

BOARD OF LAWRENCE COUNTY COMMISSIONERS
COUNTY OF LAWRENCE, PENNSYLVANIA
DCNR-BUREAU OF RECREATION AND CONSERVATION

SPECIFICATIONS FOR

PROJECT NUMBER: BRC-PRD-28-82

LOCATION: 5072 W. WASHINGTON STREET, EDINBURG, PA (MAHONING TWP)

DATE: 10/2/2023

PREPARED BY:

R.A.R. engineering group, inc.
1135 Butler Avenue
New Castle, PA 16101
Phone: 724.652.1004

FOR:

DCNR - BUREAU OF RECREATION AND CONSERVATION
400 Market Street
PO Box 8475
Harrisburg, PA 17105-8475
Phone: 717.783.6705
Fax: 717.787.9577



Ronald Anthony Rizzo
10/2/23

*****REQUEST FOR BID**

Quaker Falls Recreation Park – Phase II

The Lawrence County Board of Commissioners is accepting bids for a one-time contract to perform certain professional services for Lawrence County, Pennsylvania. All documents will need to be prepared in accordance with specifications.

On Tuesday, October 31, 2023, at 10:00 A.M. a mandatory pre-bid meeting will be held at the site. Each Qualifying Bid must be accompanied by a **Bid Bond**, payable to The County of Lawrence, in the amount equal to 10% of the total bid, comply with PA Prevailing Wage Act and Section 3 Minority Business Enterprise and/or Women Business Enterprise our encouraged to participate.

Sealed bids labeled ***Quaker Falls Park Recreation Area – Phase II*** must be received by **3:00 P.M., November 13, 2023**, in the **Lawrence County Controllers Office located at 430 Court Street, New Castle, PA 16101**. All proposals will be opened at the Commissioners Public Meeting held at 10:00 A.M. on Tuesday, November 14, 2023, in the Commissioners' Meeting Room at the Lawrence County Government Center.

If you are interested in submitting a proposal for this work, you may obtain a Scope of Work by contacting:

Rebecca Shaffer, Deputy Director of Community Development
Lawrence County Department of Planning and Community Development
430 Court Street
New Castle, PA 16101
724-656-2144
rshaffer@lawrencecountypa.gov***



Advertise: October 16, 2023, and October 23, 2023

GENERAL NOTES FOR THE BID

The contractor must submit their EIN or Social Security Number with their respective bids. The state debarment list will be consulted.

Length of contract: 180 Calendar days from Notice to Proceed (weather conditions will be assessed, but contract will not be extended.)

Contractor will notify the County 48 hours in advance of construction activities to notify local law enforcement. The property has hazards and all safety standards outlined by OSHA shall be complied with.

If only a single proposal is received by the County, it may negotiate with the proposer or seek additional proposals on an informal or formal basis during the 60-day period in which proposals are effective.

The contractor will be responsible for PA One Call (811) prior to starting to comply with Pennsylvania Act 287 as amended by Act 81 of 2006.

The contractor must submit a W-9 with the contract.

All construction must comply with ADA requirements, specifically Architectural Barriers Act of 1968 and Section 504 of the Rehabilitation Act of 1973; PA Act 235 of 1965, as amended, Universal Accessibility Act, and Americans with Disabilities Act (ADA) of 1990, as amended.

Contractor shall guarantee all materials and workmanship for a period of one (1) year following completion of the project.

Each bid must be accompanied by a 10% bid deposit in the form of a certified check or bid bond made payable to County of Lawrence. The bid deposit will be retained by the County as liquidated damages in case the successful bidder neglects or refuses to enter into a contract in accordance with the bid requirements. The deposits of other bidders shall be returned as soon as possible. Bids that are received by the County and not accompanied by a bid deposit will not be considered.

Materials and workmanship shall be in accordance with PennDOT Publication 408 (latest edition), and PennDOT Publication 72, Standards for Roadway Construction. Bond Instruction will be submitted with the Final Contract.

All traffic control to be in accordance with PennDOT Publication 213 entitled "Temporary Traffic Control Guidelines". Consider this work incidental to the project.

The contractor shall comply with all HOP Permit No. 11051433 requirements.

The contractor must implement and maintain all BMP's as described in the approved Erosion and Sedimentation Control Plan on file at the Lawrence County Department of Planning and Community Development (it can be emailed on request). DEP No. GP113706219-005.

Lawrence County has an MBE goal of 5% and WBE goal of 3% on all contracts. All efforts should be made to reach these minimum thresholds.

The bid proposal contains optional bid items. Failure to provide this optional bid pricing may be viewed by the County as sufficient reason to reject a bid. The optional bids will be accepted or rejected at the sole option of the County. The basis of the contract award will be the qualified responsible bidder with the lowest aggregate bid price resulting from the base bid combination with optional bids, if exercised. Decisions on contract award, bid rejection, and optional bid selection will be made solely by the County.

The County is soliciting a TOTAL price to be awarded as ONE CONTRACT. The County reserves the right to reject all bids. The County reserves the right to retain bids for up to sixty (60) days.

If any prospective bidder on the proposed Contract is in doubt as to the true meaning of any part of the drawings, specifications, or other proposed Contract documents, he/she may submit to the Engineer a written request for an interpretation thereof. The bidder submitting the request will be responsible for its prompt delivery. The Engineer will consult the contract that is responsible for the portion of the project that is in question. Any interpretation of the proposed documents will be made only by an addendum duly issued and a copy of such addendum be mailed or delivered to each prospective bidder who has received a set of such documents.

Contract Term

All project activities identified in the bid document must be completed and all obligations as a result of an awarded contract must be fulfilled by 180 calendar days from the Notice to Proceed.

Bids

All bids must be submitted in an envelope sealed and plainly marked "Quaker Falls Recreation Area Phase II-Development" must be received by 3:00 P.M. November 13, 2023 in the Lawrence County Controllers Office located at 430 Court Street, New Castle, PA 16101. All proposals will be opened at the Commissioners' Public Meeting held at 10:00 A.M. on Tuesday, November 14, 2023 in the Commissioners' Meeting Room at the Lawrence County Government Center.

Method of Payment

The County will compensate the Contractor for the actual work performed in accordance with the scope of work, in an amount not to exceed contracted figures. The maximum amount of the contract shall **NOT** be exceeded.

Itemized invoices shall be submitted by the contractor to the County on a monthly basis.

Upon receipt of an invoice and approval of the work performed, the County will issue payment to the Contractor within thirty (30) days.

Special Conditions

The County reserves the right to accept any bid, which in their judgment may prove to be in the best interest of the taxpayer and reserves the right to waive any informalities or irregularities in or reject any or all bids in whole or in part. The Contractor will maintain at least the following minimum insurance coverage during the term of the contract and at Contractor's expense:

- A. General public liability insurance with respect to both personal injury and property damage in the amount of \$500,000 and \$1,000,000 respectively, and damage insurance in the amount of \$500,000.
- B. Workers Compensation Insurance as required under Commonwealth and Federal Statutes.
- C. The awarded contractor will be required to submit a certificate of insurance.

The Contractor shall comply with the Contractors Integrity provisions, Americans with Disabilities Act, and Non-Discrimination/Sexual Harassment Clause. These affidavits will be submitted with the bid.

The Contractor shall comply with all PA Bureau of Labor and Industry for PA Prevailing wage. Certified payrolls will be required for this job. An affidavit attesting to compliance must be submitted with the bid.

The Contractor shall undertake the responsibilities outlined in these specifications as an independent contractor and its employees and/or agents are not considered employees of the County for purposes of work under this proposed contract. The County shall not be liable, nor shall it indemnify, defend, or hold harmless the successful bidder for the negligent act or acts of its employees and/or agents during the performance of work under this proposed contract.

The contractor shall submit along with his/her bid, an affidavit substantiated in the form herein provided, to the effect that he/she has not entered into a collusive agreement with any other person, firm, or corporation regarding any bid submitted.

The contractor shall note if he/she has an environmental complaint against themselves or their agents. If so, please list violation and status of said violations. Failure to submit violation(s) may result in rejection of bid.

Each contractor shall include as part of his/her proposal a summary page including the following information:

- Contact information (name, address, phone, fax, and email)
- Federal Employer Identification Number
- Affirmative statement that all project activities will be completed in 180 calendar days from the Notice to Proceed.
- Bid Bond (10%)
- Total bid price
- List of references
- Schedule availability

TECHNICAL SPECIFICATIONS

DIVISION 1 – GENERAL REQUIREMENTS

| | |
|-------|-------------------------------------|
| 01000 | General Requirements |
| 01010 | Summary of Work |
| 01040 | Project Coordination |
| 01290 | Payment Procedures |
| 01310 | Project Management and Coordination |
| 01330 | Submittals Procedures |
| 01400 | Quality Requirements |
| 01600 | Product Requirements |
| 01700 | Execution Requirements |
| 01740 | Cleaning |
| 01770 | Closeout Procedures 01781 |
| | Project Record Documents |

DIVISION 2 – GENERAL REQUIREMENTS

| | |
|-------|-----------------------------------|
| 02230 | Site Clearing |
| 02300 | Earthwork |
| 02370 | Erosion and Sedimentation Control |
| 02530 | Concrete Walks and Curbs |

DIVISION 6 – CARPENTRY

| | |
|-------|-----------------|
| 03300 | Rough Carpentry |
|-------|-----------------|

SECTION 01000

GENERAL REQUIREMENTS

1. Owner Criteria Specifications are a guide. The drawings, as submitted, are to reflect current Owner Construction Specifications, State and Local requirements as they relate to this project. Should construction proceed without Owner approval of construction drawings, it is understood that changes may be required, at no cost to Owner.
2. All product manufacturers and component model numbers are given to establish a level of quality and performance. There is no intention to exclude equivalent products of alternate manufacturers, unless stated otherwise. Alternate manufacturers of equivalent products may be considered upon submittal and written approval by Owner.

PERMITS, INSURANCE & GUARANTEES

1. The County shall pay for all building permits if required. All other necessary permits pertaining to the construction specified, shall be provided by the General Contractor.
2. Insurance certificates shall be provided covering all trades by the General Contractor and all Sub-Contractors.
3. Copies of guarantees and/or warranties are to be forwarded to Owner prior to the final acceptance of the work.

GENERAL QUESTIONS:

R.A.R. engineering group,
inc. 1135 Butler Avenue
New Castle, PA
16101 (724) 652-
1004
fax (724) 652-3814

PART 1 GENERAL REQUIREMENTS

1.1 SCOPE OF WORK

- A. It is the responsibility of the Engineer for the establishment of all design criteria such as soil pressures, wind loads, live loads, code and ordinance search, material selection, and its use, in accordance with pertinent recognized national associations

or institute standards and codes, etc. It is the responsibility of the Contractor to notify the Owner at once of any deviation from the Owner prototype specifications, or other problems or potential problems arising from unique conditions during the construction phase.

- B. It is the intent of the construction specifications to describe a complete project, which the Contractor proposes to construct by furnishing all labor, materials, equipment, tools, necessary utilities and other facilities, and performing all work necessary or incidental to such construction in full compliance with all parts of these specifications.
- C. Should any construction or condition be anticipated which is not covered by these specifications, the special requirements thereof will be stated in the proposal and any such special requirements shall be considered a part of these specifications as though they were fully contained herein.
- D. Special Addenda - Site Specific Changes: The Engineer is responsible for developing addenda indicating any deviation from this specification.

1.2 DEFINITIONS

- A. OWNER: Intended user of completed structure, and party maintaining right of final approval of facilities and site planning, of products and materials included in the work, and of all finished work.
- B. LANDLORD/GENERAL CONTRACTOR,
SUBCONTRACTOR: Landlord/General Contractor who is the primary legal party to the contract for Construction or Lease, or sub-Contractor normally engaged in and responsible for specific trades and/or portions of the work. In some instances, this will include the Architect/Engineer with responsibilities as specified above, when such Architect/Engineer is retained by the Landlord/General Contractor to perform Professional Services for the project. In all cases, ultimate responsibility for the work performed under the Contract shall be with the Landlord/General Contractor.

May be abbreviated:

| | |
|-----|---|
| ENG | Engineer (RAR engineering group) |
| GC | General Contractor, or Contractor as applicable |

- C. BUILDING, STRUCTURE: Facility, including Site/Property/Lease Limits, as generally and specifically identified in these Specifications and Drawings, as modified to meet the requirements of construction and intended occupancy of each Facility location.

1.3 WARRANTY AND GUARANTEE OF WORK

- A. The GC warrants to OWNER that all materials and equipment furnished under all parts of these specifications will be new, unless otherwise specified, and that all work will be of good quality, free from faults and defects and in conformance with these construction specifications. All work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required, the GC shall furnish satisfactory evidence as to the kind and quality of materials and equipment.
- B. Except as otherwise specified, all work shall be guaranteed by the GC against defects in materials, equipment, or workmanship for two (2) years from the date of satisfactory completion of the Punch-list items and Final Acceptance by OWNER.
- C. If, within the guarantee period, repairs or change are required in connection with the work which, in the opinion of the OWNER, arise from defects in such materials, equipment or workmanship, the GC shall promptly correct same upon receipt of notice from OWNER or Engineer and without cost or expense to OWNER in accordance with the following:
 - 1. Place in satisfactory condition in every particular of such guaranteed work, correct all defects therein; and,
 - 2. Make good all damage to the building, site, or equipment and contents thereof which result from such defect; and,
 - 3. Make good any work or materials, or the equipment and contents of said building or site disturbed in fulfilling any such guarantee.
- D. In any case wherein fulfilling the requirements of the construction specifications or of any guarantee, embraced in or required thereby, the contractor disturbs any work guaranteed under another contract, he shall restore such disturbed work to a condition satisfactory to OWNER and guarantee such restored work to the same extent as it was guaranteed under such other contract.
- E. If the GC, after notice, whether written or verbal, fails to proceed promptly within thirty (30) days to comply with the terms of the guarantee, OWNER may have the defects corrected, and the GC Shall reimburse OWNER within thirty (30) days for all expenses incurred.
- F. All special guarantees applicable to specific parts of the work that may be stipulated in the construction specifications or other parsers forming a part of the lease or contract shall be subject to the terms of this paragraph during the first year of the life of such special guarantee.

1.4 SUPERVISION OF CONSTRUCTION PROCEDURES

- A. The GC shall supervise and direct the work, using his best skill and attention. The GC shall be solely responsible for all construction site safety, construction means, methods, techniques, sequences, and procedures and for coordination all portions of

the work under all parts of these construction specifications.

- B. The GC shall be responsible to OWNER for the acts and omissions of his employees, subcontractors and their agents and employees, and other persons performing any of the work under these construction specifications.

1.5 LABOR AND MATERIALS

Unless otherwise provided, the GC shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the work, whether temporary or permanent and whether or not incorporated or to be incorporated in the work.

1.6 PERMITS, FEES, AND NOTICES

- A. The Owner shall secure and pay for the building permit and for all other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the work.
- B. The GC shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the work.
- C. It is the responsibility of the GC to make certain that all construction is in accordance with applicable laws, statutes, building codes and regulations. If the GC observes any of the construction specifications where at variance therewith in any respect, he shall promptly notify OWNER in writing, and any necessary changes shall be accomplished by appropriate modification with approval by OWNER.
- D. If the GC performs any work knowing it to be contrary to such laws, ordinances, rules and regulations, and without such written notice to OWNER, he shall assume full responsibility therefore and shall bear all costs attributable thereto.

1.7 DOCUMENTS AND SAMPLES

- A. The GC shall maintain at the site one (1) record copy of all approved drawings, construction specifications, addenda, change orders, and other modifications. This shall include the most current walkway plan and site plan produced by OWNER. This walkway plan shall take precedence over any preceding walkway plan indicated on the drawing.
- B. The GC shall submit, with reasonable promptness and in such sequence as to cause no delay in the work of any separate contractor, all shop drawings, product data, and samples required by these Construction Specifications.
- C. By submitting shop drawings, product data and samples, the GC represents that he has determined and verified all materials, field measurements, and field

construction criteria related thereto, and that he has checked and coordinated the information contained within such submittals with the requirements of the work and the Construction Specifications.

- D. No portion of the work requiring submissions of a shop drawings, product data, and/or sample shall be commenced until the submittal has been reviewed and approved by OWNER. All such portions of the work shall be in accordance with approved submittals.
- E. OWNER shall review the shop drawings, product data, and/or samples only to determine that the material being proposed is in keeping with the construction documents. Review by OWNER does not relieve the GC of any responsibility to verify and check field measurements and coordinate this work with the requirements of the project.

1.8 CLEAN-UP

- A. The GC shall at all times keep the premises free from accumulation of waste materials and rubbish caused by his operations. At the completion of the work he shall remove all his waste materials and rubbish from and about the project as well as all his tools, construction equipment, and machinery and surplus materials.
- B. If the GC fails to clean up daily and at the completion of the work, OWNER may do so, and the cost thereof shall be charged to the GC.

1.9 FINAL SUBMITTALS TO OWNER

- A. The GC shall submit to OWNER within 30 days of completion evidence of compliance with the construction specifications in the form of certain written (original) guarantee documents, certificates, schedules and drawings of the following, unless as requested otherwise in these Criteria Specifications.
 - 1. Operating and maintenance data; provide instructions along with touchup paint to apply during regularly scheduled maintenance.
 - 2. One (1) complete set of "As-Built" Drawings"
 - a. If the plan prepared and submitted by the GC for first approval is modified during the course of construction, As-Built Drawings shall be submitted to OWNER for record.
 - b. The As-Built drawings shall note all construction changes, above and below finish floor, and shall indicate all correct dimensions for the project. In addition, the As-Built Drawings shall indicate all changes in material and manufacturers used in the construction of the project.

11. List of open/ incomplete punch-list items.

- B. The warranties, three (3) complete sets of operation and maintenance manuals, etc., shall be submitted to OWNER within 30 days in the form of a three-ring binder, with an index and tabbed separators.

PART 2 DESCRIPTION OF WORK - GENERAL

2.1 LAYOUT

The initial walkway stakeout will be provided by the OWNER/ENGINEER. Two (2) site benchmarks will be provided, one (1) north of the structure and one (1) south. The subsequent structure and site layout is the responsibility of the Contractor. If any questions or conflicts occur relating to the Contract Documents the Contractor shall immediately discontinue work and contact the Engineer and/or Owner for clarification.

2.2 MATERIALS

The intent of these criteria specifications is to illustrate standard materials, design approach, and to establish the quality of materials and workmanship. These specifications shall not be construed to limit materials covered of manufacturers specified, unless so stated. It is the responsibility of the GC to provide all materials required for a complete and proper facility installation.

1. If only one manufacturer is listed, followed by the phrase “no substitutions:”, this will be the only product considered.
2. If more than one manufacturer is listed, the GC shall choose from any of the manufacturers listed.
3. If the list of manufacturers is followed by the phrase “or approved equal”, the GC may submit alternate manufacturers to OWNER for review and possible approval. No substitutions or alternatives may be prepared for, purchased or installed until written approval for such selection is given by OWNER.

2.3 PLAN

The pedestrian walkway plan shall be as indicated in the Contract Drawings.

2.4 EXTERIOR – Not Applicable

2.5 INTERIOR FINISHES – Not Applicable

2.6 CONCRETE WORK

A. It is the responsibility of the Engineer to design concrete termination points using the most efficient, sound structural approach for the given location.

2.7 STRUCTURE

A. It is the responsibility of the Engineer to have the structural system professionally designed in the most economical, functional and structurally sound manner.

