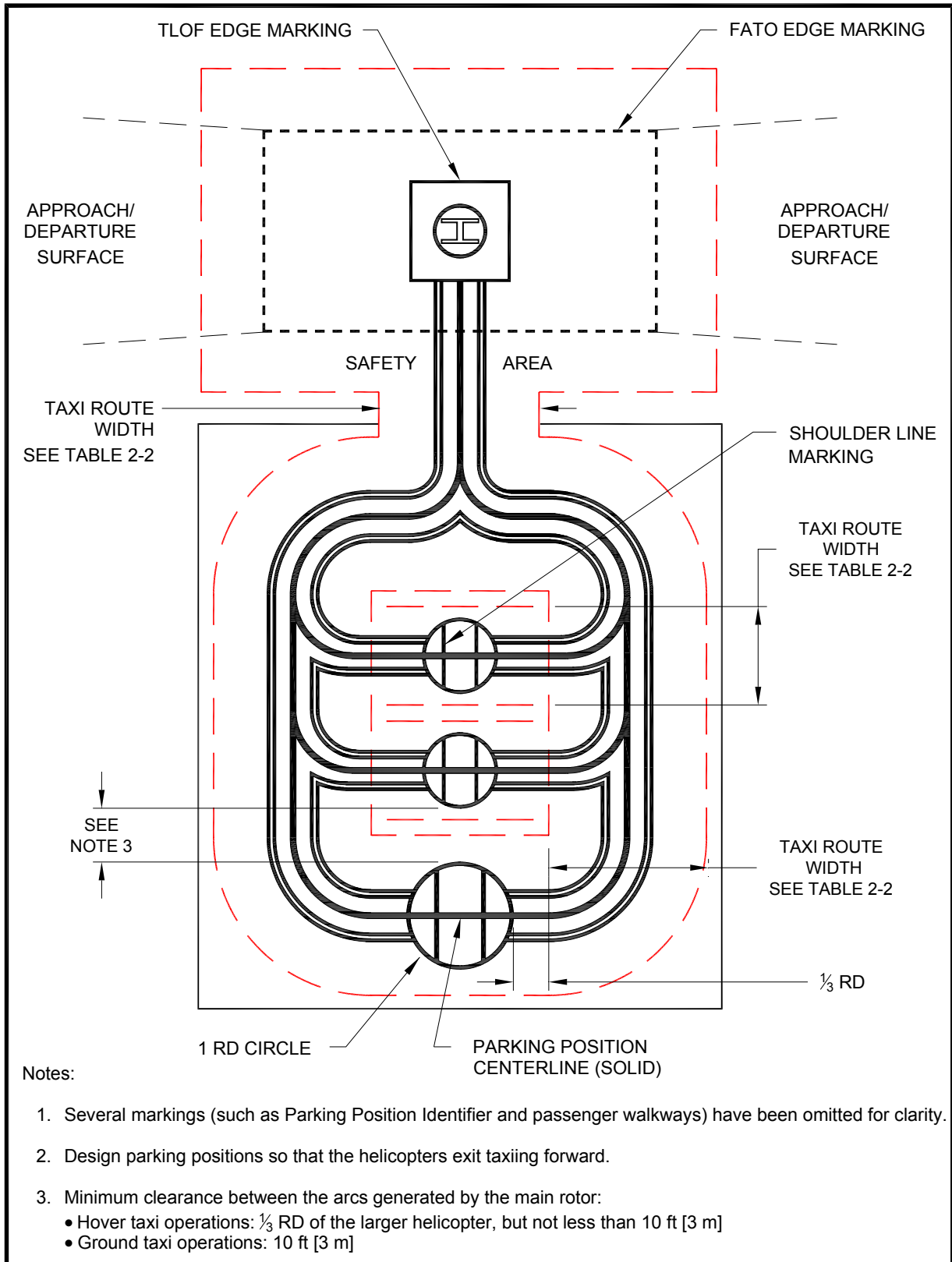


Figure 3-15. Parking Area Design – “Taxi-through” Parking Position

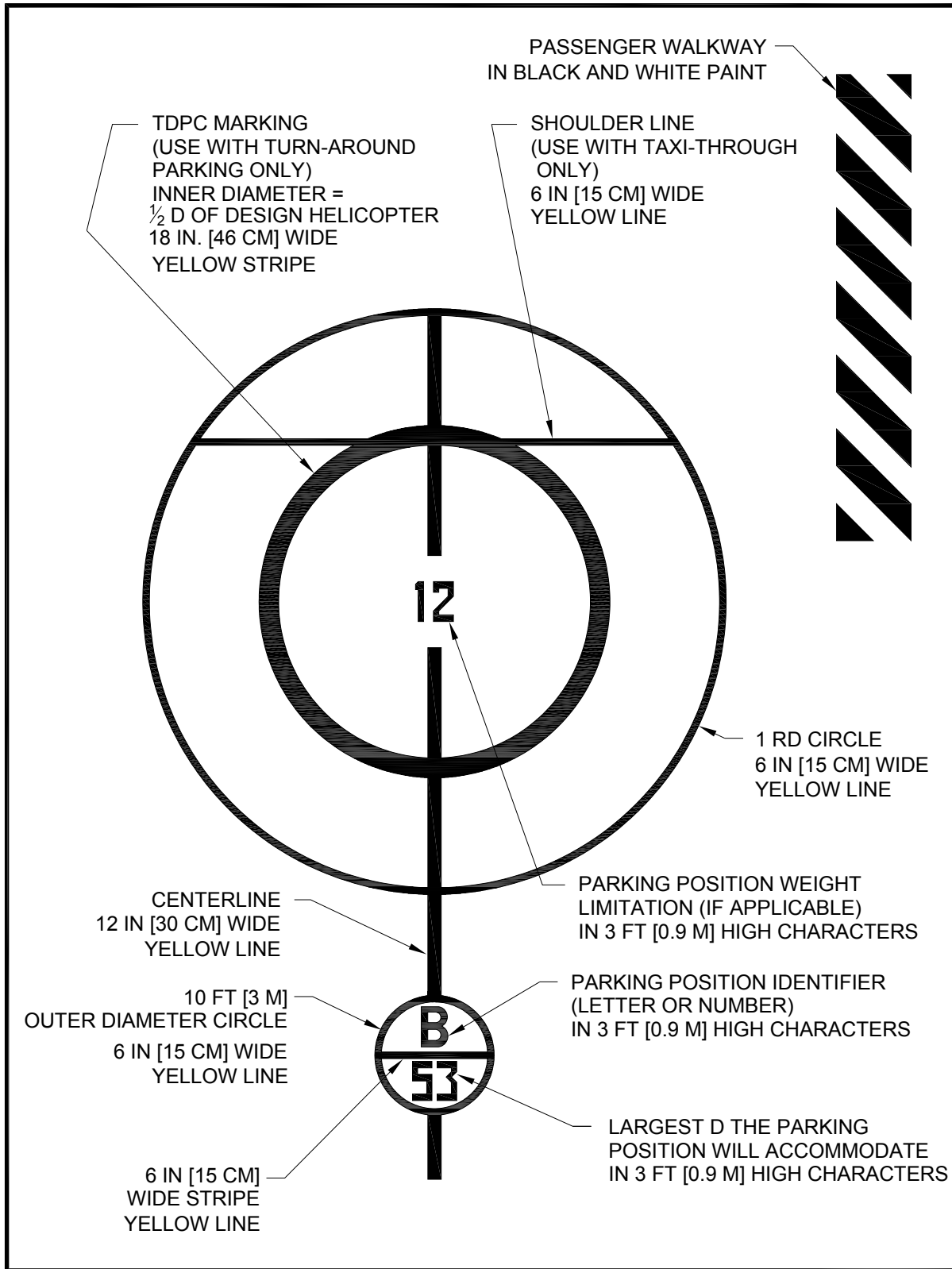


Figure 3-16. Parking Position Identification, Size and Weight Limitations: Transport

(1) Various federal, state, and local requirements for petroleum handling facilities apply to systems for storing and dispensing fuel. Find guidance in AC 150/5230-4, Aircraft Fuel Storage, Handling, and Dispensing on Airports. Find additional information in various National Fire Protection Association (NFPA) publications. For a list of more resources, see Appendix D.

(2) Do not locate fueling equipment in the TLOF, FATO, or safety area. Design separate fueling locations and mark them to minimize the potential for helicopters to collide with the dispensing equipment. Design fueling areas so there is no object tall enough to be hit by the main or tail rotor blades within a distance of RD of the design helicopter from the center point of the position where the helicopter is fueled (providing $\frac{1}{2}$ RD clearance from the rotor tips). If this is not practical at an existing facility, install long fuel hoses.

(3) Lighting. Light the fueling area if night fueling operations are contemplated. Ensure any light poles do not constitute an obstruction hazard.

e. **Tiedowns.** Install recessed tiedowns to accommodate extended or overnight parking of based or transient helicopters. Ensure any depression associated with the tiedowns is of a diameter not greater than one-half the width of the smallest helicopter landing wheel or landing skid anticipated to be operated on the heliport surface. In addition, provide storage for tiedown chocks, chains, cables, and ropes off the heliport surface to avoid fouling landing gear. Find guidance on tiedowns in AC 20-35, Tiedown Sense.

314. Heliport markers and markings. Markers and/or surface markings identify the facility as a heliport. Use surface markings of paint or preformed material. (See AC 150/5370-10, Item P-620, for specifications for paint and preformed material). As an option, use reflective paint and reflective markers, though remember overuse of reflective material can be blinding to a pilot using landing lights. As an option, outline lines/markings with a 6-inch (15 cm) wide line of a contrasting color to enhance conspicuity. Place markings that define the edges of a TLOF, FATO, taxiway or apron within the limits of those areas. Use the following markers and markings.

a. **Heliport identification marking.** The identification marking identifies the location as a heliport, marks the TLOF and provides visual cues to the pilot. The marking consists of a white "H." The "H" has a minimum height of 0.3 D. Locate the "H" in the center of the TLOF and orient it on the axis of the preferred approach/departure path. Place a one-foot wide bar under the "H" when it is necessary to distinguish the preferred approach/departure direction. The proportions and layout of the letter "H" are illustrated in Figure 3-17.

b. TLOF markings.

(1) **TLOF perimeter marking.** Define the perimeter of a TLOF with a continuous 12-inch (30 cm) wide, white line, as shown in Figure 3-18.

(2) **Touchdown/positioning circle (TDPC) marking.** A TDPC marking provides guidance to allow a pilot to touch down in a specific position on paved surfaces. When the pilot's seat is over the marking, the undercarriage will be inside the LBA, and all parts of the helicopter will be clear of any obstacle by a safe margin. A TDPC marking is a yellow circle with an inner diameter of $\frac{1}{2}$ D and a line width of 18 in (46 cm). Locate a TDPC marking in the center of a TLOF. See Figure 3-17.

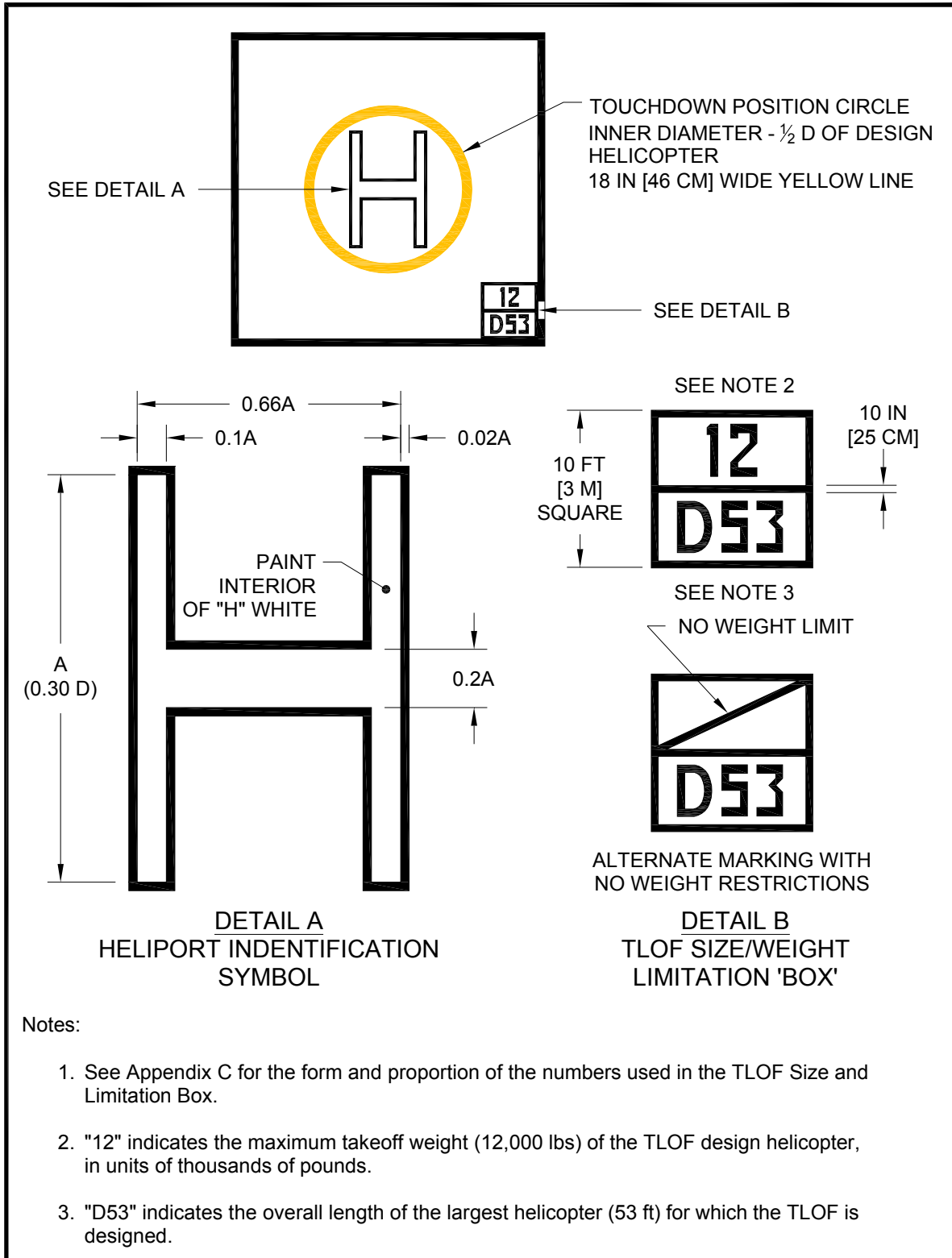
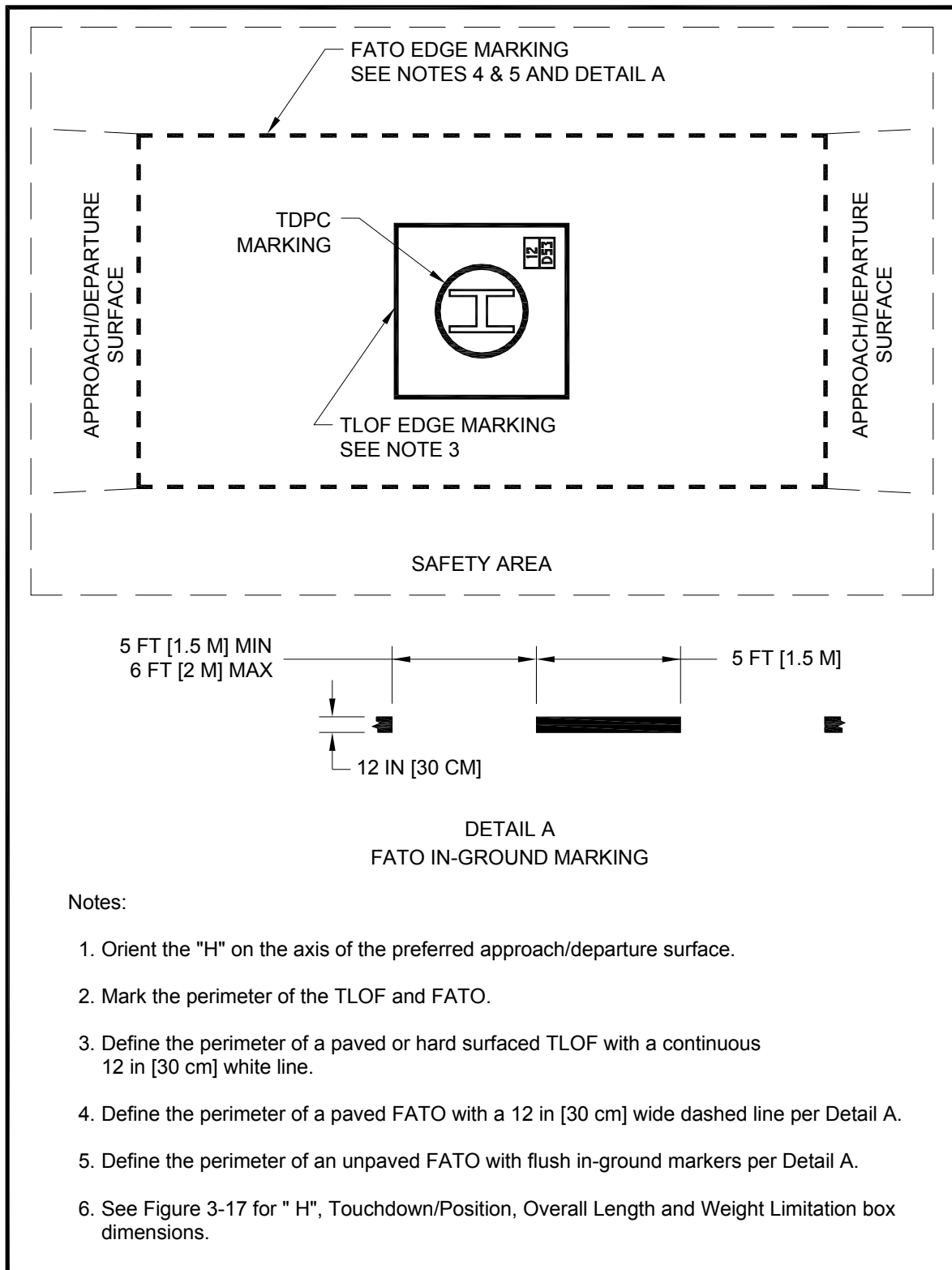


Figure 3-17. Standard Heliport Identification Symbol, TLOF Size and Weight Limitations: Transport



**Figure 3–18. Paved TLOF/Paved FATO –
Paved TLOF/Unpaved FATO – Marking: Transport**

(3) TLOF size and weight limitations. Mark the TLOF to indicate the length and weight of the largest helicopter it will accommodate, as shown in Figure 3–17. Place these markings in a box in the lower right-hand corner of the TLOF, or the on right-hand side of the “H” of a circular TLOF, when viewed from the preferred approach direction. The box is 10 feet square (3 m). The numbers are 36” (92 cm) high (see Figure C–2). The numbers are black with a white background.

(4) TLOF size limitation. This number is the length (D) of the largest helicopter the TLOF will accommodate, as shown in Figure 3–17. The marking consists of the letter “D” followed by the dimension in feet. Do not use metric equivalents for this purpose. Center this marking in the lower section of the TLOF size/weight limitation box.

(5) TLOF weight limitations. If a TLOF has limited weight-carrying capability, mark it with the maximum takeoff weight of the design helicopter, in units of thousands of pounds, as shown in Figure 3–17. Do not use metric equivalents for this purpose. Center this marking in the upper section of a TLOF size/weight limitation box. If the TLOF does not have a weight limit, add a diagonal line, extending from the lower left hand corner to the upper right hand corner, to the upper section of the TLOF size/weight limitation box.

c. FATO markings.

(1) FATO perimeter marking.

(a) Paved FATOs. Define the perimeter of a paved FATO with a 12-inch (30 cm) wide dashed white line. Define the corners of the FATO. The marking segments are approximately 5 feet (1.5 m) in length, and with end-to-end spacing of approximately 5 feet (1.5 m). See Figure 3–18.

(b) Unpaved FATOs. Mark the perimeter of an unpaved FATO with 12-inch (30 cm) wide, flush in-ground markers. Define the corners of the FATO. They are approximately 5 feet (1.5 m) in length, and with end-to-end spacing of approximately 5 feet (1.5 m). See Figure 3–18.

d. Flight path alignment guidance marking. An optional flight path alignment guidance marking consists of one or more arrows to indicate the preferred approach/departure direction(s). Place it on the TLOF, FATO and/or safety area surface as shown in Figure 3–9. The shaft of the arrow is 18 inches (50 cm) in width and at least 10 feet (3 m) in length. When combined with a flight path alignment guidance lighting system described in paragraph 301.g, it takes the form shown in Figure 3–9, which includes scheme for marking the arrowheads. Use a color that provides good contrast against the background color of the surface. An arrow pointing toward the center of the TLOF depicts an approach direction. An arrow pointing away from the center of the TLOF depicts a departure direction. In the case of a flight path limited to a single departure path, the arrow marking is unidirectional. In the case of a heliport with only a bidirectional approach /takeoff flight path available, the arrow marking is bidirectional.

e. Taxiway and taxi route markings.

(1) Taxiway markings. Mark the centerline of a taxiway with a continuous 6-inch (15 cm) yellow line. Mark both edges of the taxiway with two continuous 6-inch (15 cm) wide yellow lines spaced 6 inches (15 cm) apart. Figure 3–11 illustrates taxiway centerline and edge markings.

(2) Taxiway to parking position transition requirements. For paved taxiways and parking areas, taxiway centerline markings continue into parking positions and become the parking position centerlines.

f. Helicopter parking position markings. Helicopter parking positions have the following markings.

(1) Paved parking position identifications. Mark parking position identifications (numbers or letters) if there is more than one parking position. These markings are yellow characters 36 inches (91 cm) high. See Figure 3–16 and Figure C–1.

(2) Rotor diameter circle. Define the circle of the RD of the largest helicopter that will park at that position with a 6-inch (15 cm) wide, solid yellow line with an outside diameter of RD. See Figure 3–12.

(3) Touchdown/positioning circle (TDPC) marking. An optional TDPC marking provides guidance to allow a pilot to touch down in a specific position on paved surfaces. When the pilot’s seat is over the marking, the undercarriage will be inside the LBA, and all parts of the helicopter will be clear of any obstacle by a safe margin. A TDPC marking is a yellow circle with an inner diameter of $\frac{1}{2}$ D and a line width of 18 in (46 cm). Locate a TDPC marking in the center of a parking area. See Figure 3–16. The FAA recommends a TDPC marking for “turn-around” parking areas.

(4) Maximum length marking. This marking on paved surfaces indicates the D of the largest helicopter that the position will accommodate (for example, 49). This marking is in yellow characters at least 36 inches (91 cm) high. See Figure 3–17 and Figure C–1.

(5) Parking position weight limit. If a paved parking position has a weight limitation, mark it in units of 1,000 lbs as illustrated in Figure 3–16. (A “12” indicates a weight-carrying capability of up to 9,000 lbs. Do not use metric equivalents for this purpose.) This marking consists of yellow characters 36 inches (91 cm) high. When necessary to minimize the possibility of being misread, place a bar under the number. See Figure 3–17 and Figure C–1.

(6) Shoulder line markings. Use optional shoulder line markings for paved parking areas (Figure 3–12) to ensure safe rotor clearance. Locate a 6-inch (15 cm) wide solid yellow shoulder line, perpendicular to the centerline and extending to the RD marking, so it is under the pilot’s shoulder. This ensures the main rotor of the largest helicopter the position will accommodate will be entirely within the rotor diameter parking circle. See Figure 3–16. The FAA recommends a shoulder line marking for “taxi through” parking areas.

(7) Walkways. Figure 3–12 illustrates one marking scheme.

g. Closed heliport. Obliterate all markings of a permanently closed heliport, FATO, or TLOF. If it is impractical to obliterate markings, place a yellow “X” over the “H”, as illustrated in Figure 3–19. Make the yellow “X” large enough to ensure early pilot recognition that the heliport is closed. Remove the wind cone(s) and other visual indications of an active heliport.

h. Marking sizes. See Appendix C for guidance on the proportions of painted numbers.

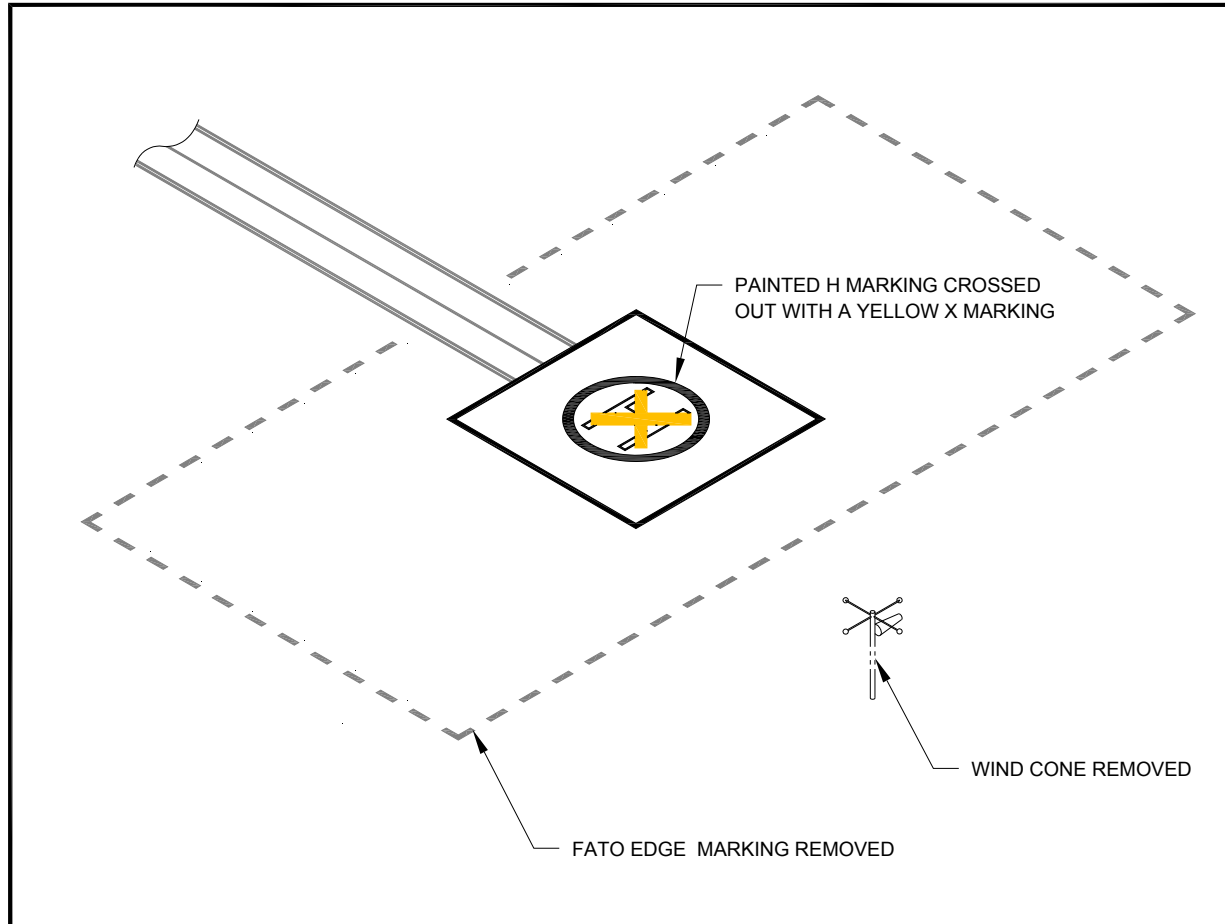


Figure 3–19. Marking a Closed Heliport: Transport

315. Heliport lighting. For night operations, light the heliport with FATO and/or TLOF perimeter lights as described below. Design flush light fixtures and installation methods to support point loads of the design helicopter transmitted through a skid or wheel.

a. TLOF – perimeter lights. Use flush green lights meeting the requirements of FAA Airports Engineering Brief 87, Heliport Perimeter Light for Visual Meteorological Conditions (VMC), to define the TLOF perimeter. Use a minimum of four light fixtures per side of the TLOF. Locate a light is located at each corner, with additional lights uniformly spaced between the corner lights. Using an odd number of lights on each side will place lights along the centerline of the approach. Install lights at a maximum spacing of 25 feet (7.6 m). Locate flush lights within 1 foot (30 cm) (inside or outside) of the TLOF perimeter. Figure 3–20 and Figure 3–21 illustrate this lighting.

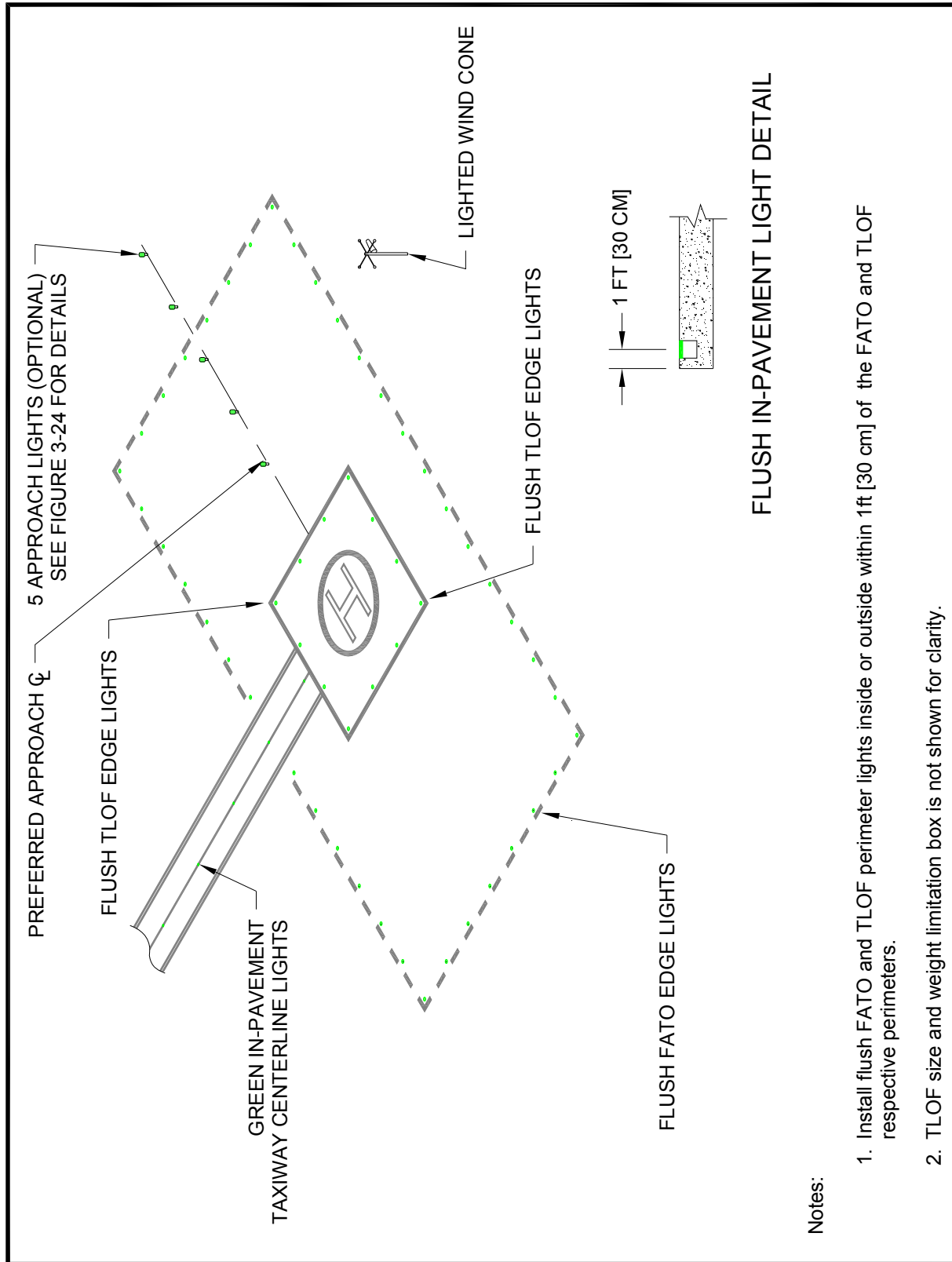


Figure 3–20. TLOF and FATO Flush Perimeter Lighting: Transport

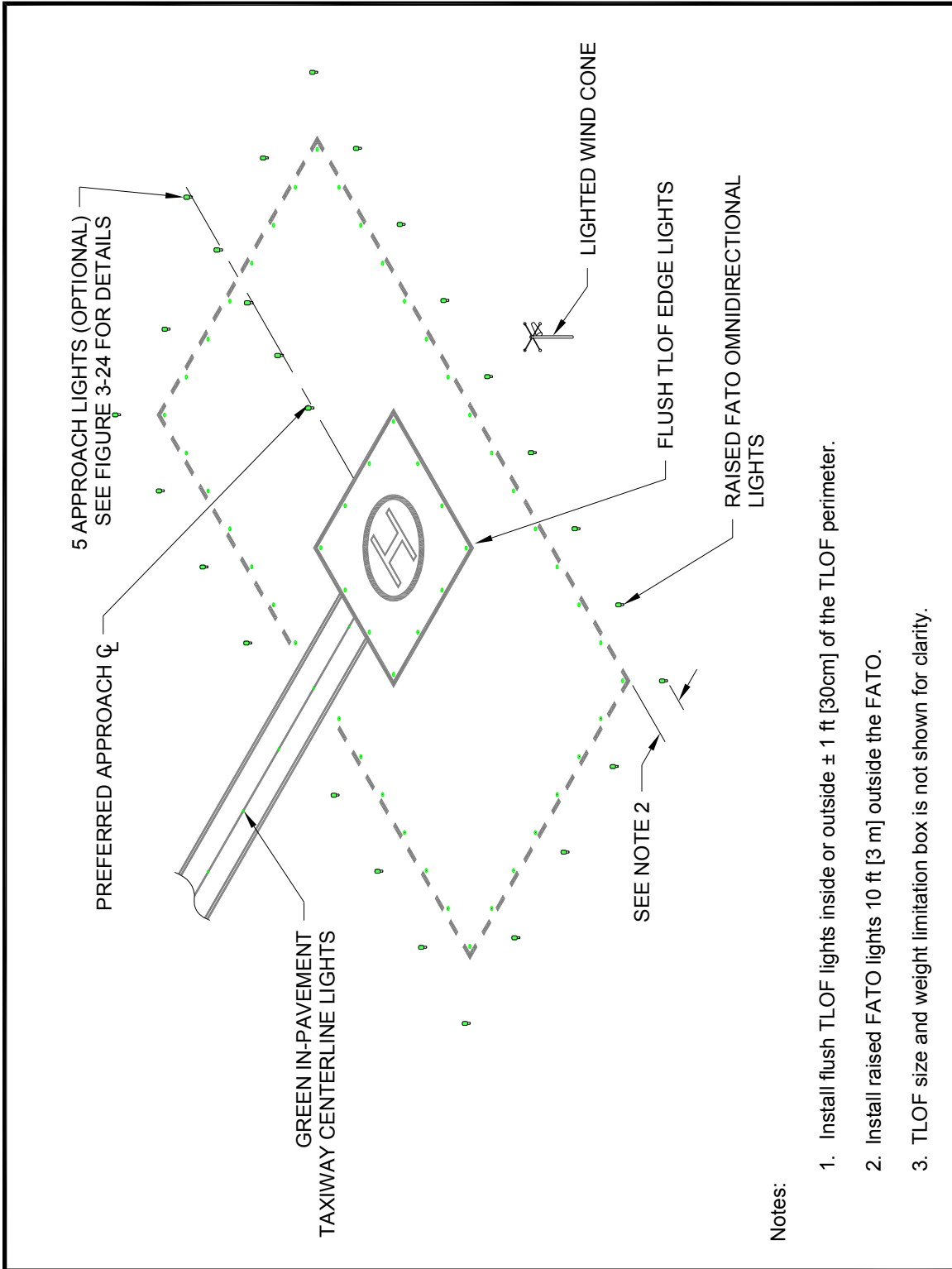


Figure 3–21. FATO Raised and TLOF Flush Perimeter Lighting: Transport

b. Optional TLOF lights. As an option, install a line of 7 green, flush lights meeting the standards of EB 87 spaced at 5-foot (1.5 m) intervals in the TLOF pavement. Align these lights on the centerline of the approach course to provide close-in directional guidance and improve TLOF surface definition. These lights are illustrated in Figure 3–22.

c. Ground level FATO perimeter lights. Use green lights meeting the requirements of EB 87 to define the limits of the FATO. Locate a light at each corner with additional lights uniformly spaced between the corner lights with a maximum interval of 25 feet (8 m) between lights. Using an odd number of lights on each side will place lights along the centerline of the approach. Locate flush lights within 1 foot (30 cm) inside or outside of the FATO perimeter. Mount raised light fixtures frangibly, no more than 8 inches (20 cm) high, and locate them 10 feet (3 m) out from the FATO perimeter. Make sure they do not penetrate a horizontal plane at the FATO elevation by more than 2 inches (5 cm). See Figure 3–21 and Figure 7–3.

d. Elevated FATO – perimeter lights. Lighting for an elevated FATO is the same as for a ground level FATO. As an option, locate lights at the outside edge of the safety net, as shown in Figure 3–23. Make sure the raised lights do not penetrate a horizontal plane at the FATO elevation by more than 2 inches (5 cm). See Figure 7–3.

e. Floodlights. Use floodlights to illuminate the parking apron. If possible, mount these floodlights on adjacent buildings to eliminate the need for tall poles. Take care, however, to place floodlights clear of the TLOF, the FATO, the safety area, and the approach/departure surfaces and transitional surfaces and ensure the floodlights and their associated hardware do not constitute an obstruction hazard. Aim floodlights down to provide illumination on the apron surface. Make sure floodlights that might interfere with pilot vision during takeoff and landings are capable of being turned off by pilot control or at pilot request.

f. Landing direction lights. As an option when it is necessary to provide directional guidance, install landing direction lights. Landing direction lights are a configuration of five green omnidirectional lights meeting the standards of EB 87 on the centerline of the preferred approach/departure path. Space these lights at 15-foot (4.6 m) intervals beginning at a point not less than 30 feet (9 m) and not more than 60 feet (18 m) from the TLOF perimeter and extending outward in the direction of the preferred approach/departure path, as illustrated in Figure 3–24.

g. Flight path alignment lights. As an option, install flight path alignment lights meeting the requirements of EB 87. Place them in a straight line along the direction of approach and/or departure flight paths, extending as necessary across the TLOF, FATO, safety area or any suitable surface in the immediate vicinity of the FATO or safety area. Install three or more green lights spaced at 5 feet (1.5 m) to 10 feet (3.0 m). See Figure 3–9.

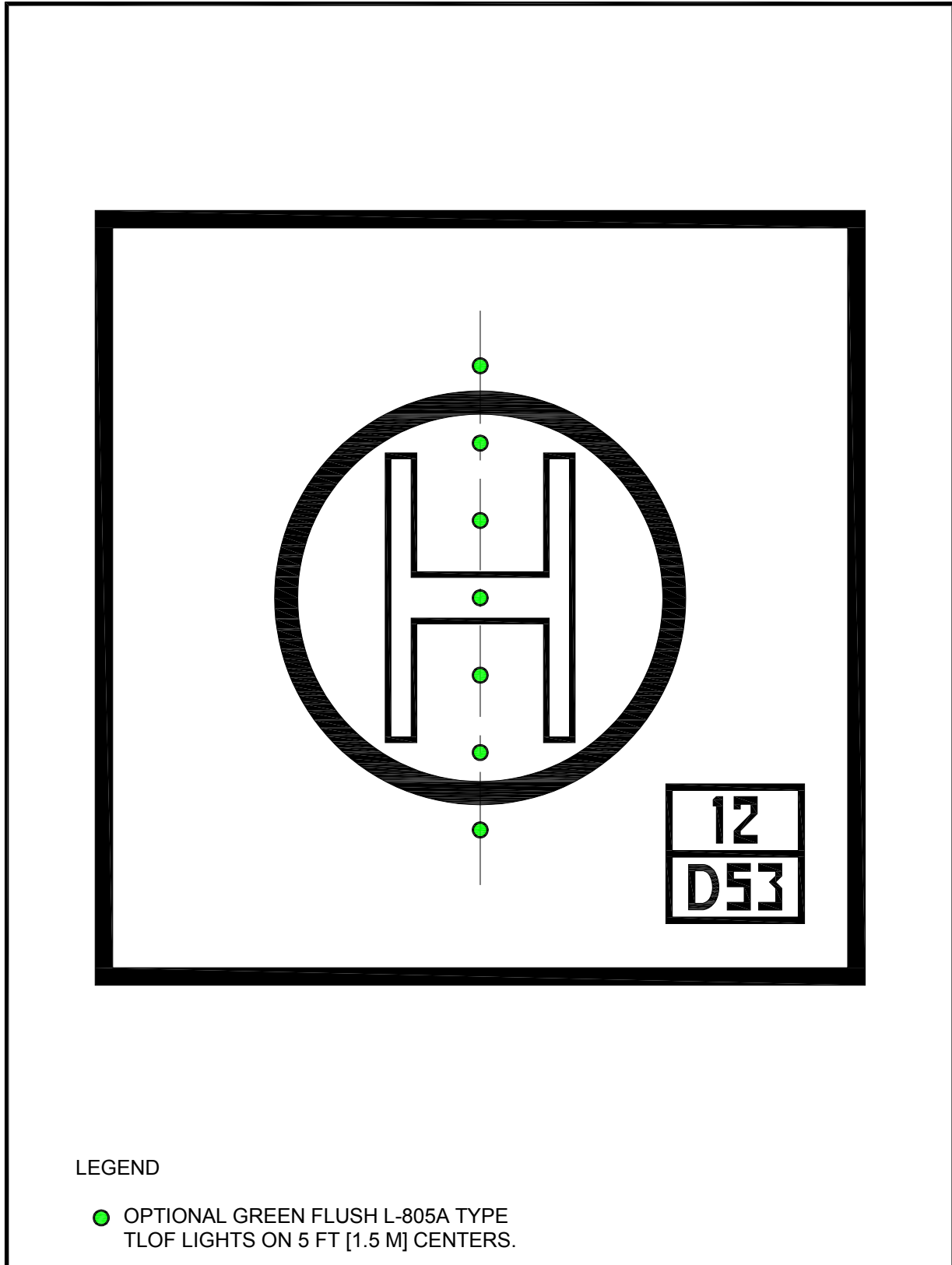


Figure 3–22. Optional TLOF Lights: Transport

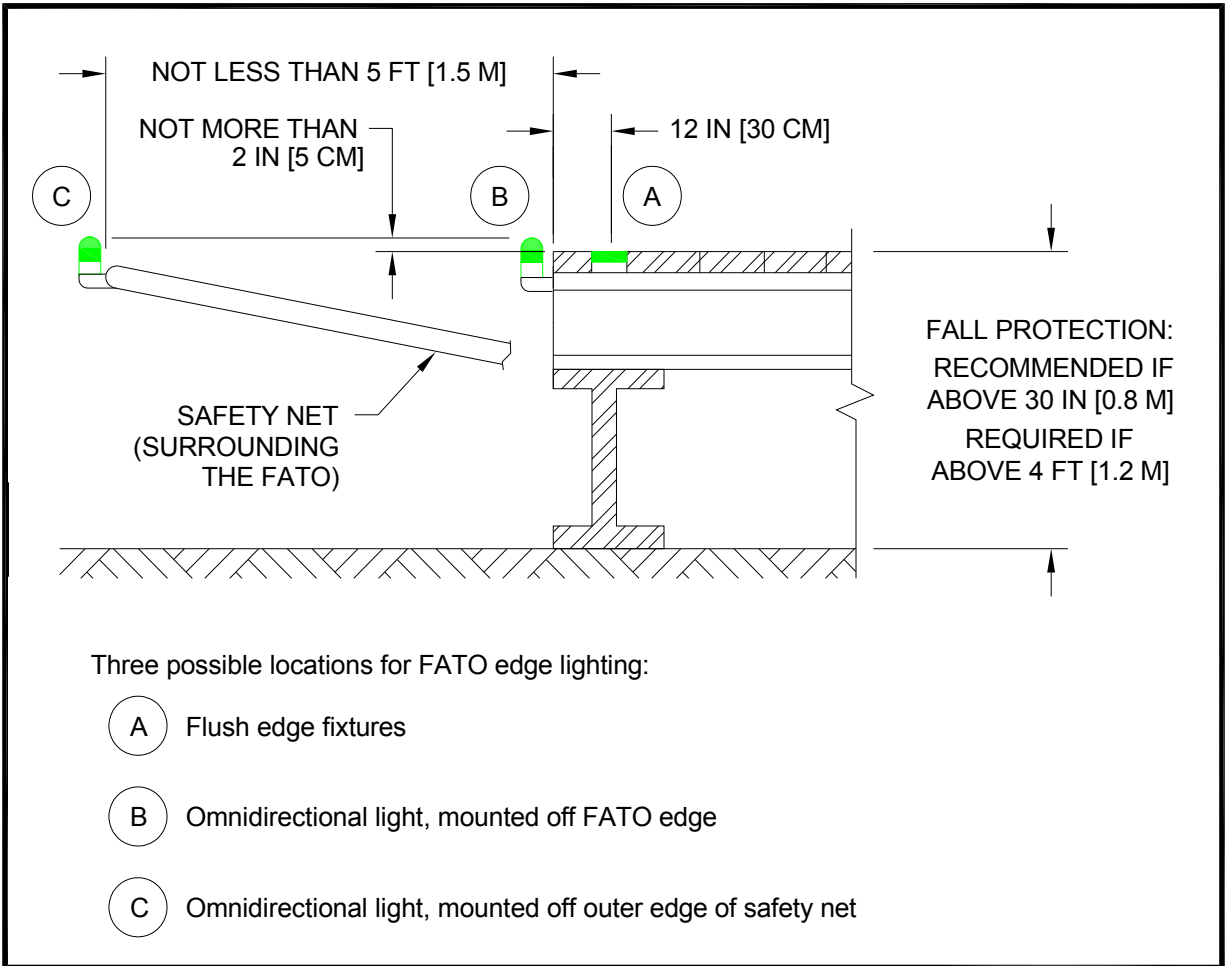


Figure 3–23. Elevated FATO – Perimeter Lighting: Transport

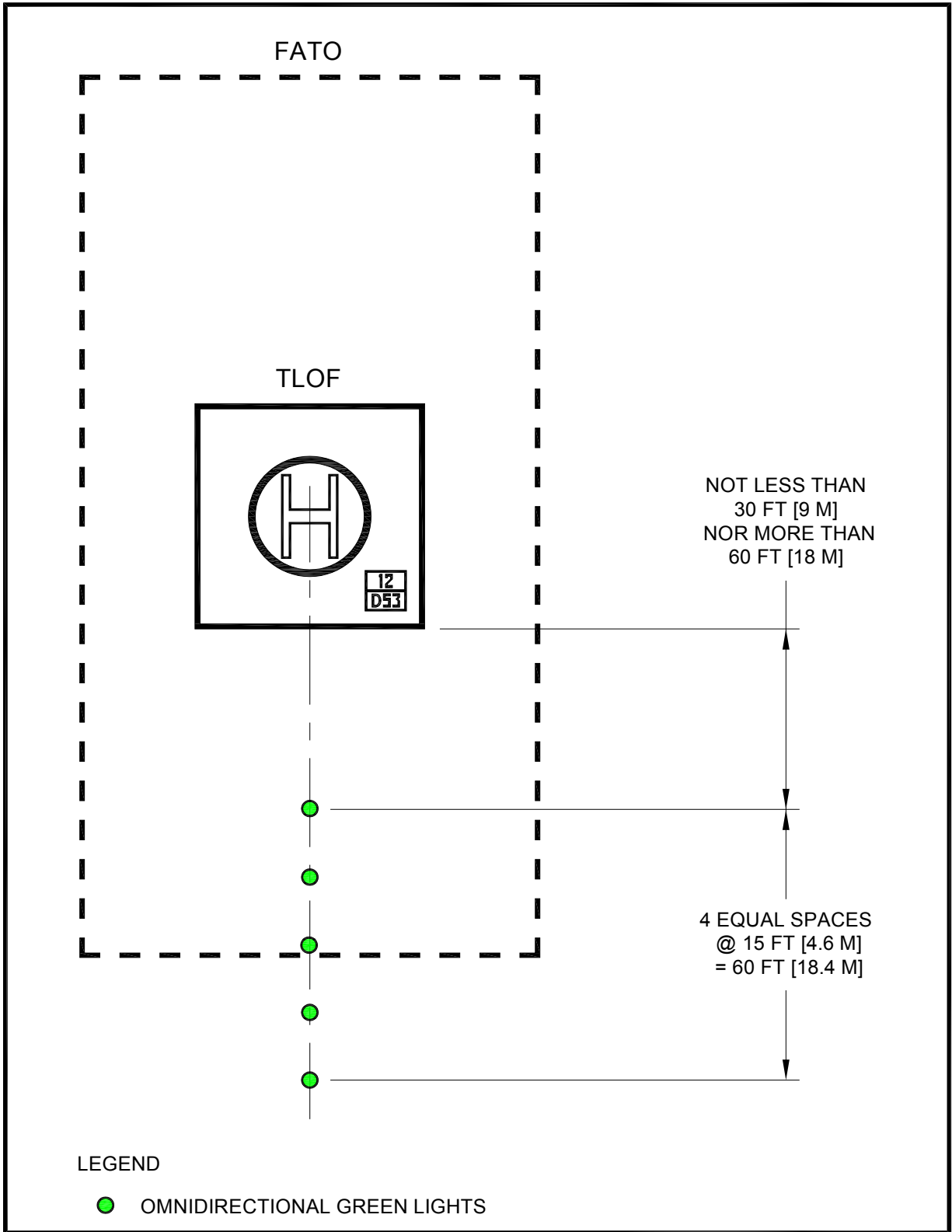


Figure 3-24. Landing Direction Lights: Transport

h. Taxiway and taxi route lighting.

(1) Taxiway centerline lights. Define taxiway centerlines with flush bidirectional green lights meeting the standards of AC 150/5345-46, Specification for Runway and Taxiway Light Fixtures, for type L-852A (straight segments) or L-852B (curved segments). Space these lights at maximum 50-foot (15 m) longitudinal intervals on straight segments and at maximum 25-foot (7.6 m) intervals on curved segments, with a minimum of four lights needed to define the curve. As an option, uniformly offset taxiway centerline lights no more than two feet (0.6 m) to ease painting the taxiway centerline. Do not use retroreflective markers.

(2) Taxiway edge lights. Use flush omnidirectional blue lights meeting the standards of AC 150/5345-46 for type L-852T to mark the edges of a taxiway. Do not use retroreflective markers.

(a) Straight segments. Space lights at 50-foot (15.2 m) longitudinal intervals on straight segments.

(b) Curved segments. Curved taxiway edges require shorter spacing of edge lights. Base the spacing on the radius of the curve. AC 150/5340-30, Design and Installation Detail for Airport Visual Aids shows the applicable spacing for curves. Space taxiway edge lights uniformly. On curved edges of more than 30 degrees from point of tangency (PT) of the taxiway section to PT of the intersecting surface, install have at least three edge lights. For radii not listed in AC 150/5340-30, determine spacing by linear interpolation.

i. **Heliport identification beacon.** Install a heliport identification beacon. Locate the beacon, flashing white/green/yellow at the rate of 30 to 45 flashes per minute, on or close to the heliport. Find guidance on heliport beacons in AC 150/5345-12, Specification for Airport and Heliport Beacon.

316. Marking and lighting of difficult-to-see objects. It is difficult for a pilot to see unmarked wires, antennas, poles, cell towers, and similar objects, even in the best daylight weather, in time to take evasive action. While pilots can avoid such objects during en route operations by flying well above them, approaches and departures require operations near the ground where obstacles may be a factor. This paragraph discusses the marking and lighting of objects near, but outside and below the approach/departure surface. Find guidance on marking and lighting objects in AC 70/7460-1, Obstruction Marking and Lighting.

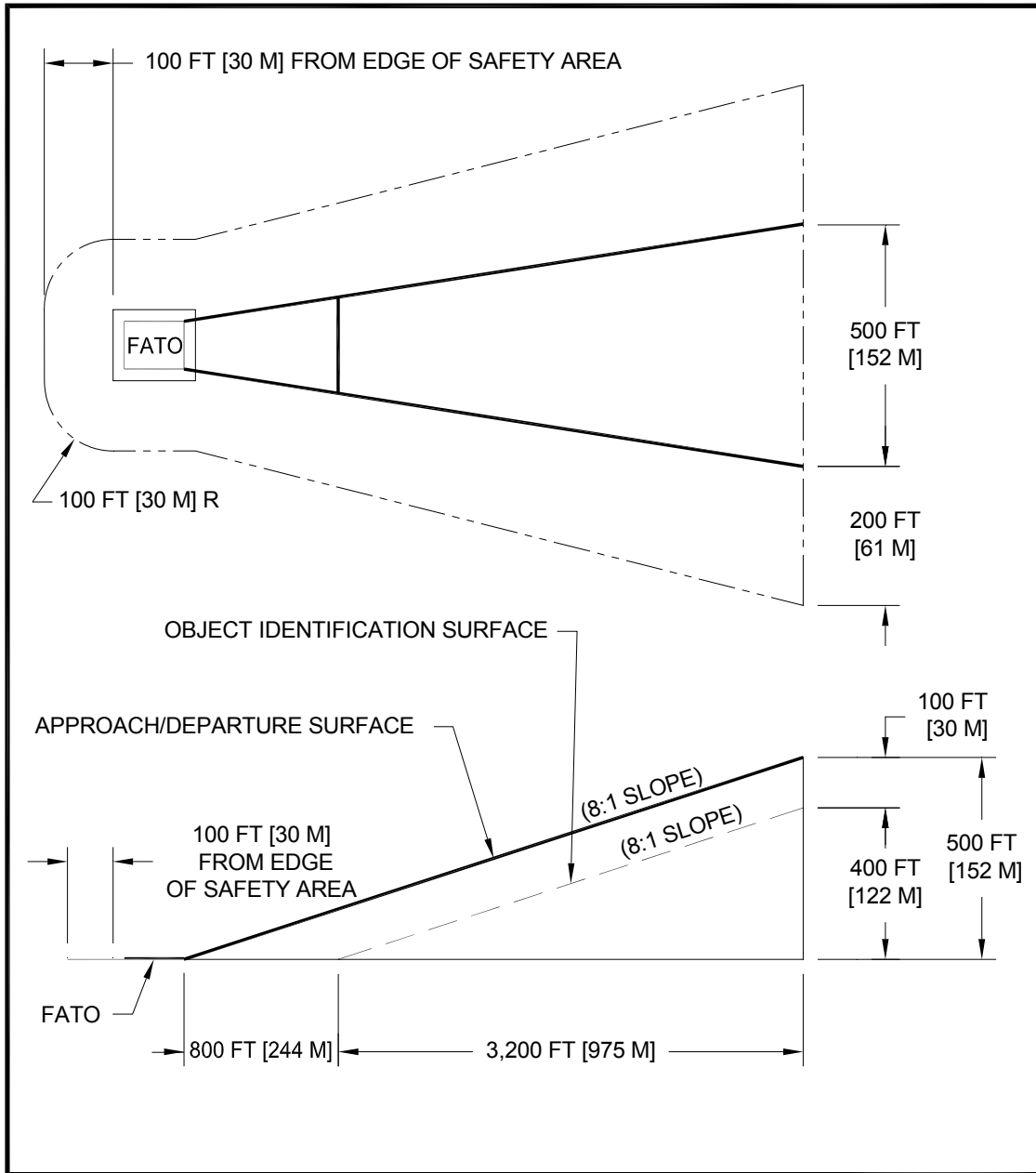
a. **Airspace.** If difficult-to-see objects penetrate the object identification surfaces illustrated in Figure 3-25 and Figure 3-26, mark these objects to make them more conspicuous. If a heliport supports operations between dusk and dawn, light these difficult-to-see objects. The object identification surfaces in Figure 3-25 and Figure 3-26 are described as follows:

(1) In all directions from the safety area except under the approach/departure paths, the object identification surface starts at the safety area perimeter and extends out horizontally for a distance of 100 feet (30.5 m).

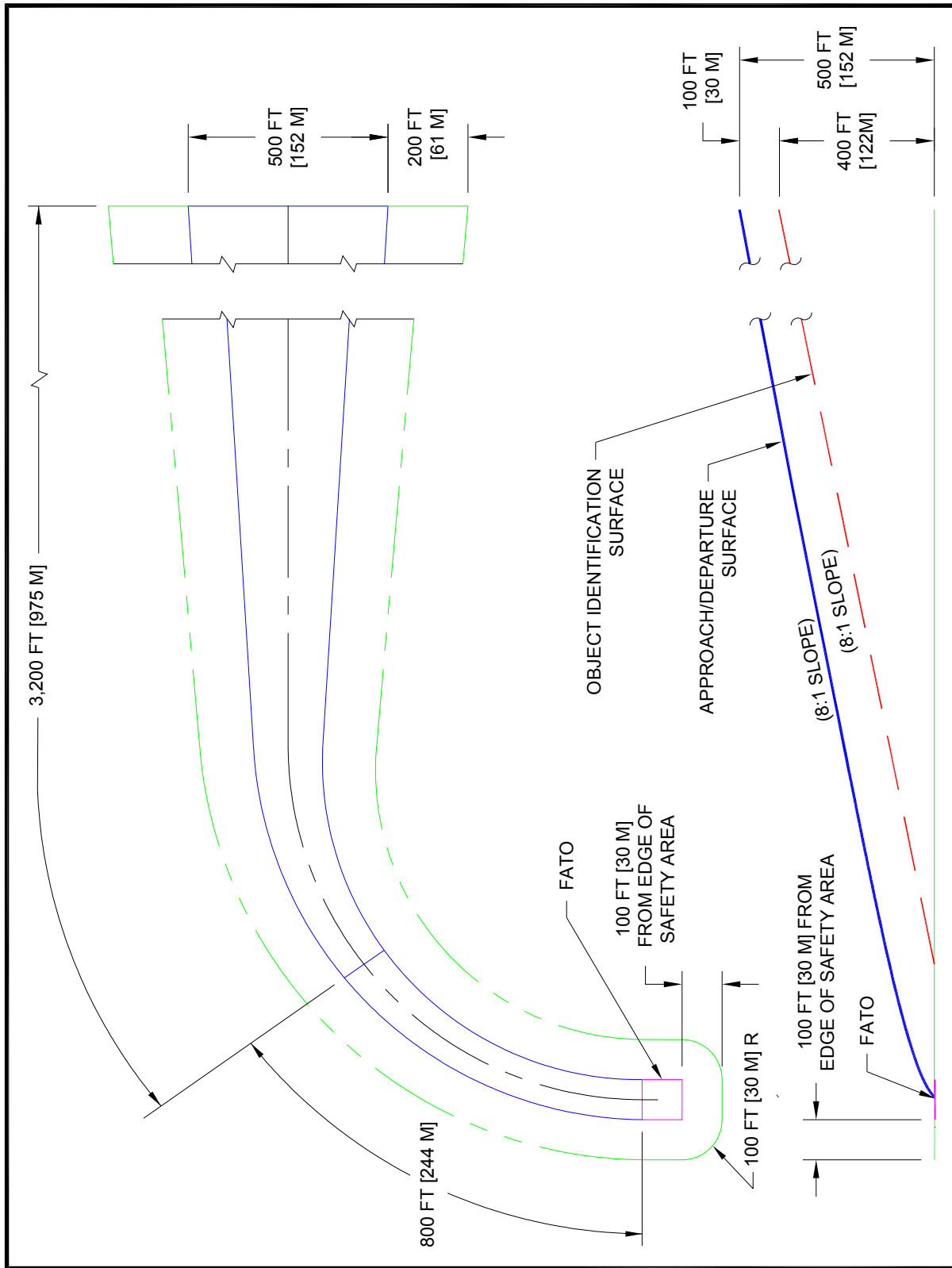
(2) Under the approach/departure surface, the object identification surface starts from the outside edge of the FATO and extends horizontally out along the approach path for a distance of 800 feet (244 m). From this point, the object identification surface extends out for an additional distance of 3,200 feet (975 m) along the approach path while rising on an 8:1 slope (8 units horizontal in 1 unit vertical). From the point 800 feet (244 m) from the FATO perimeter, the object identification surface is 100 feet (30.5 m) beneath the approach/departure surface.

(3) The width of this object identification surface under the approach/departure surface increases as a function of distance from the safety area. From the safety area perimeter, the object identification surface extends laterally to a point 100 feet (30.5 m) outside the safety area perimeter. At the upper end of the surface, the object identification surface extends laterally 200 feet (61 m) on either side of the approach/departure path.

b. Shielding of objects. Title 14 CFR Part 77.9, Construction or alteration requiring notice, provides that if there are a number of objects close together, it may not be necessary to mark all of them if they are shielded. To meet the shielding guidelines part 77 requires that an object “be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation.”



**Figure 3–25. Airspace Where Marking and Lighting are Recommended:
Straight Approach: Transport**



**Figure 3-26. Airspace Where Marking and Lighting are Recommended:
Curved Approach: Transport**

c. Equipment/object marking. Make heliport maintenance and servicing equipment, as well as other objects used in the airside operational areas, conspicuous with paint, reflective paint, reflective tape, or other reflective markings. Reference AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport.

317. Safety considerations. Consider the safety enhancements discussed below in the design of a heliport. Address other areas, such as the effects of rotor downwash, based on site conditions and the design helicopter.

a. Security. Provide a means to keep the operational areas of a heliport clear of people, animals, and vehicles. Use a method to control access depending upon the helicopter location and types of potential intruders.

(1) Safety barrier. At ground-level transport heliports, erect a safety barrier around the helicopter operational areas in the form of a fence or a wall. Construct the barrier no closer to the operation areas than the outer perimeter of the safety area. Make sure the barrier does not penetrate any approach/departure (primary or transitional) surface. If necessary in the vicinity of the approach/departure paths, install the barrier well outside the outer perimeter of the safety area.

(2) Make sure any barrier is high enough to present a positive barrier to persons inadvertently entering an operational area and yet low enough to be non-hazardous to helicopter operations.

(3) Control access to airside areas with locked gates and doors. Display a cautionary sign similar to that illustrated in Figure 3–27 on gates and doors.

b. Rescue and fire-fighting services. Heliports are subject to state and local rescue and fire-fighting regulations. Provide a fire hose cabinet or extinguisher at each access gate and each fueling location. At elevated TLOF/FATOs, locate fire hose cabinets, fire extinguishers, and other fire-fighting equipment adjacent to, but below the level, of the TLOF/FATO. Find additional information in various NFPA publications. For more reference material, see Appendix D.

c. Communications. Use a Common Traffic Advisory Frequency (CTAF) radio to provide arriving helicopters with heliport and traffic advisory information but do not use this radio to control air traffic. Contact the Federal Communications Commission (FCC) for information on CTAF licensing.

d. Weather information. An automated weather observing system (AWOS) measures and automatically broadcasts current weather conditions at the heliport site. When installing an AWOS, locate it at least 100 feet (30 m) and not more than 700 feet (213 m) from the TLOF and such that its instruments will not be affected by rotor wash from helicopter operations. Find guidance on AWOS systems in AC 150/5220-16, Automated Weather Observing Systems (AWOS) for Non-Federal Applications, and FAA Order 6560.20, Siting Criteria for Automated Weather Observing Systems (AWOS). Other weather observing systems will have different siting criteria.

e. Winter operations. Swirling snow raised by a helicopter's rotor wash can cause the pilot to lose sight of the intended landing point and/or hide objects that need to be avoided. Design the heliport to accommodate the methods and equipment to be used for snow removal. Design the heliport to allow the snow to be removed sufficiently so it will not present an obstruction hazard to either the tail rotor or the main rotor. Find guidance on winter operations in AC 150/5200-30, Airport Winter Safety and Operations.



Figure 3-27. Caution Sign: Transport

318. Visual glideslope indicators (VGSI). A visual glideslope indicator (VGSI) provides pilots with visual vertical course and descent cues. Install the VGSI such that the lowest on-course visual signal provides a minimum of 1 degree of clearance over any object that lies within 10 degrees of the approach course centerline.

a. Siting. The optimum location of a VGSI is on the extended centerline of the approach path at a distance that brings the helicopter to a hover with the undercarriage between 3 and 8 feet (0.9 to 2.4 m) above the TLOF. Figure 3–28 illustrates VGSI clearance criteria. To properly locate the VGSI, estimate the vertical distance from the undercarriage to the pilot’s eye.

b. Control of the VGSI. As an option, allow the VGSI to be pilot controllable such that it is “on” only when needed.

c. VGSI needed. A VGSI is an optional feature. However, provide a VGSI if one or more of the following conditions exist, especially at night:

(1) Obstacle clearance, noise abatement, or traffic control procedures require a particular slope to be flown.

(2) The environment of the heliport provides few visual surface cues.

d. Additional guidance. AC 150/5345-52, Generic Visual Glideslope Indicators (GVGI), and AC 150/5345-28, Precision Approach Path Indicator (PAPI) Systems, provide additional guidance.

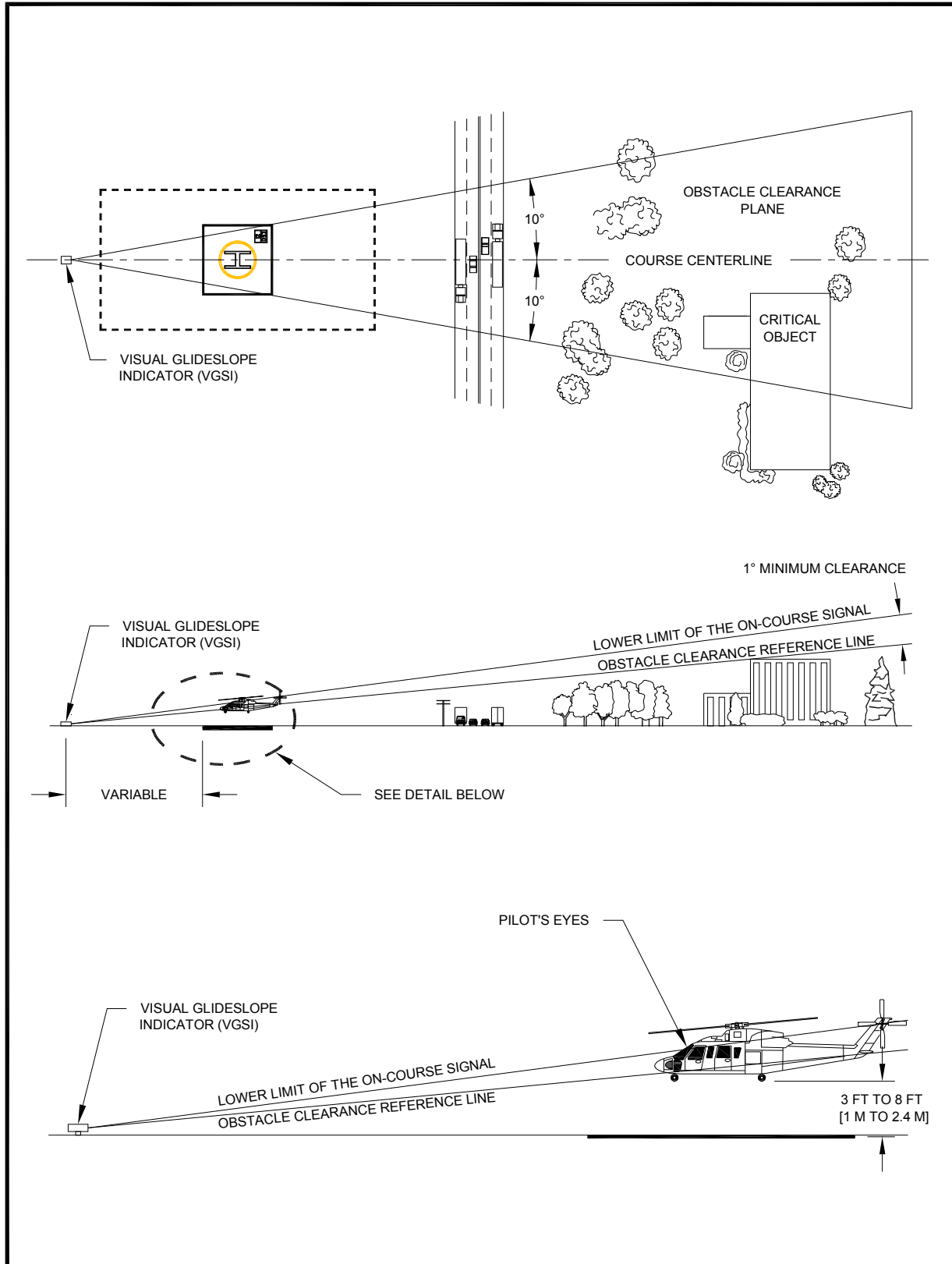


Figure 3–28. Visual Glideslope Indicator Siting and Clearance Criteria: Transport

319. Terminal facilities.

a. Design considerations. A heliport terminal provides curbside access for passengers using private autos, taxicabs, and public transit vehicles. Public waiting areas need the usual amenities, and a counter for rental car services may be desirable. Design passenger auto parking areas to accommodate current requirements, with the ability to expand them to meet future requirements. Readily available public transportation may reduce the requirement for employee and service personnel auto parking spaces. Build attractive and functional heliport terminal buildings or sheltered waiting areas. Find guidance on designing terminal facilities in AC 150/5360-9, Planning and Design of Airport Terminal Building Facilities at Non-Hub Locations.

b. Security. Unless screening was carried out at the helicopter passengers' departure location, Transportation Security Administration regulations may require that a screening area and/or screening be provided before passengers enter the airport's secured areas. If needed, provide multiple helicopter parking positions and/or locations in the terminal area to service helicopter passenger and/or cargo interconnecting needs. Find information about passenger screening at the Transportation Security Administration web site (<http://www.tsa.gov/public/>).

