

ADDENDUM NO. 4*Renovation Services for*
WELDON AUDITORIUMManning, South Carolina
Meadors Project No. 21-0024
Clarendon County Project No. ITB 2024-014**DATE OF ISSUE: April 04th, 2025****PREPARED BY:****ARCHITECT:**Meadors, Inc.
2811 Azalea Drive
Charleston SC, 29405
(843) 723-8585

TO ALL OFFERORS: This Addendum modifies the Proposal Documents only in the manner and to the extent stated herein and shown on any accompanying drawings and will become a part of the Proposal Documents. Except as specified or otherwise indicated by this Addendum, all work shall be in accordance with the basic requirements of the Proposal Documents.

This Addendum consists of TWO (2) pages, the following enclosures, and addresses the questions received to date:

I. ENCLOSURES:

1. Specification Section "055000 Metal Fabrications"
2. Substitution Request Form

II. GENERAL INFORMATION / CLARIFICATIONS:

1. ITB General Questions
 - a. **Question:** Can you please verify the Bid date for Weldon Auditorium?
 - i. **Response:** The project schedule has been shifted back by one week from the original schedule. Bids are now due Tuesday, April 15, 2025 by 2:00 p.m. Please see the updated dates on the schedule in the last Addendum issued on 03/28/2025 as well as the full updated schedule listed below.
 - b. **Question:** Will we be responsible for getting the tonnage for mini splits 1,3,4,5?
 - i. **Response:** Contractor to verify tonnage for mini-split units CU-1, CU-3, CU-4, CU-5 and replace with new equally compliant units.
 - c. **Question:** Will there be storage space there to house the equipment to be removed and put back?
 - i. **Response:** Contractor is responsible for providing storage spaces sized, furnished, and equipped to accommodate materials and equipment for construction operations. Please review Specification Section 015000 "Temporary Facilities and Controls" within the solicitation documents issued on 03/03/2025.
 - d. **Question:** Will the platforms, stands, or curbs be left in place for these unit reinstalls?
 - i. **Response:** If existing roof rails are in good condition, meet current seismic requirements, and will work with proposed roof pitches, they are to be retained.

If not, they will need to be replaced or adapted to meet seismic and roofing requirements.

- e. **Question:** Is the roof work going to be in phases? Consideration for crane usage must be figured.
 - i. **Response:** Weldon Auditorium is a functioning facility that requires all roof work to proceed in a scheduled manner. During the reroofing campaign, water cannot enter the facility and ruin finished spaces below. It is recommended that any roofing removed should be replaced or dried in on the same day. It is the contractor's responsibility to schedule any crane usage on site to fit within the construction schedule.
- f. **Question:** Is there current controls/EMS system in place? If yes, we need point of contact.
 - i. **Response:** There is no EMS system in place for this project.
- g. **Question:** At Mini-Splits, will the existing roof rails be reused?
 - i. **Response:** If existing roof rails are in good condition, meet current seismic requirements, and will work with proposed roof pitches, they are to be retained. If not, they will need to be replaced or adapted to meet seismic and roofing requirements.
- h. **Question:** Will economizers be required on any RTHP?
 - i. **Response:** Economizers are not required for this project.
- i. **Question:** A substitution has been requested for metal ladder manufactures?
 - i. **Response:** Please see the attached Specification Section "055000 Metal Fabrications" for the revised statements.

III. CHANGES TO SPECIFICATIONS:

- 1. Specification Section "055000 Metal Fabrications"
 - a. Subparagraph 2.7.B

IV. CHANGES TO DRAWINGS:

- 1. None

V. PROJECT SCHEDULE:

- 1. Monday, March 3, 2025: Bidding period begins
- 2. Tuesday, March 18, 2025: Pre-bid meeting on site at 10:00 a.m.
- 3. Tuesday, April 01, 2025: Weldon site is available between 10:00 a.m. – 2:00 p.m.
- 4. Wednesday, April 02, 2025: Weldon site is available between 10:00 a.m. – 2:00 p.m.
- 5. Monday, April 07, 2025: Deadline for questions by 1:00 p.m.
- 6. Tuesday, April 15, 2025: Bid due by 2:00 p.m.
- 7. Monday, April 28, 2025: Bid accepted (tentatively)
- 8. Construction Start: June, 2025

VI. PREVIOUS ADDENDA:

- 1. Addendum No. 1: Issued March 14, 2025
- 2. Addendum No. 2: Issued March 21, 2025
- 3. Addendum No. 3: Issued March 28, 2025

END OF ADDENDUM

SUBSTITUTION REQUEST

(During the Bidding/Negotiating Phase)

SUBMITTED BY:



PROJECT: Weldon Auditorium Renovations

SUBSTITUTION
REQUEST NUMBER: _____

TO: Jeremy M. Tate

FROM: _____

DATE: 03/26/2025

Meadors Inc

A/E PROJECT NUMBER: 21-0053

RE: Substitution Request for Aluminum Ladder

CONTRACT FOR: _____

SPECIFICATION TITLE: Metal Fabrications

DESCRIPTION: PART 2 PRODUCTS

SECTION: 055000

PAGE: 4

ARTICLE/PARAGRAPH: 2.7 Metal Ladders

PROPOSED SUBSTITUTION: access ladder

MANUFACTURER: O'Keeffe's Inc

ADDRESS: 100 N Hill Dr., Ste 12, Brisbane, CA 94005

PHONE: 888.653.3333

TRADE NAME: O'Keeffe's Inc

MODEL NO.: 503A, 533

Attached data includes product description, specifications, drawings, photographs, and performance and test data adequate for evaluation of the request; applicable portions of the data are clearly identified.
Attached data also includes a description of changes to the Contract Documents that the proposed substitution will require for its proper installation.

The Undersigned certifies:

- Proposed substitution has been fully investigated and determined to be equal or superior in all respects to specified product.
- Same warranty will be furnished for proposed substitution as for specified product.
- Same maintenance service and source of replacement parts, as applicable, is available.
- Proposed substitution will have no adverse effect on other trades and will not affect or delay progress schedule.
- Proposed substitution does not affect dimensions and functional clearances.
- ~~Payment will be made for changes to building design, including A/E design, detailing, and construction costs caused by the substitution.~~

SUBMITTED BY: Saira Seldo

SIGNED BY: Saira Seldo

Digitally signed by Saira Seldo
Date: 2023.04.07 11:59:32 -07'00'

FIRM: O'Keeffe's Inc

ADDRESS: 100 N Hill Drive, Suite 12, Brisbane, CA 94005

TELEPHONE: 888.653.3333

A/E's REVIEW AND RECOMMENDATION:

- ☒ Approve Substitution—Make submittals in accordance with Specification Section 01 33 00 Submittal Procedures.
- ☐ Approve Substitution as noted—Make submittals in accordance with Specification Section 01 33 00 Submittal Procedures.
- ☐ Reject Substitution—Use specified materials.
- ☐ Substitution Request received too late—Use specified materials.

SIGNED BY: Jeremy Tate

DATE: 04/04/2025

SUPPORTING DATA ATTACHED:

☒ Drawings ☒ Product Data ☐ Samples ☐ Tests ☐ Reports ☐ _____

O'Keeffe's Inc.
ARCHITECTURAL BUILDING PRODUCTS

ALUMINUM LADDERS
ACCESS • SHIP • CAGE • CUSTOM



O'Keeffe's Architectural Ladders

Since 1939, O'Keeffe's has been manufacturing the most specified aluminum ladder in the USA. O'Keeffe's can custom fabricate virtually any type of fixed access, ship or cage ladder you need. Our expertise includes in-house research and development, CADD/CAM design, fully integrated manufacturing and an extensive aluminum building products line. With 80 years of design, engineering and manufacturing experience, our dedicated staff can assist you from concept to completion.

80 years of custom design and engineering experience.

Most often specified ladder manufacturer.

First-in-the-industry deeply serrated square rungs for maximum traction.

Non-spark, high strength aluminum.

Meets OSHA/ANSI standards.

Fast lead times.

Made in USA.



Visit www.okeeffes.com to view product information, specifications, drawings and 3-D BIM models, or to receive a Quick Quote within 24 hours.



Custom O'Keeffe's ladder at
San Francisco International Airport



Photo:
Angie Thornbury Homes

ACCESS LADDERS

- Lightweight, corrosive resistant, low maintenance aluminum.
- Serrated square rungs for maximum strength and safety.
- Non-spark, high strength aluminum.
- All stainless steel hardware.
- Safety post or fall arrest system is available.
- Standard mill finish with anodized, painted or powder coated finishes available at additional cost.