2.8 SITE WORK

The extent of the site work for this contract is limited to the demolition activities and the treatment of areas to be used for laydown and support activities.

2.9 SPECIAL LANDSCAPING REQUIREMENTS – Not Applicable

2.10 CONCRETE PAVING – Not Applicable

END OF SECTION

SECTION 01010

SUMMARY OF WORK

PART 1 GENERAL

1.1 SUMMARY

- A. Related Documents: Provisions established in General and Special Conditions of the Contract, Division 1 General Requirements, and the Drawings are collectively applicable to this Section.
- B. Code Compliance - All work must comply with all applicable codes, shall be structurally sound and fit for intended use. Deviation from plans and specifications necessary for compliance shall be reported to OWNER and Engineer subject to OWNER's approval.

1.2 WORK COVERED BY CONTRACT DOCUMENTS

- A. Work of this Contract includes site grading, construction of observation platforms and pavilion, fence and site amenities per contract drawings.

1.3 CONTRACTOR'S DUTIES

- A. Except as specifically noted, provide and pay for:
 - 1. Labor, materials and equipment.
 - 2. Tools, construction equipment and machinery.
 - 3. Water, heat, and utilities required for construction.
 - 4. Other facilities and services necessary of proper execution and completion of work.
- B. Secure and pay for, as necessary for proper execution and completion of Work, and as applicable at time of receipt of bids:
 - 1. Inspection fees.
 - 2. Licenses.
- C. Give required notices.
- D. Comply with codes, ordinances, rules, regulations, orders and other legal requirements of public authorities which bear on performance of Work, including all provisions of the Occupational Safety and Health Administration, and including Article 1926.21 (Safety Training and Education) and Americans with Disabilities Accessibility Guidelines.
- E. Promptly submit written notice to OWNER's Representative of observed variance of Contract Documents from legal requirements. Assume responsibility for Work known to be contrary to such requirements, without notice.

1.4 REIMBURSABLE FEE

- A. All necessary Building Permits Fees will be paid by the OWNER.

1.5 CONTRACT METHOD

- A. The contract will be primarily a UNIT PRICE job. Progress payments may be applied for during construction on a monthly basis.

1.6 CONTRACTOR USE OF PREMISES

- A. Limit use of premises for Work, for storage, [and for access, to allow for:]
 - 1. Owner occupancy.
 - 2. Work by other contractors.
- B. Coordinate use of premises under direction of Owner.
- C. Assume full responsibility for protection and safekeeping of products under this Contract.
- D. Obtain and pay for use of additional storage or work areas needed when required for operations under this Contract.

END OF SECTION 01010

SECTION 01040

PROJECT COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general requirements Division-1 Specification Sections, apply to this Section

1.2 SUMMARY

- A. This Section specifies administrative and supervisory requirements necessary for Project coordination including, but not necessarily limited to:

1. Coordination.
2. Administrative and supervisory personnel.
3. General installation provisions
4. Cleaning and protection.

- B. Requirements for the Contractor's Construction Schedule are included in Section "Submittal".

1.3 COORDINATION

- A. Coordination: Coordinate construction activities included under various Sections of these Criteria Specifications to assure efficient and orderly installation of each part of the Work. Coordinate construction operations included under different Sections of the Specifications that are dependent upon each other for proper installation, connection, and operation.

1. Where installation of one part of the Work is dependent on installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service and repair.
3. Make adequate provisions to accommodate items scheduled for later installation.
4. Assist in the coordination of all OWNER supplied equipment, labor and material.
5. Coordination of all utility installation and the transfer of utility responsibility to OWNER upon final building acceptance.

- B. Where necessary, prepare memoranda for distribution to each party involved outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.

1. Prepare similar memoranda for the OWNER and separate Contractors where coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:
1. Preparation of schedules.
 2. Installation and removal of temporary facilities.
 3. Delivery and processing of submittals.
 4. Progress meetings.
 5. Project Close-out activities.
- D. Conservation: Coordinate construction activities to ensure that operations are carried out with consideration given to conservation of energy, water, and materials.
1. No salvage may occur to the detriment of the construction schedule and only when authorized by OWNER.

1.4 SUBMITTALS

- A. Coordination Drawings: Prepare and submit coordination Drawings where close and careful coordination is required for installation of products and materials fabricated off- site by separate entities, and where limited space and availability necessitates maximum utilization of space for efficient installation of different components.
1. Show the interrelationship of components shown on separate Shop Drawings.
 2. Indicate required installation sequences.
 3. Comply with requirements contained in Section 01330 "Submittals Procedure."
- B. Staff Names: Within 5 days of Notice to Proceed, submit a list of the Contractor's principal staff assignments, including the Superintendent and other personnel in attendance at the site; identify individuals, their duties and responsibilities; list their addresses, email addresses and telephone numbers.

PART 2 - PRODUCTS

NOT APPLICABLE

PART 3 - EXECUTION

3.1 GENERAL INSTALLATION PROVISIONS

- A. Inspection of Conditions: Require the Installer of each major component to inspect both the substrate and conditions under which Work is to be performed. Do not proceed until unsatisfactory conditions have been corrected in an acceptable manner.

- B. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations, to the extent that those instructions and recommendations are more explicit or stringent than requirements contained in the Contract Documents.
- C. Inspect Materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items. Provide written documentation to OWNER of all OWNER supplied damaged materials.
- D. Provide attachment and connection devices and methods necessary for securing Work. Secure Work true to line and level. Allow for expansion and building movement.
- E. Visual Effects: Provide uniform joint widths in exposed Work. Arrange joints in exposed Work to obtain the best visual effect. Refer questionable choices to the OWNER/ENGINEER for final decision.
- F. Recheck measurements and dimensions before starting each installation.
- G. Install each component during weather conditions and Project status that will ensure the best possible results. Isolate each part of the completed construction from incompatible materials as necessary to prevent deterioration.
- H. Coordinate temporary enclosures with required inspections and tests, to minimize the necessity of uncovering complete construction for that purpose.
- I. Mounting Heights: Where mounting heights are not indicated, install individual components at standard mounting heights recognized within the industry for the particular application indicated. Refer questionable mounting height decisions to the OWNER/ENGINEER for final decision.

3.2 CLEANING AND PROTECTION

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration prior to Substantial Completion.
- B. Clean and maintain completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.

END OF SECTION 01040

SECTION 01290

PAYMENT

PROCEDURES

PART 1 GENERAL

1.1 SUMMARY

- A. Related Documents: Provisions established in General and Supplementary Conditions of the Contract, Division 1 General Requirements, and the Drawings are collectively applicable to this Section.
- B. Section Includes:
 - 1. Procedures for preparation and submittal of applications for payment.
 - 2. Procedures for preparation and submittal of the Project Cost Estimate.
- C. Standard Forms and Electronic Files of Forms: Provided to Contractor by Owner's Representative at Pre-Construction Conference.

1.2 PAYMENT REQUEST – INVOICE

- A. General:
 - 1. Maintain consistency with previous applications for payments as certified by Owner's Representative and paid by Owner.
 - 2. Initial Payment Request - Invoice, Payment Request - Invoice at time of Substantial Completion, and Final Payment Request – Invoice involve additional requirements.
 - 3. The Payment Requests should be submitted between the first and fourth day of each month to the Engineer. They will be approved by the Township at their monthly meeting (tentatively scheduled for the second Tuesday of each month). Payment will be made approximately thirty (30) days after the County's approval.
 - 4. Payments shall be made on the basis of 90% of the approved monthly statement. Upon request, the Owner may at their sole discretion, make payments in excess of 90% of the approved monthly statement after 50% of the Contract has been completed.
- B. Format:
 - 1. Application and Certification for Payment – AIA G702.
 - 2. Continuation Sheet – AIA G703
 - 3. Sworn Statement by Contractor.
 - 4. Waiver of Lien.
 - 5. Subcontractor's Guarantee.
 - 6. Contractor's Guarantee.

- C. Preparation of Applications:
 - 1. Type required information or use media-driven printout.
 - 2. Execute certification by signature of authorized officer.
 - 3. Use data on accepted Project Cost Estimate. Provide dollar value in each column for each line item for portion of Work performed and for stored products.
 - 4. List each authorized Change Order as an extension on continuation sheet, listing Change Order number and dollar amount as for an original item of Work.
 - 5. Prepare Initial Payment Request - Invoice and Payment Request – Invoice for Retainage at time of Substantial Completion as specified below.
 - 6. Prepare final Payment Request – Invoice as specified below and in Section 01770.
- D. Submittal Procedures:
 - 1. Submit 2 original copies of each Payment Request - Invoice to Owner's Representative at times stipulated in Purchase Order ensuring receipt within 24 hours.
 - 2. Include Sworn Statements and Waivers of Lien and similar attachments with each copy to Owner's Representative.
 - 3. Submit under transmittal letter specified in Section 01330.
 - 4. Payment Period: Submit at intervals stipulated in the Purchase Order.
 - 5. Submit lien waivers with each Payment Request - Invoice.
 - 6. Submit construction photographs.
- E. Waivers of Mechanics Lien:
 - 1. With each Payment Request - Invoice submit waivers of mechanics liens from subcontractors and suppliers for construction period covered by previous application.
 - 2. Submit partial waivers on each item for amount requested, prior to deduction for retainage, on each item.
 - 3. When application shows completion of item, submit final or full waivers.
 - 4. Project Engineer reserves right to designate which entities involved in Work must submit waivers.
 - 5. Waiver Forms: Submit waivers of lien on properly executed Waiver of Lien.
- F. Initial Payment Request - Invoice: Administrative actions and submittals that must precede or coincide with submittal of first Payment Request - Invoice include following:
 - 1. List of subcontractors.
 - 2. List of principal suppliers and fabricators.
 - 3. Project Cost Estimate.
 - 4. Construction Progress Schedule, preliminary if not final.
 - 5. Schedule of principal products.
 - 6. Schedule of unit prices.
 - 7. Submittal schedule.
 - 8. List of Contractor's staff assignments.
 - 9. List of Contractor's principal consultants.
 - 10. Copies of building permits.
 - 11. Copies of authorizations and licenses from governing authorities for performance

- of Work.
 - 12. Initial progress report.
 - 13. Report of pre-construction meeting.
 - 14. Certificates of insurance and insurance policies.
 - 15. Partial release of liens.
- G. Payment Request - Invoice at Substantial Completion:
- 1. Following issuance of Certificate of Substantial Completion, submit Payment Request - Invoice reflecting Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of Work.
 - 2. Required administrative actions and submittals that precede or coincide with this application include:
 - a. Occupancy permits and similar approvals.
 - b. Warranties and maintenance agreements (dated to commence on date of Substantial Completion).
 - c. Maintenance instructions.
 - d. Change-over information related to Owner's occupancy, use, operation and maintenance.
 - e. Final progress photographs.
 - f. Comprehensive list of incomplete or non-complying Work (initial punch list).
 - g. Partial release of liens.
 - h. Sworn Statement by Contractor.
- H. Final Payment Application: Required administrative actions and submittals which precede or coincide with submittal of final Payment Request - Invoice include following:
- 1. Completion of Project Closeout requirements.
 - 2. Completion of items specified for completion after Substantial Completion.
 - 3. Assurance that unsettled claims will be settled.
 - 4. Assurance that Work not complete and accepted will be completed without undue delay.
 - 5. Final cleaning.
 - 6. Transmittal of required Project construction records to Owner.
 - 7. Proof that taxes, fees and similar obligations have been paid.
 - 8. Removal of temporary facilities and services.
 - 9. Removal of surplus materials, rubbish and similar elements.
 - 10. Sworn Statement by Contractor.
 - 11. Full Waiver of Lien from Contractor for full amount of Contract.
 - 12. Full Waivers of Lien from each subcontractor.
 - 13. Contractor Guarantee.
 - 14. Subcontractor Guarantees.

1.3 PROJECT COST ESTIMATE

- A. Format:
 - 1. Type Schedule on Project Cost Estimate form [or use media driven printout upon prior approval].
 - 2. Follow Table of Contents of Project Manual for listing component parts. Identify each line item by number and title of major Specifications section.
- B. Content:
 - 1. List installed value of each major item of Work and each subcontracted item of Work as a separate line item to serve as a basis for computing values for Progress Payments. Round off values to nearest dollar.
 - 2. For each major subcontract, list products and operations of that subcontract as separate line items.
 - 3. List allowances in the specified monetary amount for each allowance.
 - 4. Coordinate listings with Progress Schedule.
 - 5. Include a directly proportional amount of Contractor's general office overhead and profit for each component listing. Use separate line for bonds, insurance, temporary facilities and controls, and superintendence.
 - 6. Sum of values listed equals total Contract Sum.
- C. Submittal:
 - 1. Submit 3 copies of Schedule 15 days prior to first Payment Request - Invoice.
 - 2. Transmit under Owner's Representative accepted form transmittal letter. Identify Project by title and number.

1.4 SUBSTANTIATING DATA

- A. When Owner's Representative requires substantiating information, submit data justifying line-item amounts in question.
- B. On allowance items, submit actual invoice from supplier of product or service.
- C. Provide one copy of data with cover letter for each copy of submittal. Sh
ow Application number and date, and line item by number and description.

PART 2 PRODUCTS and PART 3 EXECUTION

Not Used

END OF SECTION 01290

SECTION 01310

PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative provisions for coordinating construction operations on Project including, but not limited to, the following:
 - 1. Coordination Drawings.
 - 2. Administrative and supervisory personnel.
 - 3. Project meetings.

1.3 COORDINATION

- A. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, that depend on each other for proper installation, connection, and operation.
 - 1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
 - 2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation.
 - 4. Where availability of space is limited, coordinate installation of different components to ensure maximum performance and accessibility for required maintenance, service, and repair of all components, including mechanical and electrical.
- B. Prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meetings.
 - 1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.

- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Preparation of the Schedule of Values.
3. Installation and removal of temporary facilities and controls.
4. Delivery and processing of submittals.
5. Progress meetings.
6. Pre-installation conferences.
7. Project closeout activities.
8. Startup and adjustment of systems.
9. Project closeout activities.

1.4 SUBMITTALS

- A. Key Personnel Names: Within 5 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including home and office telephone numbers. Provide names, addresses, and telephone numbers of individuals assigned as standbys in the absence of individuals assigned to Project.

1.5 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the work.
1. Include special personnel required for coordination of operations with other contractors.

1.6 PROJECT MEETINGS

- A. General: Schedule and conduct meetings and conferences at Project site, unless otherwise indicated.
1. Attendees: Inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. Notify Owner and Engineer of scheduled meeting dates and times.
 2. Agenda: Prepare the meeting agenda. Distribute the agenda to all invited attendees.
 3. Minutes: Record significant discussions and agreements achieved. Distribute the meeting minutes to everyone concerned, including Owner and Engineer, within three days of the meeting.

B. Preconstruction Conference: Schedule a preconstruction conference before starting construction, at a time convenient to Owner, Construction Manager and Engineer, but no later than 15 days after execution of the Agreement. Hold the conference at Project site or another convenient location. Conduct the meeting to review responsibilities and personnel assignments.

1. Attendees: Authorized representatives of Owner, Construction Manager, Engineer, and their consultants; Contractor and its superintendent; major subcontractors; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Discuss items of significance that could affect progress, including the following:
 - a. Tentative construction schedule.
 - b. Critical work sequencing and long-lead items.
 - c. Designation of key personnel and their duties.
 - d. Procedures for processing field decisions and Change Orders.
 - e. Procedures for requests for interpretations (RFIs).
 - f. Procedures for testing and inspecting.
 - g. Procedures for processing Applications for Payment.
 - h. Distribution of the Contract Documents.
 - i. Submittal procedures.
 - j. Preparation of Record Documents.
 - k. Use of the premises.
 - l. Work restrictions.
 - m. Owner's occupancy requirements.
 - n. Responsibility for temporary facilities and controls.
 - o. Construction waste management and recycling.
 - p. Parking availability.
 - q. Work and storage areas.
 - r. Equipment deliveries and priorities.
 - s. First aid.
 - t. Security.
 - u. Progress cleaning.
 - v. Working hours.

C. Pre-installation Conferences: Conduct a pre-installation conference at Project site before each construction activity that requires coordination with other construction.

1. Attendees: Installer and representatives of manufacturers and fabricators involved in or affected by the installation and its coordination or integration with other materials and installations that have preceded or will follow, shall attend the meeting. Advise Architect of scheduled meeting dates.

2. Agenda: Review progress of other construction activities and preparations for the particular activity under consideration, including requirements for the following:

- a. The Contract Documents.
 - b. Options.
 - c. Related requests for interpretations (RFIs).
 - d. Related Change Orders.
 - e. Purchases.
 - f. Deliveries.
 - g. Submittals.
 - h. Possible conflicts.
 - i. Compatibility problems.
 - j. Time schedules.
 - k. Weather limitations.
 - l. Manufacturer's written recommendations.
 - m. Warranty requirements.
 - n. Compatibility of materials.
 - o. Acceptability of substrates.
 - p. Temporary facilities and controls.
 - q. Space and access limitations.
 - r. Testing and inspecting requirements.
 - s. Installation procedures.
 - t. Coordination with other work.
 - u. Required performance results.
 - v. Protection of adjacent work.
 - w. Protection of construction and personnel.
- 3. Record significant conference discussions, agreements, and disagreements, including required corrective measures and actions.
 - 4. Do not proceed with installation if the conference cannot be successfully concluded. Initiate whatever actions are necessary to resolve impediments to performance of the Work and reconvene the conference at earliest feasible date.
- D. Coordination Meetings: Conduct Project coordination meetings on an as needed basis. Project coordination meetings are in addition to specific meetings held for other purposes, such as progress meetings and pre-installation conferences.
- 1. Attendees: In addition to representatives of Owner and Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
 - 2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
 - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind

schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.

- b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Issue revised schedule concurrently with report of each meeting.
- c. Review present and future needs of each contractor present, including the following:
 - 1) Interface requirements.
 - 2) Sequence of operations.
 - 3) Status of submittals.
 - 4) Deliveries.
 - 5) Off-site fabrication.
 - 6) Access.
 - 7) Site utilization.
 - 8) Temporary facilities and controls.
 - 9) Work hours.
 - 10) Hazards and risks.
 - 11) Progress cleaning.
 - 12) Quality and work standards.
 - 13) Change Orders.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not

Used)

END OF SECTION 01310

SECTION 01330

SUBMITTALS

PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general requirements Division-1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for submittals required for performance of the Work, including;

1. Contractor's construction schedule.
2. Submittal schedule.
3. Daily construction reports. (If Required, Owner shall determine)
4. Shop Drawings.
5. Product Data.
6. Samples.

- B. Inspection and test reports are included in Section "Quality Requirements."

1.3 SUBMITTAL PROCEDURES

- A. Coordination: Coordinate preparation and processing of submittals with performance of construction activities. Transmit each submittal sufficiently in advance of performance of related construction activities to avoid delay.

1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals and related activities that require sequential activity.
2. Coordinate transmittal of different types of submittals for related elements of the Work so processing will not be delayed by the need to review submittals concurrently for coordination.

- a. The Owner/ENGINEER reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.

3. Processing: Allow sufficient review time so that installation will not be delayed as a result of the time required to process submittals, including time for resubmittals.

- a. Allow two weeks for initial review. Allow additional time if processing must be delayed to permit coordination with subsequent submittals.
The

OWNER/ENGINEER will promptly advise the Contractor when a submittal being processed must be delayed for coordination.