320. Zoning and compatible land use. Where state and local statutes permit, the FAA encourages transport heliport operators to promote the adoption of the following zoning measures to ensure the heliport will continue to be available for public use and to protect the community's investment in the facility.

a. Zoning to limit building/object heights. Find general guidance on drafting an ordinance that would limit building and object heights in AC 150/5190-4, A Model Zoning Ordinance to Limit Height of Objects Around Airports. Substitute the heliport surfaces for the airport surfaces described in the model ordinance.

b. Zoning for compatible land use. The FAA encourages public agencies to enact zoning ordinances to control the use of property within the HPZ and the approach/departure path environment, restricting activities to those that are compatible with helicopter operations. See paragraph 310.

c. Air rights and property easements. Use air rights and property easements as options to prevent the encroachment of obstacles in the vicinity of a heliport.

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Chapter 4. Hospital Heliports

401. General. Helicopters are often used to transport injured persons from the scene of an accident to a hospital and to transfer patients from one hospital to another. A hospital heliport accommodates helicopters used by Emergency Medical Services. In some emergencies, a hospital heliport may accommodate large military helicopters.

402. Applicability. The standards in this chapter apply to projects funded under the Airport Improvement Program (AIP) or Passenger Facility Charge (PFC) program. For other projects/heliports, these standards are the FAA's recommendations for designing all hospital heliports. This chapter highlights issues that are unique to hospital heliports and issues for which the design standards are different than those recommended for other general aviation heliports, but also includes standards that are common to other general aviation heliports. These standards address the design of a heliport that will accommodate air ambulance helicopter operations and emergency medical service (EMS) personnel and equipment. These standards are based on the understanding that pilots landing at the heliport are familiar with the facility. However, the heliport operator assumes the responsibility of ensuring the necessary information is readily available to pilots. Alternately, the heliport operator may choose to build the heliport to full general aviation standards. The design standards in this chapter assume there will never be more than one helicopter within the final approach and takeoff area (FATO) and the associated safety area. If there is a need for more than one touchdown and lift-off area (TLOF) at a heliport, locate each TLOF within its own FATO. Consider the feasibility of accommodating large military helicopters that might be used in an emergency.

403. Access by individuals with disabilities. Various laws require heliports operated by public entities and those receiving federal financial assistance to meet accessibility requirements. See paragraph 114.

404. Heliport site selection.

a. Planning. Public agencies and others planning to develop a hospital heliport are encouraged to select a site capable of supporting instrument operations, future expansion, and military helicopters that will be used in disaster relief efforts.

b. Property requirements. A functional hospital heliport may be as simple as a cleared area on the ground, together with a wind cone and a clear approach/departure path. Figure 4-1 illustrates the essential elements of a ground-level hospital heliport.

c. Turbulence. Air flowing around and over buildings, stands of trees, terrain irregularities, etc. can create turbulence on ground-level and roof-top heliports that may affect helicopter operations. Where the FATO is located near the edge and top of a building or structure, or within the influence of turbulent wakes from other buildings or structures, assess the turbulence and airflow characteristics in the vicinity of, and across the surface of the FATO to determine if an air-gap between the roof, roof parapet or supporting structure, and/or some other turbulence mitigating design measure is necessary. FAA Technical Report FAA/RD-84/25, Evaluating Wind Flow Around Buildings on Heliport Placement, addresses the wind's effect on helicopter operations. Take the following actions in selecting a site to minimize the effects of turbulence.

(1) Ground-level heliports. Features such buildings, trees, and other large objects can cause air turbulence and affect helicopter operations from sites immediately adjacent to them. Therefore, locate the landing and takeoff area away from such objects in order to minimize air turbulence in the vicinity of the FATO and the approach/departure paths.

(2) Elevated heliports. Establishing a 6 foot (1.8 m) or more air gap on all sides above the level of the roof will generally minimize the turbulent effect of air flowing over the roof edge. If an air gap is included in the design, keep it free at all times of objects that would obstruct the airflow. If it is not practical to include an air gap or some other turbulence mitigating design measure where there is turbulence, operational limitations may need to be considered under certain wind conditions. See paragraph 101.

d. Electromagnetic effects. Nearby electromagnetic devices, such as a magnetic resonance imaging machine (MRI), large ventilator motor, elevator motor, or other large electrical consumer may cause temporary aberrations in the helicopter magnetic compass and interfere with other onboard navigational equipment. Be alert to the location of any MRI with respect to the heliport location. A warning sign alerting pilots to the presence of an MRI is recommended. Take steps to inform pilots of the locations of MRIs and other similar equipment. For additional information, see FAA Technical Report FAA/RD-92/15, Potential Hazards of Magnetic Resonance Imagers to Emergency Medical Service Helicopter Services.

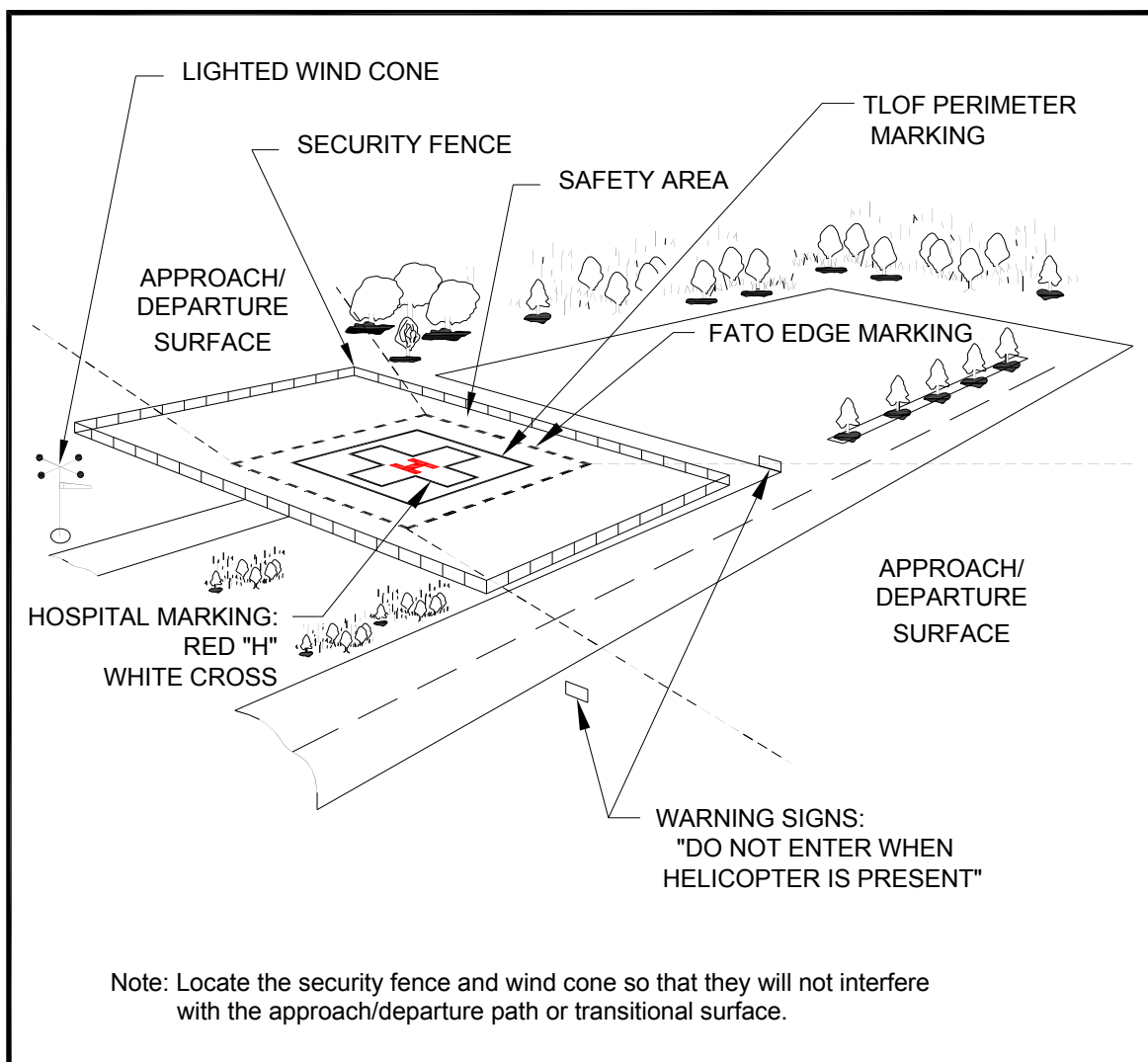
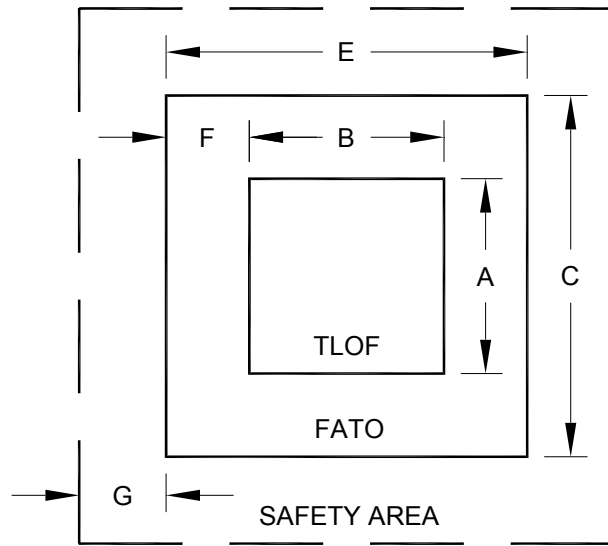


Figure 4–1. Essential Features of a Ground-level Hospital Heliport: Hospital



DIM	ITEM	VALUE	NOTES
A	Minimum TLOF Length	1 RD but not less than 40 ft [12 m]	
B	Minimum TLOF Width	1 RD but not less than 40 ft [12 m]	
C	Minimum FATO Length	1 ½ D	See Paragraph 406.b.(1) for adjustments of elevations above 1,000 ft
E	Minimum FATO Width	1 ½ D	
F	Minimum Separation Between the Perimeters of the TLOF and FATO	¾ D - ½ RD	
G	Minimum Safety Area Width	see Table 4-1	

Note: For a circular TLOF and FATO, dimensions A, B, C and E refer to diameters.

Figure 4–2. TLOF/FATO Safety Area Relationships and Minimum Dimension: Hospital

405. Basic layout. The heliport consists of a TLOF contained within a FATO. A safety area surrounds the FATO. The relationship of the TLOF to the FATO and the safety area is shown in Figure 4–2. A FATO contains only one TLOF. Provide appropriate approach/departure airspace to allow safe approaches to and departures from landing sites. To the extent feasible, align the preferred approach/departure path with the predominant winds. See paragraph 409.

406. Touchdown and liftoff area (TLOF).

a. TLOF location. TLOFs of hospital heliports are at ground level, on an elevated structure, or at rooftop level. Center the TLOF within the FATO.

b. TLOF size. The minimum TLOF dimension (length, width, or diameter) is equal to the rotor diameter (RD) of the design helicopter but not less than 40 feet (12 m). Design the TLOF to be rectangular or circular. Each design shape has its advantages. A square or rectangular shape provides the pilot with better alignment cues than a circular shape, but a circular TLOF may be more recognizable in an urban environment. Increasing the load-bearing area (LBA) centered on the TLOF may provide some safety and operational advantages. Increasing the TLOF dimensions may enhance safety factors and/or operational efficiency.

(1) Elevated hospital heliport. If the FATO outside the TLOF is non-load-bearing, increase the minimum width, length or diameter of the TLOF to the overall length (D) of the design helicopter.

(2) Elongated TLOF. An elongated TLOF can provide an increased safety margin and greater operational flexibility. As an option, design an elongated TLOF with a landing position in the center and two takeoff positions, one at either end, as illustrated in Figure 4–3. Design the landing position to have a minimum length of the RD of the design helicopter. If the TLOF is elongated, also provided an elongated FATO.

c. Ground-level TLOF surface characteristics.

(1) Design loads. Design the TLOF and any supporting TLOF structure to be capable of supporting the dynamic loads of the design helicopter.

(2) Paving. The standard for the TLOF surface is either paved or aggregate-turf (see AC 150/5370-10, Standards for Specifying Construction of Airports items P-217 and P-501). Use portland cement concrete (PCC) when feasible for ground-level facilities. An asphalt surface is less desirable for heliports as it may rut under the wheels or skids of a parked helicopter. This has been a factor in some rollover accidents. Use a broomed or roughened pavement finish to provide a skid-resistant surface for helicopters and non-slippery footing for people.

d. Rooftop and other elevated TLOFs.

(1) Design loads. Design elevated TLOFs and any TLOF supporting structure to be capable of supporting the dynamic loads of the design helicopter.

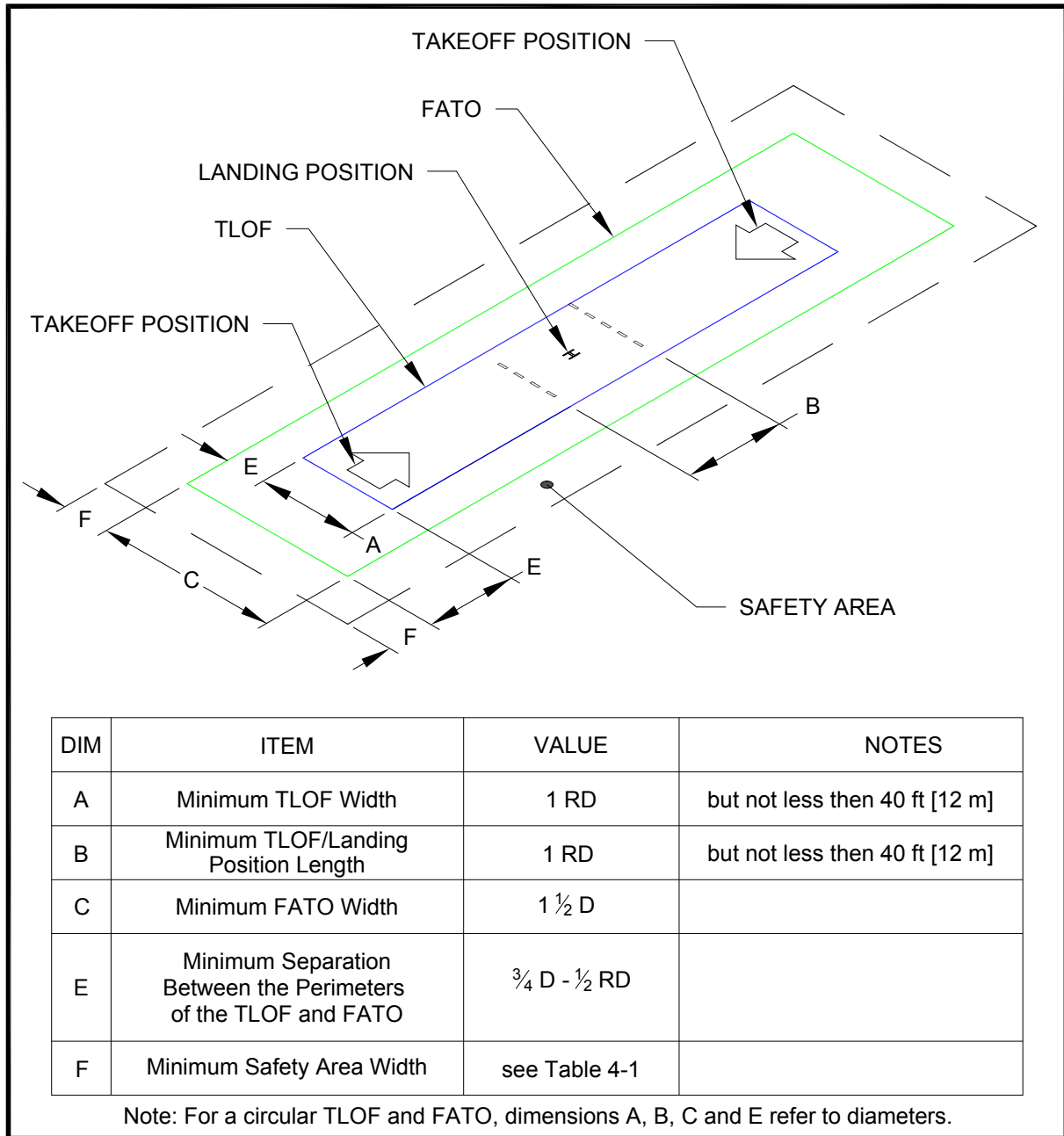


Figure 4-3. Elongated FATO with Two Takeoff Positions: Hospital

(2) Elevation. Elevate the TLOF above the level of any obstacle in the FATO and safety area that cannot be removed. Exception: Edge restraints of minimal height (no higher than 4 inches) on ramps may project above the elevation of the edge of the TLOF.

(3) Obstructions. Elevator penthouses, cooling towers, exhaust vents, fresh-air vents, and other raised features can affect heliport operations. Establish control mechanisms to ensure obstruction hazards are not installed after the heliport is operational.

(4) Air Quality. Helicopter exhaust can affect building air quality if the heliport is too close to fresh air vents. When designing a building intended to support a heliport, locate fresh air vents accordingly. When adding a heliport to an existing building, relocate fresh air vents if necessary or, if

relocation is not practical, installing charcoal filters or a fresh air intake bypass louver system for HVAC systems may be adequate.

(5) TLOF surface characteristics. Construct rooftop and other elevated heliport TLOFs of metal, concrete, or other materials subject to local building codes. Use a finish for TLOF surfaces that provides a skid-resistant surface for helicopters and non-slippery footing for people.

(6) Safety net. If the platform is elevated 4 feet (1.2 m) or more above its surroundings, Title 29 CFR Part 1910.23, Guarding Floor and Wall Openings and Holes, requires the provision of fall protection. The FAA recommends such protection for all platforms elevated 30 inches (76 cm) or more. However, do not use permanent railings or fences since they would be safety hazards during helicopter operations. As an option, install a safety net, meeting state and local regulations but not less than 5 feet (1.5 m) wide. Design the safety net to have a load carrying capability of 25 lbs/sq ft (122 kg/sq m). Make sure the net, as illustrated in Figure 4–29, does not project above the level of the TLOF. Fasten both the inside and outside edges of the safety net to a solid structure. Construct nets of materials that are resistant to environmental effects.

(7) Access to elevated TLOFs. Title 29 CFR Part 1926.34, Means of Egress requires two separate access points for an elevated structure such as an elevated TLOF. Provide access to and from the TLOF via a ramp in order to provide for quick and easy transportation of a patient on a gurney. Build ramps in accordance with state and local requirements. Design the width of the ramp, and any turns in the ramp, to be wide enough to accommodate a gurney with a person walking on each side. Design straight segments of the ramp to be at least 6 feet (1.8 m) wide. Additional width may be required in the turns. Provide the ramp with a slip-resistant surface, with a slope no steeper than 12:1 (12 units horizontal in 1 unit vertical). While it is possible to move a gurney to and from the TLOF using a lift, avoid this, since it invariably results in a delay in the movement of patients in time-critical conditions. Design stairs in compliance with Title 29 CFR Part 1910.24, Fixed Industrial Stairs. Design handrails required by this standard to fold down or be removable to below the level of the TLOF so they will not be hazards during helicopter operations.

e. TLOF gradients. Recommended TLOF gradients are defined in Chapter 7.

407. Final approach and takeoff area (FATO). A hospital heliport has at least one FATO. The FATO contains a TLOF within its borders at which arriving helicopters terminate their approach and from which departing helicopters take off.

a. FATO location. FATOs of hospital heliports are at ground level, on an elevated structure, or on a rooftop. To avoid or minimize the need for additional ground transport, locate the FATO to provide ready access to the hospital's emergency room, but such that buildings and other objects are outside the safety area and below obstacle clearance surfaces. The relationship of the FATO to the TLOF and the safety area is shown in Figure 4–2.

b. FATO size.

(1) Design the FATO so its minimum width, length, or diameter is $1\frac{1}{2}$ times the overall length (D) of the design helicopter. Design the FATO to be circular or rectangular, regardless of the shape of the TLOF. At elevations above 1,000 feet MSL, include a longer FATO to provide an increased safety margin and greater operational flexibility. Use the additional FATO length as depicted in Figure 4–4.

(2) Design the minimum distance between the TLOF perimeter and the FATO perimeter to be not less than $\frac{3}{4}D - \frac{1}{2}RD$, where D is the overall length and RD is the rotor diameter of the design helicopter. Note that if the TLOF and FATO are not of similar shape, this applies at all points of the TLOF perimeter. The relationship of the TLOF to the FATO and the safety area is shown in Figure 4–2.

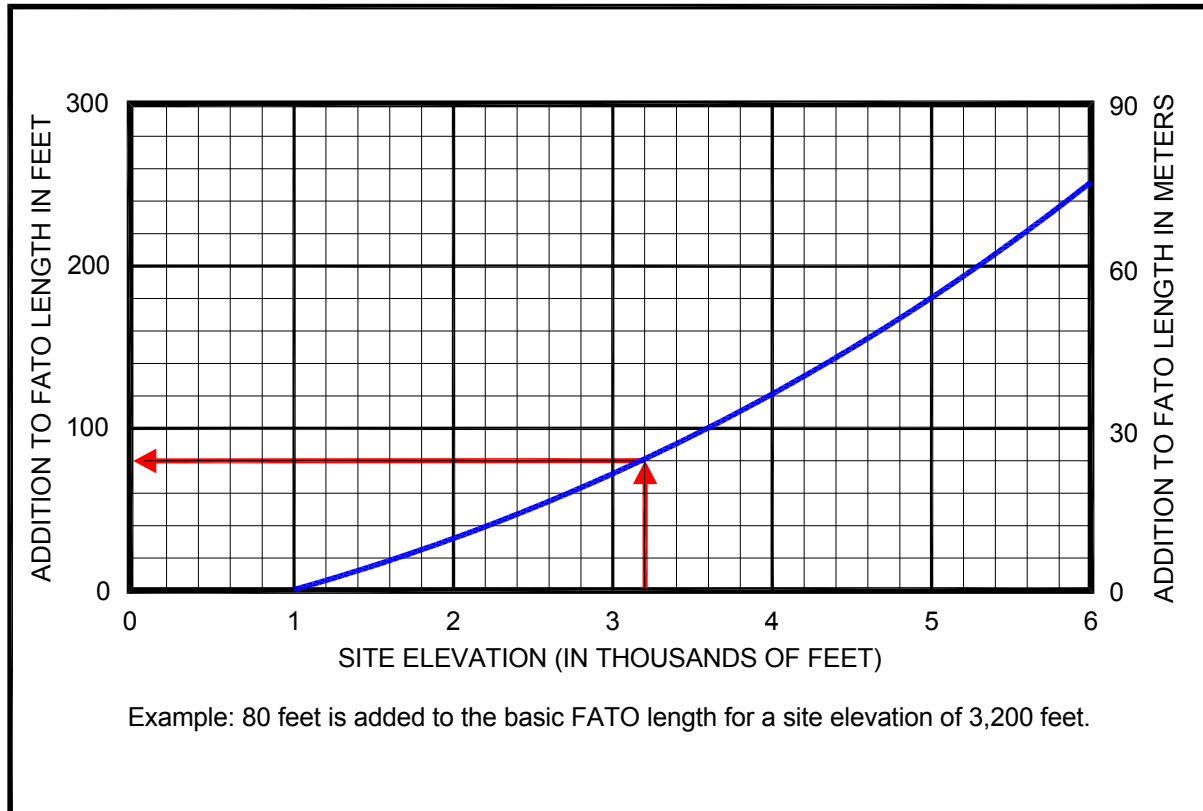


Figure 4-4. Additional FATO Length for Heliports at Higher Elevation: Hospital

c. FATO Surface characteristics. If the heliport operator marks the TLOF, the FATO outside the TLOF need not be load-bearing.

(1) Ground-level hospital heliports. If the heliport operator does not mark the TLOF, and/or intends that the helicopter be able to land anywhere within the FATO, design the FATO outside the TLOF and any FATO supporting structure, like the TLOF, to be capable of supporting the dynamic loads of the design helicopter.

(2) Elevated hospital heliports. The FATO outside the TLOF may extend into clear airspace. However, there are some helicopter performance benefits and increased operational flexibility if the FATO outside the TLOF is load bearing. Design the FATO outside of the TLOF to be load-bearing unless the minimum width and length or diameter of TLOF is increased to the overall length of the design helicopter.

(3) If the FATO is load bearing, design the portion abutting the TLOF to be contiguous with the TLOF, with the adjoining edges at the same elevation.

(4) If the FATO is unpaved, treat the FATO to prevent loose stones and any other flying debris caused by rotor downwash.

(5) When the FATO or the LBA in which it is located is elevated 4 feet (1.2 m) or more above its surroundings, part 1910.23 requires the provision of fall protection. The FAA recommends such protection for all platforms elevated 30 inches (76 cm) or more. However, do not use permanent railings or fences, since they would be safety hazards during helicopter operations. As an option, install a safety net, meeting state and local regulations but not less than 5 feet (1.5 m) wide. Design the safety net to have a load carrying capability of 25 lbs/sq ft (122 kg/sq m). Make sure the net, as illustrated in Figure 4-29,

does not project above the level of the TLOF. Fasten both the inside and outside edges of the safety net to a solid structure. Construct nets of materials that are resistant to environmental effects.

d. Mobile objects within the FATO. The FATO design standards in this AC assume the FATO is closed to other aircraft if a helicopter or other mobile object is within the FATO or the associated safety area.

e. Fixed objects within the FATO. Remove all fixed objects projecting above the FATO elevation except for lighting fixtures, which may project a maximum of 2 inches (5 cm). See Figure 7–3. For ground level heliports, remove all above-ground objects to the extent practicable.

f. FATO/FATO separation. If a heliport has more than one FATO, separate the perimeters of the two FATOs so the respective safety areas do not overlap. This separation assumes simultaneous approach/departure operations will not take place. If the heliport operator intends for the facility to support simultaneous operations, provide a minimum 200 foot (61 m) separation.

g. FATO gradients. Recommended FATO gradients are defined in Chapter 7.

408. Safety area. A safety area surrounds a FATO.

a. Safety area width. The standards for the width of the safety area are shown in Table 4-1. The width is the same on all sides. The provision or absence of standard heliport markings affects the width standards. As an option, design the safety area to extend into clear airspace.

b. Mobile objects within the safety area. The safety area design standards of this AC assume the TLOF and FATO are closed to other aircraft if a helicopter or other mobile object is within the FATO or the safety area.

c. Fixed objects within a safety area. Remove all fixed objects within a safety area projecting above the FATO elevation except for lighting fixtures, which may project a maximum of 2 inches (5 cm). See Figure 7–3. For ground level heliports, remove all above-ground objects to the extent practicable.

d. Safety area surface. The safety area need not be load bearing. Figure 4–5 depicts a non-load-bearing safety area. If possible, design the portion of the safety area abutting the FATO to be contiguous with the FATO with the adjoining edges at the same elevation. This is needed in order to avoid the risk of catching a helicopter skid or wheel. Clear the safety area of flammable materials and treat the area to prevent loose stones and any other flying debris caused by rotor wash.

e. Safety gradients. Recommended safety area gradients are defined in Chapter 7.

Table 4-1. Minimum VFR Safety Area Width as a Function of Hospital Heliport Markings

TLOF Perimeter Marked	Yes	Yes	No	No
FATO Perimeter Marked	Yes	Yes	Yes	Yes
Standard Hospital Marking Symbol	Yes	No	Yes	No
Hospital heliports	$\frac{1}{3}$ RD but not less than 10 ft (3 m)**	$\frac{1}{3}$ RD but not less than 20 ft (6 m)**	$\frac{1}{2}$ D but not less than 20 ft (6 m)	$\frac{1}{2}$ D but not less than 30 ft (9 m)
D: overall length of the design helicopter RD: rotor diameter of the design helicopter ** Also applies when the heliport operator does not mark the FATO. Do not mark the FATO if (a) the FATO (or part of the FATO) is a non-load bearing surface and/or (b) the TLOF is elevated above the level of a surrounding load bearing area.				

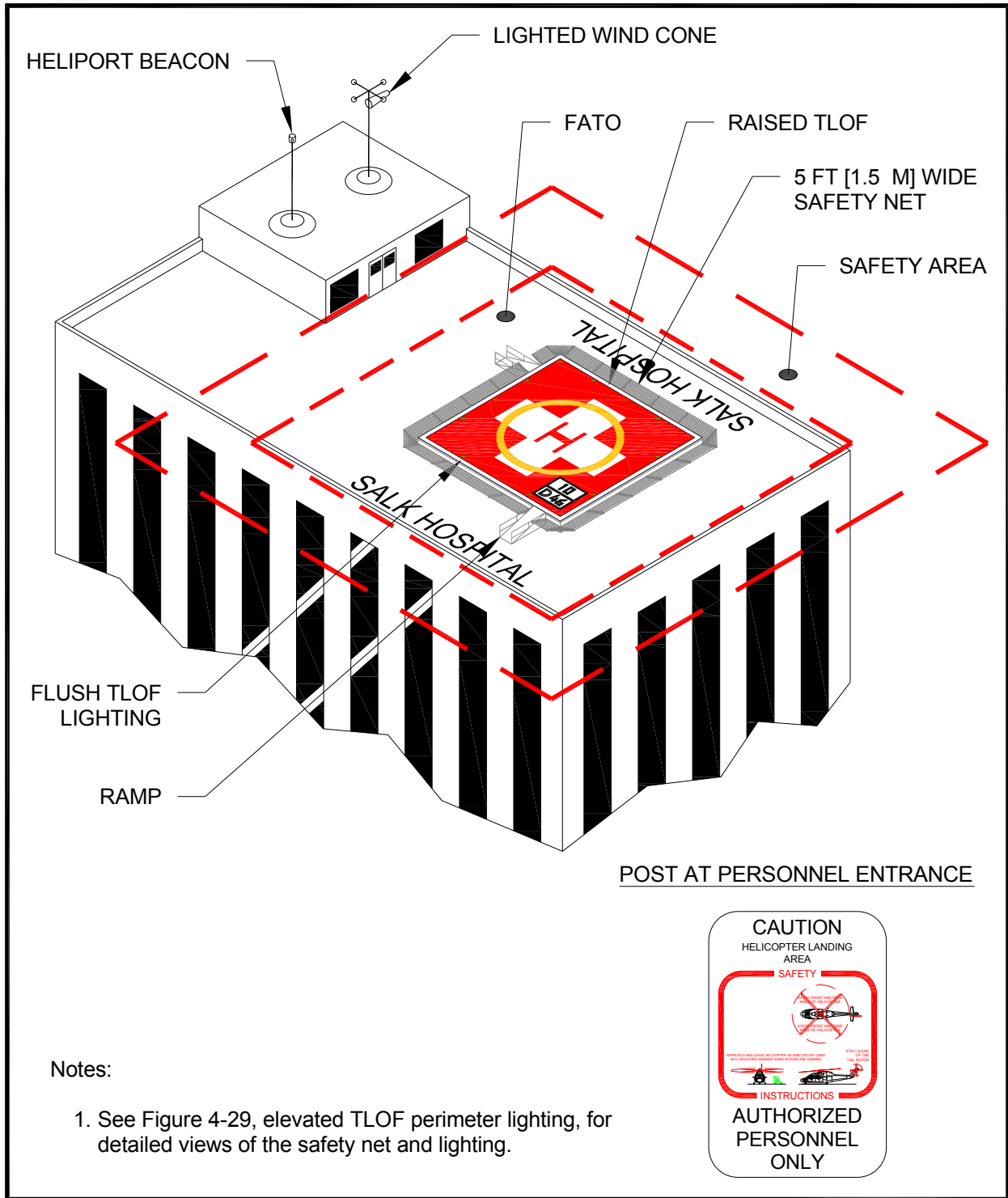


Figure 4-5. Rooftop Hospital Heliport: Hospital

409. VFR approach/departure paths. The purpose of approach/departure airspace as shown in Figure 4–6 is to provide sufficient airspace clear of hazards to allow safe approaches to and departures from the TLOF.

a. Number of approach/departure paths. Align preferred approach/departure paths with the predominant wind direction so downwind operations are avoided and crosswind operations are kept to a minimum. To accomplish this, design the heliport to have more than one approach/departure path. Base other approach/departure paths on the assessment of the prevailing winds or, when this information is not available, separate such flight paths and the preferred flight path by at least 135 degrees. (See Figure 4–6.) Designing a hospital heliport to have only a single approach/departure path is an undesirable option. A second flight path provides additional safety margin and operational flexibility. If it is not feasible to provide complete coverage of wind through multiple approach/departure paths, operational limitations may be necessary under certain wind conditions. See paragraph 101.

b. VFR approach/departure and transitional surfaces. Figure 4–6 illustrates the approach/departure and transitional surfaces.

(1) An approach/departure surface is centered on each approach/departure path. The approach/departure path starts at the edge of the FATO and slopes upward at 8:1 (8 units horizontal in 1 unit vertical) for a distance of 4,000 feet (1,219 m) where the width is 500 feet (152 m) at a height of 500 feet (152 m) above the heliport elevation.

(2) The transitional surfaces start from the edges of the FATO parallel to the flight path center line, and from the outer edges of approach/departure surface, and extend outwards at a slope of 2:1 (2 units horizontal in 1 unit vertical) for a distance of 250 feet (76 m) from the centerline. The transitional surface is not applied on the FATO edge opposite the approach/departure surface. See Figure 4–6.

(3) Make sure the approach/departure and transitional surfaces are free of penetrations unless an FAA aeronautical study determines such penetrations not to be hazards. The FAA conducts such aeronautical studies only at public heliports; heliports operated by a federal agency or the Department of Defense; and private airports with FAA-approved approach procedures. Paragraph 111 provides additional information on hazards to air navigation.

(4) At hospital heliports, an alternative to considering transitional surfaces is to increase the size of the 8:1 approach/departure surface for a distance of 2,000 feet (610 m) as shown in Figure 2–9 and Figure 2–11. The lateral extensions on each side of the 8:1 approach/departure surface start at the width of the FATO and increase so at a distance of 2,000 feet (610 m) from the FATO they are 100 feet (30 m) wide. Make sure obstacles do not penetrate into both Area A and Area B. Make sure obstacles do not penetrate into Area A or Area B unless the FAA determines that the penetration is not a hazard. Mark or light all such penetrations. See paragraph 111 for more information on hazard determinations.

c. Curved VFR approach/departure paths. As an option, include one curve in VFR approach/departure paths. As an option, design these paths to use the airspace above public lands, such as freeways or rivers. When including a curved portion in the approach/departure path, make sure the sum of the radius of the arc defining the center line and the length of the straight portion originating at the FATO is not less than 1,886 feet (575 m). Design the approach/departure path so the minimum radius of the curve is 886 feet (270 m) and that the curve follows a 1,000 feet (305 m) straight section. Design the approach/departure path so the combined length of the center line of the curved portion and the straight portion is 4,000 feet (1,219 m). See Figure 4–7. Figure 4–9 shows a curved approach/departure path for an 8:1 approach/departure surface.

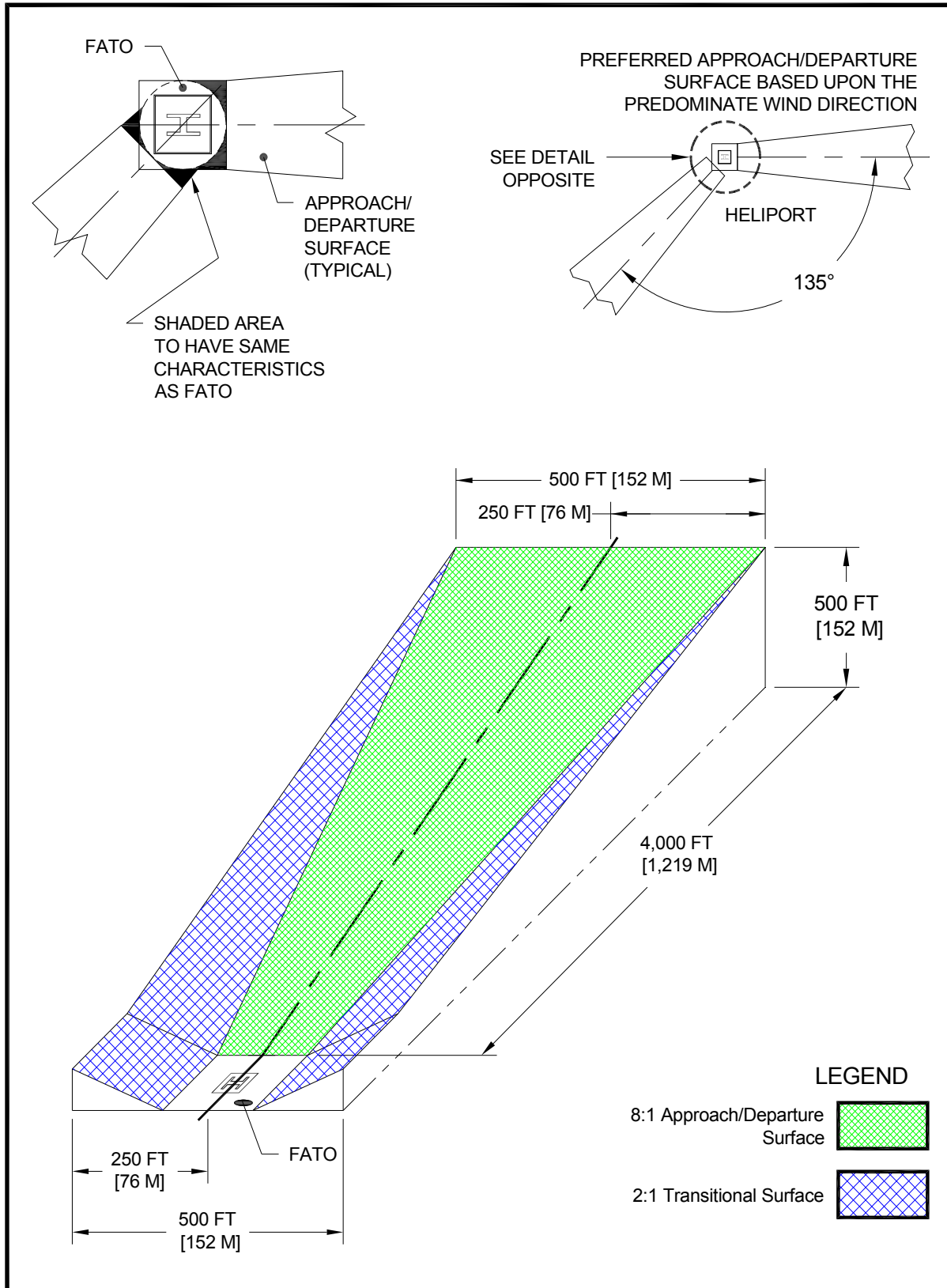


Figure 4-6. VFR Heliport Approach/Departure and Transitional Surfaces: Hospital

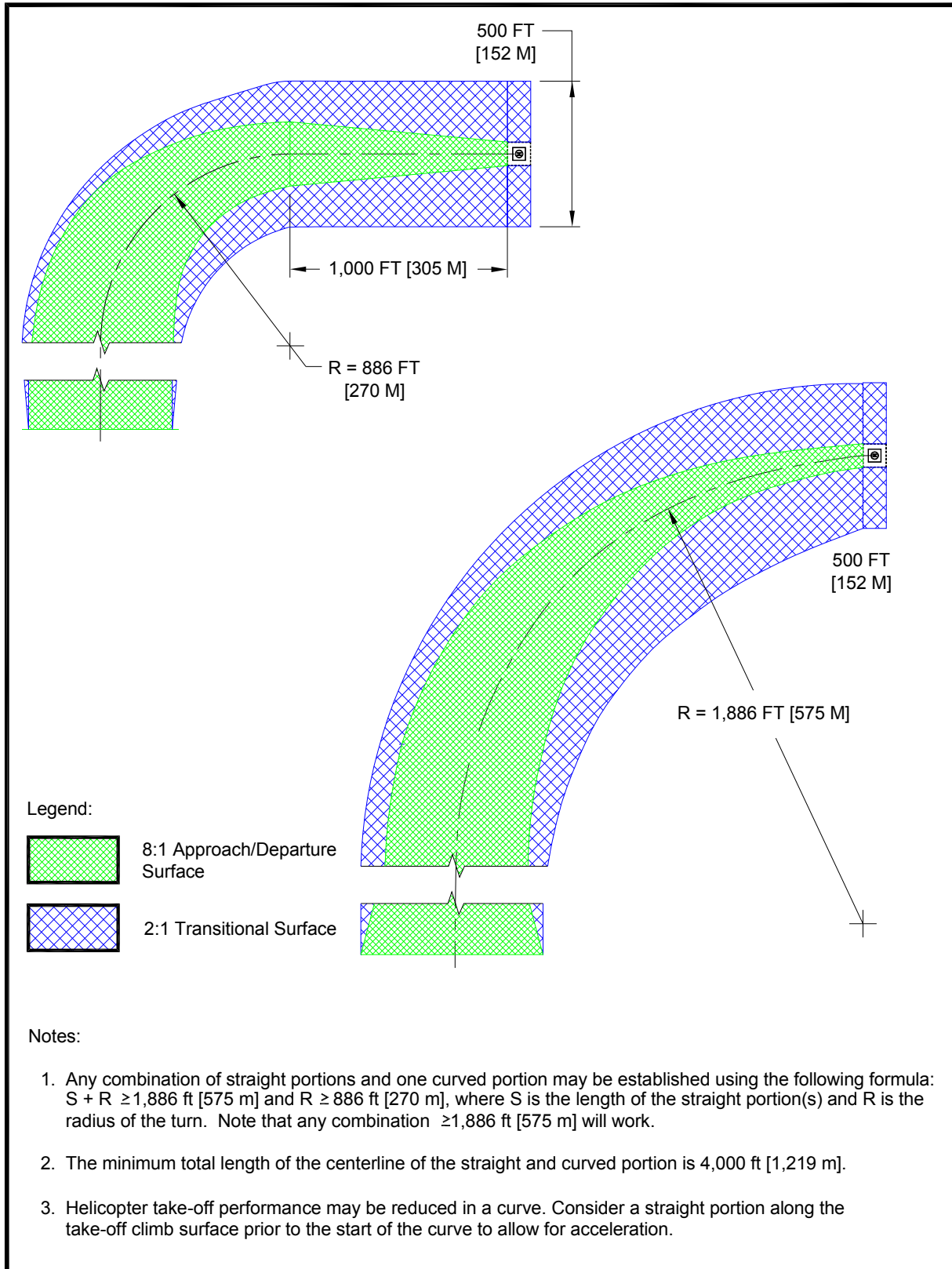


Figure 4-7. Curved Approach/Departure: Hospital

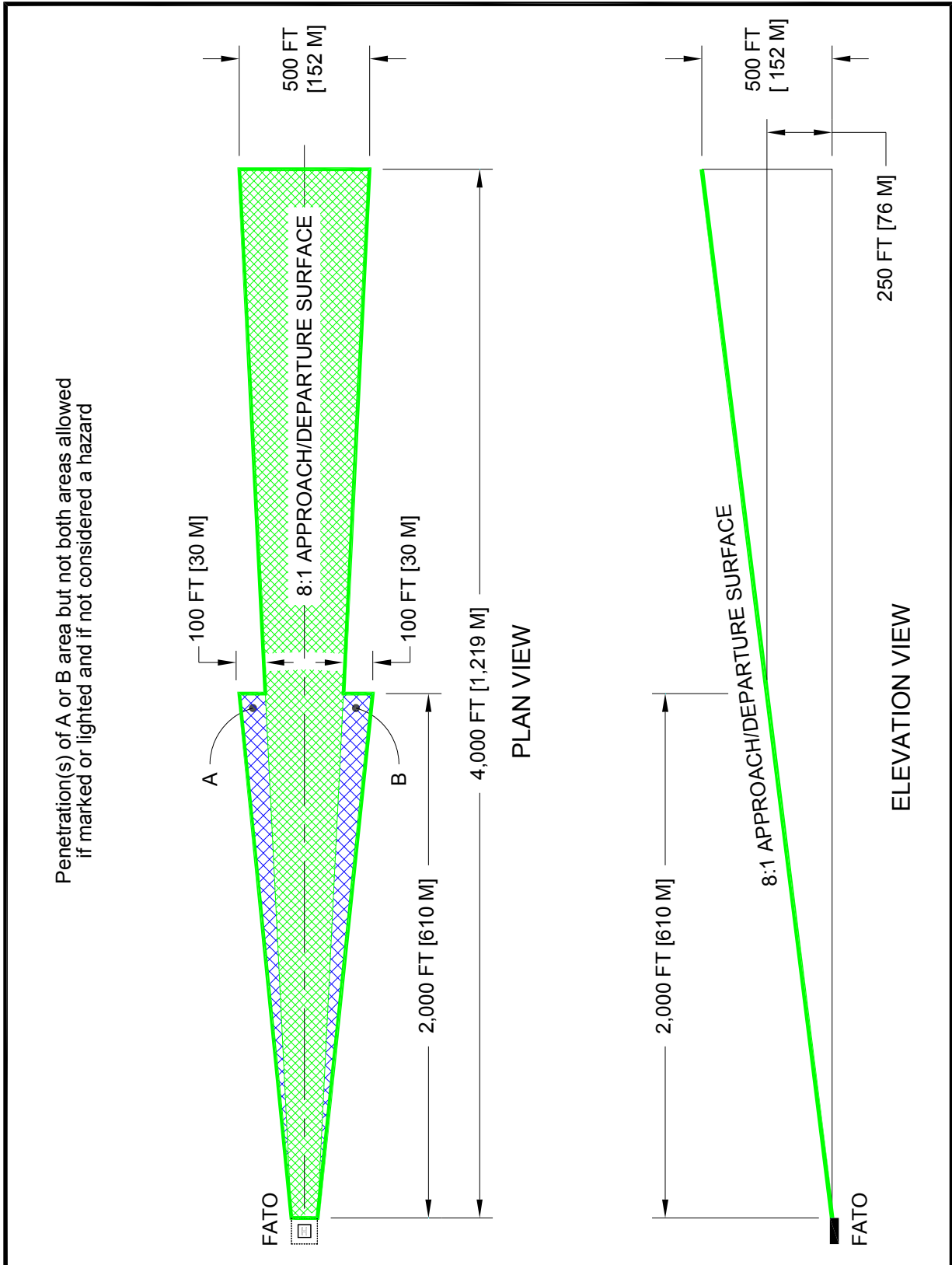


Figure 4-8. VFR Heliport Lateral Extension of the 8:1 Approach / Departure Surface: Hospital

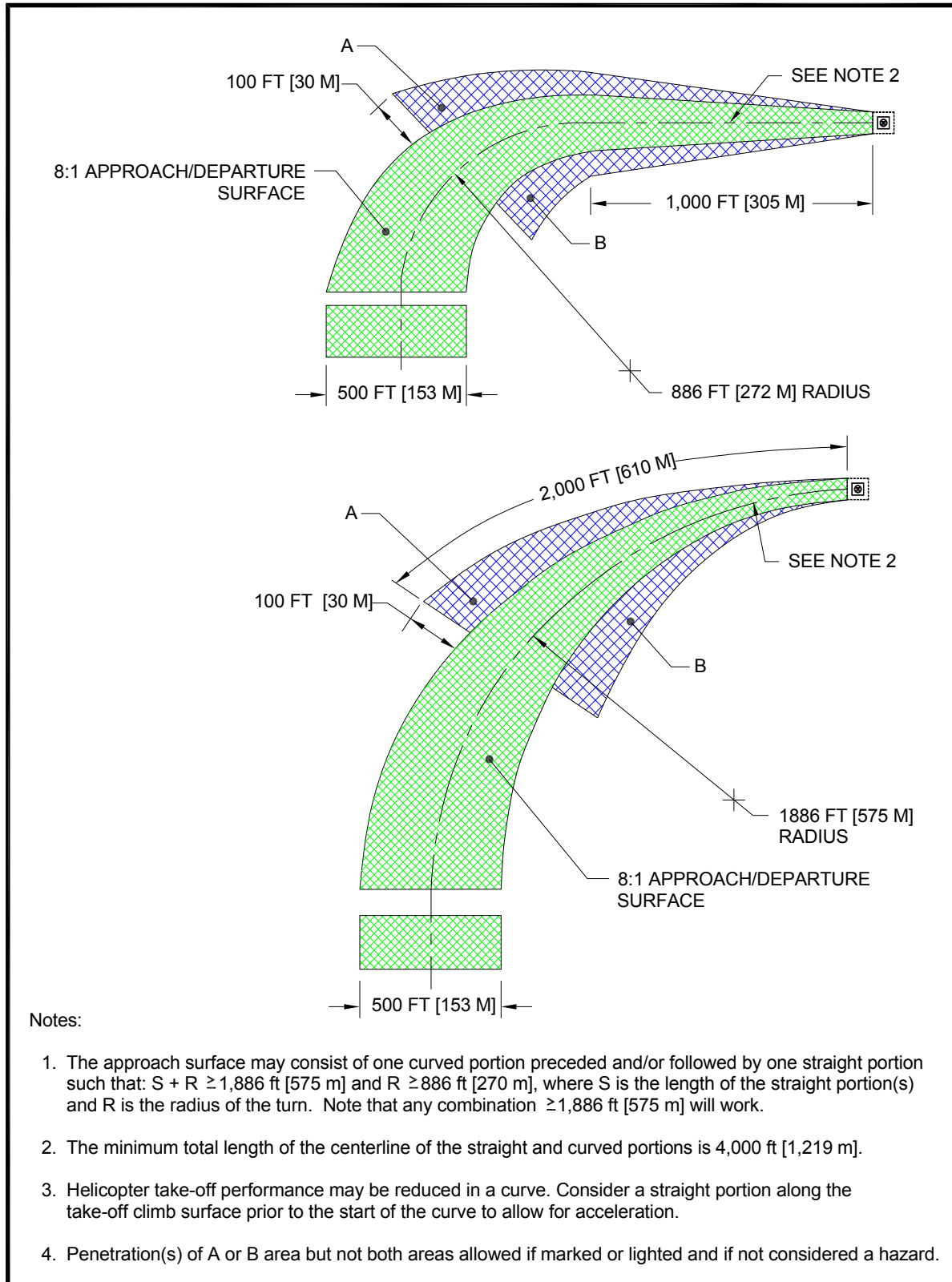


Figure 4-9. VFR Heliport Lateral Extension of the Curved 8:1 Approach/Departure Surface: Hospital

d. Flight path alignment guidance. As an option, use flight path alignment markings and/or flight path alignment lights (see paragraphs 414 and 415) where it is desirable and practicable to indicate available approach and/or departure flight path direction(s). See Figure 4–10.

e. Periodic review of obstructions. Vigilant heliport operators reexamine obstacles in the vicinity of approach/departure paths on at least an annual basis. This reexamination includes an appraisal of the growth of trees near approach and departure paths. Paragraph 111 provides additional information on hazards to air navigation. Pay particular attention to obstacles that need to be marked or lighted. It may be helpful to maintain a list of the GPS coordinates and the peak elevation of obstacles.

410. Heliport protection zone (HPZ) The FAA recommends the establishment of an HPZ for each approach/departure surface. The HPZ is the area under the 8:1 approach/departure surface starting at the FATO perimeter and extending out for a distance of 280 feet (85.3 m), as illustrated in Figure 4–11. The HPZ is intended to enhance the protection of people and property on the ground. This is achieved through heliport owner control over the HPZ. Such control includes clearing HPZ areas (and maintaining them clear) of incompatible objects and activities. The FAA discourages residences and places of public assembly in an HPZ. (Churches, schools, hospitals, office buildings, shopping centers, and other uses with similar concentrations of persons typify places of public assembly.) Do not locate hazardous materials, including fuel, in the HPZ.

411. Wind cone.

a. Specification. Use a wind cone conforming to AC 150/5345-27, Specification for Wind Cone Assemblies, to show the direction and magnitude of the wind. Use a color that provides the best possible color contrast to its background.

b. Wind cone location. Locate the wind cone so it provides the pilot with valid wind direction and speed information in the vicinity of the heliport under all wind conditions.

(1) At many landing sites, there may be no single, ideal location for the wind cone. At other sites, it may not be possible to site a wind cone at the ideal location. In such cases, install more than one wind cone in order to provide the pilot with all the wind information needed for safe operations.

(2) Place the wind cone so a pilot on the approach path is able to see it clearly when the helicopter is 500 feet (150 m) from the TLOF.

(3) Place the wind cone so pilots can see it from the TLOF.

(4) To avoid presenting an obstruction hazard, locate the wind cone(s) outside the safety area, so it does not penetrate the approach/departure or transitional surfaces.

c. Wind cone lighting. For night operations, illuminate the wind cone, either internally or externally, to ensure it is clearly visible.

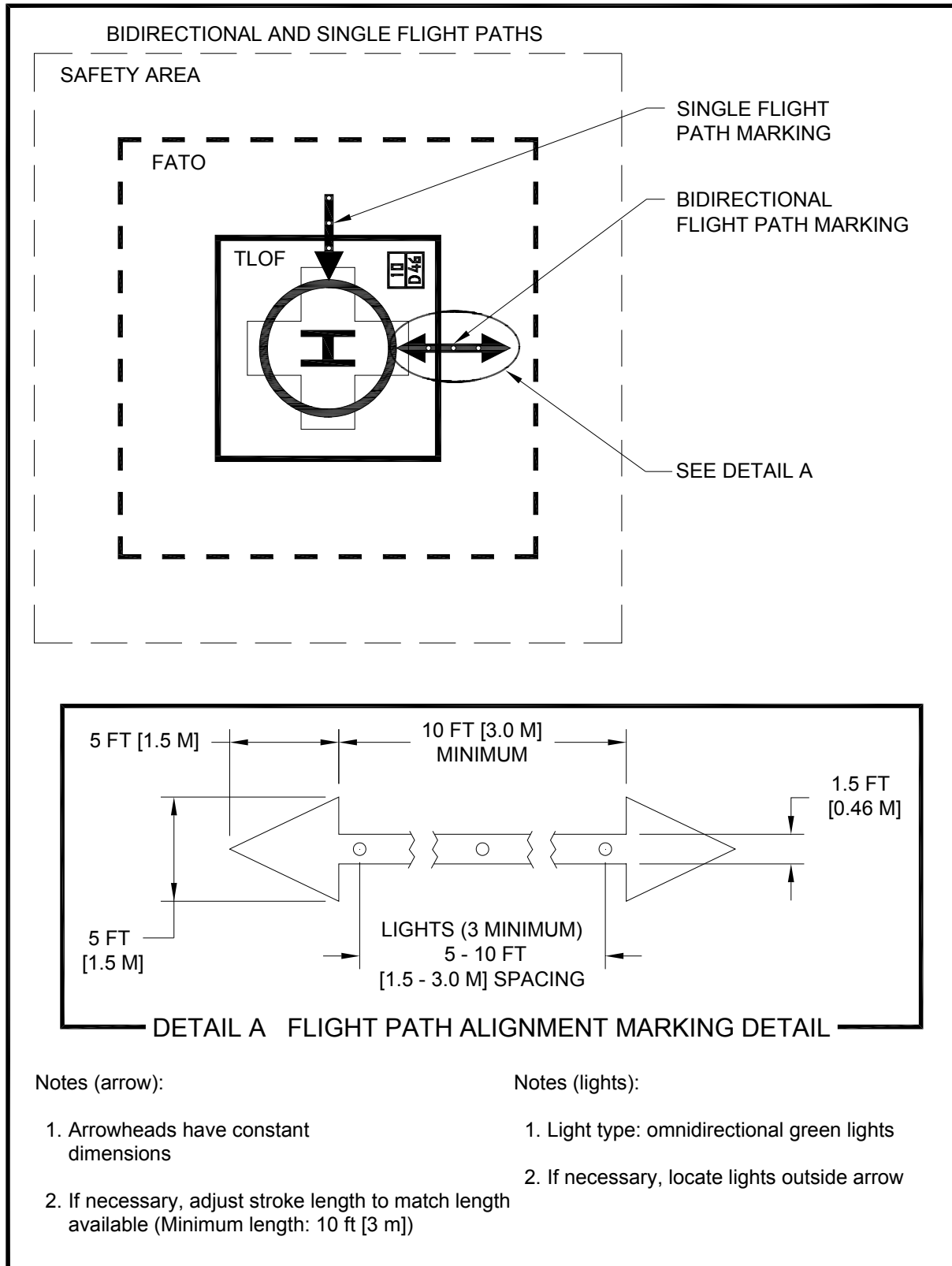


Figure 4–10. Flight Path Alignment Marking and Lights: Hospital

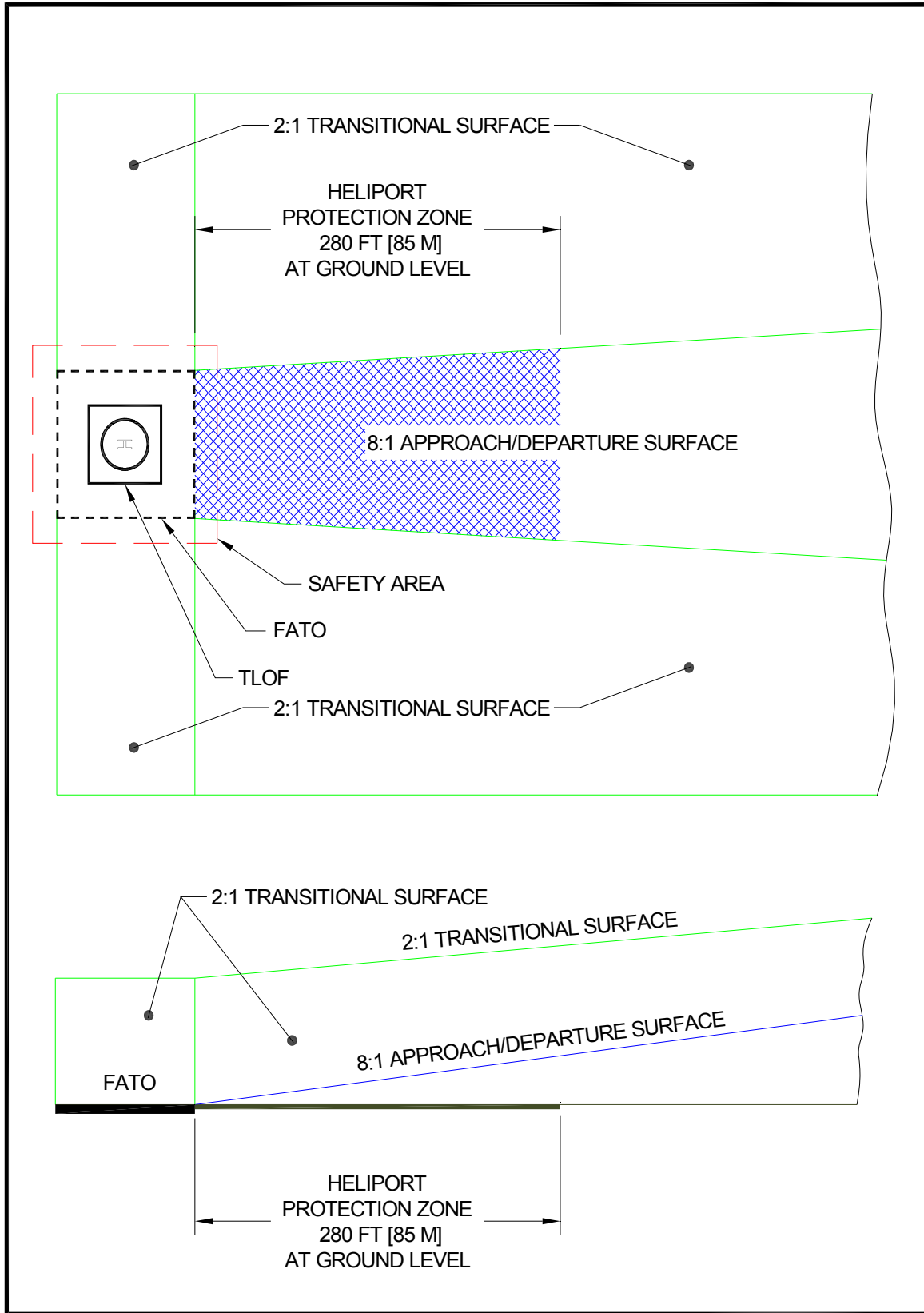


Figure 4-11. Helicopter Protection Zone: Hospital

412. Taxiways and taxi routes. Taxiways and taxi routes provide for the movement of helicopters from one part of a landing facility to another. They provide a connecting path between the FATO and a parking area. They also provide a maneuvering aisle within the parking area. A taxi route includes the taxiway plus the appropriate clearances needed on both sides. The relationship between a taxiway and a taxi route is illustrated in Figure 4–12, Figure 4–13, and Figure 4–14. At hospital heliports with no parking or refueling area outside the TLOF(s), it is not necessary to provide a taxi route or taxiway.

a. Taxiway/taxi route widths. The dimensions of taxiways and taxi routes are a function of helicopter size, taxiway/taxi route marking, and type of taxi operations (ground taxi versus hover taxi). These dimensions are defined in Table 4-2. Normally, the requirement for hover taxi dictates the taxiway/taxi route widths. However, when the fleet comprises a combination of large ground taxiing helicopters and smaller air taxiing helicopters, the larger aircraft may dictate the taxiway/taxi route widths. If wheel-equipped helicopters taxi with wheels not touching the surface, design the facility with hover taxiway widths rather than ground taxiway widths. Where the visibility of the centerline marking cannot be guaranteed at all times, such as locations where snow or dust commonly obscure the centerline marking and it is not practical to remove it, determine the minimum taxiway/taxi route dimensions as if there was no centerline marking.

b. Surfaces. For ground taxiways, provide a surface that is portland cement concrete, asphalt, or a surface, such as turf, stabilized in accordance with the standards of Item P-217 of AC 150/5370-10. For unpaved portions of taxiways and taxi routes, provide a turf cover or treat the surface in some way to prevent dirt and debris from being raised by a taxiing helicopter's rotor wash.

c. Gradients. Taxiway and taxi route gradient standards are defined in Chapter 7.