500 / 501

502

503

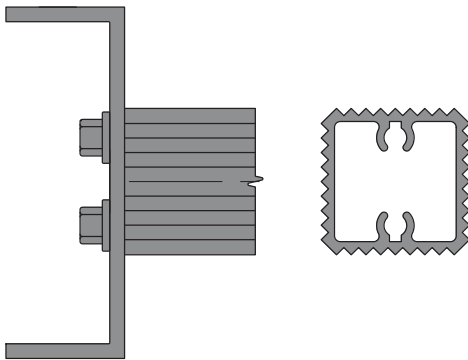
503a

504



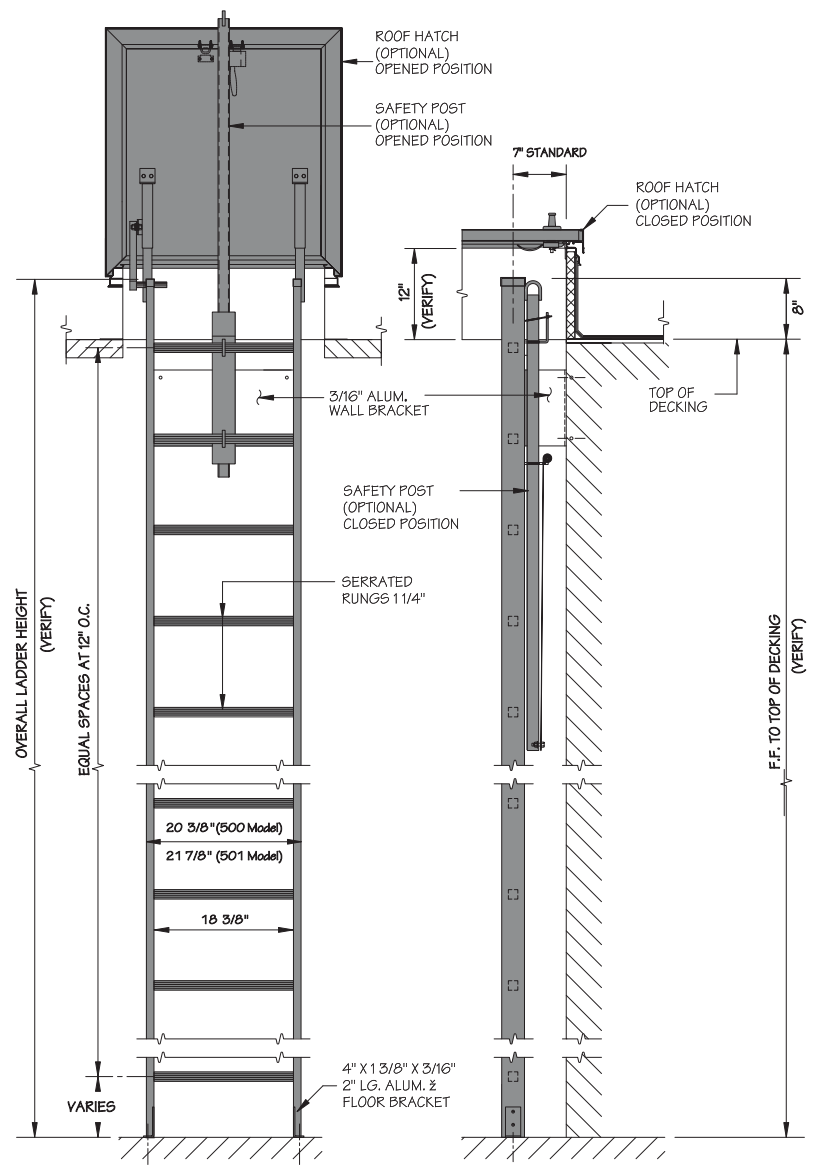
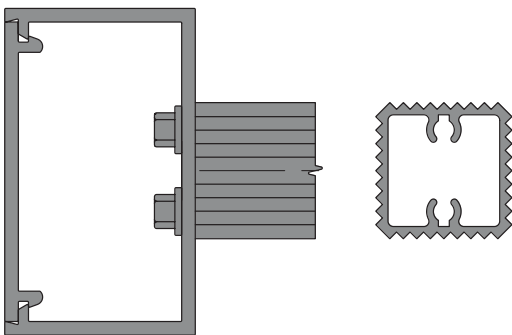
Model 500

Standard Duty Channel Rail



Model 501

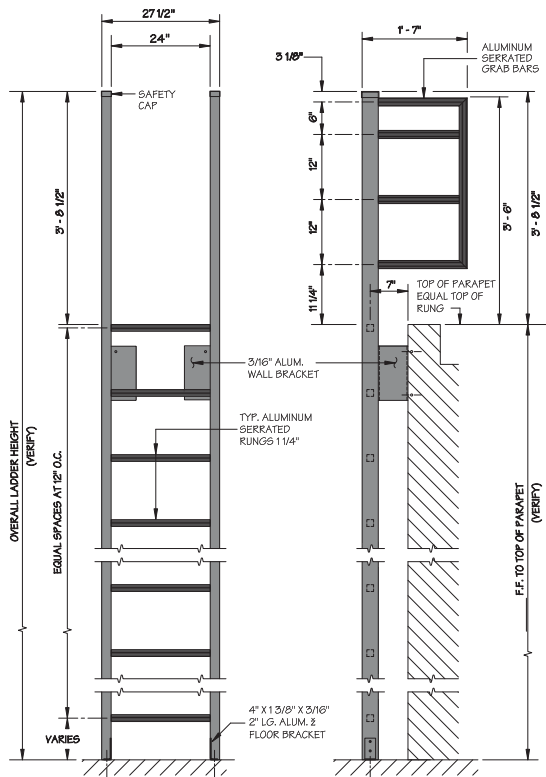
Heavy Duty Tubular Rail



ACCESS LADDERS

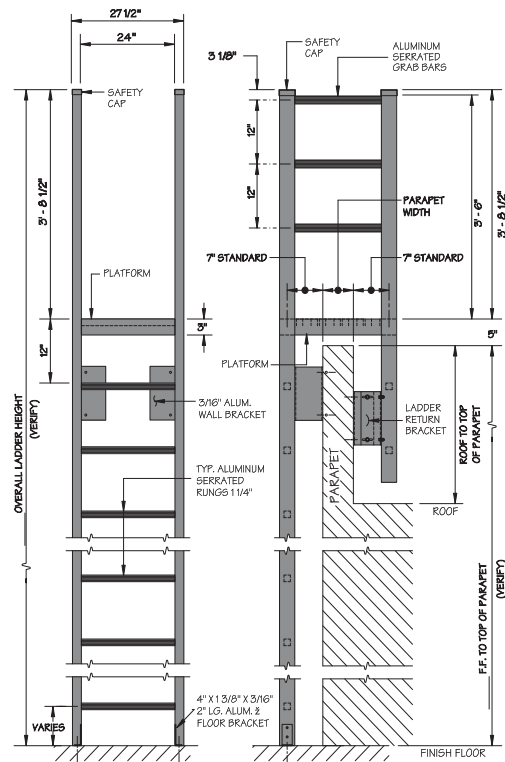
Model 502

Tubular Rail Low Parapet Access Ladder with Roofover Rail Extensions



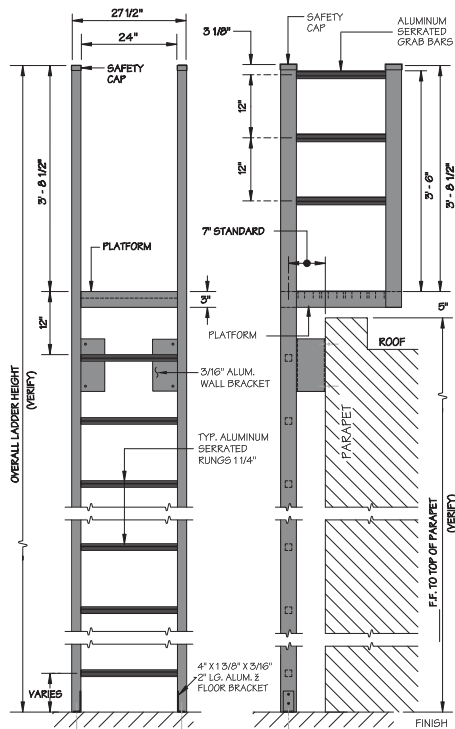
Model 503

Tubular Rail High Parapet Access Ladder with Platform and Return



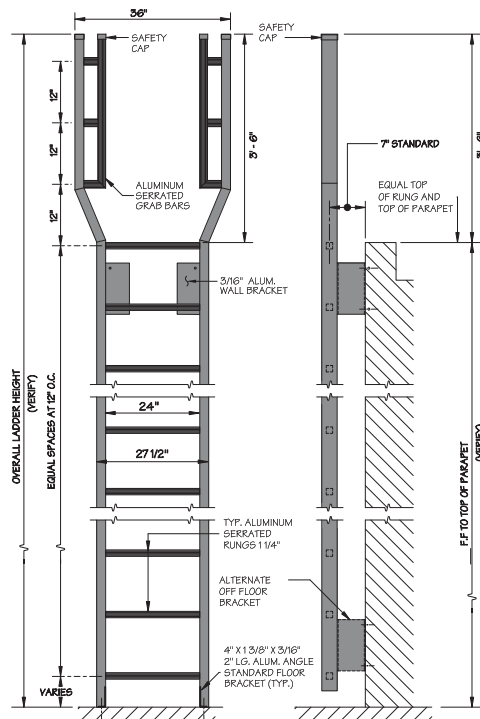
Model 503a

Tubular Rail Low Parapet Access Ladder with Platform Only



Model 504

Tubular Rail Low Parapet Access Ladder with Walk-Through Rail Extensions



SHIP LADDERS

- 60° or 75° standard slope with other slopes available upon request.
- Lightweight, corrosive resistant, low maintenance aluminum.
- Non-spark, high strength aluminum.
- All stainless steel hardware.
- Serrated treads for maximum strength and safety.
- Standard mill finish with anodized, painted or powder coated finishes available at additional cost.