- b. If an intermediate submittal is necessary, process the same as the initial submittal.
- c. Allow two weeks for reprocessing each submittal.
- d. No extension of Contract Time will be authorized because of failure to transmit submittals to the OWNER/ENGINEER sufficiently in advance of the Work to permit processing.

B. Submittal Preparation: Place a permanent label or title block on each submittal for identification. Indicate the name of the entity that prepared each submittal on the label or title block.

1. Provide a space approximately 4" x 5" on the label or beside the title block on Shop Drawings to record the Contractor's review and approval markings and the action taken.
2. Include the following information on the label for processing and recording action taken:
 - a. Project name.
 - b. Date.
 - c. Name and address of OWNER/ENGINEER.
 - d. Name and address of Contractor.
 - e. Name and address of subcontractor.
 - f. Name and address of supplier.
 - g. Name of manufacturer.
 - h. Number and title of appropriate Specification Section.
 - i. Drawing number and detail references, as appropriate.

C. Submittal Transmittal: Package each submittal appropriately for transmittal and handling. Transmit each submittal from Contractor to OWNER/ENGINEER using a transmittal form. Submittals received from sources other than the Contractor will be returned without action.

1. On the transmittal Record relevant information and requests for data. On the form, or separate sheet, record deviations from Contract Document requirements, including minor variations and limitations. Include Contractor's certification that information complies with Contract Document requirements.

1.4 CONTRACTOR'S CONSTRUCTION SCHEDULE

- A. Prepare a fully developed, horizontal bar- chart type Contractor's construction schedule. Submit within 30 days of the date established for "Commencement of the

Work”.

1. Provide a separate time bar for each significant construction activity. Provide a continuous vertical line to identify the first working day of each week. Use the same breakdown of units of the Work as indicated in the Schedule of Values”.
2. Within each time bar indicate estimated completion percentage in 10 percent increments. As Work progresses, place a contrasting mark in each bar to indicate Actual Completion.
3. Prepare the schedule on a sheet, or series of sheets, of stable transparency, or other reproducible media, of sufficient width to show data for the entire construction period.
4. Secure time commitments for performing critical elements of the Work from parties involved. Coordinate each element on the schedule with other construction activities; include minor elements involved with the sequence of the Work. Show each activity in proper sequence. Indicate graphically sequences necessary for completion of related portions of the Work.
5. Coordinate the Contractor’s construction schedule with the schedule of values, list of subcontracts, submittal schedule, progress reports, payment requests and other schedules.
6. Indicate completion in advance of the date established for Substantial completion. Indicate Substantial completion on the schedule to allow time for the OWNER/ENGINEER’s procedures necessary for certification of Substantial completion.

B. Work Stages: Indicate important stages of construction for each major portion of the Work, including testing and installation.

C. Distribution: Follow response to the initial submittal, print and distribute copies to the ENGINEER, Owner, subcontractors, and other parties required to comply with schedule dates.

1. When revisions are made, distribute to the same parties and post in the same locations. Delete parties from distribution when they have completed their assigned portion of the Work and are no longer involved in construction activities.

E. Schedule Updating: Revise the schedule after each meeting or activity, where revisions have been recognized or made. Issue the updated schedule concurrently with report of each meeting.

1.5 SHOP DRAWINGS

- A. Submit newly prepared information, drawn to accurate scale. Highlight, encircle, or otherwise indicate deviations from the contract documents. Do not reproduce Contract Documents or copy standard information as the basis of Shop Drawings. Standard information prepared without specific reference to the Project is not considered Shop Drawings.
- B. Shop Drawings include fabrication and installation drawings, setting diagrams, schedules, patterns, templates and similar drawings. Include the following

information:

1. Dimensions.
 2. Identification of products and materials included.
 3. Compliance with specified standards.
 4. Notation of coordination requirements.
 5. Notation of dimensions established by field measurement.
 6. Sheet Size: Except for templates, patterns and similar full- size Drawings, submit Shop Drawings on sheets at least 8 ½” x 11” but no larger than 24” X 36”.
 7. Initial Submittal: Submit one blue or black-line print for the OWNER/ENGINEER’s review
 8. Final Submittal: Submit 3 blue- or black-line prints and 2 additional prints where required for maintenance manuals, plus the number of prints needed by the OWNER/ENGINEER for distribution. 2 prints will be retained; the remainder returned.
 - a. One of the prints returned shall be marked-up and maintained as a “Record Document”.
 9. Do not use Shop Drawings without an appropriate final stamp indicating action taken in connection with construction.
- C. Coordination drawings are a special type of Shop Drawing that show the relationship and integration of different construction elements that require careful coordination during fabrication or installation to fit in the space provided or function as intended.
1. Preparation of coordination Drawings is specified in the section “Project Coordination” and may include components previously shown in detail on Shop Drawings or Product Data.
 2. Submit coordination Drawings for integration of different construction elements. Show sequences and relationships of separate components to avoid conflicts in use of space.

1.7 PRODUCT DATA

- A. Collect Product Data into a single submittal for each element of construction or system. Product Data includes printed information such as manufacturer’s installation instructions, catalog cuts, standard color charts, roughing-in diagrams and templates, standard wiring diagrams and performance curves. Where Product Data must be specially prepared because standard printed data is not suitable for use, submit as “Shop Drawings.”
1. Mark each copy to show applicable choices and options. Where printed Product Data includes information on several products, some of which are not required, mark copies to indicate the applicable information. Include the following information;

- a. Manufacturer's printed recommendations.
 - b. Compliance with recognized trade association standards.
 - c. Compliance with recognized testing agency standards.
 - d. Application of testing agency labels and seals.
 - e. Notation of dimensions verified by the field measurement.
 - f. Notation of coordination requirements.
- 2. Do not submit Product Data until compliance with requirements of the Contract Documents has been confirmed.
- 3. Preliminary Submittal: Submit a preliminary single-copy of Product Data where selection of options is required.
- 4. Submittals: Submit 2 copies of each required submittal; submit 4 copies where required for maintenance manuals. The OWNER/ENGINEER will retain one and will return the other marked with action taken and corrections or modifications required.
 - a. Unless noncompliance with Contract document provisions is observed, the submittal may serve as the final submittal.
- 5. Distribution: Furnish copies of final submittal to installers, subcontractors, suppliers, manufacturers, fabricators, and others required for performance of construction activities. Show distribution on transmittal forms.
 - a. Do not proceed with installation until an applicable copy of Product Data applicable is in the installer's possession.
 - b. Do not permit use of unmarked copies of product Data in connection with construction.

1.8 SAMPLES

- A. Submit full-sized, fully fabricated Samples cured and finished as specified and physically identical with the material or product proposed. Samples include partial sections of manufactured or fabricated components, cuts or containers of materials, color range sets, and swatches showing color, texture and pattern.
 - 1. Mount display, or package Samples in the manner specified to facilitate review of qualities indicated. Prepare Samples to match the OWNER/ENGINEER's Sample. Include the following:
 - a. Generic description of the Sample.
 - b. Sample source.
 - c. Product name or name of Manufacturer.
 - d. Compliance with recognized standards.
 - e. Availability and delivery time.
 - 2. Submit Samples for review of kind, color, pattern, and texture, for a final check of these characteristics with other elements, and for a comparison of these characteristics between the final submittal and the actual component as delivered

and installed.

- a. Where variation in color, pattern, texture or other characteristics are inherent in the material or product represented, submit multiple units (not less than 3), that show approximate limits in variations.
 - b. Refer to other Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation and similar construction characteristics.
 - c. Refer to other Sections for Samples to be returned to the Contractor for incorporation in the Work. Such Samples must be undamaged at time of use. On the transmittal, indicate special requests regarding disposition of Sample submittals.
 - d. Preliminary submittals will be reviewed and returned with the OWNER/ENGINEER's mark indication selection and other action.
3. Submittals: Except for Samples illustrating assembly details, workmanship, fabrication techniques, connections, operation and similar characteristics, submit 3 sets; one will be returned marked with the action taken.
 4. Maintain sets of Samples, as returned, at the Project site, for quality comparisons throughout the course of construction.
 - a. Unless noncompliance with Contract Document provisions is observed the submittal may serve as the final submittal.
 - b. Sample sets may be used to obtain final acceptance of the construction associated with each set.
- B. Distribution of Samples: Prepare and distribute additional sets to subcontractors, manufacturers, fabricators, suppliers, installers, and others as required for performance of the work. Show distribution on transmittal forms.
1. Field Samples specified in individual Sections are special types of Samples. Field Samples are full-size examples erected on site to illustrate finishes, coatings, or finish materials and to establish the standard by which the Work will be judged.
 - a. Comply with submittal requirements to the fullest extent possible. Process transmittal forms to provide a record of activity.

1.9 OWNER / ENGINEER'S ACTION

- A. Except for submittals for record, information or similar purposes, where action and return is required or requested, the OWNER/ENGINEER will review each submittal, mark to indicate action taken, and return promptly.
 1. Compliance with specified characteristics is the Contractor's responsibility.
- B. Action Stamp: The OWNER/ENGINEER will stamp each submittal with a uniform, self-explanatory action stamp. The stamp will be appropriately marked, as follows, to

indicate the action taken:

1. Final Unrestricted Release: Where submittals are marked “Approved”, that part of the Work covered by the submittal may proceed provided it complies with requirements of the Contract Documents; final acceptance will depend upon that compliance.
2. Final-But-Restricted Release: When submittals are marked “Approved as Noted”, that part of the Work covered by the submittal may proceed provided it complies with notations or corrections on the submittal and requirements of the Contract Documents; final acceptance will depend on that compliance.
3. Returned for Resubmittal: When submittal is marked “Not Approved”, Revise and Resubmit”, do not proceed with that part of the Work covered by the submittal, including purchasing, fabrication, delivery, or other activity. Revise or prepare a new submittal in accordance with the notations; resubmit without delay. Repeat if necessary to obtain a different action mark.
 - a. Do not permit submittals marked “Not Approved, Revise and Resubmit” to be used at the Project site, or elsewhere where Work is in progress.
4. Other Action: Where a submittal is primarily for information or record purposes, special processing or other activity, the submittal will be returned, marked “Action Not Required”.

PART 2 - PRODUCTS (Not Applicable).

PART 3 - EXECUTION (Not

Applicable).

END OF SECTION 01330

SECTION 01400

QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
 - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
 - 2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
 - 3. Requirements for Contractor to provide quality-assurance and quality-control services required by ENGINEER, OWNER or authorities having jurisdiction are not limited by provisions of this Section.
 - 4. Contractor is solely responsible for ALL inspections applicable to project as required by the Municipality.

1.3 DEFINITIONS

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Owner.
- C. Mockups: Not required.
- D. Preconstruction Testing: Tests and inspections that are performed specifically for the

Project before products and materials are incorporated into the Work to verify performance or compliance with specified criteria.

- E. Product Testing: Tests and inspections that are performed by an NRTL, an NVLAP, or a testing agency qualified to conduct product testing and acceptable to authorities having jurisdiction, to establish product performance and compliance with industry standards.
- F. Source Quality-Control Testing: Tests and inspections that are performed at the source, i.e., plant, mill, factory, or shop.
- G. Field Quality-Control Testing: Tests and inspections that are performed on-site for installation of the Work and for completed Work.
- H. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.
- I. Installer/Applicator/Erector: Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
 - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.
- J. Experienced: When used with an entity, "experienced" means having successfully completed a minimum of five previous projects similar in size and scope to this Project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.

1.4 CONFLICTING REQUIREMENTS

- A. General: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to ENGINEER for a decision before proceeding.
- B. Minimum Quantity or Quality Levels: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to ENGINEER for a decision before proceeding.

1.5 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
 - B. Schedule of Tests and Inspections: Prepare in tabular form and include the following if required by the Owner/Engineer:
 - 1. Specification Section number and title.
 - 2. Description of test and inspection.
 - 3. Identification of applicable standards.
 - 4. Identification of test and inspection methods.
 - 5. Number of tests and inspections required.
 - 6. Time schedule or time span for tests and inspections.
 - 7. Entity responsible for performing tests and inspections.
 - 8. Requirements for obtaining samples.
 - 9. Unique characteristics of each quality-control service.
 - C. Reports: Prepare and submit certified written reports that include the following if required by the Owner/Engineer:
 - 1. Date of issue.
 - 2. Project title and number.
 - 3. Name, address, and telephone number of testing agency.
 - 4. Dates and locations of samples and tests or inspections.
 - 5. Names of individuals making tests and inspections.
 - 6. Description of the Work and test and inspection method.
 - 7. Identification of product and Specification Section.
 - 8. Complete test or inspection data.
 - 9. Test and inspection results and an interpretation of test results.
 - 10. Ambient conditions at time of sample taking and testing and inspecting.
 - 11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
 - 12. Name and signature of laboratory inspector.
 - 13. Recommendations on re-testing and re-inspecting.
 - D. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, jurisdictional settlements, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.
- 1.6 QUALITY ASSURANCE
- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

- B. **Factory-Authorized Service Representative Qualifications:** An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- C. **Installer Qualifications:** A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. **Manufacturer Qualifications:** A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance.
- E. **Professional Engineer Qualifications:** A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this Project in material, design, and extent.
- F. **Specialists:** Certain sections of the Specifications require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.
 - 1. Requirement for specialists shall not supersede building codes and similar regulations governing the Work, nor interfere with local trade-union jurisdictional settlements and similar conventions.
- G. **Testing Agency Qualifications:** An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.
- H. **Preconstruction Testing:** Testing agency shall perform preconstruction testing for compliance with specified requirements for performance and test methods.
 - 1. Contractor responsibilities include the following:
 - a. Provide test specimens representative of proposed products and construction.
 - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the Work.
 - c. Provide sizes and configurations of test assemblies, mockups, and laboratory mockups to adequately demonstrate capability of products to comply with performance requirements.
 - d. Build site-assembled test assemblies and mockups using installers who will perform same tasks for Project.

- e. Build laboratory mockups at testing facility using personnel, products, and methods of construction indicated for the completed Work.
 - f. When testing is complete, remove test specimens, assemblies, mockups, and laboratory mockups; do not reuse products on Project.
 - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Owner with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- I. Mockups: Not required.

1.7 QUALITY CONTROL

- A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.
- 1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of the types of testing and inspecting they are engaged to perform.
 - 2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.
- 1. Where services are indicated as Contractor's responsibility, engage a qualified testing agency to perform these quality-control services.
 - a. Contractor shall not employ same entity engaged by Owner, unless agreed to in writing by Owner.
 - 2. Notify testing agencies at least 24 hours in advance of time when Work that requires testing or inspecting will be performed.
 - 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.
 - 4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
 - 5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.

- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
- D. Retesting/Re-inspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and re-inspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with ENGINEER and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
 - 1. Notify ENGINEER and Contractor promptly of irregularities or deficiencies observed in the Work during performance of its services.
 - 2. Determine the location from which test samples will be taken and in which in-situ tests are conducted.
 - 3. Conduct and interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from requirements.
 - 4. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
 - 5. Do not release, revoke, alter, or increase the Contract Document requirements or approve or accept any portion of the Work.
 - 6. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
 - 1. Access to the Work.
 - 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 - 3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
 - 4. Facilities for storage and field-curing of test samples.
 - 5. Delivery of samples to testing agencies.
 - 6. Preliminary design mix proposed for use for material mixes that require control by testing agency.
 - 7. Security and protection for samples and for testing and inspecting equipment at Project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
 - 1. Schedule times for tests, inspections, obtaining samples, and similar activities.

- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within (30) thirty days of date established for commencement of the Work.
- 1. Distribution: Distribute schedule to Owner, testing agencies, and each party involved in performance of portions of the Work where tests and inspections are required.

1.8 SPECIAL TESTS AND INSPECTIONS

- A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of Owner, and as follows:
- B. Special Tests and Inspections: Conducted by a qualified testing agency as required by authorities having jurisdiction, as indicated in individual Specification Sections, and as follows:
 - 1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviewing the completeness and adequacy of those procedures to perform the Work.
 - 2. Notifying ENGINEER, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
 - 3. Submitting a certified written report of each test, inspection, and similar quality-control service to ENGINEER with copy to Contractor and to authorities having jurisdiction.
 - 4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
 - 5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
 - 6. Re-testing and re-inspecting corrected work.

PART 2 - PRODUCTS (Not

Used) PART 3 - EXECUTION

3.1 ACCEPTABLE TESTING AGENCIES

- A. Acceptable to Owner and Local Building Official in accordance with the applicable Building Code having jurisdiction where project is located.

3.2 TEST AND INSPECTION LOG

- A. Prepare a record of tests and inspections. Include the following:

1. Date test or inspection was conducted.
 2. Description of the Work tested or inspected.
 3. Date test or inspection results were transmitted to ENGINEER.
 4. Identification of testing agency or special inspector conducting test or inspection.
- 3.3 Maintain log at Project site. Post changes and modifications as they occur. Provide access to test and inspection log for ENGINEER's reference during normal working hours.
- 3.4 REPAIR AND PROTECTION
- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
 1. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
 - B. Protect construction exposed by or for quality-control service activities.
 - C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01400

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Related Documents: Provisions established in General and Special Conditions of the Contract, Division 1 General Requirements, and the Drawings are collectively applicable to this Section.
- B. Section Includes:
 - 1. Administrative and procedural requirements governing the Contractor's selection of products for use in the Project.
 - 2. Packaging, transportation, delivery, receiving, storage, protection and other product handling requirements.
 - 3. Product options and substitutions including:
 - a. Contractor's options in selection of products.
 - b. Products list.
 - c. Requests for substitution of products.

1.2 DEFINITIONS

- A. Definitions used in this Article are not intended to change the meaning of other terms used in the Contract Documents, such as "specialties," "systems," "structure," "finishes," "accessories," and similar terms. Such terms are self-explanatory and have well recognized meanings in the construction industry.
 - 1. "Products" are items purchased for incorporation in the Work, whether purchased for the Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - a. "Named Products" are items identified by manufacturer's product name, including make or model designation, indicated in the manufacturer's published product literature, that is current as of the date of the Contract Documents.
 - 2. "Materials" are products that are substantially shaped, cut, worked, mixed, finished, refined or otherwise fabricated, processed, or installed to form a part of the Work.
 - 3. "Equipment", is a product with operational parts, whether motorized or manually operated, that requires service connections such as wiring or piping.

1.3 PRODUCT LIST

- A. Prepare a schedule showing products specified in a tabular form acceptable to the Owner's Representative. Include generic names of products required. Include the

- manufacturer's name and proprietary product names for each item listed.
- B. For products specified only by reference standards, give manufacturer, trade name, model or catalog designation, and reference standards.
 - C. Coordinate the product list schedule with the Contractor's Construction Schedule.
 - D. Form: Prepare the product listing schedule with information on each item tabulated under the following column headings:
 - 1. Related Specification Section number.
 - 2. Generic name used in Contract Documents.
 - 3. Proprietary name, model number and similar designations.
 - 4. Manufacturer's name and address.
 - 5. Supplier's name and address.
 - 6. Installer's name and address.
 - 7. Projected delivery date, or time span of delivery period.
 - E. Initial Submittal:
 - 1. Within 30 days after date of commencement of the Work, submit 3 copies of an initial product list schedule.
 - 2. Provide a written explanation for omissions of data, and for known variations from Contract requirements.
 - 3. At the Contractor's option, the initial submittal may be limited to product selections and designations that must be established early in the Contract period.
 - F. Completed Schedule:
 - 1. Within 60 days after date of commencement of the Work, submit 3 copies of the completed product list schedule.
 - 2. Provide a written explanation for omissions of data, and for known variations from Contract requirements.
 - G. Owner's Representative's Action:
 - 1. Owner's Representative will respond in writing to the Contractor within 2 weeks of receipt of the completed product list schedule.
 - 2. No response within this time period constitutes no objection to listed manufacturers or products, but does not constitute a waiver of the requirement that products comply with Contract Documents.
 - 3. The Owner's Representative's response will include the following:
 - a. A list of unacceptable product selections, containing a brief explanation of reasons for this action.