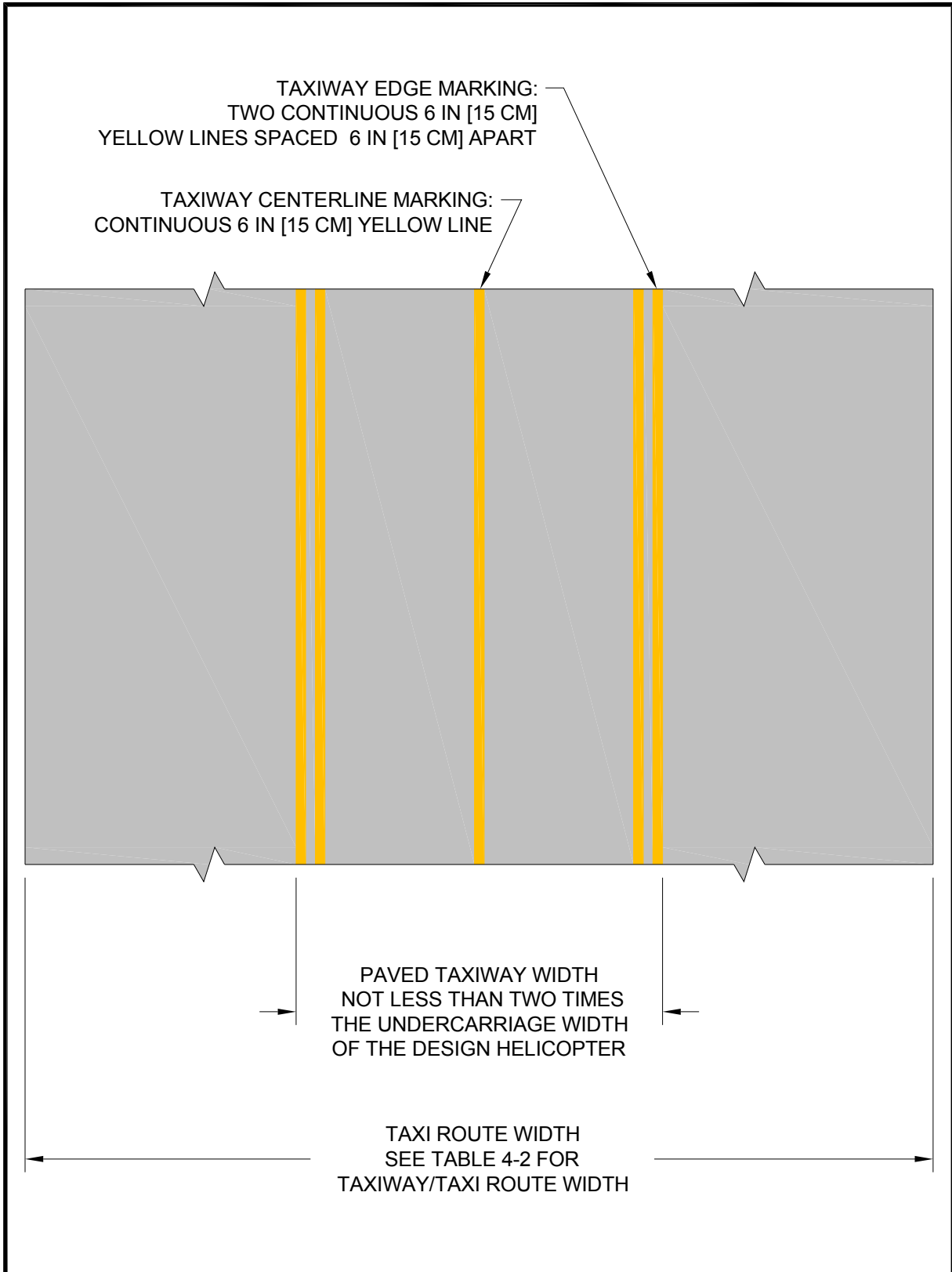


Figure 4-12. Taxiway/Taxi Route Relationship – Paved Taxiway: Hospital

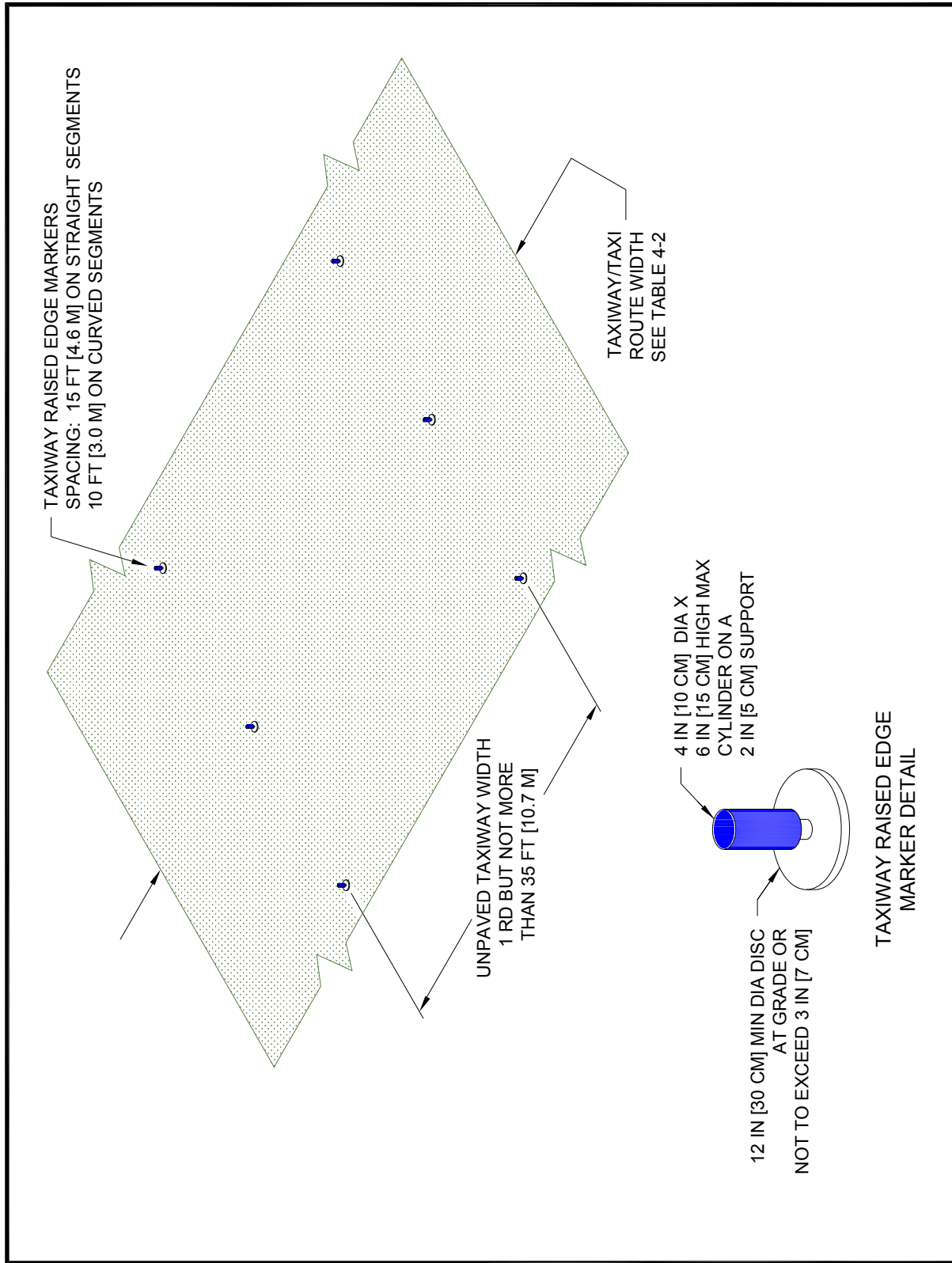
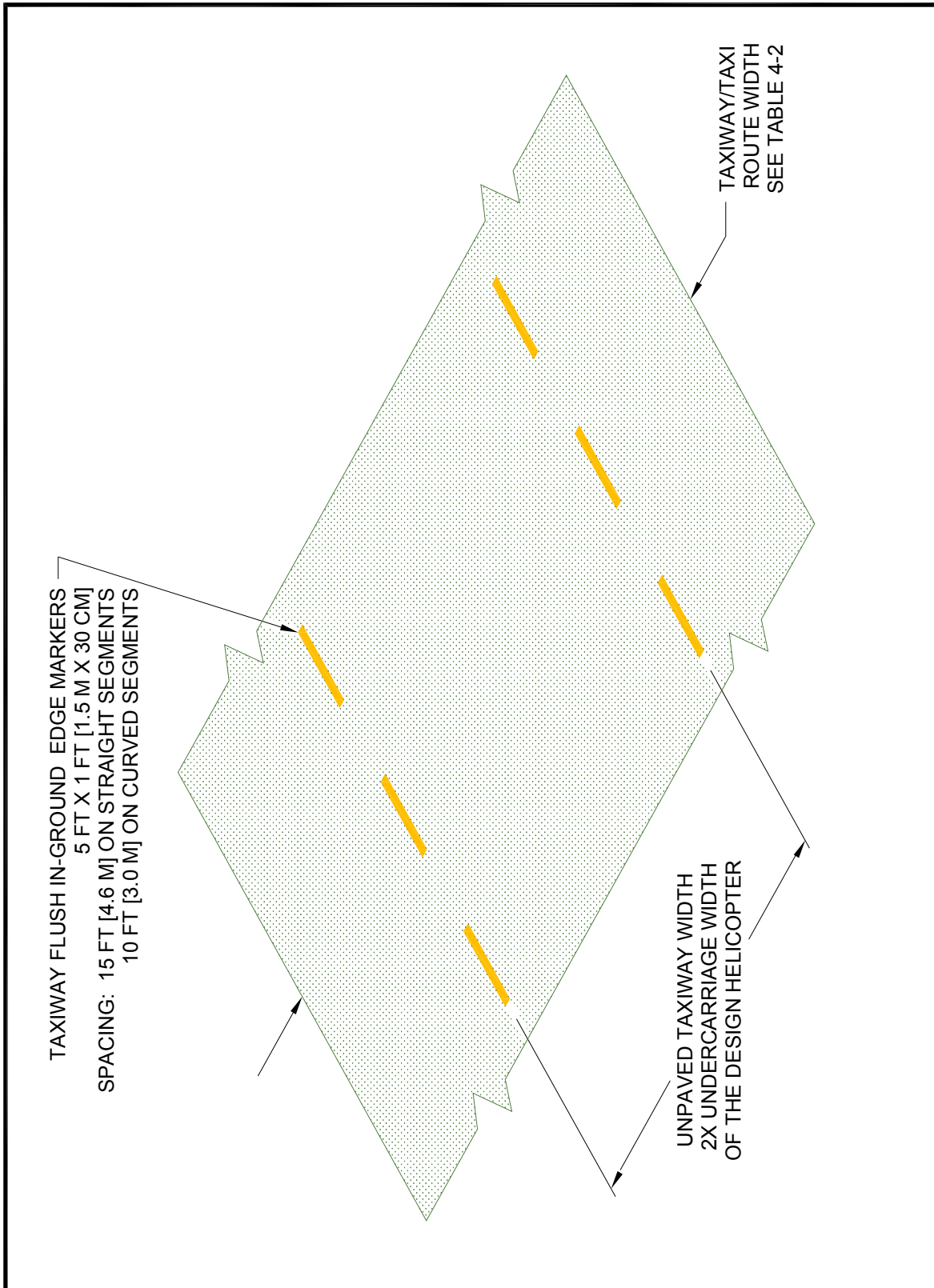


Figure 4-13. Taxiway/Taxi Route Relationship –
Unpaved Taxiway with Raised Edge Markers: Hospital



**Figure 4-14. Taxiway/Route Relationship –
Unpaved Taxiway with Flush Edge Markers: Hospital**

Table 4-2. Taxiway / Taxi Route Dimensions – Hospital Heliports

Taxiway (TW) Type	Minimum Width of Paved Area	Centerline Marking Type	TW Edge Marking Type	Lateral Separation Between TW Edge Markings	Total Taxi Route Width
Ground Taxiway	2 x UC	Painted	Painted	2 x UC	1½ RD
			Elevated	1 RD but not greater than 35 ft (10.7 m)	
	Unpaved but stabilized for ground taxi	None	Flush	2 x UC	
			Elevated	1 RD but not greater than 35 ft (10.7 m)	
Hover Taxiway	2 x UC	Painted	Painted	2 x UC	2 RD
	Unpaved	None	Elevated or Flush	1 RD but not greater than 35 ft (10.7 m)	

RD: rotor diameter of the design helicopter
 TW: taxiway
 UC: undercarriage length or width (whichever is greater) of the design helicopter

413. Helicopter parking. If more than one helicopter at a time is expected at a heliport, design the facility with an area designated for parking helicopters. The size of this area depends on the number and size of specific helicopters to be accommodated. It is not necessary that every parking position accommodate the design helicopter. Design individual parking positions to accommodate the helicopter size and weight expected to use the parking position at the facility. However, use the design helicopter to determine the separation between parking positions and taxi routes. Use the larger helicopter to determine the separation between parking positions intended for helicopters of different sizes. Design the parking positions to support the static loads of the helicopter intended to use the parking area. Design parking areas as one large, paved apron or as individual, paved parking positions. Ground taxi turns of wheeled helicopters are significantly larger than a hover turn. Consider the turn radius of helicopters when designing taxi intersections and parking positions for wheeled helicopters. Design heliport parking areas so helicopters will be parked in an orientation that keeps the “avoid areas” around the tail rotors (see Figure 4–18, Figure 4–19, and Figure 4–20) clear of passenger walkways.

a. Location. Do not locate aircraft parking areas under an approach/departure surface. However, as an option, allow aircraft parking areas under the transitional surfaces.

(1) For “turn around” parking positions, locate the parking position to provide a minimum distance between the tail rotor arc and any object, building, safety area, or other parking position. The minimum distance is 10 feet (3 m) for ground taxi operations and the greater of 10 feet (3 m) or 1/3 RD for hover taxi operations. See Figure 4–15 and Figure 4–18.

(2) For “taxi-through” and “back-out” parking positions, locate the parking position to provide a minimum distance between the main rotor circle and any object, building, safety area, or other parking position. The minimum distance is 10 feet (3 m) for ground taxi operations and the greater of 10 feet (3 m) or 1/3 RD for hover taxi operations. See Figure 4–15, Figure 4–17, and Figure 4–19.

(3) Locate the parking position to provide a minimum distance between the main rotor circle and the edge of any taxi route. Design parking positions such that the helicopter taxis through, turns around, or backs out to depart. The minimum distance is 1/3 RD for “turn around” and “taxi through” parking areas, and 1/2 RD for “back-out” parking areas. See Figure 4–15, Figure 4–16, and Figure 4–17.

b. Parking position sizes are dependent upon the helicopter size. The clearance between parking positions are dependent upon the type of taxi operations (ground taxi or hover taxi) and the intended paths for maneuvering in and out of the parking position. The more demanding requirement will dictate what is required at a particular site. Usually, the parking area requirements for skid-equipped helicopters will be

the most demanding. However, when the largest helicopter is a very large, wheeled aircraft (for example, the S-61), and the skid-equipped helicopters are all much smaller, the parking requirements for wheeled helicopters may be the most demanding. If wheel-equipped helicopters taxi with wheels not touching the surface, design parking areas based on hover taxi operations rather than ground taxi operations.

(1) If all parking positions are the same size, design them to be large enough to accommodate the largest helicopter that will park at the heliport.

(2) When there is more than one parking position, as an option design the facility with parking positions of various sizes and at least one position to accommodate the largest helicopter that will park at the heliport. Design other parking positions to be smaller, designed for the size of the individual or range of individual helicopters parking at that position. Figure 4–20 also provides guidance on parking position identification, size, and weight limitations.

(3) “Taxi-through” parking positions are illustrated in Figure 4–15. When using this design for parking positions, the heliport owner and operator take steps to ensure all pilots are informed that “turn-around” or “back-up” departures from the parking position are not permitted.

(4) “Turn-around” parking positions are illustrated in Figure 4–17.

(5) “Back-out” parking positions are illustrated in Figure 4–17. When using this design for parking positions, design the adjacent taxiway to accommodate hover taxi operations so the width of the taxiway will be adequate to support “back-out” operations.

c. Parking pads. When partially paving a parking area, design the smallest dimension of the paved parking pad to be a minimum of two times the maximum dimension (length or width, whichever is greater) of the undercarriage or the RD, whichever is less, of the largest helicopter that will use this parking position. Place the parking pad in the center of the parking position circle.

d. Walkways. At parking positions, provide marked walkways where practicable. Design the pavement to drain away from walkways.

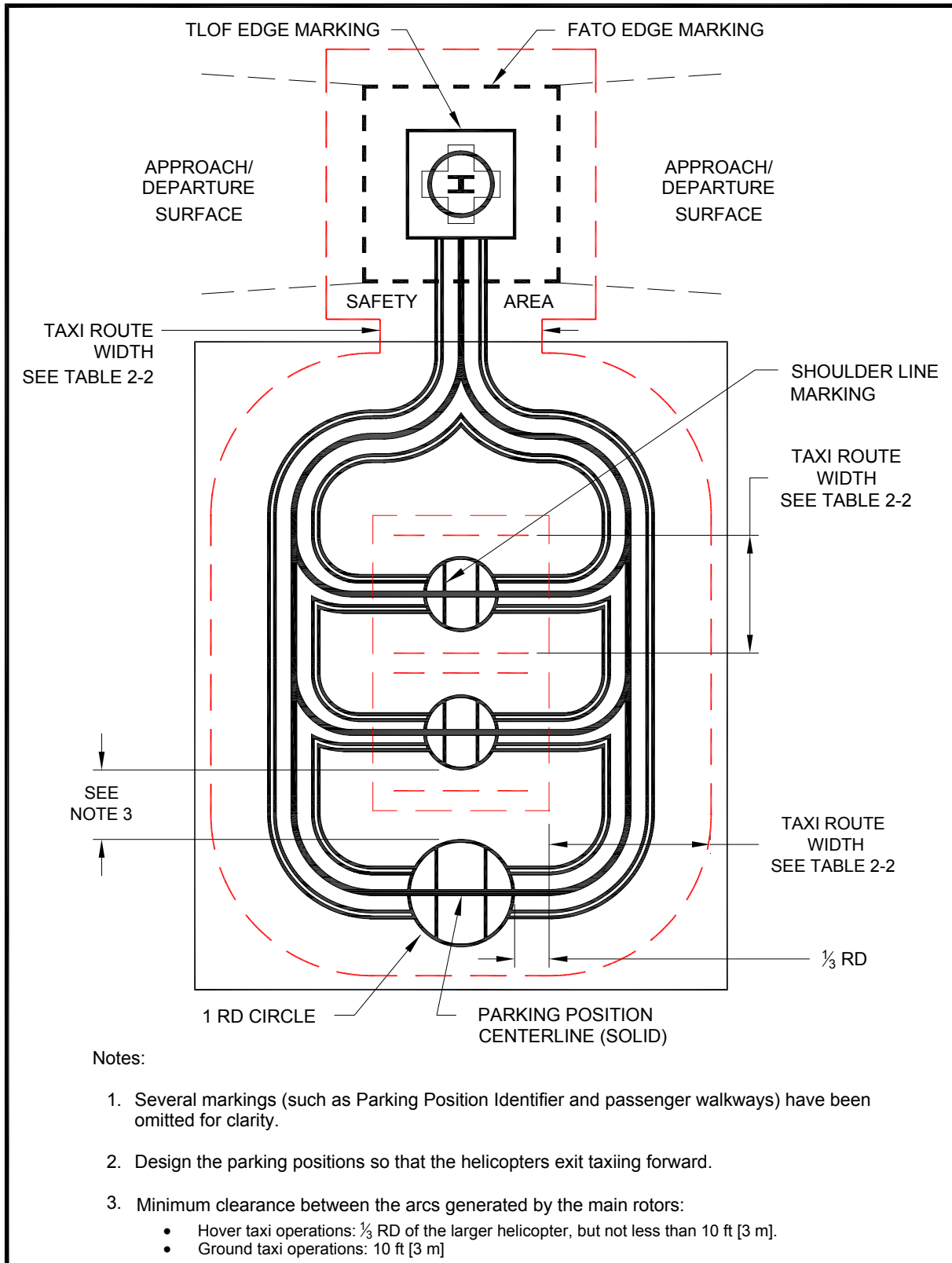
e. Fueling. Design the facility to allow fueling with the use of a fuel truck or a specific fueling area with stationary fuel tanks.

(1) Various federal, state, and local requirements for petroleum handling facilities apply to systems for storing and dispensing fuel. Find guidance in AC 150/5230-4, Aircraft Fuel Storage, Handling, and Dispensing on Airports. Additional information may be found in various National Fire Protection Association (NFPA) publications. For more reference material, see Appendix D.

(2) Do not locate fueling equipment in the TLOF, FATO, or safety area. Design and mark separate fueling locations to minimize the potential for helicopters to collide with the dispensing equipment. Design fueling areas so there is no object tall enough to be hit by the main or tail rotor blades within a distance of RD from the center point of the position where the helicopter would be fueled (providing $\frac{1}{2}$ RD clearance from the rotor tips). If this is not practical at an existing facility, install long fuel hoses.

(3) **Lighting.** Light the fueling area if night fueling operations are contemplated. Ensure any light poles do not constitute an obstruction hazard.

f. Tiedowns. Install recessed tiedowns to accommodate extended or overnight parking of based or transient helicopters. If tiedowns are provided, recess them so as not to be a hazard to helicopters. Ensure any depression associated with the tiedowns is of a diameter not greater than $\frac{1}{2}$ the width of the smallest helicopter landing wheel or landing skid anticipated to be operated on the heliport surface. In addition, provide storage for tiedown chocks, chains, cables and ropes off the heliport surface to avoid fouling landing gear. Find guidance on recessed tiedowns in AC 20-35, Tiedown Sense.



**Figure 4-15. Parking Area Design –
“Taxi-through” Parking Positions: Hospital**

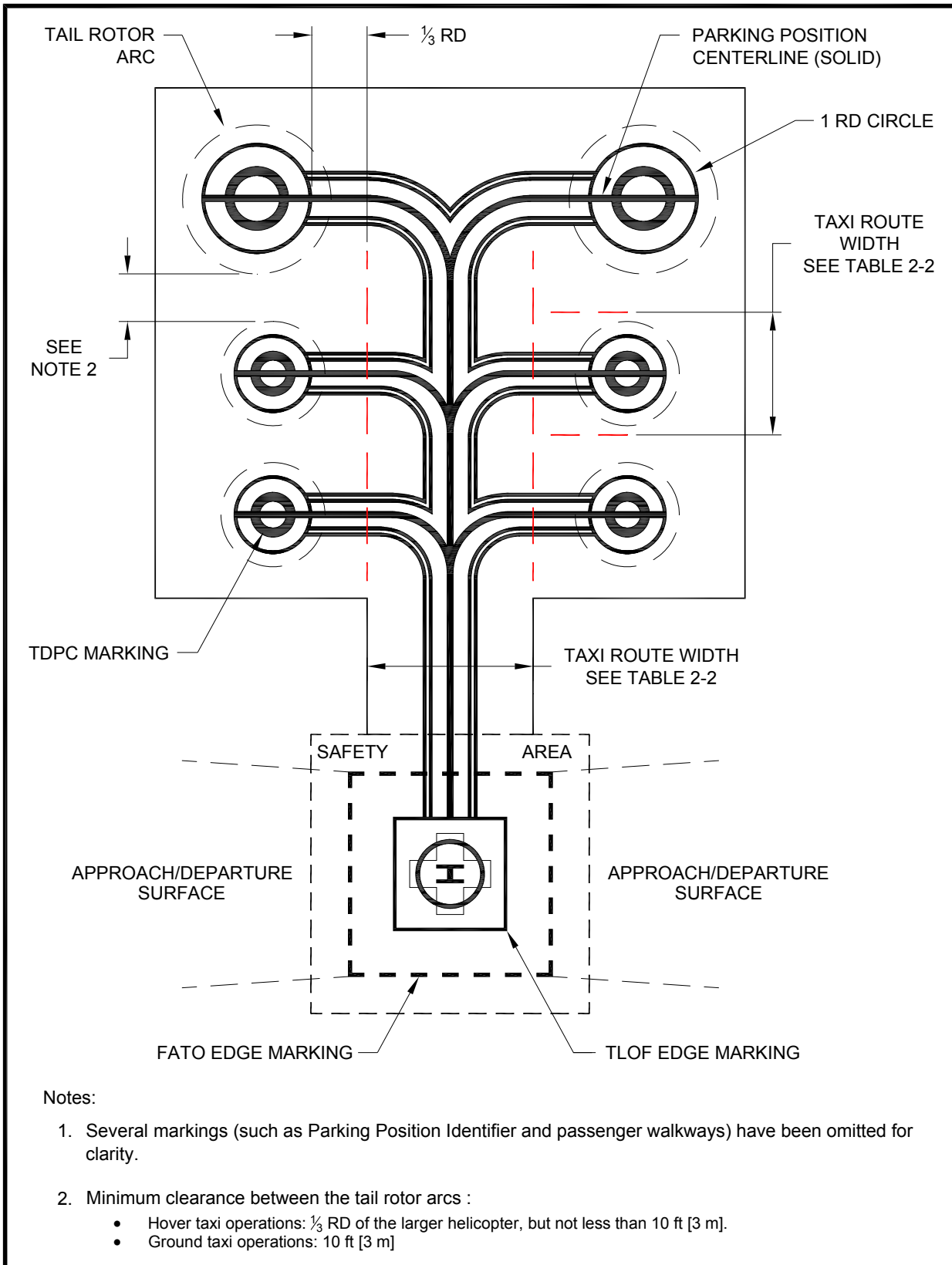


Figure 4–16. Parking Area Design – “Turn-around” Parking Positions: Hospital

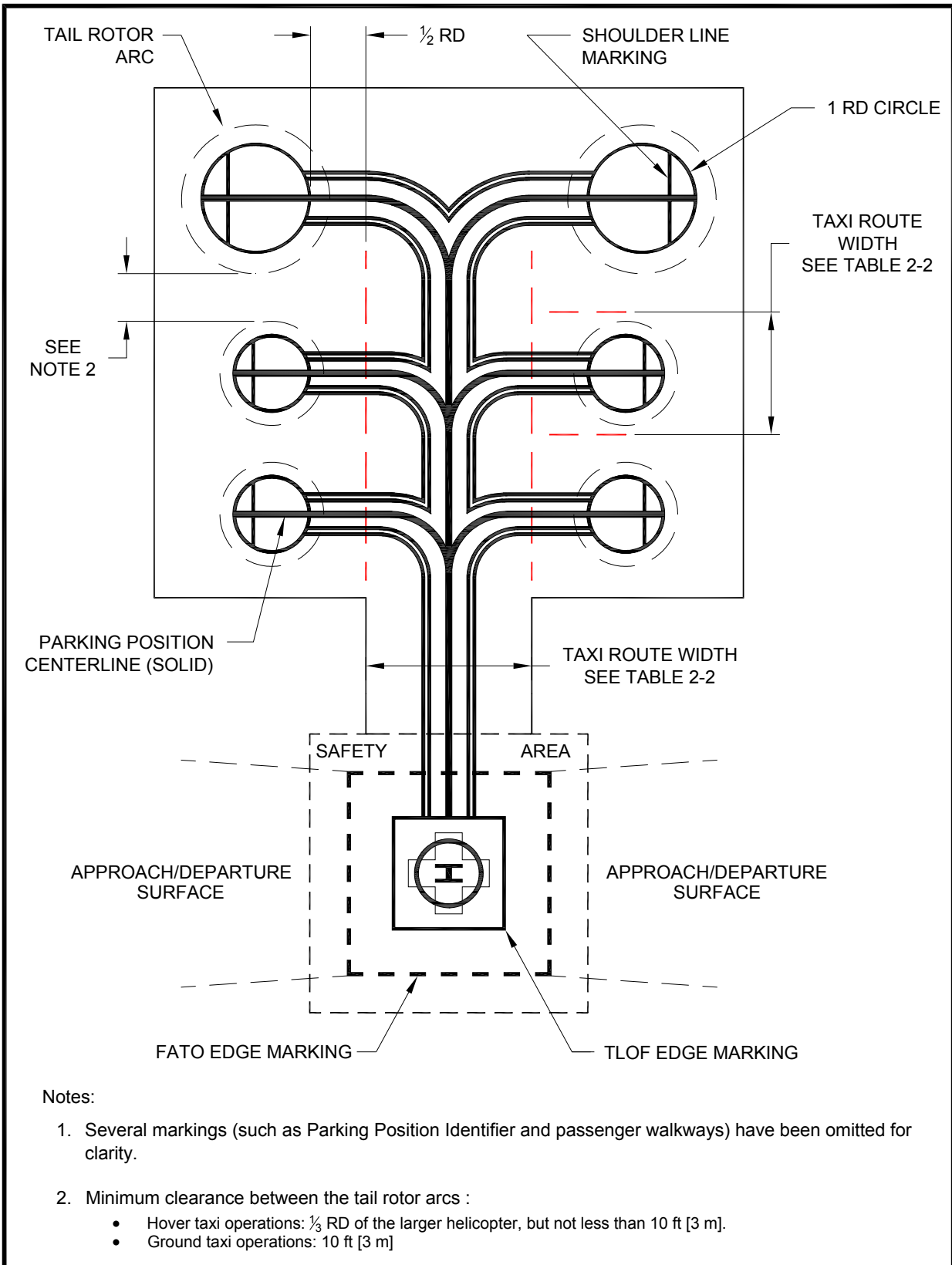


Figure 4–17. Parking Area Design – “Back-out” Parking Positions: Hospital

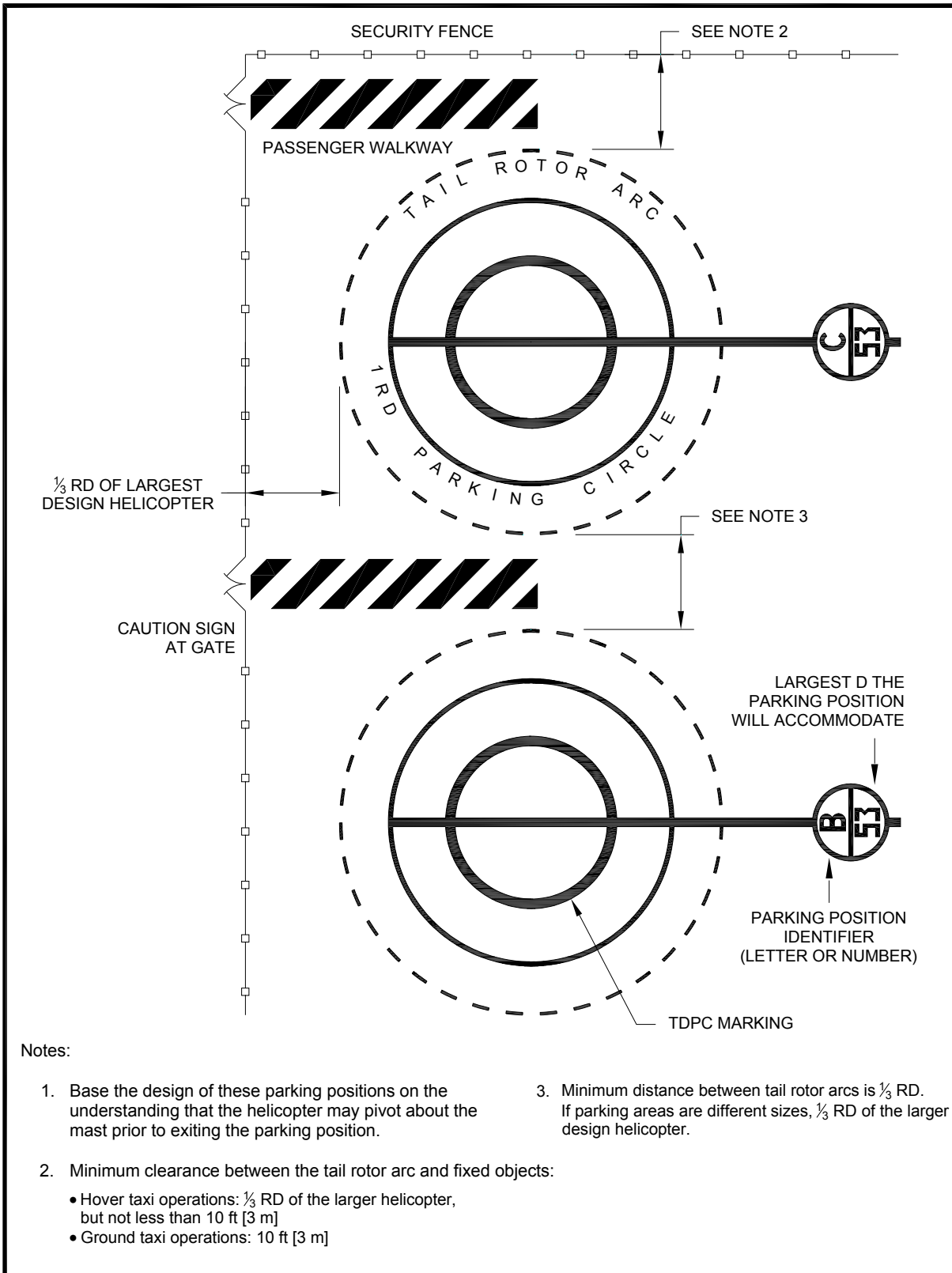


Figure 4-18. “Turn-around” Helicopter Parking Position Marking: Hospital

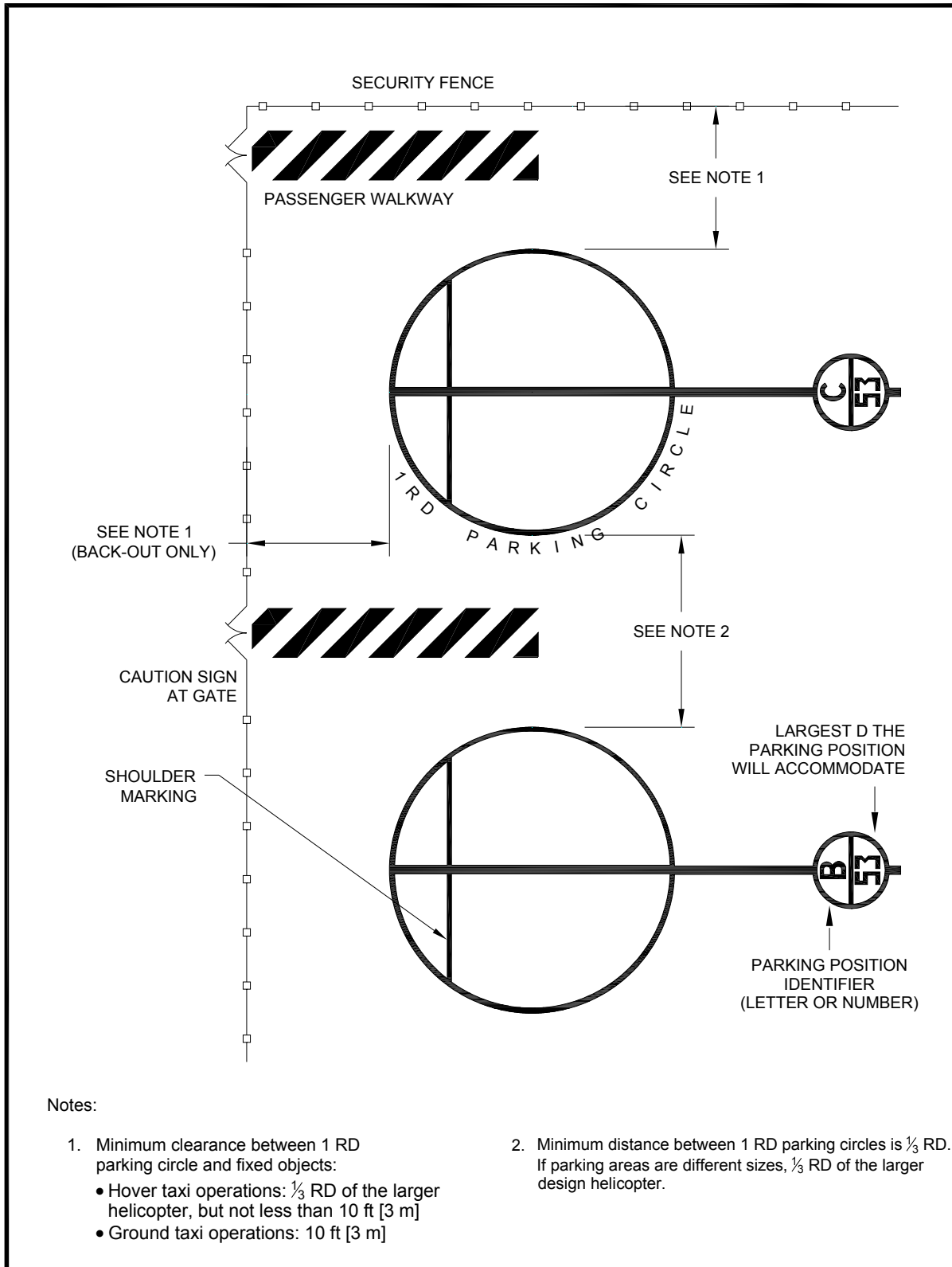


Figure 4-19. “Taxi-through” and “Back-out” Helicopter Parking Position Marking: Hospital

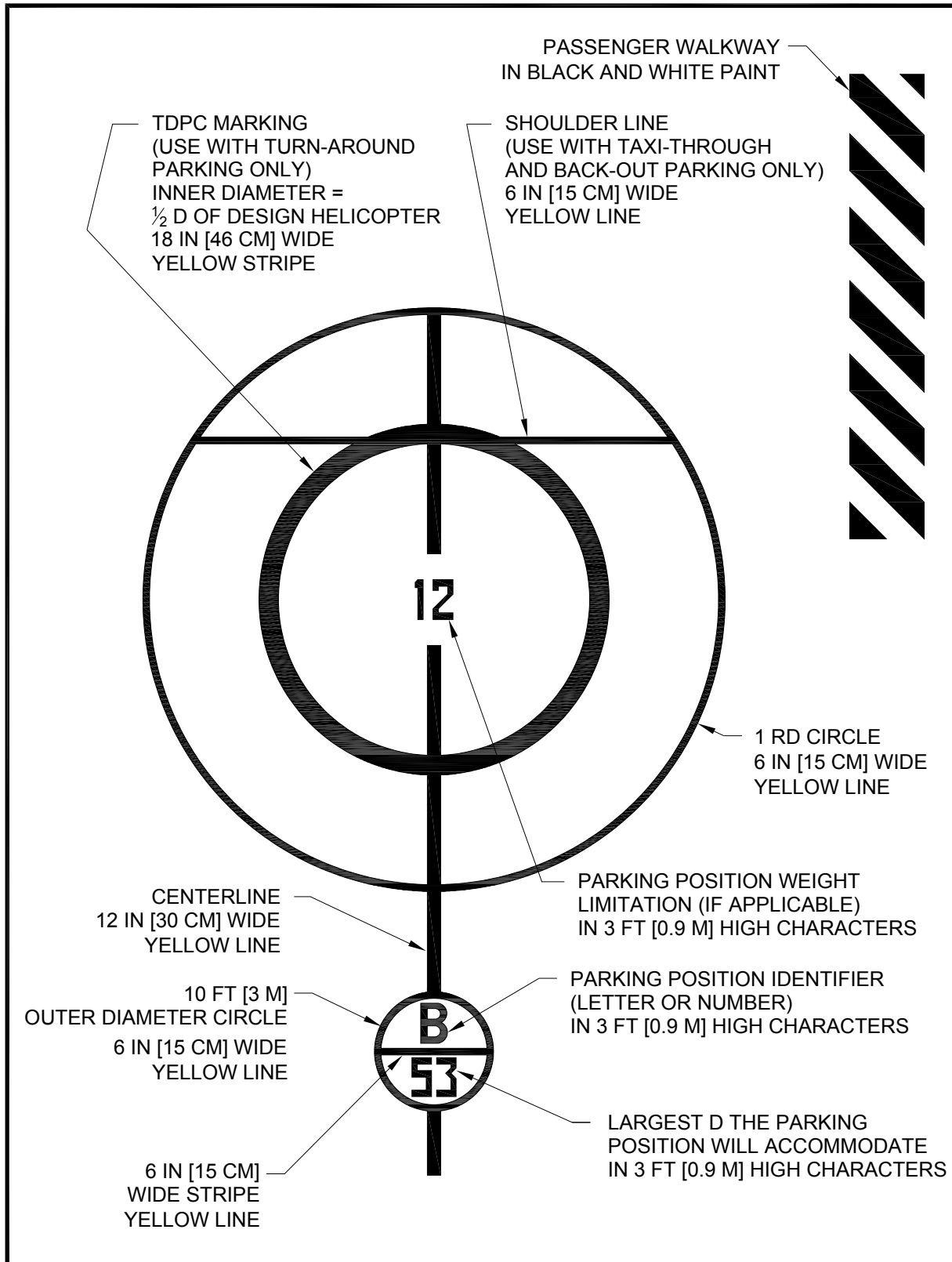


Figure 4-20. Parking Position Identification, Size, and Weight Limitations: General Aviation

414. Heliport markers and markings. Markers and/or surface markings identify the facility as a heliport. Use paint or preformed material for surface markings (see AC 150/5370-10, Item P-620, for specifications for paint and preformed material). Reflective paint and reflective markers may also be used, though overuse of reflective material can be blinding to a pilot using landing lights. As an option, outline lines/markings with a 6-inch wide (15 cm) line of a contrasting color to enhance conspicuity. Place markings that define the edges of a TLOF, FATO, taxiway or apron within the limits of those areas. Use the following markers and markings:

a. Hospital heliport identification marking. The identification marking identifies the location as a hospital heliport, marks the TLOF and provides visual cues to the pilot.

(1) Standard hospital heliport identification symbol. Mark the TLOF with a red “H” in a white cross. The minimum height of the “H” is 10 feet (3 m). Locate the “H” in the center of the TLOF and orient it on the axis of the preferred approach/departure path. Place a 12-inch wide red bar under the “H” when it is necessary to distinguish the preferred approach/departure direction. The proportions and layout of the standard hospital heliport identification symbol are illustrated in Figure 4–21. Increase the dimensions of the “H” and cross proportionately for larger TLOFs.

(2) Alternative marking. As an alternative to the standard marking, use a red “H” with a white 6-inch (15 cm) wide border within a red cross with a 12 inch (30 cm) wide white border and a surrounding red TLOF. Where it is impractical to paint the whole TLOF red, paint the TLOF so the minimum dimension (length, width, or diameter) of the outer red area is equal to the RD of the design helicopter but not less than 40 feet (12.2 m). Figure 4–22 illustrates this alternative marking. Increase the dimensions of the “H” and cross proportionately for larger TLOFs.

(3) Winter operations. In winter weather at a heliport with a dark TLOF surface, the marking in Figure 4–22 will absorb more heat from the sun and more readily melt residual ice and snow. In contrast, the white area in Figure 4–21 is more likely to be icy during winter weather. Consequently, in areas that experience ice and snow, use the markings in Figure 4–22 for unheated TLOFs.

b. TLOF markings.

(1) TLOF perimeter marking. Mark the TLOF perimeter with markers and/or lines. See paragraph 408 and Table 4-1 for guidance on increasing the size of the safety area if the TLOF perimeter is not marked.

(a) Paved TLOFs. Define the perimeter of a paved or hard surfaced TLOF with a continuous, 12-inch-wide (30 cm), white line. See Figure 4–23.

(b) Unpaved TLOFs. Define the perimeter of an unpaved TLOF with a series of 12-inch-wide (30 cm), flush, in-ground markers, each approximately 5 feet (1.5 m) in length with end-to-end spacing of not more than 6 inches (15 cm). See Figure 4–24.

(2) Touchdown/positioning circle (TDPC) marking. Use an optional TDPC marking to provide guidance to allow a pilot to touch down in a specific position on paved surfaces. When the pilot’s seat is over the marking, the undercarriage will be inside the LBA, and all parts of the helicopter will be clear of any obstacle by a safe margin. A TDPC marking is a yellow circle with an inner diameter of $\frac{1}{2}$ D and a line width of 18 inches (46 cm). Locate a TDPC marking in the center of a TLOF. See Figure 4–21, Figure 4–22, and Figure 4–23.

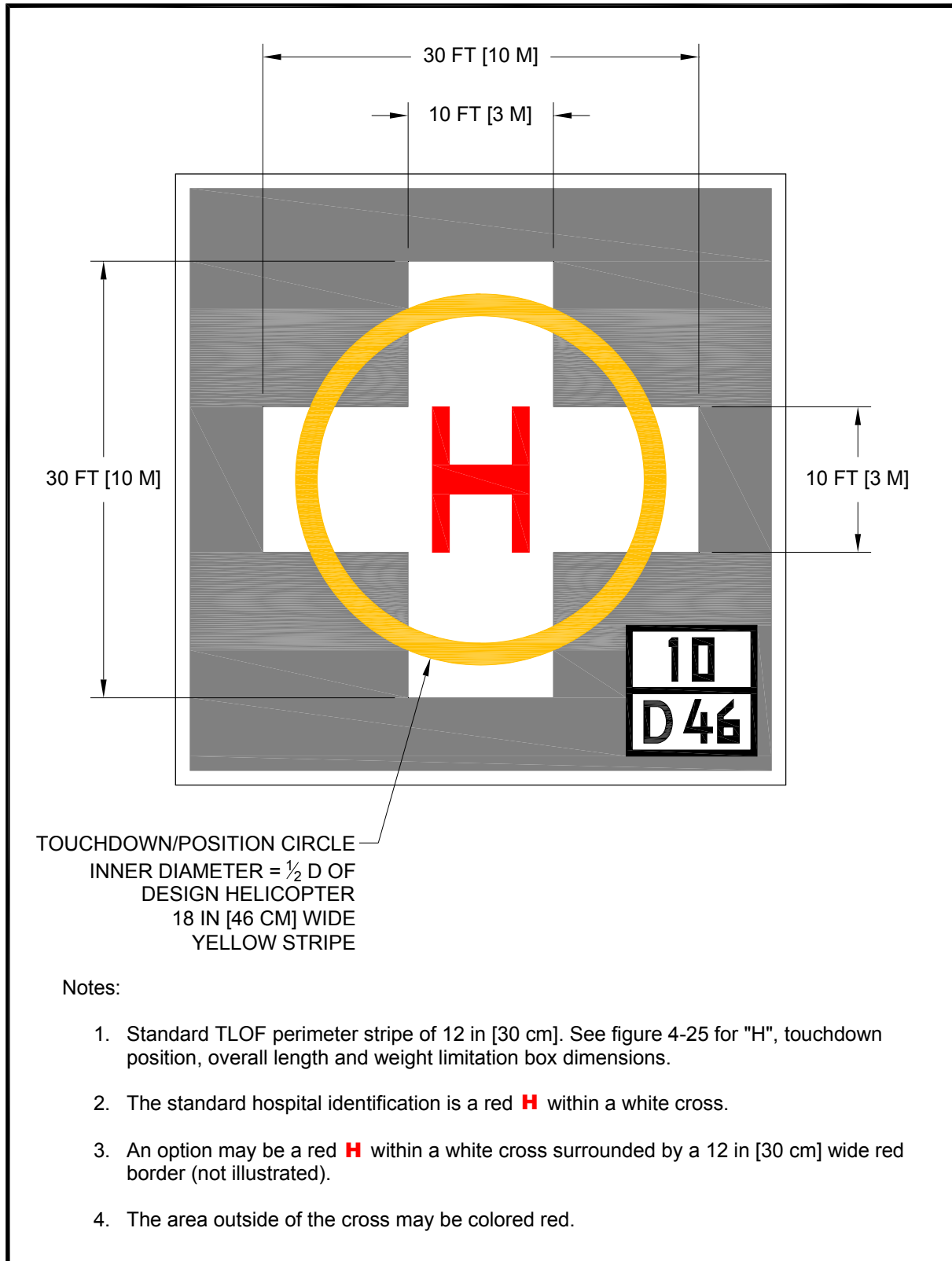


Figure 4–21. Standard Hospital Heliport Identification Symbols: Hospital

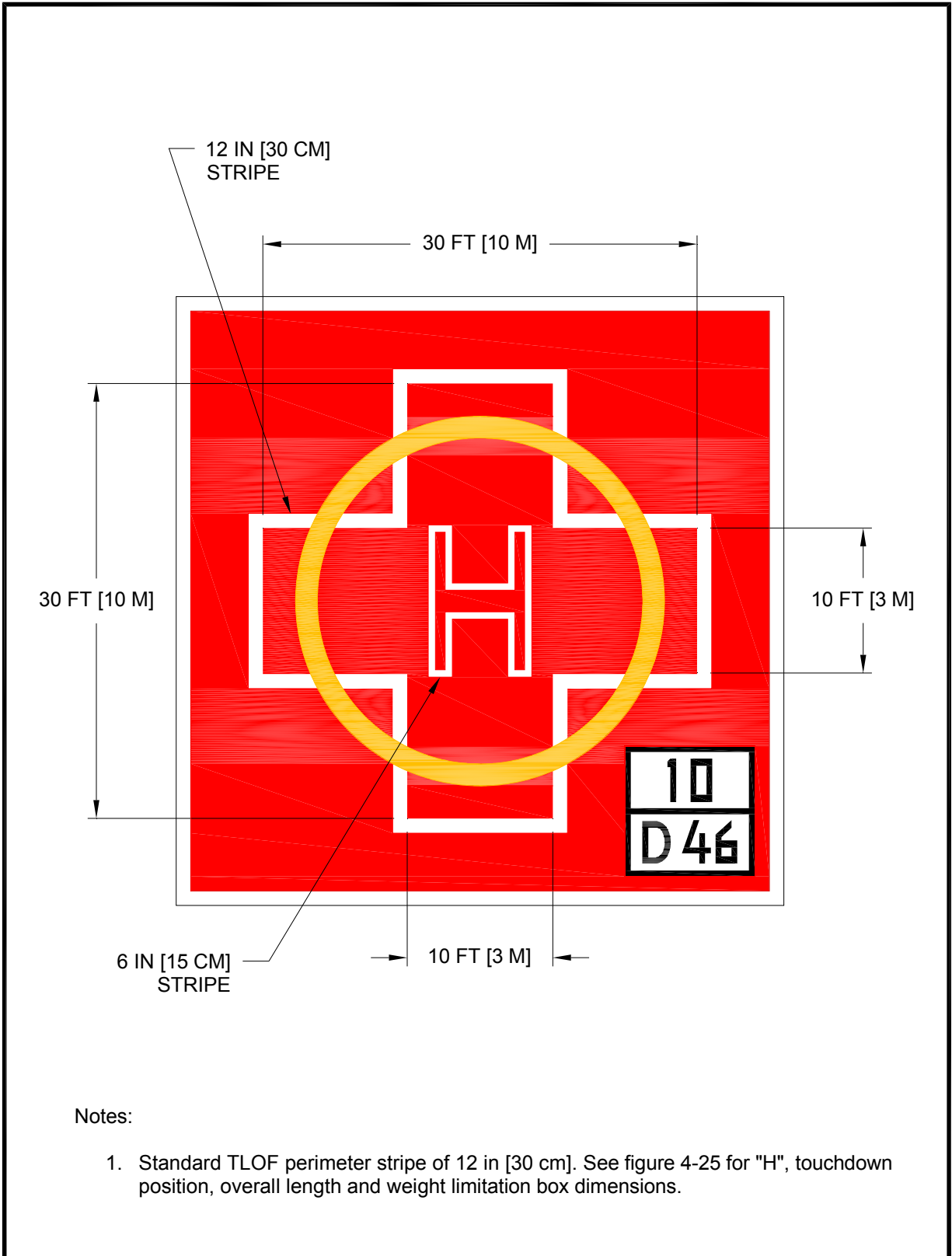


Figure 4–22. Alternative Hospital Heliport Identification Symbols: Hospital

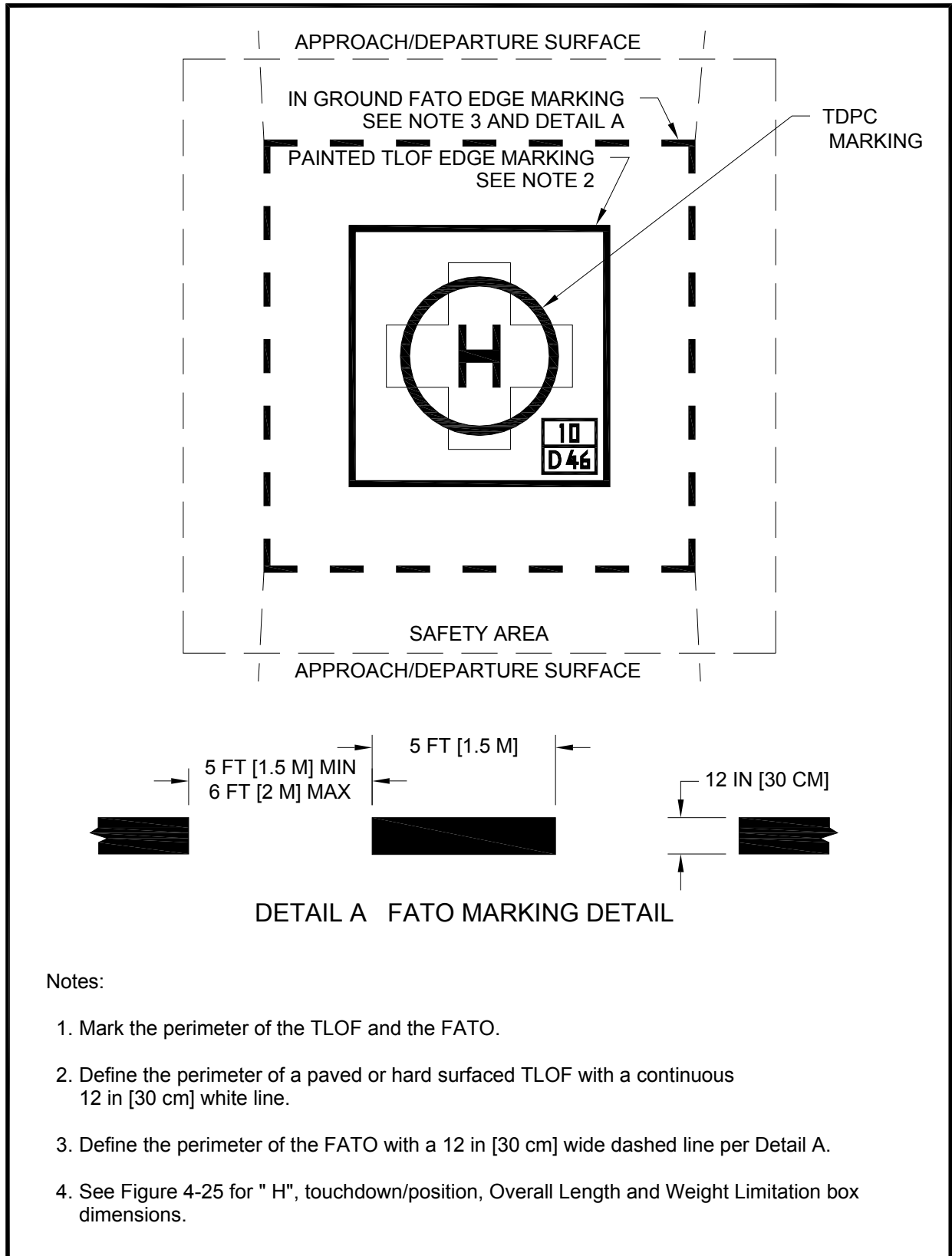


Figure 4-23. Paved TLOF/Paved FATO – Paved TLOF/Unpaved FATO – Marking: Hospital

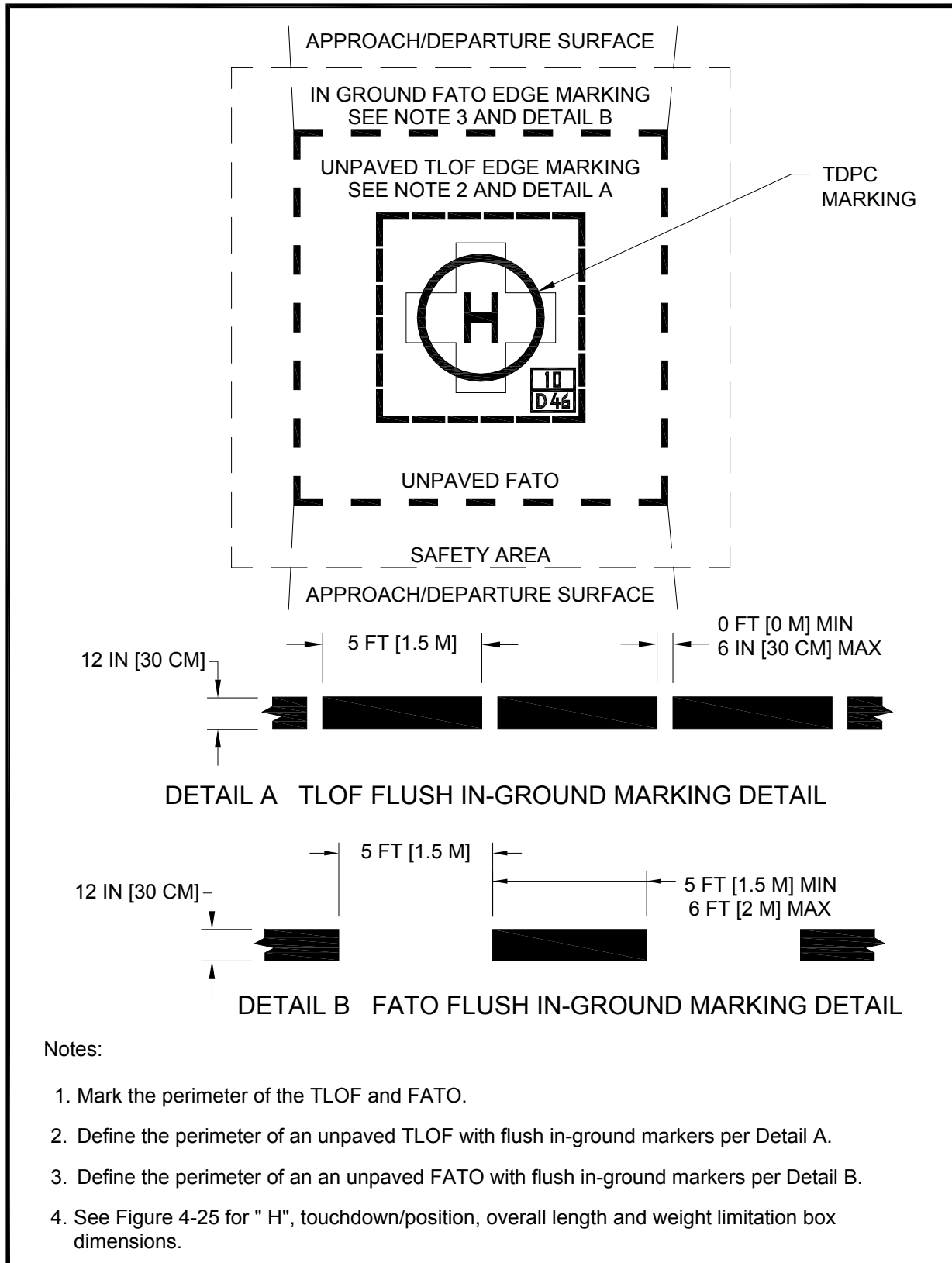


Figure 4-24. Unpaved TLOF/Unpaved FATO – Marking: Hospital

(3) TLOF size and weight limitations. Mark the TLOF to indicate the length and weight of the largest helicopter it will accommodate, as shown in Figure 4–25. Place these markings in a box in the lower right-hand corner of the TLOF, or on the right-hand side of the “H” of a circular TLOF, when viewed from the preferred approach direction. The box is 5 feet (1.5 m) square. The numbers are 18” (46 cm) high. If necessary, interrupt the TDPC marking with this marking. (See Figure C–2.) The numbers are black with a white background. This marking is optional at a TLOF with a turf surface.

(a) TLOF size limitation. This number is the length (D) of the largest helicopter the TLOF will accommodate, as shown in Figure 4–25. The marking consists of the letter “D” followed by the dimension in feet. Do not use metric equivalents used for this purpose. Center this marking in the lower section of the TLOF size/weight limitation box.

(b) TLOF weight limitations. If a TLOF has limited weight-carrying capability, mark it with the maximum takeoff weight of the design helicopter, in units of thousands of pounds, as shown in Figure 4–25. Do not use metric equivalents for this purpose. Center this marking in the upper section of a TLOF size/weight limitation box. If the TLOF does not have a weight limit, add a diagonal line extending from the lower left hand corner to the upper right hand corner to the upper section of the TLOF size/weight limitation box.

c. Extended pavement/structure markings. As an option at hospital heliports, increase the pavement or structure without a corresponding increase in the length and width or diameter of the FATO to accommodate pedestrians and/or support operations. Whether or not this increased area is part of the LBA, mark the pavement or structure outside the TLOF with 12-inch-wide (30 cm) diagonal black and white stripes. See Figure 4–26 for marking details.

d. FATO markings.

(1) FATO perimeter marking. Define the perimeter of a load-bearing FATO with markers and/or lines. Do not mark the FATO perimeter if any portion of the FATO is not a load-bearing surface. In such cases, mark the TLOF perimeter (see paragraph 414.)

(a) Paved FATO. Define the perimeter of a paved load-bearing FATO with a 12-inch-wide (30 cm) dashed white line. Use marking segments approximately 5 feet (1.5 m) in length, and with end-to-end spacing of approximately 5 feet (1.5 m) to define the corners of the FATO and the perimeter. See Figure 4–23.

(b) Unpaved FATO. Define the perimeter of an unpaved load-bearing FATO with 12-inch-wide (30 cm), flush, in-ground markers. Use marking segments approximately 5 feet (1.5 m) in length, and with end-to-end spacing of approximately 5 feet (1.5 m) to define the corners of the FATO and the perimeter. See Figure 4–23 and Figure 4–24.

e. Flight path alignment guidance marking. An optional flight path alignment guidance marking consists of one or more arrows to indicate the preferred approach/departure direction(s). Place it on the TLOF, FATO and/or safety area surface as shown in Figure 4–10. The shaft of the arrow(s) is 18 inches (50 cm) in width and at least 10 feet (3 m) in length. When combined with a flight path alignment guidance lighting system described in paragraph 415, it takes the form shown in Figure 4–10, which includes scheme for marking the arrowheads. Use a color that provides good contrast against the background color of the surface on which they are marked. An arrow pointing toward the center of the TLOF depicts an approach direction. An arrow pointing away from the center of the TLOF depicts a departure direction. In the case of a flight path limited to a single approach direction or a single takeoff direction, the arrow marking is unidirectional. In the case of a heliport with only a bidirectional approach/takeoff flight path available, the arrow marking is bidirectional.

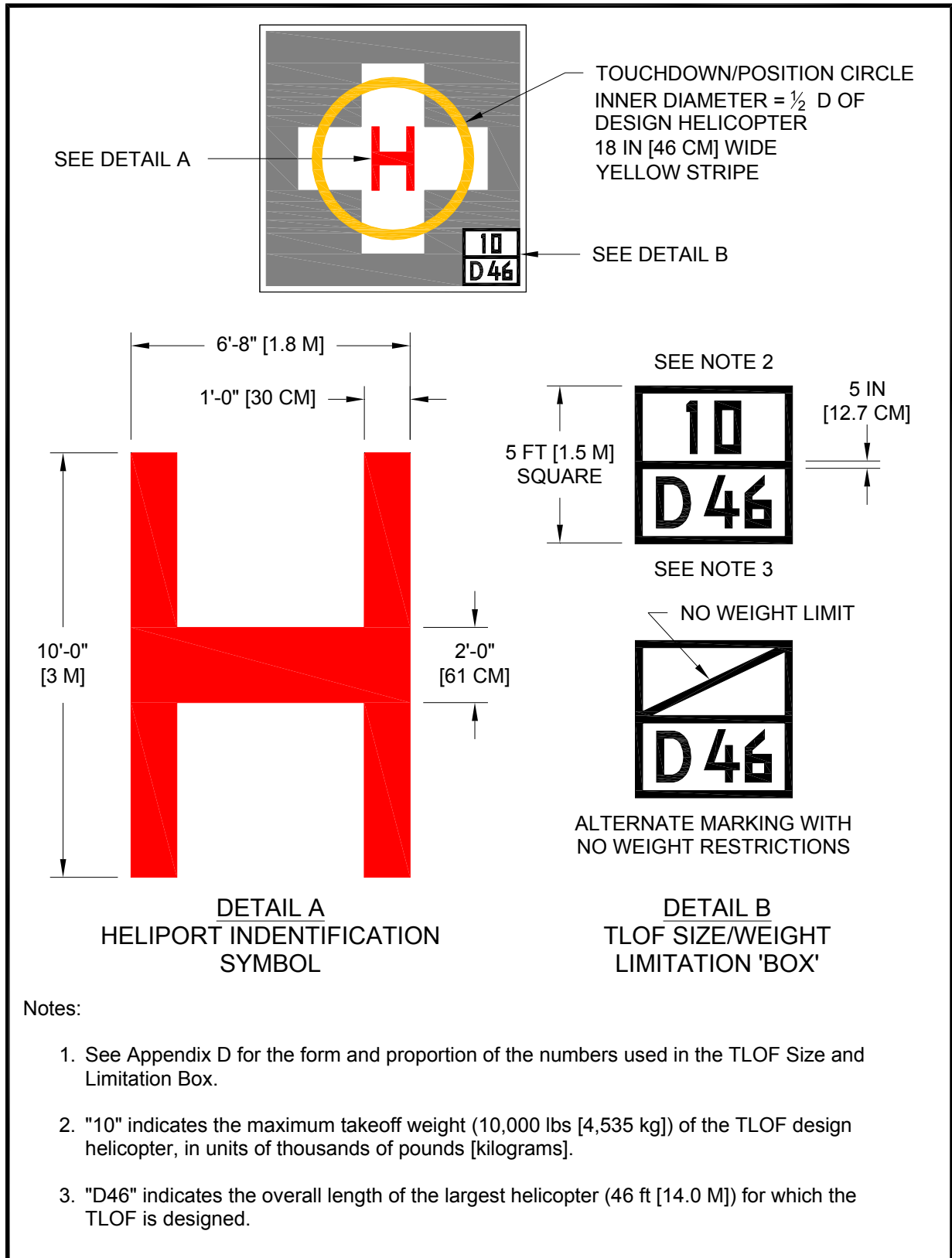


Figure 4-25. TLOF Size and Weight Limitations: Hospital



Figure 4–26. Extended Pavement or Structure Marking: Hospital

f. Taxi route and taxiway markings.

(1) Paved taxiway markings. Mark the centerline of a paved taxiway with a continuous 6-inch (15 cm) yellow line. If necessary to increase conspicuity, mark both edges of the paved portion of the taxiway with two continuous 6-inch (15 cm) wide yellow lines spaced 6 inches (15 cm) apart. Figure 4-12 illustrates taxiway centerline and edge markings.

(2) Unpaved taxiway markings. Use either raised or in-ground flush edge markers to provide strong visual cues to pilots. Space them longitudinally at approximately 15-foot (5 m) intervals on straight segments and at approximately 10-foot (3 m) intervals on curved segments. Figure 4-13 and Figure 4-14 illustrate taxiway edge markings.

(a) Raised-edge markers are blue, 4 inches (10 cm) in diameter, and 10 inches (25 cm) high, as illustrated in Figure 4-13.

(b) In-ground, flush edge markers are yellow, 12 inches (30 cm) wide, and approximately 5 feet (1.5 m) long.

(3) Raised edge markers in grassy areas. Raised edge markers are sometimes obscured by tall grass. Address this issue with 12-inch (30 cm) diameter concrete pads or solid material disks around the poles supporting the raised markers.

(4) Taxiway to parking position transition requirements. For paved taxiways and parking areas, taxiway centerline markings continue into parking positions and become the parking position centerlines.

g. Parking position markings. If a hospital heliport has a parking position, the following standards apply.

(1) Paved parking position identifications. Mark parking position identifications (numbers or letters) if there is more than one parking position. These markings are yellow characters 36 inches (91 cm) high. See Figure 4-20 and Figure C-1.

(2) Rotor diameter circle. Define the circle of the RD of the largest helicopter that will park at that position with a 6-inch (15 cm) wide, solid yellow line with an outside diameter of RD. In paved areas, this is a painted line (See Figure 4-20). In unpaved areas, use a series of flush markers, 6 inches (15 cm) in width, a maximum of 5 feet (1.5 m) in length, and with end-to-end spacing of approximately 5 feet (1.5 m).

h. Touchdown/positioning circle (TDPC) marking. An optional TDPC marking provides guidance to allow a pilot to touch down in a specific position on paved surfaces. When the pilot's seat is over the marking, the undercarriage will be inside the LBA, and all parts of the helicopter will be clear of any obstacle by a safe margin. A TDPC marking is a yellow circle with an inner diameter of $\frac{1}{2} D$ and a line width of 18 in (46 cm). Locate a TDPC marking in the center of a parking area. Use a TDPC marking for "turn-around" parking areas. See Figure 4-20 and Figure 4-18.

i. Maximum length marking. On paved surfaces, indicate the D of the largest helicopter that the position is designed to accommodate (for example, 40) with this marking. This marking consists of yellow characters at least 36 inches (91 cm) high. See Figure 4-20 and Figure C-1.

j. Parking position weight limit. If a paved parking position has a weight limitation, mark it in units of 1,000 lbs as illustrated in Figure 4-20. (A 4 indicates a weight-carrying capability of up to 4,000 lbs. Do not use metric equivalents for this purpose.) This marking consists of yellow characters 36 inches (91 cm) high. Place a bar under the number if necessary to minimize the possibility of being misread. See Figure 4-18 and Figure C-1.

k. Shoulder line markings. Use optional shoulder line markings for paved parking areas (See Figure 4-15) to ensure safe rotor clearance. Locate a 6-inch (15 cm) wide solid yellow shoulder line,

perpendicular to the centerline and extending to the RD marking, so it is under the pilot's shoulder such that the main rotor of the largest helicopter for which the position is designed will be entirely within the rotor diameter parking circle (See Figure 4–20.) Use 0.25 D from the center of parking area to define the location of shoulder line. Use a shoulder line marking for “taxi through” and “back-out” parking areas.

l. Walkways. Figure 4–20 illustrates one marking scheme.

m. Closed heliport. Obliterate all markings of a permanently closed heliport, FATO, or TLOF. If it is impractical to obliterate markings, place a yellow “X” over the “H”, as illustrated in Figure 4–27. Use a yellow “X” large enough to ensure early pilot recognition that the heliport is closed. Remove the wind cone(s) and other visual indications of an active heliport.

n. Marking sizes. See Appendix C for guidance on the proportions of painted numbers.

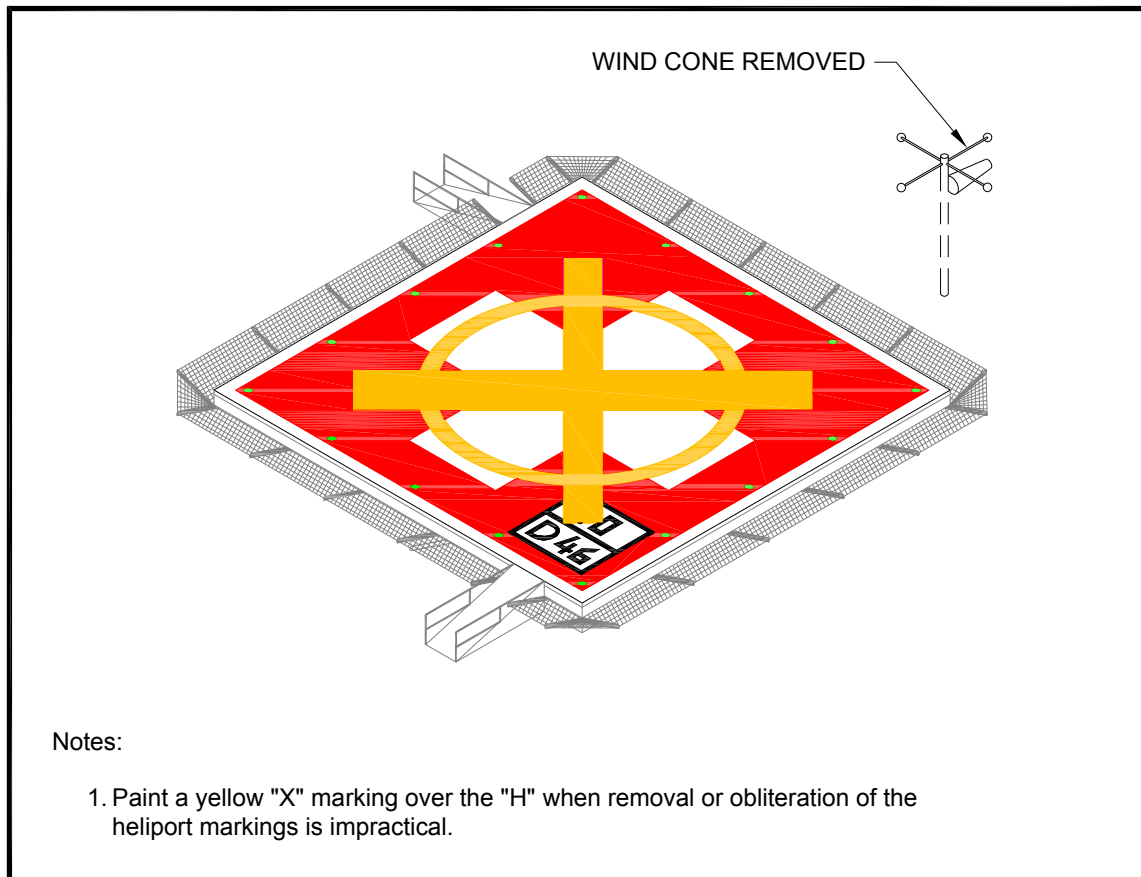


Figure 4–27. Marking a Closed Heliport: Hospital

415. Heliport lighting. If the heliport operator intends for the facility to support night operations, light the heliport with FATO and/or TLOF perimeter lights as described below. Design flush light fixtures and installation methods to support point loads of the design helicopter transmitted through a skid or wheel.

a. TLOF perimeter lights.