520

521

522

523

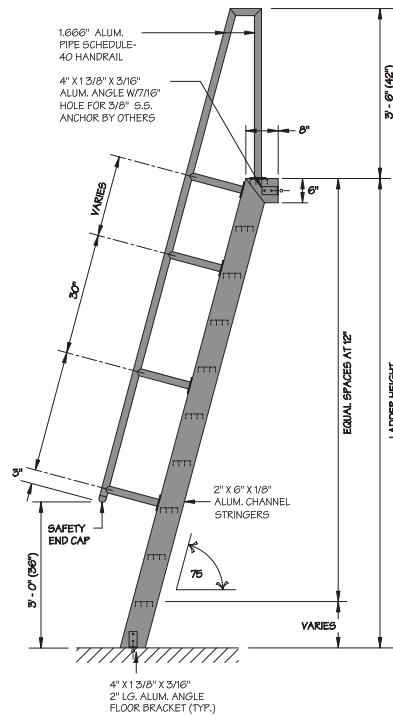
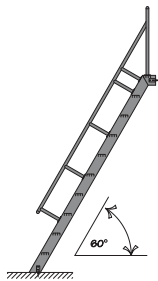


Model 520

Standard Ship Ladder

Model 520a

60° Slope

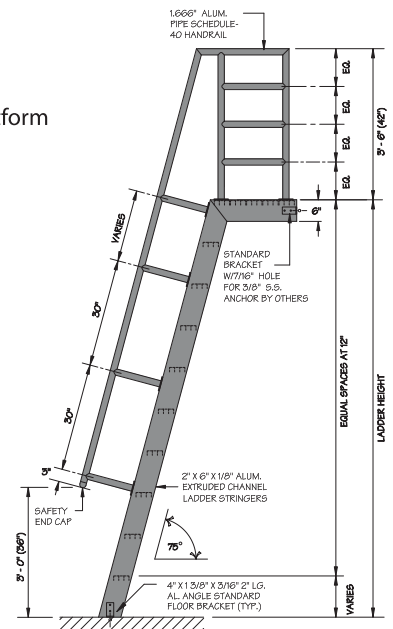
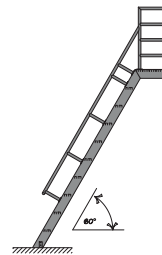


Model 521

Ship Ladder with Platform

Model 521a

60° Slope

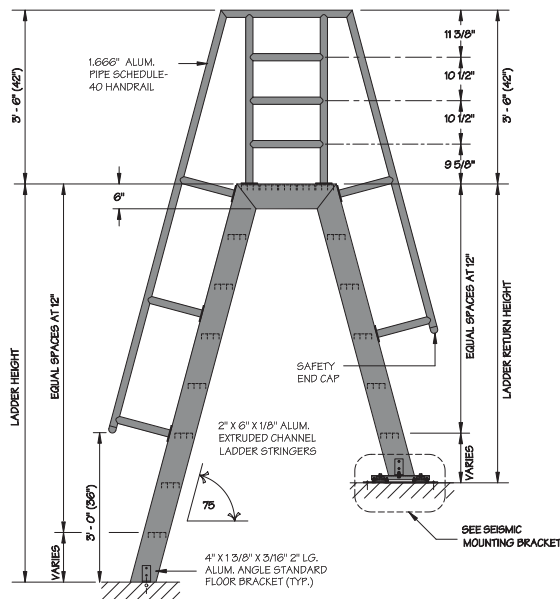
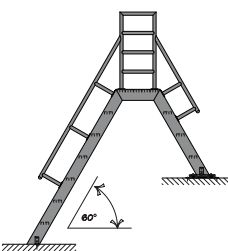


Model 522

Ship Ladder with Platform and Return

Model 522a

60° Slope

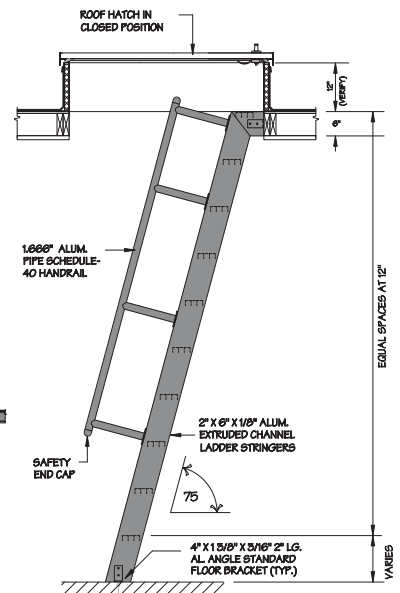
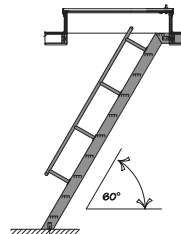


Model 523

Ship Ladder with Access to Roof Hatch

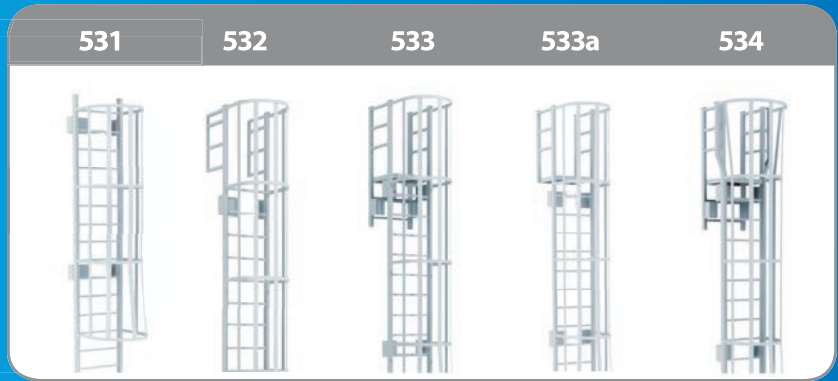
Model 523a

60° Slope



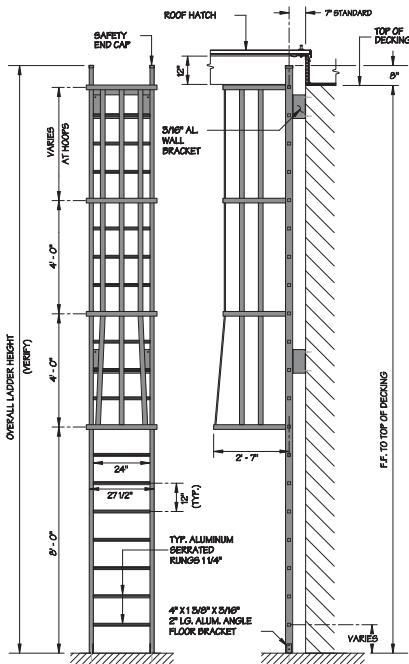
CAGE LADDERS

- Lightweight, corrosive resistant, low maintenance aluminum.
- Serrated square rungs for maximum strength and safety.
- Non-spark, high strength aluminum.
- All stainless steel hardware.
- Standard mill finish with anodized, painted or powder coated finishes available at additional cost.