1.4 QUALITY ASSURANCE

- A. Source Limitations: To the fullest extent possible, provide products of the same kind, from a single source.
 - 1. When specified products are available only from sources that do not or

cannot produce a quantity adequate to complete project requirements in a timely manner, consult with the Owner's Representative for a determination of the most important product qualities before proceeding. Qualities may include attributes

relating to visual appearance, strength, durability, or compatibility. When a determination has been made, select products from sources whose products possess these qualities, to the fullest extent possible.

- B. Compatibility of Options: When the Contractor is given the option of selecting between two or more products for use on the Project, the product selected shall be compatible with products previously selected, even if previously selected products were also options.
- C. Matching of Colors:
 - 1. When a product is listed in the specifications with an accompanying color, pattern, texture, or sheen, provide only that product, or one that is identical in color, pattern, texture, and sheen to the product specified, regardless if the color, pattern, texture, or sheen of the alternate manufacturer's product is a standard or option.
 - 2. On finished materials and products, verify that colors, patterns, textures, and sheens are identical for the entire project and that there are no visual differences between batches, packages, bundles, or shipments, due to differing production runs. Owner's Representative reserves the right to reject products and materials installed, which have, in the sole opinion of the Owner's Representative, a significant enough difference in color, pattern, texture, or sheen, from other products on the project, so as to be visually distracting.

1.5 OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards.
- B. Products Specified by Naming One or More Manufacturers with a Provision for Substitutions: Submit a request for substitution for any manufacturer not specifically named within time frame specified herein.
- C. Products Specified by Naming Several Manufacturers: Products of named manufacturers meeting specifications; no options, no substitutions.
- D. Products Specified by Naming Only One Manufacturer: No option; no substitution allowed.

1.6 SUBSTITUTIONS

- A. Limitations:
 - 1. During Bidding period, Instructions to Bidders govern times for submitting

- requests for substitutions under requirements specified in this Section.
2. Requests for substitutions of products will be considered only within 30 days after date established in Notice to Proceed. Subsequent requests will be considered only in case of product unavailability or other conditions beyond control of Contractor.
 3. Substitutions will not be considered:
 - a. When indicated on shop drawings or product data submittal without separate formal request.
 - b. When requested directly by subcontractor or supplier.
 - c. When acceptance will require substantial revision of Contract Documents.
 4. Do not order or install proposed substitute products without written acceptance.
 5. Only one request for substitution for each product will be considered. When substitution is not accepted, provide specified product.
 6. All substitutions are subject to OWNER approval. To be considered, requests for substitutions must include a point-by-point comparison between the proposed substitute and the specified manufacturer and model. The comparison must confirm that the proposed substitute is equal to or exceeds the quality of the specified products. Incomplete submittals will not be considered.
- B. Requests for Substitutions:
1. Submit separate request for each substitution. Document each request with complete data substantiating compliance of proposed substitution with requirements of Contract Documents. Utilize substitution request form attached.
 2. Identify product by Specifications section and Article numbers. Provide manufacturer's name and address, trade name of product, and model or catalog number. List fabricators and suppliers as appropriate.
 3. Attach product data as specified in Section 01330.
 4. List similar projects using product, dates of installation, and names of Owner's Representative and Owner.
 5. Give itemized comparison of proposed substitution with specified product, listing variations, and reference to Specifications section and Article numbers.
 6. Give quality and performance comparison between proposed substitution and the specified product.
 7. Give cost data comparing proposed substitution with specified product, and amount of net change to Contract Sum.
 8. List availability of maintenance services and replacement materials.
 9. State effect of substitution on construction schedule, and changes required in other work or products.
- C. Contractor Representation:
1. Request for substitution constitutes a representation that Contractor has investigated proposed product and has determined that it is equal to or superior in all respects to specified product or that the cost reduction offered, if any, is ample justification for accepting the offered substitution.
 2. Provide same warranty for substitution as for specified product.
 3. Coordinate installation of accepted substitute, making such changes as may be

- required for Work to be complete in all respects.
4. Certifies that cost data presented is complete and includes related costs under this Contract.
 5. Waives claims for additional costs related to substitution which may later become apparent.
- D. Submittal Procedures:
1. Submit 3 copies of request for substitution.
 2. Owner's Representative will review Contractor's requests for substitutions with reasonable promptness.
 3. During the bidding period, Owner's Representative will record acceptable substitutions in Addenda.
 4. After award of Contract, Owner's Representative will notify Contractor, in writing, of decision to accept or reject requested substitution, generally within 14 days.
 5. For accepted products, submit shop drawings, product data, and samples under provisions of Section 01330.

PART 2 PRODUCTS

2.1 PRODUCT SELECTION

- A. General Product Requirements: Provide products that comply with the Contract Documents, that are undamaged and, unless otherwise indicated, unused at the time of installation.
1. Provide products complete with all accessories, trim, finish, safety guards and other devices and details needed for a complete installation and for the intended use and effect.
 2. Standard Products: Where available, provide standard products of types that have been produced and used successfully in similar situations on other projects.
- B. Product Selection Procedures: Product selection is governed by the Contract Documents and governing regulations, not by previous Project experience. Procedures governing product selection include the following:
1. Proprietary Specification Requirements: Where only a single product or manufacturer is named, provide the product indicated. No substitutions will be permitted.
 2. Semi-Proprietary Specification Requirements: Where two or more products or manufacturers are named, provide one of the products indicated. No substitutions will be permitted.
 - a. Where products or manufacturers are specified by name, comply with the Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.
 3. Non-Proprietary Specifications: When the Specifications list products or manufacturers that are available and may be incorporated in the Work, but do

not restrict the Contractor to use of these products only, the Contractor may propose any available product that complies with Contract requirements. Comply with Contract Document provisions concerning "substitutions" to obtain approval for use of an unnamed product.

4. Descriptive Specification Requirements: Where Specifications describe a product or assembly, listing exact characteristics required, with or without use of a brand

or trade name, provide a product or assembly that provides the characteristics and otherwise complies with Contract requirements.

5. Performance Specification Requirements: Where Specifications require compliance with performance requirements, provide products that comply with these requirements, and are recommended by the manufacturer for the application indicated. General overall performance of a product is implied where the product is specified for a specific application.

- a. Manufacturer's recommendations may be contained in published product literature, or by the manufacturer's certification of performance.

6. Compliance with Standards, Codes and Regulations: Where the Specifications only require compliance with an imposed code, standard or regulation, select a product that complies with the standards, codes or regulations specified.

7. Visual Matching: Where Specifications require matching an established Sample, the Owner's Representative's decision will be final on whether a proposed product matches satisfactorily.

- a. Where no product available within the specified category matches satisfactorily and also complies with other specified requirements, comply with provisions of the Contract Documents concerning "substitutions" for selection of a matching product in another product category, or for noncompliance with specified requirements.

8. Visual Selection: Where specified product requirements include the phrase "...as selected from manufacturer's standard colors, patterns, textures..." or a similar phrase, select a product and manufacturer that complies with other specified requirements. The Owner's Representative will select the color, pattern and texture from the product line selected.

PART 3 EXECUTION

3.1 PACKAGING AND TRANSPORTATION

- A. Require supplier to package products in boxes or crates for protection during shipment, handling, and storage. Protect sensitive products against exposure to elements and moisture.
- B. Protect sensitive equipment and finishes against impact, abrasion, and other damage.

3.2 DELIVERY, RECEIVING, AND HANDLING

- A. Deliver, receive, and handle products in accordance with the manufacturer's recommendations, using means and methods that will prevent damage, deterioration and loss, including theft.
- B. Delivery:
 - 1. Arrange deliveries of products in accordance with construction progress schedules. Allow time for inspection prior to installation.
 - 2. Coordinate deliveries to avoid conflict with Work and conditions at site; limitations on storage space; availability of personnel and handling equipment, and Owner's use of premises.
 - 3. Schedule delivery to minimize long-term storage at site and to prevent overcrowding of construction spaces.
 - 4. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft and other losses.
 - 5. Deliver products in undamaged, dry condition, in original unopened containers or packaging with identifying labels intact and legible, complete with labels and instructions for handling, storing, unpacking, protecting and installing.
 - 6. Clearly mark partial deliveries of component parts of equipment to identify equipment and contents to permit easy accumulation of parts and to facilitate assembly.
- C. Receiving and Handling:
 - 1. Provide equipment and personnel to handle products, including those provided by Owner, by methods to prevent soiling and damage.
 - 2. Provide additional protection during handling to prevent marring and otherwise damaging products, packaging, and surrounding surfaces.
 - 3. Handle product by methods to avoid bending or overstressing. Lift large and heavy components only at designated lift points.
 - 4. Immediately on delivery, inspect shipment to assure:
 - a. Product complies with requirements of Contract Documents and reviewed submittal.
 - b. Quantities are correct.
 - c. Accessories and installation hardware are correct.
 - d. Containers and packages are intact and labels legible.
 - e. Products are protected and undamaged.

3.3 STORAGE

- A. General:
 - 1. Store products, immediately on delivery, in accordance with manufacturer's instructions, with seals and labels intact. Protect until installed.
 - 2. Arrange storage in a manner to provide access for maintenance of stored items and for inspection.
 - 3. Store heavy materials away from the Project structure in a manner that will

not endanger the supporting construction.

B. Enclosed Storage: Not Applicable.

C. Exterior Storage:

1. Provide substantial platforms, blocking, or skids, to support fabricated products above ground; slope to provide drainage. Protect products from soiling and staining.
2. For products subject to discoloration or deterioration from exposure to the elements, cover with impervious sheet material. Provide ventilation to avoid condensation.
3. Store loose granular materials on clean, solid surfaces such as pavement, or on rigid sheet materials, to prevent mixing with foreign matter.
4. Provide surface drainage to prevent erosion and ponding of water.
5. Prevent mixing of refuse or chemically injurious materials or liquids.

D. Maintenance of Storage:

1. Periodically inspect stored products on a scheduled basis.
2. Verify that storage facilities comply with manufacturer's product storage requirements.
3. Verify that manufacturer required environmental conditions are maintained continually.
4. Verify that surfaces of products exposed to the elements are not adversely affected; that any weathering of finishes is acceptable under requirements of Contract Documents.

E. Maintenance of Equipment Storage: Not applicable.

3.4 INSTALLATION OF PRODUCTS

- A. Comply with manufacturer's instructions and recommendations for installation of products in the applications indicated. Anchor each product securely in place, accurately located and aligned with other Work.
- B. Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.

END OF SECTION 01600

SECTION 01700

EXECUTION REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes general procedural requirements governing execution of the Work including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. General installation of products.
 - 4. Progress cleaning.
 - 5. Starting and adjusting.
 - 6. Protection of installed construction.
 - 7. Correction of the Work.

1.3 SUBMITTALS

- A. Landfill Receipts: Submit copy of receipts issued by a landfill facility, licensed to accept hazardous materials, for hazardous waste disposal.

PART 2 - PRODUCTS (Not

Used) PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of site improvements, utilities, and other construction indicated as existing are not guaranteed. Before beginning work, investigate and verify the existence and location of mechanical and electrical systems and other construction affecting the Work.
 - 1. Before construction, verify the location and points of connection of utility services.

- B. Existing Utilities: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities and other construction affecting the Work.
- C. Acceptance of Conditions: Examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:
 - a. Description of the Work.
 - b. List of detrimental conditions, including substrates.
 - c. List of unacceptable installation tolerances.
 - d. Recommended corrections.
 - 2. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
 - 3. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 4. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 5. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- B. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- C. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to ENGINEER. Include a detailed description of problem encountered, together with recommendations for changing the Contract Documents. Submit requests on CSI Form 13.2A, "Request for Interpretation."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks. If discrepancies are discovered, notify ENGINEER promptly.
- B. General: Engage a professional engineer to lay out the Work using accepted surveying practices.
 - 1. Establish benchmarks and control points to set lines and levels at each story of construction and elsewhere as needed to locate each element of Project.
 - 2. Establish dimensions within tolerances indicated. Do not scale Drawings to obtain required dimensions.
 - 3. Inform installers of lines and levels to which they must comply.
 - 4. Check the location, level and plumb, of every major element as the Work progresses.
 - 5. Notify ENGINEER when deviations from required lines and levels exceed allowable tolerances.
- C. Building Lines and Levels: Locate and lay out control lines and levels for structures. Transfer survey markings and elevations for use with control lines and levels.
- D. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Owner.
- E. Coordinate and verify equipment locations and sizes with layout of walls, services and existing conditions.

3.4 FIELD ENGINEERING

- A. Owner/ENGINEER will provide initial stakeout, reference points and benchmarks prior to start of construction activities. These points and offsets will be located at an agreed upon location. The Contractor shall provide adequate protection and replace at his cost.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of ENGINEER. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to ENGINEER before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.

- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.

3.5 INSTALLATION

- A. General: Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure the best possible results. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.
- E. Tools and Equipment: Do not use tools or equipment that produce harmful noise levels.
- F. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed. Check Shop Drawings of other work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- G. Anchors and Fasteners: Provide anchors and fasteners as required to anchor each component securely in place, accurately located and aligned with other portions of the Work.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by ENGINEER or as referenced by code.
 - 2. Allow for structure movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. 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.
- H. Joints: Make joints of uniform width. Where joint locations in exposed work are not

indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

- I. Hazardous Materials: Use products, cleaners, and installation materials that are not considered hazardous.

3.6 OWNER-INSTALLED PRODUCTS – Not Applicable

3.7 PROGRESS CLEANING

- A. General: Clean Project site and work areas daily, including common areas. Coordinate progress cleaning for joint-use areas where more than one installer has worked. Enforce requirements strictly. Dispose of materials lawfully.
 - 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 - 2. Do not hold materials more than 7 days during normal weather or 3 days if the temperature is expected to rise above 80 deg F.
 - 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
- B. Site: Maintain Project site free of waste materials and debris.
- C. Work Areas: Clean areas where work is in progress to the level of cleanliness necessary for proper execution of the Work.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces. The Contractor shall exercise extreme care so that no cleaning materials are spilled into the stream located in the work zone.
- E. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- F. Cutting and Patching: Clean areas and spaces where cutting and patching are performed. Completely remove paint, mortar, oils, putty, and similar materials.
- G. Waste Disposal: Burying or burning waste materials on-site will not be permitted. Washing waste materials down sewers or into waterways will not be permitted.
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.

- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period.
 - J. Limiting Exposures: Supervise construction operations to assure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.
- 3.8 STARTING AND ADJUSTING – Not Applicable.
- 3.9 PROTECTION OF INSTALLED CONSTRUCTION
- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
 - B. Comply with manufacturer's written instructions for temperature and relative humidity.
- 3.10 CORRECTION OF THE WORK
- A. Repair or remove and replace defective construction. Restore damaged substrates and finishes. Comply with requirements in Division 1 Section "Cutting and Patching."
 - 1. Repairing includes replacing defective parts, refinishing damaged surfaces, touching up with matching materials, and properly adjusting operating equipment.
 - B. Restore permanent facilities used during construction to their specified condition.
 - C. Remove and replace damaged surfaces that are exposed to view if surfaces cannot be repaired without visible evidence of repair.

END OF SECTION 01700

SECTION 01740

CLEANING

PART 1 GENERAL

1.1 SUMMARY

- A. Related Documents: Provisions established in General and Special Conditions of the Contract, Division 1 General Requirements, and the Drawings are collectively applicable to this Section.
- B. Section Includes:
 - 1. Cleaning during construction.
 - 2. Final cleaning of project and related site work.

1.2 CLEANING DURING CONSTRUCTION

- A. Control accumulation of waste materials and rubbish; periodically dispose of off-site.
- B. Keep site and construction areas clean on a daily basis.
- C. Clean interior areas prior to start of finish work, maintain areas free of dust and other contaminants during finishing operations.

1.3 FINAL CLEANING

- A. Execute cleaning prior to inspection for Substantial Completion of the Work.

PART 2 PRODUCTS

2.1 CLEANING MATERIALS

- A. Use materials which will not create hazards to health or property, and which will not damage surfaces.
- B. Use only materials and methods recommended by manufacturer of material being cleaned.

PART 3 EXECUTION

3.1 CLEANING

- A. In addition to removal of debris and cleaning specified in other sections clean

exterior exposed-to-view surfaces.

- B. Remove waste, foreign matter, and debris from approach areas, walking surfaces and drainage systems.

C. Cleaning during Construction:

1. Execute periodic cleaning to keep site, and adjacent properties free of accumulations of waste materials, debris, rubbish, and wind-blown debris resulting from construction operations.
2. Prior to Substantial Completion remove construction tools, scaffolding, equipment, machinery, and surplus materials.
3. Schedule cleaning operations so that dust and other contaminants will not fall on or adhere to wet or newly-coated surfaces.
4. Store volatile wastes in covered metal containers and remove from premises daily. Prevent accumulation of waste which creates hazardous conditions. Provide adequate ventilation during use of volatile or noxious substances.
5. Do not throw materials from heights.
6. Collect and remove waste materials, debris, and rubbish from site weekly until execution of final cleaning and dispose off site in lawful manner.
7. Conduct cleaning and disposal operations to comply with local ordinances and anti-pollution laws.
8. Do not burn or bury rubbish and waste materials on Project site. Do not dispose of volatile wastes or hazardous materials such as mineral spirits, oil, or paint thinner in storm or sanitary drains. Do not dispose of wastes into streams or waterways.
9. Maintain cleaning until Final Completion.
10. The Contractor shall make every effort to prevent materials from falling into the stream below the bridge superstructure.

D. Final Cleaning: In addition to cleaning during construction, prior to Substantial Completion provide the following:

1. Remove temporary protection not required to remain.
2. Clean finishes free of dust, stains, films and other foreign substances.
3. Remove waste, debris, and surplus materials from site. Clean grounds; remove stains, spills, and foreign substances from support areas. Rake clean other exterior surfaces.

END OF SECTION 01740

SECTION 01770

CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general requirements Division-Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section specifies administrative and procedural requirements for project close-out, including but not limited to:
 - 1. Inspection procedures.
 - 2. Project record document submittal.
 - 3. Submittal of warranties.
 - 4. Final cleaning.

1.3 SUBSTANTIAL COMPLETION

- A. Preliminary Procedures: Before requesting inspection for certification of Substantial Completion, complete the following. List exceptions in the request.
 - 1. In the Application for Payment that coincides with, or first follows, the date Substantial Completion is claimed, show 100 percent completion for the portion of the Work claimed as substantially completed. Include supporting documentation for completion as indicated in these Contract Documents and a statement showing an accounting of changes to the Contract Sum.
 - a. If 100 percent completion cannot be shown, include a list of incomplete items, the value of incomplete construction, and reasons the work is not complete.
 - 2. The CONTRACTOR must advise the Owner 30 days prior to turnover of pending insurance change-over requirements.
 - 3. Submit specific warranties, workmanship bonds, maintenance agreements, final certifications and similar documents.
 - 4. Obtain and submit releases enabling the Owner unrestricted use of the Work.
 - 5. Submit record drawings, maintenance manuals, final project photographs, damage or settlement survey, and similar final record information.
 - 6. Deliver extra stock, and similar items as specified.
 - 7. Complete final clean up requirements, including touch-up painting. Touch-up and otherwise repair and restore marred exposed finishes.