(1) Ground level TLOF. Use green lights meeting the requirements of FAA Airports Engineering Brief 87, Heliport Perimeter Light for Visual Meteorological Conditions (VMC), to define the TLOF perimeter. If only the TLOF is load bearing, use flush lights or, as a less desirable option, raised green omnidirectional lights. Use a minimum of three light fixtures per side of a square or rectangular TLOF. Locate a light at each corner, with additional lights uniformly spaced between the

corner lights. Using an odd number of lights on each side will place lights along the centerline of the approach. To define a circular TLOF, use an even number of lights, with a minimum of eight, uniformly spaced. Space the lights at a maximum of 25 feet (7.6 m). Locate flush lights within 1 foot (30 cm) (inside or outside) of the TLOF perimeter. Locate raised lights outside and within 10 feet (3 m) of the edge of the TLOF. Make sure raised lights do not penetrate a horizontal plane at the TLOF elevation by more than 2 inches (5 cm). Figure 4–28 and Figure 4–30 illustrate these lights.

(2) Elevated TLOF. As an option, use raised, omnidirectional lights meeting the requirements of EB 87, located on the outside edge of the TLOF or the outer of the safety net, as shown in Figure 4–29. Lighting on the outer edge of the safety net provides better visual cues to pilots at a distance from the heliport since it outlines a larger area. Make sure raised lights do not penetrate a horizontal plane at the TLOF elevation by more than 2 inches (5 cm).

b. Load-bearing FATO perimeter lights. Use green lights meeting the requirements of EB 87 to define the perimeter of a load bearing FATO. Do not light the FATO perimeter if any portion of the FATO is not a load-bearing surface. Use a minimum of three flush or raised light fixtures per side of a square or rectangular FATO. Locate a light is located at each corner, with additional lights uniformly spaced between the corner lights. Using an odd number of lights on each side will place lights along the centerline of the approach. To define a circular FATO, use an even number of lights, with a minimum of eight, uniformly spaced. Space lights at a maximum of 25 feet (7.6 m). Locate flush lights within 1 foot (30 cm) (inside or outside) of the FATO perimeter (see Figure 4–28 and Figure 4–30). As an option, use a rectangular light pattern even if the TLOF is circular. At a distance during nighttime operations, a square or rectangular pattern of FATO perimeter lights provides the pilot with better visual alignment cues than a circular pattern, but a circular pattern may be more effective in an urban environment. In the case of an elevated FATO with a safety net, mount the perimeter lights in a similar manner as discussed in paragraph 415. Make sure raised FATO perimeter lights are no more than 8 inches (20 cm) high, and locate them 10 feet (3 m) from the FATO perimeter.

c. Floodlights. The FAA has not evaluated floodlights for effectiveness in visual acquisition of a heliport. However, if ambient light does not adequately illuminate markings for night operations, use floodlights to illuminate the TLOF, the FATO, and/or the parking area. If possible, mount these floodlights on adjacent buildings to eliminate the need for tall poles. Take care, however, to place floodlights clear of the TLOF, the FATO, the safety area, and the approach/departure surfaces, and transitional surfaces. Ensure floodlights and their associated hardware do not constitute an obstruction hazard. Aim floodlights down to provide adequate illumination on the surface. Make sure floodlights that might interfere with pilot vision during takeoff and landings are capable of being turned off by pilot control or at pilot request.

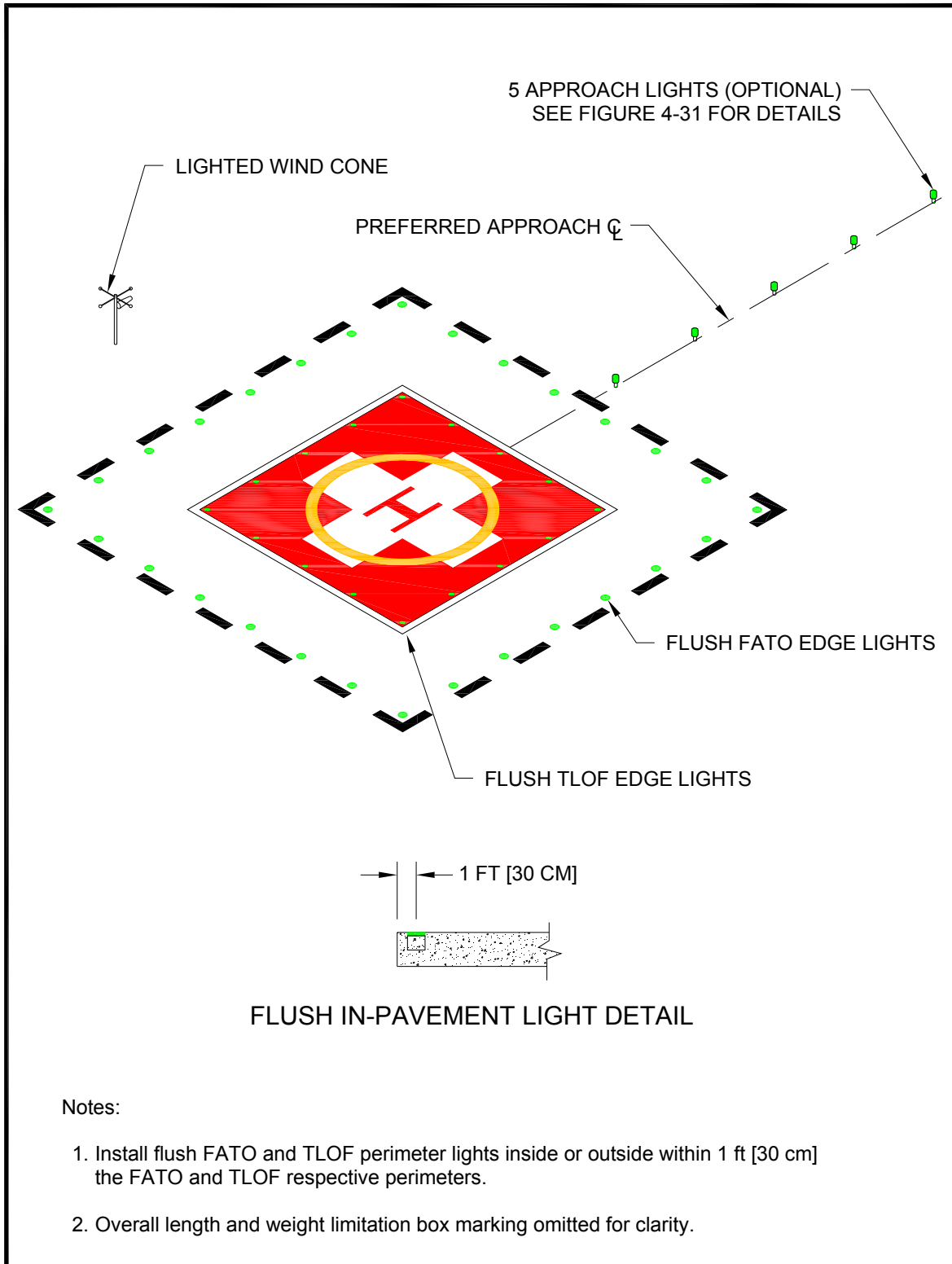


Figure 4–28. Flush TLOF/FATO Perimeter Lighting: Hospital

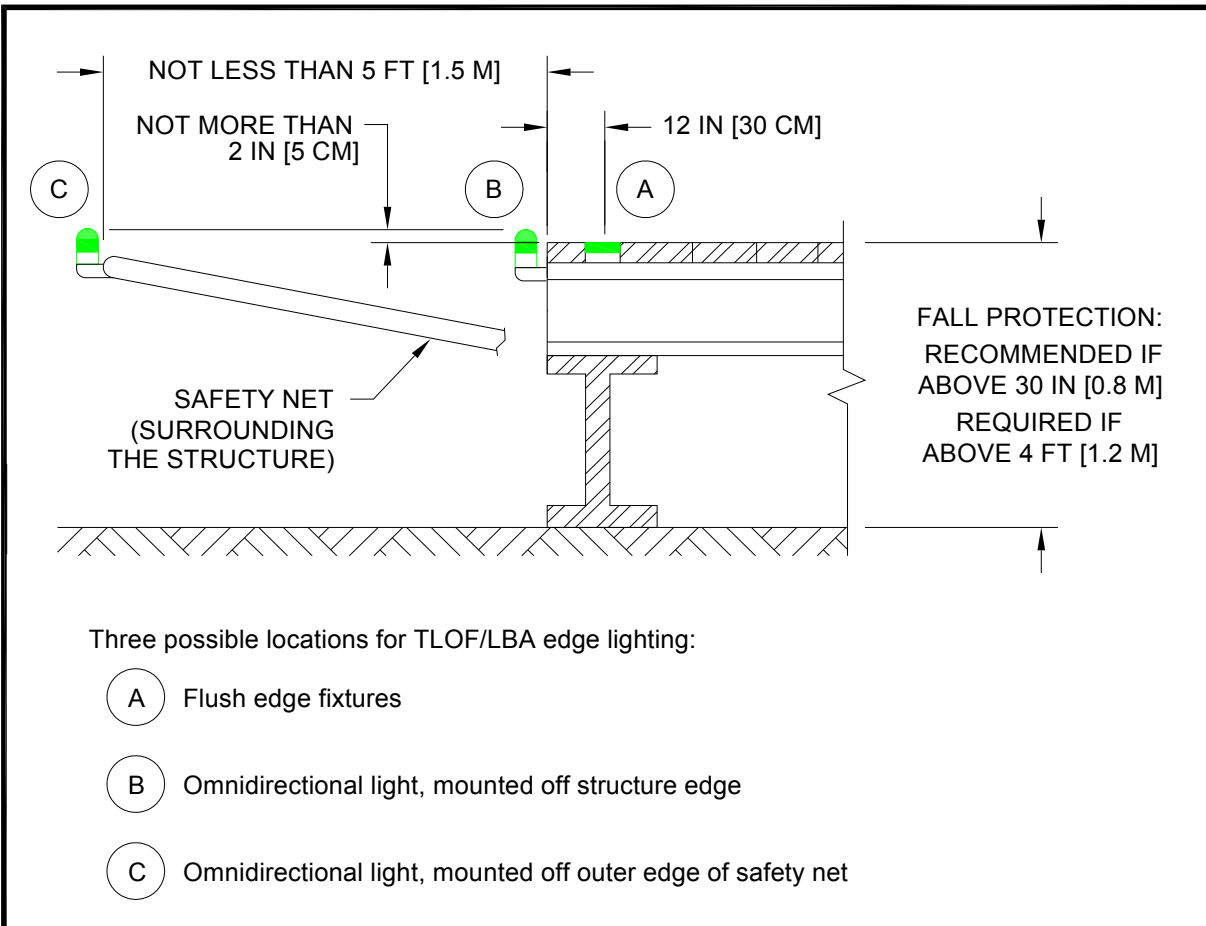


Figure 4–29. Elevated TLOF, Safety Net and Lighting Heliport Partial Elevation: Hospital

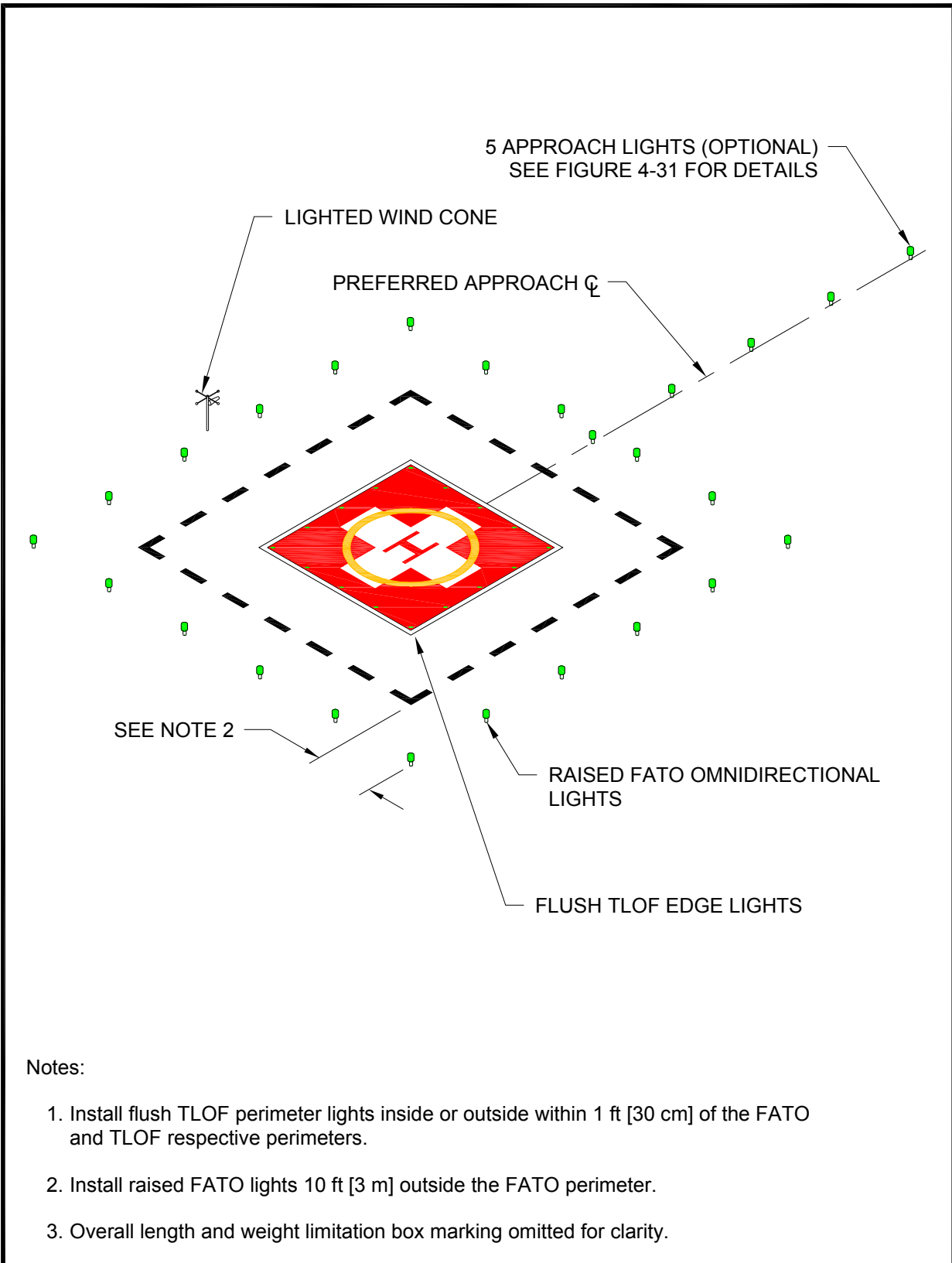


Figure 4-30. Flush TLOF and Raised FATO Perimeter Lighting: Hospital

d. Landing direction lights. As an option when it is necessary to provide directional guidance, install landing direction lights. Landing direction lights are a configuration of five green omnidirectional lights meeting the standards of EB 87, on the centerline of the preferred approach/departure path. Space these lights at 15-foot (5 m) intervals beginning at a point not less than 20 feet (6 m) and not more than 60 feet (18 m) from the TLOF perimeter and extending outward in the direction of the preferred approach/departure path, as illustrated in Figure 4–31.

e. Flight path alignment lights. Flight path alignment lights meeting the requirements of EB 87 are optional. Place them in a straight line along the direction of approach and/or departure flight paths. If necessary, extend them across the TLOF, FATO, safety area or any suitable surface in the immediate vicinity of the FATO or safety area. Install three or more green lights spaced at 5 feet (1.5 m) to 10 feet (3.0 m). See Figure 4–10.

f. Taxiway and taxi route lighting.

(1) Taxiway centerline lights. Define taxiway centerlines with flush bidirectional green lights meeting the standards of AC 150/5345-46, Specification for Runway and Taxiway Light Fixtures, for type L-852A (straight segments) or L-852B (curved segments). Space these lights at maximum 50-foot (15 m) longitudinal intervals on straight segments and at maximum 25 foot (7.6 m) intervals on curved segments, with a minimum of four lights needed to define the curve. Uniformly offset taxiway centerline lights no more than two feet (0.6 m) if necessary to ease painting the taxiway centerline. As an option, use green retroreflective markers meeting requirements for Type I markers in AC 150/5345-39, Specification for L-853, Runway and Taxiway Retroreflective Markers in lieu of the L-852A or L-852B lighting fixtures.

(2) Taxiway edge lights. Use omnidirectional blue lights to light the edges of a taxiway. As an option, use blue retroreflective markers to identify the edges of the taxiway in lieu of lights. Make sure retroreflective markers are no more than 8 inches (20 cm) tall.

(a) Straight segments. Space lights at 50 feet (15.2 m) longitudinal intervals on straight segments.

(b) Curved segments. Curved taxiway edges require shorter spacing of edge lights. Determine the spacing based on the radius of the curve. The applicable spacing for curves is shown in AC 150/5340-30, Design and Installation Detail for Airport Visual Aids. Space the taxiway edge lights uniformly. Use at least three edge lights for curved edges of more than 30 degrees from point of tangency (PT) of the taxiway section to PT of the intersecting surface. For radii not listed in AC 150/5340-30, determine spacing by linear interpolation.

(c) Paved taxiways. Use flush lights meeting the standards of AC 150/5345-46 for type L-852T.

(d) Unpaved taxiways. Use raised lights meeting the standards of AC 150/5345-46 for type L-861T. Use a maximum lateral spacing for the lights or reflectors equal to the RD of the design helicopter, but not more than 35 feet (10.7 m).

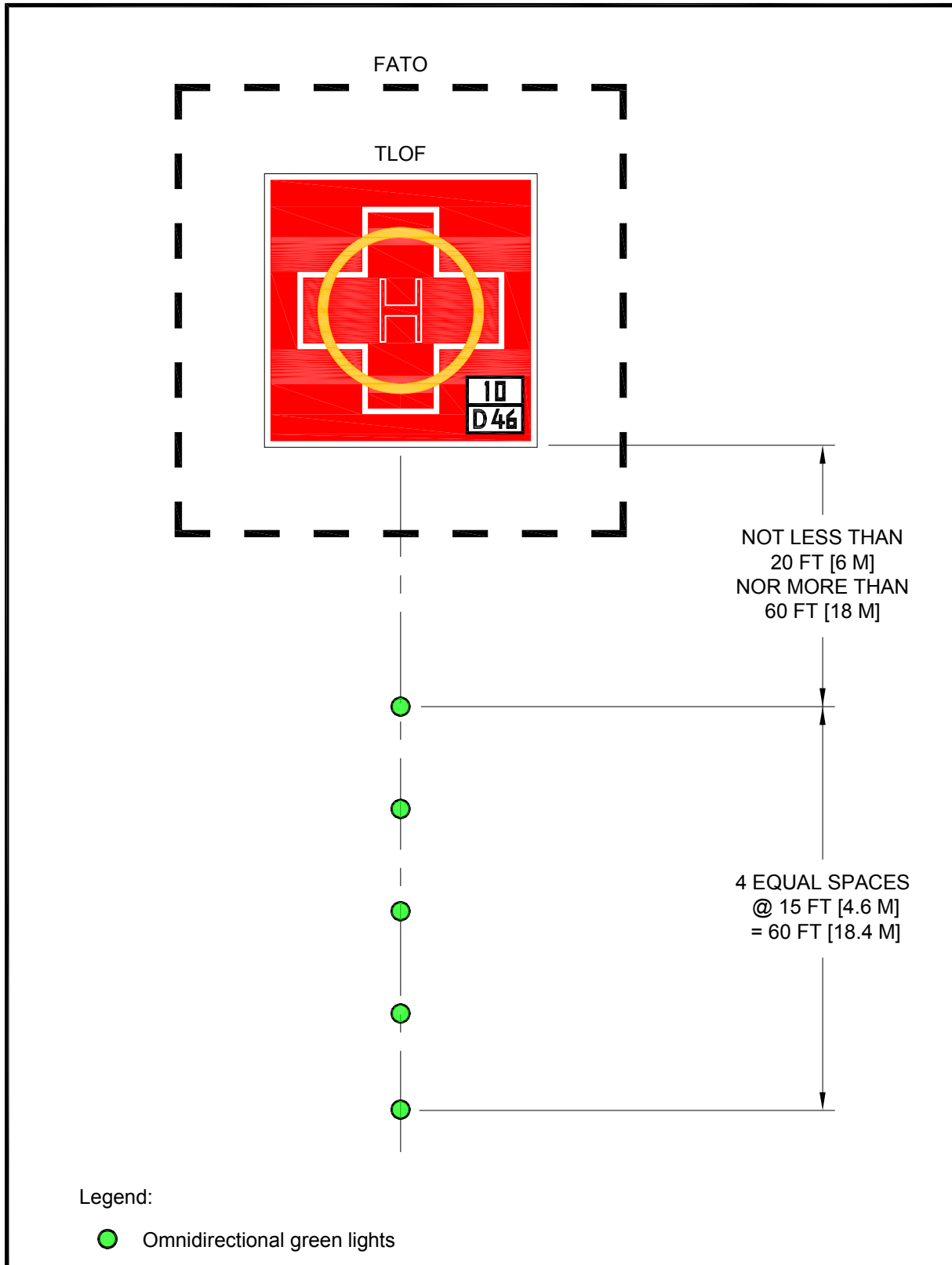


Figure 4-31. Landing Direction Lights: Hospital

g. Heliport identification beacon. A heliport identification beacon is optional equipment. It is the most effective means to aid the pilot in visually locating the heliport. Locate the beacon, flashing white/green/yellow at the rate of 30 to 45 flashes per minute, on or close to the heliport. Find guidance on heliport beacons in AC 150/5345-12, Specification for Airport and Heliport Beacon. As an option, allow the beacon to be pilot controllable, so it is “on” only when needed.

416. Marking and lighting of difficult-to-see objects. It is often difficult for pilot to see unmarked wires, antennas, poles, cell towers, and similar objects, even in the best daylight weather, in time to take evasive action. While pilots can avoid such objects during en route operations by flying well above them, approaches and departures require operations near the ground where obstacles may be a factor. This paragraph discusses the marking and lighting of objects near, but outside and below the approach/departure surface. Find guidance on marking and lighting objects in AC 70/7460-1, Obstruction Marking and Lighting.

a. Airspace. If difficult-to-see objects penetrate the object identification surfaces illustrated in Figure 4–32 and Figure 4–33, mark these objects to make them more conspicuous. If a heliport supports operations between dusk and dawn, light these difficult-to-see objects. Guidance on marking and lighting objects is contained in AC 70/7460-1. The object identification surfaces in Figure 4–32 and Figure 4–33 can also be described as follows:

(1) In all directions from the safety area, except under the approach/departure paths, the object identification surface starts at the safety area perimeter and extends out horizontally for a distance of 100 feet (30.5 m).

(2) Under the approach/departure surface, the object identification surface starts from the outside edge of the FATO and extends horizontally out along the approach path for a distance of 800 feet (244 m). From this point, the object identification surface extends out along the approach path for an additional distance of 3,200 feet (975 m) while rising on an 8:1 slope (8 units horizontal in 1 unit vertical). From the point 800 feet (244 m) from the FATO perimeter, the object identification surface is 100 feet (30.5 m) beneath the approach/departure surface.

(3) The width of the safety surface increases as a function of distance from the safety area. From the safety area perimeter, the object identification surface extends laterally to a point 100 feet (30.5 m) outside the safety area perimeter. At the upper end of the surface, the object identification surface extends laterally 200 feet (61 m) on either side of the approach/departure path.

b. Shielding of objects. Title 14 CFR part 77.9, Construction or alteration requiring notice, provides that if there are a number of objects close together, it may not be necessary to mark all of them if they are shielded. To meet the shielding guidelines part 77 requires that an object “be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation.”

c. Equipment/object marking. Make heliport maintenance and servicing equipment, as well as other objects used in the airside operational areas, conspicuous with paint, reflective paint, reflective tape, or other reflective markings. Find additional guidance in AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport.

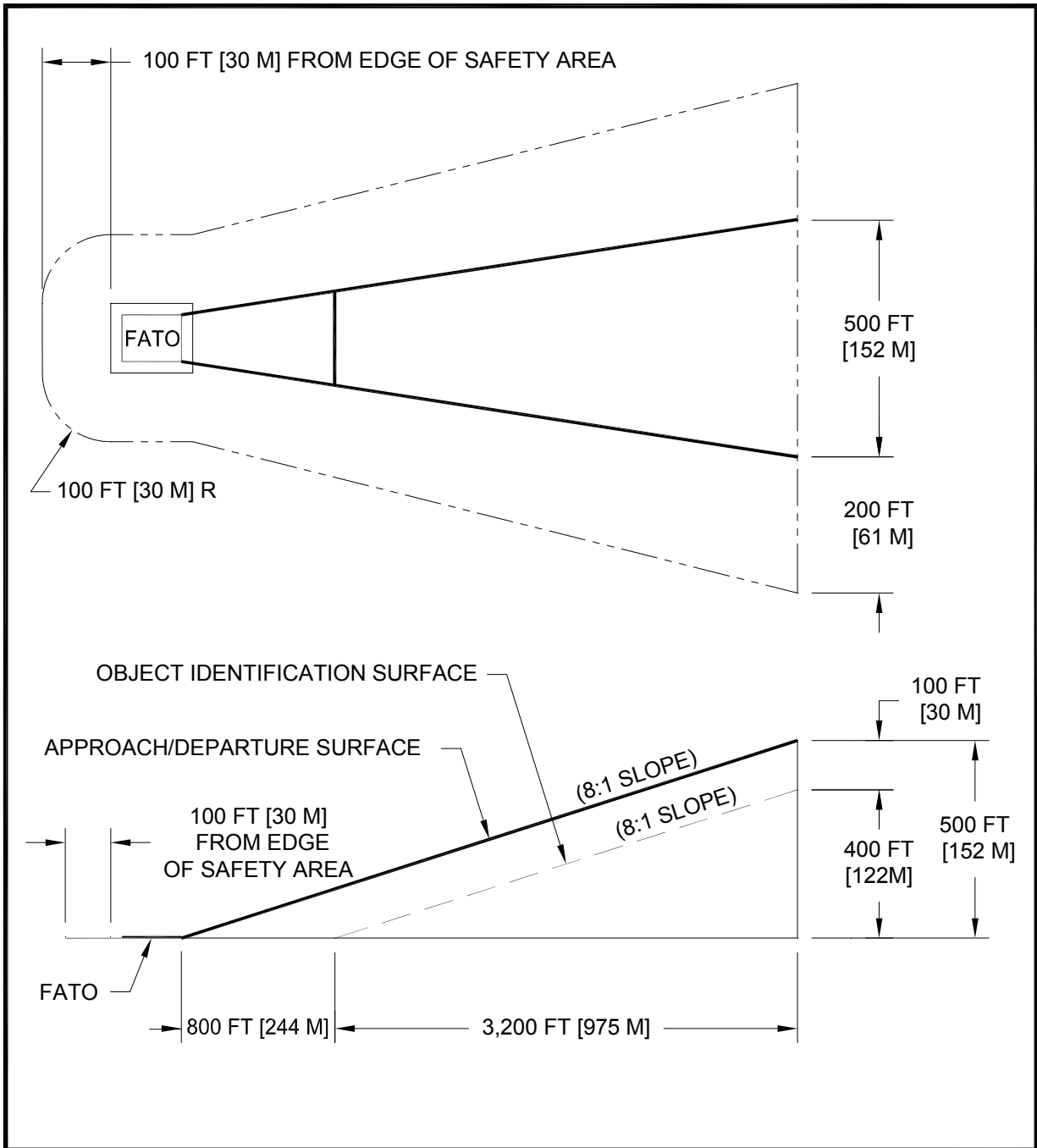


Figure 4-32. Airspace Where Marking and Lighting are Recommended: Hospital

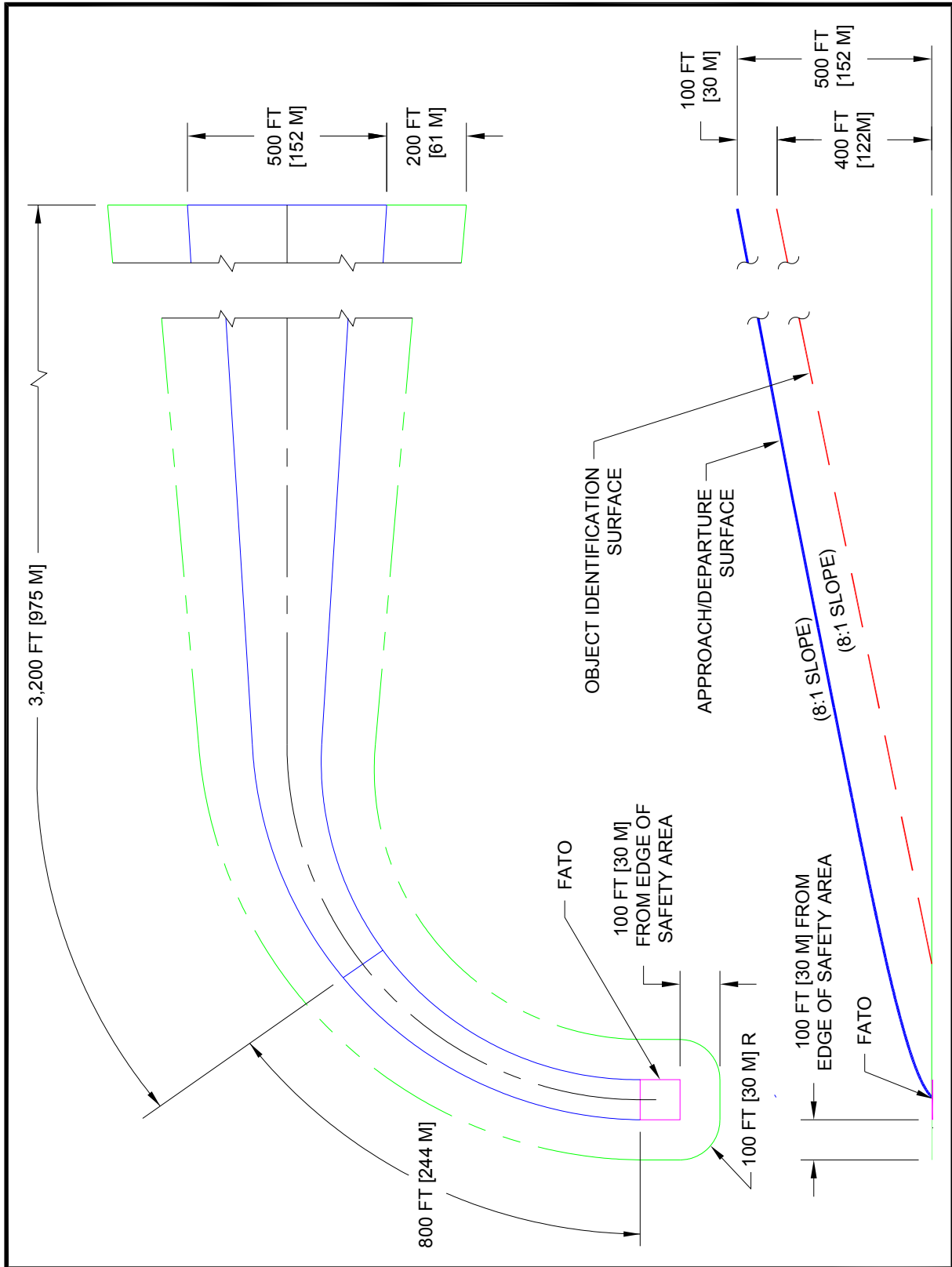


Figure 4-33. Airspace Where Marking and Lighting are Recommended:
Curved Approach: Hospital

417. Safety considerations. Consider the safety enhancements discussed below in the design of a heliport. Address other areas such as the effects of rotor downwash based on site conditions and the design helicopter.

a. Security. Provide a means to keep the operational areas of a hospital heliport clear of people, animals, and vehicles. Use a method to control access depending upon the helicopter location and types of potential intruders.

(1) Safety barrier. At ground-level hospital heliports, erect a safety barrier around the helicopter operational areas in the form of a fence or a wall. Construct the barrier no closer to the operation areas than the outer perimeter of the safety area. Make sure the barrier does not penetrate any approach/departure (primary or transitional) surface. If necessary in the vicinity of the approach/departure paths, install the barrier well outside the outer perimeter of the safety area.

(2) Make sure any barrier is high enough to present a positive deterrent to persons inadvertently entering an operational area and yet low enough to be non-hazardous to helicopter operations.

(3) Access. Control access to airside areas in a manner commensurate with the barrier (for example, build fences with locked gates). Display a cautionary sign similar to that illustrated in Figure 4-34 on gates and doors. As an option at hospital heliport, secure operational areas via the use of security guards and a mixture of fixed and movable barriers.

b. Rescue and fire-fighting services. Heliports are subject to state and local rescue and fire-fighting regulations. Provide a fire hose cabinet or extinguisher at each access gate/door and each fueling location. Locate fire hose cabinets, fire extinguishers, and other fire-fighting equipment near, but below the level of, the TLOF. Find additional information in various NFPA publications. For more reference material, see Appendix D.

c. Communications. Use a Common Traffic Advisory Frequency (CTAF) radio to provide arriving helicopters with heliport and traffic advisory information but do not use this radio to control air traffic. Contact the Federal Communications Commission (FCC) for information on CTAF licensing.

d. Weather information. An automated weather observing system (AWOS) measures and automatically broadcasts current weather conditions at the heliport site. When installing an AWOS, locate it at least 100 feet (30 m) and not more than 700 feet (213 m) from the TLOF and such that its instruments will not be affected by rotor wash from helicopter operations. Find guidance on AWOS systems in AC 150/5220-16, Automated Weather Observing Systems (AWOS) for Non-Federal Applications, and FAA Order 6560.20, Siting Criteria for Automated Weather Observing Systems (AWOS). Other weather observing systems will have different siting criteria.

e. Winter operations. Swirling snow raised by a helicopter's rotor wash can cause the pilot to lose sight of the intended landing point and/or hide objects that need to be avoided. Design the heliport to accommodate the methods and equipment used for snow removal. Design the heliport to allow the snow to be removed sufficiently so it will not present an obstruction hazard to the tail rotor, main rotor, or undercarriage. Find guidance on winter operations in AC 150/5200-30, Airport Winter Safety and Operations.



Figure 4-34. Caution Sign: Hospital

418. Visual glideslope indicators (VGSI). A VGSI provides pilots with visual vertical course and descent cues. Install the VGSI such that the lowest on-course visual signal provides a minimum of 1 degree of clearance over any object that lies within 10 degrees of the approach course centerline.

a. Siting. The optimum location of a VGSI is on the extended centerline of the approach path at a distance that brings the helicopter to a hover with the undercarriage between 3 and 8 feet (0.9 to 2.5 m) above the TLOF. Figure 4–35 illustrates VGSI clearance criteria. To properly locate the VGSI, estimate the vertical distance from the undercarriage to the pilot’s eye.

b. Control of the VGSI. As an option, allow the VGSI to be pilot controllable such that it is “on” only when required.

c. VGSI needed. A VGSI is an optional feature. However, provide a VGSI if one or more of the following conditions exist, especially at night:

(1) Obstacle clearance, noise abatement, or traffic control procedures require a particular slope to be flown.

(2) The environment of the heliport provides few visual surface cues.

d. Additional guidance. AC 150/5345-52, Generic Visual Glideslope Indicators (GVGI), and AC 150/5345-28, Precision Approach Path Indicator (PAPI) Systems, provide additional guidance.

419. Zoning and compatible land use. Where state and local statutes permit, the FAA encourages a hospital heliport operator to promote the adoption of the following zoning measures to ensure the heliport will continue to be available and to protect the investment in the facility.

a. Zoning to limit building/object heights. Find general guidance on drafting an ordinance that would limit building and object heights in AC 150/5190-4, A Model Zoning Ordinance to Limit Height of Objects Around Airports. Substitute the heliport surfaces for the airport surfaces in the model ordinance.

b. Zoning for compatible land use. The FAA encourages public agencies to enact zoning ordinances to control the use of property within the HPZ and the approach/departure path environment, restricting activities to those compatible with helicopter operations.

e. Air rights and property easements. Use air rights and property easements as options to prevent the encroachment of obstacles in the vicinity of a heliport.

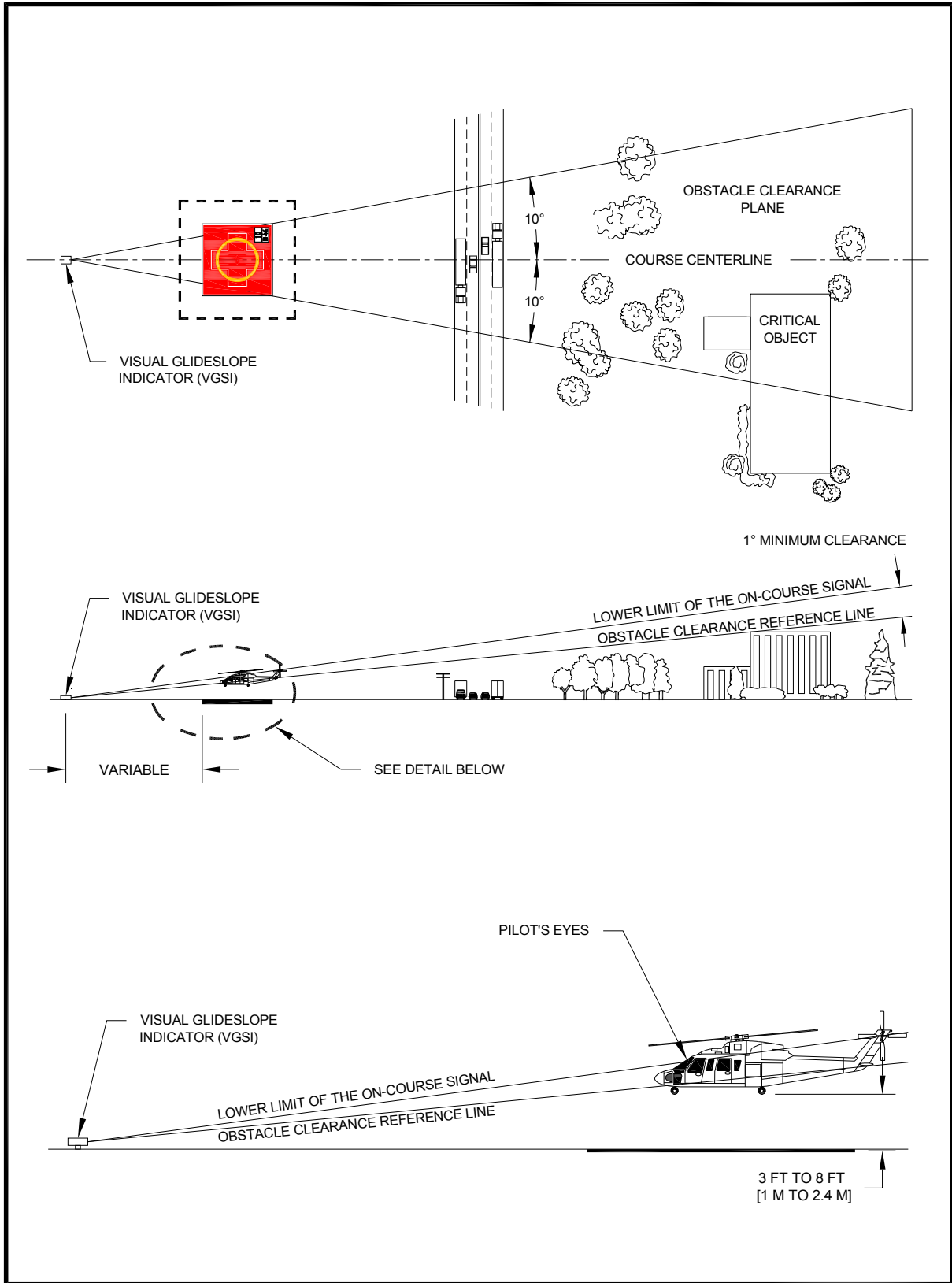


Figure 4-35. Visual Glideslope Indicator Siting and Clearance Criteria: Hospital

Chapter 5. Helicopter Facilities on Airports

501. General. Helicopters are able to operate on most airports without unduly interfering with airplane traffic. If necessary, provide separate facilities and approach/departure procedures when the volume of airplane and/or helicopter traffic affects operations. At airports with interconnecting passenger traffic, provide gates at the terminal for helicopter boarding. People who use a helicopter to go to an airport generally require convenient access to the airport terminal and the services provided to airplane passengers. Identify the location of the exclusive-use helicopter facilities, TLOFs, FATOs, safety areas, approach/departure paths, and helicopter taxi routes and taxiways on the airport layout plan (ALP). This chapter addresses design considerations for providing separate helicopter facilities on airports. Figure 5-1 shows an example of a heliport located on an airport. Other potential heliport locations are on the roofs of passenger terminals or parking garages serving passenger terminals.

502. Applicability. The standards in this chapter apply to projects funded under the Airport Improvement Program (AIP) or Passenger Facility Charge (PFC) program. For other projects/heliports, these standards are the FAA's recommendations for designing all heliports on airports. The design standards in this chapter assume there will never be more than one helicopter within the final approach and takeoff area (FATO) and the associated safety area. If there is a need for more than one touchdown and lift-off area (TLOF) at a heliport, locate each TLOF within its own FATO and within its own safety area. Unless otherwise noted, the standards in Chapter 2 apply to helicopter facilities serving general aviation operations and the standards in Chapter 3 apply to helicopter facilities serving transport operations.

503. Touchdown and liftoff area (TLOF). Locate the TLOF to provide ready access to the airport terminal or to the helicopter user's origin or destination.

504. Final approach and takeoff area (FATO). Table 5-1 provides standards for the distance between the centerline of an approach to a runway and the centerline of an approach to a FATO for simultaneous, same direction, VFR operations.

**Table 5-1. Recommended Distance between FATO Center
to Runway Centerline for VFR Operations**

Airplane Size	Small Helicopter 7,000 lbs or less	Medium Helicopter 7,001 to 12,500 lbs	Large Helicopter over 12,500 lbs
Small Airplane 12,500 lbs or less	300 feet (91 m)	500 feet (152 m)	700 feet (213 m)
Large Airplane 12,500 lbs to 300,000 lbs	500 feet (152 m)	500 feet (152 m)	700 feet (213 m)
Heavy Airplane Over 300,000 lbs	700 feet (213 m)	700 feet (213 m)	700 feet (213 m)

505. Safety area. Apply the safety area dimensions and clearances described in Chapter 2 to facilities being developed on an airport for general aviation helicopter use. Apply safety area dimensions and clearances in Chapter 3 to facilities being developed on an airport for transport helicopter use.

506. VFR approach/departure paths. To the extent practical, design helicopter approach/departure paths to be independent of approaches to and departures from active runways.

507. Heliport protection zone (HPZ). Establish an HPZ where it is practicable for the airport owner to acquire and plan the land uses within the HPZ. Where this is not practicable, the HPZ standards have recommendation status for that portion of the HPZ the airport owner does not control.

508. Taxiways and taxi routes. When developing exclusive helicopter taxiways or taxi routes at an airport, locate them to minimize interaction with airplane operations.

509. Helicopter parking. Locate helicopter parking positions as close to the intended destination or origination of the passengers as conditions and safety permit.

510. Security. Unless screening was carried out at the helicopter passengers' departure location, Transportation Security Administration regulations may require that a screening area and/or screening be provided before passengers enter the airport's secured areas. If necessary, establish multiple helicopter parking positions and/or locations in the terminal area to service helicopter passenger screening and/or cargo interconnecting needs. Find information about passenger at the Transportation Security Administration web site <http://www.tsa.gov/public/>.

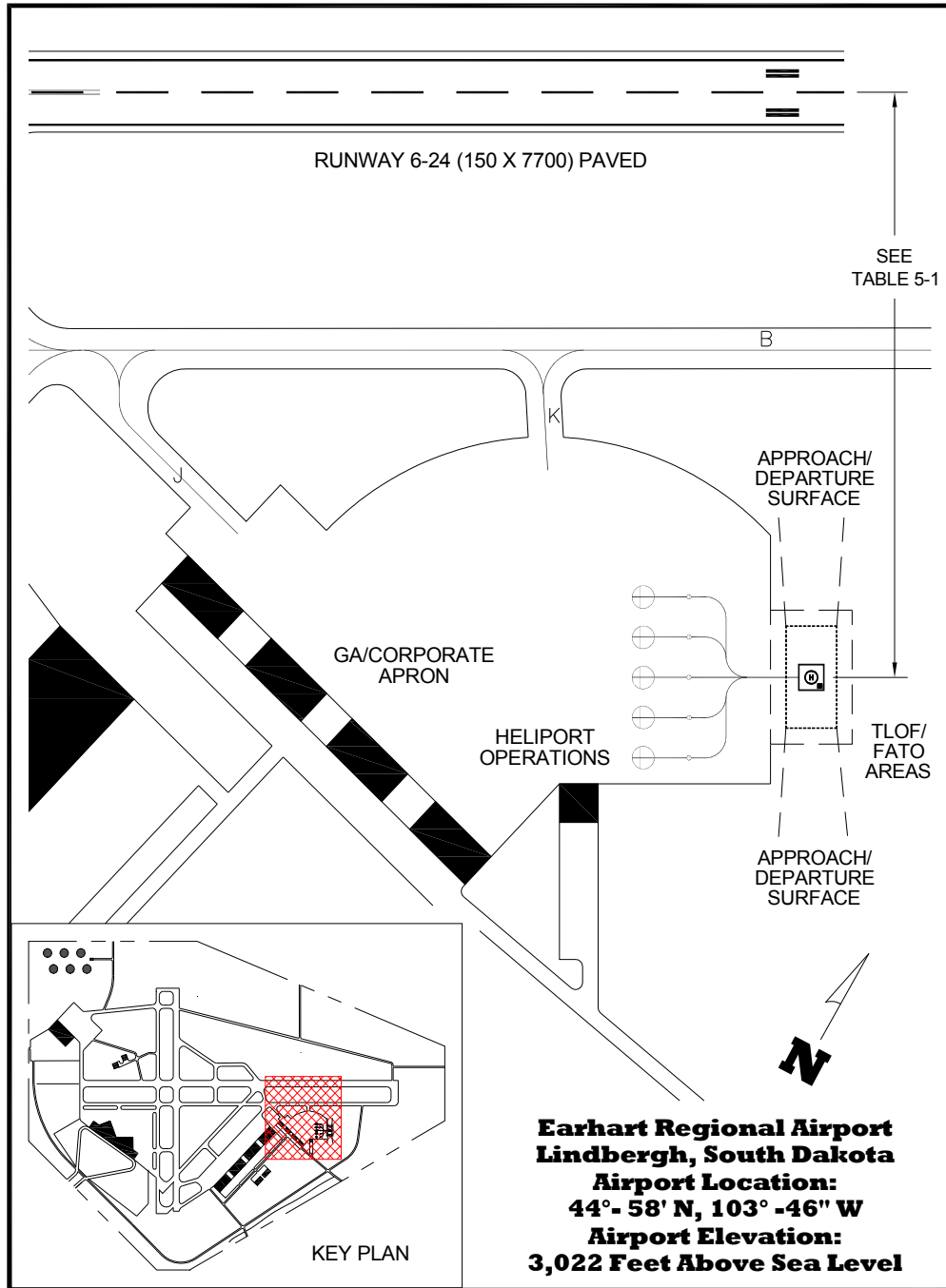


Figure 5-1. Heliport Located on an Airport: On Airport

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Chapter 6. Instrument Operations

601. General. Instrument approach/departure/missed approach procedures permit helicopter operations to continue during periods of low cloud ceilings and reduced visibility. The FAA establishes Instrument approach procedures in accordance with FAA 8260 series Orders published by FAA Flight Procedures Standards Branch. When a heliport does not meet the criteria of this AC, or FAA 8260 Series Orders, the FAA publishes the helicopter instrument approach procedure as a SPECIAL procedure, with annotations that special aircrew qualifications, pilot training and aircraft equipment are required to fly the specific procedure(s).

602. Planning. This chapter addresses issues that heliport owners consider before requesting the development of instrument approach/departure/missed approach procedures. The standards and recommendations in this AC are not intended to be sufficient to design an instrument procedure. Initiate early contact with the appropriate FAA Flight Standards Office to establish instrument procedures.

603. Airspace. Those who design instrument approach/departure/missed approach procedures have some flexibility in the design of such procedures. For this and other reasons, the airspace required to support helicopter instrument approach/departure operations is complex, and it does not lend itself to simple descriptions, even using figures. Refer to the latest revision of FAA 8260-series orders for more detailed information on criteria for developing helicopter instrument approach/departure/missed approach procedures.

604. Final approach reference area (FARA). For precision instrument procedures only, a certificated helicopter precision approach procedure terminates with the helicopter coming to a hover or touching down within a 150-foot-wide (45 m) by at least 150-foot long (45 m) FARA. The FARA is located at the far end of a 300-foot-wide by 1,225-foot-long (91 m by 373 m) FATO required for a precision instrument procedure. For the purposes of requirements for LBA and lighting, substitute the FARA for the FATO. Figure 6-1 illustrates the FARA/FATO relationship.

605. Improved lighting system. Installing the lighting systems described below may result in lower visibility minimums. See Figure 6-2 and Figure 6-3.

a. FATO perimeter lighting enhancement. Insert an additional raised, green light meeting the standards of FAA Airports Engineering Brief 87, Heliport Perimeter Light for Visual Meteorological Conditions (VMC), between each light in the front and rear rows of the raised perimeter lights to enhance the definition of the FATO.

b. Heliport instrument lighting system. The HILS consists of 24 unidirectional PAR 56, 200-watt white lights that extend the FATO perimeter lights. The system extends both the right and left edge lights as “edge bars” and both the front and rear edge lights as “wing bars,” as shown in Figure 6-2.

(1) Edge bars. Place edge bar lights at 50-foot (15.2 m) intervals, measured from the front and rear row of the FATO perimeter lights.

(2) Wing bars. Space wing bar lights at 15-foot (4.57 m) intervals, measured from the line of FATO perimeter (side) lights.

(3) Optional TLOF lights. A line of seven white flush lights meeting the standards of EB 87 is optional. Space them at 5-foot (1.5 m) intervals in the TLOF pavement. Align these lights on the centerline of the approach course to provide close-in directional guidance and improve TLOF surface definition. These lights are illustrated in Figure 6-2.

c. **Helicopter approach lighting System (HALS).** The HALS, depicted in Figure 6–3 is a distinctive approach lighting configuration designed to prevent it from being mistaken for an airport runway approach lighting system.

606. **Obstacle evaluation surfaces.** The instrument procedure developer considers the specific heliport location, its physical characteristics, the terrain, surrounding obstructions, and so on, in designing the helicopter instrument approach procedure. Upon development of the instrument procedure, protect its underlying obstacle evaluation surfaces from penetrations. See paragraph 221. Also see paragraphs 201.e, 301.e, and 401.e.

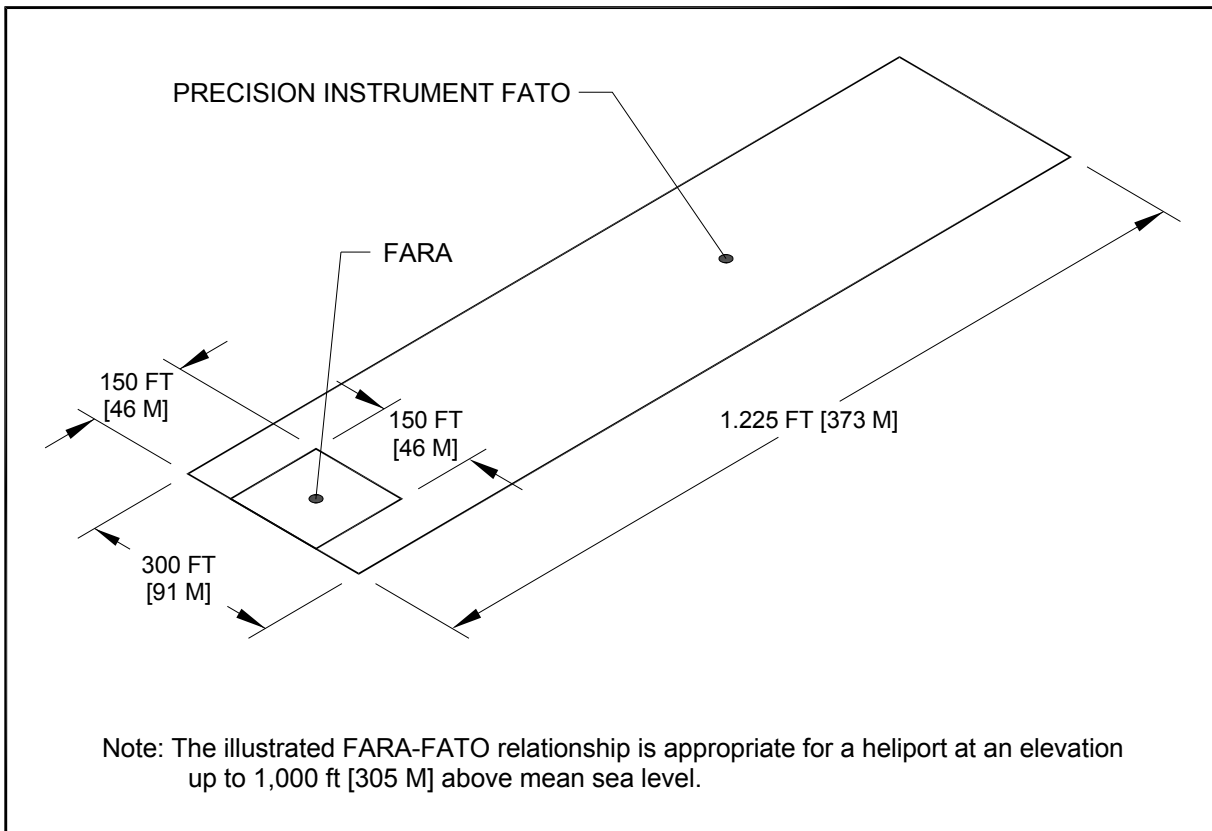


Figure 6–1. FARA/FATO Relationship: Precision

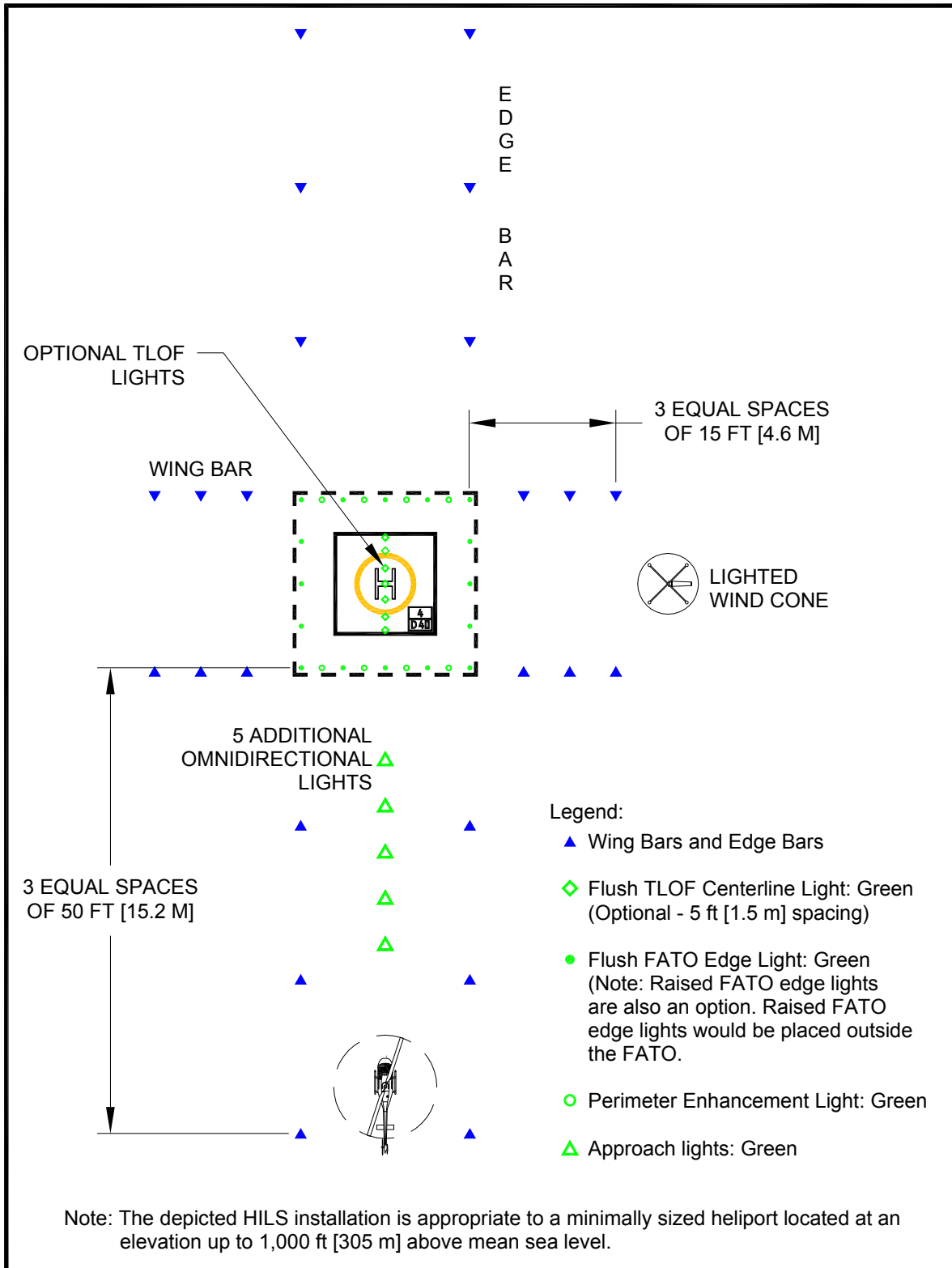
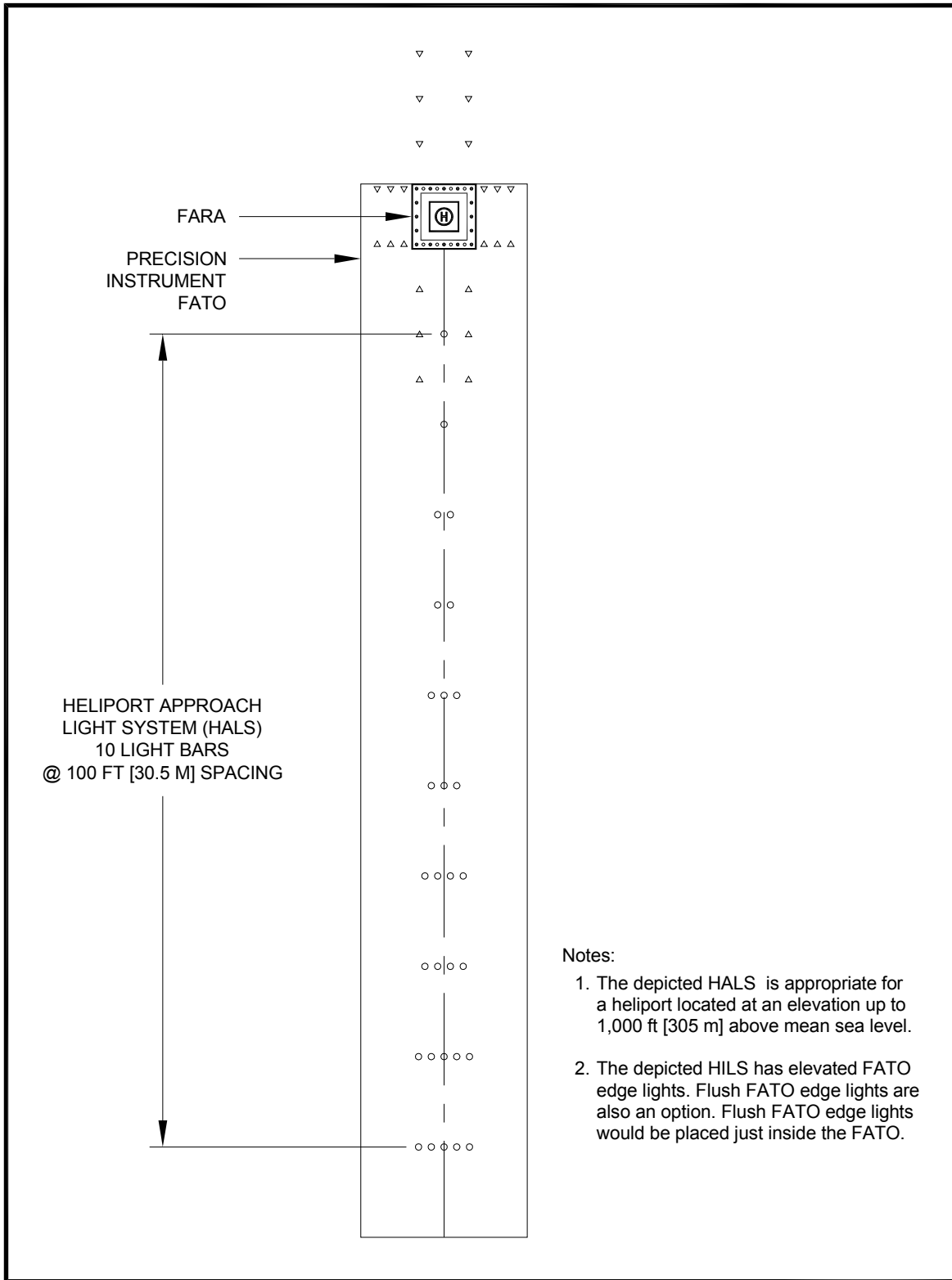


Figure 6-2. Heliport Instrument Lighting System (HILS): Non-precision



- Notes:
1. The depicted HALS is appropriate for a heliport located at an elevation up to 1,000 ft [305 m] above mean sea level.
 2. The depicted HILS has elevated FATO edge lights. Flush FATO edge lights are also an option. Flush FATO edge lights would be placed just inside the FATO.

Figure 6-3. Heliport Approach Lighting System

Chapter 7. Heliport Gradients and Pavement Design

701. General. This chapter provides guidance on designing heliport pavements, including design loads, and addresses soil stabilization as a method of treating non paved operational surfaces. Provide a present a reasonably smooth, uniformly graded surface for operational surfaces such as the TLOF, FATO, safety areas, parking areas, taxi routes, and taxiways. Design the surfaces of a heliport to provide positive drainage.

702. TLOF gradients.

a. General aviation heliport. To ensure drainage, design the TLOF to have a gradient between 0.5 percent and 2 percent.

b. Transport heliport. To ensure drainage, design the TLOF to have a longitudinal gradient between 0.5 and 1 percent and a transverse gradient between 0.5 and 1.5 percent.

c. Hospital heliport. To ensure drainage, design the TLOF to have a gradient between 0.5 and 1 percent and 2 percent.

703. FATO gradients.

a. Load bearing FATO. Design a load bearing FATO to have a gradient between 0.5 percent and 5 percent. Design the gradient to be not more than 2 percent in any areas where a helicopter is expected to land. To ensure TLOF drainage, design gradients of rapid runoff shoulders to be between 3 and 5 percent. These standards are illustrated in Figure 7–1 below for a concrete TLOF and stabilized turf FATO.

b. Non-load bearing FATO. When the FATO is non-load bearing and/or not intended for use by the helicopter, there are no specific requirements for the gradient of the surface. In this case, design the gradient to be 5 percent or more to ensure adequate drainage away from the area of the TLOF. However, stabilize non-load bearing surfaces. See paragraph 707.

704. Safety area gradients. Design the surface of the safety area to be no steeper than a downward slope of 2:1 (2 units horizontal in 1 unit vertical). In addition, make sure the surface of the safety area is not higher than the FATO edge.

705. Parking area gradients. Design all helicopter parking area grades to not exceed 2 percent.

706. Taxiway and taxi route gradients. Design taxiway longitudinal gradients to not exceed 2 percent. Design transverse gradients to be between 0.5 percent and 2 percent.

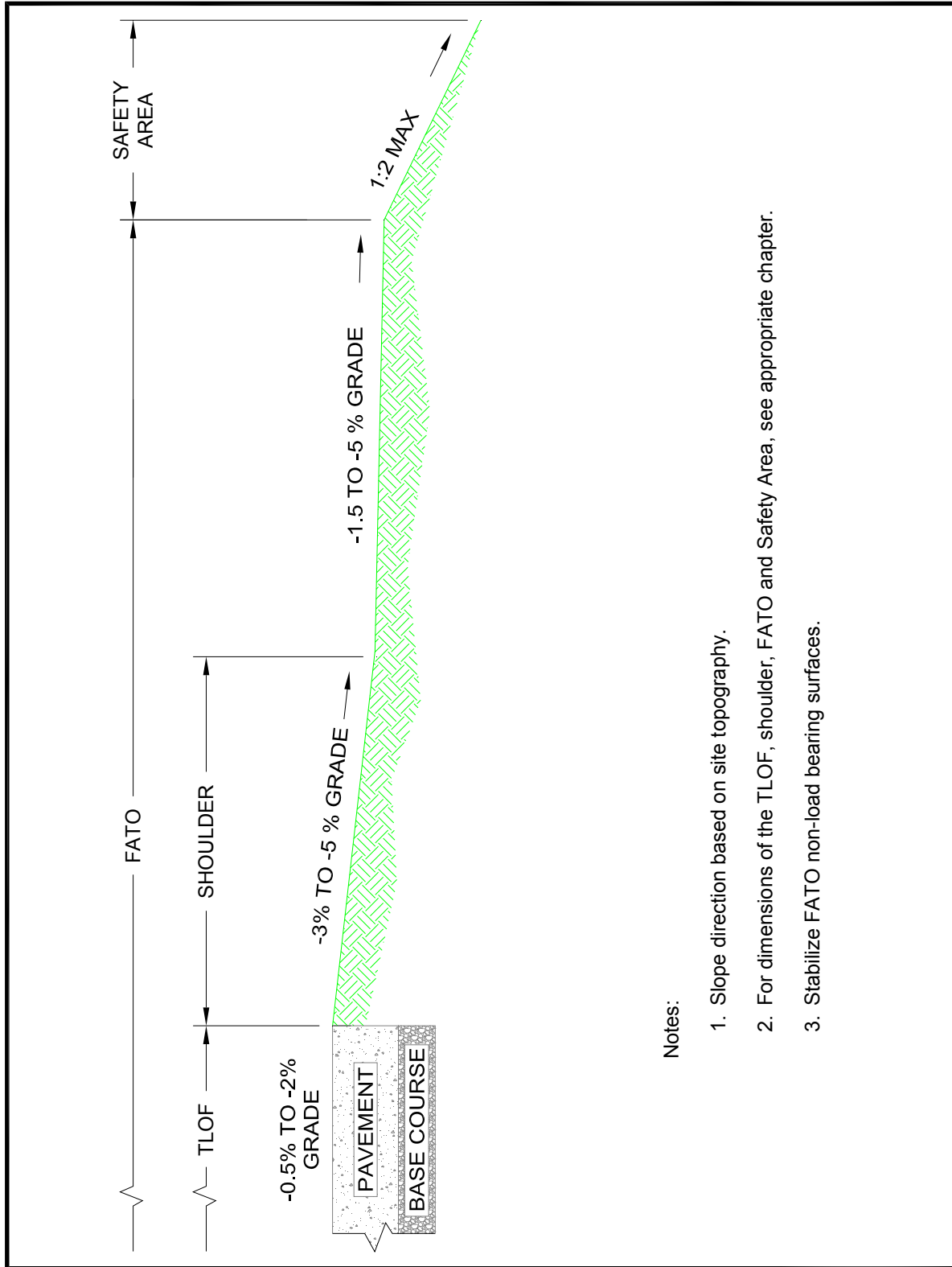


Figure 7-1. Heliport Grades and Rapid Runoff Shoulder: Gradients and Pavement

707. Design loads. Design and construct the TLOF and any load-bearing surfaces to support the weight of the design helicopter and any ground support vehicles. Loads are applied through the contact area of the tires for wheel-equipped helicopters or the contact area of the skid for skid equipped helicopters. Find lists of Helicopter weights, landing gear configurations, and dimensional data in Appendix B.

a. Static loads. For design purposes, the design static load is equal to the helicopter's maximum takeoff weight applied through the total contact area of the wheels or skids. Contact manufacturers to obtain the contact area for the specific helicopters of interest.

b. Dynamic loads. A dynamic load of 0.2 second or less duration may occur during a hard landing. For design purposes, assume dynamic loads at 150 percent of the takeoff weight of the design helicopter. When specific loading data is not available, assume 75 percent of the weight of the design helicopter to be applied equally through the contact area of the rear two rear wheels (or the pair rear wheels of a dual-wheel configuration) of a wheel-equipped helicopter. For a skid equipped helicopter assume 75 percent of the weight of the design helicopter to be applied equally through the aft contact areas of the two skids of a skid-equipped helicopter. (See Figure 7-2.) Contact manufacturers to obtain the aft contact area for specific helicopters of interest.

c. Rotor loads. Rotor downwash loads are approximately equal to the weight of the helicopter distributed uniformly over the disk area of the rotor. Tests have established that rotor downwash loads are generally less than the loads specified in building codes for snow, rain, or wind loads typically used in structural design calculations.