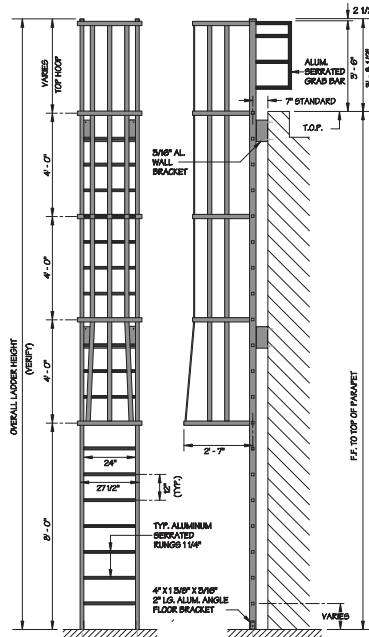
Model 531

Standard Cage Ladder



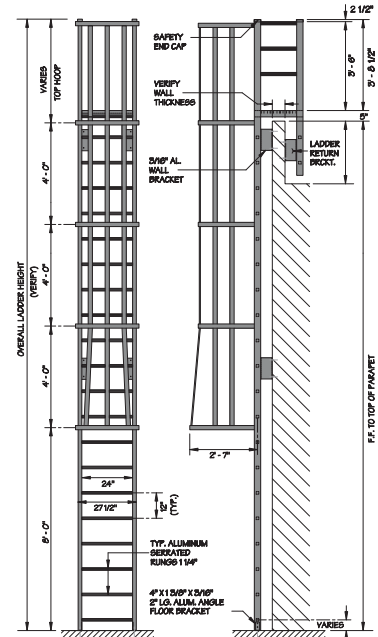
Model 532

Low Parapet Access with Roofover Rail Extensions



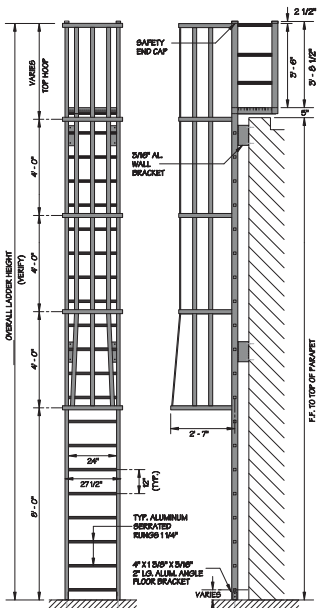
Model 533

High Parapet Access with Platform and Return



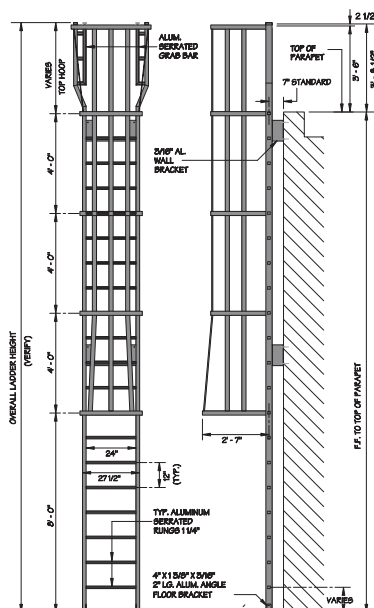
Model 533a

Low Parapet Access with Platform No Return



Model 534

Low Parapet with Walk-Through Rail Extensions



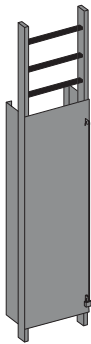
LADDER OPTIONS

SD

Security Door

For models

501
502
503
503A
504
and Cage
Ladders



FA

Fall Arrest

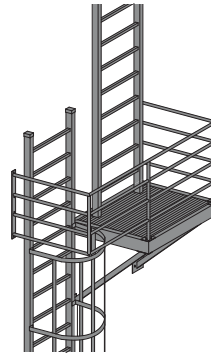
For all Access
Ladders



LP

Landing
Platform

For all Access
and Cage
Ladders

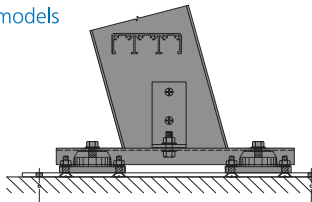


SB

Seismic Bracket

For models

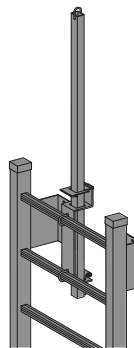
520
521
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523



SP

Safety Post

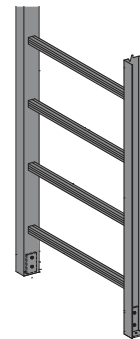
For models
500
501
531



FMB

Floor Mounted
Bracket
(standard)

For all Access
and Cage
Ladders

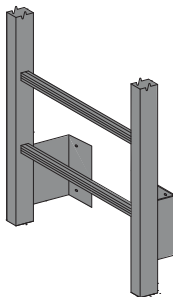


OMB

Off-Floor
Mounting
Bracket

9" deep with
7" backset

For all Access
and Cage
Ladders

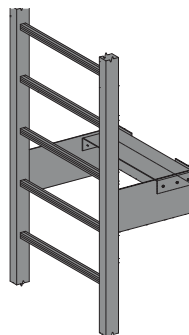


EIB

Extended
Intermediate
Bracket

9" deep

For all Access
and Cage
Ladders

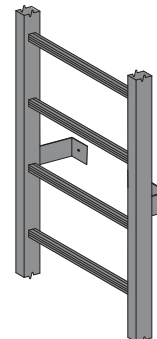


AIB

Additional
Intermediate
Bracket







3" deep with 7"
backset.

For all Access
and Cage
Ladders



LADDER FINISHES

O'Keeffe's ladders are available in standard mill finish and can be polyurethane or Kynar® painted, anodized, or powder coated in any specified RAL color for an additional cost.

	Standard Mill Finish		Caution Yellow
	Fire Red		Safety Green
	Alert Orange		Warning Blue

For a complete RAL color catalog,
visit <http://www.ralcolor.com>



Aluminum Ladders

Toll Free Ph: 888.653.3333
Toll Free Fax: 888.653.4444

100 N Hill Drive, Suite 12
Brisbane, CA 94005-1010

**Complete 3-part specifications
may be downloaded from
WWW.OKEEFFES.COM**

Custom O'Keeffe's ladder at
San Francisco International Airport



O'Keeffe's Inc.
ARCHITECTURAL BUILDING PRODUCTS

ALUMINUM LADDERS
ACCESS • SHIP • CAGE • CUSTOM



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Since 1939, O'Keeffe's has been manufacturing the most specified aluminum ladder in the USA. O'Keeffe's can custom fabricate virtually any type of fixed access, ship or cage ladder you need. Our expertise includes in-house research and development, CADD/CAM design, fully integrated manufacturing and an extensive aluminum building products line. With 80 years of design, engineering and manufacturing experience, our dedicated staff can assist you from concept to completion.

80 years of custom design and engineering experience.

Most often specified ladder manufacturer.

First-in-the-industry deeply serrated square rungs for maximum traction.

Non-spark, high strength aluminum.

Meets OSHA/ANSI standards.

Fast lead times.

Made in USA.



Visit www.okeeffes.com to view product information, specifications, drawings and 3-D BIM models, or to receive a Quick Quote within 24 hours.



Custom O'Keeffe's ladder at
San Francisco International Airport

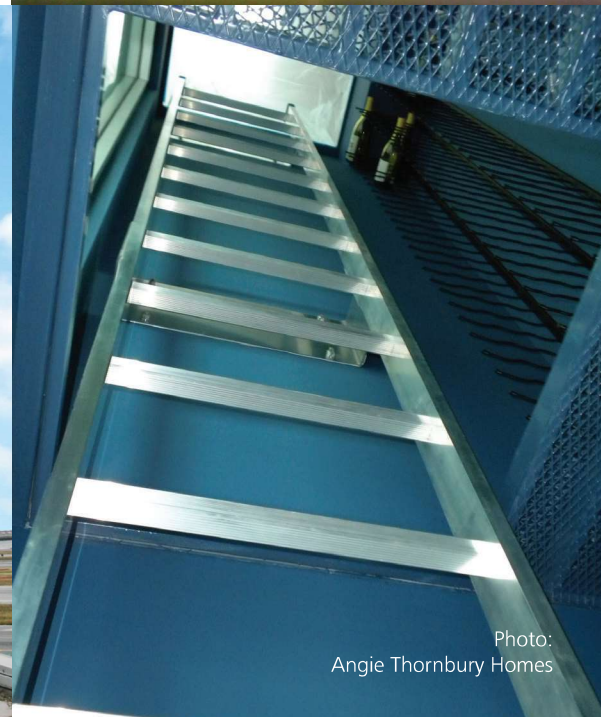


Photo:
Angie Thornbury Homes

ACCESS LADDERS

- Lightweight, corrosive resistant, low maintenance aluminum.
- Serrated square rungs for maximum strength and safety.
- Non-spark, high strength aluminum.
- All stainless steel hardware.
- Safety post or fall arrest system is available.
- Standard mill finish with anodized, painted or powder coated finishes available at additional cost.