- B. Inspection Procedures: On receipt of a request for inspection, the OWNER/ENGINEER will either proceed with inspection or advise the CONTRACTOR of unfilled requirements. The OWNER/ENGINEER prepare the Certificate of Substantial Completion following inspection, or advise the CONTRACTOR of construction that must be complete or corrected before the certificate will be issued.
1. The OWNER/ENGINEER will repeat inspection when requested and assured that the Work has been substantially complete.
 2. Result of the completed inspection will form the basis of requirements for final acceptance.

1.4 FINAL ACCEPTANCE

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following. List exceptions in the request.
1. Submit the final payment request with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 2. Submit an updated final statement, accounting for final addition changes to the Contract Sum.
 3. Submit a certified copy of the OWNER/ENGINEER'S final inspection list of items to be completed or corrected, stating that each item has been completed or otherwise resolved for acceptance and the list has been endorsed and dated by the OWNER/ENGINEER.
- B. Re-inspection Procedure: The OWNER/ENGINEER will re-inspect the Work upon receipt of notice that the work, including inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to OWNER/ENGINEER.
1. Upon completion of re-inspection, the OWNER/ENGINEER will prepare a certificate of final acceptance, or advise the GC/EC of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
 2. If necessary, re-inspection will be repeated.

1.5 RECORD DOCUMENT SUBMITTALS

- A. General: Do not use record documents for construction purposes; protect from deterioration and loss in a secure, fire-resistive location; provide access to record documents for the OWNER/ENGINEER'S reference during normal working hours.
- B. Record Drawings: Maintain a clean, undamaged set of blue or black line white-prints of Contract Drawings and Shop Drawings. Mark the set to show the actual installation where the installation varies substantially from the Work as originally shown. Mark

whichever drawing is most capable of showing conditions fully and accurately;
where

Shop Drawings are used, record a cross reference at the corresponding location on the Contract Drawings. Give particular attention to concealed elements that would be difficult to measure and record at a later date.

1. Mark record sets with red erasable pencil; use other colors to distinguish between variations in separate categories of the Work.
 2. Mark new information that is important to the Owner, but was not shown on Contract Drawings or Shop Drawings.
 3. Note related Change Order numbers where applicable.
 4. Organize record drawing sheets into manageable sets, bind with durable paper cover sheets, and print suitable titles, dates and other identification on the cover of each set.
- C. Record Specifications: Maintain one complete copy of the Project Manual, including addenda, and one copy of other written construction documents such as Change Orders and modifications issued in printed form during construction. Mark these documents to show substantial variations in actual Work performed in comparison with the text of the Specifications and modifications. Give particular attention to substitutions, selection of options and similar information on elements that are concealed or cannot otherwise be readily discerned later by direct observation. Note related record drawing information and Product Data.
1. Upon completion of the Work, submit record Specifications for the Owner's records.
- D. Record Product Data: Maintain one copy of each Product Data submittal. Mark these documents to show significant variations in actual Work performed in comparison with information submitted. Include variations in products delivered to the site, and from the manufacturer's installation instruction and recommendations. Give particular attention to concealed products and portions of the Work which cannot otherwise be readily discerned later by direct observation. Note related Change Orders and mark-up of record drawings and Specifications.
1. Upon completion of mark-up, submit complete set of record Product Data for the Owner's records.
- E. Record Sample Submitted: Immediately prior to the date or dates of Substantial Completion, the CONTRACTOR will meet at the site with the Owner's personnel to determine which of the submitted Samples that have been maintained during progress of the Work are able to be transmitted to the Owner for record purposes. Comply with delivery to the Owner's Sample storage area.
- F. Miscellaneous Record Submittals: Refer to other Specification Sections for requirements of miscellaneous record-keeping and submittals in connection with actual performance of the Work. Immediately prior to the date or dates of Substantial Completion, complete miscellaneous records and place in good order, properly

identified and bound or filed, ready for continued use and reference. Submit for the Owner's records.

PART 2 - PRODUCTS (Not

Applicable) PART 3 - EXECUTION

3.1 CLOSEOUT PROCEDURES

- A. Maintenance Instructions: Arrange for each installer of materials that requires regular maintenance to meet with the owner's personnel to provide instruction in proper maintenance. If installers are not experienced in procedures, provide instruction by manufacturer's representatives. Include a detailed review of the following items:

1. Maintenance manuals.
2. Record documents.
3. Spare materials.
4. Warranties and bonds.

3.2 FINAL CLEANING

- A. Cleaning: Employ experienced workers or professional cleaners for final cleaning.

1. Complete the following cleaning operations before requesting inspection for Certification of Substantial Completion.
 - a. Clean exposed exterior hard-surfaced finishes to a dust-free condition, free of stains, films and similar foreign substances.
 - b. Clean the site, including landscape development areas, of rubbish, litter and other foreign substances. Rake grounds that are neither paved nor planted, to a smooth even-textured surface.

- C. Removal of Protection: Remove temporary protection and facilities installed for protection of the Work during construction.

- D. Compliance: Comply with regulations of authorities having jurisdiction and safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on the Owner's property. Do not discharge volatile, harmful or dangerous materials into drainage systems. Remove waste materials from the site and dispose of in a lawful manner.

1. Where extra materials of value remaining after completion of associated Work have become the Owner's property, arrange for disposition of these materials as directed.

END OF SECTION 01770

SECTION 01781

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Special Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record Specifications.
 - 3. Record Product Data.

1.3 SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit (3) three sets of marked-up Record Prints.
- B. Record Specifications: Submit three copies of Project's Specifications, including addenda and contract modifications.
- C. Record Product Data: Submit three copies of each Product Data submittal.
 - 1. Where Record Product Data is required as part of operation and maintenance manuals, submit marked-up Product Data as an insert in manual instead of submittal as Record Product Data.

PART 2 - PRODUCTS

2.1 RECORD DRAWINGS

- A. Record Prints: Maintain one set of blue- or black-line white prints of the Contract Drawings and Shop Drawings.
 - 1. Preparation: Mark Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity that obtained record data, whether individual or entity is Installer, subcontractor, or

similar entity, to prepare the marked-up Record Prints.

- a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an understandable drawing technique.
 - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
2. Content: Types of items requiring marking include, but are not limited to, the following:
- a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Changes made by Change Order or Construction Change Directive.
 - d. Changes made following ENGINEER'S written orders.
 - e. Details not on the original Contract Drawings.
 - f. Field records for variable and concealed conditions.
 - g. Record information on the Work that is shown only schematically.
3. Mark the Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. If Shop Drawings are marked, show cross-reference on the Contract Drawings.
4. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
5. Mark important additional information that was either shown schematically or omitted from original Drawings.
6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.

2.2 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 2. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 3. Note related Change Orders, Record Product Data, and Record Drawings where applicable.

2.3 RECORD PRODUCT DATA

- A. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.

1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
3. Note related Change Orders, Record Drawings, and Product Data where applicable.

2.4 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

PART 3 - EXECUTION

3.1 RECORDING AND MAINTENANCE

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and modifications to Project Record Documents as they occur; do not wait until the end of Project.
- B. Maintenance of Record Documents and Samples: Store Record Documents and Samples in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Owner's reference during normal working hours.

END OF SECTION 01781

SECTION 02230

SITE CLEARING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cleaning site of debris, grass, trees, and other plant life in preparation for site or building earthwork.
- B. Protection of existing structures, trees, or vegetation indicated on the Construction Drawings to remain.
- C. Stripping topsoil from areas that are to be incorporated into limits of project and storage of topsoil where so indicated on Construction Drawings.

1.2 RELATED SECTIONS

- A. Construction Drawings

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Construct temporary erosion control systems as shown on Construction Drawings or as directed by the "Storm Water Pollution Prevention Plan" (SWPPP) to protect adjacent properties and water resources from erosion and sedimentation.
- B. In event that site work on this project will disturb 5 or more acres; Contractor shall not begin construction without "National Pollution Discharge Elimination System" (NPDES) permit governing discharge of storm water from site for entire construction period. NPDES permit requires SWPPP to be in place during construction.
- C. Contractor shall be totally responsible for conducting storm water management practices in accordance with NPDES permit and for enforcement action taken or imposed by Federal or State agencies, including cost of fines, construction delays, and remedial actions resulting from Contractor's failure to comply with provisions of NPDES permit.

1.4 PROJECT CONDITIONS

- A. Existing Conditions at time of inspection for bidding purposes will be maintained by Owner in so far as practical.
- B. Variations to conditions or discrepancy in actual conditions as they apply to site

preparation operations are to be brought to attention of Owner prior to commencement of site work.

PART 2 PRODUCTS

1.1 EQUIPMENT

- A. Off-site materials shall be transported to project using well-maintained and operating vehicles. Once on site, transporting vehicles shall stay on designated haul roads and shall at no time endanger improvements by rutting, overloading, or pumping.

PART 3 EXECUTION

3.1 PREPARATION

- A. Identify existing plant life that is to remain and verify clearing limits are clearly tagged, identified, and marked in such manner as to ensure their safety throughout construction operations.

3.2 PROTECTION

- A. Locate and identify existing utilities that are to remain and protect these from damage.
- B. Protect trees, plant growth, and features designated to remain as part of final landscaping.
- C. Conduct operations with minimum interference to public or private accesses and facilities. Maintain ingress and egress at all times and clean or sweep roadways daily as required by SWPPP or governing authority. Dust control shall be provided with sprinkling systems or equipment provided by Contractor.
- D. Protect benchmarks, property corners, and other survey monuments from damage or displacement. If marker needs to be removed it shall be referenced by a licensed land surveyor and replaced, as necessary, in kind.
- E. Provide traffic control as required, in accordance with the US Department of Transportation's "Manual on Uniform Traffic Control Devices" and applicable state highway department requirements.

3.3 CLEARING

- A. Clear areas required for access to site and execution of work.

- B. Unless otherwise indicated on Construction Drawings, remove trees, shrubs, grass, other vegetation, improvements, or obstructions interfering with installation of new construction. Removal includes digging out stumps and roots. Depressions caused by clearing and grubbing operations are to be filled to subgrade elevation to avoid ponding of water. Satisfactory fill material shall be placed in accordance with Section 02300.
- C. Remove grass, trees, plant life, stumps, and other construction debris from site to dump site that is suitable for handling such material according to state laws and regulations.

3.4 TOPSOIL EXCAVATION

- A. Topsoil shall consist of organic surface soil found in depth of not less than 6-inches. Satisfactory topsoil shall be reasonably free of subsoil, clay lumps, stones and other objects over 2-inches in diameter, weeds, roots, and other objectionable material.
- B. Cut heavy growths of grass from areas before stripping and remove cuttings with remainder of cleared vegetative material.
- C. Strip topsoil from areas that are to be filled, excavated, landscaped, or re-graded to such depth that it prevents intermingling with underlying subsoil or questionable material.
- D. Stockpile topsoil in storage piles in areas shown on Construction Drawings or where directed by Owner. Construct storage piles to freely drain surface water. Cover storage piles as required to prevent windblown dust. Dispose of unsuitable topsoil as specified for waste material, unless otherwise specified by Owner. Contractor shall remove excess topsoil from site unless specifically noted otherwise on Construction Drawings.

END OF SECTION 02230

SECTION 02300 -

EARTHWORK PART 1 -

GENERAL

1.1 SECTION INCLUDES

- A. Protection, modification, or installation of utilities as site work progresses with particular attention to grade changes and necessary staging or phasing of work.
- B. Cutting, filling, and grading to required lines, dimensions, contours, and elevations for proposed improvements.
- C. Scarifying, compacting, drying, dewatering and removal of unsuitable material to ensure proper preparation of areas for fills or proposed improvements.

1.2 RELATED SECTIONS

- A. Section 02230 - Site Clearing
- B. Construction Drawings

1.3 REFERENCE STANDARDS

- A. American Society for Testing and Materials (ASTM) latest edition
 1. D422 Standard Test Method For Particle – Size Analysis of Soil
 2. D 698 Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lbf/ft³ (600 kN.m/m³))
 3. D 1557 Laboratory Compaction Characteristics of Soil Using Modified Effort (56,000 ft-lbf/ft³ (2,700 Kn.m/m³))
 4. D 2216 Laboratory Determination of Water (Moisture) Content of Soil, Rock, and Soil-Aggregate Mixtures
 5. D 2487 Classification of Soils for Engineering Purposes
 6. D 2922 Density of Soil and Soil-Aggregate In Place by Nuclear Methods (Shallow Depth)
 7. D 3017 Water Content of Soil and Rock in Place by Nuclear Methods (Shallow Depth)
 8. D 4318 Liquid Limit, Plastic Limit, and Plasticity Index of Soils
- B. American Association of State Highway and Transportation Officials (AASHTO) latest edition

1. T 88 Particle Size Analysis of Soils
2. State Department of Transportation (DOT): Standard Specifications for Construction and Materials, Latest Edition

1.4 QUALITY ASSURANCE

- A. An independent testing laboratory, selected and paid by the Contractor, will be retained to perform construction testing on site.
 1. The independent testing laboratory shall prepare test reports that indicate test location, elevation data, and test results. Owner, Civil Engineering Consultant, and Contractor shall be provided with copies of reports within 96 hours of time that test was performed. In event that test performed fails to meet Specifications, the independent testing laboratory shall notify Owner and Contractor immediately.
 2. Costs related to retesting due to failures shall be paid for by Contractor at no additional expense to Owner. Contractor shall provide free access to site for testing activities.
 3. Quality assurance testing shall be in accordance with Part 3, Section 3.07, "Field Quality Control".

1.5 SUBMITTALS

- A. Submit 30-pound sample of each type of off-site fill material that is to be used at the site in airtight container(s) for the independent testing laboratory or submit gradation and certification of aggregate material that is to be used at the site to the independent testing laboratory for review.
- B. Submit name of each material supplier and specific type and source of each material. Change in source throughout project requires approval of Owner.
- C. If fabrics or geogrids are to be used, design shall be submitted for approval to Owner.
- D. Submit Dewatering Plans upon request by Owner.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Excavated and re-used material for subsoil fill as specified herein.
- B. Imported fill material approved by Owner and specified herein.

2.2 EQUIPMENT

- A. Transport off-site materials to project using well-maintained and operating vehicles. Once on site, transporting vehicles shall stay on designated haul roads and shall at no time endanger improvements by rutting, overloading, or pumping.

2.3 SOURCE QUALITY CONTROL

- A. In areas to receive pavement, California Bearing Ratio (CBR) or Limerock Bearing Ratio (LBR) test shall be performed for each type of material that is imported from off-site.
- B. Following tests shall be performed as part of construction testing requirements on each type of on-site or imported soil material used as compacted fill:
 - 1. Moisture and Density Relationship: ASTM D 698 (or ASTM D 1557)
 - 2. Mechanical Analysis: AASHTO T 88 (or ASTM D422)
 - 3. Plasticity Index: ASTM D 4318

PART 3 - EXECUTION

3.1 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Locate and identify existing utilities that are to remain and protect from damage.
- C. Notify utility companies to remove or relocate public utilities that are in conflict with proposed improvements.
- D. Protect plant life, lawns, fences, existing structures, sidewalks, paving, and curbs, unless otherwise noted on construction drawings from excavating equipment and vehicular traffic.
- E. Protect benchmarks, property corners, and other survey monuments from damage or displacement. If marker needs to be removed it shall be referenced by licensed land surveyor and replaced, as necessary, by same.
- F. Remove from site, material encountered in grading operations that, in opinion of Owner or Agent, is unsuitable or undesirable for backfilling, subgrade, or foundation purposes. Dispose of in manner satisfactory to Owner. Backfill areas with layers of suitable material and compact as specified herein.
- G. Prior to placing fill in low areas, such as previously existing creeks, ponds, or lakes, perform following procedures:
 - 1. Drain water out by gravity with ditch having flow line lower than lowest elevation in low area. If drainage cannot be performed by gravity ditch, use adequate pump to obtain the same results.

2. After drainage of low area is complete, remove mulch, mud, debris, and other unsuitable material by using acceptable equipment and methods that will keep natural soils underlying low area dry and undisturbed.
3. All muck, mud, and other materials removed from low areas shall be dried on-site by spreading in thin layers for observation by Owner or Agent.

Material shall be inspected and, if found to be suitable for use as fill material, shall be incorporated into lowest elevation of site filling operation, but not under building subgrade or within 10'-0" of perimeter of building subgrade or paving subgrade. If, after observation by Owner or Agent, material is found to be unsuitable, unsuitable material shall be removed from site.

H. Dewatering:

1. General:
 - a. Design and provide dewatering system using accepted and professional methods consistent with current industry practice to eliminate water entering the excavation under hydrostatic head from the bottom and/or sides. Design system to prevent differential hydrostatic head, which would result in floating out soil particles in a manner, termed as a "quick" or "boiling" condition. System shall not be dependent solely upon sumps and/or pumping water from within the excavation where differential head would result in a quick condition, which would continue to worsen the integrity of the excavation's stability.
 - b. Provide dewatering system of sufficient size and capacity to prevent ground and surface water flow into the excavation and to allow all Work to be installed in a dry condition.
 - c. Control, by acceptable means, all water regardless of source and the Contractor is fully responsible for disposal of the water.
 - d. Confine discharge piping and/or ditches to available easement or to additional easement obtained by Contractor. Provide necessary permits and/or additional easement at no additional cost to Owner.
 - e. Control groundwater in a manner that preserves strength of foundation soils, does not cause instability or raveling of excavation slopes, and does not result in damage to existing structures. Where necessary to these purposes, lower water level in advance of excavation, utilizing wells, wellpoints, jet educators, or similar positive methods. The water level as measured by piezometers shall be maintained a minimum of 3 feet below prevailing excavation level.
 - f. Commence dewatering prior to any appearance of water in excavation and continue until Work is complete to the extent that no damage results from hydrostatic pressure, flotation, or other causes.
 - g. Open pumping with sumps and ditches shall be allowed, provided it does not result in boils, loss of fines, softening of the ground, or

- instability of slopes.
- h. Install wells and/or wellpoints, if required, with suitable screens and filters, so that continuous pumping of fines does not occur. Arrange discharge to facilitate collection of samples by the Owner. During normal pumping, and upon development of well(s), levels of fine sand or silt in the discharge water shall not exceed 5 ppm.

Install sand tester on discharge of each pump during testing to verify that levels are not exceeded.

- i. Control grading around excavations to prevent surface water from flowing into excavation areas.
 - j. No additional payment will be made for any supplemental measures to control seepage, groundwater, or artesian head.
2. Design:
- a. Contractor shall designate and obtain the services of a qualified dewatering specialist to provide dewatering plan as may be necessary to complete the Work.
 - b. Contractor shall be responsible for the accuracy of the drawings, design data, and operational records required.
 - c. Contractor shall be solely responsible for the design, installation, operation, maintenance, and any failure of any component of the system.
3. Damages:
- a. Contractor shall be responsible for and shall repair without cost to the Owner any damage to work in place, or other contractor's equipment, utilities, residences, highways, roads, railroads, private and municipal well systems, adjacent structures, natural resources, habitat, existing wells, and the excavation. Including, damage to the bottom due to heave and including but not limited to, removal and pumping out of the excavated area that may result from Contractor's negligence, inadequate or improper design and operation of the dewatering system, and any mechanical or electrical failure of the dewatering system.
 - b. Remove subgrade materials rendered unsuitable by excessive wetting and replace with approved backfill material at no additional cost to the Owner.
4. Maintaining Excavation in Dewatering Condition:
- a. Dewatering shall be a continuous operation. Interruptions due to power outages, or any other reason will not be permitted.
 - b. Continuously maintain excavation in a dry condition with positive dewatering methods during preparation of subgrade, installation of pipe, and construction of structures until the critical period of construction and/or backfill is completed to prevent damage of subgrade support, piping, structure, side slopes, or adjacent facilities from flotation or other hydrostatic pressure imbalance.
 - c. Provide standby equipment on site, installed, wired, and available for immediate operation if required to maintain dewatering on a

continuous basis in the event any part of the system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, perform such work as may be required to restore damaged structures and foundation soils at no additional cost to Owner.