708. Pavement design and soil stabilization. Pavements distribute helicopters' weight over a larger area of the subsurface as well as provide a water-impervious, skid-resistant wearing surface. Pave TLOFs, FATOs, taxiways, and parking aprons to improve their load carrying ability, minimize the erosive effects of rotor wash, and facilitate surface runoff. Stabilize unpaved portions of the FATO and taxi routes subjected to rotor wash. In some instances, loads imposed by ground support vehicles may exceed those of the largest helicopter expected to use the facility. Find guidance on pavement design and on stabilizing soils in AC 150/5320-6, Airport Pavement Design and Evaluation, and AC 150/5370-10, Standards for Specifying Construction of Airports. These ACs are available at the Airports web site (<http://www.faa.gov/airports>).

a. Pavements. In most instances, a 6-inch thick (15 cm) portland cement concrete (PCC) pavement is capable of supporting operations by helicopters weighing up to 20,000 pounds (9,070 kg). Use thicker pavements for heavier helicopters or where the quality of the subsurface soil is questionable. If feasible, use PCC pavement for all surfaces used by helicopters.

b. Stabilizing soils. Use appropriate methods of soil stabilization to meet different site requirements. Consider helicopter weight, ground support vehicle weight, operational frequency, soil analysis, and climatic conditions in selecting the method(s) and extent of surface stabilization.

(1) Turf. A well-drained and well-established turf that presents a smooth, dense surface is usually the most cost-effective surface stabilization available. In some combinations of climates and weather conditions, turf surfaces are capable of supporting the weight of many of the smaller helicopters for low frequency use by private and corporate operators during much of the year. Turf surfaces also provide reasonable protection against wind, rotor wash, or water erosion. Climatic and soil conditions dictate the appropriate grass species to use at the site. Find guidance on turf establishment in AC 150/5370-10.

(2) Aggregate turf. Where heliports are located on soils that have poor load-carrying capabilities when wet, consider overcoming this deficiency by mixing selected granular materials into the upper 12 inches (30 cm) of the soil. Suitable granular materials for this purpose are crushed stone, pit-run

gravel, coarse sand, or oyster shells. Use a sufficient ratio of aggregate to soil to improve the stability of the soil yet retain the soil's ability to support grass. For additional guidance, see Item 217 of AC 150/5370-10.

c. Formed masonry shapes. Precast masonry shapes vary in size and shape—from a brick paver to an open block. Lay pavers on a prepared bed to present a solid surface. Embed precast blocks in the soil with grass growing in the natural openings. Architectural catalogs identify different masonry shapes that are commercially available for this purpose.

d. Pierced metal panels. Lay perforated metal panels that allow grass to grow through the openings on the ground to provide a hard surface for helicopter operations. Engineering catalogs identify commercially available panels.

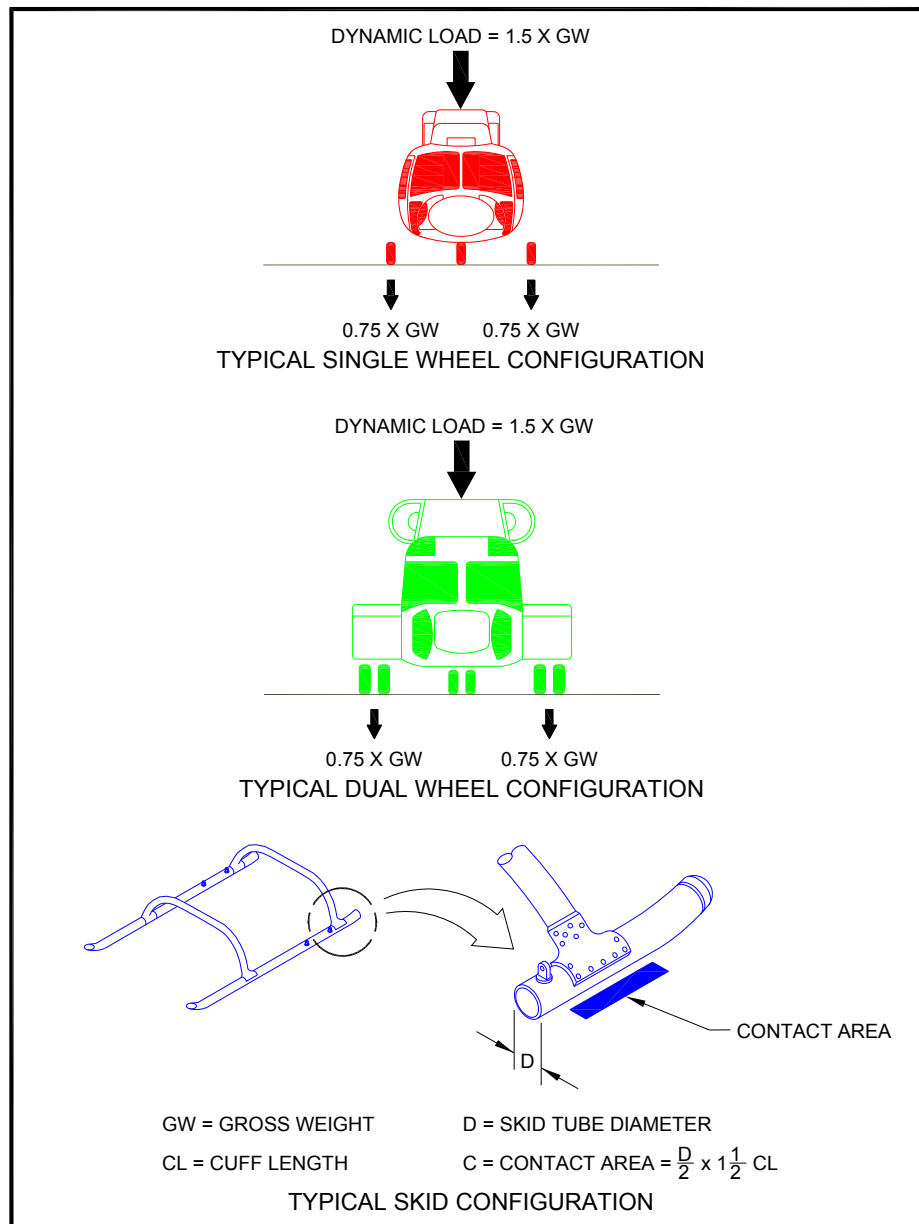


Figure 7–2. Helicopter Landing Gear Loading: Gradients and Pavement

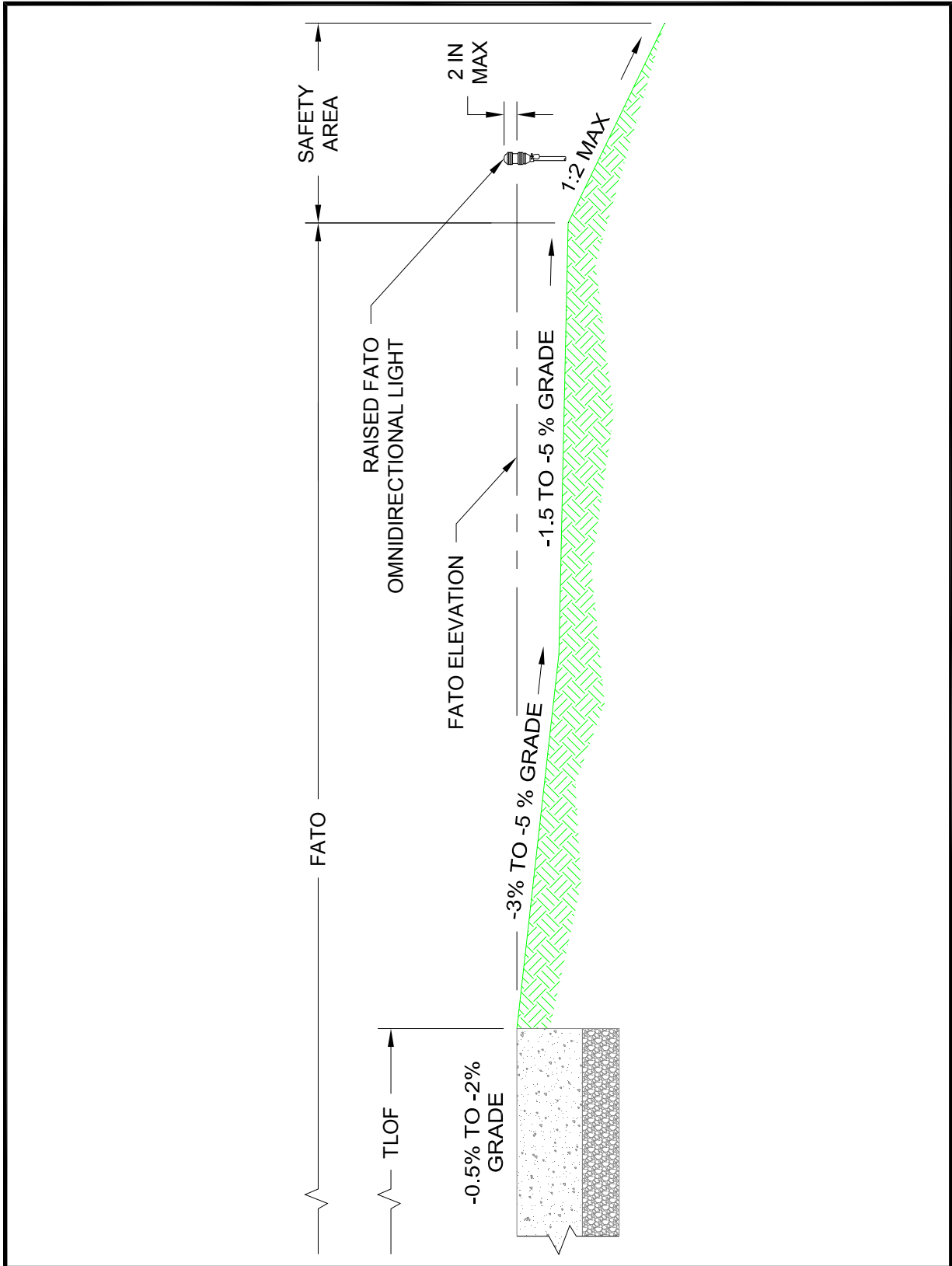


Figure 7-3. FATO Elevation

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Appendix A. Emergency Helicopter Landing Facilities (EHLF)

A-1. General. Preplanning emergency landing areas will result in safer and more effective air-support operations. These facilities comprise rooftop emergency facilities and medical emergency sites. Use the following as a guide for developing emergency helicopter landing facilities (EHLF).

A-2. Notification and coordination. In addition to any requirements to provide notice under part 157, advise the local Terminal Approach Radar Control or the local Air Traffic Control facility manager in writing of the EHLF.

A-3. Rooftop emergency facilities. Review local building codes to determine if they require structures over a specified height to provide a clear area on the roof capable of accommodating a helicopter to facilitate fire fighting or emergency evacuation operations.

a. Building code requirements. State and local building code requirements apply to rooftop facilities. Develop the landing surface to the local fire department requirements based on the size and weight of the helicopter(s) expected to engage in fire or rescue operations (see Figure A-1). Find additional information in various National Fire Protection Association (NFPA) publications. For more reference material, see Appendix D.

b. TLOF.

(1) Size. Design the TLOF to be square, rectangular or circular in configuration and centered within the EHLF. Design the length and width or diameter to be at least 40 feet (12.2 m)

(2) Weight capacity. Design the TLOF to accept a 13,500-pound gross weight (GW) helicopter plus an impact load of 1.5 times GW.

(3) Access. Provide two pedestrian access points to the TLOF at least 90 degrees apart with a minimum of 60 feet (18 m) TLOF perimeter separation.

(4) Drainage. Design the surface so drainage flows away from pedestrian access points, with a maximum slope of 1.5 percent.

c. FATO. Design the FATO to be at the same level as the TLOF.

(1) Size. Design the FATO to extend a distance of at least 45 feet (13.7 m) in all directions from the center of the EHLF. For safe operation, provide clearance of one third of the rotor diameter (RD) of the largest helicopter expected but not less than 20 feet (6.1 m) between the helicopter's main and tail rotor blades and any object that could be struck by these blades.

(2) Obstructions. As an option, design the FATO to be an imaginary surface outside the TLOF and extending beyond the structure edge. Design the FATO to be unobstructed and without penetration of obstacles such as parapets, window washing equipment, penthouses, handrails, antennas, vents, etc.

d. Safety area. Provide a clear, unobstructed area, a minimum of 12 feet (3.7 m) wide, on all sides, outside and adjacent to the FATO.

e. Safety net. If the platform is elevated 4 feet (1.2 m) or more above its surroundings, Title 29 CFR Part 1910.23 Guarding Floor and Wall Openings and Holes, requires the provision of fall protection. The FAA recommends such protection for all platforms elevated 30 inches (76 cm) or more. However, do not use permanent railings or fences, since they would be safety hazards during helicopter operations. As an option, install a safety net, meeting state and local regulations but not less than 5 feet (1.5 m) wide. Design the safety net to have a load carrying capability of 25 lbs/sq ft (122 kg/sq m). Make sure the net does not project above the level of the TLOF. Fasten both the inside and outside edges of the safety net to a solid structure. Construct nets of materials that are resistant to environmental effects.

f. Markings.

(1) **TLOF perimeter.** Define the limits of the touchdown pad with a solid 12-inch (30 cm) wide red or orange line as illustrated in Figure A-1.

(2) **Touchdown/positioning circle (TDPC) marking.** Center a 12-inch wide red or orange circular marking, 30 feet (9.1 m) in diameter, within the TLOF. Use a contrasting color for the background within the circle.

(3) **Weight capacity.** Mark the TLOF with the maximum takeoff weight of the design helicopter, in units of thousands of pounds (for example, a number “9,” indicating 9,000 lbs GW), with each numeral ten feet in length, centered within the TLOF.

(4) **Markings for pedestrians.** Clearly mark rooftop access paths, EHLF access paths, and assembly zone(s) with surface paint and instructional signage.

g. Access.

(1) **Stairs.** Provide a minimum of two rooftop access stairs, with no less than 150 degrees separation, connecting to the top floor of the structure, with at least one providing access to the structure’s emergency staircase.

(2) **Doors.** Keep penthouse and stairwell rooftop access doors unlocked at all times to provide access to the EHLF. As an option, equip doors with “panic bar” hardware and/or alarm them.

h. Wind cone. Locate a wind cone assembly with an orange wind cone within the line of sight from the EHLF and outside the approach/departure path(s).

i. Lighting. Shield ambient rooftop lighting to avoid affecting the pilot’s vision.

A-4. Medical emergency sites. Medical emergency sites are clear and level areas near the scene of an accident or incident that the local emergency response team designates as the place where the helicopter air ambulance is directed to land in order to transport an injured person to a hospital. Provide such sites in various locations within a jurisdiction to support fast response to medical emergencies and accidents. Pre-designating medical emergency sites provides the opportunity to inspect potential sites in advance and to select sites that have adequate clear approach/departure airspace and adequate clear ground space.

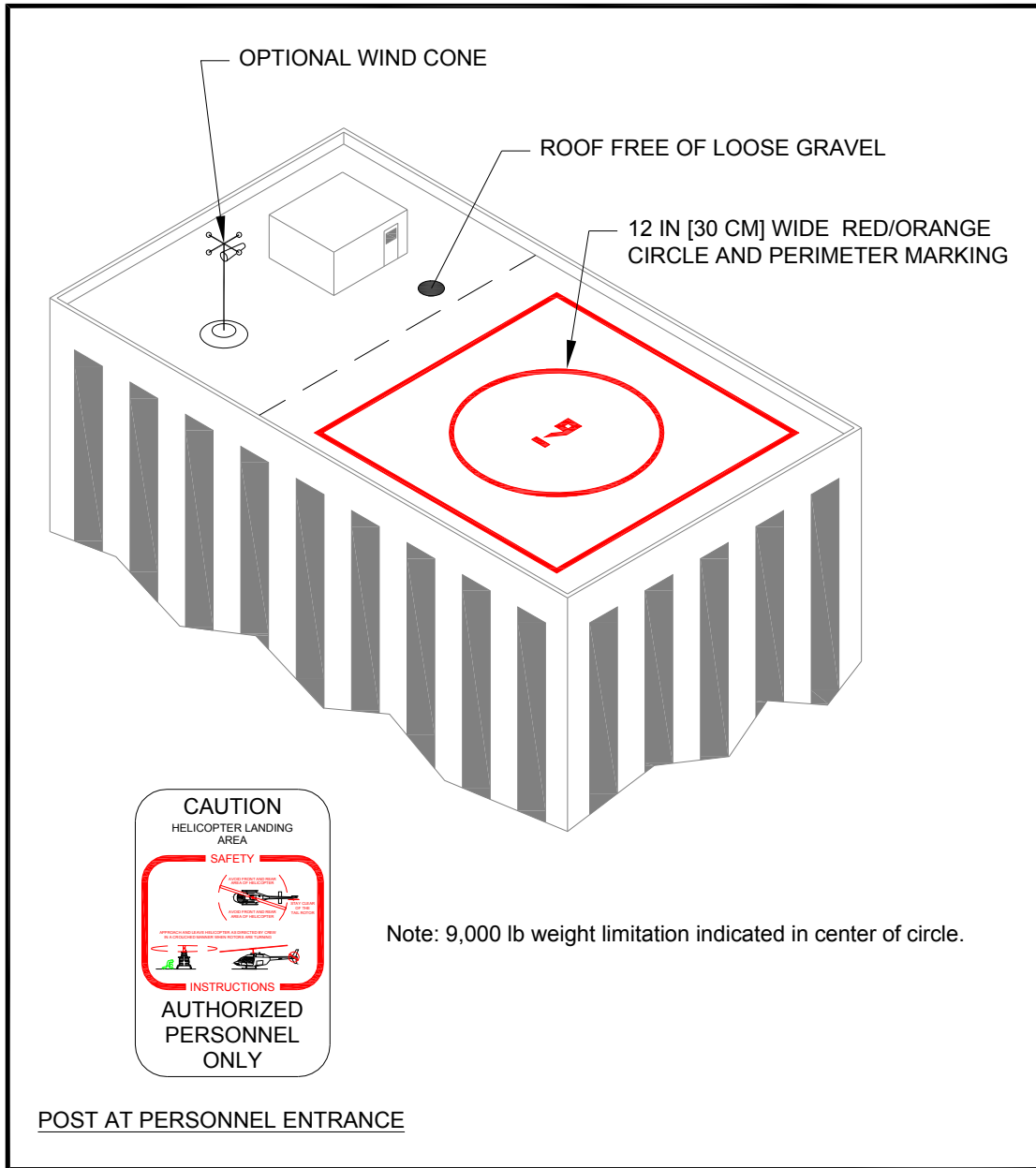


Figure A-1. Rooftop Emergency Landing Facility

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Appendix B. Helicopter Data

This appendix contains selected helicopter data needed by a heliport designer. These data represent the most critical weight, dimensional, or other data entry for that helicopter model, recognizing that specific versions of the model may weigh less, be smaller in some feature, carry fewer passengers, etc.

Various helicopter manufacturers have provided this information, but confirm data by contacting the manufacturer(s) of the specific helicopter(s) of interest.

Legend

A	Manufacturer name and helicopter model
B	Maximum takeoff weight in pounds.
D	Overall length in feet. (Rotors at their maximum extension.)
H	Overall height in feet. (Usually at tail rotor.)
RD	Rotor diameter in feet.
E	Number of blades.
F	Rotor plane clearance in feet.
TR	Distance from rotor hub to tip of tail rotor in feet.
I	Tail rotor diameter (in feet).
J	Number of tail rotor blades.
K	Tail rotor ground clearance in feet.
L	Type of undercarriage.
UCL	Undercarriage length in feet.
UCW	Undercarriage width in feet. (The distance between the outside edges of the tires or the skids.)
M	Number and type of engines
N	Number of crew and passengers.

Manufacturer/ Model	Max Takeoff Weight	Overall Length (ft)	Overall Height (ft)	Main Rotor				Tail Rotor			Undercarriage			Number of Engines/Type	Crew Number/Pax Number
				Diameter (ft)	Number of Blades	Ground Clearance (ft)	Tail Rtr Circle Radius (ft)	Diameter (ft)	Number of Blades	Ground Clearance (ft)	Type	Length (ft)	Width (ft)		
A	B	D	H	RD	E	F	TR	I	J	K	L	UCL	UCW	M	N
AgustaWestland															
A-109A	5,732	42.8	11.2	36.1	4	10	25	6.7	2	2.3	wheel	11.6	7.5	2-T	1-2&6-7
A-119 Koala	5,997	42.7	12.4	36.6	4	8.3	25.5	6.4	2	4.2	skid	13.4	5.5	1-T	1&6-7
AW-109E Power	6,283	42.8	11.5	36.1	4	8		6.4	2	3	wheel	11.5	7.1	2-T	1&7
AW-109S Grand	7,000	42.5	11.2	35.5	4	8		6.4	2	3.3	wheel	12.3	7.1	2-T	1-2&6-7
AW-119 Ke	6,283	42.4	11.8	35.5	4	9.3		6.4	2	3.8	skid	11.1	7	1-T	1&6-7
AW-139	14,991	54.7	16.4	42.6	5	12.9		8.9	4	7.5	wheel	14.2	10	2-T	1-2&15
AW-101	34,392	74.8	21.7	61	5	15.4	45	13.1		8.4	wheel	23	14.8	3-T	3&30
Westland WG30	12,800	52.2	15.5	43.7	4	12.5	31	8	4	7.5	wheel	17.9	10.1	2+T	2&19
Bell Helicopter															
47G	2,950	43.6	9.3	37.1	2	5	25	6.1	2	3.5	skid	9.9	7.5	1-P	1&2-3
205B, UH-1H, Huey II, 210	10,500	57.8	14.5	48	2	7.3	33.1	8.5	2	5.9	skid	12.1	8.8	1-T	1&14
206B-1,2,3	3,350	39.2	10.8	33.4	2	6	22.5	5.2	2	2.1	skid	8.1	6.7	1-T	1&4
206L-1,3,4	4,450	42.4	10.9	37	2	6.4	24	5.4	2	3.5	skid	9.9	7.7	1-T	1&6
212	11,200	57.3	14.9	48.2	2	7.5	22.2	8.5	2	6.1	skid	12.1	8.8	2-T	1&14
214ST	17,500	62.2	15.9	52	2	6.5	37	9.7	2	3.5	wheel/skid	12.1	8.6	2-T	2& 16-17
222B, UT	8,250	50.3	12.2	42	2	9.2	29.2	6.9	2	2.7	wheel/skid	12.2	7.8	2-T	1&9
230	8,400	50.3	11.7	42	2	9.2	29.2	6.9	2	2.7	wheel/skid	12.2	7.8	2-T	1&9
407	5,250	41.4	10.2	35	4	7.8	24.3	5.4	2	3.2	skid	9.9	8.1	1-T	1&6
412EP, SP, HP	11,900	56.2	14.9	46	4	11.5	34	8.6	2	4.8	skid	12.1	9.5	2-T	1&14
427VFR	6,550	42.6	10.5	37	4	6.4	24.1	5.7	2	3.3	skid	10	8.3	2-T	1&7
429	7,000	43	13.3	36	4	8.5		5.4	2	3.5	skid	9.9	8.8	2-T	1&7
430	9,300	50.3	13.3	42	4	8.2	29.2	6.9	2	3.7	wheel/skid	12.4	9.2	2-T	1&9

Manufacturer/ Model	Max Takeoff Weight	Overall Length (ft)	Overall Height (ft)	Main Rotor				Tail Rotor			Undercarriage			Number of Engines/ Type	Crew Number/ Pax Number
				Diameter (ft)	Number of Blades	Ground Clearance (ft)	Tail Rtr Circle Radius (ft)	Diameter (ft)	Number of Blades	Ground Clearance (ft)	Type	Length (ft)	Width (ft)		
A	B	D	H	RD	E	F	TR	I	J	K	L	UCL	UCW	M	N
Boeing															
107/CH-46E	24,300	84.3	16.7	51	3	15	59	51	3	17	wheel	24.9	14.5	2-T	3&25
234/CH-47F/G	54,000	99	19	60	3	11	69	60	3	19	wheel	22.5	10.5	2-T	3&44
Brantly/ Hynes															
B-2B	1,670	28.1	6.9	23.8	3	4.8	16	4.3	2	3	skid	7.5	6.8	1-P	1&1
305	2,900	32.9	8.1	28.7	3	8	19	4.3	2	3	wheel/ skid	6.2	6.8	1-P	1&4
Enstrom															
F-28F/ 280FX	2,600	29.3	9	32	3	6	20.6	4.7	2	3.1	skid	8	7.3	1-P	1&2
480B/ TH-28	3,000	30.1	9.7	32	3	6.5	21.2	5	2	3.6	skid	9.2	8	1-T	1&4
Erickson															
S-64E/F Air Crane	42,000 - 47,000	88.5	25.4	72	6	15.7	53	16	4	9.4	wheel	24.4	19.9	2-T	3&0
Eurocopter															
SA-315 Lama	5,070	42.3	10.2	36.2	3	10.1	20	6.3	3	3.2	skid	10.8	7.8	1-T	1&4
SA-316/319 Alouette	4,850	33.4	9.7	36.1	3	9.8	27.7	6.3	3	2.8	wheel	11.5	8.5	1-T	1&4
SA-330 Puma	16,315	59.6	16.9	49.5	4	14.4	35	10	5	6	wheel	13.3	9.8	2-T	2&20
SA/AS-332, Super Puma	20,172	61.3	16.3	53.1	4	14.6	36	10	5	7.1	wheel	17.3	9.8	2-T	2&24
SA-341/342 Gazelle	4,100	39.3	10.2	34.5	3	8.9	23	Fenstr on		2.4	skid	6.4	6.6	1-T	1&4
AS-350 A Star	4,960	42.5	11	35.1	3	10.6	25	6.1	2	2.3	skid	4.7	7.5	1-T	1&6
AS-355 Twin Star	5,732	42.5	9.9	35.9	3	10.3	25	6.1	2	2.3	skid	9.6	7.1	2-T	1&6
AS-360 Dauphin	6,600	43.3	11.5	37.7	4	10.7	25	Fenstr on		2.6	wheel	23.7	6.4	1-T	1&13
AS-365 Dauphin/H-65 Dolphin	9,480	45.1	13.3	39.2	4	11.4	24	Fenstr on		2.6	wheel	11.9	6.2	2-T	1&11
BO-105	5,732	38.9	11.5	32.3	4	9.8	23	6.2	2	6.1	skid	8.3	8.2	2-T	1&5
BK-117	7,385	42.7	12.6	36.1	4	11	25	6.4	2	6.3	skid	11.6	8.2	2-T	1&10

Manufacturer/ Model	Max Takeoff Weight	Overall Length (ft)	Overall Height (ft)	Main Rotor				Tail Rotor			Undercarriage			Number of Engines/ Type	Crew Number/ Pax Number
				Diameter (ft)	Number of Blades	Ground Clearance (ft)	Tail Rtr Circle Radius (ft)	Diameter (ft)	Number of Blades	Ground Clearance (ft)	Type	Length (ft)	Width (ft)		
A	B	D	H	RD	E	F	TR	I	J	K	L	UCL	UCW	M	N
EC-120	3,780	37.8	11.2	32.8	3	10.1	24.6	Fenstr on		2.1	skid	9.4	6.8	1-T	1&4
EC-130	5,291	41.5	11.8	35.1	3	11	23.7	Fenstr on		5.3	skid	10.5	7.9	1-T	1&7
EC-135	6,250	40	11.5	33.5	4	11	22.8	Fenstr on		5.6	skid	10.5	6.6	2-T	1&6
EC-145/ UH-72A	7,904	42.7	13	36.1	4	11.3	28	6.4	2	10.7	skid	9.5	7.9	2-T	1&8
EC-155	10,692	46.9	14.27	41.3	5	12	23	Fenstr on		3.1	wheel	12.8	6.2	2-T	2&12
EC-225	24,332	64	16.3	53.1	5	15.1	38	10.3	4	3.5	wheel	17.2	9.8	2-T	2&24
Kaman															
K-Max/ K1200	7,000	52	21	48.2	4	10.7	28	n	a	n/a	wheel	15.3	11.3	1-T	1&0
SH-2G Seasprite	14,200	52.5	15.1	44	4			8.1	4		wheel			2-T	3&8
MD Helicopters															
500E	3,000	30.8	8.4	26.4	5	8.2		4.6	2	2	skid	8.1	6.3	1-T	1&4
530F	3,100	32.1	8.1	27.4	5	8	19	4.8	2	1.3	skid	8.1	6.4	1-T	1&4
520N	3,350	32.1	9.7	27.4	5	9.2	17	NOTA R		n/a	skid	8.1	6.3	1-T	1&4
600N	4,100	36.9	9.8	27.5	6	9.2		NOTA R		n/a	skid	10.1	8.8	1-T	1&7
Explorer/ 902	6,500	38.8	12	33.8	5	12	23	NOTA R		n/a	skid	7.3	7.3	2-T	1-2& 6-7
Robinson															
R-22 Beta	1,370	28.8	8.9	25.2	2	8.8	16	3.5	2	4.1	skid	4.2	6.3	1-P	1&1
R-44 Raven	2,500	38.3	10.8	33	2	10.5	22	4.8	2	3.8	skid	4.2	7.2	1-P	1&3
R-66 Turbine	2,700	38.3	11.4	33	2	10.5		5	2	3.6	skid	4.2	7.5	1-T	1&4
Fairchild-Hiller/ Rogerson-Hiller															
360/UH-12/OH- 23	3,100	40.8	10.2	35.4	2	10.1	23	6	2	4	skid	8.3	7.5	1-P	1&3
FH/RH-1100	3,500	41.3	9.2	35.3	2	9.5	24	6	2	3	skid	7.9	7.2	1-T	1&4

Manufacturer/ Model	Max Takeoff Weight	Overall Length (ft)	Overall Height (ft)	Main Rotor				Tail Rotor			Undercarriage			Number of Engines/ Type	Crew Number/ Pax Number
				Diameter (ft)	Number of Blades	Ground Clearance (ft)	Tail Rtr Circle Radius (ft)	Diameter (ft)	Number of Blades	Ground Clearance (ft)	Type	Length (ft)	Width (ft)		
A	B	D	H	RD	E	F	TR	I	J	K	L	UCL	UCW	M	N
Sikorsky/ Schweizer															
HU-269A/A-1/B, TH55A	1,850	29	9	26	3	8.8	15	3.8	2	2.5	skid	8.3	6.5	1-P	1&1
300C	2,050	30.8	8.7	26.8	3	8.7	15.3	4.3	2	2.8	skid	8.3	6.5	1-P	1&2
300CB/CBi	1,750	30.8	8.7	26.8	3	8.7	15.3	4.3	2	2.8	skid	8.3	6.5	1-P	1&1
330/330SP/ 333	2,550	31.2	11	27.5	3	9.2	15.3	4.3	2	3.2	skid	8.3	6.5	1-T	1&2-3
S-434	2,900	31.2	11	27.5	4	9.2	15.3	4.3	2	3.2	skid	8.3	6.5	1-T	1&2-3
S-55/H19	7,900	62.6	13.1	53	3			8.2	2		wheel			1-T	2&12
S-58/H34	14,600	65.8	15.9	56	4	11.4	38	9.5	4	6.4	wheel	28.3	14	2-T	2&16
S-61/H-3	22,000	72.8	19	62	5	12.3	40	10.3	5	8.6	wheel	23.5	14	2-T	3&28
S-76A/B/C/D	11,700	52.5	14.6	44	4	8.2	30.5	8	4	6.5	wheel	16.4	8	2-T	2&12
S-92	26,500	68.5	17.9	56.3	4	9.8	39.9	11	4	6.9	wheel	20.3	10.4	2-T	2&19
S-70i/UH-60L Blackhawk	22,000	64.8	16.8	53.8	4	7.7	38	11	4	6.6	wheel	29	9.7	2-T	3&12
CH-53K	74,000	99.5	27.8	79	7	17	59.6	20	4	9.5	wheel	27.3	13	3-T	3&55

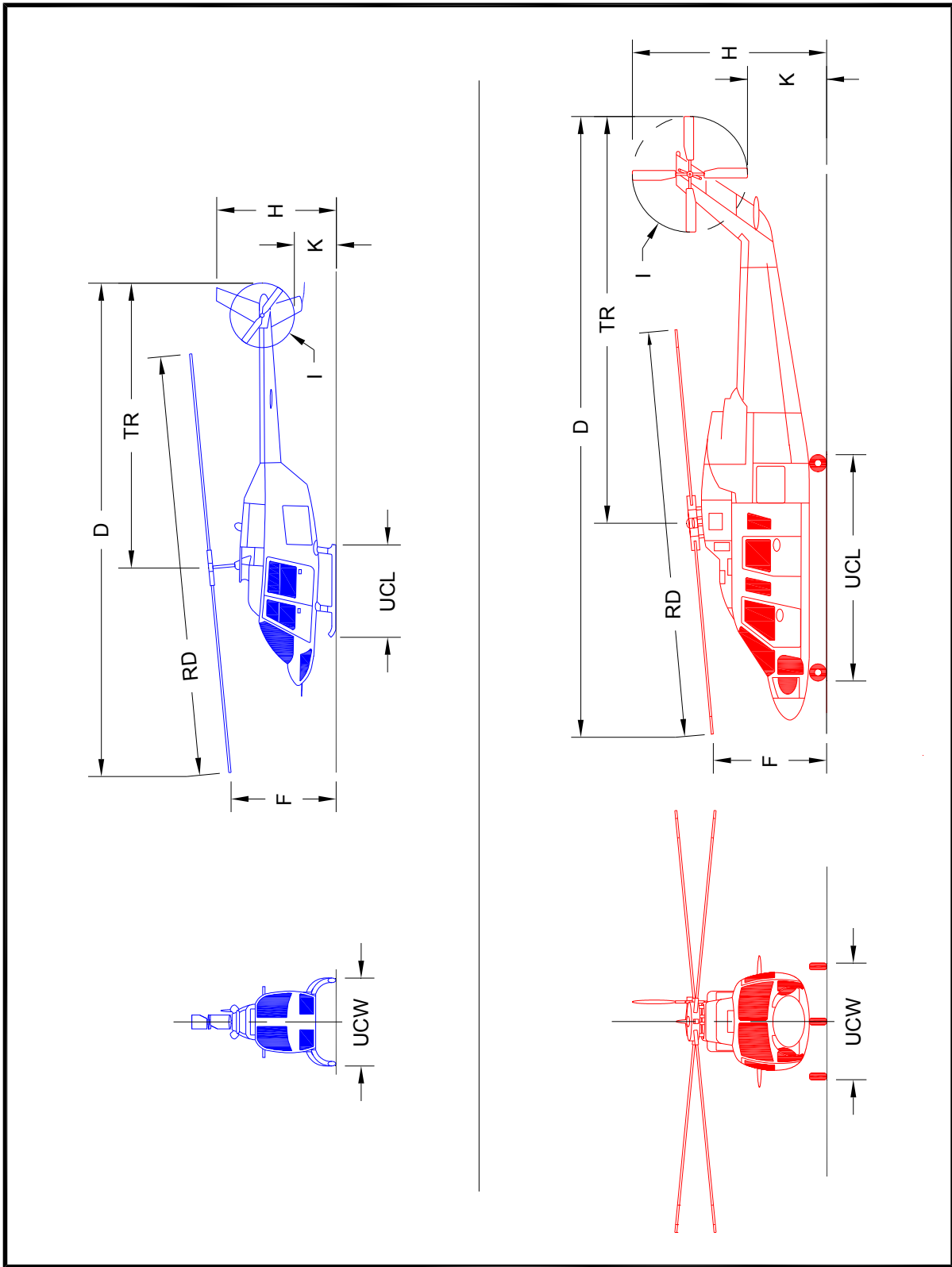


Figure B-1. Helicopter Dimensions

Appendix C. Dimensions for Marking Size and Weight Limitations

The form and proportion of numbers for marking TLOF and parking area size and weight limitations are shown below.

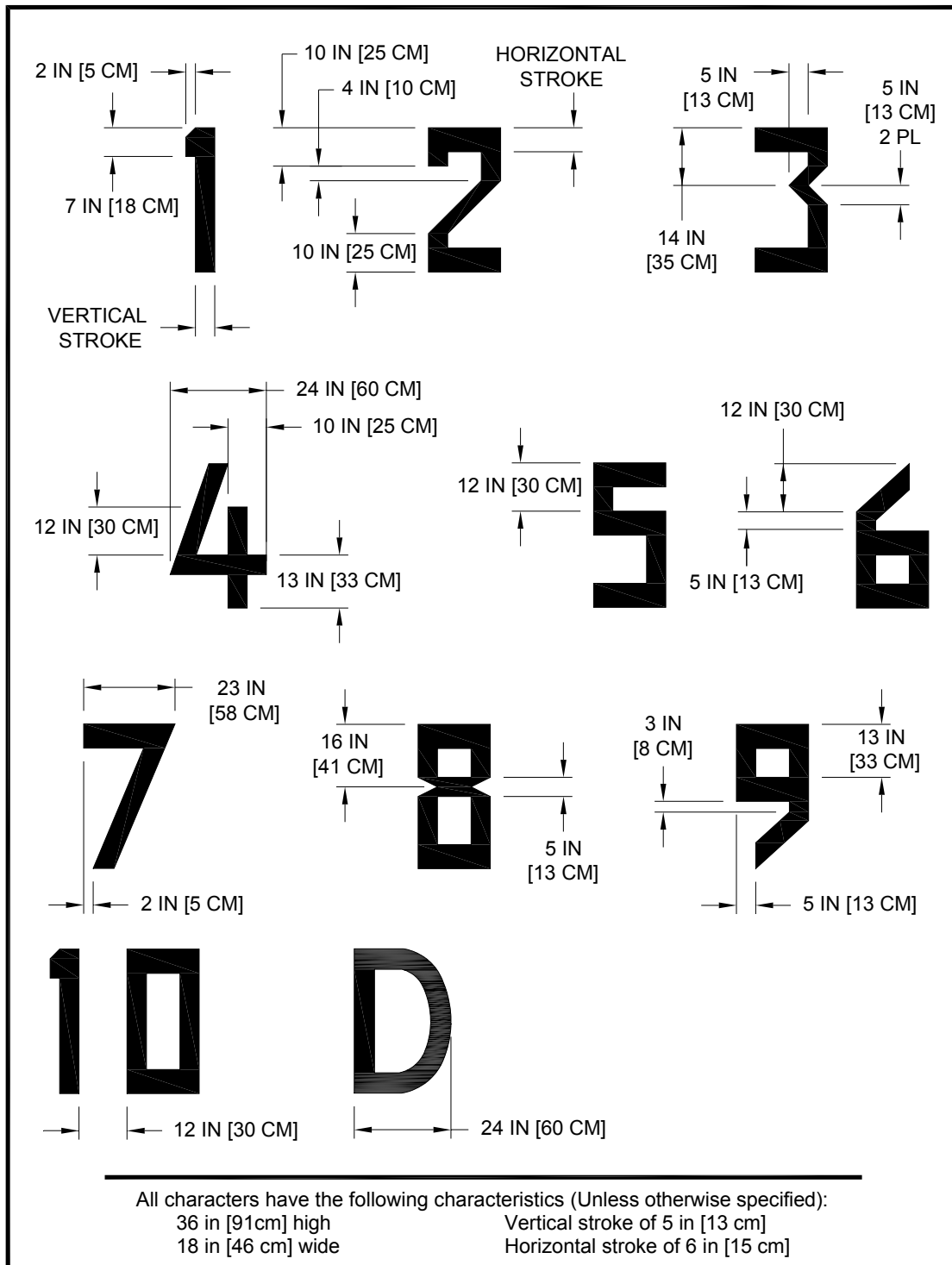


Figure C-1. Form and Proportions of 36 Inch (91 cm) Numbers for Marking Size and Weight Limitations

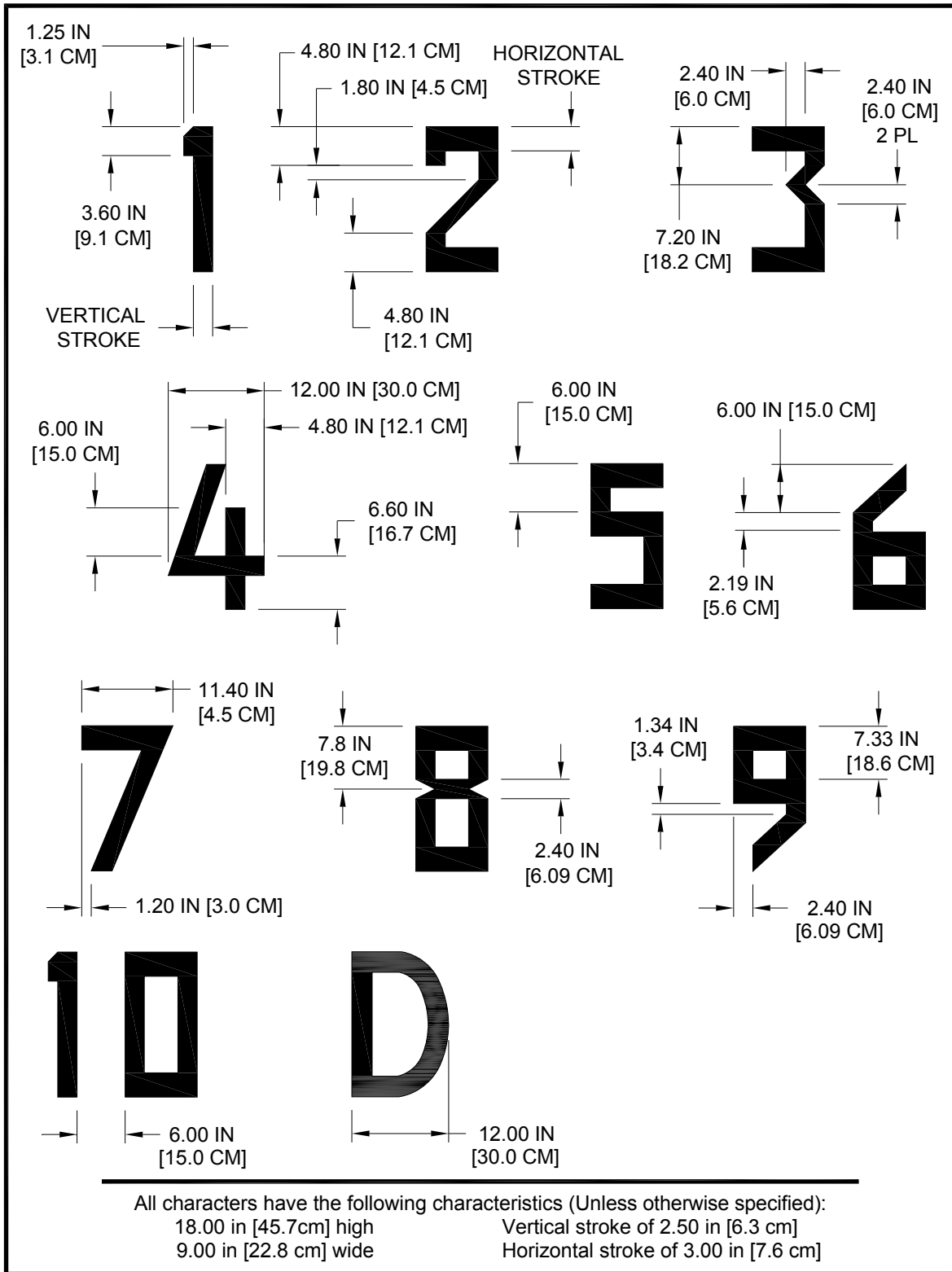


Figure C-2. Form and Proportions of 18 Inch (45.7 cm) Numbers for Marking Size and Weight Limitation

Appendix D. Associated Publications and Resources

The following is a listing of related documents.

Current Advisory Circulars are available from the FAA web site

http://www.faa.gov/regulations_policies/advisory_circulars/.

Current Electronic Code of Federal Regulations (e-CFRs) are available from the

Government Printing Office web site <http://www.gpoaccess.gov/ecfr/>.

Airport Advisory Circulars are available at the Airports web site

http://faa.gov/airports/resources/advisory_circulars/.

Technical reports are available at the National Technical Information Service (NTIS) web

site <http://www.ntis.gov/>.

To find state and regional aviation offices, see

http://www.faa.gov/airports/resources/state_aviation/.

For information about grant assurances, see

http://www.faa.gov/airports/aip/grant_assurances/.

1. 14 CFR Part 27, Airworthiness Standards: Normal Category Rotorcraft.
2. 14 CFR Part 29, Airworthiness Standards: Transport Category Rotorcraft.
3. 14 CFR Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace.
4. 14 CFR Part 91, General Operating and Flight Rules.
5. 14 CFR Part 121, Air Carrier Certification.
6. 14 CFR Part 135, Operating Requirements: Commuter and on demand operations and rules governing persons on board such aircraft.
7. 14 CFR Part 139, Certification of Airports.
8. 14 CFR Part 151, Federal Aid to Airports.
9. 14 CFR Part 152, Airport Aid Program.
10. 14 CFR Part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports.
11. AC 70/7460-1, Obstruction Marking and Lighting.
12. AC 150/5190-4, A Model Zoning Ordinance to Limit Height of Objects Around Airports.
13. AC 150/5200-30, Airport Winter Safety and Operations.
14. AC 150/5220-16, Automated Weather Observing Systems (AWOS) for Non-Federal Applications.
15. AC 150/5230-4, Aircraft Fuel Storage, Handling, and Dispensing on Airports.
16. AC 150/5300-18, General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards.
17. AC 150/5320-6, Airport Pavement Design and Evaluation.
18. AC 150/5340-30, Design and Installation Details for Airport Visual Aids.
19. AC 150/5345-12, Specification for Airport and Heliport Beacons.
20. AC 150/5345-27, Specification for Wind Cone Assemblies.
21. AC 150/5345-28, Precision Approach Path Indicator Systems (PAPI).

22. AC 150/5345-39, FAA Specification L-853, Runway and Taxiway Retroreflective Markers.
23. AC 150/5345-46, Specification for Runway and Taxiway Light Fixtures.
24. AC 150/5345-52, Generic Visual Glideslope Indicators (GVGI).
25. AC 150/5360-9, Planning and Design of Airport Terminal Facilities at Non-Hub Locations.
26. AC 150/5360-14, Access to Airports by Individuals with Disabilities.
27. AC 150/5370-10, Standards for Specifying Construction of Airports.
28. FAA 8260-series orders, various on flight procedures, airspace, others.
 - a. FAA Order 8260.3B, U. S. Standard for Terminal Instrument Procedures (TERPS).
 - b. FAA Order 8260.54A, U.S. Standard for Area Navigation (RNAV).
 - c. FAA Order 8260.72, Performance Based Navigation (PBN) Fly-By (FB)/Radius-to-Fix (RF) Turn Maximum Design Bank Angle Limits
29. FAA Grant Assurance No. 34, Policies, Standards, and Specifications.
30. FAA Order 1050.1 Policies and Procedures for Considering Environmental Impacts.
31. FAA Order 5050.4, National Environmental Policy Act (NEPA) Implementing Instructions for Airport Projects.
32. FAA Order JO 7400.2, Procedures for Handling Airspace Matters.
33. FAA Passenger Facility Charge (PFC) Assurance No. 9, Standards and Specifications
34. FAA Technical Report FAA/RD-84/25, Evaluating Wind Flow Around Buildings on Heliport Placement, National Technical Information Service (NTIS) accession number AD-A153512.
35. FAA Technical Report FAA/RD-92/15, Potential Hazards of Magnetic Resonance Imagers to Emergency Medical Service Helicopter Services, National Technical Information Service (NTIS) accession number AD-A278877.
36. ICAO Annex 14, Vol. II – Heliports.
37. National Fire Protection Association (NFPA) 403, Standard for Aircraft Rescue and Fire-Fighting Services.
38. National Fire Protection Association (NFPA) 407, Standard for Aircraft Fuel Servicing.
39. National Fire Protection Association (NFPA) 418, Standard for Heliports.
40. Roadmap for Performance Based Navigation (PBN).



Legislation Details (With Text)

File #:	ORD-13:040	Version:	1	Name:	Amend Code of Ordinances regarding Section 117-138 and 117-139
Type:	Ordinance	Status:			To Be Introduced
File created:	7/30/2013	In control:			Public Works Council Committee
On agenda:	8/6/2013	Final action:			
Title:	AN ORDINANCE TO AMEND CHAPTER 117, KNOWN AS THE ZONING ORDINANCE, WITHIN THE CODE OF ORDINANCES FOR THE CITY OF JONESBORO, ARKANSAS, MODIFYING SECTION 117-138, 14 (D) (2), RESIDENTIAL DISTRICTS, AND SECTION 117-139, (E) (1) COMMERCIAL AND INDUSTRIAL DISTRICTS, LOT, YARD, AND HEIGHT REGULATIONS; AND, DECLARING AN EMERGENCY FOR THE PURPOSE OF PRESERVING THE PUBLIC PEACE, HEALTH AND SAFETY AND TO PROVIDE AN INCENTIVE FOR REDEVELOPMENT WITHIN OUR HISTORICAL NEIGHBORHOODS AREAS				
Sponsors:	Planning				
Indexes:	Code of Ordinances amendment				
Code sections:	Chapter 117 - Zoning				
Attachments:					

Date	Ver.	Action By	Action	Result
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AN ORDINANCE TO AMEND CHAPTER 117, KNOWN AS THE ZONING ORDINANCE, WITHIN THE CODE OF ORDINANCES FOR THE CITY OF JONESBORO, ARKANSAS, MODIFYING SECTION 117-138, 14 (D) (2), RESIDENTIAL DISTRICTS, AND SECTION 117-139, (E) (1) COMMERCIAL AND INDUSTRIAL DISTRICTS, LOT, YARD, AND HEIGHT REGULATIONS; AND, DECLARING AN EMERGENCY FOR THE PURPOSE OF PRESERVING THE PUBLIC PEACE, HEALTH AND SAFETY AND TO PROVIDE AN INCENTIVE FOR REDEVELOPMENT WITHIN OUR HISTORICAL NEIGHBORHOODS AREAS

WHEREAS, It has been determined that the City of Jonesboro Code Ordinances lacked minimal redevelopment flexibility and tend to sometimes cause undue-hardship in the development review process.

WHEREAS, The Public Works Committee recommends approval of this amendment of the text to the City Council in the interest of public health, public safety, and general welfare for the provisions of special exceptions, and seeks to advance and promote good Quality of Life practices.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS THAT: Code Chapter Sections 117:138 & 117:139 be amended as follows:

Section One: Code Section 117-138, and Section 117-139 shall be amended to read as follows:

Sec. 117-138. Residential districts, (d) (2) Lot, yard, and height regulations.

When an existing lot is reduced because of conveyance to a federal, state or local government for a public purpose and the remaining area is at least 75 percent of the required minimum lot size for the district in which it is located, then that remaining lot shall be deemed to comply with minimum lot size requirements. The Planning Director shall approve an exception to the minimum lot requirement when a proposed lot is less than 5% (percent) out of compliance. The Planning Director may approve an exception to the minimum setback requirements, when a proposed setback is 1-foot or less out of compliance.

Sec. 117-139. Commercial and industrial districts, (e) (1) Size reduced for public purpose. When an existing lot is reduced because of conveyance to a federal, state or local government for a public purpose, and the remaining area is at least 75 percent of the required minimum lot size for the district in which it is located, then that remaining lot shall be deemed to comply with minimum lot size requirements. The Planning Director shall approve an exception to the minimum lot requirement when a proposed lot is less than 5% (percent) out of compliance. The Planning Director shall approve an exception to the minimum setback requirements, when a proposed setback is 1-foot or less out of compliance.

Section Two: This ordinance, being necessary for the preservation of the public peace, health and safety is hereby declared to be an emergency and this ordinance shall take effect and be in full force from and after its passage and approval. The purpose for this emergency is set on the reasoning that the City of Jonesboro Code Ordinances lacked minimal flexibility and tend to cause hardship in the development review process; and such change will not compromise good planning and land use principals. This change will provide an incentive for redevelopment in our historical neighborhoods and promote rehabilitation where decline has been realized.



Legislation Details (With Text)

File #:	ORD-13:041	Version:	1	Name:	Amend Code of Ordinances regarding Section 117-256
Type:	Ordinance	Status:			To Be Introduced
File created:	7/30/2013	In control:			Public Works Council Committee
On agenda:		Final action:			
Title:	AN ORDINANCE TO AMEND CHAPTER 117, KNOWN AS THE ZONING ORDINANCE, WITHIN THE CODE OF ORDINANCES FOR THE CITY OF JONESBORO, ARKANSAS, MODIFYING SECTION 117-256 - MANUFACTURED HOUSING UNITS, AGE LIMITATION REQUIREMENTS AND, DECLARING AN EMERGENCY FOR THE PURPOSE OF PRESERVING THE PUBLIC PEACE, HEALTH AND SAFETY WITHIN RESIDENTIAL AREAS AND TO PROVIDE CLARITY IN THE CODE REGULATIONS				
Sponsors:	Planning				
Indexes:	Code of Ordinances amendment				
Code sections:	Chapter 117 - Zoning				
Attachments:	Existing Mobile Homes Code of Ordinances Chpt 117 Evaluation of Affordable Housing Accessibility Act 2				

Date	Ver.	Action By	Action	Result
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AN ORDINANCE TO AMEND CHAPTER 117, KNOWN AS THE ZONING ORDINANCE, WITHIN THE CODE OF ORDINANCES FOR THE CITY OF JONESBORO, ARKANSAS, MODIFYING SECTION 117-256 - MANUFACTURED HOUSING UNITS, AGE LIMITATION REQUIREMENTS AND, DECLARING AN EMERGENCY FOR THE PURPOSE OF PRESERVING THE PUBLIC PEACE, HEALTH AND SAFETY WITHIN RESIDENTIAL AREAS AND TO PROVIDE CLARITY IN THE CODE REGULATIONS

WHEREAS, It has been determined that the City of Jonesboro Code Ordinances lack clarity in regards to the operations and code administering within Mobile Home Parks, as it relates to the unit age requirements.

WHEREAS, The Metropolitan Area Planning Commission heard testimony from several Mobile Home Park owners in a public hearing on July 9, 2013 and recommends approval of this amendment of the text to the City Council in the interest of public health, public safety, and general welfare for the provisions of special exceptions to Section 117-256 as it relates to Mobile Home Park Facilities.

BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS THAT: Code Chapter 117:256 be amended as follows:

Section I: SECTION 117-256, shall read as follows:

Sec. 117-256. Manufactured housing units. Manufactured housing units, those that do not meet the definition of residential design, manufactured housing units, shall be located only in approved locations. No permit or other approval shall be granted for the placement of a manufactured housing unit that is more than eight years old, as measured from the date that the permit or approval is sought, or be reconditioned to meet code requirements. Mobile Home Parks shall be exempt from the age requirement subject to all replacement units being reconditioned to meet code compliance and satisfying all State and Local Codes.

SECTION II: This ordinance, being necessary for the preservation of the public peace, health and safety is hereby declared to be an emergency and this ordinance shall take effect and be in full force from and after its passage and approval. The purpose for this emergency is set on the reasoning that the Mobile Home Parks are suitable for temporary and affordable housing subject to all safety and code compliance. This ordinance will bring City codes into compliance with "The Affordable Housing Accessibility Act", as enacted by the State of Arkansas.

of this delineation shall be the flood insurance study, including the flood insurance rate maps, for the city.

(b) The uses of and/or development of land within the designated floodplain area shall be only those uses and structures permitted in the specific district regulations for the zone in which the proposed use and/or development is to be located. For the purposes of administration and review of applications for the use and/or development of land within designated floodplain areas, and article II of chapter 109, flood damage prevention are deemed the governing regulations. (Zoning Ord., § 14.32.07)

Sec. 117-255. Manufactured housing parks.

Manufactured housing parks are permitted uses in AG and RR districts, and may be allowed in R-3 zones subject to approval of a conditional use permit. The following minimum standards apply to new parks, and expansions of existing parks:

- (1) *Setbacks.* Each manufactured housing unit space shall be set back at least 30 feet from all street rights-of-way, and at least 20 feet from all other lot lines.
- (2) *Minimum lot size and space size.* Manufactured housing parks shall contain at least 4,350 square feet of gross site area for each manufactured housing unit space within the park. Each individual manufactured housing unit space shall be at least 3,000 square feet in area, but shall not occupy more than 50 percent of the lot area.
- (3) *Separation of units.* Each manufactured housing unit and accessory structure shall be separated by at least 20 feet of horizontal distance from all other manufactured housing units and accessory structures.
- (4) *Parking.* At least two paved parking spaces, 180 square feet in area in each space shall be provided as a part of each manufactured housing unit space. To provide for guests, one additional paved parking space, at least 180 square feet in area, shall be provided for each ten manufactured housing unit spaces. These guest parking spaces shall be centrally located within the park.
- (5) *Driveways.*
 - a. *Length and design.* Internal driveways or courts designed to have one end permanently closed, shall be no more than 400 feet long unless approved by the planning commission. A turnaround having an outside roadway diameter of at least 80 feet shall be provided at the closed end of any driveway.
 - b. *Paving.* All internal driveways shall be paved with asphalt. The minimum requirements are six inches of compacted SB2 gravel with three inches of asphalt surface on firm subgrade. Property owners shall be responsible for maintaining paving on all internal driveways.
 - c. *Width.* Drive shall have a minimum paved width of 26 feet. One-way drives are specifically prohibited.

- (6) *Signs.* One detached, indirectly illuminated sign, not exceeding 20 square feet in area, may be erected at the main entrance to the manufactured housing park.
- (7) *Refuse collection facilities.* Refuse collection facilities and/or provisions shall be indicated on the site plan, and shall be provided in accordance with city sanitation department standards. There shall be opaque screening on three sides of dumpsters.
- (8) *Fire protection.* Fire lines and fire hydrants shall be shown on the site plan, and shall be in accordance with recommendations of the director of public safety. No mobile home or manufactured housing unit space shall be more than 250 feet from a fire hydrant.
- (9) *Water and wastewater service.* Each mobile home/manufactured housing unit shall be connected to the public sanitary sewer and a public water supply system.
- (10) *Underground utilities.* All light, gas, water, telephone and cable television distribution and service lines to each individual mobile home/manufactured housing unit shall be placed underground and conform to all state and local codes, ordinances and laws.
- (11) *Inspections.* It shall be the duty of the building inspector to make an annual inspection of each approved manufactured housing park and present to the park owner and unit owner a written list of existing violations, should there be any.

- (12) *Resident managers.* In manufactured housing parks containing 30 or more units, a manager must reside with the park area.
(Zoning Ord., § 14.32.08)

Sec. 117-256. Manufactured housing units.

Manufactured housing units, those that do not meet the definition of residential design, manufactured housing units, shall be located only in approved locations. No permit or other approval shall be granted for the placement of a manufactured housing unit that is more than eight years old, as measured from the date that the permit or approval is sought, or be reconditioned to meet code requirements.
(Zoning Ord., § 14.32.09)

Sec. 117-257. Manufactured housing units, residential design.

Compliance with all of the standards of this section is required in order for a manufactured housing unit to be classified as a residential design, manufactured housing unit.

- (1) *Size.*
 - a. The minimum width of a residential design, manufactured housing unit shall be 22 feet, with width measured perpendicular to the longest axis at the narrowest part.
 - b. The length of a residential design, manufactured housing unit shall not exceed four times its width, with length measured along the longest axis.

- c. A residential design, manufactured housing unit shall have a minimum area of 1,150 square feet enclosed and heated living area.

(2) *Roof.*

- a. *Pitch.* The roof must be predominantly double-pitched and have a minimum vertical rise of two inches for every 12 inches of horizontal run.
- b. *Materials.* The roof must be covered with material that is customarily used on site-built housing units. Customary materials include wood, asphalt composition shingles, or fiberglass shingles, but not aluminum, corrugated fiberglass, or metal.
- c. *Eaves.* The roof shall have a minimum eave projection and roof overhang of ten inches, which may include a gutter.

(3) *Siding.*

- a. *Materials.* Exterior siding must be of a material customarily used on site-built housing units. Customary materials include wood, composition, simulated wood, clapboards, conventional vinyl or metal siding, brick, stucco, or similar materials. Customary materials do not include smooth, ribbed or corrugated metal or plastic panels or material that has a high gloss finish.
- b. *Design and placement.* Siding material shall extend below the top of the foundation or cur-

tain wall, or the joint between the siding and enclosure wall shall be flashed in accordance with the city's adopted building code.

(4) *Installation of unit.*

- a. *Guidelines.* The unit shall be installed in accordance with the recommended installation procedures of the manufacturer, and the standards established by the International Conference of Building Officials and published in the most recent edition of Guidelines for Manufactured Housing Installations.
- b. *Foundation.* A continuous, permanent concrete or masonry foundation or masonry curtain wall, unpierced except for required ventilation and access which may include walk-out basements and garages, shall be installed under the perimeter of the unit, also in accordance with International Conference of Building Officials guidelines.

(5) *Entrance landing area.* At the main entrance door to the unit there shall be a landing that is a minimum of five feet which is constructed in accordance with building code requirements.

(6) *Transport equipment.* All running gear, tongues, axles, and wheels must be removed at the time of installation of the unit on the lot.

(7) *Finished floor elevation.* The finished floor of the unit shall meet

the manufacturer's specifications unless the unit is located in a floodplain, in which case floodplain regulations shall rule.

- (8) *Additions.* Attached additions and detached garages shall comply with the building code, and floodplain regulations, if applicable. All standards of this section shall apply to such additions and garages.

(Zoning Ord., § 14.32.10)

Sec. 117-258. Mobile vending trailers.

(a) *Purpose.* The purpose of this section is to establish standards to regulate the use and location of commercial trailers in the city. These standards are necessary to promote public safety and preserve property values.

(b) *Applicability.* This section shall apply to any commercial trailer or vending stand that is transported to property within the city. A commercial trailer or vending stand is defined as a transportable structure not permanently attached to the ground which is used on a short-term basis to conduct a commercial activity such as, but not limited to, the sale of merchandise or food. Vending carts and tables shall be included in this definition.

(c) *General provisions.* The following provisions shall apply to commercial trailers.

- (1) Commercial trailers and vending stands shall be permitted only in zoning districts which permit the specific use for which the trailer is intended as permanent sited location, unless otherwise allowed by this section.

- (2) Prior to locating a commercial trailer or vending stand on any parcel, a building permit must be obtained. The trailer or stand must be permanently attached to a foundation with an approved permit issued. Only one commercial trailer is permitted on each parcel, unless provided for otherwise within this section.
- (3) At the time a building permit is requested, a site plan shall be provided of the parcel on which the trailer is to be located. The site plan shall show the boundaries of the parcel, all existing buildings and their dimensions, parking areas and the number of spaces, and the proposed location of the trailer.
- (4) When applicable, a state health district approval letter shall accompany the permit application for products under the jurisdiction of the state health district. Use of the commercial trailer or vending unit shall not commence until a final occupancy certificate is issued by the building department.
- (5) A minimum of three parking spaces shall be provided for the use of employees and customers. This requirement is in addition to the number of parking spaces required for the existing buildings on the parcel. The trailer or stand may not be placed on the parcel if its placement would cause the parcel to no longer meet this zoning chapter requirements for minimum number of parking spaces.
- (6) The trailer must meet the minimum setback requirements for the

Evaluation of the requirements instituted by the “The Affordable Housing Accessibility Act” enacted by the State of Arkansas in regard to Jonesboro Ordinance.

1. The State requires ordinance or regulation that sets standards for “Manufactured Home” construction or safety to be identical to the federal standards. Both the state and federal regulation refers to the term “Manufactured Home”. The federal code that applies to uniform construction and safety standards is commonly referred to as the “HUD Code”. HUD Code is not prescriptive, in that, it does not mandate the use of specific materials or measurements. Instead, the HUD Code contains engineering design and material performance standards (performance specifications).

Jonesboro refers to the federal standards under the term “Manufactured Housing Units” which may cause confusion, but the definition seems to be sufficient enough to be synonymous with “Manufactured Home”. Specific construction or safety standards were not found for “Manufactured Housing Units” and therefore “Manufactured Home” in Jonesboro Ordinance.

2. The State requires ordinance or regulation that sets standards for manufactured home installation to be consistent with the state standards set forth under “Rules & Regulations for Manufactured Homes” by the Arkansas Manufactured Home Commission and the design of the manufacturer. In regard to installation, the aforementioned document addresses installation and anchoring specifications, as well as, certification and licensing of manufacturers and installers.

Jonesboro ordinance for “Manufactured Housing Units” and therefore “Manufactured Home” does not specifically refer to the any installation standards.

3. The State requires municipalities that have zoning ordinances shall allow the placement of “Manufactured Home” on individually-owned lots in at least one (1) or more residential districts or zones within the municipality.

Jonesboro ordinance permits the placement of “Manufactured Housing Units” and therefore “Manufactured Home” in residential zones AG, RM-H, RM-12, and RM-16.

4. The State requires that municipalities shall not establish or continue in effect any ordinance or regulation that restricts the placement of manufactured homes only to mobile home parks, subdivisions or land lease communities.

Jonesboro ordinance permits the placement of “Manufactured Housing Units” and therefore “Manufactured Home” without restricting the placement only to mobile home parks, subdivisions or land lease communities.

5. The State allows municipalities to establish reasonable regulations or conditions for the placement of “Manufactured Home” within the jurisdiction such as foundation enclosures, connections to utilities, setback, parking, and other regulation or conditions that are applicable to other single family dwellings in the same residential district or zone.

Jonesboro ordinance established regulation of “Manufactured Housing Units” and therefore “Manufactured Home” in residential zones AG, RM-12, and RM-16 that are consistent with regulation applicable to other single family dwellings in those residential zones.

6. The State requires that municipalities shall not impose regulations or conditions on “Manufactured Home” that prohibit the placement of manufactured homes or that are inconsistent with the regulations or conditions imposed on other single family dwellings permitted in the same residential district or zone.

Jonesboro ordinance requires that no permit or other approval shall be granted for the placement of a “Manufactured Housing Unit” and therefore “Manufactured Home” that is more than eight years old, as measured from the date that the permit or approval is sought, or may be reconditioned to meet code requirements. This requirement seems inconsistent and the City may want to consider waiving the age requirements pursuant to the applicant upgrading and reconditioning the unit to bring it into code compliance.

7. The State allows municipalities to prohibit the placement of mobile homes in all residential districts or zones, or to restrict the placement of mobile homes to designated mobile home parks, subdivisions, or land lease communities. “Mobile Home” means a dwelling unit constructed in a factory before the enactment of the Federal Manufactured Home Construction and Safety Standards promulgated by the United States Department of Housing and Urban Development under the authority of 42 U.S.C. 5401 et seq. as it existed on January 1, 1976.