500 / 501

502

503

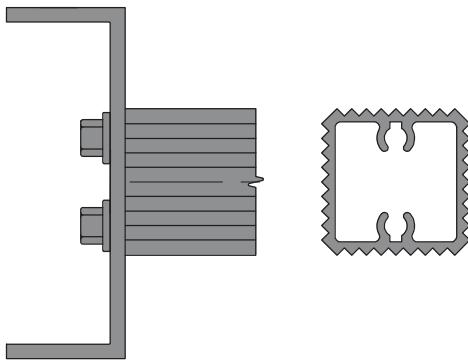
503a

504



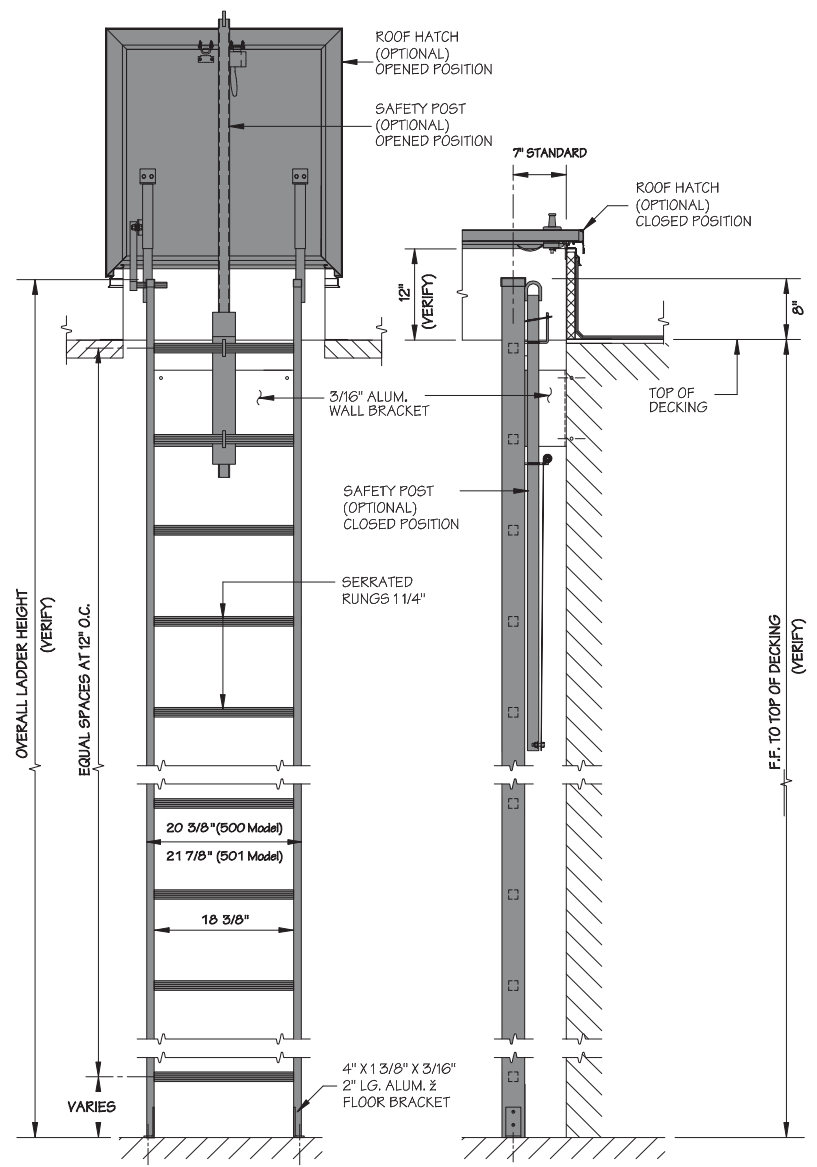
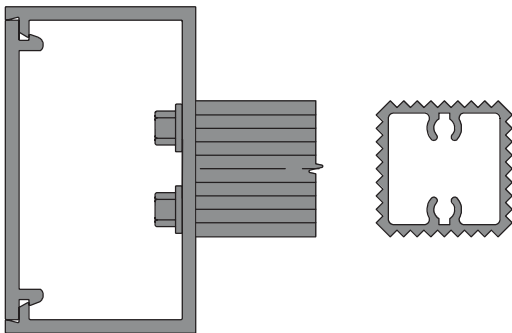
Model 500

Standard Duty Channel Rail



Model 501

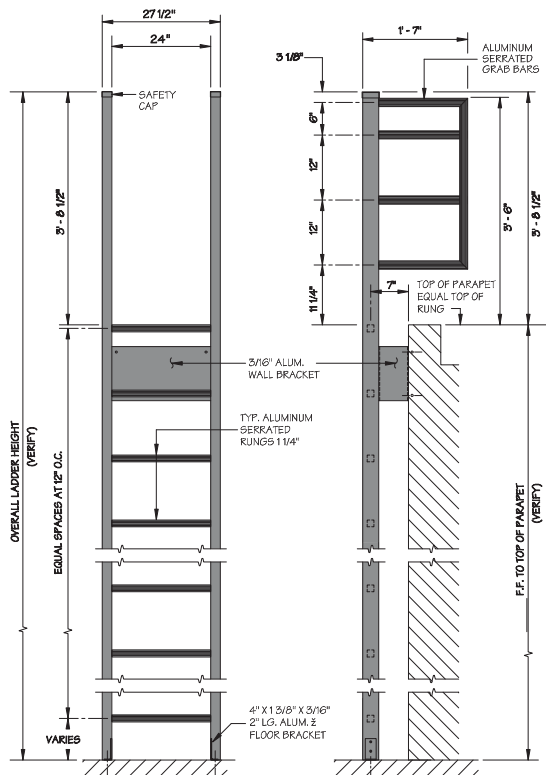
Heavy Duty Tubular Rail



ACCESS LADDERS

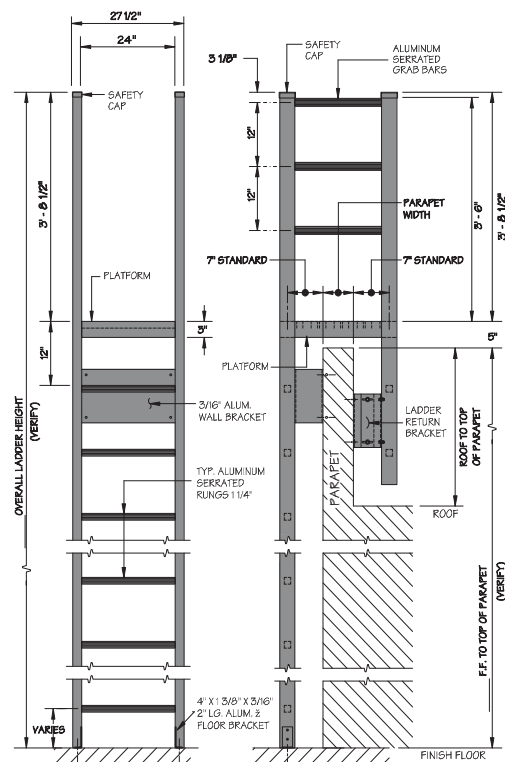
Model 502

Tubular Rail Low Parapet Access Ladder with Roofover Rail Extensions



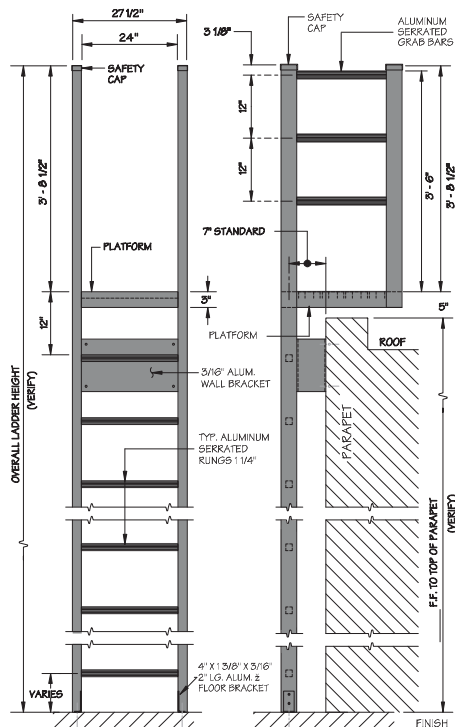
Model 503

Tubular Rail High Parapet Access Ladder with Platform and Return



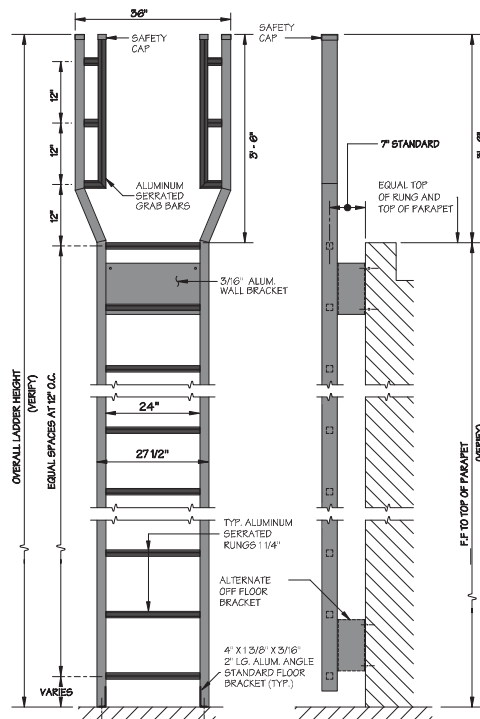
Model 503a

Tubular Rail Low Parapet Access Ladder with Platform Only



Model 504

Tubular Rail Low Parapet Access Ladder with Walk-Through Rail Extensions



THE MANY ADVANTAGES OF USING ALUMINUM LADDERS VS STEEL LADDERS



Aluminum Ladder



Steel Ladder

"IT'S HOW YOU GET TO THE TOP THAT MATTERS"

When it comes to durability, strength and versatility, aluminum has it covered.