- d. System maintenance shall include but not be limited to 24-hour supervision by personnel skilled in the operation, maintenance, and replacement of system components, and any other work required to maintain excavation in dewatered condition.
5. System Removal:
- a. Remove dewatering equipment from the site, including related temporary electrical service.
 - b. Wells shall be removed or cut off a minimum of 3 feet below final ground surface, capped, and abandoned in accordance with regulations by agencies having jurisdiction.

3.2 EXCAVATION FOR FILLING AND GRADING

- A. Classification of Excavation: by submitting bid, Contractor acknowledges that site has been investigated to determine type, quantity, quality, and character of excavation work to be performed. Excavation shall be considered unclassified excavation, except as indicated in the Contract Documents.
- B. When performing grading operations during periods of wet weather, provide adequate dewatering, drainage and ground water management to control moisture of soils.
- C. Shore, brace, and drain excavations as necessary to maintain excavation as safe, secure, and free of water at all times.
- D. Excavated material containing rock or stone greater than 6-inches in largest dimension is unacceptable as fill within proposed building subgrade and paving subgrade.
- E. Rock or stone less than 6-inches in largest dimension is acceptable as fill to within 24-inches of surface of proposed subgrade when mixed with suitable material.
- F. Rock or stone less than 2-inches in largest dimension and mixed with suitable material is acceptable as fill within the upper 24-inches of proposed subgrade.

3.3 FILLING AND SUBGRADE PREPARATION

- A. Fill areas to contours and elevations shown on Construction Drawings

with unfrozen materials.

- B. Place fills in continuous lifts specified herein.
- C. Areas exposed by excavation or stripping and on which subgrade preparations are to be performed shall be scarified to minimum depth of 8-inches and compacted to minimum of 95 percent of maximum density, in accordance with ASTM D 698 (or 92 percent of maximum density, in accordance with ASTM D 1557) at moisture content of not less than 1 percent below and not more than 3 percent above optimum moisture content. These areas shall then be proofrolled to detect areas of insufficient compaction. Proofrolling shall be accomplished by making minimum of 2 complete passes with fully-loaded tandem-axle dump truck with a maximum weight of 20 tons, or approved equal, in each of 2 perpendicular directions while under the supervision and direction of the independent testing laboratory. Areas of failure shall be excavated and recompacted as specified herein. Continual failure areas shall be stabilized in accordance with Section 02340 at no additional cost to Owner.
- D. Fill materials used in preparation of subgrade in all areas other than structures, utilities, pavements, or out parcels (see related sections for backfilling within these areas) shall be placed in lifts or layers not to exceed 8-inches loose measure and compacted to 95 percent of maximum density, in accordance with ASTM D 698, (or 92 percent of the maximum density, in accordance with ASTM D 1557) at moisture content of not less than 1 percent below and not more than 3 percent above optimum moisture content.
- E. Material imported from off-site shall have CBR or LBR value equal to or above pavement design subgrade CBR or LBR value indicated on Construction Drawings.

3.4 MAINTENANCE OF SUBGRADE

- A. Verify finished subgrades to ensure proper elevation and conditions for construction above subgrade.
- B. Protect subgrade from excessive wheel loading during construction, including concrete trucks, dump trucks, and other construction equipment.
- C. Remove areas of finished subgrade found to have insufficient compaction density to depth necessary and replace in manner that will comply with compaction requirements by use of material equal to or better than best subgrade material on site. Surface of subgrade after compaction shall be hard, uniform, smooth, stable, and true to grade and cross-section.

3.5 BORROW AND SPOIL SITES

- A. Contractor shall be responsible for compliance with NPDES and local erosion

control permitting requirements for any and all on-site and off-site, disturbed spoil and borrow areas. Upon completion of spoil and/or borrow operations, clean up spoil and/or borrow areas in a neat and reasonable manner to the satisfaction of off-site property owner, if applicable, Owner, and Civil Engineering Consultant.

3.6 RIP-RAP

- A. Place rip-rap in areas where indicated on Construction Drawings. Stone for rip-rap shall consist of field stone or rough unhewn quarry stone as nearly uniform in section as is practical. Stones shall be dense, resistant to action of air and water, and suitable for purpose intended. Unless otherwise specified, stones used as rip-rap shall weigh between 50-pounds and 150-pounds each, and at least 60 percent of stones shall weigh more than 100-pounds each.
- B. Dress slopes and other areas to be protected to line and grade shown on Construction Drawings prior to placing of rip-rap. Undercut areas to receive rip-rap to elevation equal to final elevation less average diameter of stones before placing rip-rap.
- C. Install filter fabric and bedding stone prior to placement of stones if so indicated on Construction Drawings. Bedding stone shall be quarried and crushed angular limestone, 6-inches in depth in accordance with Section 02227 and with the following gradation:

| Sieve Designation | % By Weight Passing Square Mesh Sieves |
|-------------------|--|
| 3" | 100 |
| No. 4 | 20-65 |
| No. 200 | 0-10 |

Filter fabric shall be as specified in Section 02270 and as detailed on Construction Drawings.

- D. Place stones so that greater portion of weight is carried by earth and not by adjacent stones. Place stones in single layer with close joints. Upright areas of stone shall make angle of approximately 90 degree with embankment slope. Place courses from bottom of embankment upward, with larger stones being placed in lower courses. Fill open joints with spalls. Embed stones in embankment as necessary to present uniform top surface such that variation between tops of adjacent stones shall not exceed 3-inches.

3.7 FINISH GRADING

- A. Grade areas where finish grade elevations or contours are indicated on Construction Drawings, other than paved areas and buildings, including excavated areas, filled and transition areas, and landscaped areas. Graded areas shall be uniform and smooth, free from rock, debris, or irregular surface

changes. Finished subgrade surface shall not be more than 0.10-feet above or below established finished subgrade elevation. Ground surfaces shall vary uniformly between indicated elevations. Grade finished ditches to allow for proper drainage without ponding and in manner that will minimize erosion potential. For topsoil, sodding and seeding requirements refer to Section 02900.

- B. Correct settled and eroded areas within 1 year after date of completion at no additional expense to Owner. Bring grades to proper elevation. Replant or replace grass, shrubs, bushes, or other vegetation that appears dead, dying, or disturbed by construction activities. Refer to Section 02370 for slope protection and erosion control.

3.8 FIELD QUALITY CONTROL

- A. Field density tests for in-place materials shall be performed as part of construction testing requirements according to one of following standards:
 - 1. Nuclear Method: ASTM D 2922 (Method B-Direct Transmission)
- B. Perform density test as follows:
 - 1. Building Subgrade Areas, Including 10'-0" Outside of Exterior Building Lines: In cut areas, not less than 1 compaction test for every 2,500 sq. ft. In fill areas, same rate of testing for each 8-inch lift, measured loose.
 - 2. Areas of Construction Exclusive of Building Subgrade Areas: In cut areas, not less than 1 compaction test for every 10,000 sq. ft. In fill areas, same rate of testing for each 8-inch lift, measured loose.
- C. Corrective measures for non-complying compaction:
 - 1. Remove and recompact deficient areas until proper compaction is obtained at no additional expense to Owner.

END OF SECTION 02300

SECTION 02370 - EROSION AND SEDIMENTATION

CONTROL PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Installation of temporary and permanent erosion control systems.
- B. Installation of temporary and permanent slope protection systems.

1.2 RELATED SECTIONS

- A. Section 02230 - Site Clearing
- B. Section 02300 – Earthwork
- C. Construction Drawings

1.3 ENVIRONMENTAL REQUIREMENTS

- A. Protect adjacent properties and water resources from erosion and sediment damage throughout life of contract.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Quick growing grasses such as wheat, rye, or oats in accordance with the drawings.
- B. Hay or straw bales as specified on Construction Drawings.
- C. Fencing or compost socks for siltation control as specified on Construction Drawings.
- D. Curlex blankets by American Excelsior Company or approved equal.
- E. Bale stakes for each bale shall be minimum of 4-feet in length and shall be either two #2 rebars, two steel pickets, or two 2-inch x 2-inch hardwood stakes driven 1'-6" into ground.
- F. Temporary mulches such as loose hay, straw, netting, wood cellulose, or agricultural silage.
- G. Fence stakes shall be minimum of 5-ft in length and be either metal stakes or 2-inch x 2-inch hardwood stakes driven 1'-6" into ground.

- H. Temporary and Permanent Outfall Structures as specified on Construction Drawings.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Review Construction Drawings and Storm Water Pollution Prevention Plan.
- B. Conduct pre-construction meeting with Site Contractor.

3.2 EROSION CONTROL AND SLOPE PROTECTION IMPLEMENTATION

- A. Place erosion control systems in accordance with Construction Drawings and Storm Water Pollution Prevention Plan or as may be dictated by site conditions in order to maintain the intent of the specifications and permits at no additional cost to Owner.
- B. Deficiencies or changes on Construction Drawings or Storm Water Pollution Prevention Plan shall be implemented as site conditions change.
- C. Owner has authority to limit surface area of erodible earth material exposed by clearing and grubbing, excavation, borrow and embankment operations and to direct Contractor to provide immediate permanent or temporary pollution control measures.
- D. Maintain temporary erosion control systems as directed by Owner or governing authorities to control siltation during life of contract. Contractor shall respond to maintenance or additional work ordered by Owner or governing authorities within 48 hours or sooner if required at no additional cost to the Owner.
- E. Contractor will be required to incorporate permanent erosion control features into project at earliest practical time to minimize need for temporary controls.
- F. Permanently seed and mulch cut slopes as excavation proceeds to extent considered desirable and practical.
- G. Slopes that erode easily or that will not be graded for a period of 14 days or more shall be temporarily seeded as work progresses with wheat, rye, or oats application in accordance with the Construction Drawings.

END OF SECTION 02370

SECTION 02530

CONCRETE WALKS AND CURBS

PART 1 GENERAL

1.1 RELATED

DOCUMENTS A.

1.2 SUMMARY

A. Extent of walks and curbing is shown on the drawings.

1.3 QUALITY ASSURANCE

A. Qualifications of work force:

1. Provide at least one person trained and experienced in the skills required, familiar with the design and application of work described for this reason, and present at all times during progress of the work.
 - a. For actual finishing of concrete surfaces, and operation of the required equipment, use personnel trained and experienced in the skills required.

1.4 PRODUCT HANDLING

- A. Protection: Use all means necessary to protect the materials of this section before, during, and after installation and to protect the work and materials of all other trades.
- B. Replacements: In the event of damage, make all repairs and replacements necessary to the approval of the A/E and at no additional cost to the Owner.

1.5 REFERENCES

A. American Society for Testing and Materials (Current

Editions): C33 Concrete Aggregates.

C94 Ready-mixed concrete.

C150 Portland cement.

C260 Air entraining admixture for concrete.

D1751 Performed Expansion Joint Fillers for Concrete Paving and Structural Construction (non-extruding and resilient bituminous type).

D1850 Concrete Joint Sealer, Cold Application Type.

B. American concrete Institute (Current Edition):

ACI-318 Building code requirements for reinforced concrete.

C. Federal Standards (1997 or Current Edition).

| | |
|------------------------|---|
| TT-T-190C | Linseed Oil, Boiled (for use in organic |
| coatings) TT-T-291E(1) | Thinner- Paint, Volatile Spirits- Petroleum |
| Spirits. TT-T-295A | Thinner Paint, Mineral Spirits, Volatile, |
| Odorless | |

D. Pennsylvania Department of Transportation Publication 408 (Current Edition):

PART 2 PRODUCTS

2.1 MATERIALS

A. Concrete Mix, Design and Testing:

1. Comply with requirements of Section 03300 for concrete mix design, sampling and testing, and quality control, and as herein specified. Design the mix to produce standard weight concrete consisting of Portland cement, aggregate, air entraining admixture and water to produce the following properties:
 - a. Compressive Strength: 3500 psi, min. at 28 days.
 - b. Slump Range: 2" to 4"
 - c. Air Content: 5% to 7%

B. Form: Conforming to standards specified herein.

C. Expansion joint filler conforming to ASTM D1751 requirements.

D. Reinforcement: 6x6- W2.9 x W2.9.

E. Protective Coating: Conforming to standards specified herein.

PART 3 EXECUTION

3.1 INSTALLATION

- A. Subgrade Preparation: Form the foundation at a depth of 12 inches below and parallel with the finished surface of the sidewalk. Remove and replace all unsuitable material with acceptable material. Thoroughly compact the foundation. Finish to a firm, even surface; moisten if required.

- B. Placing Aggregate Base Course: Spread aggregate on the prepared foundation to form a thoroughly compacted bed 6" deep.
- C. Provide wood or steel forms, straight of sufficient strength to resist springing during depositing and consolidating concrete, and of a height equal to the full depth of the finished sidewalk. Wood surfaced plank forms, two inch nominal thickness. Steel forms of approved section with a flat top surface. Forms with the upper edge true to line and grade set held rigidly in place by stakes placed at intervals not to exceed 4 feet. Use flexible spring steel forms or laminated boards to form radius bends as required. Coat forms with form oil (that will not discolor or deface concrete) each time before concrete is placed. Wood forms may, instead, be thoroughly wetted with water before concrete is placed, except that with probable freezing temperatures, oiling is mandatory. Do not remove side forms for less than 12 hours after finishing has been completed.
- D. Concrete Placement and Finishing: Place reinforced concrete in form in one layer thickness that when compacted and finished the sidewalk will be of the thickness indicated (pour walks in alternate sections). After the concrete has been placed in the forms, use a strike-off guided by the side forms to bring the surface to the proper section to be compacted. Tamp and consolidate concrete with a suitable wood or metal tamping bar, finish surface to grade by screeding, wood floated, scored, tooled and given a fine-hair broom finish with grain running perpendicular to pedestrian flow. Divide surface into rectangular areas (as indicated) by means of contraction joints.
- E. Contraction Joints: Form contraction joints in the fresh concrete by cutting a groove in the top portion of the slab to a depth of at least one-fourth of the sidewalk slab thickness, using a jointer to cut the groove or by sawing a groove in the hardened concrete with a power driven saw.

OR

- E. Sawed Joints: Construct joints by sawing a groove in the concrete with the a 1/8 inch shatterproof abrasive or diamond-rimmed blades to the full depth as indicated. After expiration of the curing period, then widen upper portion of the groove by sawing to width and depth indicated. Vary time and sawing depending on existing and anticipated weather conditions, and to prevent uncontrolled cracking of the pavement. Commence sawing of the joints as soon as the concrete has hardened sufficiently to permit cutting the concrete without chipping, spalling, or tearing. The sawed faces of joints will be inspected for undercutting or washing of concrete due to early sawing and delay sawing if undercutting or washing is sufficiently deep to cause structural weakness or excessive roughness in the joint. Saw joints at the required spacing consecutively in the sequence of the concrete placement use a chalk line or other suitable guides to mark the alignment of the joint. Before sawing a joint, examine concrete closely for cracks; do not saw joint if a crack has occurred near the joint location. Discontinue sawing when a crack develops ahead of the saw cut. Immediately after each joint is sawed, thoroughly flush with water until all waste from sawing is removed from the joint.
- F. Inserts (Option to Sawed Joint): use embedded strips of metal or sealed wood to form weakened plane joints. Set strips into plastic concrete and carefully remove strips after

concrete has hardened.

- G. Expansion Joints: Install expansion joints to surround or to separate all structures or features which project through or against the sidewalk slab. Install expansion joints at regularly space intervals transversely across the sidewalk slab; spacing joints not more than 20 feet. Fill transverse expansion joints with ¼ inch thick joint filler strips conforming to ASTM Specifications D1751. Place joint filler with top edge ¼ inch below the surface and shall be held in place with steel pins or other devices to prevent warping of the filler during floating and finishing. Immediately after finishing operations are completed, round joint edges with an edging tool having a radius of 1/8 inch, and remove concrete over the joint filler. Form expansion joints about structures and features that project through or into the sidewalk pavement, using joint filler of the complete, uniform separation between structure and sidewalk pavement. At the end of the curing period, carefully clean and fill with joint sealer conforming to ASTM Specifications D1850. Surface dry the concrete at the joint and the atmospheric and pavement temperatures to be above 50 degrees F. at the time of application of joint sealing materials. Fill joints flush with the concrete surface in such a manner as to minimize spilling on the walk surface. Remove spilled sealing material immediately and the surface of the walk cleaned. Do not seal dummy groove joints.
- H. Surface Uniformity: The complete surface shall be uniform in color and free of surface blemishes and tool markers.

3.2 CURING AND PROTECTING

- A. Curing: Immediately after the finishing operations, cure the exposed concrete surface by the following method:
- B. Mat Method: Cover the entire exposed surface with absorptive cover mats conforming to AA5H to M182, Class 2 or with moisture-retaining cover complying with ASTM C 171. Mats shall overlap each other at least 6 inches. Thoroughly wet mat with water before placing, keeping continuously in a saturated condition and in intimate contact with concrete for not less than 7 days.
- C. Backfilling: After curing, remove debris and the area adjoining the sidewalk shall be backfilled, graded and compacted to conform to the surrounding area in accordance with the lines and grades indicated.
- D. Protective Coating: (Anti-Spalling compound) SALT-GUARD WB water based siloxane sealer shall be applied in accordance with manufactures specifications. NO SUBSTITUTION is permitted
- E Protection: Protect the completed sidewalk from damage until accepted. Repair damaged concrete and clean concrete discolored during construction. Remove sidewalk that is damaged and reconstruct for the entire length between regularly scheduled joints. Refinishing the damaged

portion will not be acceptable. Dispose damaged portions as directed.

- F. Concrete Curbs: Constructed to profile and size conforming to details as shown on the drawings.
- G. Forms: use acceptable metal forms, except on sharp curves and short tangent sections where wood forms may be used. Use forms which will not discolor the concrete.
- H. Placing and Finishing Concrete: Place the concrete in the forms in layers not exceeding 4 inches in depth and spade sufficiently to eliminate voids. A vibrator may be used. Provide drainage openings through the curb at the elevation and of size required, where indicated or required. Smoothly and evenly finish the top surface of the curb (same as sidewalk). While the concrete is still plastic, round the edges of the face and back of the curb. Place depressed curbs for drives or handicapped ramps where indicated or directed.
- I. Expansion Joints: Provide expansion joints as indicated on the drawings and at all structures.
- J. Curing and Protection: Refer to the previous paragraphs of this section.