Although not expressly prohibited, Jonesboro ordinance does not relegate a zone or district for the placement of a “Mobile Home”. However, the term is used in portions of the minimum standards for “Manufactured Housing Parks”.

8. The State allows exceptions under this Act which are:
 - (a) This subchapter shall not *supersede, prevent, or preempt* any valid covenants or bills of assurance.
 - (b) This subchapter shall not require that manufactured homes be permitted in historic districts.



Legislation Details (With Text)

File #:	RES-13:106	Version:	1	Name:	Maintenance agreement for Fairway #14 drainage easement
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	6/24/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:		Final action:	
Title:	A RESOLUTION TO ACCEPT A MAINTENANCE AGREEMENT FOR STORMWATER MANAGEMENT FACILITIES FOR FAIRWAY #14 DRAINAGE EASEMENT, A RESIDENTIAL DEVELOPMENT				
Sponsors:	Engineering				
Indexes:	Contract				
Code sections:					
Attachments:	Maintenance Agreement.pdf Minor Plat.pdf				

Date	Ver.	Action By	Action	Result
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A RESOLUTION TO ACCEPT A MAINTENANCE AGREEMENT FOR STORMWATER MANAGEMENT FACILITIES FOR FAIRWAY #14 DRAINAGE EASEMENT, A RESIDENTIAL DEVELOPMENT WHEREAS, the Section 112-157 of the Jonesboro Municipal code requires a maintenance agreement assuring perpetual maintenance of Stormwater Management Improvements and drainage easements to be dedicated to the City be agreed upon by the City and the developer prior to final plat approval;

WHEREAS, Sage Meadows Property Owners, Assoc. has submitted a Maintenance Agreement for Stormwater Management Facilities for Fairway #14 Drainage Easement;

WHEREAS, the City Engineer and City Attorney have reviewed the attached Maintenance Agreement and find it to be in compliance with the Stormwater Management Regulations.

WHEREAS, the Maintenance Agreement and the final plat are to be filed concurrently with the Craighead County Circuit Clerk, upon final approval of the plat.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF JONESBORO, ARKANSAS THAT:

Section 1: The City of Jonesboro accepts the attached maintenance agreement with Sage Meadows Property Owners, Assoc. for Fairway #14 Drainage Easement and authorizes the Mayor and City Clerk to execute all documents necessary to effectuate the agreement.

Section 2: The executed agreement is to be retained by the City Clerk until such time as the Clerk is provided with the approved final plat of the development by the Planning Department so that both documents can be filed concurrently with the Craighead County Circuit Clerk.

**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES**

Property Identification

Project Name: Drainage Easement
Project Address: Fairway #14 Drainage Easement
Owner(s): Sage Meadows Property Owners, ASSOC.
Owner Address: 4406 Clubhouse
City: Jonesboro State: AR Zip Code: 72401

In accordance with Section 112-157 of the Jonesboro Municipal Code, this agreement is made and entered into this ___ day of _____, 20___, by and between the City of Jonesboro, an Arkansas municipal corporation, hereinafter called the "City" and Sage Meadows Property Owners, Assoc., hereinafter called the "Developer".

WITNESSTH, that:

WHEREAS, The Developer is proceeding to build on and develop the property in accordance with the Stormwater Management Plan (the "Plan") approved by the City and the recorded plat (the "Plat") for Fairway #14 Drainage Easement as recorded in the records of Craighead County, Arkansas.

WHEREAS, the City and the Developer, its successors and assigns, including any property owners' association or homeowners' association, agree that the health, safety, and welfare of the residents of the City of Jonesboro, Arkansas require that on-site stormwater runoff management facilities be constructed and maintained on the property.

WHEREAS, the City requires that on-site stormwater runoff management facilities as shown on the plan be constructed and adequately maintained by the Developer, its successors and assigns, including any homeowner association.

WHEREAS, adequate maintenance is defined herein as the general upkeep of the facilities, specifically the mowing and trimming of grasses or other vegetative cover and the removal of litter and other minor debris that could impact the functionality of the facility or that would otherwise be considered unsightly or a nuisance.

WHEREAS, the City of Jonesboro shall be responsible, after construction and final acceptance of the development, for the operation and long-term maintenance of all drainage structures and improved watercourses which are part of the City of Jonesboro Stormwater Management System, are within a dedicated public drainage easement; and, which are not constructed and maintained by or under the jurisdiction of any State or Federal agency.

WHEREAS, Long-term maintenance is defined herein as the removal of sediment deposits, re-grading or shaping of embankments, drainage channels, and detention areas, and the repair or replacement of piping networks, and other underground drainage structures.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties agree as follows:

1. The on-site stormwater runoff management facilities shall be constructed by the Developer, its successors and assigns, in accordance with the plans and specifications identified in the Plan.

2. The Developer, its successors and assigns, including any property owners' association or homeowners' association, shall adequately maintain the on-site stormwater runoff management facilities.
3. The Developer, its successors and assigns, hereby grant permission to the City, its authorized agents and employees, to enter upon the Property to inspect and perform long-term maintenance of the on-site stormwater runoff management facilities whenever the City deems necessary.
4. In the event the Developer, its successors and assigns, fails to adequately maintain the stormwater runoff management facilities, the City may enter upon the Property upon thirty (30) days written notification or earlier, if deemed an emergency, and take whatever steps necessary to correct the deficiencies and charge the costs of such corrective action to the Developer, its successors and assigns. The Developer, its successors and assigns, shall reimburse the City upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the City including all labor, equipment, supplies, materials, and the like. This provision shall not be construed to allow the City to erect any structure of permanent nature on the land of the Developer outside of the easement for the on-site stormwater runoff management facilities. It is expressly understood and agreed that the City is under no obligation to routinely maintain or repair said facilities, and in no event shall this agreement be construed to impose any such obligation on the City.
5. This agreement shall be recorded among the land records of Craighead County, Arkansas and shall constitute a covenant running with the land, and shall be binding on the Developer, its administrators, executors, assigns, heirs and any other successors in interests, including any property owners' association or homeowners' association.
6. This Agreement is binding upon and inures to the benefit of the City, and the Developer, the Developer's successors and assigns, any property owners' association or homeowners' association created which pertains to all or any part of the property and any individual lot owner who has purchased all or any part of the property referred to in this Agreement. The terms of this Agreement are enforceable on all of the above parties.
7. In the event any party to this Maintenance Agreement must employ a lawyer to enforce the terms and obligations set out in this Agreement and litigation ensue, the prevailing party, as determined under Arkansas Law, shall be entitled to recover not only court costs as defined under Arkansas Law but all costs of litigation, including a reasonable attorney's fee.
8. This Agreement is the complete agreement and understanding between the parties who have executed this Agreement. There are no other agreements, either oral or written. All prior or contemporaneous statements, representations, or guarantees are declared void. This Agreement may be amended only by a written document signed by all parties.

Owner/Agent:	<u>Larry Gibson</u> Printed Name	<u>Randy Schae</u> Signature	<u>6-14-13</u> Date
Owner/Agent:	<u>DAVID ONSTEN</u> Printed Name	<u>[Signature]</u> Signature	<u>6/23/13</u> Date

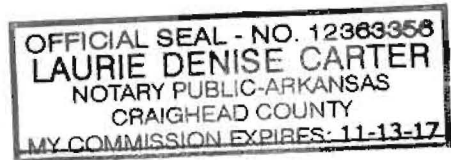
COUNTY OF CRAIGHEAD

On this day before me, the undersigned officer, personally appeared David Orsted & Larry Gibson to me well known to be the person whose name is subscribed to the foregoing instrument, and acknowledged that he had executed the same for the purposes therein stated and set forth.

WITNESS my hand and seal this 24th day of June, 2013.

Laurie Denise Carter
Notary Public (Printed Name)

Laurie Denise Carter
Notary Public (Signature)



My Commission Expires: 11-13-17

Accepted by:

Mayor

Date

City Clerk

Date

TRACT A :

PART OF THE NW 1/4 AND PART OF THE E 1/4 SECTION 35, T15N-R4E, CRAIGHEAD COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS; COMMENCE AT THE NW CORNER OF SAID SECTION 35; THENCE N 89°54'08" E 1312.25 FEET; THENCE S 00°04'54" W 35.88 FEET; THENCE S 88°57'01" E 239.16 FEET; THENCE S 76°05'01" E 219.40 FEET; THENCE S 04°53'14" W 41.64 FEET; THENCE ON A CURVE TO THE LEFT ARC LENGTH 41.41 FEET, RADIUS 25.00 FEET, CHORD BEARING S 57°27'45" W 36.84 FEET; THENCE S 10°01'03" W 140.49 FEET; THENCE ON A CURVE TO THE RIGHT ARC LENGTH 214.49 FEET; RADIUS 780.00 FEET, CHORD BEARING S 17°27'17" W 213.81 FEET; THENCE ON A CURVE TO THE LEFT ARC LENGTH 274.45 FEET; RADIUS 352.00 FEET, CHORD BEARING S 03°25'46" W 267.55 FEET TO THE POINT OF BEGINNING; THENCE S 57°54'38" E 139.21 FEET; THENCE S 47°28'18" E 593.38 FEET; THENCE S 42°32'08" W 150.00 FEET; THENCE S 47°28'18" E 294.46 FEET; THENCE ON A CURVE TO THE RIGHT ARC LENGTH 29.09 FEET, RADIUS 250.00, CHORD BEARING OF S 44°08'09" E 29.09 FEET; THENCE S 51°38'42" W 30.03 FEET; THENCE S 86°15'41" W 128.68 FEET; THENCE S 00°12'34" E 56.67 FEET; THENCE N 89°49'38" E 24.63 FEET; THENCE S 14°47'04" E 325.48 FEET; THENCE N 74°51'45" W 57.25 FEET; THENCE S 89°46'34" W 175.69 FEET TO THE POINT OF BEGINNING, THENCE N 00°13'52" W 101.50 FEET; THENCE ON A CURVE TO THE RIGHT ARC LENGTH 24.85 FEET, RADIUS 50.00 FEET, CHORD BEARING OF N 61°37'44" W 24.59 FEET; THENCE ON A CURVE TO THE LEFT ARC LENGTH 18.70 FEET, RADIUS 25.00 FEET, CHORD BEARING OF N 68°49'27" W 18.27 FEET; THENCE S 89°44'40" W 154.80 FEET; THENCE S 00°13'44" E 119.79 FEET; THENCE N 89°46'34" E 193.40 FEET TO THE POINT OF BEGINNING, CONTAINING 0.52 ACRES, MORE OR LESS.

TRACT B :

PART OF THE NW 1/4 AND PART OF THE E 1/4 SECTION 35, T15N-R4E, CRAIGHEAD COUNTY, ARKANSAS, MORE PARTICULARLY DESCRIBED AS FOLLOWS; COMMENCE AT THE NW CORNER OF SAID SECTION 35; THENCE N 89°54'08" E 1312.25 FEET; THENCE S 00°04'54" W 35.88 FEET; THENCE S 88°57'01" E 239.16 FEET; THENCE S 76°05'01" E 219.40 FEET; THENCE S 04°53'14" W 41.64 FEET; THENCE ON A CURVE TO THE LEFT ARC LENGTH 41.41 FEET, RADIUS 25.00 FEET, CHORD BEARING S 57°27'45" W 36.84 FEET; THENCE S 10°01'03" W 140.49 FEET; THENCE ON A CURVE TO THE RIGHT ARC LENGTH 214.49 FEET; RADIUS 780.00 FEET, CHORD BEARING S 17°27'17" W 213.81 FEET; THENCE ON A CURVE TO THE LEFT ARC LENGTH 274.45 FEET; RADIUS 352.00 FEET, CHORD BEARING S 03°25'46" W 267.55 FEET TO THE POINT OF BEGINNING; THENCE S 57°54'38" E 139.21 FEET; THENCE S 47°28'18" E 593.38 FEET; THENCE S 42°32'08" W 150.00 FEET; THENCE S 47°28'18" E 294.46 FEET; THENCE ON A CURVE TO THE RIGHT ARC LENGTH 29.09 FEET, RADIUS 250.00, CHORD BEARING OF S 44°08'09" E 29.09 FEET; THENCE S 51°38'42" W 30.03 FEET; THENCE S 86°15'41" W 128.68 FEET; THENCE S 00°12'34" E 56.67 FEET; THENCE N 89°49'38" E 24.63 FEET; THENCE S 14°47'26" E 325.47 FEET; THENCE N 74°51'45" W 57.25 FEET; THENCE S 89°46'34" W 114.71 FEET TO THE POINT OF BEGINNING, THENCE CONTINUE S 89°46'34" W 339.99 FEET; THENCE S 00°31'33" W 30.22 FEET; THENCE S 88°31'16" E 44.00 FEET; THENCE S 61°14'43" E 36.65 FEET TO A POINT 1.0 FOOT NORTH OF AN EXISTING CART PATH THENCE IN AN EASTERLY DIRECTION AND 1.0 FOOT NORTH OF SAID CART PATH APPROX. 288.00 FEET TO A POINT; THENCE N 00°07'25" E 33.29 FEET TO THE POINT OF BEGINNING, CONTAINING 0.37 ACRES, MORE OR LESS.

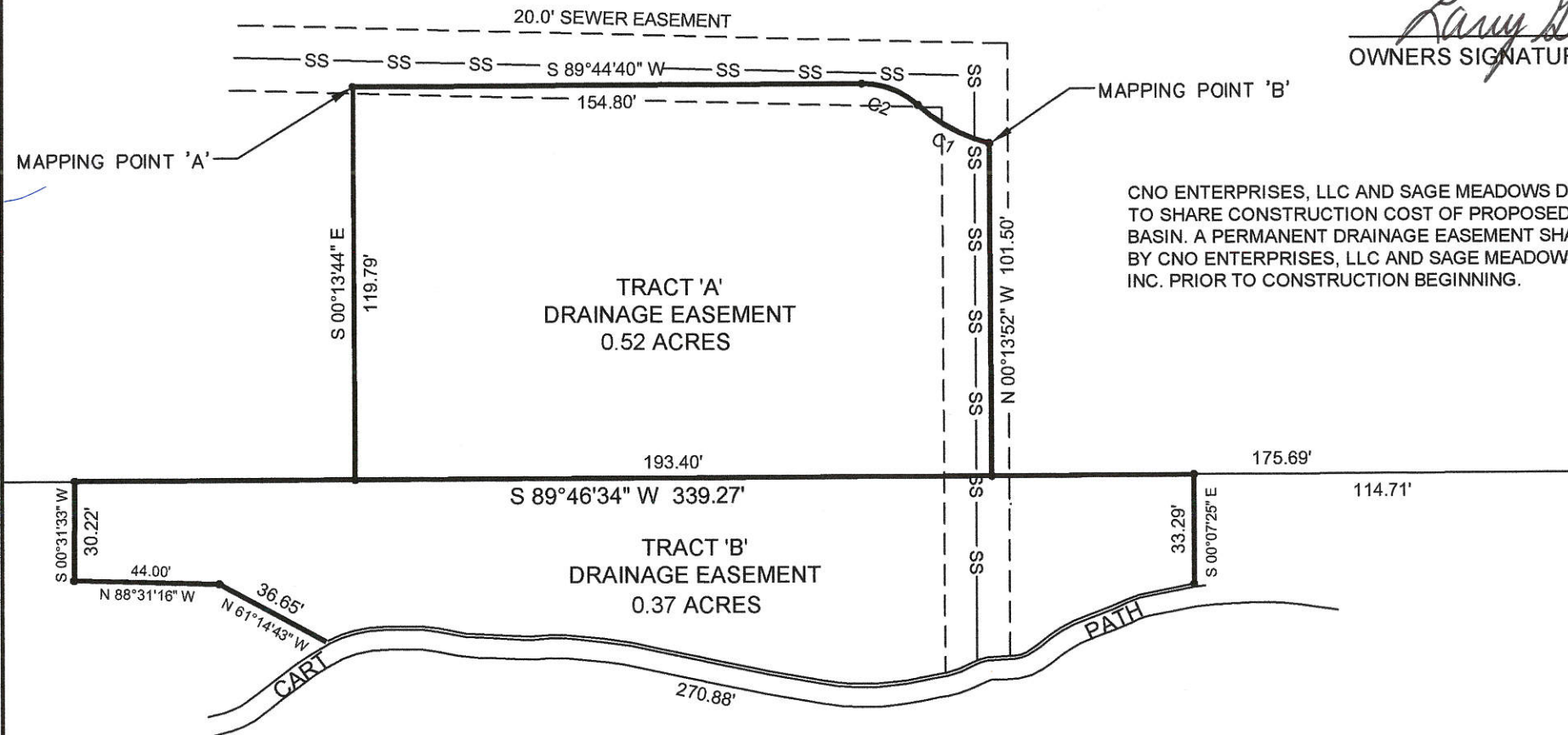
SURVEY CONTROL REFERENCE MARKS:
 • JONESBORO GPS MONUMENT # 24
 • JONESBORO GPS MONUMENT # 23
 HORIZONTAL CONTROL IS NAD 83

MAPPING POINT 'A': NORTHING: 568,720.8 EASTING: 1,717,133.9
MAPPING POINT 'B': NORTHING: 568,703.1 EASTING: 1,717,327.4

OWNERS CERTIFICATE

WE HEREBY CERTIFY THAT WE ARE THE OWNERS OF THE PROPERTY SHOWN AND DESCRIBED HEREON AND THAT WE HEREBY DEDICATE PERPETUAL USE OF ALL STREETS AND EASEMENTS AS SHOWN.

[Signature] 6-12-13
 OWNERS SIGNATURE DATE
[Signature] 6-14-13
 OWNERS SIGNATURE DATE



CNO ENTERPRISES, LLC AND SAGE MEADOWS DEVELOPMENT, INC. TO SHARE CONSTRUCTION COST OF PROPOSED DETENTION BASIN. A PERMANENT DRAINAGE EASEMENT SHALL BE PROVIDED BY CNO ENTERPRISES, LLC AND SAGE MEADOWS DEVELOPMENT, INC. PRIOR TO CONSTRUCTION BEGINNING.



CURVE TABLE

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH
C1	50.00'	24.85'	24.59'
C2	25.00'	18.70'	18.27'

**MINOR PLAT
OF
FAIRWAY # 14 DRAINAGE EASEMENT**

SAGE MEADOWS PROPERTY OWNERS ASSOC:
4406 CLUBHOUSE DRIVE 72401

ADAMSON SURVEYING, 1504 BRANCHWOOD LANE,
JONESBORO ARKANSAS, 72404 PH: 932-5900

PLAN SCALE:
1" = 50.00'

REVISION		
DATE:	06/11/2013	SHEET 1 OF 1



Legislation Details (With Text)

File #:	RES-13:108	Version:	1	Name:	Granting utility easement to CWL
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	7/2/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:		Final action:	
Title:	A RESOLUTION OF THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE MAYOR AND CITY CLERK TO GRANT AN EASEMENT FOR FACILITIES (UTILITY EASEMENT) TO CITY WATER AND LIGHT PLANT OF JONESBORO, ARKANSAS				
Sponsors:	Engineering				
Indexes:	Easement				
Code sections:					
Attachments:	Map of CWL Easement - Moore Rd.pdf Easement.pdf				

Date	Ver.	Action By	Action	Result
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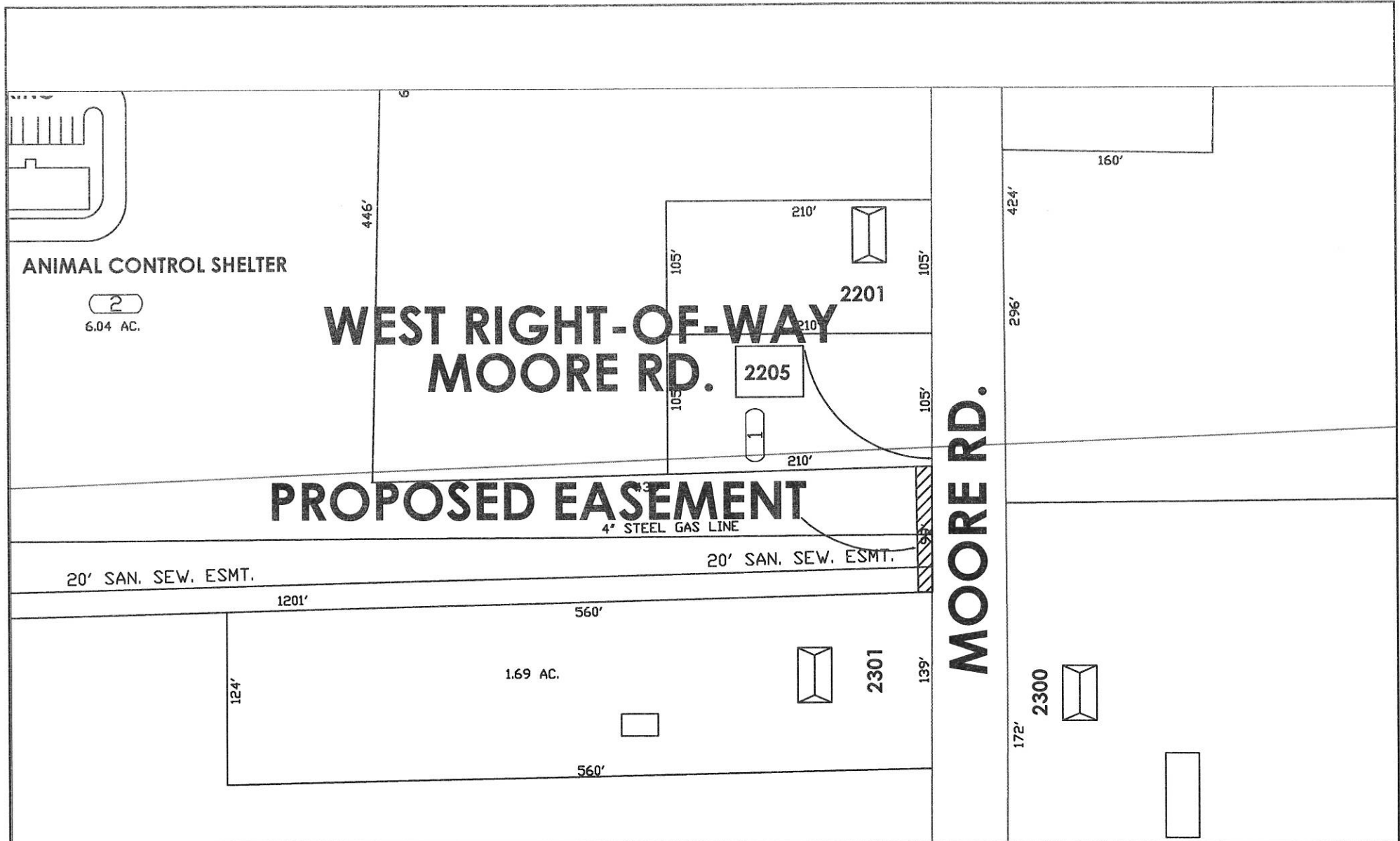
A RESOLUTION OF THE CITY OF JONESBORO, ARKANSAS TO AUTHORIZE THE MAYOR AND CITY CLERK TO GRANT AN EASEMENT FOR FACILITIES (UTILITY EASEMENT) TO CITY WATER AND LIGHT PLANT OF JONESBORO, ARKANSAS

WHEREAS, the City of Jonesboro, Arkansas desires to grant an Easement for Facilities (Utility Easement) to City Water and Light Plant of Jonesboro, Arkansas for the purpose of permitting the construction, erection, replacement, relocation, substitution, repair, preservation, or abandonment of a line or lines for the transmission or distribution of electricity or for communication, together with all wires, poles, transformers, guys, supports and appurtenances and together with all wires, pad mounted transformers, pad mounted equipment and appurtenances and to convey a right of ingress and egress for the purpose aforesaid; and for the construction laying, placement, operation, use repair, relocation, removal or abandonment of a water pipe line, valves, connections, meters, meter boxes, and other necessary equipment for carrying of water and for the construction, laying, placement, operations, use, repair, relocation, removal or abandonment of a sanitary sewer line or lines, including all pipes, tiles, valves, connections, manholes and necessary equipment or appurtenances and to convey a right of ingress and egress for the purposes aforesaid over and across the following described land:

A thirty (30) foot wide tract of land lying along and contiguous to the West Right of Way of Moore Road lying over and across a tract of land as recorded in Deed Record Book 710, Page 604 in the Office of the Craighead County Clerk lying in a part of the Northeast Quarter of the Northwest Quarter of Section 25, Township 14 North, Range 4 East, Craighead County, Arkansas, being more particularly described as follows: A thirty (30) foot wide tract of land lying over and across the above mentioned tract of land lying fifteen (15) feet each side of an overhead electric power line as constructed for a distance of 99 feet, more or less, as per attached sketch.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF JONESBORO, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are hereby authorized by the City Council for the City of Jonesboro, Arkansas to grant an Easement for Facilities (Utility Easement) described above to City Water and Light Plant of Jonesboro, Arkansas.



CITY OF JONESBORO	
CITY WATER AND LIGHT 400 E MONROE JONESBORO, ARKANSAS 72404	
EASEMENT	
REVISION	
DATE: 06/20/2013	SHEET 3 OF 3

EASEMENT – UTILITY
OH ELECTRIC WATER SEWER CORPORATE

KNOW ALL MEN BY THESE PRESENTS: For a consideration deemed and here stated to be of value, the receipt of which is acknowledged by Grantors, the undersigned Grantors who hereby covenant that they will defend the Grantees rights hereunder against all claims or objections, do hereby Grant, Sell and Convey unto the City Water and Light Plant of Jonesboro, Arkansas, and its successors and assigns, an easement and right of entry over and across the following described land, to wit:

A thirty (30) foot wide tract of land lying along and contiguous to the West Right of Way of Moore Road lying over and across a tract of land as recorded in Deed Record Book 710, Page 604 in the Office of the Craighead County Clerk lying in a part of the Northeast Quarter of the Northwest Quarter of Section 25, Township 14 North, Range 4 East, Craighead County, Arkansas, being more particularly described as follows: A thirty (30) foot wide tract of land lying over and across the above mentioned tract of land lying fifteen (15) feet each side of an overhead electric power line as constructed for a distance of 99 feet, more or less, as per attached sketch.

This easement is for the purpose of permitting the construction, erection, replacement, relocation, substitution, repair, preservation, or abandonment of a line or lines for the transmission or distribution of electricity or for communication, together with all wires, poles, transformers, guys, supports and appurtenances and together with all wires, pad mounted transformers, pad mounted equipment and appurtenances and to convey a right of ingress and egress for the purpose aforesaid; and for the construction laying, placement, operation, use repair, relocation, removal or abandonment of a water pipe line, valves, connections, meters, meter boxes, and other necessary equipment for carrying of water and for the construction, laying, placement, operations, use, repair, relocation, removal or abandonment of a sanitary sewer line or lines, including all pipes, tiles, valves, connections, manholes and necessary equipment or appurtenances and to convey a right of ingress and egress for the purposes aforesaid.

This easement and covenant shall run with the ownership of the land described and shall bind, not only the parties hereto, but their heirs, successors, and assigns.

And, we the Grantors _____ and _____, for a consideration deemed and here stated to be of value, do hereby release and relinquish unto the Grantee, all our rights of dower, curtesy and homestead in and to said lands.

IN WITNESS WHEREOF, the Grantors have hereunto set their hand this _____ day of _____, 20____.



Legislation Details (With Text)

File #:	RES-13:112	Version:	1	Name:	Suggested renaming of Stadium Blvd to Red Wolves Blvd
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	7/8/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:			
Title:	RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS FOR THE SUGGESTED RENAMING OF STADIUM BOULEVARD TO RED WOLVES BOULEVARD AS REQUESTED BY ARKANSAS STATE UNIVERSITY.				
Sponsors:	Mayor's Office				
Indexes:	Other, Parking & Traffic				
Code sections:					
Attachments:	Stadium Blvd Street Name Change Letter Hwy Dept Response Letter Stadium Blvd Stadium Blvd Retailers Postal Service Response Letter				

Date	Ver.	Action By	Action	Result
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RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS FOR THE SUGGESTED RENAMING OF STADIUM BOULEVARD TO RED WOLVES BOULEVARD AS REQUESTED BY ARKANSAS STATE UNIVERSITY.

WHEREAS, businesses located on Stadium Boulevard were contacted regarding the street name change and agreed to the renaming; and

WHEREAS, the United States Post Office Post Master Robert Driskell has stated the mail delivery service will be continued to both street names to the addresses of the businesses; and

WHEREAS, the information gathered produced the following recommendations:

1. Immediate renaming of Stadium Blvd. to Red Wolves Blvd. as per Arkansas State University request.
2. Naming priority shall be considered to any new street within the city limits, or any future bypass created around Jonesboro.

THEREFORE, BE IT RESOLVED, by the City Council of the City of Jonesboro, Arkansas that:

1. The above recommendations are hereby accepted by the Jonesboro City Council.
2. The Mayor and City Clerk are hereby authorized to submit necessary documents to effectuate this agreement.



CITY OF JONESBORO

February 25, 2013

Mr. Walter McMillan, District Engineer
AR Highway Department
2510 W. Kingshighway
PO Box 98
Paragould, AR 72451-0098

RE: Stadium Blvd.

Dear Walter:

I had a request from Arkansas State University that we consider naming Stadium Boulevard from Hwy 63 to past the stadium which would be Hwy 49N. I was wondering if I needed to get permission from the State in order to change this to Red Wolves Blvd. rather than Stadium Blvd. If so please let me know what I need to do. L.M. and I are going around to the businesses to phase this in and see if they like it. If I come up with too much resistance I'm not for sure I want the city to do this. Please let me know what I need to do and I appreciate what you do for District.

Sincerely,

Harold Perrin
Mayor

HP/clg



ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

DISTRICT TEN

2510 WEST KINGSHIGHWAY • P. O. BOX 98 • PARAGOULD, AR 72451-0098 • TELEPHONE 870-239-9511 • FAX 870-236-1156
CLAY - CRAIGHEAD - GREENE - LAWRENCE - MISSISSIPPI - POINSETT - RANDOLPH

March 4, 2013

Honorable Harold Perrin
Mayor of Jonesboro
P.O. Box 1845
Jonesboro, AR 72403

Dear Mayor Perrin:

Reference is made to your letter of February 25, 2013 concerning the changing of the name of Highway 49 North from Highway 63 to Johnson Ave. to Red Wolves Boulevard.

The state highway system is referenced by route and section numbers. The Department normally allows the local jurisdiction to place an appropriate name on a section of state highway if they so desire. If the City elects to make this change, please advise the Department so the appropriate changes can be made to the guide signs at the Highway 49 North Interchange on Highway 63. The updating of the street names signs along Highway 49 North will be the responsibility of the City.

If you have any questions concerning this matter, please feel free to contact me.

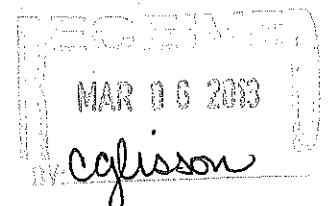
Sincerely,

A handwritten signature in cursive script that reads "Walter McMillan".

Walter McMillan
District Engineer

WBM

c: Mr. Emanuel Banks, Assistant Chief Engineer-Operations
Mr. Tony Sullivan, State Maintenance Engineer



	Service Address	Yes	No	No Answer
Dream Home Gallery	1312 Stadium Blvd.	X		
Tucker's Appliance	1312 Stadium Blvd.		X	
Westbrook & Wright Constr.	1312 Stadium Blvd.	X		
America's Car-Mart, Inc.	1315 Stadium Blvd.	X		
I.O. Metro LLC	1319 Stadium Blvd.	X		
Local Culture	1319 Stadium Blvd.	X		
The Lower Deck	1320 Stadium Blvd.	X		
Bedding Mart	1320 Stadium Blvd.	X		
Blue Coast Burrito	1320 Stadium Blvd.	X		
Beautiful Nails & Spa	1320 Stadium Blvd.	X		
La Bella Vita Boutique LLC	1320 Stadium Blvd.	X		
Popeyes Chicken & Biscuits	1323 Stadium Blvd.	X		
Advanced Auto Parts #6708	1324 Stadium Blvd.	X		
Andy's Frozen Custard	1327 Stadium Blvd.	X		
Walgreen	1328 Stadium Blvd.	X		
Hardee's of Jonesboro	1331 Stadium Blvd.	X		
First Security Bank	1341 Stadium Blvd.	X		
Murphy Express #8523	1601 Stadium Blvd.	X		
Redbox Automated Retail LLC	1601 Stadium Blvd.	unable to contact		
LSUB Jonesboro LLC	1699 Stadium Blvd.	X		
Hibachi Grill Jonesboro LLC	1699 Stadium Blvd.	X		
Russell Cellular & Satellites	1699 Stadium Blvd.	X		
Star Nails & Spa	1699 Stadium Blvd.	X		
U-Haul Co. of Arkansas	1700 Stadium Blvd.	X		
Golden Grotto	1717 Stadium Blvd.	X		
Chick-Fil-A	1800 Stadium Blvd.	X		
Chili's Bar-n-Grill	1900 Stadium Blvd.	X		
Olive Garden Italian Rest #1824	1918 Stadium Blvd.	X		
Plato's Closet	2100 Stadium Blvd.	X		
Five Guys	2100 Stadium Blvd.	X		
Cheddar's Casual Café Inc.	2123 Stadium Blvd.	X		
Panera Bread	2213 Stadium Blvd.	X		

USA Gold & Silver Buyers	2402 Stadium Blvd. Ste B	X
Shipley Donuts	2404 Stadium Blvd.	X
Modern Nail & Spa	2504 Stadium Blvd.	X
Focus Bank	2525 Stadium Blvd.	X
Sonic Drive In #3	2604 Stadium Blvd.	X
Redbox Automated Retail LLC	2604 Stadium Blvd.	unable to contact
Kum & Go #395	2604 Stadium Blvd.	X
Tractor Supply Co. #158	2605 Stadium Blvd.	X
Ridout Lumber Co	2608 Stadium Blvd.	X
O'Reilly Auto Parts #738	2611 Stadium Blvd.	X
Car Today, Inc.	2612 Stadium Blvd.	X
Zaxbys	2625 Stadium Blvd.	X
Longhorn Steakhouse #5394	2626 Stadium Blvd.	X
Captian D's	2629 Stadium Blvd.	X
Red Lobster #6371	2642 Stadium Blvd.	X
Jonesboro Cycle & ATV LLC	2829 Stadium Blvd.	X
Shaz Enterprises Inc.	2925 Stadium Blvd.	X
NEA Baptist (Aramark)	3024 Stadium Blvd.	X
NEA Baptist Memorial Hosp.	3024 Stadium Blvd.	X
Gregory Lewis, MD	3024 Stadium Blvd.	X
John Phillips, MD	3024 Stadium Blvd.	X

Carrier Annex
2404 Race St
Jonesboro AR 72401



May 3, 2013

Mayor Harold Perrin
City of Jonesboro
515 W Washington Ave
Jonesboro AR 72401

Subject: "Stadium Blvd name change to Red Wolves Blvd "

Dear Mayor Perrin,

If the street numbers for Stadium Blvd remain the same as they are currently, then the Post Office will continue to deliver both street names to that address.

Sincerely,

A handwritten signature in black ink that reads "Robert Driskell".

Robert Driskell
Postmaster
2404 Race St
Jonesboro AR 72401
870-972-0275



Legislation Details (With Text)

File #:	RES-13:113	Version:	1	Name:	Contract with Brackett Krennerich for police facility
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	7/8/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:		Final action:	
Title:	RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS APPROVING A CONTRACT FOR PROFESSIONAL SERVICES WITH BRACKETT KRENNERICH & ASSOCIATES, P.A. FOR ARCHITECTURAL SERVICES FOR A POLICE FACILITY LOCATED IN THE ARMORY BUILDING ON CARAWAY ROAD				
Sponsors:	Mayor's Office				
Indexes:	Contract				
Code sections:					
Attachments:	Armory Bldg Renovations Contract Brackett Krennerich				

Date	Ver.	Action By	Action	Result
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RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS APPROVING A CONTRACT FOR PROFESSIONAL SERVICES WITH BRACKETT KRENNERICH & ASSOCIATES, P.A. FOR ARCHITECTURAL SERVICES FOR A POLICE FACILITY LOCATED IN THE ARMORY BUILDING ON CARAWAY ROAD

WHEREAS, the City of Jonesboro, Arkansas desires to obtain the services of Brackett Krennerich & Associates, P.A. to renovate the Armory Building located on Caraway Road for the new Police facility; and

WHEREAS, this contract has been recommended by the Public Works Committee.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF JONESBORO, ARKANSAS, THAT:

Section 1: The City of Jonesboro approves the contract for architectural services with Brackett Krennerich for the renovations to the Armory Building for the Police Facility located on Caraway Road.

Section 2: The Mayor, Harold Perrin and City Clerk, Donna Jackson are hereby authorized by the City Council for the City of Jonesboro to execute all documents necessary to effectuate this agreement.



AIA[®] Document B101[™] – 2007

Standard Form of Agreement Between Owner and Architect

AGREEMENT made as of the Tenth day of July in the year Two Thousand Thirteen

(In words, indicate day, month and year.)

BETWEEN the Architect's client identified as the Owner:
(Name, legal status, address and other information)

City of Jonesboro
515 W. Washington Ave.
Jonesboro, Arkansas 72401

and the Architect:
(Name, legal status, address and other information)

Brackett Krennerich & Associates P.A.
100 E. Huntington Ave., Suite D
Jonesboro, AR 72401
Telephone Number: 870-932-0571
Fax Number: 870-932-0975

for the following Project:
(Name, location and detailed description)

Renovations to Armory Building
Jonesboro Police Department
Jonesboro, Arkansas

The Owner and Architect agree as follows.

ADDITIONS AND DELETIONS:
The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Init.

TABLE OF ARTICLES

- 1 INITIAL INFORMATION**
- 2 ARCHITECT'S RESPONSIBILITIES**
- 3 SCOPE OF ARCHITECT'S BASIC SERVICES**
- 4 ADDITIONAL SERVICES**
- 5 OWNER'S RESPONSIBILITIES**
- 6 COST OF THE WORK**
- 7 COPYRIGHTS AND LICENSES**
- 8 CLAIMS AND DISPUTES**
- 9 TERMINATION OR SUSPENSION**
- 10 MISCELLANEOUS PROVISIONS**
- 11 COMPENSATION**
- 12 SPECIAL TERMS AND CONDITIONS**
- 13 SCOPE OF THE AGREEMENT**

EXHIBIT A INITIAL INFORMATION

ARTICLE 1 INITIAL INFORMATION

§ 1.1 This Agreement is based on the Initial Information set forth in this Article 1 and in optional Exhibit A, Initial Information:

See Attached Exhibit A – AIA Document B101 – 2007 Exhibit A Initial Information

See Attached Exhibit B – Hourly Fee Schedule

§ 1.2 The Owner's anticipated dates for commencement of construction and Substantial Completion of the Work are set forth below:

.1 Commencement of construction date:

TBD

.2 Substantial Completion date:

TBD

§ 1.3 The Owner and Architect may rely on the Initial Information. Both parties, however, recognize that such information may materially change and, in that event, the Owner and the Architect shall appropriately adjust the schedule, the Architect's services and the Architect's compensation.

Init.

ARTICLE 2 ARCHITECT'S RESPONSIBILITIES

§ 2.1 The Architect shall provide the professional services as set forth in this Agreement.

§ 2.2 The Architect shall perform its services consistent with the professional skill and care ordinarily provided by architects practicing in the same or similar locality under the same or similar circumstances. The Architect shall perform its services as expeditiously as is consistent with such professional skill and care and the orderly progress of the Project.

§ 2.3 The Architect shall identify a representative authorized to act on behalf of the Architect with respect to the Project.

§ 2.4 Except with the Owner's knowledge and consent, the Architect shall not engage in any activity, or accept any employment, interest or contribution that would reasonably appear to compromise the Architect's professional judgment with respect to this Project.

§ 2.5 The Architect shall maintain the following insurance for the duration of this Agreement. If any of the requirements set forth below exceed the types and limits the Architect normally maintains, the Owner shall reimburse the Architect for any additional cost:

(Identify types and limits of insurance coverage, and other insurance requirements applicable to the Agreement, if any.)

.1 General Liability

\$1,000,000.00

.2 Automobile Liability

\$1,000,000.00

.3 Workers' Compensation

Bodily Injury by Accident \$100,000.00 Each Accident
Bodily Injury by Disease \$500,000.00 Policy Limit
Bodily Injury by Disease \$100,000.00 Each Employee

.4 Professional Liability

\$1,000,000.00

ARTICLE 3 SCOPE OF ARCHITECT'S BASIC SERVICES

§ 3.1 The Architect's Basic Services consist of those described in Article 3 and include usual and customary structural, mechanical, and electrical engineering services. Services not set forth in this Article 3 are Additional Services.

§ 3.1.1 The Architect shall manage the Architect's services, consult with the Owner, research applicable design criteria, attend Project meetings, communicate with members of the Project team and report progress to the Owner.

§ 3.1.2 The Architect shall coordinate its services with those services provided by the Owner and the Owner's consultants. The Architect shall be entitled to rely on the accuracy and completeness of services and information furnished by the Owner and the Owner's consultants. The Architect shall provide prompt written notice to the Owner if the Architect becomes aware of any error, omission or inconsistency in such services or information.

§ 3.1.3 As soon as practicable after the date of this Agreement, the Architect shall submit for the Owner's approval a schedule for the performance of the Architect's services. The schedule initially shall include anticipated dates for the commencement of construction and for Substantial Completion of the Work as set forth in the Initial Information. The schedule shall include allowances for periods of time required for the Owner's review, for the performance of the Owner's consultants, and for approval of submissions by authorities having jurisdiction over the Project. Once approved by the Owner, time limits established by the schedule shall not, except for reasonable cause, be exceeded by

the Architect or Owner. With the Owner's approval, the Architect shall adjust the schedule, if necessary as the Project proceeds until the commencement of construction.

§ 3.1.4 The Architect shall not be responsible for an Owner's directive or substitution made without the Architect's approval.

§ 3.1.5 The Architect shall, at appropriate times, contact the governmental authorities required to approve the Construction Documents and the entities providing utility services to the Project. In designing the Project, the Architect shall respond to applicable design requirements imposed by such governmental authorities and by such entities providing utility services.

§ 3.1.6 The Architect shall assist the Owner in connection with the Owner's responsibility for filing documents required for the approval of governmental authorities having jurisdiction over the Project.

§ 3.2 SCHEMATIC DESIGN PHASE SERVICES

§ 3.2.1 The Architect shall review the program and other information furnished by the Owner, and shall review laws, codes, and regulations applicable to the Architect's services.

§ 3.2.2 The Architect shall prepare a preliminary evaluation of the Owner's program, schedule, budget for the Cost of the Work, Project site, and the proposed procurement or delivery method and other Initial Information, each in terms of the other, to ascertain the requirements of the Project. The Architect shall notify the Owner of (1) any inconsistencies discovered in the information, and (2) other information or consulting services that may be reasonably needed for the Project.

§ 3.2.3 The Architect shall present its preliminary evaluation to the Owner and shall discuss with the Owner alternative approaches to design and construction of the Project, including the feasibility of incorporating environmentally responsible design approaches. The Architect shall reach an understanding with the Owner regarding the requirements of the Project.

§ 3.2.4 Based on the Project's requirements agreed upon with the Owner, the Architect shall prepare and present for the Owner's approval a preliminary design illustrating the scale and relationship of the Project components.

§ 3.2.5 Based on the Owner's approval of the preliminary design, the Architect shall prepare Schematic Design Documents for the Owner's approval. The Schematic Design Documents shall consist of drawings and other documents including a site plan, if appropriate, and preliminary building plans, sections and elevations; and may include some combination of study models, perspective sketches, or digital modeling. Preliminary selections of major building systems and construction materials shall be noted on the drawings or described in writing.

§ 3.2.5.1 The Architect shall consider environmentally responsible design alternatives, such as material choices and building orientation, together with other considerations based on program and aesthetics, in developing a design that is consistent with the Owner's program, schedule and budget for the Cost of the Work. The Owner may obtain other environmentally responsible design services under Article 4.

§ 3.2.5.2 The Architect shall consider the value of alternative materials, building systems and equipment, together with other considerations based on program and aesthetics, in developing a design for the Project that is consistent with the Owner's program, schedule and budget for the Cost of the Work.

§ 3.2.6 The Architect shall submit to the Owner an estimate of the Cost of the Work prepared in accordance with Section 6.3.

§ 3.2.7 The Architect shall submit the Schematic Design Documents to the Owner, and request the Owner's approval.

§ 3.3 DESIGN DEVELOPMENT PHASE SERVICES

§ 3.3.1 Based on the Owner's approval of the Schematic Design Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the Architect shall prepare Design Development Documents for the Owner's approval. The Design Development Documents shall illustrate and describe the development of the approved Schematic Design Documents and shall consist of drawings and other documents

including plans, sections, elevations, typical construction details, and diagrammatic layouts of building systems to fix and describe the size and character of the Project as to architectural, structural, mechanical and electrical systems, and such other elements as may be appropriate. The Design Development Documents shall also include outline specifications that identify major materials and systems and establish in general their quality levels.

§ 3.3.2 The Architect shall update the estimate of the Cost of the Work.

§ 3.3.3 The Architect shall submit the Design Development documents to the Owner, advise the Owner of any adjustments to the estimate of the Cost of the Work, and request the Owner's approval.

§ 3.4 CONSTRUCTION DOCUMENTS PHASE SERVICES

§ 3.4.1 Based on the Owner's approval of the Design Development Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the Architect shall prepare Construction Documents for the Owner's approval. The Construction Documents shall illustrate and describe the further development of the approved Design Development Documents and shall consist of Drawings and Specifications setting forth in detail the quality levels of materials and systems and other requirements for the construction of the Work. The Owner and Architect acknowledge that in order to construct the Work the Contractor will provide additional information, including Shop Drawings, Product Data, Samples and other similar submittals, which the Architect shall review in accordance with Section 3.6.4.

§ 3.4.2 The Architect shall incorporate into the Construction Documents the design requirements of governmental authorities having jurisdiction over the Project.

§ 3.4.3 During the development of the Construction Documents, the Architect shall assist the Owner in the development and preparation of (1) bidding and procurement information that describes the time, place and conditions of bidding, including bidding or proposal forms; (2) the form of agreement between the Owner and Contractor; and (3) the Conditions of the Contract for Construction (General, Supplementary and other Conditions). The Architect shall also compile a project manual that includes the Conditions of the Contract for Construction and Specifications and may include bidding requirements and sample forms.

§ 3.4.4 The Architect shall update the estimate for the Cost of the Work.

§ 3.4.5 The Architect shall submit the Construction Documents to the Owner, advise the Owner of any adjustments to the estimate of the Cost of the Work, take any action required under Section 6.5, and request the Owner's approval.

§ 3.5 BIDDING OR NEGOTIATION PHASE SERVICES

§ 3.5.1 GENERAL

The Architect shall assist the Owner in establishing a list of prospective contractors. Following the Owner's approval of the Construction Documents, the Architect shall assist the Owner in (1) obtaining either competitive bids or negotiated proposals; (2) confirming responsiveness of bids or proposals; (3) determining the successful bid or proposal, if any; and, (4) awarding and preparing contracts for construction.

§ 3.5.2 COMPETITIVE BIDDING

§ 3.5.2.1 Bidding Documents shall consist of bidding requirements and proposed Contract Documents.

§ 3.5.2.2 The Architect shall assist the Owner in bidding the Project by

- .1 procuring the reproduction of Bidding Documents for distribution to prospective bidders;
- .2 distributing the Bidding Documents to prospective bidders, requesting their return upon completion of the bidding process, and maintaining a log of distribution and retrieval and of the amounts of deposits, if any, received from and returned to prospective bidders;
- .3 organizing and conducting a pre-bid conference for prospective bidders;
- .4 preparing responses to questions from prospective bidders and providing clarifications and interpretations of the Bidding Documents to all prospective bidders in the form of addenda; and
- .5 organizing and conducting the opening of the bids, and subsequently documenting and distributing the bidding results, as directed by the Owner.

§ 3.5.2.3 The Architect shall consider requests for substitutions, if the Bidding Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective bidders.

§ 3.5.3 NEGOTIATED PROPOSALS

§ 3.5.3.1 Proposal Documents shall consist of proposal requirements and proposed Contract Documents.

§ 3.5.3.2 The Architect shall assist the Owner in obtaining proposals by

- .1 procuring the reproduction of Proposal Documents for distribution to prospective contractors, and requesting their return upon completion of the negotiation process;
- .2 organizing and participating in selection interviews with prospective contractors; and
- .3 participating in negotiations with prospective contractors, and subsequently preparing a summary report of the negotiation results, as directed by the Owner.

§ 3.5.3.3 The Architect shall consider requests for substitutions, if the Proposal Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective contractors.

§ 3.6 CONSTRUCTION PHASE SERVICES

§ 3.6.1 GENERAL

§ 3.6.1.1 The Architect shall provide administration of the Contract between the Owner and the Contractor as set forth below and in AIA Document A201™-2007, General Conditions of the Contract for Construction. If the Owner and Contractor modify AIA Document A201-2007, those modifications shall not affect the Architect's services under this Agreement unless the Owner and the Architect amend this Agreement.

§ 3.6.1.2 The Architect shall advise and consult with the Owner during the Construction Phase Services. The Architect shall have authority to act on behalf of the Owner only to the extent provided in this Agreement. The Architect shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, nor shall the Architect be responsible for the Contractor's failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect shall be responsible for the Architect's negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Contractor or of any other persons or entities performing portions of the Work.

§ 3.6.1.3 Subject to Section 4.3, the Architect's responsibility to provide Construction Phase Services commences with the award of the Contract for Construction and terminates on the date the Architect issues the final Certificate for Payment.

§ 3.6.2 EVALUATIONS OF THE WORK

§ 3.6.2.1 The Architect shall visit the site at intervals appropriate to the stage of construction, or as otherwise required in Section 4.3.3, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine, 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 Contract Documents. However, the Architect shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect shall keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work.

§ 3.6.2.2 The Architect has the authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect shall have the authority to require inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees or other persons or entities performing portions of the Work.

§ 3.6.2.3 The Architect shall interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect's response to such requests shall be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

Init.

§ 3.6.2.4 Interpretations and decisions of the Architect shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in writing or in the form of drawings. When making such interpretations and decisions, the Architect shall endeavor to secure faithful performance by both Owner and Contractor, shall not show partiality to either, and shall not be liable for results of interpretations or decisions rendered in good faith. The Architect's decisions on matters relating to aesthetic effect shall be final if consistent with the intent expressed in the Contract Documents.

§ 3.6.2.5 Unless the Owner and Contractor designate another person to serve as an Initial Decision Maker, as that term is defined in AIA Document A201–2007, the Architect shall render initial decisions on Claims between the Owner and Contractor as provided in the Contract Documents.

§ 3.6.3 CERTIFICATES FOR PAYMENT TO CONTRACTOR

§ 3.6.3.1 The Architect shall review and certify the amounts due the Contractor and shall issue certificates in such amounts. The Architect's certification for payment shall constitute a representation to the Owner, based on the Architect's evaluation of the Work as provided in Section 3.6.2 and on the data comprising the Contractor's Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject (1) to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, (2) to results of subsequent tests and inspections, (3) to correction of minor deviations from the Contract Documents prior to completion, and (4) to specific qualifications expressed by the Architect.

§ 3.6.3.2 The issuance of a Certificate for Payment shall not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) ascertained how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 3.6.3.3 The Architect shall maintain a record of the Applications and Certificates for Payment.

§ 3.6.4 SUBMITTALS

§ 3.6.4.1 The Architect shall review the Contractor's submittal schedule and shall not unreasonably delay or withhold approval. The Architect's action in reviewing submittals shall be taken in accordance with the approved submittal schedule or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review.

§ 3.6.4.2 In accordance with the Architect-approved submittal schedule, the Architect shall review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of such submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities, and installation or performance of equipment or systems, which are the Contractor's responsibility. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 3.6.4.3 If the Contract Documents specifically require the Contractor to provide professional design services or certifications by a design professional related to systems, materials or equipment, the Architect shall specify the appropriate performance and design criteria that such services must satisfy. The Architect shall review Shop Drawings and other submittals related to the Work designed or certified by the design professional retained by the Contractor that bear such professional's seal and signature when submitted to the Architect. The Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals.

§ 3.6.4.4 Subject to the provisions of Section 4.3, the Architect shall review and respond to requests for information about the Contract Documents. The Architect shall set forth in the Contract Documents the requirements for requests

for information. Requests for information shall include, at a minimum, a detailed written statement that indicates the specific Drawings or Specifications in need of clarification and the nature of the clarification requested. The Architect's response to such requests shall be made in writing within any time limits agreed upon, or otherwise with reasonable promptness. If appropriate, the Architect shall prepare and issue supplemental Drawings and Specifications in response to requests for information.

§ 3.6.4.5 The Architect shall maintain a record of submittals and copies of submittals supplied by the Contractor in accordance with the requirements of the Contract Documents.

§ 3.6.5 CHANGES IN THE WORK

§ 3.6.5.1 The Architect may authorize minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. Subject to the provisions of Section 4.3, the Architect shall prepare Change Orders and Construction Change Directives for the Owner's approval and execution in accordance with the Contract Documents.

§ 3.6.5.2 The Architect shall maintain records relative to changes in the Work.

§ 3.6.6 PROJECT COMPLETION

§ 3.6.6.1 The Architect shall conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion; receive from the Contractor and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract Documents and assembled by the Contractor; and issue a final Certificate for Payment based upon a final inspection indicating the Work complies with the requirements of the Contract Documents.

§ 3.6.6.2 The Architect's inspections shall be conducted with the Owner to check conformance of the Work with the requirements of the Contract Documents and to verify the accuracy and completeness of the list submitted by the Contractor of Work to be completed or corrected.

§ 3.6.6.3 When the Work is found to be substantially complete, the Architect shall inform the Owner about the balance of the Contract Sum remaining to be paid the Contractor, including the amount to be retained from the Contract Sum, if any, for final completion or correction of the Work.

§ 3.6.6.4 The Architect shall forward to the Owner the following information received from the Contractor: (1) consent of surety or sureties, if any, to reduction in or partial release of retainage or the making of final payment; (2) affidavits, receipts, releases and waivers of liens or bonds indemnifying the Owner against liens; and (3) any other documentation required of the Contractor under the Contract Documents.

§ 3.6.6.5 Upon request of the Owner, and prior to the expiration of one year from the date of Substantial Completion, the Architect shall, without additional compensation, conduct a meeting with the Owner to review the facility operations and performance.

ARTICLE 4 ADDITIONAL SERVICES

§ 4.1 Additional Services listed below are not included in Basic Services but may be required for the Project. The Architect shall provide the listed Additional Services only if specifically designated in the table below as the Architect's responsibility, and the Owner shall compensate the Architect as provided in Section 11.2.

(Designate the Additional Services the Architect shall provide in the second column of the table below. In the third column indicate whether the service description is located in Section 4.2 or in an attached exhibit. If in an exhibit, identify the exhibit.)

Additional Services	Responsibility (Architect, Owner or Not Provided)	Location of Service Description (Section 4.2 below or in an exhibit attached to this document and identified below)
§ 4.1.1 Programming	Owner	
§ 4.1.2 Multiple preliminary designs	Not Provided	
§ 4.1.3 Measured drawings	Not Provided	
§ 4.1.4 Existing facilities surveys	Not Provided	

§ 4.1.5	Site Evaluation and Planning (B203™-2007)	Not Provided	
§ 4.1.6	Building information modeling	Architect	
§ 4.1.7	Civil engineering	Architect	
§ 4.1.8	Landscape design	Not Provided	
§ 4.1.9	Architectural Interior Design (B252™-2007)	Not Provided	
§ 4.1.10	Value Analysis (B204™-2007)	Not Provided	
§ 4.1.11	Detailed cost estimating	Not Provided	
§ 4.1.12	On-site project representation	Not Provided	
§ 4.1.13	Conformed construction documents	Not Provided	
§ 4.1.14	As-Designed Record drawings	Not Provided	
§ 4.1.15	As-Constructed Record drawings	Contractor	
§ 4.1.16	Post occupancy evaluation	Not Provided	
§ 4.1.17	Facility Support Services (B210™-2007)	Not Provided	
§ 4.1.18	Tenant-related services	Not Provided	
§ 4.1.19	Coordination of Owner's consultants	Not Provided	
§ 4.1.20	Telecommunications/data design	Owner	
§ 4.1.21	Security Evaluation and Planning (B206™-2007)	Not Provided	
§ 4.1.22	Commissioning (B211™-2007)	Not Provided	
§ 4.1.23	Extensive environmentally responsible design	Not Provided	
§ 4.1.24	LEED® Certification (B214™-2007)	Not Provided	
§ 4.1.25	Fast-track design services	Not Provided	
§ 4.1.26	Historic Preservation (B205™-2007)	Not Provided	
§ 4.1.27	Furniture, Furnishings, and Equipment Design (B253™-2007)	Owner	

§ 4.2 Insert a description of each Additional Service designated in Section 4.1 as the Architect's responsibility, if not further described in an exhibit attached to this document.

On Site Representation: Full time on site representation by the architects is not a part of this agreement. The architects agrees to provide the owner copies of all project observation reports and attend monthly progress meetings with owner, and or representatives, to keep them informed of the project progress.

§ 4.3 Additional Services may be provided after execution of this Agreement, without invalidating the Agreement. Except for services required due to the fault of the Architect, any Additional Services provided in accordance with this Section 4.3 shall entitle the Architect to compensation pursuant to Section 11.3 and an appropriate adjustment in the Architect's schedule.

§ 4.3.1 Upon recognizing the need to perform the following Additional Services, the Architect shall notify the Owner with reasonable promptness and explain the facts and circumstances giving rise to the need. The Architect shall not proceed to provide the following services until the Architect receives the Owner's written authorization:

- .1 Services necessitated by a change in the Initial Information, previous instructions or approvals given by the Owner, or a material change in the Project including, but not limited to, size, quality, complexity, the Owner's schedule or budget for Cost of the Work, or procurement or delivery method;
- .2 Services necessitated by the Owner's request for extensive environmentally responsible design alternatives, such as unique system designs, in-depth material research, energy modeling, or LEED® certification;
- .3 Changing or editing previously prepared Instruments of Service necessitated by the enactment or revision of codes, laws or regulations or official interpretations;
- .4 Services necessitated by decisions of the Owner not rendered in a timely manner or any other failure of performance on the part of the Owner or the Owner's consultants or contractors;
- .5 Preparing digital data for transmission to the Owner's consultants and contractors, or to other Owner authorized recipients;
- .6 Preparation of design and documentation for alternate bid or proposal requests proposed by the Owner;
- .7 Preparation for, and attendance at, a public presentation, meeting or hearing;

Init.

- .8 Preparation for, and attendance at a dispute resolution proceeding or legal proceeding, except where the Architect is party thereto;
- .9 Evaluation of the qualifications of bidders or persons providing proposals;
- .10 Consultation concerning replacement of Work resulting from fire or other cause during construction; or
- .11 Assistance to the Initial Decision Maker, if other than the Architect.

§ 4.3.2 To avoid delay in the Construction Phase, the Architect shall provide the following Additional Services, notify the Owner with reasonable promptness, and explain the facts and circumstances giving rise to the need. If the Owner subsequently determines that all or parts of those services are not required, the Owner shall give prompt written notice to the Architect, and the Owner shall have no further obligation to compensate the Architect for those services:

- .1 Reviewing a Contractor's submittal out of sequence from the submittal schedule agreed to by the Architect;
- .2 Responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where such information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation;
- .3 Preparing Change Orders and Construction Change Directives that require evaluation of Contractor's proposals and supporting data, or the preparation or revision of Instruments of Service;
- .4 Evaluating an extensive number of Claims as the Initial Decision Maker;
- .5 Evaluating substitutions proposed by the Owner or Contractor and making subsequent revisions to Instruments of Service resulting therefrom; or
- .6 To the extent the Architect's Basic Services are affected, providing Construction Phase Services 60 days after (1) the date of Substantial Completion of the Work or (2) the anticipated date of Substantial Completion identified in Initial Information, whichever is earlier.

§ 4.3.3 The Architect shall provide Construction Phase Services exceeding the limits set forth below as Additional Services. When the limits below are reached, the Architect shall notify the Owner:

- .1 Two (2) reviews of each Shop Drawing, Product Data item, sample and similar submittal of the Contractor
- .2 Twenty (20) visits to the site by the Architect over the duration of the Project during construction
- .3 Two (2) inspections for any portion of the Work to determine whether such portion of the Work is substantially complete in accordance with the requirements of the Contract Documents
- .4 Two (2) inspections for any portion of the Work to determine final completion

§ 4.3.4 If the services covered by this Agreement have not been completed within Eighteen (18) months of the date of this Agreement, through no fault of the Architect, extension of the Architect's services beyond that time shall be compensated as Additional Services.

ARTICLE 5 OWNER'S RESPONSIBILITIES

§ 5.1 Unless otherwise provided for under this Agreement, the Owner shall provide information in a timely manner regarding requirements for and limitations on the Project, including a written program which shall set forth the Owner's objectives, schedule, constraints and criteria, including space requirements and relationships, flexibility, expandability, special equipment, systems and site requirements. Within 15 days after receipt of a written request from the Architect, the Owner shall furnish the requested information as necessary and relevant for the Architect to evaluate, give notice of or enforce lien rights.

§ 5.2 The Owner shall establish and periodically update the Owner's budget for the Project, including (1) the budget for the Cost of the Work as defined in Section 6.1; (2) the Owner's other costs; and, (3) reasonable contingencies related to all of these costs. If the Owner significantly increases or decreases the Owner's budget for the Cost of the Work, the Owner shall notify the Architect. The Owner and the Architect shall thereafter agree to a corresponding change in the Project's scope and quality.

§ 5.3 The Owner shall identify a representative authorized to act on the Owner's behalf with respect to the Project. The Owner shall render decisions and approve the Architect's submittals in a timely manner in order to avoid unreasonable delay in the orderly and sequential progress of the Architect's services.

§ 5.4 The Owner shall furnish surveys to describe physical characteristics, legal limitations and utility locations for the site of the Project, and a written legal description of the site. The surveys and legal information shall include, as applicable, grades and lines of streets, alleys, pavements and adjoining property and structures; designated wetlands; adjacent drainage; rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries and contours of the site; locations, dimensions and necessary data with respect to existing buildings, other improvements and trees; and information concerning available utility services and lines, both public and private, above and below grade, including inverts and depths. All the information on the survey shall be referenced to a Project benchmark.

§ 5.5 The Owner shall furnish services of geotechnical engineers, which may include but are not limited to test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials, seismic evaluation, ground corrosion tests and resistivity tests, including necessary operations for anticipating subsoil conditions, with written reports and appropriate recommendations.

§ 5.6 The Owner shall coordinate the services of its own consultants with those services provided by the Architect. Upon the Architect's request, the Owner shall furnish copies of the scope of services in the contracts between the Owner and the Owner's consultants. The Owner shall furnish the services of consultants other than those designated in this Agreement, or authorize the Architect to furnish them as an Additional Service, when the Architect requests such services and demonstrates that they are reasonably required by the scope of the Project. The Owner shall require that its consultants maintain professional liability insurance as appropriate to the services provided.

§ 5.7 The Owner shall furnish tests, inspections and reports required by law or the Contract Documents, such as structural, mechanical, and chemical tests, tests for air and water pollution, and tests for hazardous materials.

§ 5.8 The Owner shall furnish all legal, insurance and accounting services, including auditing services, that may be reasonably necessary at any time for the Project to meet the Owner's needs and interests.

§ 5.9 The Owner shall provide prompt written notice to the Architect if the Owner becomes aware of any fault or defect in the Project, including errors, omissions or inconsistencies in the Architect's Instruments of Service.

§ 5.10 Except as otherwise provided in this Agreement, or when direct communications have been specially authorized, the Owner shall endeavor to communicate with the Contractor and the Architect's consultants through the Architect about matters arising out of or relating to the Contract Documents. The Owner shall promptly notify the Architect of any direct communications that may affect the Architect's services.

§ 5.11 Before executing the Contract for Construction, the Owner shall coordinate the Architect's duties and responsibilities set forth in the Contract for Construction with the Architect's services set forth in this Agreement. The Owner shall provide the Architect a copy of the executed agreement between the Owner and Contractor, including the General Conditions of the Contract for Construction.

§ 5.12 The Owner shall provide the Architect access to the Project site prior to commencement of the Work and shall obligate the Contractor to provide the Architect access to the Work wherever it is in preparation or progress.

ARTICLE 6 COST OF THE WORK

§ 6.1 For purposes of this Agreement, the Cost of the Work shall be the total cost to the Owner to construct all elements of the Project designed or specified by the Architect and shall include contractors' general conditions costs, overhead and profit. The Cost of the Work does not include the compensation of the Architect, the costs of the land, rights-of-way, financing, contingencies for changes in the Work or other costs that are the responsibility of the Owner.

§ 6.2 The Owner's budget for the Cost of the Work is provided in Initial Information, and may be adjusted throughout the Project as required under Sections 5.2, 6.4 and 6.5. Evaluations of the Owner's budget for the Cost of the Work, the preliminary estimate of the Cost of the Work and updated estimates of the Cost of the Work prepared by the Architect, represent the Architect's judgment as a design professional. It is recognized, however, that neither the Architect nor the Owner has control over the cost of labor, materials or equipment; the Contractor's methods of determining bid prices; or competitive bidding, market or negotiating conditions. Accordingly, the Architect cannot and does not warrant or represent that bids or negotiated prices will not vary from the Owner's budget for the Cost of the Work or from any estimate of the Cost of the Work or evaluation prepared or agreed to by the Architect.

§ 6.3 In preparing estimates of the Cost of Work, the Architect shall be permitted to include contingencies for design, bidding and price escalation; to determine what materials, equipment, component systems and types of construction are to be included in the Contract Documents; to make reasonable adjustments in the program and scope of the Project; and to include in the Contract Documents alternate bids as may be necessary to adjust the estimated Cost of the Work to meet the Owner's budget for the Cost of the Work. The Architect's estimate of the Cost of the Work shall be based on current area, volume or similar conceptual estimating techniques. If the Owner requests detailed cost estimating services, the Architect shall provide such services as an Additional Service under Article 4.

§ 6.4 If the Bidding or Negotiation Phase has not commenced within 90 days after the Architect submits the Construction Documents to the Owner, through no fault of the Architect, the Owner's budget for the Cost of the Work shall be adjusted to reflect changes in the general level of prices in the applicable construction market.

§ 6.5 If at any time the Architect's estimate of the Cost of the Work exceeds the Owner's budget for the Cost of the Work, the Architect shall make appropriate recommendations to the Owner to adjust the Project's size, quality or budget for the Cost of the Work, and the Owner shall cooperate with the Architect in making such adjustments.

§ 6.6 If the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services is exceeded by the lowest bona fide bid or negotiated proposal, the Owner shall

- .1 give written approval of an increase in the budget for the Cost of the Work;
- .2 authorize rebidding or renegotiating of the Project within a reasonable time;
- .3 terminate in accordance with Section 9.5;
- .4 in consultation with the Architect, revise the Project program, scope, or quality as required to reduce the Cost of the Work; or
- .5 implement any other mutually acceptable alternative.

§ 6.7 If the Owner chooses to proceed under Section 6.6.4, the Architect, without additional compensation, shall modify the Construction Documents as necessary to comply with the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services, or the budget as adjusted under Section 6.6.1. The Architect's modification of the Construction Documents shall be the limit of the Architect's responsibility under this Article 6.

ARTICLE 7 COPYRIGHTS AND LICENSES

§ 7.1 The Architect and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project. If the Owner and Architect intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions.

§ 7.2 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and shall retain all common law, statutory and other reserved rights, including copyrights. Submission or distribution of Instruments of Service to meet official regulatory requirements or for similar purposes in connection with the Project is not to be construed as publication in derogation of the reserved rights of the Architect and the Architect's consultants.

§ 7.3 Upon execution of this Agreement, the Architect grants to the Owner a nonexclusive license to use the Architect's Instruments of Service solely and exclusively for purposes of constructing, using, maintaining, altering and adding to the Project, provided that the Owner substantially performs its obligations, including prompt payment of all sums when due, under this Agreement. The Architect shall obtain similar nonexclusive licenses from the Architect's consultants consistent with this Agreement. The license granted under this section permits the Owner to authorize the Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers, as well as the Owner's consultants and separate contractors, to reproduce applicable portions of the Instruments of Service solely and exclusively for use in performing services or construction for the Project. If the Architect rightfully terminates this Agreement for cause as provided in Section 9.4, the license granted in this Section 7.3 shall terminate.