Here are a few reasons to consider aluminum ladders over steel ladders:

- 1** Aluminum is resistant to rust and corrosion. Steel ladders are either galvanized or made with stainless steel in order to minimize rust or corrosion. Aluminum ladders naturally and economically resist rust and corrosion.



O'Keeffe's Aluminum Ladder



Steel Ladder

- 2** Because aluminum is maintenance-free, it has a low lifetime cost. Aside from being more affordable than stainless steel or galvanized steel ladders, aluminum does not require constant maintenance, which saves money over time.
- 3** Aluminum is environmentally friendly. Our aluminum extrusions are made with recycled content. Steel ladders can rust over time, and eventually have to be replaced, resulting to greater environmental impact.
- 4** Aluminum is a lightweight, high-strength material. Steel ladders are heavy, which makes it difficult and expensive to transport and handle. Although aluminum is lightweight, it has excellent strength-to-weight ratio, making it the perfect material for long lasting, maintenance-free commercial ladder installations.

O'Keeffe's ladders are made of 6061-T6 alloy rungs and 6063-T5 alloy extrusions. Our rungs are capable of withstanding 1,500 lbs. of load.



- 5** O'Keeffe's aluminum ladders have deeply serrated square rungs for maximum foot traction and safety. Steel ladders typically have round rungs and are not serrated, making it less stable for the person trying to climb it.



O'Keeffe's Square Rungs



Steel Round Rungs

- 6** Aluminum is non-spark and non-magnetic. When struck against itself or other non-ferrous metals, aluminum will not spark, reducing the risk of it being a fire hazard. Because it is non-magnetic, it can be used in places where magnetic equipment are stored.
- 7** Aluminum ladders offer multiple finishes. Aluminum ladders can be painted, clear anodized, bronze anodized, black anodized, etc. without losing its shine or color. Steel can be painted, but not anodized.

O'Keeffe's Inc. has over 75 years of custom design and engineering and experience. Our dedicated and knowledgeable staff can assist you with any fixed access, ship, cage or custom ladder that you need. We also manufacture platforms, catwalks, railings, and much more.



Looking to specify O'Keeffe's for your next project?
Call us today at 888.653.3333 or visit us online at www.okeeffes.com.
We look forward to working with you!



With over 75 years of custom design and engineering experience, our dedicated and knowledgeable staff can assist you with any access ladders, ship ladders, cage ladders, custom ladders, custom stairs, platforms, catwalks, railings and much more!

O'Keeffe's Inc.
ARCHITECTURAL BUILDING PRODUCTS
ACCESS • SHIP • CAGE • CUSTOM

888.653.3333
www.okееffes.com
100 N Hill Drive, Suite 12
Brisbane, CA 94005-1010



O'Keeffe's Inc.
ARCHITECTURAL BUILDING PRODUCTS

ALUMINUM LADDERS
ACCESS • SHIP • CAGE • CUSTOM



O'Keeffe's Architectural Ladders

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Most often specified ladder manufacturer.

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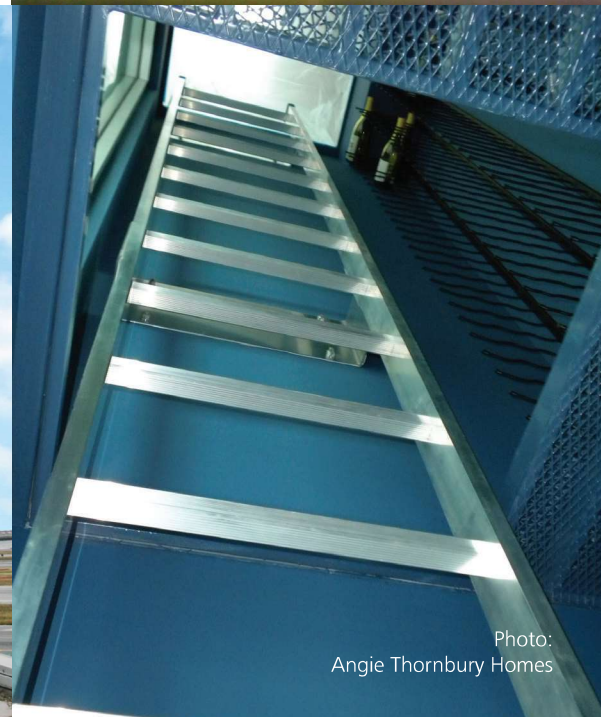
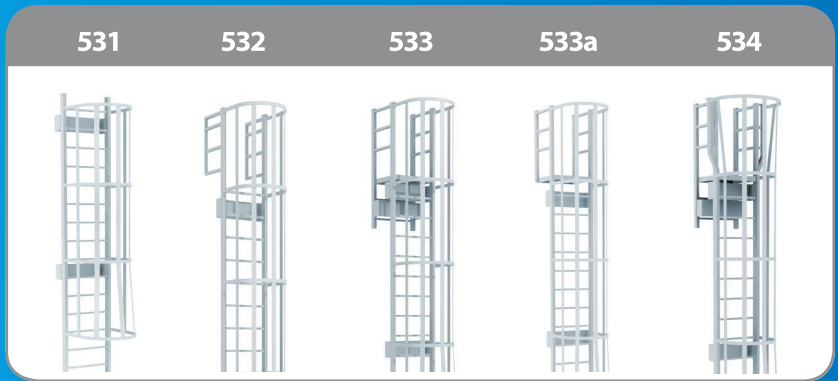


Photo:
Angie Thornbury Homes

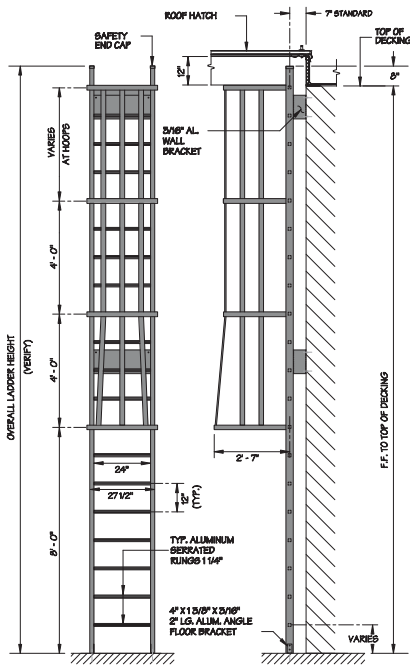
CAGE LADDERS

- Lightweight, corrosive resistant, low maintenance aluminum.
- Serrated square rungs for maximum strength and safety.
- Non-spark, high strength aluminum.
- All stainless steel hardware.
- Standard mill finish with anodized, painted or powder coated finishes available at additional cost.