END OF SECTION

SECTION 06100

ROUGH

CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Special Conditions, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Framing with dimension lumber.
 - 2. Wood grounds, nailers, and blocking.
 - 3. Sheathing.
 - 4. Pressure Treated Lumber
 - 5. Galvanized Metal Framing Connectors
 - 6. 3/8" All-thread Rod

1.3 SUBMITTALS

- A. General: Submit in accordance with General/Special Conditions of the Contract.
- B. Product data for the following products:
 - 1. Trex Decking or equal.
 - 2. Construction adhesives.
- C. Material certificates for dimensional lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use as well as design values approved by the Board of Review of American Lumber Standards Committee.
- D. Wood treatment data as follows including chemical treatment manufacturer's instructions for handling, storing, installation, and finishing of treated material:
 - 1. For each type of preservative treated wood product include certification by treating plant stating type of preservative solution and pressure process used, net amount of preservative retained, and compliance with applicable standards.
 - 2. For water-borne treated products include statement that moisture content of treated materials was reduced to levels indicated prior to shipment to project site.
 - 3. For fire-retardant-treated wood products include certification by treating plant that

- treated material complies with specified standard and other requirements.
4. Material test reports from qualified independent testing laboratory indicating and interpreting test results relative to compliance of fire-retardant-treated wood products with requirements indicated.
 5. Warranty of chemical treatment manufacturer for each type of treatment.

1.4 QUALITY ASSURANCE

- A. Single-Source Responsibility for Engineered Wood Products: Obtain each type of engineered wood products from one source from a single manufacturer.
- B. Single-Source Responsibility for Fire Retardant Treated Wood: Obtain type of fire-retardant-treated wood products from one source for both treatment and fire-retardant formulation.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Delivery and Storage: Keep materials under cover and dry. Protect against exposure to weather and contact with damp or wet surfaces. Stack lumber as well as plywood and other panels; provide for air circulation within and around stacks and under temporary coverings including polyethylene and similar materials.
 1. For lumber and plywood pressure treated with waterborne chemicals, place spacers between each bundle to provide air circulation.

PART 2 - PRODUCTS

2.1 LUMBER, GENERAL

- A. Lumber Standards: Furnish lumber manufactured to comply with PS 20 “American Softwood Lumber Standard” and with applicable grading rules of inspection agencies certified by American Lumber Standards Committee’s (ALSC) Board of Review.
- B. Inspection Agencies: Inspection agencies and the abbreviations used to reference them with lumber grades and species include the following:
 1. NLGA - National Lumber Grades Authority (Canadian).
 2. SPIB - Southern Pine Inspection Bureau.
 3. WCLIB - West Coast Lumber Inspection Bureau.
 4. WWPA - Western Wood Products Association.
- C. Grade Stamps: Provide lumber with each piece factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.
 1. For exposed lumber furnish pieces with grade stamps applied to ends or back of

each piece; or omit grade stamps entirely and provide certificates of grade compliance issued by inspection agency.

- D. Nominal sizes are indicated, except as shown by detail dimensions. Provide actual sizes as required by PS 20, for moisture content specified for each use.
 - 1. Provide dressed lumber, S4S, unless otherwise indicated.
 - 2. Provide seasoned lumber with 19 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.
 - 3. Provide lumber with 15 percent maximum moisture content at time of dressing and shipment for sizes 2 inches or less in nominal thickness, unless otherwise indicated.

2.2 DIMENSIONAL LUMBER

- A. For light framing (2 to 4 inches thick, 2 to 4 inches wide) provide the following grade for species:
 - 1. “Construction” grade.
 - 2. Southern Pine graded under SPIB rules.
 - 3. Spruce-Pine-Fir Graded under NLGA rules.
- B. For structural light framing (2 to 4 inches thick, 2 to 4 inches wide), provide the following grade and species:
 - 1. “No. 2” grade.
 - 2. Same species as indicated for structural framing grade below.
- C. For structural framing (2 to 4 inches thick, 5 inches and wider), provide the following grade and species:
 - 1. “No. 1” grade.
 - 2. Douglas Fir-Larch graded under WCLIB or WWPA rules.
 - 3. Southern Pine graded under SPIB rules.
 - 4. Spruce-Pine-Fir graded under NLGA rules.

2.3 MISCELLANEOUS LUMBER

- A. General: Provide lumber for support or attachment of other construction including rooftop equipment curbs and support bases, cant strips, bucks, nailers, blocking, furring, grounds, stripping, and similar members.
- B. Fabricate miscellaneous lumber from dimension lumber of sizes indicated and into shapes shown or as required.
- C. Moisture content: 19 percent maximum for lumber items not specified to receive

wood preservative treatment.

- D. Grade: “Standard” grade light-framing-size lumber of any species or board-size lumber as required. “No. 3 Common” or “Standard” grade boards per WCLIB or WWPAA rules or “No. 2 Boards per SPIB rules.

2.4 FASTENERS

- A. General: Provide fasteners of size and type indicate that comply with requirements specified in this article for material and manufacture.
 - 1. Where rough carpentry is exposed to weather, in good ground contact, or in area of high relative humidity, provide fasteners with a hot-dip zinc coating per ASTM A 153 or of AISI Type 304 stainless steel.
- B. Nails, Wire, Brads, and Staples: FS FF-N-105.
- C. Power Driven Fasteners: National Evaluation Report NER 272.
- D. Wood Screws: ANSI B 18.6.1
- E. Lag Bolts: ANSI B 18.2.1.
- F. Bolts: Steel bolts comply with ASTM A 307, Grade A; with ASTM A 563 hex nuts and where indicated, flat washer.

2.5 PRESERVATIVE WOOD TREATMENT BY PRESSURE PROCESS

- A. General: Where lumber or plywood is indicated as preservative-treated wood or is specified herein to be treated, comply with applicable requirements AWWPA Standards C2 (Lumber) and C9 (Plywood). Mark each treated item with the AWPB or SPIB Quality Mark Requirements.
- B. Pressure-treated above-ground items with water-borne preservatives to a minimum retention of 0.25 pcf. For interior uses, after treatment, kiln-dry lumber and plywood to a maximum moisture content, respectively, of 19 percent and 15 percent. Treat indicated items and the following:
 - 1. Wood nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, and flashing.
 - 2. Wood blocking, furring, and similar concealed members in contact with masonry or concrete.
 - 3. Wood floor plates installed over concrete slabs directly in contact with earth.
- C. Pressure-treated wood members in contact with the ground or fresh water with water-borne preservatives to a minimum retention of 0.04 pcf.

- D. Complete fabrication of treated items prior to treatment, where possible. If cut after treatment, coat cut surfaces to comply with AWPAC M4. Inspect each piece of lumber or plywood after drying and discard damaged or defective pieces.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Discard units of material with defects that impair quality of rough carpentry construction and that are too small to use in fabricating rough carpentry with minimum joints or optimum joint arrangement.
- B. Set rough carpentry to required levels and lines, with members plumb and true to line and cut and fitted.
- C. Fit rough carpentry to other construction; scribe and cope as required for accurate fit. Correlate location of furring, nailers, blocking grounds, and similar supports to allow attachment of other construction.
- D. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated.
- E. Countersink nail heads on exposed carpentry work and fill holes.
- F. Use common wire nails, unless otherwise indicated. Use finishing nails for finish work. Select fasteners of size that will not penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting of wood; pre-drill as required.

3.2 WOOD GROUNDS, NAILERS, AND BLOCKING

- A. Install wood grounds, nailers, and blocking where shown and where required for screeding or attachment of other work. Form to shapes as shown and cut as required for true line and level of work to be attached. Coordinate location with other work involved.
- B. Attach to substrates as required to support applied loading. Countersink bolts and nuts flush with surfaces, unless otherwise indicated. Build into masonry during installation of masonry work. Where possible, anchor to form work before concrete placement.

3.3 WOOD FRAMING, GENERAL

- A. Framing Standard: Comply with N.F.P.A. "Manual for Wood Frame Construction," unless otherwise indicated.
- B. Install framing members of size and spacing indicated.

- C. Anchor and nail as shown, and to comply with the following:
1. National Evaluation Report No. NER-272 for pneumatic or mechanical driven staples, P-Nails, and allied fasteners.
 2. “Appendix C - Recommended Nailing Schedule” of the BOCA National Building Code.
- D. Do not splice structural members between supports.

END OF SECTION



2023 INSTALLATION GUIDE



WHAT'S NEW FOR 2023:

- » **Page 13** Revised lighting skus
- » **Page 23** Added Trex® Wifi Controller Setup Installation Instructions
- » **Page 26** Revised decking skus
- » **Page 24** Revised decking and fascia recommended fasteners
- » **Page 56** Revised railing skus
- » **Page 75** Revised Transcend Horiz and Stair Instructions
- » **Page 135** Added Trex Signature Stair Panels
- » **Page 205** Revised Select Horiz and Stair Instructions
- » **Page 203** Revised aluminum gate instructions
- » **Page 235** Revised decking color palette

NEED HELP?

Trex provides a variety of valuable resources to answer your questions or concerns. For additional assistance, check out:

- » **Trex.com**
Here you will find a wealth of useful information on Trex's extensive products including installation, care and cleaning instructions and videos, technical help, and FAQs. You'll also find inspiring photos of deck projects, steps to help you plan and start your project, and tips for selecting the right deck builder. At **trex.com**, you can request information, register your warranty, and reach out to customer service representatives who can answer even more questions.
- » Call **1-800-BUY-TREX (1-800-289-8739)** and speak to a Customer Loyalty Advocate who can answer your questions.

Refer to **www.trex.com** for up-to-date installation and technical documents that may not be found in this printed guide.



This symbol indicates text continues to next page.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

TREX INSTALLATION GUIDE

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TREX INSTALLATION GUIDE

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SAFETY

When working on any construction project, you should wear protective clothing and safety equipment. Wear safety glasses, gloves, a dust mask and long sleeves, particularly when cutting in confined spaces.

Trex decking and railing are heavier and more flexible than wood. **DO NOT** try to lift the same quantity of Trex boards as you would traditional lumber. Go to www.trex.com for Safety Data Sheets (SDS).

TOOLS

SAWS

Miter Saw:

When using a miter saw we recommend using the Trex® Blade™ or a carbide-tipped blade with 60 teeth or more. The Trex Blade comes in three different sizes and is ideal for cutting all Trex decking and railing products.



Jigsaw:

For detailed and/or small cuts (Example: cutting deck board to fit around a post), a jigsaw with a carbide-tipped blade can be used.



DRILLS

Install Trex recommended fasteners with standard power drills, impact drivers (use care if using impact drivers), or right angle drills.



**Trex® Blade™ is manufactured and sold by Freud Tools, Inc. under a Trademark License Agreement with Trex Company, Inc.*

SPECIFIC DECK BOARD ATTACHMENT TOOLS

Screw Guns:



Some Trex recommended deck fasteners are compatible with screw guns. Refer to the recommended fasteners page for more information.

TigerClaw® Pneumatic Gun:

If choosing to use the TigerClaw TC-G Hidden Fasteners the TigerClaw pneumatic gun is a terrific option that allows for quicker install time.



Trex Router Bit:

Trex decking routs to give extremely crisp edges when using the Trex Router Bit with standard router, and can be used with all Trex Hideaway Hidden Fasteners.



**Tiger Claw® is a registered trademark of Tiger Claw, Inc.*

TREX TRANSCEND®, TREX ENHANCE®, AND TREX SELECT® DECKING CARE AND CLEANING GUIDE

All exterior building materials require cleaning. Generally, soap and water is all that is required to clean Transcend, Enhance, and Select products. For additional information, see below.

Refer to Trex.com for cleaning recommendations for early generation decking products.

| PROBLEM | SOLUTION |
|--|---|
| Dirt and Debris | The affected area should be sprayed off with a hose to remove surface debris. Use warm soapy water and a soft bristle brush to remove dirt and debris from the embossing pattern. |
| Using a Pressure Washer (General Cleaning Issues) | A pressure washer with no greater than 3100 psi* that has a fan attachment/adjustment and soap dispenser may be used to remove dirt or mud. Spray deck with soap, then follow by gently scrubbing each deck board with a soft bristle brush. Spray/rinse each individual deck board using a fan tip no closer than 8 in (203 mm) from the decking surface. RINSE THOROUGHLY. If dirty water from cleaning is left to dry, a film will remain on the decking surface. |
| Issues with Concrete, Cement, Mortar, or Stucco Dust | When working with cement, concrete, mortar, or stucco, protect the decking as much as possible in order to not get dust particles on the decking surface. These particles, once they get hot or wet, can cause a reaction on the decking surface and are very difficult to remove. If particles get on the decking surface, Trex recommends using Sakrete™ Concrete Dissolver (www.sakrete.com/products/concrete-dissolver). BE SURE TO FOLLOW MANUFACTURER'S INSTRUCTIONS. |
| Hard Water Staining | Hard water is water with a high amount of mineral deposits like lime, silica and calcium. When the water dries, deposits are left behind, leaving unsightly spots on surfaces. This is not a defect of Trex products but an issue with the water itself. Generally, these deposits can be cleaned with white vinegar on decking surfaces. Rinsing is required so care should be taken to not use hard water for this purpose. If hard water must be used, dry with a cloth or use a blower to dry surfaces. In some cases a deck brightener product may also be used to help clean hard water stains. |
| Chalk Lines | Most colored chalks are permanent and may discolor the surface. Use only Irwin Strat-Line® Dust-Off Marking Chalk (purple), available at Irwin.com . |
| Tannins Due to Debris | Remove all debris from the deck using a hose or broom. Once the deck surface is dry, apply a deck "brightener"*** to the deck as directed by the manufacturer. Deck Brighteners contain oxalic acid, which will also remove tannins. |
| Ice and Snow | A plastic shovel may be used to remove snow from the deck. Use calcium chloride or rock salt to melt the snow and ice from the deck surface. |
| Oil, Grease, and Food | All food spills should be removed as soon as possible. The surface must be cleaned within seven days to maintain the stain warranty. To remove, spray off with a hose and use warm, soapy water and a soft bristle brush to remove spills from the embossing pattern. |
| Mold and Mildew | If debris such as pollen and dirt are allowed to remain on the deck surface, mold can feed on the biofilm. Using a hose and warm, soapy water with a soft bristle brush is recommended to remove the food source and mold. |

TREX TRANSCEND®, TREX ENHANCE®, AND TREX SELECT® DECKING CARE AND CLEANING GUIDE

| PROBLEM | SOLUTION |
|------------------------------------|---|
| Trex and Static Electricity | <p>While this is not common, static electricity can occur on walking surfaces in dry climates or in areas where dry winds and dust-borne particles lay on the decking surfaces. Static electricity can build up on occupants walking across any composite decking surface, including Trex, then produce a small static shock if they touch a grounded metal surface such as railing, door, etc.</p> <p>This condition can be decreased greatly with the use of a product call ACL Staticide®. Two products tested were General Purpose Staticide® and Heavy Duty Staticide®. Both are effective in greatly reducing static electricity on Trex decking surfaces. Apply full strength using a mop on a dry decking surface, and allow to dry, no rinsing or diluting needed. Products are non-toxic, non-flammable, non-staining (will not change the color of decking surface), completely biodegradable and safe to use. Product is water-based and may require a second application after rain or other weather conditions. Over a period of time, the effect of static will dissipate naturally on the decking surface.</p> <p>See link for more information on product: http://www.aclstaticide.com/antistatic_coatings.html</p> |
| Rubber Mats | Use caution when using rubber-backed mats (i.e. welcome mats, etc.) as these may contain substances that can sometimes discolor or lighten the decking surface. |
| Curving Trex Decking | There are methods to heat Trex decking to a high enough temperature to achieve a desired curved radius. Please contact Trex for additional details. Trex Enhance decking cannot be curved. |
| Job Site Storage | <p>Store decking on a flat level surface and ALWAYS use proper supports (dunnage). DO NOT store directly on the ground. When stacking decking bundles, supports (dunnage) should start approximately 8-in (203 mm) from each end and be spaced approximately 2-ft (0.61m) on center. In addition, supports (dunnage) should line up vertically/perpendicular to the decking product. Adjust support blocks (dunnage) accordingly if bundles are loose. For Select decking, Enhance decking, and 1x12 and 1x8 products, the maximum stack height is 12 bundles. For all other decking products maximum stack height is 14 bundles (IMPORTANT TO NOTE THAT PROPER DUNNAGE SPACING MUST BE IN PLACE FOR THESE HEIGHTS). When stacking multiple bundles, ensure that dunnage lines up vertically down through each stack. ALWAYS cover decking products on site until ready to be installed.</p> |

*Use of a pressure washer greater than 3100 psi could damage the boards and void the warranty.

**Use of products containing bleach or acid can lighten the surface of Trex. Use in an inconspicuous area to determine whether you like the effect. Neither product will affect the structural integrity of Trex.

Sakrete™ is a trademark of Oldcastle APG, a CRH Company.

Strait-Line® is a registered trademark of Irwin Industrial Tool Company.

NOTES:

- » Refer to www.trex.com to view a general care and cleaning video for Transcend, Enhance, and Select decking.
- » Refer to www.trex.com for a care and cleaning guide for Trex Early-Generation Composite and PVC Decking.



TREX TRANSCEND®, TREX ENHANCE®, AND TREX SELECT® RAILING CARE AND CLEANING GUIDE

Maintaining the appearance of your Trex® railing is important. The occasional wash is recommended as over time your railing may show signs of weathering as a result of exposure to the elements. The frequency of cleaning will depend on the environment and exposure to various types of elements.

For installations where the atmosphere is influenced by bodies of salt water or other contaminant conditions, cleaning is required every 6 to 9 months. Failure to adhere to the required cleaning guidelines will void the Trex Limited Warranty with respect to any condition resulting from such failure. For purposes of any warranty claim, you should retain documentation of the cleaning date, cleaning method used, brand and amount of chemical used, and invoice from cleaning company (or a receipt for chemicals used).

- Never use acetone or other solvents on Trex Transcend, Select, or Enhance railings as this can damage/dull the surface.
- For color transfer issues (from attachment of baluster spacer), use Mr. Clean® Magic Eraser® Original or Plexus® Plastic Cleaner to help remove this. Note that Plexus Plastic Cleaner can only be used on PVC/acrylic railings and balusters and cannot be used on metal railings or metal balusters.
- For small surface scratches, marks, or scuffs, use Dupli-Color® Scratch Seal® Clear Sealer Pen.
- Hard water is water with a high amount of mineral deposits like lime, silica, and calcium. When the water dries, deposits are left behind, leaving unsightly spots or a "film-like" substance on railing and decking surfaces. For hard water issues on railing, these can be cleaned with Mr. Clean® Magic Eraser® Original or white vinegar. After applying products to surface, some gentle scrubbing would be needed on the surface to help loosen deposits, and rinsing is required, so care should be taken to not use hard water for this purpose, and if it must be used dry with a cloth or use a blower to dry railing.

*Mr. Clean® and Magic Eraser® are registered trademarks of The Procter and Gamble Company.
Plexus is a registered trademark of BTI Chemical Company Inc.
Dupli-Color® and Scratch Seal® are registered trademarks of Dupli-Color Products Company.*

TREX SIGNATURE® RAILING CARE AND CLEANING GUIDE

Maintaining the appearance of your Trex Signature railing is important. The occasional wash is recommended as over time your Trex Signature railing may show signs of weathering as a result of exposure to the elements. The frequency of cleaning will depend on the environment and exposure to various types of elements.

For installations where the atmosphere is influenced by bodies of salt water or other contaminant conditions, cleaning is required every 6 to 9 months. Failure to adhere to the required cleaning guidelines will void the Trex Limited Warranty with respect to any condition resulting from such failure. For purposes of any warranty claim, you should retain documentation of the cleaning date, cleaning method used, brand and amount of chemical used, and invoice from cleaning company (or a receipt for chemicals used).