§ 7.3.1 In the event the Owner uses the Instruments of Service without retaining the author of the Instruments of Service, the Owner releases the Architect and Architect's consultant(s) from all claims and causes of action arising from such uses. The Owner, to the extent permitted by law, further agrees to indemnify and hold harmless the

Architect and its consultants from all costs and expenses, including the cost of defense, related to claims and causes of action asserted by any third person or entity to the extent such costs and expenses arise from the Owner's use of the Instruments of Service under this Section 7.3.1. The terms of this Section 7.3.1 shall not apply if the Owner rightfully terminates this Agreement for cause under Section 9.4.

§ 7.4 Except for the licenses granted in this Article 7, no other license or right shall be deemed granted or implied under this Agreement. The Owner shall not assign, delegate, sublicense, pledge or otherwise transfer any license granted herein to another party without the prior written agreement of the Architect. Any unauthorized use of the Instruments of Service shall be at the Owner's sole risk and without liability to the Architect and the Architect's consultants.

ARTICLE 8 CLAIMS AND DISPUTES

§ 8.1 GENERAL

§ 8.1.1 The Owner and Architect shall commence all claims and causes of action, whether in contract, tort, or otherwise, against the other arising out of or related to this Agreement in accordance with the requirements of the method of binding dispute resolution selected in this Agreement within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Architect waive all claims and causes of action not commenced in accordance with this Section 8.1.1.

§ 8.1.2 To the extent damages are covered by property insurance, the Owner and Architect waive all rights against each other and against the contractors, consultants, agents and employees of the other for damages, except such rights as they may have to the proceeds of such insurance as set forth in AIA Document A201-2007, General Conditions of the Contract for Construction. The Owner or the Architect, as appropriate, shall require of the contractors, consultants, agents and employees of any of them similar waivers in favor of the other parties enumerated herein.

§ 8.1.3 The Architect and Owner waive consequential damages for claims, disputes or other matters in question arising out of or relating to this Agreement. This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination of this Agreement, except as specifically provided in Section 9.7.

§ 8.2 MEDIATION

§ 8.2.1 Any claim, dispute or other matter in question arising out of or related to this Agreement shall be subject to mediation as a condition precedent to binding dispute resolution. If such matter relates to or is the subject of a lien arising out of the Architect's services, the Architect may proceed in accordance with applicable law to comply with the lien notice or filing deadlines prior to resolution of the matter by mediation or by binding dispute resolution.

§ 8.2.2 The Owner and Architect shall endeavor to resolve claims, disputes and other matters in question between them by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of a complaint or other appropriate demand for binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration proceeding is stayed pursuant to this section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 8.2.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 8.2.4 If the parties do not resolve a dispute through mediation pursuant to this Section 8.2, the method of binding dispute resolution shall be the following:
(Check the appropriate box. If the Owner and Architect do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, the dispute will be resolved in a court of competent jurisdiction.)

Arbitration pursuant to Section 8.3 of this Agreement

Init.

- Litigation in a court of competent jurisdiction
- Other (Specify)

§ 8.3 ARBITRATION

§ 8.3.1 If the parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, dispute or other matter in question arising out of or related to this Agreement subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of this Agreement. A demand for arbitration shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the arbitration.

§ 8.3.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the claim, dispute or other matter in question would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the claim, dispute or other matter in question.

§ 8.3.2 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to this Agreement shall be specifically enforceable in accordance with applicable law in any court having jurisdiction thereof.

§ 8.3.3 The award rendered by the arbitrator(s) shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 8.3.4 CONSOLIDATION OR JOINDER

§ 8.3.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation; (2) the arbitrations to be consolidated substantially involve common questions of law or fact; and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 8.3.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 8.3.4.3 The Owner and Architect grant to any person or entity made a party to an arbitration conducted under this Section 8.3, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Architect under this Agreement.

ARTICLE 9 TERMINATION OR SUSPENSION

§ 9.1 If the Owner fails to make payments to the Architect in accordance with this Agreement, such failure shall be considered substantial nonperformance and cause for termination or, at the Architect's option, cause for suspension of performance of services under this Agreement. If the Architect elects to suspend services, the Architect shall give seven days' written notice to the Owner before suspending services. In the event of a suspension of services, the Architect shall have no liability to the Owner for delay or damage caused the Owner because of such suspension of services. Before resuming services, the Architect shall be paid all sums due prior to suspension and any expenses incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 9.2 If the Owner suspends the Project, the Architect shall be compensated for services performed prior to notice of such suspension. When the Project is resumed, the Architect shall be compensated for expenses incurred in the

interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 9.3 If the Owner suspends the Project for more than 90 cumulative days for reasons other than the fault of the Architect, the Architect may terminate this Agreement by giving not less than seven days' written notice.

§ 9.4 Either party may terminate this Agreement upon not less than seven days' written notice should the other party fail substantially to perform in accordance with the terms of this Agreement through no fault of the party initiating the termination.

§ 9.5 The Owner may terminate this Agreement upon not less than seven days' written notice to the Architect for the Owner's convenience and without cause.

§ 9.6 In the event of termination not the fault of the Architect, the Architect shall be compensated for services performed prior to termination, together with Reimbursable Expenses then due and all Termination Expenses as defined in Section 9.7.

§ 9.7 Termination Expenses are in addition to compensation for the Architect's services and include expenses directly attributable to termination for which the Architect is not otherwise compensated, plus an amount for the Architect's anticipated profit on the value of the services not performed by the Architect.

§ 9.8 The Owner's rights to use the Architect's Instruments of Service in the event of a termination of this Agreement are set forth in Article 7 and Section 11.9.

ARTICLE 10 MISCELLANEOUS PROVISIONS

§ 10.1 This Agreement shall be governed by the law of the place where the Project is located, except that if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 8.3.

§ 10.2 Terms in this Agreement shall have the same meaning as those in AIA Document A201-2007, General Conditions of the Contract for Construction.

§ 10.3 The Owner and Architect, respectively, bind themselves, their agents, successors, assigns and legal representatives to this Agreement. Neither the Owner nor the Architect shall assign this Agreement without the written consent of the other, except that the Owner may assign this Agreement to a lender providing financing for the Project if the lender agrees to assume the Owner's rights and obligations under this Agreement.

§ 10.4 If the Owner requests the Architect to execute certificates, the proposed language of such certificates shall be submitted to the Architect for review at least 14 days prior to the requested dates of execution. If the Owner requests the Architect to execute consents reasonably required to facilitate assignment to a lender, the Architect shall execute all such consents that are consistent with this Agreement, provided the proposed consent is submitted to the Architect for review at least 14 days prior to execution. The Architect shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of this Agreement.

§ 10.5 Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Owner or Architect.

§ 10.6 Unless otherwise required in this Agreement, the Architect shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials or toxic substances in any form at the Project site.

§ 10.7 The Architect shall have the right to include photographic or artistic representations of the design of the Project among the Architect's promotional and professional materials. The Architect shall be given reasonable access to the completed Project to make such representations. However, the Architect's materials shall not include the Owner's confidential or proprietary information if the Owner has previously advised the Architect in writing of the specific information considered by the Owner to be confidential or proprietary. The Owner shall provide professional credit for the Architect in the Owner's promotional materials for the Project.

§ 10.8 If the Architect or Owner receives information specifically designated by the other party as "confidential" or "business proprietary," the receiving party shall keep such information strictly confidential and shall not disclose it to any other person except to (1) its employees, (2) those who need to know the content of such information in order to perform services or construction solely and exclusively for the Project, or (3) its consultants and contractors whose contracts include similar restrictions on the use of confidential information.

ARTICLE 11 COMPENSATION

§ 11.1 For the Architect's Basic Services described under Article 3, the Owner shall compensate the Architect as follows:

(Insert amount of, or basis for, compensation.)

Seven and ~~One-Half Percent~~ (7 1/2%) ^{of cost} of cost of construction **7% GNK/A 9 JULY 13**

§ 11.2 For Additional Services designated in Section 4.1, the Owner shall compensate the Architect as follows:
(Insert amount of, or basis for, compensation. If necessary, list specific services to which particular methods of compensation apply.)

Not Applicable

§ 11.3 For Additional Services that may arise during the course of the Project, including those under Section 4.3, the Owner shall compensate the Architect as follows:

(Insert amount of, or basis for, compensation.)

Hourly in accordance with Paragraph 11.7

§ 11.4 Compensation for Additional Services of the Architect's consultants when not included in Section 11.2 or 11.3, shall be the amount invoiced to the Architect plus Twenty-five percent (25.00 %), or as otherwise stated below:

§ 11.5 Where compensation for Basic Services is based on a stipulated sum or percentage of the Cost of the Work, the compensation for each phase of services shall be as follows:

Schematic Design Phase	Fifteen	percent (	15	%)
Design Development Phase	Twenty	percent (	20	%)
Construction Documents Phase	Forty	percent (	40	%)
Bidding or Negotiation Phase	Five	percent (	5	%)
Construction Phase	Twenty	percent (	20	%)
Total Basic Compensation	one hundred	percent (	100	%)

§ 11.6 When compensation is based on a percentage of the Cost of the Work and any portions of the Project are deleted or otherwise not constructed, compensation for those portions of the Project shall be payable to the extent services are performed on those portions, in accordance with the schedule set forth in Section 11.5 based on (1) the lowest bona fide bid or negotiated proposal, or (2) if no such bid or proposal is received, the most recent estimate of the Cost of the Work for such portions of the Project. The Architect shall be entitled to compensation in accordance with this Agreement for all services performed whether or not the Construction Phase is commenced.

§ 11.7 The hourly billing rates for services of the Architect and the Architect's consultants, if any, are set forth below. The rates shall be adjusted in accordance with the Architect's and Architect's consultants' normal review practices. *(If applicable, attach an exhibit of hourly billing rates or insert them below.)*

Exhibit B – Hourly Fee Schedule

Employee or Category

Rate

§ 11.8 COMPENSATION FOR REIMBURSABLE EXPENSES

§ 11.8.1 Reimbursable Expenses are in addition to compensation for Basic and Additional Services and include expenses incurred by the Architect and the Architect's consultants directly related to the Project, as follows:

- .1 Transportation and authorized out-of-town travel and subsistence;
- .2 Long distance services, dedicated data and communication services, teleconferences, Project Web sites, and extranets;
- .3 Fees paid for securing approval of authorities having jurisdiction over the Project;
- .4 Printing, reproductions, plots, standard form documents;
- .5 Postage, handling and delivery;
- .6 Expense of overtime work requiring higher than regular rates, if authorized in advance by the Owner;
- .7 Renderings, models, mock-ups, professional photography, and presentation materials requested by the Owner;
- .8 Architect's Consultant's expense of professional liability insurance dedicated exclusively to this Project, or the expense of additional insurance coverage or limits if the Owner requests such insurance in excess of that normally carried by the Architect's consultants;
- .9 All taxes levied on professional services and on reimbursable expenses;
- .10 Site office expenses; and
- .11 Other similar Project-related expenditures.

§ 11.8.2 For Reimbursable Expenses the compensation shall be the expenses incurred by the Architect and the Architect's consultants plus Twenty Five percent (25 %) of the expenses incurred.

§ 11.9 COMPENSATION FOR USE OF ARCHITECT'S INSTRUMENTS OF SERVICE

If the Owner terminates the Architect for its convenience under Section 9.5, or the Architect terminates this Agreement under Section 9.3, the Owner shall pay a licensing fee as compensation for the Owner's continued use of the Architect's Instruments of Service solely for purposes of completing, using and maintaining the Project as follows:

§ 11.10 PAYMENTS TO THE ARCHITECT

§ 11.10.1 An initial payment of Zero Dollars and Zero Cents (\$ 0.00) shall be made upon execution of this Agreement and is the minimum payment under this Agreement. It shall be credited to the Owner's account in the final invoice.

§ 11.10.2 Unless otherwise agreed, payments for services shall be made monthly in proportion to services performed. Payments are due and payable upon presentation of the Architect's invoice. Amounts unpaid Twenty-one (21) days after the invoice date shall bear interest at the rate entered below, or in the absence thereof at the legal rate prevailing from time to time at the principal place of business of the Architect.
(Insert rate of monthly or annual interest agreed upon.)

5.50 % per annum

§ 11.10.3 The Owner shall not withhold amounts from the Architect's compensation to impose a penalty or liquidated damages on the Architect, or to offset sums requested by or paid to contractors for the cost of changes in the Work unless the Architect agrees or has been found liable for the amounts in a binding dispute resolution proceeding.

§ 11.10.4 Records of Reimbursable Expenses, expenses pertaining to Additional Services, and services performed on the basis of hourly rates shall be available to the Owner at mutually convenient times.

ARTICLE 12 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Agreement are as follows:

Init.

ARTICLE 13 SCOPE OF THE AGREEMENT

§ 13.1 This Agreement represents the entire and integrated agreement between the Owner and the Architect and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both Owner and Architect.

§ 13.2 This Agreement is comprised of the following documents listed below:

- .1 AIA Document B101™-2007, Standard Form Agreement Between Owner and Architect
- .2 AIA Document B101™-2007, Exhibit A

.3 Other documents:

- 1. Exhibit B – Hourly Fee Schedule

This Agreement entered into as of the day and year first written above.

OWNER

ARCHITECT

(Signature)

Harold Perrin, Mayor
City Of Jonesboro

(Printed name and title)

(Signature)

George J. Krennerich III, President
Brackett – Krennerich & Associates P.A.

(Printed name and title)



AIA[®]

Document B101[™] – 2007 Exhibit A

Initial Information

for the following PROJECT:

(Name and location or address)

Renovations to Armory Building
Jonesboro Police Department
Jonesboro, Arkansas

THE OWNER:

(Name, legal status and address)

City of Jonesboro
515 W. Washington Ave.
Jonesboro, Arkansas 72401

THE ARCHITECT:

(Name, legal status and address)

Brackett Krennerich & Associates P.A.
100 E. Huntington Ave., Suite D
Jonesboro, AR 72401

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

This Agreement is based on the following information.

(Note the disposition for the following items by inserting the requested information or a statement such as "not applicable," "unknown at time of execution" or "to be determined later by mutual agreement.")

ARTICLE A.1 PROJECT INFORMATION

§ A.1.1 The Owner's program for the Project:

(Identify documentation or state the manner in which the program will be developed.)

To be provided by Owner.

§ A.1.2 The Project's physical characteristics:

(Identify or describe, if appropriate, size, location, dimensions, or other pertinent information, such as geotechnical reports; site, boundary and topographic surveys; traffic and utility studies; availability of public and private utilities and services; legal description of the site; etc.)

All renovation work to be completed to existing building, Jonesboro, Arkansas

§ A.1.3 The Owner's budget for the Cost of the Work, as defined in Section 6.1:

(Provide total, and if known, a line item break down.)

To be determined by Owner

§ A.1.4 The Owner's other anticipated scheduling information, if any, not provided in Section 1.2:

Init.

| To be determined

§ A.1.5 The Owner intends the following procurement or delivery method for the Project:
(Identify method such as competitive bid, negotiated contract, or construction management.)

| Competitive Bid

§ A.1.6 Other Project information:
(Identify special characteristics or needs of the Project not provided elsewhere, such as environmentally responsible design or historic preservation requirements.)

| None Stipulated

ARTICLE A.2 PROJECT TEAM

§ A.2.1 The Owner identifies the following representative in accordance with Section 5.3:
(List name, address and other information.)

| Harold Perrin, Mayor
300 South Church Street.
Jonesboro, Arkansas 72401

§ A.2.2 The persons or entities, in addition to the Owner's representative, who are required to review the Architect's submittals to the Owner are as follows:
(List name, address and other information.)

1. Arkansas State Building Authority - ADA Review
2. Arkansas State Fire Marshall - Code Compliance
3. Arkansas State Department of Health - Plumbing Review

§ A.2.3 The Owner will retain the following consultants and contractors:
(List discipline and, if known, identify them by name and address.)

| None Listed

§ A.2.4 The Architect identifies the following representative in accordance with Section 2.3:
(List name, address and other information.)

| George J. Krennerich III/Kyle Cook
100 E. Huntington Ave., Suite D
Jonesboro, AR 72401
870-932-0571

| Email Address: george@bkarchts.com kylec@bkarchts.com

§ A.2.5 The Architect will retain the consultants identified in Sections A.2.5.1 and A.2.5.2.
(List discipline and, if known, identify them by name, legal status, address and other information.)

§ A.2.5.1 Consultants retained under Basic Services:

- .1 Structural Engineer

Init.

Engineering Consultants, Inc.
401 West Capitol, Suite 305
Little Rock, AR 72201
Telephone Number: 501-376-3752
Fax Number: 501-376-7314

.2 Mechanical Engineer

Pettit & Pettit Consulting Engineers

Heritage West Building, Suite 400
201 E. Markham Street
Little Rock, AR 72201-1631
Telephone Number: 501-374-3731
Fax Number: 501-374-1802

.3 Electrical Engineer

Pettit & Pettit Consulting Engineers Inc.

Heritage West Building, Suite 400
201 E. Markham Street
Little Rock, AR 72201-1631
Telephone Number: 501-374-3731
Fax Number: 501-374-1802

§ A.2.5.2 Consultants retained under Additional Services:

Not Stipulated

§ A.2.6 Other Initial Information on which the Agreement is based:
(Provide other Initial Information.)



**BRACKETT
KRENNERICH**

architects

Exhibit "B" Hourly Rate Schedule

George J. Krennerich, Principal Architect.....	\$190.00 per hour
Jeff Herren, Principal Architect.....	\$190.00 per hour
Kyle Cook, Principal Architect.....	\$190.00 per hour
Jerry W. Brackett, Senior Staff Architect.....	\$190.00 per hour
Todd Welch, Staff Architect.....	\$125.00 per hour
Dwight Callaway, Staff Architect.....	\$125.00 per hour
Steve Schoettle, Intern Architect.....	\$125.00 per hour
Libii Fairhead, Interior Designer.....	\$60.00 per hour
Kyle Krennerich, CADD Drafter/Construction Coordinator.....	\$75.00 per hour
Rick Jackson, CADD Drafter/Computer Systems.....	\$75.00 per hour
Chris Ormond, Computer Drafter.....	\$50.00 per hour
David Schaefering, Construction Coordinator.....	\$75.00 per hour
Dede Harper Hillis, Administrative Assistant.....	\$80.00 per hour
Donna Jackson, Secretary.....	\$60.00 per hour

100 East Huntington Avenue, Suite D
Jonesboro, AR 72401
P: 870.932.0571 F: 870.932.0975

George J. Krennerich III, AIA | Jeff Herren, AIA, LEED AP BD+C | Kyle Cook, AIA



Legislation Details (With Text)

File #:	RES-13:114	Version:	1	Name:	Contract with Brackett Krennerich for Fire Station #5
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	7/8/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:		Final action:	
Title:	RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS APPROVING A CONTRACT FOR ARCHITECTURAL SERVICES WITH BRACKETT KRENNERICH & ASSOCIATES, P.A. FOR ARCHITECTURAL SERVICES FOR FIRE STATION #5 LOCATED ON NEELY ROAD				
Sponsors:	Mayor's Office				
Indexes:	Contract				
Code sections:					
Attachments:	Fire Station 5 Brackett Krennerich Contract				

Date	Ver.	Action By	Action	Result
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RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS APPROVING A CONTRACT FOR ARCHITECTURAL SERVICES WITH BRACKETT KRENNERICH & ASSOCIATES, P.A. FOR ARCHITECTURAL SERVICES FOR FIRE STATION #5 LOCATED ON NEELY ROAD WHEREAS, the City of Jonesboro, Arkansas desires to obtain the services of Brackett Krennerich Associates, P.A. to construct Fire Station #5 to be located on Neely Road

WHEREAS, this contract has been recommended by the Public Works Committee.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF JONESBORO, ARKANSAS, THAT:

Section 1: The City of Jonesboro approves the contract for architectural services with Brackett Krennerich for the construction of Fire Station #5 located on Neely Road.

Section 2: The Mayor, Harold Perrin, and City Clerk, Donna Jackson are hereby authorized by the City Council for the City of Jonesboro to execute all documents necessary to effectuate this agreement.



AIA[®] Document B101[™] – 2007

Standard Form of Agreement Between Owner and Architect

AGREEMENT made as of the Eighth day of July in the year Two Thousand Thirteen

(In words, indicate day, month and year.)

BETWEEN the Architect's client identified as the Owner:

(Name, legal status, address and other information)

City of Jonesboro
300 South Church Street
Jonesboro, Arkansas 72401

and the Architect:

(Name, legal status, address and other information)

Brackett Krennerich & Associates P.A.
100 E. Huntington Ave., Suite D
Jonesboro, AR 72401
Telephone Number: 870-932-0571
Fax Number: 870-932-0975

for the following Project:

(Name, location and detailed description)

Fire Station #5
City of Jonesboro
Jonesboro, Arkansas

The Owner and Architect agree as follows.

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Init.

TABLE OF ARTICLES

- 1 INITIAL INFORMATION
- 2 ARCHITECT'S RESPONSIBILITIES
- 3 SCOPE OF ARCHITECT'S BASIC SERVICES
- 4 ADDITIONAL SERVICES
- 5 OWNER'S RESPONSIBILITIES
- 6 COST OF THE WORK
- 7 COPYRIGHTS AND LICENSES
- 8 CLAIMS AND DISPUTES
- 9 TERMINATION OR SUSPENSION
- 10 MISCELLANEOUS PROVISIONS
- 11 COMPENSATION
- 12 SPECIAL TERMS AND CONDITIONS
- 13 SCOPE OF THE AGREEMENT

EXHIBIT A INITIAL INFORMATION

ARTICLE 1 INITIAL INFORMATION

§ 1.1 This Agreement is based on the Initial Information set forth in this Article 1 and in optional Exhibit A, Initial Information:

See Attached Exhibit A – AIA Document B101 – 2007 Exhibit A Initial Information
See Attached Exhibit B – Hourly Fee Schedule

§ 1.2 The Owner's anticipated dates for commencement of construction and Substantial Completion of the Work are set forth below:

.1 Commencement of construction date:

To be determined

.2 Substantial Completion date:

To be determined

§ 1.3 The Owner and Architect may rely on the Initial Information. Both parties, however, recognize that such information may materially change and, in that event, the Owner and the Architect shall appropriately adjust the schedule, the Architect's services and the Architect's compensation.

ARTICLE 2 ARCHITECT'S RESPONSIBILITIES

§ 2.1 The Architect shall provide the professional services as set forth in this Agreement.

Init.

§ 2.2 The Architect shall perform its services consistent with the professional skill and care ordinarily provided by architects practicing in the same or similar locality under the same or similar circumstances. The Architect shall perform its services as expeditiously as is consistent with such professional skill and care and the orderly progress of the Project.

§ 2.3 The Architect shall identify a representative authorized to act on behalf of the Architect with respect to the Project.

§ 2.4 Except with the Owner's knowledge and consent, the Architect shall not engage in any activity, or accept any employment, interest or contribution that would reasonably appear to compromise the Architect's professional judgment with respect to this Project.

§ 2.5 The Architect shall maintain the following insurance for the duration of this Agreement. If any of the requirements set forth below exceed the types and limits the Architect normally maintains, the Owner shall reimburse the Architect for any additional cost:

(Identify types and limits of insurance coverage, and other insurance requirements applicable to the Agreement, if any.)

.1 General Liability

\$1,000,000.00

.2 Automobile Liability

\$1,000,000.00

.3 Workers' Compensation

Bodily Injury by Accident \$100,000.00 Each Accident

Bodily Injury by Disease \$500,000.00 Policy Limit

Bodily Injury by Disease \$100,000.00 Each Employee

.4 Professional Liability

\$1,000,000.00

ARTICLE 3 SCOPE OF ARCHITECT'S BASIC SERVICES

§ 3.1 The Architect's Basic Services consist of those described in Article 3 and include usual and customary structural, mechanical, and electrical engineering services. Services not set forth in this Article 3 are Additional Services.

§ 3.1.1 The Architect shall manage the Architect's services, consult with the Owner, research applicable design criteria, attend Project meetings, communicate with members of the Project team and report progress to the Owner.

§ 3.1.2 The Architect shall coordinate its services with those services provided by the Owner and the Owner's consultants. The Architect shall be entitled to rely on the accuracy and completeness of services and information furnished by the Owner and the Owner's consultants. The Architect shall provide prompt written notice to the Owner if the Architect becomes aware of any error, omission or inconsistency in such services or information.

§ 3.1.3 As soon as practicable after the date of this Agreement, the Architect shall submit for the Owner's approval a schedule for the performance of the Architect's services. The schedule initially shall include anticipated dates for the commencement of construction and for Substantial Completion of the Work as set forth in the Initial Information. The schedule shall include allowances for periods of time required for the Owner's review, for the performance of the Owner's consultants, and for approval of submissions by authorities having jurisdiction over the Project. Once approved by the Owner, time limits established by the schedule shall not, except for reasonable cause, be exceeded by the Architect or Owner. With the Owner's approval, the Architect shall adjust the schedule, if necessary as the Project proceeds until the commencement of construction.

§ 3.1.4 The Architect shall not be responsible for an Owner's directive or substitution made without the Architect's approval.

§ 3.1.5 The Architect shall, at appropriate times, contact the governmental authorities required to approve the Construction Documents and the entities providing utility services to the Project. In designing the Project, the Architect shall respond to applicable design requirements imposed by such governmental authorities and by such entities providing utility services.

§ 3.1.6 The Architect shall assist the Owner in connection with the Owner's responsibility for filing documents required for the approval of governmental authorities having jurisdiction over the Project.

§ 3.2 SCHEMATIC DESIGN PHASE SERVICES

§ 3.2.1 The Architect shall review the program and other information furnished by the Owner, and shall review laws, codes, and regulations applicable to the Architect's services.

§ 3.2.2 The Architect shall prepare a preliminary evaluation of the Owner's program, schedule, budget for the Cost of the Work, Project site, and the proposed procurement or delivery method and other Initial Information, each in terms of the other, to ascertain the requirements of the Project. The Architect shall notify the Owner of (1) any inconsistencies discovered in the information, and (2) other information or consulting services that may be reasonably needed for the Project.

§ 3.2.3 The Architect shall present its preliminary evaluation to the Owner and shall discuss with the Owner alternative approaches to design and construction of the Project, including the feasibility of incorporating environmentally responsible design approaches. The Architect shall reach an understanding with the Owner regarding the requirements of the Project.

§ 3.2.4 Based on the Project's requirements agreed upon with the Owner, the Architect shall prepare and present for the Owner's approval a preliminary design illustrating the scale and relationship of the Project components.

§ 3.2.5 Based on the Owner's approval of the preliminary design, the Architect shall prepare Schematic Design Documents for the Owner's approval. The Schematic Design Documents shall consist of drawings and other documents including a site plan, if appropriate, and preliminary building plans, sections and elevations; and may include some combination of study models, perspective sketches, or digital modeling. Preliminary selections of major building systems and construction materials shall be noted on the drawings or described in writing.

§ 3.2.5.1 The Architect shall consider environmentally responsible design alternatives, such as material choices and building orientation, together with other considerations based on program and aesthetics, in developing a design that is consistent with the Owner's program, schedule and budget for the Cost of the Work. The Owner may obtain other environmentally responsible design services under Article 4.

§ 3.2.5.2 The Architect shall consider the value of alternative materials, building systems and equipment, together with other considerations based on program and aesthetics, in developing a design for the Project that is consistent with the Owner's program, schedule and budget for the Cost of the Work.

§ 3.2.6 The Architect shall submit to the Owner an estimate of the Cost of the Work prepared in accordance with Section 6.3.

§ 3.2.7 The Architect shall submit the Schematic Design Documents to the Owner, and request the Owner's approval.

§ 3.3 DESIGN DEVELOPMENT PHASE SERVICES

§ 3.3.1 Based on the Owner's approval of the Schematic Design Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the Architect shall prepare Design Development Documents for the Owner's approval. The Design Development Documents shall illustrate and describe the development of the approved Schematic Design Documents and shall consist of drawings and other documents including plans, sections, elevations, typical construction details, and diagrammatic layouts of building systems to fix and describe the size and character of the Project as to architectural, structural, mechanical and electrical systems, and

such other elements as may be appropriate. The Design Development Documents shall also include outline specifications that identify major materials and systems and establish in general their quality levels.

§ 3.3.2 The Architect shall update the estimate of the Cost of the Work.

§ 3.3.3 The Architect shall submit the Design Development documents to the Owner, advise the Owner of any adjustments to the estimate of the Cost of the Work, and request the Owner's approval.

§ 3.4 CONSTRUCTION DOCUMENTS PHASE SERVICES

§ 3.4.1 Based on the Owner's approval of the Design Development Documents, and on the Owner's authorization of any adjustments in the Project requirements and the budget for the Cost of the Work, the Architect shall prepare Construction Documents for the Owner's approval. The Construction Documents shall illustrate and describe the further development of the approved Design Development Documents and shall consist of Drawings and Specifications setting forth in detail the quality levels of materials and systems and other requirements for the construction of the Work. The Owner and Architect acknowledge that in order to construct the Work the Contractor will provide additional information, including Shop Drawings, Product Data, Samples and other similar submittals, which the Architect shall review in accordance with Section 3.6.4.

§ 3.4.2 The Architect shall incorporate into the Construction Documents the design requirements of governmental authorities having jurisdiction over the Project.

§ 3.4.3 During the development of the Construction Documents, the Architect shall assist the Owner in the development and preparation of (1) bidding and procurement information that describes the time, place and conditions of bidding, including bidding or proposal forms; (2) the form of agreement between the Owner and Contractor; and (3) the Conditions of the Contract for Construction (General, Supplementary and other Conditions). The Architect shall also compile a project manual that includes the Conditions of the Contract for Construction and Specifications and may include bidding requirements and sample forms.

§ 3.4.4 The Architect shall update the estimate for the Cost of the Work.

§ 3.4.5 The Architect shall submit the Construction Documents to the Owner, advise the Owner of any adjustments to the estimate of the Cost of the Work, take any action required under Section 6.5, and request the Owner's approval.

§ 3.5 BIDDING OR NEGOTIATION PHASE SERVICES

§ 3.5.1 GENERAL

The Architect shall assist the Owner in establishing a list of prospective contractors. Following the Owner's approval of the Construction Documents, the Architect shall assist the Owner in (1) obtaining either competitive bids or negotiated proposals; (2) confirming responsiveness of bids or proposals; (3) determining the successful bid or proposal, if any; and, (4) awarding and preparing contracts for construction.

§ 3.5.2 COMPETITIVE BIDDING

§ 3.5.2.1 Bidding Documents shall consist of bidding requirements and proposed Contract Documents.

§ 3.5.2.2 The Architect shall assist the Owner in bidding the Project by

- .1 procuring the reproduction of Bidding Documents for distribution to prospective bidders;
- .2 distributing the Bidding Documents to prospective bidders, requesting their return upon completion of the bidding process, and maintaining a log of distribution and retrieval and of the amounts of deposits, if any, received from and returned to prospective bidders;
- .3 organizing and conducting a pre-bid conference for prospective bidders;
- .4 preparing responses to questions from prospective bidders and providing clarifications and interpretations of the Bidding Documents to all prospective bidders in the form of addenda; and
- .5 organizing and conducting the opening of the bids, and subsequently documenting and distributing the bidding results, as directed by the Owner.

§ 3.5.2.3 The Architect shall consider requests for substitutions, if the Bidding Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective bidders.

§ 3.5.3 NEGOTIATED PROPOSALS

§ 3.5.3.1 Proposal Documents shall consist of proposal requirements and proposed Contract Documents.

§ 3.5.3.2 The Architect shall assist the Owner in obtaining proposals by

- .1 procuring the reproduction of Proposal Documents for distribution to prospective contractors, and requesting their return upon completion of the negotiation process;
- .2 organizing and participating in selection interviews with prospective contractors; and
- .3 participating in negotiations with prospective contractors, and subsequently preparing a summary report of the negotiation results, as directed by the Owner.

§ 3.5.3.3 The Architect shall consider requests for substitutions, if the Proposal Documents permit substitutions, and shall prepare and distribute addenda identifying approved substitutions to all prospective contractors.

§ 3.6 CONSTRUCTION PHASE SERVICES

§ 3.6.1 GENERAL

§ 3.6.1.1 The Architect shall provide administration of the Contract between the Owner and the Contractor as set forth below and in AIA Document A201™–2007, General Conditions of the Contract for Construction. If the Owner and Contractor modify AIA Document A201–2007, those modifications shall not affect the Architect’s services under this Agreement unless the Owner and the Architect amend this Agreement.

§ 3.6.1.2 The Architect shall advise and consult with the Owner during the Construction Phase Services. The Architect shall have authority to act on behalf of the Owner only to the extent provided in this Agreement. The Architect shall not have control over, charge of, or responsibility for the construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, nor shall the Architect be responsible for the Contractor’s failure to perform the Work in accordance with the requirements of the Contract Documents. The Architect shall be responsible for the Architect’s negligent acts or omissions, but shall not have control over or charge of, and shall not be responsible for, acts or omissions of the Contractor or of any other persons or entities performing portions of the Work.

§ 3.6.1.3 Subject to Section 4.3, the Architect’s responsibility to provide Construction Phase Services commences with the award of the Contract for Construction and terminates on the date the Architect issues the final Certificate for Payment.

§ 3.6.2 EVALUATIONS OF THE WORK

§ 3.6.2.1 The Architect shall visit the site at intervals appropriate to the stage of construction, or as otherwise required in Section 4.3.3, to become generally familiar with the progress and quality of the portion of the Work completed, and to determine, 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 Contract Documents. However, the Architect shall not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of the site visits, the Architect shall keep the Owner reasonably informed about the progress and quality of the portion of the Work completed, and report to the Owner (1) known deviations from the Contract Documents and from the most recent construction schedule submitted by the Contractor, and (2) defects and deficiencies observed in the Work.

§ 3.6.2.2 The Architect has the authority to reject Work that does not conform to the Contract Documents. Whenever the Architect considers it necessary or advisable, the Architect shall have the authority to require inspection or testing of the Work in accordance with the provisions of the Contract Documents, whether or not such Work is fabricated, installed or completed. However, neither this authority of the Architect nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the Architect to the Contractor, Subcontractors, material and equipment suppliers, their agents or employees or other persons or entities performing portions of the Work.

§ 3.6.2.3 The Architect shall interpret and decide matters concerning performance under, and requirements of, the Contract Documents on written request of either the Owner or Contractor. The Architect’s response to such requests shall be made in writing within any time limits agreed upon or otherwise with reasonable promptness.

§ 3.6.2.4 Interpretations and decisions of the Architect shall be consistent with the intent of and reasonably inferable from the Contract Documents and shall be in writing or in the form of drawings. When making such interpretations

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and decisions, the Architect shall endeavor to secure faithful performance by both Owner and Contractor, shall not show partiality to either, and shall not be liable for results of interpretations or decisions rendered in good faith. The Architect's decisions on matters relating to aesthetic effect shall be final if consistent with the intent expressed in the Contract Documents.

§ 3.6.2.5 Unless the Owner and Contractor designate another person to serve as an Initial Decision Maker, as that term is defined in AIA Document A201-2007, the Architect shall render initial decisions on Claims between the Owner and Contractor as provided in the Contract Documents.

§ 3.6.3 CERTIFICATES FOR PAYMENT TO CONTRACTOR

§ 3.6.3.1 The Architect shall review and certify the amounts due the Contractor and shall issue certificates in such amounts. The Architect's certification for payment shall constitute a representation to the Owner, based on the Architect's evaluation of the Work as provided in Section 3.6.2 and on the data comprising the Contractor's Application for Payment, that, to the best of the Architect's knowledge, information and belief, the Work has progressed to the point indicated and that the quality of the Work is in accordance with the Contract Documents. The foregoing representations are subject (1) to an evaluation of the Work for conformance with the Contract Documents upon Substantial Completion, (2) to results of subsequent tests and inspections, (3) to correction of minor deviations from the Contract Documents prior to completion, and (4) to specific qualifications expressed by the Architect.

§ 3.6.3.2 The issuance of a Certificate for Payment shall not be a representation that the Architect has (1) made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, (2) reviewed construction means, methods, techniques, sequences or procedures, (3) reviewed copies of requisitions received from Subcontractors and material suppliers and other data requested by the Owner to substantiate the Contractor's right to payment, or (4) ascertained how or for what purpose the Contractor has used money previously paid on account of the Contract Sum.

§ 3.6.3.3 The Architect shall maintain a record of the Applications and Certificates for Payment.

§ 3.6.4 SUBMITTALS

§ 3.6.4.1 The Architect shall review the Contractor's submittal schedule and shall not unreasonably delay or withhold approval. The Architect's action in reviewing submittals shall be taken in accordance with the approved submittal schedule or, in the absence of an approved submittal schedule, with reasonable promptness while allowing sufficient time in the Architect's professional judgment to permit adequate review.

§ 3.6.4.2 In accordance with the Architect-approved submittal schedule, the Architect shall review and approve or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents. Review of such submittals is not for the purpose of determining the accuracy and completeness of other information such as dimensions, quantities, and installation or performance of equipment or systems, which are the Contractor's responsibility. The Architect's review shall not constitute approval of safety precautions or, unless otherwise specifically stated by the Architect, of any construction means, methods, techniques, sequences or procedures. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

§ 3.6.4.3 If the Contract Documents specifically require the Contractor to provide professional design services or certifications by a design professional related to systems, materials or equipment, the Architect shall specify the appropriate performance and design criteria that such services must satisfy. The Architect shall review Shop Drawings and other submittals related to the Work designed or certified by the design professional retained by the Contractor that bear such professional's seal and signature when submitted to the Architect. The Architect shall be entitled to rely upon the adequacy, accuracy and completeness of the services, certifications and approvals performed or provided by such design professionals.

§ 3.6.4.4 Subject to the provisions of Section 4.3, the Architect shall review and respond to requests for information about the Contract Documents. The Architect shall set forth in the Contract Documents the requirements for requests for information. Requests for information shall include, at a minimum, a detailed written statement that indicates the specific Drawings or Specifications in need of clarification and the nature of the clarification requested. The Architect's response to such requests shall be made in writing within any time limits agreed upon, or otherwise with

reasonable promptness. If appropriate, the Architect shall prepare and issue supplemental Drawings and Specifications in response to requests for information.

§ 3.6.4.5 The Architect shall maintain a record of submittals and copies of submittals supplied by the Contractor in accordance with the requirements of the Contract Documents.

§ 3.6.5 CHANGES IN THE WORK

§ 3.6.5.1 The Architect may authorize minor changes in the Work that are consistent with the intent of the Contract Documents and do not involve an adjustment in the Contract Sum or an extension of the Contract Time. Subject to the provisions of Section 4.3, the Architect shall prepare Change Orders and Construction Change Directives for the Owner's approval and execution in accordance with the Contract Documents.

§ 3.6.5.2 The Architect shall maintain records relative to changes in the Work.

§ 3.6.6 PROJECT COMPLETION

§ 3.6.6.1 The Architect shall conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; issue Certificates of Substantial Completion; receive from the Contractor and forward to the Owner, for the Owner's review and records, written warranties and related documents required by the Contract Documents and assembled by the Contractor; and issue a final Certificate for Payment based upon a final inspection indicating the Work complies with the requirements of the Contract Documents.

§ 3.6.6.2 The Architect's inspections shall be conducted with the Owner to check conformance of the Work with the requirements of the Contract Documents and to verify the accuracy and completeness of the list submitted by the Contractor of Work to be completed or corrected.

§ 3.6.6.3 When the Work is found to be substantially complete, the Architect shall inform the Owner about the balance of the Contract Sum remaining to be paid the Contractor, including the amount to be retained from the Contract Sum, if any, for final completion or correction of the Work.

§ 3.6.6.4 The Architect shall forward to the Owner the following information received from the Contractor: (1) consent of surety or sureties, if any, to reduction in or partial release of retainage or the making of final payment; (2) affidavits, receipts, releases and waivers of liens or bonds indemnifying the Owner against liens; and (3) any other documentation required of the Contractor under the Contract Documents.

§ 3.6.6.5 Upon request of the Owner, and prior to the expiration of one year from the date of Substantial Completion, the Architect shall, without additional compensation, conduct a meeting with the Owner to review the facility operations and performance.

ARTICLE 4 ADDITIONAL SERVICES

§ 4.1 Additional Services listed below are not included in Basic Services but may be required for the Project. The Architect shall provide the listed Additional Services only if specifically designated in the table below as the Architect's responsibility, and the Owner shall compensate the Architect as provided in Section 11.2.

(Designate the Additional Services the Architect shall provide in the second column of the table below. In the third column indicate whether the service description is located in Section 4.2 or in an attached exhibit. If in an exhibit, identify the exhibit.)

Additional Services	Responsibility (Architect, Owner or Not Provided)	Location of Service Description (Section 4.2 below or in an exhibit attached to this document and identified below)
§ 4.1.1 Programming	Owner	
§ 4.1.2 Multiple preliminary designs	Not Provided	
§ 4.1.3 Measured drawings	Not Provided	
§ 4.1.4 Existing facilities surveys	Not Provided	
§ 4.1.5 Site Evaluation and Planning (B203™-2007)	Not Provided	
§ 4.1.6 Building information modeling	Architect	
§ 4.1.7 Civil engineering	Architect	

§ 4.1.8	Landscape design	Not Provided	
§ 4.1.9	Architectural Interior Design (B252™-2007)	Not Provided	
§ 4.1.10	Value Analysis (B204™-2007)	Not Provided	
§ 4.1.11	Detailed cost estimating	Not Provided	
§ 4.1.12	On-site project representation	Not Provided	
§ 4.1.13	Conformed construction documents	Not Provided	
§ 4.1.14	As-Designed Record drawings	Not Provided	
§ 4.1.15	As-Constructed Record drawings	Contractor	
§ 4.1.16	Post occupancy evaluation	Not Provided	
§ 4.1.17	Facility Support Services (B210™-2007)	Not Provided	
§ 4.1.18	Tenant-related services	Not Provided	
§ 4.1.19	Coordination of Owner's consultants	Not Provided	
§ 4.1.20	Telecommunications/data design	Owner	
§ 4.1.21	Security Evaluation and Planning (B206™-2007)	Not Provided	
§ 4.1.22	Commissioning (B211™-2007)	Not Provided	
§ 4.1.23	Extensive environmentally responsible design	Not Provided	
§ 4.1.24	LEED® Certification (B214™-2007)	Not Provided	
§ 4.1.25	Fast-track design services	Not Provided	
§ 4.1.26	Historic Preservation (B205™-2007)	Not Provided	
§ 4.1.27	Furniture, Furnishings, and Equipment Design (B253™-2007)	Owner	

§ 4.2 Insert a description of each Additional Service designated in Section 4.1 as the Architect's responsibility, if not further described in an exhibit attached to this document.

On Site Representation: Full time on site representation by the architects is not a part of this agreement. The architects agrees to provide the owner copies of all project observation reports and attend monthly progress meetings with owner, and or representatives, to keep them informed of the project progress.

§ 4.3 Additional Services may be provided after execution of this Agreement, without invalidating the Agreement. Except for services required due to the fault of the Architect, any Additional Services provided in accordance with this Section 4.3 shall entitle the Architect to compensation pursuant to Section 11.3 and an appropriate adjustment in the Architect's schedule.

§ 4.3.1 Upon recognizing the need to perform the following Additional Services, the Architect shall notify the Owner with reasonable promptness and explain the facts and circumstances giving rise to the need. The Architect shall not proceed to provide the following services until the Architect receives the Owner's written authorization:

- .1 Services necessitated by a change in the Initial Information, previous instructions or approvals given by the Owner, or a material change in the Project including, but not limited to, size, quality, complexity, the Owner's schedule or budget for Cost of the Work, or procurement or delivery method;
- .2 Services necessitated by the Owner's request for extensive environmentally responsible design alternatives, such as unique system designs, in-depth material research, energy modeling, or LEED® certification;
- .3 Changing or editing previously prepared Instruments of Service necessitated by the enactment or revision of codes, laws or regulations or official interpretations;
- .4 Services necessitated by decisions of the Owner not rendered in a timely manner or any other failure of performance on the part of the Owner or the Owner's consultants or contractors;
- .5 Preparing digital data for transmission to the Owner's consultants and contractors, or to other Owner authorized recipients;
- .6 Preparation of design and documentation for alternate bid or proposal requests proposed by the Owner;
- .7 Preparation for, and attendance at, a public presentation, meeting or hearing;
- .8 Preparation for, and attendance at a dispute resolution proceeding or legal proceeding, except where the Architect is party thereto;
- .9 Evaluation of the qualifications of bidders or persons providing proposals;

- .10 Consultation concerning replacement of Work resulting from fire or other cause during construction; or
- .11 Assistance to the Initial Decision Maker, if other than the Architect.

§ 4.3.2 To avoid delay in the Construction Phase, the Architect shall provide the following Additional Services, notify the Owner with reasonable promptness, and explain the facts and circumstances giving rise to the need. If the Owner subsequently determines that all or parts of those services are not required, the Owner shall give prompt written notice to the Architect, and the Owner shall have no further obligation to compensate the Architect for those services:

- .1 Reviewing a Contractor's submittal out of sequence from the submittal schedule agreed to by the Architect;
- .2 Responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents or where such information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation;
- .3 Preparing Change Orders and Construction Change Directives that require evaluation of Contractor's proposals and supporting data, or the preparation or revision of Instruments of Service;
- .4 Evaluating an extensive number of Claims as the Initial Decision Maker;
- .5 Evaluating substitutions proposed by the Owner or Contractor and making subsequent revisions to Instruments of Service resulting therefrom; or
- .6 To the extent the Architect's Basic Services are affected, providing Construction Phase Services 60 days after (1) the date of Substantial Completion of the Work or (2) the anticipated date of Substantial Completion identified in Initial Information, whichever is earlier.

§ 4.3.3 The Architect shall provide Construction Phase Services exceeding the limits set forth below as Additional Services. When the limits below are reached, the Architect shall notify the Owner:

- .1 Two (2) reviews of each Shop Drawing, Product Data item, sample and similar submittal of the Contractor
- .2 Twenty (20) visits to the site by the Architect over the duration of the Project during construction
- .3 Two (2) inspections for any portion of the Work to determine whether such portion of the Work is substantially complete in accordance with the requirements of the Contract Documents
- .4 Two (2) inspections for any portion of the Work to determine final completion

§ 4.3.4 If the services covered by this Agreement have not been completed within Eighteen (18) months of the date of this Agreement, through no fault of the Architect, extension of the Architect's services beyond that time shall be compensated as Additional Services.

ARTICLE 5 OWNER'S RESPONSIBILITIES

§ 5.1 Unless otherwise provided for under this Agreement, the Owner shall provide information in a timely manner regarding requirements for and limitations on the Project, including a written program which shall set forth the Owner's objectives, schedule, constraints and criteria, including space requirements and relationships, flexibility, expandability, special equipment, systems and site requirements. Within 15 days after receipt of a written request from the Architect, the Owner shall furnish the requested information as necessary and relevant for the Architect to evaluate, give notice of or enforce lien rights.

§ 5.2 The Owner shall establish and periodically update the Owner's budget for the Project, including (1) the budget for the Cost of the Work as defined in Section 6.1; (2) the Owner's other costs; and, (3) reasonable contingencies related to all of these costs. If the Owner significantly increases or decreases the Owner's budget for the Cost of the Work, the Owner shall notify the Architect. The Owner and the Architect shall thereafter agree to a corresponding change in the Project's scope and quality.

§ 5.3 The Owner shall identify a representative authorized to act on the Owner's behalf with respect to the Project. The Owner shall render decisions and approve the Architect's submittals in a timely manner in order to avoid unreasonable delay in the orderly and sequential progress of the Architect's services.

§ 5.4 The Owner shall furnish surveys to describe physical characteristics, legal limitations and utility locations for the site of the Project, and a written legal description of the site. The surveys and legal information shall include, as applicable, grades and lines of streets, alleys, pavements and adjoining property and structures; designated wetlands; adjacent drainage; rights-of-way, restrictions, easements, encroachments, zoning, deed restrictions, boundaries and

contours of the site; locations, dimensions and necessary data with respect to existing buildings, other improvements and trees; and information concerning available utility services and lines, both public and private, above and below grade, including inverts and depths. All the information on the survey shall be referenced to a Project benchmark.

§ 5.5 The Owner shall furnish services of geotechnical engineers, which may include but are not limited to test borings, test pits, determinations of soil bearing values, percolation tests, evaluations of hazardous materials, seismic evaluation, ground corrosion tests and resistivity tests, including necessary operations for anticipating subsoil conditions, with written reports and appropriate recommendations.

§ 5.6 The Owner shall coordinate the services of its own consultants with those services provided by the Architect. Upon the Architect's request, the Owner shall furnish copies of the scope of services in the contracts between the Owner and the Owner's consultants. The Owner shall furnish the services of consultants other than those designated in this Agreement, or authorize the Architect to furnish them as an Additional Service, when the Architect requests such services and demonstrates that they are reasonably required by the scope of the Project. The Owner shall require that its consultants maintain professional liability insurance as appropriate to the services provided.

§ 5.7 The Owner shall furnish tests, inspections and reports required by law or the Contract Documents, such as structural, mechanical, and chemical tests, tests for air and water pollution, and tests for hazardous materials.

§ 5.8 The Owner shall furnish all legal, insurance and accounting services, including auditing services, that may be reasonably necessary at any time for the Project to meet the Owner's needs and interests.

§ 5.9 The Owner shall provide prompt written notice to the Architect if the Owner becomes aware of any fault or defect in the Project, including errors, omissions or inconsistencies in the Architect's Instruments of Service.

§ 5.10 Except as otherwise provided in this Agreement, or when direct communications have been specially authorized, the Owner shall endeavor to communicate with the Contractor and the Architect's consultants through the Architect about matters arising out of or relating to the Contract Documents. The Owner shall promptly notify the Architect of any direct communications that may affect the Architect's services.

§ 5.11 Before executing the Contract for Construction, the Owner shall coordinate the Architect's duties and responsibilities set forth in the Contract for Construction with the Architect's services set forth in this Agreement. The Owner shall provide the Architect a copy of the executed agreement between the Owner and Contractor, including the General Conditions of the Contract for Construction.

§ 5.12 The Owner shall provide the Architect access to the Project site prior to commencement of the Work and shall obligate the Contractor to provide the Architect access to the Work wherever it is in preparation or progress.

ARTICLE 6 COST OF THE WORK

§ 6.1 For purposes of this Agreement, the Cost of the Work shall be the total cost to the Owner to construct all elements of the Project designed or specified by the Architect and shall include contractors' general conditions costs, overhead and profit. The Cost of the Work does not include the compensation of the Architect, the costs of the land, rights-of-way, financing, contingencies for changes in the Work or other costs that are the responsibility of the Owner.

§ 6.2 The Owner's budget for the Cost of the Work is provided in Initial Information, and may be adjusted throughout the Project as required under Sections 5.2, 6.4 and 6.5. Evaluations of the Owner's budget for the Cost of the Work, the preliminary estimate of the Cost of the Work and updated estimates of the Cost of the Work prepared by the Architect, represent the Architect's judgment as a design professional. It is recognized, however, that neither the Architect nor the Owner has control over the cost of labor, materials or equipment; the Contractor's methods of determining bid prices; or competitive bidding, market or negotiating conditions. Accordingly, the Architect cannot and does not warrant or represent that bids or negotiated prices will not vary from the Owner's budget for the Cost of the Work or from any estimate of the Cost of the Work or evaluation prepared or agreed to by the Architect.

§ 6.3 In preparing estimates of the Cost of Work, the Architect shall be permitted to include contingencies for design, bidding and price escalation; to determine what materials, equipment, component systems and types of construction are to be included in the Contract Documents; to make reasonable adjustments in the program and scope of the Project; and to include in the Contract Documents alternate bids as may be necessary to adjust the estimated Cost of the Work

to meet the Owner's budget for the Cost of the Work. The Architect's estimate of the Cost of the Work shall be based on current area, volume or similar conceptual estimating techniques. If the Owner requests detailed cost estimating services, the Architect shall provide such services as an Additional Service under Article 4.

§ 6.4 If the Bidding or Negotiation Phase has not commenced within 90 days after the Architect submits the Construction Documents to the Owner, through no fault of the Architect, the Owner's budget for the Cost of the Work shall be adjusted to reflect changes in the general level of prices in the applicable construction market.

§ 6.5 If at any time the Architect's estimate of the Cost of the Work exceeds the Owner's budget for the Cost of the Work, the Architect shall make appropriate recommendations to the Owner to adjust the Project's size, quality or budget for the Cost of the Work, and the Owner shall cooperate with the Architect in making such adjustments.

§ 6.6 If the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services is exceeded by the lowest bona fide bid or negotiated proposal, the Owner shall

- .1 give written approval of an increase in the budget for the Cost of the Work;
- .2 authorize rebidding or renegotiating of the Project within a reasonable time;
- .3 terminate in accordance with Section 9.5;
- .4 in consultation with the Architect, revise the Project program, scope, or quality as required to reduce the Cost of the Work; or
- .5 implement any other mutually acceptable alternative.

§ 6.7 If the Owner chooses to proceed under Section 6.6.4, the Architect, without additional compensation, shall modify the Construction Documents as necessary to comply with the Owner's budget for the Cost of the Work at the conclusion of the Construction Documents Phase Services, or the budget as adjusted under Section 6.6.1. The Architect's modification of the Construction Documents shall be the limit of the Architect's responsibility under this Article 6.

ARTICLE 7 COPYRIGHTS AND LICENSES

§ 7.1 The Architect and the Owner warrant that in transmitting Instruments of Service, or any other information, the transmitting party is the copyright owner of such information or has permission from the copyright owner to transmit such information for its use on the Project. If the Owner and Architect intend to transmit Instruments of Service or any other information or documentation in digital form, they shall endeavor to establish necessary protocols governing such transmissions.

§ 7.2 The Architect and the Architect's consultants shall be deemed the authors and owners of their respective Instruments of Service, including the Drawings and Specifications, and shall retain all common law, statutory and other reserved rights, including copyrights. Submission or distribution of Instruments of Service to meet official regulatory requirements or for similar purposes in connection with the Project is not to be construed as publication in derogation of the reserved rights of the Architect and the Architect's consultants.

§ 7.3 Upon execution of this Agreement, the Architect grants to the Owner a nonexclusive license to use the Architect's Instruments of Service solely and exclusively for purposes of constructing, using, maintaining, altering and adding to the Project, provided that the Owner substantially performs its obligations, including prompt payment of all sums when due, under this Agreement. The Architect shall obtain similar nonexclusive licenses from the Architect's consultants consistent with this Agreement. The license granted under this section permits the Owner to authorize the Contractor, Subcontractors, Sub-subcontractors, and material or equipment suppliers, as well as the Owner's consultants and separate contractors, to reproduce applicable portions of the Instruments of Service solely and exclusively for use in performing services or construction for the Project. If the Architect rightfully terminates this Agreement for cause as provided in Section 9.4, the license granted in this Section 7.3 shall terminate.

§ 7.3.1 In the event the Owner uses the Instruments of Service without retaining the author of the Instruments of Service, the Owner releases the Architect and Architect's consultant(s) from all claims and causes of action arising from such uses. The Owner, to the extent permitted by law, further agrees to indemnify and hold harmless the Architect and its consultants from all costs and expenses, including the cost of defense, related to claims and causes of action asserted by any third person or entity to the extent such costs and expenses arise from the Owner's use of the Instruments of Service under this Section 7.3.1. The terms of this Section 7.3.1 shall not apply if the Owner rightfully terminates this Agreement for cause under Section 9.4.

§ 7.4 Except for the licenses granted in this Article 7, no other license or right shall be deemed granted or implied under this Agreement. The Owner shall not assign, delegate, sublicense, pledge or otherwise transfer any license granted herein to another party without the prior written agreement of the Architect. Any unauthorized use of the Instruments of Service shall be at the Owner's sole risk and without liability to the Architect and the Architect's consultants.

ARTICLE 8 CLAIMS AND DISPUTES

§ 8.1 GENERAL

§ 8.1.1 The Owner and Architect shall commence all claims and causes of action, whether in contract, tort, or otherwise, against the other arising out of or related to this Agreement in accordance with the requirements of the method of binding dispute resolution selected in this Agreement within the period specified by applicable law, but in any case not more than 10 years after the date of Substantial Completion of the Work. The Owner and Architect waive all claims and causes of action not commenced in accordance with this Section 8.1.1.

§ 8.1.2 To the extent damages are covered by property insurance, the Owner and Architect waive all rights against each other and against the contractors, consultants, agents and employees of the other for damages, except such rights as they may have to the proceeds of such insurance as set forth in AIA Document A201-2007, General Conditions of the Contract for Construction. The Owner or the Architect, as appropriate, shall require of the contractors, consultants, agents and employees of any of them similar waivers in favor of the other parties enumerated herein.

§ 8.1.3 The Architect and Owner waive consequential damages for claims, disputes or other matters in question arising out of or relating to this Agreement. This mutual waiver is applicable, without limitation, to all consequential damages due to either party's termination of this Agreement, except as specifically provided in Section 9.7.

§ 8.2 MEDIATION

§ 8.2.1 Any claim, dispute or other matter in question arising out of or related to this Agreement shall be subject to mediation as a condition precedent to binding dispute resolution. If such matter relates to or is the subject of a lien arising out of the Architect's services, the Architect may proceed in accordance with applicable law to comply with the lien notice or filing deadlines prior to resolution of the matter by mediation or by binding dispute resolution.

§ 8.2.2 The Owner and Architect shall endeavor to resolve claims, disputes and other matters in question between them by mediation which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Mediation Procedures in effect on the date of the Agreement. A request for mediation shall be made in writing, delivered to the other party to the Agreement, and filed with the person or entity administering the mediation. The request may be made concurrently with the filing of a complaint or other appropriate demand for binding dispute resolution but, in such event, mediation shall proceed in advance of binding dispute resolution proceedings, which shall be stayed pending mediation for a period of 60 days from the date of filing, unless stayed for a longer period by agreement of the parties or court order. If an arbitration proceeding is stayed pursuant to this section, the parties may nonetheless proceed to the selection of the arbitrator(s) and agree upon a schedule for later proceedings.

§ 8.2.3 The parties shall share the mediator's fee and any filing fees equally. The mediation shall be held in the place where the Project is located, unless another location is mutually agreed upon. Agreements reached in mediation shall be enforceable as settlement agreements in any court having jurisdiction thereof.

§ 8.2.4 If the parties do not resolve a dispute through mediation pursuant to this Section 8.2, the method of binding dispute resolution shall be the following:

(Check the appropriate box. If the Owner and Architect do not select a method of binding dispute resolution below, or do not subsequently agree in writing to a binding dispute resolution method other than litigation, the dispute will be resolved in a court of competent jurisdiction.)

[X] Arbitration pursuant to Section 8.3 of this Agreement

[] Litigation in a court of competent jurisdiction

[] Other (Specify)

Init.

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User Notes:

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§ 8.3 ARBITRATION

§ 8.3.1 If the parties have selected arbitration as the method for binding dispute resolution in this Agreement, any claim, dispute or other matter in question arising out of or related to this Agreement subject to, but not resolved by, mediation shall be subject to arbitration which, unless the parties mutually agree otherwise, shall be administered by the American Arbitration Association in accordance with its Construction Industry Arbitration Rules in effect on the date of this Agreement. A demand for arbitration shall be made in writing, delivered to the other party to this Agreement, and filed with the person or entity administering the arbitration.

§ 8.3.1.1 A demand for arbitration shall be made no earlier than concurrently with the filing of a request for mediation, but in no event shall it be made after the date when the institution of legal or equitable proceedings based on the claim, dispute or other matter in question would be barred by the applicable statute of limitations. For statute of limitations purposes, receipt of a written demand for arbitration by the person or entity administering the arbitration shall constitute the institution of legal or equitable proceedings based on the claim, dispute or other matter in question.

§ 8.3.2 The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to this Agreement shall be specifically enforceable in accordance with applicable law in any court having jurisdiction thereof.

§ 8.3.3 The award rendered by the arbitrator(s) shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

§ 8.3.4 CONSOLIDATION OR JOINDER

§ 8.3.4.1 Either party, at its sole discretion, may consolidate an arbitration conducted under this Agreement with any other arbitration to which it is a party provided that (1) the arbitration agreement governing the other arbitration permits consolidation; (2) the arbitrations to be consolidated substantially involve common questions of law or fact; and (3) the arbitrations employ materially similar procedural rules and methods for selecting arbitrator(s).

§ 8.3.4.2 Either party, at its sole discretion, may include by joinder persons or entities substantially involved in a common question of law or fact whose presence is required if complete relief is to be accorded in arbitration, provided that the party sought to be joined consents in writing to such joinder. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of any claim, dispute or other matter in question not described in the written consent.

§ 8.3.4.3 The Owner and Architect grant to any person or entity made a party to an arbitration conducted under this Section 8.3, whether by joinder or consolidation, the same rights of joinder and consolidation as the Owner and Architect under this Agreement.

ARTICLE 9 TERMINATION OR SUSPENSION

§ 9.1 If the Owner fails to make payments to the Architect in accordance with this Agreement, such failure shall be considered substantial nonperformance and cause for termination or, at the Architect's option, cause for suspension of performance of services under this Agreement. If the Architect elects to suspend services, the Architect shall give seven days' written notice to the Owner before suspending services. In the event of a suspension of services, the Architect shall have no liability to the Owner for delay or damage caused the Owner because of such suspension of services. Before resuming services, the Architect shall be paid all sums due prior to suspension and any expenses incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 9.2 If the Owner suspends the Project, the Architect shall be compensated for services performed prior to notice of such suspension. When the Project is resumed, the Architect shall be compensated for expenses incurred in the interruption and resumption of the Architect's services. The Architect's fees for the remaining services and the time schedules shall be equitably adjusted.

§ 9.3 If the Owner suspends the Project for more than 90 cumulative days for reasons other than the fault of the Architect, the Architect may terminate this Agreement by giving not less than seven days' written notice.

§ 9.4 Either party may terminate this Agreement upon not less than seven days' written notice should the other party fail substantially to perform in accordance with the terms of this Agreement through no fault of the party initiating the termination.

§ 9.5 The Owner may terminate this Agreement upon not less than seven days' written notice to the Architect for the Owner's convenience and without cause.

§ 9.6 In the event of termination not the fault of the Architect, the Architect shall be compensated for services performed prior to termination, together with Reimbursable Expenses then due and all Termination Expenses as defined in Section 9.7.

§ 9.7 Termination Expenses are in addition to compensation for the Architect's services and include expenses directly attributable to termination for which the Architect is not otherwise compensated, plus an amount for the Architect's anticipated profit on the value of the services not performed by the Architect.

§ 9.8 The Owner's rights to use the Architect's Instruments of Service in the event of a termination of this Agreement are set forth in Article 7 and Section 11.9.

ARTICLE 10 MISCELLANEOUS PROVISIONS

§ 10.1 This Agreement shall be governed by the law of the place where the Project is located, except that if the parties have selected arbitration as the method of binding dispute resolution, the Federal Arbitration Act shall govern Section 8.3.

§ 10.2 Terms in this Agreement shall have the same meaning as those in AIA Document A201-2007, General Conditions of the Contract for Construction.

§ 10.3 The Owner and Architect, respectively, bind themselves, their agents, successors, assigns and legal representatives to this Agreement. Neither the Owner nor the Architect shall assign this Agreement without the written consent of the other, except that the Owner may assign this Agreement to a lender providing financing for the Project if the lender agrees to assume the Owner's rights and obligations under this Agreement.

§ 10.4 If the Owner requests the Architect to execute certificates, the proposed language of such certificates shall be submitted to the Architect for review at least 14 days prior to the requested dates of execution. If the Owner requests the Architect to execute consents reasonably required to facilitate assignment to a lender, the Architect shall execute all such consents that are consistent with this Agreement, provided the proposed consent is submitted to the Architect for review at least 14 days prior to execution. The Architect shall not be required to execute certificates or consents that would require knowledge, services or responsibilities beyond the scope of this Agreement.

§ 10.5 Nothing contained in this Agreement shall create a contractual relationship with or a cause of action in favor of a third party against either the Owner or Architect.

§ 10.6 Unless otherwise required in this Agreement, the Architect shall have no responsibility for the discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials or toxic substances in any form at the Project site.

§ 10.7 The Architect shall have the right to include photographic or artistic representations of the design of the Project among the Architect's promotional and professional materials. The Architect shall be given reasonable access to the completed Project to make such representations. However, the Architect's materials shall not include the Owner's confidential or proprietary information if the Owner has previously advised the Architect in writing of the specific information considered by the Owner to be confidential or proprietary. The Owner shall provide professional credit for the Architect in the Owner's promotional materials for the Project.

§ 10.8 If the Architect or Owner receives information specifically designated by the other party as "confidential" or "business proprietary," the receiving party shall keep such information strictly confidential and shall not disclose it to any other person except to (1) its employees, (2) those who need to know the content of such information in order to

perform services or construction solely and exclusively for the Project, or (3) its consultants and contractors whose contracts include similar restrictions on the use of confidential information.

ARTICLE 11 COMPENSATION

§ 11.1 For the Architect's Basic Services described under Article 3, the Owner shall compensate the Architect as follows:

(Insert amount of, or basis for, compensation.)

Seven Percent (7%) of cost of construction (base fee, due to similarity of design to previous fire stations, we will discount the fee 10%) (see below)

§ 11.2 For Additional Services designated in Section 4.1, the Owner shall compensate the Architect as follows:
(Insert amount of, or basis for, compensation. If necessary, list specific services to which particular methods of compensation apply.)

Not Applicable

§ 11.3 For Additional Services that may arise during the course of the Project, including those under Section 4.3, the Owner shall compensate the Architect as follows:
(Insert amount of, or basis for, compensation.)

Hourly in accordance with Paragraph 11.7

§ 11.4 Compensation for Additional Services of the Architect's consultants when not included in Section 11.2 or 11.3, shall be the amount invoiced to the Architect plus Twenty-five percent (25.00 %), or as otherwise stated below:

§ 11.5 Where compensation for Basic Services is based on a stipulated sum or percentage of the Cost of the Work, the compensation for each phase of services shall be as follows:

Schematic Design Phase (NO CHARGE)	Ten	percent (	10	%)
Design Development Phase	Twenty-five	percent (	25	%)
Construction Documents Phase	Forty	percent (	40	%)
Bidding or Negotiation Phase	Five	percent (	5	%)
Construction Phase	Twenty	percent (	20	%)
<hr/>				
Total Basic Compensation	one hundred	percent (	100	%)

§ 11.6 When compensation is based on a percentage of the Cost of the Work and any portions of the Project are deleted or otherwise not constructed, compensation for those portions of the Project shall be payable to the extent services are performed on those portions, in accordance with the schedule set forth in Section 11.5 based on (1) the lowest bona fide bid or negotiated proposal, or (2) if no such bid or proposal is received, the most recent estimate of the Cost of the Work for such portions of the Project. The Architect shall be entitled to compensation in accordance with this Agreement for all services performed whether or not the Construction Phase is commenced.

§ 11.7 The hourly billing rates for services of the Architect and the Architect's consultants, if any, are set forth below. The rates shall be adjusted in accordance with the Architect's and Architect's consultants' normal review practices.
(If applicable, attach an exhibit of hourly billing rates or insert them below.)

Exhibit B – Hourly Fee Schedule

Employee or Category	Rate
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Init.

§ 11.8 COMPENSATION FOR REIMBURSABLE EXPENSES

§ 11.8.1 Reimbursable Expenses are in addition to compensation for Basic and Additional Services and include expenses incurred by the Architect and the Architect's consultants directly related to the Project, as follows:

- .1 Transportation and authorized out-of-town travel and subsistence;
- .2 Long distance services, dedicated data and communication services, teleconferences, Project Web sites, and extranets;
- .3 Fees paid for securing approval of authorities having jurisdiction over the Project;
- .4 Printing, reproductions, plots, standard form documents;
- .5 Postage, handling and delivery;
- .6 Expense of overtime work requiring higher than regular rates, if authorized in advance by the Owner;
- .7 Renderings, models, mock-ups, professional photography, and presentation materials requested by the Owner;
- .8 Architect's Consultant's expense of professional liability insurance dedicated exclusively to this Project, or the expense of additional insurance coverage or limits if the Owner requests such insurance in excess of that normally carried by the Architect's consultants;
- .9 All taxes levied on professional services and on reimbursable expenses;
- .10 Site office expenses; and
- .11 Other similar Project-related expenditures.