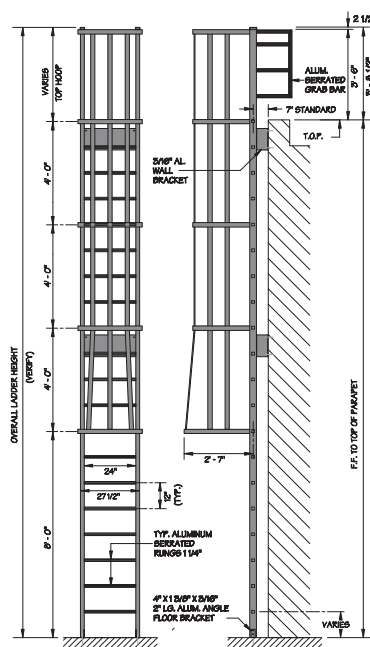
Model 531

Standard Cage Ladder



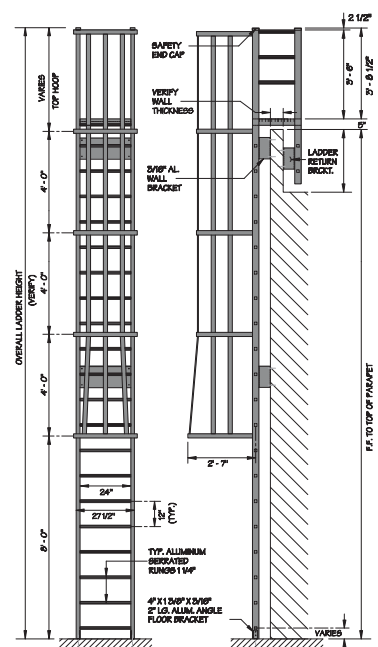
Model 532

Low Parapet Access with Roofover Rail Extensions



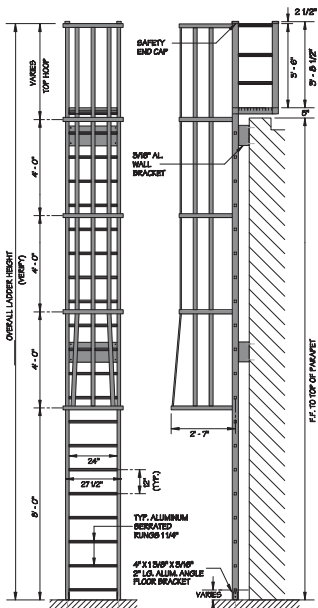
Model 533

High Parapet Access with Platform and Return



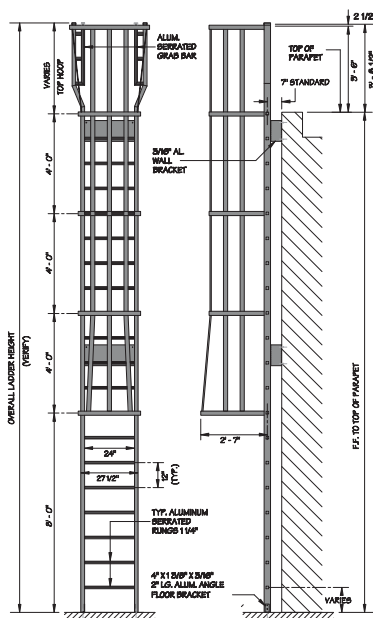
Model 533a

Low Parapet Access with Platform No Return

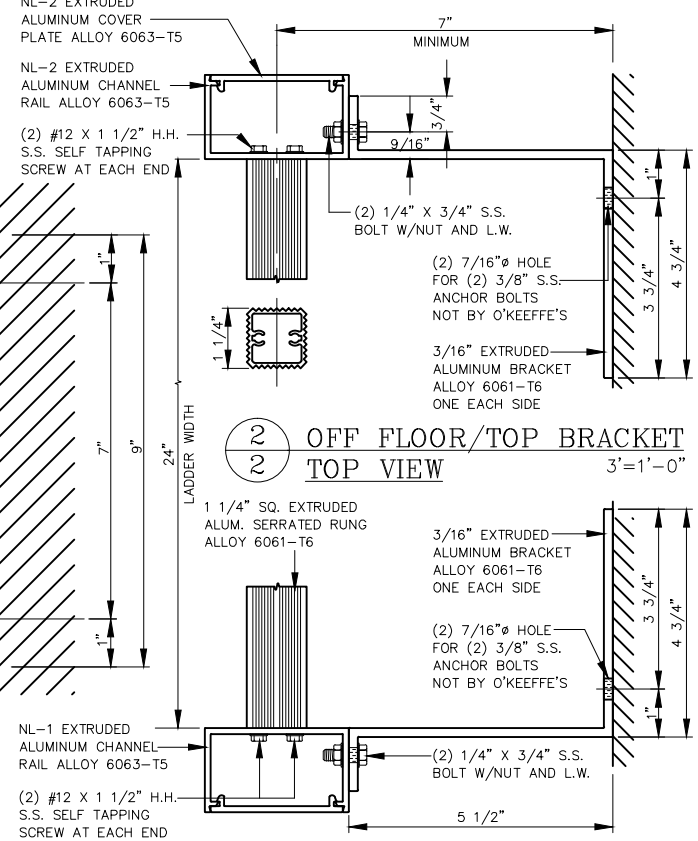
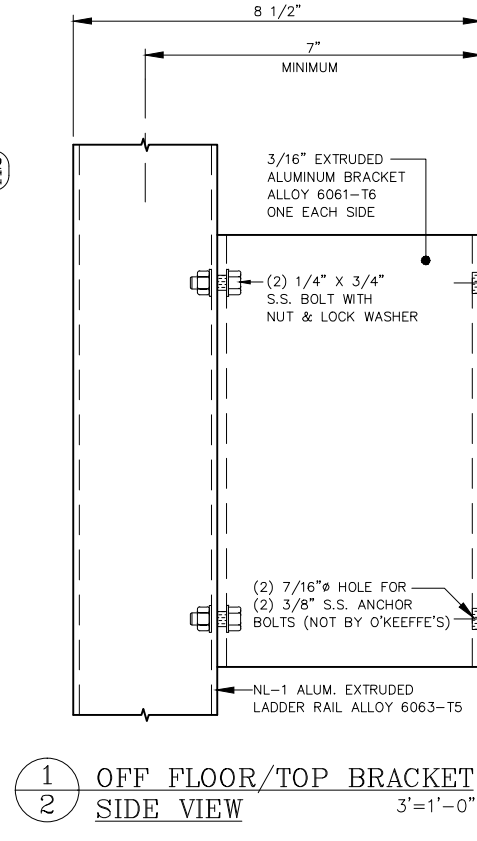
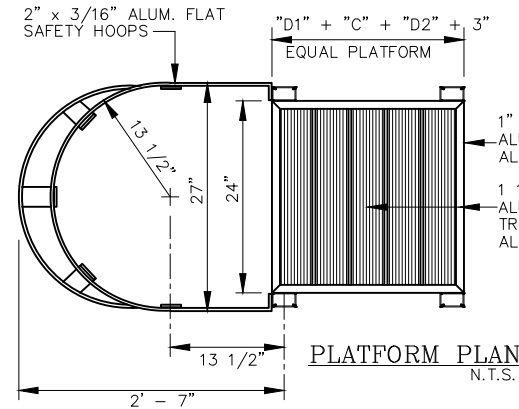
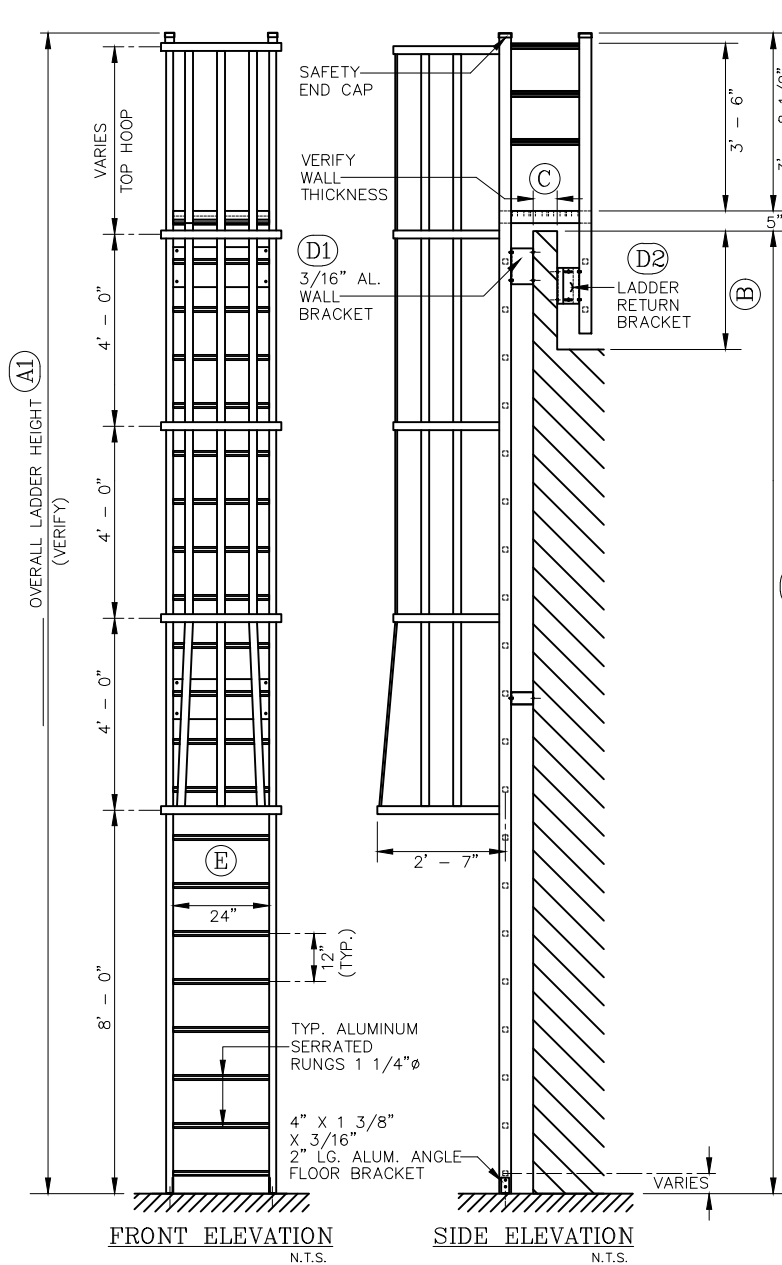


Model 534

Low Parapet with Walk-Through Rail Extensions



PLEASE SIGN



CONTRACTOR TO VERIFY:

(A1) _____ OVERALL LADDER HEIGHT

(A2) _____ F.F. TO TOP OF PARAPET

(B) _____ ROOF TO TOP OF PARAPET

(C) _____ PARAPET WIDTH

(D1) _____ WALL TO C OF LADDER

(D2) _____ WALL TO C OF LADDER

(E) _____ LADDER WIDTH

APPROVED BY: _____

DATE: _____



O'KEEFFE'S, INC.