§ 11.8.2 For Reimbursable Expenses the compensation shall be the expenses incurred by the Architect and the Architect's consultants plus Twenty Five percent (25 %) of the expenses incurred.

§ 11.9 COMPENSATION FOR USE OF ARCHITECT'S INSTRUMENTS OF SERVICE

If the Owner terminates the Architect for its convenience under Section 9.5, or the Architect terminates this Agreement under Section 9.3, the Owner shall pay a licensing fee as compensation for the Owner's continued use of the Architect's Instruments of Service solely for purposes of completing, using and maintaining the Project as follows:

§ 11.10 PAYMENTS TO THE ARCHITECT

§ 11.10.1 An initial payment of Zero Dollars and Zero Cents (\$ 0.00) shall be made upon execution of this Agreement and is the minimum payment under this Agreement. It shall be credited to the Owner's account in the final invoice.

§ 11.10.2 Unless otherwise agreed, payments for services shall be made monthly in proportion to services performed. Payments are due and payable upon presentation of the Architect's invoice. Amounts unpaid Twenty-one (21) days after the invoice date shall bear interest at the rate entered below, or in the absence thereof at the legal rate prevailing from time to time at the principal place of business of the Architect.
(Insert rate of monthly or annual interest agreed upon.)

5.50 % per annum

§ 11.10.3 The Owner shall not withhold amounts from the Architect's compensation to impose a penalty or liquidated damages on the Architect, or to offset sums requested by or paid to contractors for the cost of changes in the Work unless the Architect agrees or has been found liable for the amounts in a binding dispute resolution proceeding.

§ 11.10.4 Records of Reimbursable Expenses, expenses pertaining to Additional Services, and services performed on the basis of hourly rates shall be available to the Owner at mutually convenient times.

ARTICLE 12 SPECIAL TERMS AND CONDITIONS

Special terms and conditions that modify this Agreement are as follows:

ARTICLE 13 SCOPE OF THE AGREEMENT

§ 13.1 This Agreement represents the entire and integrated agreement between the Owner and the Architect and supersedes all prior negotiations, representations or agreements, either written or oral. This Agreement may be amended only by written instrument signed by both Owner and Architect.

§ 13.2 This Agreement is comprised of the following documents listed below:

- .1 AIA Document B101™-2007, Standard Form Agreement Between Owner and Architect
- .2 AIA Document B101™-2007, Exhibit A

.3 Other documents:

(Paragraph deleted)

- 1. Exhibit B – Hourly Fee Schedule

This Agreement entered into as of the day and year first written above.

OWNER

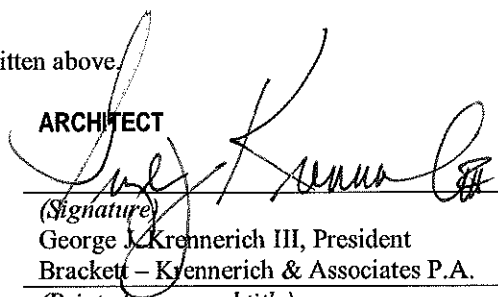
(Signature)
Harold Perrin, Mayor
City of Jonesboro

(Printed name and title)

ARCHITECT

(Signature)
George J. Krennerich III, President
Brackett – Krennerich & Associates P.A.

(Printed name and title)





AIA[®]

Document B101[™] – 2007 Exhibit A

Initial Information

for the following PROJECT:

(Name and location or address)

Fire Station #5
City of Jonesboro
Jonesboro, Arkansas

THE OWNER:

(Name, legal status and address)

City of Jonesboro
300 South Church Street
Jonesboro, Arkansas 72401

THE ARCHITECT:

(Name, legal status and address)

Brackett Krennerich & Associates P.A.
100 E. Huntington Ave., Suite D
Jonesboro, AR 72401

This Agreement is based on the following information.

ARTICLE A.1 PROJECT INFORMATION

§ A.1.1 The Owner's program for the Project:

(Identify documentation or state the manner in which the program will be developed.)

Program to be same as previous Fire Station #4 (constructed off Harrisburg Road)

§ A.1.2 The Project's physical characteristics:

(Paragraph deleted)

Project/Design must be modified to fit parcel of property located on Neely Road.

§ A.1.3 The Owner's budget for the Cost of the Work, as defined in Section 6.1:

\$1,800,000.00

§ A.1.4 The Owner's other anticipated scheduling information, if any, not provided in Section 1.2:

None.

§ A.1.5 The Owner intends the following procurement or delivery method for the Project:

(Identify method such as competitive bid, negotiated contract, or construction management.)

Competitive Bid

ADDITIONS AND DELETIONS:

The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An *Additions and Deletions Report* that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the left margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA text.

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Int.

§ A.1.6 Other Project information:

(Identify special characteristics or needs of the Project not provided elsewhere, such as environmentally responsible design or historic preservation requirements.)

None Stipulated

ARTICLE A.2 PROJECT TEAM

§ A.2.1 The Owner identifies the following representative in accordance with Section 5.3:

(List name, address and other information.)

Harold Perrin, Mayor
City of Jonesboro
300 South Church Street
Jonesboro, Arkansas 72401

§ A.2.2 The persons or entities, in addition to the Owner's representative, who are required to review the Architect's submittals to the Owner are as follows:

(List name, address and other information.)

1. Arkansas State Building Authority - ADA Review
2. Arkansas State Fire Marshall - Code Compliance
3. Arkansas State Department of Health - Plumbing Review

§ A.2.3 The Owner will retain the following consultants and contractors:

(List discipline and, if known, identify them by name and address.)

None Listed

§ A.2.4 The Architect identifies the following representative in accordance with Section 2.3:

(List name, address and other information.)

George J. Krennerich III/ Kyle Cook
100 E. Huntington Ave., Suite D
Jonesboro, AR 72401
870-932-0571

Email Address: george@bkarchts.com kylec@bkarchts.com

§ A.2.5 The Architect will retain the consultants identified in Sections A.2.5.1 and A.2.5.2.

(List discipline and, if known, identify them by name, legal status, address and other information.)

§ A.2.5.1 Consultants retained under Basic Services:

- .1 Structural Engineer

Engineering Consultants, Inc.
401 West Capitol, Suite 305
Little Rock, AR 72201
Telephone Number: 501-376-3752
Fax Number: 501-376-7314

.2 Mechanical Engineer

BDSENERGY LLC
144 Professional Dr., Ste. 1
Cabot, AR 72023
Telephone Number: 501-843-1553
Fax Number: 501-843-7566

.3 Electrical Engineer

BDSENERGY LLC
144 Professional Dr., Ste. 1
Cabot, AR 72023
Telephone Number: 501-843-7553
Fax Number: 501-843-7566

§ A.2.5.2 Consultants retained under Additional Services:

None Stipulated

§ A.2.6 Other Initial Information on which the Agreement is based:
(Provide other Initial Information.)



**BRACKETT
KRENNERICH**

architects

Exhibit "B" Hourly Rate Schedule

George J. Krennerich, Principal Architect	\$190.00 per hour
Jeff Herren, Principal Architect	\$190.00 per hour
Kyle Cook, Principal Architect	\$190.00 per hour
Jerry W. Brackett, Senior Staff Architect	\$190.00 per hour
Todd Welch, Staff Architect	\$125.00 per hour
Dwight Callaway, Staff Architect	\$125.00 per hour
Steve Schoettle, Intern Architect	\$125.00 per hour
Libii Fairhead, Interior Designer	\$60.00 per hour
Kyle Krennerich, CADD Drafter/Construction Coordinator	\$75.00 per hour
Rick Jackson, CADD Drafter/Computer Systems	\$75.00 per hour
Chris Ormond, Computer Drafter	\$50.00 per hour
David Schaefering, Construction Coordinator	\$75.00 per hour
Dede Harper Hillis, Administrative Assistant	\$80.00 per hour
Donna Jackson, Secretary	\$60.00 per hour

100 East Huntington Avenue, Suite D
Jonesboro, AR 72401
P: 870.932.0571 F: 870.932.0975

George J. Krennerich III, AIA | Jeff Herren, AIA, LEED AP BD+C | Kyle Cook, AIA



Legislation Details (With Text)

File #:	RES-13:115	Version:	1	Name:	Sale of property at 1103 Cobb to Ted Hergett
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	7/10/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:		Final action:	
Title:	RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS AUTHORIZING THE MAYOR AND CITY CLERK TO SELL PROPERTY LOCATED AT 1103 COBB STREET, JONESBORO, ARKANSAS TO TED HERGETT				
Sponsors:	Mayor's Office				
Indexes:	Property purchase - real				
Code sections:					
Attachments:	Building Facilities Meeting July 10 2013				

Date	Ver.	Action By	Action	Result
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RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS AUTHORIZING THE MAYOR AND CITY CLERK TO SELL PROPERTY LOCATED AT 1103 COBB STREET, JONESBORO, ARKANSAS TO TED HERGETT

WHEREAS, the City of Jonesboro, Arkansas desires to sell and did advertise the property at 1103 Cobb Street for sell, and

WHEREAS, Ted Hergett desires to purchase property at 1103 Cobb Street, owned by the City of Jonesboro, Arkansas being more particularly described as follows, to wit:

All of lot 50 and part of lot 49 of Cobb's Survey of the Northwest of the Northeast Quarter of Section 19, Township 14 North, Range 4 East, less and except a 30 foot right-of-way from the existing centerline of Cobb Street and Cherry Avenue to be retained by the City for public use.

WHEREAS, it is in the best interest of the City of Jonesboro that said property be sold to Ted Hergett for the sum of \$45,000.00.

NOW THEREFORE, BE IT RESOLVED, by the City Council for the City of Jonesboro, Arkansas that:

Section 1: The Mayor and City Clerk are hereby authorized to execute the documents necessary to complete this transaction and accept the purchase price of \$45,000.00 due and payable at the time of closing by the buyer.

Building Facilities Meeting

July 10, 2013 2:00 pm

Present: Gene Vance, Terry Adams, LM Duncan, Mayor Perrin, Ben Barylske, Barry Phillips, Otis Spriggs, Erick Woodruff, Steve Hales, Amy Clark

Meeting was called to order by Gene Vance.

Discussion on property at 1103 Cobb Street.

Motion was made by Barry Phillips to sell 1103 Cobb Street property to Ted Hergett for \$45,000.00.

Motion seconded by Erick Woodruff.

Motion passed.

Vote 9 -0 All in favor.



Legislation Details (With Text)

File #:	RES-13:121	Version:	1	Name:	Maintenance agreement for Becky Islas and Rian Snell Replat
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	7/15/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:			
Title:	A RESOLUTION TO ACCEPT A MAINTENANCE AGREEMENT FOR STORMWATER MANAGEMENT FACILITIES FOR BECKY ISLAS AND RIAN SNELL REPLAT, A RESIDENTAL DEVELOPMENT				
Sponsors:	Engineering				
Indexes:	Contract				
Code sections:					
Attachments:	Maintenance Agreement.pdf Replat of Lots 267A and 268A of Sage Meadows Phase II-B.pdf				

Date	Ver.	Action By	Action	Result
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A RESOLUTION TO ACCEPT A MAINTENANCE AGREEMENT FOR STORMWATER MANAGEMENT FACILITIES FOR BECKY ISLAS AND RIAN SNELL REPLAT, A RESIDENTAL DEVELOPMENT WHEREAS, the Section 112-157 of the Jonesboro Municipal Code requires that a Maintenance Agreement be executed between the Developer and the City prior to recording the final plat;

WHEREAS, Rebecca Islas and Rian Snell have submitted a Maintenance Agreement for Stormwater Management Facilities for Becky Islas and Rian Snell Replat of Lots 267A and 268A of Replat of Sage Meadows, Phase II-B development;

WHEREAS, the City Engineer and City Attorney have reviewed the attached Maintenance Agreement and find it to be in compliance with the Stormwater Management Regulations.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF JONESBORO, ARKANSAS THAT:

Section 1: That the City of Jonesboro accepts a Maintenance Agreement for Stormwater Management Facilities with Rebecca Islas and Rian Snell and authorizes the filing of a record plat for Becky Islas and Rian Snell Replat of Lots 267A and 268A of Replat of Sage Meadows, Phase II-B development.

Section 2: The Mayor and the City Clerk are hereby authorized by the City Council for the City of Jonesboro to execute all documents necessary to effectuate this agreement.

**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES
BECKY ISLAS AND RIAN SNELL REPLAT**

JONESBORO, ARKANSAS - PAGE 1 OF 5

Property Identification

Project Name: **Becky Islas and Rian Snell Replat – Jonesboro, Arkansas**
Project Address: **Lots 267A and 268A of Replat of Sage Meadows, Phase II-B**
Owner(s): **Rebecca Islas** Lot 267A
Owner Address: **3719 Stadium Boulevard, Apartment I-1**
City: **Jonesboro** State: **AR** Zip Code: **72401**
Owner(s): **Rian Snell** Lot 268A

In accordance with Section 112-157 of the Jonesboro Municipal Code, this agreement is made and entered into this _____ day of _____, 20____, by and between the City of Jonesboro, an Arkansas municipal corporation, hereinafter called the "City" and Rebecca Islas and Rian Snell, hereinafter called the "Owners".

WITNESSTH, that:

WHEREAS, The Owner is proceeding to build on and develop the property in accordance with the Stormwater Management Plan (the "Plan") approved by the City and the recorded plat (the "Plat") for the **Becky Islas and Rian Snell Replat of Lots 267A and 268A of Replat of Sage Meadows, Phase II-B, Jonesboro, Arkansas**, as recorded in the records of Craighead County, Arkansas.

WHEREAS, the City and the Owner, its successors and assigns, including any homeowner association, agree that the health, safety, and welfare of the residents of the City of Jonesboro, Arkansas require that on-site stormwater runoff management facilities be constructed and maintained on the property.

WHEREAS, the City requires that on-site stormwater runoff management facilities as shown on the plan be constructed and adequately maintained by the Owner, its successors and assigns, including any homeowner association.

WHEREAS, adequate maintenance is defined herein as the general upkeep of the facilities, specifically the mowing and trimming of grasses or other vegetative cover and the removal of litter and other minor debris that could impact the functionality of the facility or that would otherwise be considered unsightly or a nuisance.

WHEREAS, the City of Jonesboro shall be responsible, after construction and final acceptance of the development, for the operation and long-term maintenance of all drainage structures and improved watercourses which are part of the City of Jonesboro Stormwater Management System and which are not constructed and maintained by or under the jurisdiction of any State or Federal agency.

WHEREAS, Long-term maintenance is defined herein as the removal of sediment deposits, re-grading or shaping of embankments, drainage channels, and detention areas, and the repair or replacement of piping networks, and other underground drainage structures.

**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES
BECKY ISLAS AND RIAN SNELL REPLAT
JONESBORO, ARKANSAS - PAGE 2 OF 5**

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties agree as follows:

1. The on-site stormwater runoff management facilities shall be constructed by the Owner, its successors and assigns, in accordance with the plans and specifications identified in the Plan.
2. The Owner, its successors and assigns, including any homeowner association, shall adequately maintain the on-site stormwater runoff management facilities.
3. The Owner, its successors and assigns, hereby grant permission to the City, its authorized agents and employees, to enter upon the Property to inspect and perform long-term maintenance of the on-site stormwater runoff management facilities whenever the City deems necessary.
4. In the event the Owner, its successors and assigns, fails to adequately maintain the stormwater runoff management facilities, the City may enter upon the Property upon thirty (30) days written notification or earlier, if deemed an emergency, and take whatever steps necessary to correct the deficiencies and charge the costs of such corrective action to the Owner, its successors and assigns. The Owner, its successors and assigns, shall reimburse the City upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the City including all labor, equipment, supplies, materials, and the like. This provision shall not be construed to allow the City to erect any structure of permanent nature on the land of the Owner outside of the easement for the on-site stormwater runoff management facilities. It is expressly understood and agreed that the City is under no obligation to routinely maintain or repair said facilities, and in no event shall this agreement be construed to impose any such obligation on the City.
5. This agreement shall be recorded among the land records of Craighead County, Arkansas and shall constitute a covenant running with the land, and shall be binding on the Owner, its administrators, executors, assigns, heirs and any other successors in interests, including any homeowner association.
6. This Agreement is binding upon and inures to the benefit of the City, and the Owner, the Owner's successors and assigns, any property owners' association or homeowners' association created which pertains to all or any part of the property and any individual lot owner who has purchased all or any part of the property referred to in this Agreement. The terms of this Agreement are enforceable on all of the above parties.
7. In the event any party to this Maintenance Agreement must employ a lawyer to enforce the terms and obligations set out in this Agreement and litigation ensues, the prevailing party, as determined under Arkansas Law, shall be entitled to recover not only court costs as defined under Arkansas Law but all costs of litigation, including a reasonable attorney's fee.

**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES
BECKY ISLAS AND RIAN SNELL REPLAT**

JONESBORO, ARKANSAS - PAGE 3 OF 5

8. This Agreement is the complete agreement and understanding between the parties who have executed this Agreement. There are no other agreements, either oral or written. All prior or contemporaneous statements, representations, or guarantees are declared void. This Agreement may be amended only by a written document signed by all parties.

**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES
BECKY ISLAS AND RIAN SNELL REPLAT**

JONESBORO, ARKANSAS - PAGE 4 OF 5

Owner: Ms. Becky Islas
Printed Name

Becky Islas
Signature

7/11/13
Date

STATE OF ARKANSAS
COUNTY OF CRAIGHEAD

On this day before me, the undersigned officer, personally appeared Ms. Becky Islas, to me well known to be the persons whose names are subscribed to the foregoing instrument, and acknowledged that they had executed the same for the purposes therein stated and set forth.

WITNESS my hand and seal this 11 day of July, 2013.

Sandra J. Layne
Notary Public (Printed Name)

Sandra J. Layne
Notary Public (Signature)

My Commission Expires: 11-12-20
Owner: Rian Snell
Printed Name

Rian Snell
Signature

7/11/13
Date

OFFICIAL SEAL - #12379517 SANDRA J. LAYNE NOTARY PUBLIC-ARKANSAS CRAIGHEAD COUNTY MY COMMISSION EXPIRES: 11-12-20
--

STATE OF ARKANSAS
COUNTY OF CRAIGHEAD

On this day before me, the undersigned officer, personally appeared Rian Snell, to me well known to be the persons whose names are subscribed to the foregoing instrument, and acknowledged that they had executed the same for the purposes therein stated and set forth.

WITNESS my hand and seal this 12th day of July, 2013.

Leslie T. King
Notary Public (Printed Name)

Leslie T. King
Notary Public (Signature)

My Commission Expires: _____
OFFICIAL SEAL - #12387914
LESLIE T. KING
NOTARY PUBLIC-ARKANSAS
CRAIGHEAD COUNTY
MY COMMISSION EXPIRES: 05-09-22

**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES
BECKY ISLAS AND RIAN SNELL REPLAT**

JONESBORO, ARKANSAS - PAGE 5 OF 5

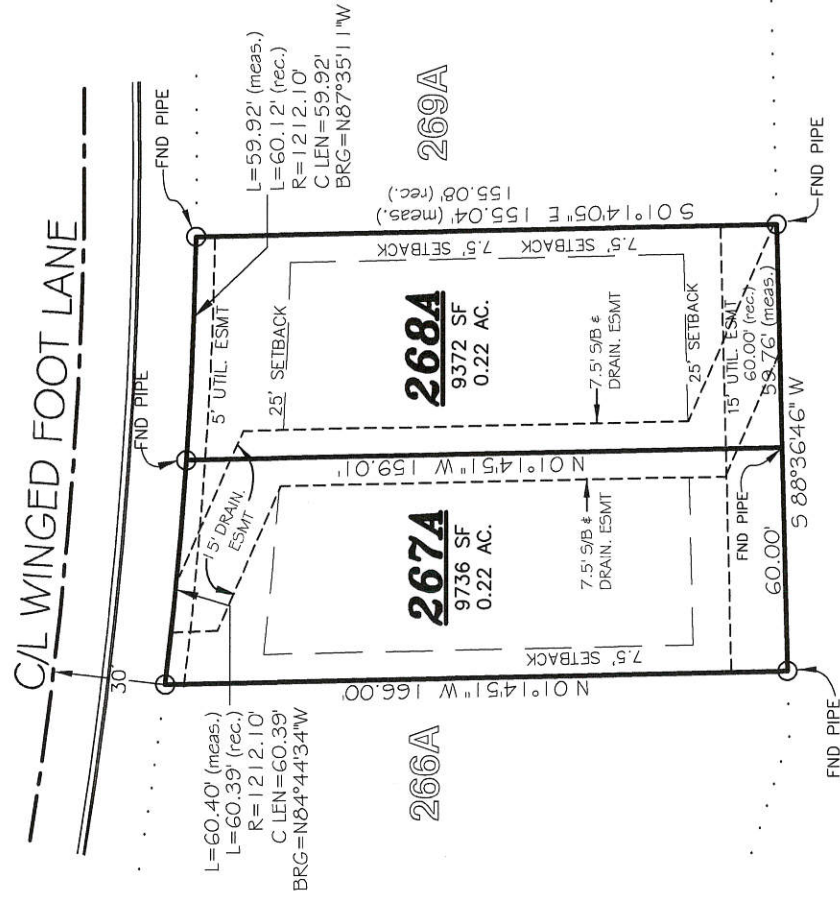
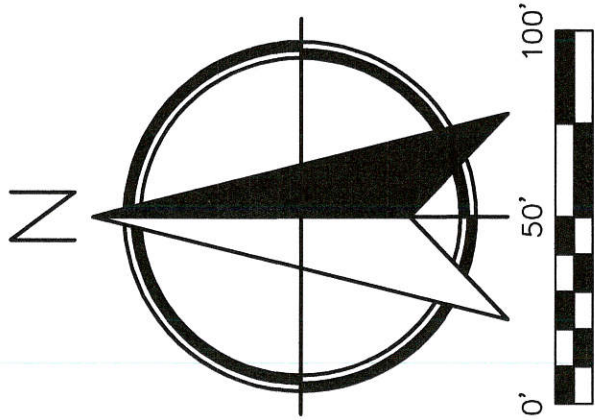
Accepted by:

Mayor

Date

City Clerk

Date



GOLF COURSE

**BECKY ISLAS AND
RIAN SNELL REPLAT
OF LOTS 267A & 268A OF REPLAT
OF SAGE MEADOWS, PHASE II-B
JONESBORO, ARKANSAS**

CERTIFICATE OF SURVEY:

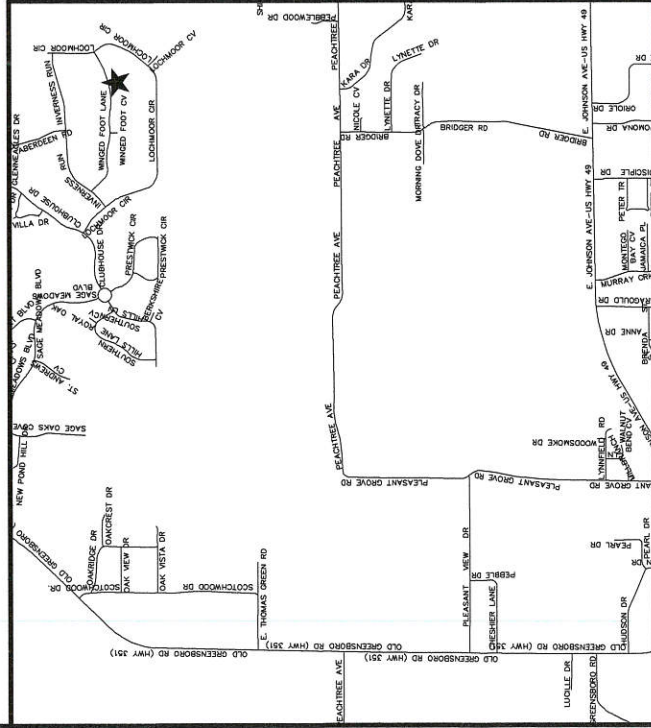
To all parties interested in Title to these premises: I hereby certify that I have prior to this day made a survey of the above described property as shown on the Plat of Survey hereon. The property lines and corner monuments, to the best of my knowledge and ability, are correctly established: the improvements are as shown on the Plat of Survey. Encroachments, if any, as disclosed by Survey, are shown hereon.

OWNER'S CERTIFICATION:

We hereby certify that we are the owners of the property shown and described hereon, that we adopt the plan of subdivision and dedicate perpetual use of all streets and easements as noted.

Richard
As of

City of **JONESBORO** ARKANSAS
 DATE **7/15/13** FILE # **RP13-40**
 FINAL APPROVAL
 PRELIMINARY (NOT FOR RECORDING)
 APPROVED BY: *[Signature]*
 PLANNING DEPT
 ENGINEERING DEPT



ENGINEERS PLANNERS SURVEYORS

Civilogic

203 Southwest Dr. - Jonesboro, AR - (870)932-7880 - www.civilogic.net

REPLAT OF LOTS 267A & 268A
OF SAGE MEADOWS - PH. II-B
FOR
BECKY ISLAS
JONESBORO, ARKANSAS

Date	01-15-13	Scale	1"=50'	Job No.	112152	Sheet No.	
Section	35	Township	15N	Range	04E	CRAIGHEAD	1 of 1

ONLY COPIES WITH VIOLET COLORED SIGNATURE ARE VALID. CIVILOGIC COPIES
 © 2013, Civilogic Drawn By: RE Checked by: GH

REGISTERED PROFESSIONAL SURVEYOR
 STATE OF ARKANSAS
 NO. 1273
 SIGNATURE OF: *[Signature]*
 DATE: 07-15-13
 GEORGE M. HAMM

CERTIFICATE OF AUTHORIZATION
 CIVILOGIC
 No. 329
 ARKANSAS-LEVELING MEASUREMENTS



Legislation Details (With Text)

File #: RES-13:122 **Version:** 1 **Name:** Free utilities for Army Reserve Center
Type: Resolution **Status:** To Be Introduced
File created: 7/26/2013 **In control:** Public Works Council Committee
On agenda: **Final action:**
Title: RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS
REQUESTING FREE UTILITIES FOR THE ARMY RESERVE CENTER LOCATED AT 1001 S.
CARAWAY ROAD
Sponsors: Mayor's Office
Indexes: Utility service from CWL
Code sections:
Attachments:

Date	Ver.	Action By	Action	Result
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RESOLUTION BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS REQUESTING FREE UTILITIES FOR THE ARMY RESERVE CENTER LOCATED AT 1001 S. CARAWAY ROAD WHEREAS, the City of Jonesboro has been deeded the Army Reserve Center to be used for a Police Department; and

WHEREAS, the City of Jonesboro is requesting City Water and Light Plant of Jonesboro provide free utility service for this location.

NOW, THEREFORE BE IT RESOLVED, BY THE CITY COUNCIL OF THE CITY OF JONESBORO, ARKANSAS:

Section 1: That the City Water and Light Plant of Jonesboro be requested by this resolution to provide free utilities to the Army Reserve Center to be used for a Police Department.

Section 2: To permit such services to be provided without charge, the City of Jonesboro hereby affirms to City Water and Light that the ultimate use of CWL utilities so provided is now and shall remain a use or purpose which the city is engaged in as part of its governmental or proprietary functions under authority granted to it by state law.



Legislation Details (With Text)

File #:	RES-13:124	Version:	1	Name:	Set a public hearing to abandon a right of way in South Oaks Addition
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	7/29/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:		Final action:	
Title:	RESOLUTION TO SET A PUBLIC HEARING REGARDING THE ABANDONMENT OF AN UNDEVELOPED RIGHT-OF-WAY IN SOUTH OAKS ADDITION PHASE II AS REQUESTED BY DR. JACK JONES				
Sponsors:					
Indexes:	Abandonment				
Code sections:					
Attachments:	Petitions Plat Utility Letters Planning Letter Engineering letter				

Date	Ver.	Action By	Action	Result
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RESOLUTION TO SET A PUBLIC HEARING REGARDING THE ABANDONMENT OF AN UNDEVELOPED RIGHT-OF-WAY IN SOUTH OAKS ADDITION PHASE II AS REQUESTED BY DR. JACK JONES

WHEREAS, Jack Jones, DVM, has filed a petition with the City Clerk of the City of Jonesboro, Arkansas, requesting that the City abandon and vacate an undeveloped street right-of-way in:

SOUTH OAKS ADDITION PHASE II, BEING PART OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 14 NORTH, RANGE 3 EAST, JONESBORO, AR, AS RECORDED IN PLAT CABINET "B", AT PAGE 92, RECORDED JUNE 26, 1989.

WHEREAS, the petition has been presented to the City of Jonesboro, Arkansas; and

WHEREAS, Arkansas law requires notice of such public hearing.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Jonesboro, Arkansas, that the City Clerk is directed to publish a notice advising the public of such request to vacate and abandon the above mentioned right-of-way and that this matter will be heard before the City Council on _____ at _____ o'clock p.m. at the Huntington Building, Jonesboro, Arkansas.

PETITION

To: Honorable Harold Perrin, Mayor, and Members of the City Council of the City of Jonesboro, Arkansas

PETITION TO VACATE AN UNDEVELOPED STREET RIGHT-OF-WAY,

We, the undersigned, being the owner(s) of property adjoining the following described property:

SOUTH OAKS ADDITION PHASE II, BEING PART OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 14 NORTH, RANGE 3 EAST, JONESBORO, AR, AS RECORDED IN PLAT CABINET "B", AT PAGE 92, RECORDED JUNE 26, 1989.

herewith file and present this petition to the City Council of the City of Jonesboro, Arkansas to have the sanitary sewer easement described above closed and abandoned.

Dated this 1st day of JULY, 2013.

PROPERTY OWNER, NAME AND ADDRESS

Jack Jones, DVM
2710 Wood Street
Jonesboro, AR 72401

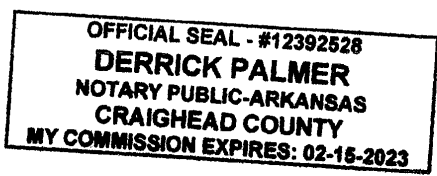
Jack R Jones, DVM July 1, 2013
Signature Date

Francis Jones 7/1/2013
Signature Date

Subscribed and sworn to before me this 1st day of July, 2013.

[Signature]
Notary

Expiration Date: 2/15/2023



PETITION

To: Honorable Harold Perrin, Mayor, and Members of the City Council of the City of Jonesboro, Arkansas

PETITION TO VACATE UNDEVELOPED STREET RIGHTS-OF-WAY,

We, the undersigned, being the owner(s) of property adjoining the following described property:

SOUTH OAKS ADDITION PHASE II, BEING PART OF THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 25, TOWNSHIP 14 NORTH, RANGE 3 EAST, JONESBORO, AR, AS RECORDED IN PLAT CABINET "B", AT PAGE 92, RECORDED JUNE 26, 1989.

herewith file and present this petition to the City Council of the City of Jonesboro, Arkansas to have the sanitary sewer easement described above closed and abandoned.

Dated this 25 day of July, 2013.

PROPERTY OWNER, NAME AND ADDRESS

Perry Parsons
745 Craighead Road
Jonesboro, AR 72401

Perry Parsons
Signature

7/25/13
Date

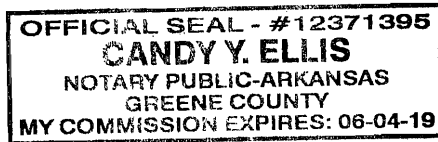
Cindy L. Parsons
Signature

7/25/13
Date

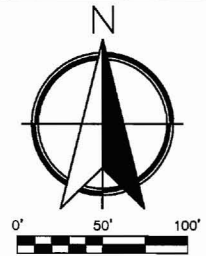
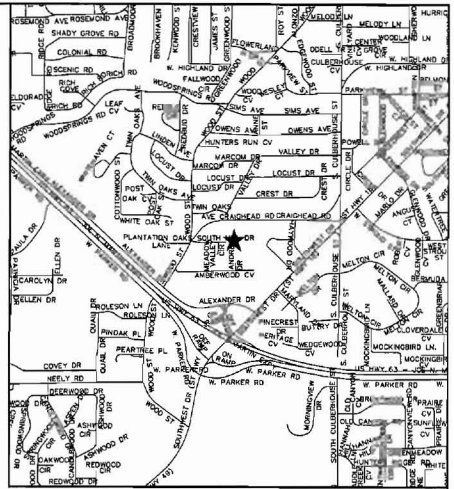
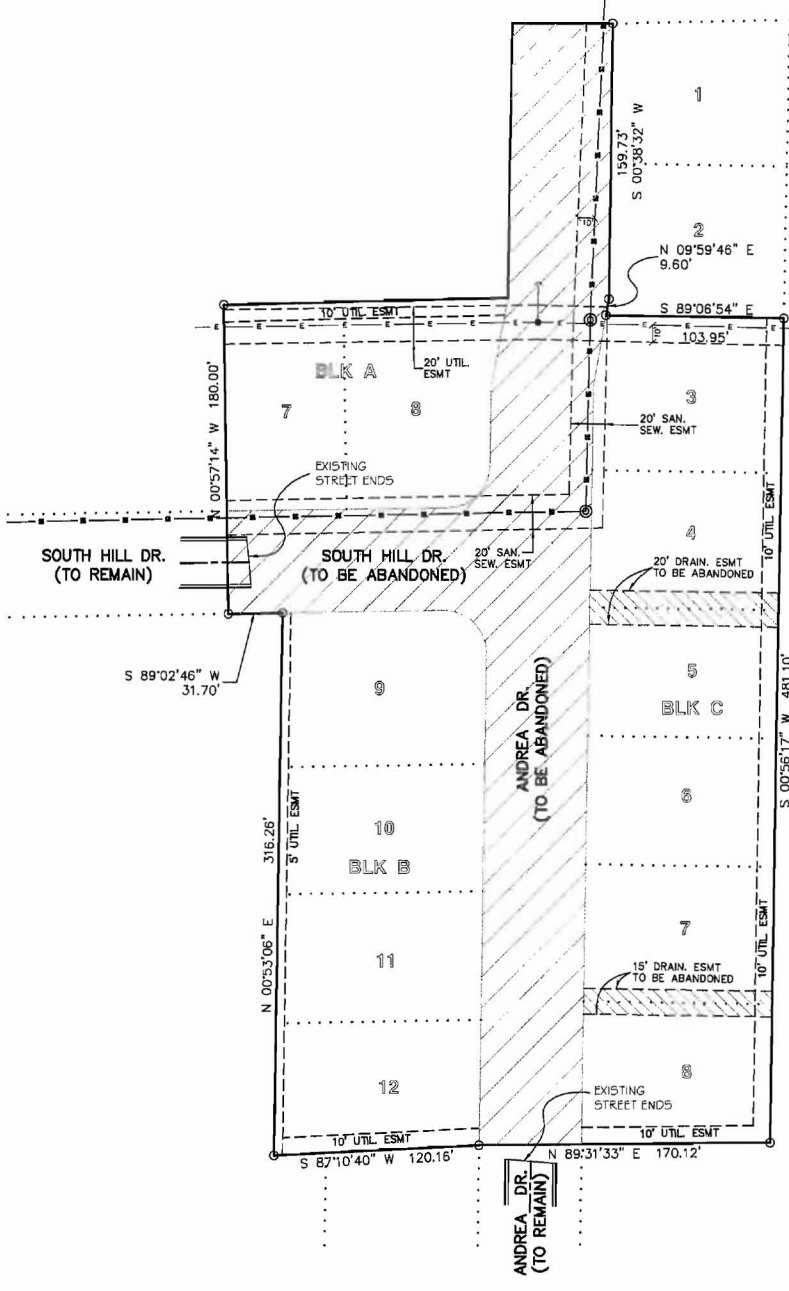
Subscribed and sworn to before me this 25 day of July, 2013.

Candy Y. Ellis
Notary

Expiration Date: 6-4-2019



C/L CRAIGHEAD RD.



STREET RIGHT-OF-WAYS TO BE ABANDONED:
 SOUTH HILL DRIVE AND ANDREA DRIVE
 WITHIN SOUTH OAKS ADDN. PHASE TWO
 AS SHOWN BY PLAT IN BOOK 'B', PAGE 62
 FILED JUNE 28, 1989 IN THE OFFICE OF THE
 CIRCUIT COURT CLERK FOR CRAIGHEAD CO., ARK.

ENGINEERS		PLANNERS		SURVEYORS	
Civilogic					
203 Southwest Dr. - Jonesboro, AR - (870) 932-7880 - www.civilogic.net					
ABANDONMENT PLAT PT. SOUTH OAKS ADDN. PH. II FOR CARROLL CALDWELL JONESBORO, ARKANSAS					
Date	Scale	Job No.	Sheet		
02-15-13	1"=50'	113004	1 of 1		
Section	Township	Range	County		
25	14N	03E	CRAIGHEAD		
ONLY COPIES WITH VIOLET COLORED SIGNATURE ARE VALID CIVILOGIC COPIES					
© 2013, Civilogic		Drawn By:	RE	Checked by:	GH

To: Civilogic

From: Suddenlink Communications, Inc.

Date: March 14, 2013

Rc: Request for Street Right-of-Way and Drainage Easement Abandonment
File Number 113004

Suddenlink Communications, Inc. has no objection to the proposed street right-of-way and drainage easement abandonment in the Former South Oaks Addition – Phase II, located in Jonesboro, Craighead County, Arkansas, provided that the existing utility easements are retained and maintained.

Respectfully,

John Fain

Construction Planner
Suddenlink Communications, Inc.



CenterPoint Energy
401 W. Capitol Avenue, Suite 600
Little Rock, AR 72201
CenterPointEnergy.com

June 6, 2013

Mr. George Hamman

Re: Former South Oaks Addition – Phase II
Requested Street Right-of-Way and Drainage Easement Abandonment
Jonesboro, AR
Craighead County

Dear Mr. Hamman,

The proposed easement abandonment for the referenced area has been reviewed and CenterPoint Energy releases all easement privileges and encroachment issues for any future use shown on the recorded plat.

Sincerely,

A handwritten signature in black ink, appearing to read "Walter L. Bryant", with a long horizontal line extending to the right.

Walter L. Bryant
Division VP – Regional Operations
CenterPoint Energy

Cindy Cole
Manager-Engineering Design AT&T
723 S Church St
Jonesboro, AR 72401
Office: 870 972-7600
E-mail: cc3290@att.com

UTILITY RELEASE FORM

R.O.W. (Right of Way) Street Abandonment Request for the South Oaks Addition Phase Two

I have been notified of the petition to vacate the following described as follows:

SOUTH HILL DRIVE AND ANDREA DRIVE WITHIN SOUTH OAKS ADDITION PHASE TWO AS SHOWN BY PLAT IN BOOK "B", PAGE 62 FILED JUNE 26, 1989 IN THE OFFICE OF THE CIRCUIT CLERK FOR CRAIGHEAD COUNTY.

I HAVE NO OBJECTIONS TO THE REQUEST BY CIVILOGIC ENGINEERS, PLANNERS, AND SURVEYORS AS LONG AS DESCRIBED UTILITY EASEMENTS ARE NOT INCLUDED IN THE ABANDONMENT. AT&T HAS EXISTING FACILITIES IN EASEMENTS.

UTILITY COMPANY COMMENTS:

- No objections to the vacation(s) described above.
- No objections to the vacation(s) described above, provided the following described easements are retained.
- Objects to the vacation(s) described above, reason described below:


Signature of Utility Company Representative



Owned by the Citizens of Jonesboro

113004

February 26, 2013

City of Jonesboro
P.O. Box 1845
Jonesboro, AR 72403
Attn: Otis Spriggs

Re: Street Right of Way Abandonment
Former South Oaks Addition Phase II
Jonesboro, Craighead County, Arkansas

Dear Otis:

Concerning the above referenced street right-of-way abandonment, CWL will require a forty (40) foot 69 Kv electric easement, twenty (20) feet either side of our line, as constructed. CWL will also require a twenty (20) foot sewer easement, ten (10) feet either side of our line, as constructed.

These easements should be executed and recorded prior to CWL consenting to the replat. Please call if you have questions or concerns.

Respectfully,

A handwritten signature in black ink, appearing to read "Ronald L. Bowen", is written over a white rectangular area.

Ronald L. Bowen
Manager, City Water & Light

Enclosure

Cc: George Hamman
Civilogic



PLANNING & ZONING DEPARTMENT



307 Vine Street
Jonesboro, AR 72401
(870) 932-0406 Voice
(870) 336-3036 Fax
www.jonesboro.org

July 29, 2013

George Hamman, Civilogic
203 Southwest Drive
Jonesboro, AR 72401

Re: Abandonment of portions of South Hill/Andrea Dr.
Right-of-Ways (South Oaks Addition Ph. II).

Dear Mr. Hamman,

The City of Jonesboro Planning Department has received your request for abandoning a portion South Hill Dr. /Andrea Dr., as described on the petition and drawings provided by you on behalf of your client.

The Planning Department has no objection to this abandonment request and has determined that it will not cause any incompliance with the Zoning or Subdivision Regulations contingent upon you satisfying all recommendations of the Jonesboro Engineering Department concerning the final terminus of the streets, and storm water application, upon right-of-way vacation.

Our office has also been made aware that you have obtained the proper consent of all abutting property owners that own property having frontage on the listed street segments.

If you require any additional information, please advise us at your convenience.

Sincerely,

A handwritten signature in black ink, appearing to read "Otis T. Spriggs". The signature is fluid and cursive, written in a professional style.

Otis T. Spriggs AICP
Planning Director, City Jonesboro, AR



July 29, 2013

Mr. George Hamman , PE, PS
Civilogic
203 Southwest Drive
Jonesboro, AR 72401

RE: Right-of-way Abandonment
South Oaks Addition Phase II

Dear Mr. Hamman,

The City of Jonesboro Engineering Department concurs with the abandonment of the portion of South Hill Drive, Andrea Drive and all drainage easements as described on the drawing prepared by Civilogic dated 2/15/2013; Job No. 113004 with the following stipulations:

1. ***§113-78(j) Streets –Residential streets or courts designed to have one end permanently closed shall be no more than 400 feet long unless approved by the planning commission. There shall be provided, at the closed end, a turnaround having an outside roadway diameter of at least 80 feet and a street tight-of way diameter of at least 100 feet.*** Provide cul-de-sac at the terminus of both South Hill Drive and Andrea Drive.
2. ***§113-80 Lots – Each lot must front upon a public street or road which has a right-of-way not less than 50 feet in width.*** Replat Lots 1 and 2 of Block C into a single lot.

If you have any questions or comments please feel free to contact me at the above reference number.

Sincerely,

Craig Light, PE CFM
City Engineer



Legislation Details (With Text)

File #:	RES-13:126	Version:	1	Name:	Maintenance agreement for Willow Creek Apartments Phase II Minor Plat
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	7/30/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:		Final action:	
Title:	A RESOLUTION TO ACCEPT A MAINTENANCE AGREEMENT FOR STORMWATER MANAGEMENT FACILITIES FOR WILLOW CREEK APARTMENTS PHASE II MINOR PLAT, A COMMERCIAL DEVELOPMENT				
Sponsors:	Engineering				
Indexes:	Contract				
Code sections:					
Attachments:	Maintenance Agreement.pdf Plat.pdf				

Date	Ver.	Action By	Action	Result
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A RESOLUTION TO ACCEPT A MAINTENANCE AGREEMENT FOR STORMWATER MANAGEMENT FACILITIES FOR WILLOW CREEK APARTMENTS PHASE II MINOR PLAT, A COMMERCIAL DEVELOPMENT

WHEREAS, the Section 112-157 of the Jonesboro Municipal code requires a maintenance agreement assuring perpetual maintenance of Stormwater Management Improvements and drainage easements to be dedicated to the City be agreed upon by the City and the developer prior to final plat approval;

WHEREAS, Willow Creek Properties Phase II, LLC has submitted a Maintenance Agreement for Stormwater Management Facilities for Willow Creek Apartments Phase II Minor Plat;

WHEREAS, the City Engineer and City Attorney have reviewed the attached Maintenance Agreement and find it to be in compliance with the Stormwater Management Regulations.

WHEREAS, the Maintenance Agreement and the final plat are to be filed concurrently with the Craighead County Circuit Clerk, upon final approval of the plat.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF JONESBORO, ARKANSAS THAT:

Section 1: The City of Jonesboro accepts the attached maintenance agreement with Willow Creek Properties Phase II, LLC for Willow Creek Apartments Phase II Minor Plat and authorizes the Mayor and City Clerk to execute all documents necessary to effectuate the agreement.

Section 2: The executed agreement is to be retained by the City Clerk until such time as the Clerk is provided with the approved final plat of the development by the Planning Department so that both documents can be filed concurrently with the Craighead County Circuit Clerk.

**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES
PAGE 1 OF 4**

Property Identification

Project Name: Willow Creek Apartments, Phase II Minor Plat
Project Address: Willow Creek Drive, Jonesboro AR 72404
Owner(s): Willow Creek Properties Phase II, LLC
Owner Address: 1735 South 19th Avenue
City: Bozeman **State:** Montana **Zip Code:** 59718

In accordance with Section 112-157 of the Jonesboro Municipal Code, this agreement is made and entered into this ___ day of _____, 20___, by and between the City of Jonesboro, an Arkansas municipal corporation, hereinafter called the "City" and _ Willow Creek Properties Phase II, LLC, hereinafter called the "Developer".

WITNESSTH, that:

WHEREAS, The Developer is proceeding to build on and develop the property in accordance with the Stormwater Management Plan (the "Plan") approved by the City and the recorded plat (the "Plat") for Willow Creek Apartments, Phase II Minor Plat as recorded in the records of Craighead County, Arkansas, at Plat Book _____, Page _____, also attached hereto as "Exhibit "A".

WHEREAS, the City and the Developer, its successors and assigns, including any property owners' association or homeowners' association, agree that the health, safety, and welfare of the residents of the City of Jonesboro, Arkansas require that on-site stormwater runoff management facilities be constructed and maintained on the property.

WHEREAS, the City requires that on-site stormwater runoff management facilities as shown on the plan be constructed and adequately maintained by the Developer, its successors and assigns, including any homeowner association.

WHEREAS, adequate maintenance is defined herein as the general upkeep of the facilities, specifically the mowing and trimming of grasses or other vegetative cover and the removal of litter and other minor debris that could impact the functionality of the facility or that would otherwise be considered unsightly or a nuisance.

WHEREAS, the City of Jonesboro shall be responsible, after construction and final acceptance of the development, for the operation and long-term maintenance of all drainage structures and improved watercourses which are part of the City of Jonesboro Stormwater Management System, are within a dedicated public drainage easement; and, which are not constructed and maintained by or under the jurisdiction of any State or Federal agency.

WHEREAS, Long-term maintenance is defined herein as the removal of sediment deposits, re-grading or shaping of embankments, drainage channels, and detention areas, and the repair or replacement of piping networks, and other underground drainage structures.

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties agree as follows:

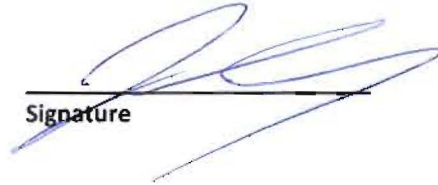
**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES
PAGE 2 OF 4**

1. The on-site stormwater runoff management facilities shall be constructed by the Developer, its successors and assigns, in accordance with the plans and specifications identified in the Plan.
2. The Developer, its successors and assigns, including any property owners' association or homeowners' association, shall adequately maintain the on-site stormwater runoff management facilities.
3. The Developer, its successors and assigns, hereby grant permission to the City, its authorized agents and employees, to enter upon the Property to inspect and perform long-term maintenance of the on-site stormwater runoff management facilities whenever the City deems necessary.
4. In the event the Developer, its successors and assigns, fails to adequately maintain the stormwater runoff management facilities, the City may enter upon the Property upon thirty (30) days written notification or earlier, if deemed an emergency, and take whatever steps necessary to correct the deficiencies and charge the costs of such corrective action to the Developer, its successors and assigns. The Developer, its successors and assigns, shall reimburse the City upon demand, within thirty (30) days of receipt thereof for all actual costs incurred by the City including all labor, equipment, supplies, materials, and the like. This provision shall not be construed to allow the City to erect any structure of permanent nature on the land of the Developer outside of the easement for the on-site stormwater runoff management facilities. It is expressly understood and agreed that the City is under no obligation to routinely maintain or repair said facilities, and in no event shall this agreement be construed to impose any such obligation on the City. Any indemnification, payment, of reimbursement obligations provided for in this Agreement shall not be enforceable against the U.S. Department of Housing and Urban Development ("HUD") or the Federal Housing Commissioner ("FHA").
5. This agreement shall be recorded among the land records of Craighead County, Arkansas and shall constitute a covenant running with the land, and shall be binding on the Developer, its administrators, executors, assigns, heirs and any other successors in interests, including any property owners' association or homeowners' association.
6. This Agreement is binding upon and inures to the benefit of the City, and the Developer, the Developer's successors and assigns, any property owners' association or homeowners' association created which pertains to all or any part of the property and any individual lot owner who has purchased all or any part of the property referred to in this Agreement. The terms of this Agreement are enforceable on all of the above parties.
7. In the event any party to this Maintenance Agreement must employ a lawyer to enforce the terms and obligations set out in this Agreement and litigation ensue, the prevailing party, as determined under Arkansas Law, shall be entitled to recover not only court costs as defined under Arkansas Law but all costs of litigation, including a reasonable attorney's fee.

**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES
PAGE 3 OF 4**

8. This Agreement is the complete agreement and understanding between the parties who have executed this Agreement. There are no other agreements, either oral or written. All prior or contemporaneous statements, representations, or guarantees are declared void. This Agreement may be amended only by a written document signed by all parties.

Owner/Agent: Mr. Jon Braxton, Member
Printed Name


Signature

7/25/13
Date

**MAINTENANCE AGREEMENT
FOR STORMWATER MANAGEMENT FACILITIES
PAGE 4 OF 4**


STATE OF MONTANA
COUNTY OF GALLATIN

On this day before me, the undersigned officer, personally appeared Mr. Jon Braxton, to me well known to be the person whose name is subscribed to the foregoing instrument, and acknowledged that he had executed the same for the purposes therein stated and set forth.

WITNESS my hand and seal this 25 day of JULY, 2013.

RACHEL WRIGLEY

Notary Public (Printed Name)



Notary Public (Signature)



My Commission Expires: _____

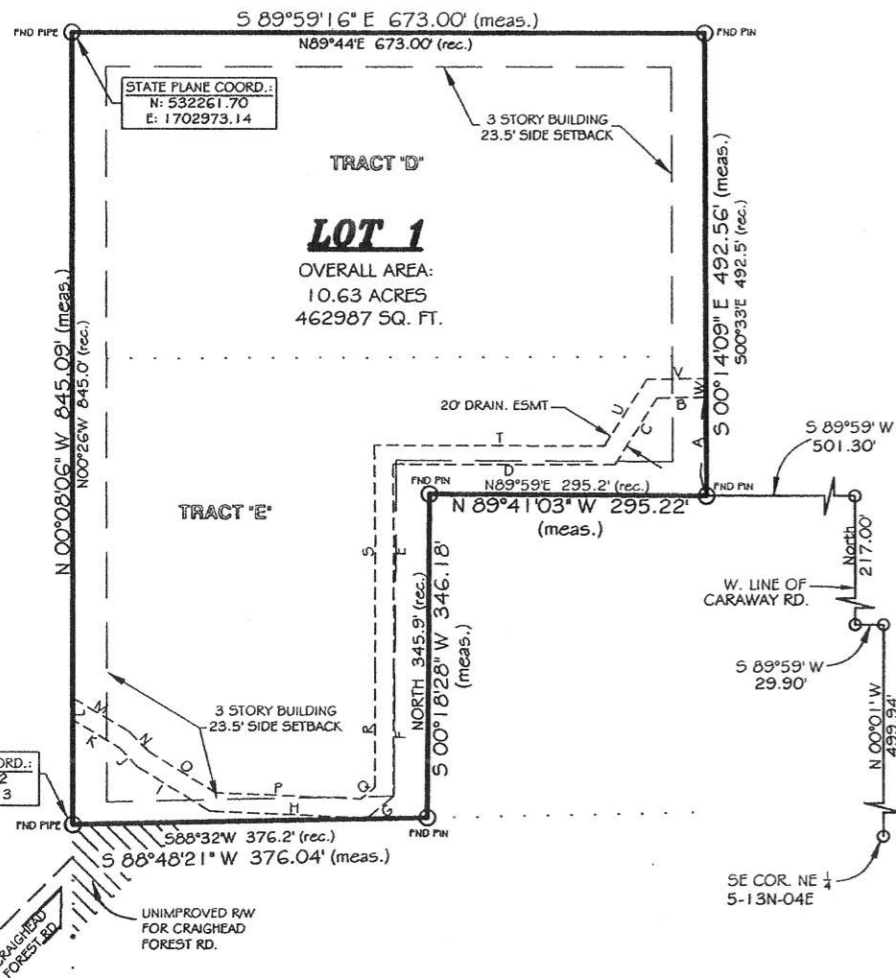
Accepted by:

Mayor

Date

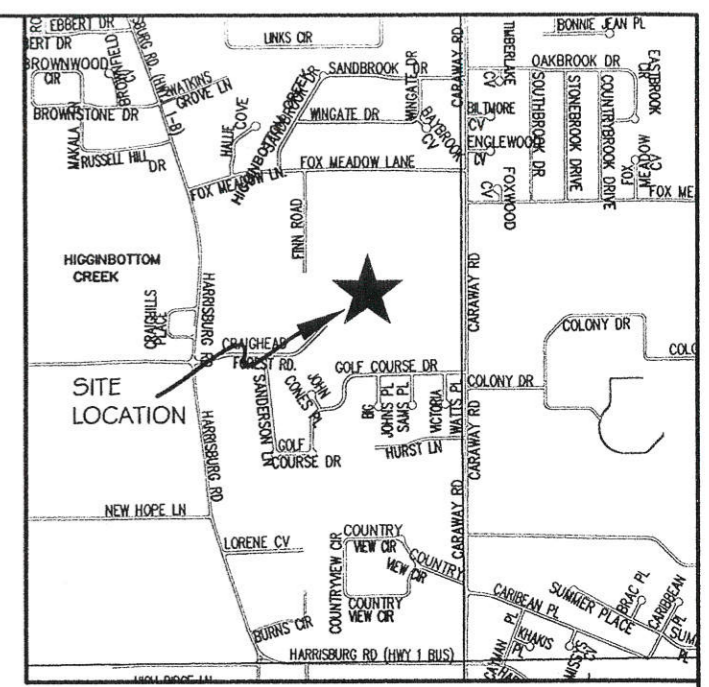
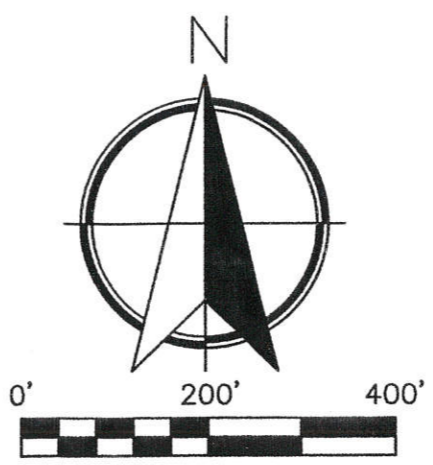
City Clerk

Date



EASEMENT CHART

A	N00°14'09\"W	105.28'
B	S89°12'03\"W	52.20'
C	S32°16'51\"W	84.65'
D	N89°52'02\"W	236.38'
E	S00°13'52\"E	222.08'
F	N00°06'58\"E	133.16'
G	S50°12'53\"W	36.32'
H	N87°35'24\"W	167.27'
I	N58°16'10\"W	90.40'
J	N41°48'07\"W	27.19'
K	N59°02'48\"W	57.91'
L	N00°08'06\"W	23.35'
M	S59°02'48\"E	68.66'
N	S44°08'45\"E	61.51'
O	S58°16'10\"E	82.28'
P	S87°35'24\"E	154.32'
Q	N50°12'53\"E	19.26'
R	N00°06'58\"E	123.75'
S	N00°13'52\"W	242.14'
T	S89°52'02\"E	245.45'
U	N32°16'51\"E	75.17'
V	N89°12'03\"E	49.27'
W	S00°14'09\"E	20.00'



LEGAL DESCRIPTION: (TRACT "D") (as furnished)

That part of the Northeast Quarter of Section 5, Township 13 North, Range 4 East, in Craighead County, Arkansas, being described as follows: Beginning at the Southeast corner of said NE 1/4 of said Section 5, run thence N00°01'W 499.94 feet, run thence S89°59'W 29.9 feet to the West line of Caraway Road, run thence North 217.0 feet, run thence S89°59'W 501.3 feet, run thence N00°33'W 149.1 feet to the true point of beginning, run thence S89°44'W 673.7 feet, run thence N00°26'W 343.4 feet, run thence N89°44'E 673.0 feet, run thence S00°33'E 343.4 feet to the true point of beginning, containing 5.31 acres, more or less, AND subject to any utility easements.

LEGAL DESCRIPTION: (TRACT "E") (as furnished)

That part of the Northeast Quarter of Section 5, Township 13 North, Range 4 East, in Craighead County, Arkansas, being described as follows: Beginning at the Southeast corner of said NE 1/4 of said Section 5, run thence N00°01'W 499.94 feet, run thence S89°59'W 29.9 feet to the West line of Caraway Road, run thence North 217.0 feet, run thence S89°59'W 501.3 feet to the true point of beginning, run thence N00°33'W 149.1 feet, run thence S89°44'W 673.7 feet, run thence S00°26'E 501.6 feet to a point on the North line of Lot 1 of Katlyn Manor Minor Plat of a replat of Linda Kerr Subdivision, run thence N88°32'E, along the North of said Lot 1 of katlyn Manor Minor Plat of a replat of Linda Kerr Subdivision, 376.2 feet, run thence North 345.9 feet, run thence N89°59'E 295.2 feet to the true point of beginning, containing 5.32 acres, more or less, AND subject to any utility easements.

TOGETHER WITH the access easement as referenced in Access Easement Agreement executed June 29, 2012 by and between Willow Creek Properties, LLC, an Arkansas limited liability company, and Willow Creek Properties Phase Two, LLC, an Arkansas limited liability company, filed for record July 3, 2012 as Document Number JB2012R-011206, records of Craighead County, Arkansas.

NOTES:

- 1) THIS SURVEY AND PLAT ARE THE PROPERTY OF THE SURVEYOR AND ARE INTENDED FOR THE SOLE USE AND BENEFIT OF THE SURVEYOR & CLIENT.
- 2) THE CLOSURE PRECISION OF THE PLAT IS IN EXCESS OF 1' IN 644,000'.
- 3) THE RESEARCH COMPLETED FOR THIS SURVEY INCLUDES PREVIOUS SURVEYS.
- 4) ALL PINS SET ARE 1/2\"/>

CERTIFICATE OF SURVEY:

To all parties interested in Title to these premises: I hereby certify that I have prior to this day made a survey of the above described property as shown on the Plat of Survey hereon. The property lines and corner monuments, to the best of my knowledge and ability, are correctly established: the improvements are as shown on the Plat of Survey. Encroachments, if any, as disclosed by Survey, are shown hereon.

OWNER'S CERTIFICATION:

We hereby certify that we are the owners of the property shown and described hereon, that we adopt the plan of subdivision and dedicate perpetual use of all streets and easements as noted.

City of **Jonesboro** ARKANSAS
 DATE **7/26/13**
 FILE # **MP13-20**
 FINAL APPROVAL
 PRELIMINARY (NOT FOR RECORDING)
 APPROVED BY: *[Signature]*
 PLANNING DEPT
 ENGINEERING DEPT

**WILLOW CREEK APARTMENTS PHASE II
 MINOR PLAT
 JONESBORO, ARKANSAS**

ENGINEERS		PLANNERS		SURVEYORS	
Civilogic					
203 Southwest Dr., Jonesboro, AR - (870)932-7880 - www.civilogic.net					
EXHIBIT 'A'					
Date	Scale	Job No.	Sheet No.		
07-09-13	1"=200'	109064	1 of 1		
Section	Township	Range	County		
5	13N	04E	CRAIGHEAD		
ONLY COPIES WITH VIOLET COLORED SIGNATURE ARE ORIGINAL CIVILOGIC COPIES					
© 2013, Civilogic		Drawn By: RE	Checked by: GH		

REGISTERED
STATE OF ARKANSAS
NO. 1273
SIGNATURE
DATE
PROFESSIONAL SURVEYOR
GEORGE M. HAMMAN

CERTIFICATE OF AUTHORIZATION
CIVILOGIC
No. 329
ARKANSAS-ENGINEER



Legislation Details (With Text)

File #:	RES-13:128	Version:	1	Name:	Property donation by Jonesboro Real Estate Holdings
Type:	Resolution	Status:		Status:	To Be Introduced
File created:	8/1/2013	In control:		In control:	Public Works Council Committee
On agenda:		Final action:		Final action:	
Title:	A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS AUTHORIZING THE MAYOR AND THE CITY CLERK TO ACCEPT THE PROPERTY DONATED BY JONESBORO REAL ESTATE HOLDINGS COMPANY, INC.				
Sponsors:	Grants, Engineering				
Indexes:	Property purchase - real				
Code sections:					
Attachments:	Agreement.pdf Job 100728 Crowleys Ridge.pdf				

Date	Ver.	Action By	Action	Result
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A RESOLUTION TO THE CITY OF JONESBORO, ARKANSAS AUTHORIZING THE MAYOR AND THE CITY CLERK TO ACCEPT THE PROPERTY DONATED BY JONESBORO REAL ESTATE HOLDINGS COMPANY, INC.

WHEREAS, Jonesboro Real Estate Holdings Company, Inc. desires to donate the following described property to the City of Jonesboro for sidewalk purposes for the Crowley's Ridge Parkway: Jonesboro Multi-Use Trail Project (Greenway Trail Section VII):

COMMENCING AT THE NORTHEAST CORNER OF LOT 3 OF THE ST. BENARDS HEALTH AND WELLNESS INSTITUTE REPLAT AFORESAID; THENCE SOUTH 89°51'09" WEST, ALONG THE NORTH LINE OF SAID LOT 3, A DISTANCE OF 272.14 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 00°50'32" WEST, DEPARTING FROM THE NORTH LINE OF SAID LOT 3, A DISTANCE OF 390.26 FEET TO A POINT LYING ON THE ARC OF A CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 72.00 FEET, A CENTRAL ANGLE OF 22°32'03", A CHORD BEARING OF SOUTH 39°12'30" EAST AND A CHORD DISTANCE OF 28.14 FEET; THENCE SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, A DISTANCE OF 28.32 FEET TO A POINT LYING ON THE NORTH RIGHT-OF-WAY LINE OF EAST MATTHEWS AVENUE; THENCE SOUTH 89°48'27" WEST, ALONG SAID NORTH RIGHT-OF-WAY LINE AND DEPARTING FROM SAID CURVE, A DISTANCE OF 11.56 FEET TO A POINT LYING ON THE ARC OF A CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 62.00 FEET, A CENTRAL ANGLE OF 21°51'57", A CHORD BEARING OF NORTH 43°51'22" WEST AND A CHORD DISTANCE OF 23.52 FEET; THENCE NORTHWESTERLY, ALONG THE ARC OF SAID CURVE AND DEPARTING FROM SAID NORTH RIGHT-OF-WAY LINE, A DISTANCE OF 23.66 FEET TO THE END OF SAID CURVE; THENCE NORTH 00°50'32" EAST, A DISTANCE OF 395.12 FEET TO A POINT LYING ON THE NORTH LINE OF LOT 3 AFORESAID; THENCE NORTH 89°51'09" EAST, ALONG THE NORTH LINE OF SAID LOT

3, A DISTANCE OF 10.00 FEET TO THE POINT OF BEGINNING.

NOW THEREFORE BE IT RESOLVED BY THE CITY COUNCIL FOR THE CITY OF JONESBORO, ARKANSAS THAT:

Section 1: The Mayor and City Clerk are hereby authorized by the City Council for the City of Jonesboro to execute all documents necessary to effectuate this Agreement.

JOB NAME Crowley's Ridge Parkway: Jonesboro
Multi-Use Trail (S)

JOB 100728
TRACT
F.A.P. SB-ARSB(902)

AGREEMENT FOR DONATION
REAL ESTATE FOR SIDEWALK PURPOSES

Grantor: JONESBORO REAL ESTATE HOLDINGS COMPANY, INC.

Grantee: CITY OF JONESBORO

IN CONSIDERATION of the benefits that will inure to the Grantor(s) and the public, the undersigned does hereby agree to donate to the City of Jonesboro, Arkansas, upon the terms and conditions hereinafter stated, the following described real estate, the right, privilege and easement to build and maintain over, upon and across the land hereinafter described a sidewalk with any and all appurtenances, save and except the oil and gas only therein and thereunder. The rights hereby conferred provide for the privilege and, situated in the County of Craighead, State of Arkansas, to wit:

COMMENCING AT THE NORTHEAST CORNER OF LOT 3 OF THE ST. BENARDS HEALTH AND WELLNESS INSTITUTE REPLAT AFORESAID; THENCE SOUTH 89°51'09" WEST, ALONG THE NORTH LINE OF SAID LOT 3, A DISTANCE OF 272.14 FEET TO THE POINT OF BEGINNING; THENCE SOUTH 00°50'32" WEST, DEPARTING FROM THE NORTH LINE OF SAID LOT 3, A DISTANCE OF 390.26 FEET TO A POINT LYING ON THE ARC OF A CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 72.00 FEET, A CENTRAL ANGLE OF 22°32'03", A CHORD BEARING OF SOUTH 39°12'30" EAST AND A CHORD DISTANCE OF 28.14 FEET; THENCE SOUTHEASTERLY, ALONG THE ARC OF SAID CURVE, A DISTANCE OF 28.32 FEET TO A POINT LYING ON THE NORTH RIGHT-OF-WAY LINE OF EAST MATTHEWS AVENUE; THENCE SOUTH 89°48'27" WEST, ALONG SAID NORTH RIGHT-OF-WAY LINE AND DEPARTING FROM SAID CURVE, A DISTANCE OF 11.56 FEET TO A POINT LYING ON THE ARC OF A CURVE CONCAVE TO THE SOUTHWEST, HAVING A RADIUS OF 62.00 FEET, A CENTRAL ANGLE OF 21°51'57", A CHORD BEARING OF NORTH 43°51'22" WEST AND A CHORD DISTANCE OF 23.52 FEET; THENCE NORTHWESTERLY, ALONG THE ARC OF SAID CURVE AND DEPARTING FROM SAID NORTH RIGHT-OF-WAY LINE, A DISTANCE OF 23.66 FEET TO THE END OF SAID CURVE; THENCE NORTH 00°50'32" EAST, A DISTANCE OF 395.12 FEET TO A POINT LYING ON THE NORTH LINE OF LOT 3 AFORESAID; THENCE NORTH 89°51'09" EAST, ALONG THE NORTH LINE OF SAID LOT 3, A DISTANCE OF 10.00 FEET TO THE POINT OF BEGINNING.

IN ACCORDANCE with Public Law 91-646, Uniform Relocation Assistance and Real Property Acquisition Policies Act, the Grantor has the right to receive just compensation for the subject property. Also, the Grantor is entitled to an appraisal of the subject property. Execution

of this agreement will release the City from the obligation of providing just compensation and an appraisal.

“Closing costs will not accrue to the Grantor(s) as the Grantee’s Attorney will prepare the necessary documents for closing and the Grantee will pay the cost of recording all instruments conveying title to the City of Jonesboro, Arkansas”.

“Grantor(s) further agrees neither to sell nor encumber the said real estate during the term of this “Agreement for Donation”.

Dated this _____ day of _____, _____.

Signature

Title
Fed. Tax Id# _____

Mayor, Harold Perrin

(Date)

City Clerk, Donna Jackson

(Date)



**CITY OF
JONESBORO**

JOB 100728
CROWLEY'S RIDGE PARKWAY: JONESBORO MULTI-USE TRAIL (S)
CRAIGHEAD COUNTY

Title to the right of way necessary for the construction of this project has been acquired in accordance with applicable Federal Highway Administration procedures.

1	Tract(s)
1	Option(s)

There are no displaces on this project.

There are no structures located within the right of way area.

No right of way in excess of that needed for construction or future maintenance of this project was acquired.

No conflicting utilities are known to exist in the right of way area.

Certified by: _____ Date: _____
Harold Perrin
Mayor