100 N. HILL DR. SUITE 12
BRISBANE, CA 94005-1010

TEL: (415) 824-4900
FAX: (415) 824-5900

HEAVY DUTY TUBULAR RAIL ALUMINUM CAGE LADDER
HIGH PARAPET ACCESS WITH PLATFORM & RETURN MODEL 533

_____ QUANTITY

☐ SECURITY DOOR ☐ MILL FINISH ☐ BRONZE ANODIZED

☐ INTERMEDIATE BRACKET ☐ POWDER COATING ☐ CLEAR ANODIZED

☐ ALTERNATE BOTTOM SUPPORT

SALE NO.

DRAWN :

DATE :

SHEET : _____ OF _____

SECTION 055000 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Miscellaneous framing and supports.
2. Metal ladders.

B. Products furnished, but not installed, under this Section include the following:

1. Loose steel lintels.

C. Related Requirements:

1. Section 040120.63 "Brick Masonry Repair" for installing loose lintels, anchor bolts, and other items built into unit masonry.

1.2 COORDINATION

- A. Coordinate installation of metal fabrications that are anchored to or that receive other work. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.

1.3 ACTION SUBMITTALS

A. Product Data:

1. Fasteners.
2. Manufactured metal ladders.

B. Shop Drawings: Show fabrication and installation details. Include plans, elevations, sections, and details of metal fabrications and their connections. Show anchorage and accessory items. Provide Shop Drawings for the following:

1. Miscellaneous framing and supports for applications where framing and supports are not specified in other Sections.
2. Metal ladders.
3. Loose steel lintels.

C. Delegated Design Submittals: For ladders, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

- A. Welding certificates.
- B. Paint Compatibility Certificates: From manufacturers of topcoats applied over shop primers, certifying that shop primers are compatible with topcoats.

1.5 QUALITY ASSURANCE

- A. Welding Qualifications: Qualify procedures and personnel in accordance with the following welding codes:
 - 1. AWS D1.1/D1.1M, "Structural Welding Code - Steel."
 - 2. AWS D1.2/D1.2M, "Structural Welding Code - Aluminum."
 - 3. AWS D1.6/D1.6M, "Structural Welding Code - Stainless Steel."

1.6 FIELD CONDITIONS

- A. Field Measurements: Verify actual locations of walls, floor slabs, decks, and other construction contiguous with metal fabrications by field measurements before fabrication.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Structural Performance of Aluminum Ladders: Ladders are to withstand the effects of loads and stresses within limits and under conditions specified in ANSI/ASC A14.3.

2.2 METALS

- A. Metal Surfaces, General: Provide materials with smooth, flat surfaces unless otherwise indicated. For metal fabrications exposed to view in the completed Work, provide materials without seam marks, roller marks, rolled trade names, or blemishes.

2.3 FASTENERS

- A. General: Unless otherwise indicated, provide Type 304 stainless steel fasteners for exterior use and zinc-plated fasteners with coating complying with ASTM B633 or ASTM F1941/F1941M, Class Fe/Zn 5, at exterior walls. Select fasteners for type, grade, and class required.
 - 1. Provide stainless steel fasteners for fastening aluminum
- B. Stainless Steel Bolts and Nuts: Regular hexagon-head annealed stainless steel bolts, ASTM F593; with hex nuts, ASTM F594; and, where indicated, flat washers; Alloy Group 1

- C. Anchor Bolts: ASTM F1554, Grade 36, of dimensions indicated; with nuts, ASTM A563; and, where indicated, flat washers.
 - 1. Hot-dip galvanize or provide mechanically deposited, zinc coating where item being fastened is indicated to be galvanized.

2.4 MISCELLANEOUS MATERIALS

- A. Galvanizing Repair Paint: High-zinc-dust-content paint complying with SSPC-Paint 20 and compatible with paints specified to be used over it.

2.5 FABRICATION, GENERAL

- A. Shop Assembly: Preassemble items in the shop to greatest extent possible. Disassemble units only as necessary for shipping and handling limitations. Use connections that maintain structural value of joined pieces. Clearly mark units for reassembly and coordinated installation.
- B. Cut, drill, and punch metals cleanly and accurately. Remove burrs and ease edges to a radius of approximately 1/32 inch unless otherwise indicated. Remove sharp or rough areas on exposed surfaces.
- C. Weld corners and seams continuously to comply with the following:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after
- D. Fabricate seams and other connections that are exposed to weather in a manner to exclude water. Provide weep holes where water may accumulate.
- E. Cut, reinforce, drill, and tap metal fabrications as indicated to receive finish hardware, screws, and similar items.
- F. Provide for anchorage of type indicated; coordinate with supporting structure. Space anchoring devices to secure metal fabrications rigidly in place and to support indicated loads.

2.6 MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Provide steel framing and supports not specified in other Sections as needed to complete the Work.
- B. Fabricate units from steel shapes, plates, and bars of welded construction unless otherwise indicated. Fabricate to sizes, shapes, and profiles indicated and as necessary to receive adjacent construction.

1. Fabricate units from slotted channel framing where indicated.
 2. Furnish inserts for units installed after concrete is placed.
- C. Galvanize miscellaneous framing and supports where indicated.

2.7 METAL LADDERS

A. General:

1. Comply with ANSI A14.3

B. Aluminum Ladders:

1. ~~Manufacturers: Subject to compliance with requirements, provide products by the following:~~
 - a. ~~Precision Ladders, LLC.~~
1. Manufacturers: Subject to compliance with requirements, provide products by one of the following or approved equal:
 - a. Precision Ladders, LLC.
 - b. O’Keeffe’s Inc.
2. Source Limitations: Obtain aluminum ladders from single source from single manufacturer.
3. Support each ladder with welded or bolted aluminum brackets.
4. Provide minimum 72-inch- high, hinged security door with padlock hasp at foot of ladder to prevent unauthorized ladder use.

1.2 LOOSE STEEL LINTELS

- A. Fabricate loose steel lintels from steel angles and shapes of size indicated for openings and recesses in masonry walls and partitions at locations indicated. Fabricate in single lengths for each opening unless otherwise indicated. Weld adjoining members together to form a single unit where indicated.
- B. Size loose lintels to provide bearing length at each side of openings equal to one-twelfth of clear span, but not less than 8 inches unless otherwise indicated.
- C. Galvanize loose steel lintels located in exterior walls.

1.3 GENERAL FINISH REQUIREMENTS

- A. Finish metal fabrications after assembly.
- B. Finish exposed surfaces to remove tool and die marks and stretch lines, and to blend into surrounding surface.

1.4 STEEL AND IRON FINISHES

- A. Galvanizing: Hot-dip galvanize items as indicated to comply with ASTM A153/A153M for steel and iron hardware and with ASTM A123/A123M for other steel and iron products.
 - 1. Do not quench or apply post galvanizing treatments that might interfere with paint adhesion.

1.5 ALUMINUM FINISHES

- A. As-Fabricated Finish: AA-M12.

PART 2 - EXECUTION

2.1 INSTALLATION, GENERAL

- A. Cutting, Fitting, and Placement: Perform cutting, drilling, and fitting required for installing metal fabrications. Set metal fabrications accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack; and measured from established lines and levels.
- B. Fit exposed connections accurately together to form hairline joints. Weld connections that are not to be left as exposed joints but cannot be shop welded because of shipping size limitations. Do not weld, cut, or abrade surfaces of exterior units that have been hot-dip galvanized after fabrication and are for bolted or screwed field connections.
- C. Field Welding: Comply with the following requirements:
 - 1. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals.
 - 2. Obtain fusion without undercut or overlap.
 - 3. Remove welding flux immediately.
 - 4. At exposed connections, finish exposed welds and surfaces smooth and blended so no roughness shows after finishing and contour of welded surface matches that of adjacent surface.
- D. Fastening to In-Place Construction: Provide anchorage devices and fasteners where metal fabrications are required to be fastened to in-place construction. Provide threaded fasteners for use with concrete and masonry inserts, toggle bolts, through bolts, lag screws, wood screws, and other connectors.
- E. Provide temporary bracing or anchors in formwork for items that are to be built into concrete, masonry, or similar construction.
- F. Corrosion Protection: Coat concealed surfaces of aluminum that come into contact with grout, concrete, masonry, wood, or dissimilar metals with the following:
 - 1. Cast Aluminum: Heavy coat of bituminous paint.
 - 2. Extruded Aluminum: Two coats of clear lacquer.

2.2 INSTALLATION OF MISCELLANEOUS FRAMING AND SUPPORTS

- A. General: Install framing and supports to comply with requirements of items being supported, including manufacturers' written instructions and requirements indicated on Shop Drawings.

2.3 INSTALLATION OF METAL LADDERS

- A. Secure ladders to adjacent construction with the clip angles attached to the stringer.
- B. Install brackets as required for securing of ladders welded or bolted to structural steel or built into masonry or concrete.

2.4 REPAIRS

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing to comply with ASTM A780/A780M.

END OF SECTION 055000