Regular cleaning may minimize the effects of weathering and remove dirt, grime and other build-up. The best method of maintaining the appearance of your Trex Signature railing is to occasionally wash it using a solution of warm water and a non-abrasive, pH neutral detergent solution. The railing surface should be thoroughly rinsed after cleaning to remove all residues. Use a soft white cloth, sponge or a soft bristle brush.

DO NOT clean Trex Signature railing with solvents such as thinners or solutions containing chlorinated hydrocarbons, esters or ketones.

The following cleaners are recommended for cleaning Trex Signature railing:

- » Formula 409® Cleaner Degreaser/Disinfectant*
- » Spray Nine® Cleaner/Disinfectant**
- » Simple Green® All Purpose Cleaner***
- » Fantastik® All Purpose Cleaner****
- » Windex® Cleaner*****

* Formula 409® Cleaner Degreaser/Disinfectant is a trademark of Clorox Company.

** Spray Nine® All Purpose Cleaner/Disinfectant is a trademark of Illinois Tool Works Inc.

*** Simple Green® All Purpose Cleaner is a trademark of Sunshine Makers Inc.

**** Fantastik® All Purpose Cleaner is a trademark of SC Johnson & Son Inc.

***** Windex® is a trademark of SC Johnson & Son Inc.

PLANNING AHEAD

PLANNING AHEAD

Trex Decking:

- » When installing ANY Trex decking product, especially Trex Transcend Tropicals, it is a good idea to mix and match all of the boards on the job site prior to installation to ensure an appealing mix of light and dark tones.
- » **DO NOT** combine Trex Select decking with other Trex decking products. Trex Select boards are thinner than Transcend and Enhance boards.
- » For added protection to wood framing, use Trex® Protect™ Joist and Beam Tape on the top of joists, rim joists, and ledger boards to help prevent rot and wood decay. Refer to trexprotect.com for more details.

Trex Decking Temperature:

Like many other outdoor surfaces, such as concrete, asphalt, beach sand, wood decking, other brands of composite decking, etc., Trex decking can get hot due to weather and sun exposure. On such days, care needs to be taken to make sure skin does not have extended contact with the surface of the deck, especially with young children and those with special needs. Please note also that the darker the color, the hotter the deck will feel. For hotter climates, consumers should consider choosing a lighter color.

Trex Products Near Low-E Windows:

Low-E glass reflects more sunlight. It has been observed that the extra reflectivity, combined with any concavity in the glass, can act like a concave mirror. This mirror effect concentrates sunlight onto outdoor objects, including that of decking and railing. This can result in an extreme amount of heat concentrated on areas of the decking surface. This can sometimes char the decking surface or cause the decking to slightly bow.

Installing Trex® Lattice™:



- » No special skills or tools are required to install Trex Lattice. The lattice cuts, drills and routes using standard wood cutting tools. Fastening can be done with stainless steel screws or nails.

Refer to www.trexlattice.com/ for information on how to plan, order and install Trex Lattice. Trex Lattice is manufactured and sold by Home & Leisure, Inc., d/b/a/ Structureworks, under a Trademark License Agreement with Trex Company, Inc. A 20-year Limited Warranty is provided by the manufacturer.

Railing (Including ADA Handrail):

- » First, pick the railing style you want.
- » Calculate your spanning based on the railing you chose.
- » Determine the number of balusters you will need based on the railing you choose.

NOTE: For post placement on stairs, it is **VERY IMPORTANT** to plan your post spacing based on the length of the rail and angle of the stairs. For nominal 6' and 8' stair rail lengths, stair post spans (measured horizontally) will be less than 6' or 8' due to the angle of the stairs.

NOTE: Trex Transcend and Select horizontal railings are made to be installed at maximum of 6' (1.83 m) or 8' (2.44 m) on center (depending upon type of railing you choose). Those railings are not true 6' (72") or 8' (96") in length. All Signature Railing products are made to be installed at maximum 6' or 8' CLEAR SPAN BETWEEN POSTS.

- » Determine post locations prior to installing any decking. In most cases, posts are usually installed before decking is installed.
- » Confirm with your local building official if ADA Handrail is required, and if so, plan spanning for posts accordingly to allow for attachment of Trex ADA Handrail. ADA Handrail requires a span of 6' OC for posts.
- » Grill placement: A good recommendation to help prevent damage to your railing is to not have a grill too close to your railing. Allow for ample airspace. 18"-30" is recommended - refer to grill manufacturer for additional details between the back/sides of your grill to help prevent charring or staining to the railing.

Refer to www.trex.com to view detailed install instructions for Transcend, Select, or Signature railing.

Trex® Outdoor Lighting™:

- » Plan locations of lights, power supply, timer, and dimmer. These should be accessible for service if necessary.
- » Install wiring before decking and railing have been installed.
- » **DO NOT** run wires between joists and deck boards.

Refer to www.trex.com to view detailed Trex lighting instructions.

Trex® RainEscape® Deck Drainage System:

- » Plan ahead for deck layout to allow for proper placement of Trex RainEscape within the joist system.
- » Make sure joists are straight and square.

See www.trex.com for more information on Trex RainEscape recommendations and installation. Trex RainEscape is manufactured and distributed by IBP, LLC, under a trademark license with Trex Company, Inc.



PLANNING AHEAD/CONTINUED

Installing Hot Tubs, Planters, and Seating:

- » Plan ahead proper joist spanning if required (this is especially important if installing a hot tub).
- » Refer to page 30 for Trex Decking Span Chart for specific loads.

Call 1-800-BUY-TREX for detailed questions.

Installing Fireplaces and/or Fire Pits With Trex Decking:

- » Determine if fire will be gas or wood burning. (**NOTE:** Most fire pits shown in Trex images are gas burning.)
- » For gas, the fire pit is installed by cutting around the Trex decking. **It is not to be installed on top of Trex decking.** A fire-resistant material is installed under the fire pit and a protective wall made from stone or other fire-resistant material is installed to hold fire pit in place and also protect the decking from heat.
- » For wood, fire pits are not recommended on top of Trex decking unless using a product called DeckProtect™. Wood-burning fire pits can damage the decking due to extreme heat from the bottom of the fire pit and/or burning embers shooting onto the decking. DeckProtect® was tested on all Trex decking and there were no issues with burning of the decking surface when placed directly under a standard size portable fire pit along with the accompanying rack (**NOTE:** Rack is not available for all sizes, so check with manufacturer first for verification). Trex does recommend that the DeckProtect® padding/rack be moved from time to time for general cleaning underneath. It should be noted that even when using DeckProtect®, burning embers could "shoot" beyond the protective mat and burn the deck.

For more information about this product, please visit their website at www.deckprotect.net or call 1-800-BUY-TREX. DeckProtect® is a registered trademark of Infinite Heat Solutions.

Installing a Pergola on Trex Decking:

- » Keep in mind that if you are planning to install a Trex® Pergola™ on your deck, you will need access to the underside of the deck. Trex Pergola mounts with a 10" x 10" (254 mm x 254 mm) aluminum plate on the underside of the deck, creating a clamping effect on both the top and bottom of the deck for maximum strength. If installed, water barriers and any under deck coverings will have to be removed to properly install the pergola posts.

- » You need to consider the location of your pergola posts with respect to joists. However, you do not have to mount your plates between joists. It is possible to place blocks on the bottom of the joists and mount the Trex Pergola brackets through the blocks.



Trex® Pergola™ products are manufactured and sold by Home & Leisure, Inc., d/b/a/ Structureworks under a Trademark License Agreement with Trex Company, Inc. A 25-year Limited Warranty is provided by manufacturer.

Installing Trex® Spiral Stairs™:

- » Refer to www.trexspiralstairs.com for detailed information on how to plan and install Trex Spiral Stairs.

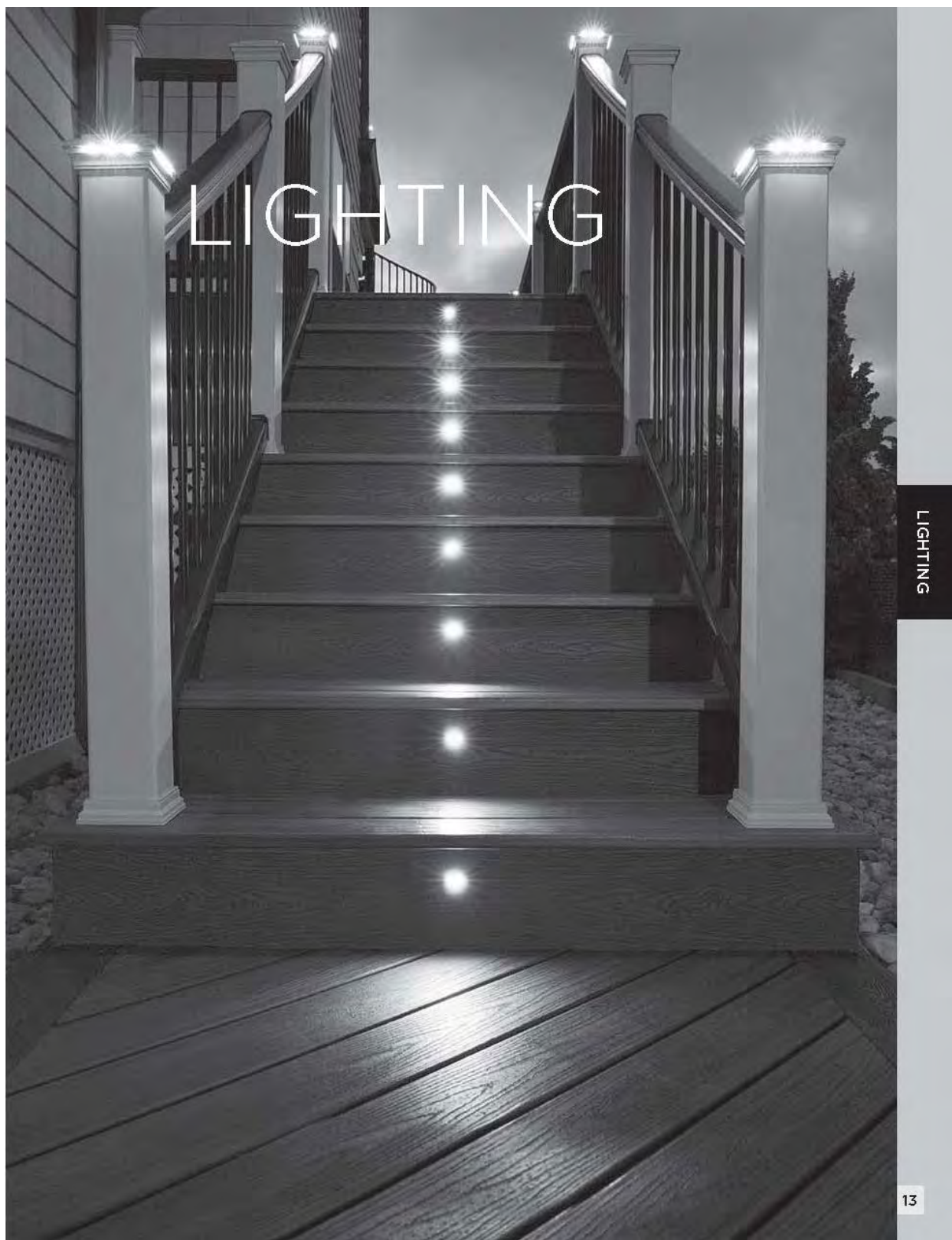
Trex® Spiral Stairs™ are manufactured and sold by M. Cohen and Sons, Inc., d/b/a The Iron Shop, under a Trademark License Agreement with Trex Company, Inc. A 25-year Limited Warranty is provided by manufacturer.

Installing Trex® Outdoor Kitchens™:

- » Refer to trex-outdoorkitchens.com for detailed information on how to install Trex Outdoor Kitchen products.

Trex® Outdoor Kitchens™ is manufactured and sold by CT Acquisitions LLC., under a Trademark Agreement with Trex Company, Inc. A Limited Warranty is provided by the manufacturer.

NOTE: You can always reference the Design Tools Section on www.trex.com for additional planning ahead aids.



TREX® OUTDOORLIGHTING™

| COMPONENT & DESCRIPTION | | ITEM # |
|--|--|--|
| Flat Post Cap Light » 4" x 4" LED Post Cap Light [4.55 in x 4.55 in (115 mm x 115 mm) actual internal dimensions] Use with Trex 4 in Composite Railing Posts » 5.5 ft (1.67 m) Male LightHub® Lead |  | BKSQLED CAP4X4C WTSQLED CAP4X4C THSQLED CAP4X4C VLSQLED CAP4X4C GPSQLED CAP4X4C RSSQLED CAP4X4C |
| Aluminum Post Cap Light » 2.5" x 2.5" LED Aluminum Post Cap Light [2.6 in x 2.6 in (66 mm x 66 mm) actual internal dimensions] Use with Trex 2.5 in Aluminum Railing Posts » 5.5 ft (1.67 m) Male LightHub® Lead |  | BKALCAPLED25 BZALCAPLED25 WTALCAPLED25 |
| Aluminum Deck Rail Light » LED Deck Rail Light [2.75 in (69 mm) OD] » 5.5 ft (1.67 m) Male LightHub® Lead |  | BKLAMPLEDC BZLAMPLEDC WTLAMPLEDC |
| Aluminum Wedge Deck Rail Light » LED Wedge Deck Rail Light [1.875 in wide x 3 in high (47 mm x 76 mm) actual dimensions] Compatible with all Trex Railing Posts » 5.5 ft (1.67 m) Male LightHub® Lead |  | BKALPOSTLAMPLED BZALPOSTLAMPLED WTALPOSTLAMPLED |
| Aluminum Stair Riser Light » 4 LED Riser Lights [1.25 in (31 mm) OD] » 5.5 ft (1.67 m) Male LightHub® Lead |  | BKRISERLED4PKC BZKRISERLED4PKC WTRISERLED4PKC |
| Recessed Deck Light » 4 LED Recessed Lights [1 in (25 mm) OD] » 5.5 ft (1.67 m) Male LightHub® Lead |  | RECESSLED4PKC |
| ACCESSORIES | | ITEM # |
| Transformer with Timer » Output Voltage: 12VDC » Output Power: 100W or 30W » Output Current: 8.3A or 2.5A » Photo-Activated Timer » 20 ft (6.09 m) LightHub® Wire Extension Cable |  | 8.3A, 100W: DIMMABLE 83DL TRANSFORMERCC 2.5A, 30W: 25DLTRANSFORMER |
| Multi-zone Transformer Adapter |  | DL5TFSPPLITPK |
| Dimmer » Single Channel with Remote |  | DLDIMMER |
| Wifi Lighting Controller |  | DLWIFIC |
| Forstner Bit » Pack of 6 » 1 in (25 mm) |  | DLBIT6PK |
| LightHub® Accessories » 3-Way Splitter » 6-Way Splitter » 5 ft (1.52 m) Wire Extension Cable » 10 ft (3.04 m) Wire Extension Cable » 20 ft (6.09 m) Wire Extension Cable » 40 ft (12.19 m) Wire Extension Cable » 60 ft (18.28 m) Wire Extension Cable » Female to Female Adapter |  | DL3SPLIT6PK DL6SPLIT4PK DL5FTWR4PK DL10FTWR4PK DL20FTWR4PK DL40FTWR2PK DL60FTWR1PK DLFADAP6PK |

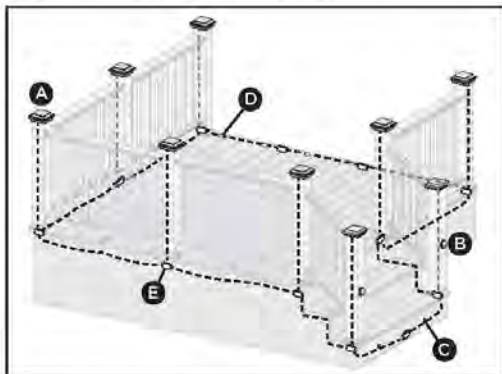
HOW TO INSTALL TREX® DECKLIGHTING™

PARTS



• 5ft, 10ft, 20ft, 40ft, and 60ft connection/extension wires sold separately (these are male-to-male connection wires).

Lighting and Wiring Overview



NOTE: All wiring and splitters are mounted to the inside of framing. Picture above is a general representation of where to place them.

TOOLS NEEDED



WARNING:

- » **DO NOT INSTALL DECKLIGHTING IN CLOSE PROXIMITY TO POOLS OR HOT TUBS AS CHEMICALS FROM THE WATER CAN DAMAGE LIGHTING FIXTURES.**
- » **DO NOT INSTALL WIRING UNDER HEAVY WEIGHT OR LOAD AS THIS CAN DAMAGE WIRING.**

NOTE: Avoid railing brackets and locations for deck rail lights when running wires up posts.

NOTE: It is recommended to install wiring and splitters before decking and railing have been installed. **DO NOT** run wires between joists and deck boards.

HELPFUL TIPS

- » Please note that Trex lighting operates on DC power. **NEVER** mix AC and DC fixtures on the same circuit. Doing so will result in extremely premature fixture failure and is not covered by the Trex limited warranty. **You must use a Trex transformer on all Trex lighting installations.**
- » **Never fully drive staples when securing wire. Wire should move under staple.**
- » **ALWAYS** protect any wire that is close to the ground with conduit or wire loom to prevent rodent damage.
- » Cap all unused female connections with caps provided or weather-resistant silicone to prevent water damage or corrosion.
- » Each dimmer operates on a separate remote.
- » It is recommended to have power source installed and turned on when installing lights to ensure all components work.
- » When installing wiring, avoid extreme angles, pressure, or tension on the wiring, as this can cause pinching of the wiring and create a lighting failure.

HOW TO INSTALL TREX® DECKLIGHTING™/CONTINUED

General Information

- » Refer to www.trex.com for instructional videos on how to install Trex Decklighting.
- » USE TREX TRANSFORMER ONLY. Use of any other transformer voids warranty.

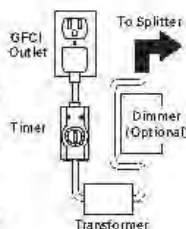
| Transformer Capacity by Type | | |
|------------------------------|--------------------------------------|--------------------------------------|
| Type of Light | 8.3A Transformer (83 DL TRANSFORMER) | 2.5A Transformer (25 DL TRANSFORMER) |
| Riser | 79 | 27 |
| Recessed | 79 | 27 |
| Post Cap | 79 | 27 |
| Deck Rail | 79 | 27 |

Above listing is for maximum number of each individual light fixture type. For mixing and matching requirements, visit Trex.com and use the Interactive Lighting Transformer Calculator (located on the Trex Decklighting™ product page).

Planning

NOTE: When designing your deck, plan locations of lights, power supply, timer, and dimmer. These should be accessible for service. Installing a GFCI outlet is **REQUIRED** to help prevent damage to lighting from electrical surges.

1. The dimmer remote will work in a 30' (9 m) radius of the unit.
2. Dimmer should be installed in a dry location.
3. Timer must be installed vertically with receptacle facing downwards. Timer must be at least 1' (305 mm) from ground level when installed as per federal safety code height regulations. Timer must be in view of the sun to use the dusk/dawn feature.

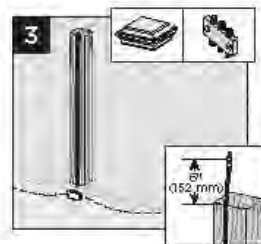
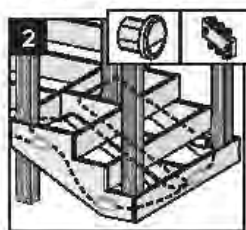
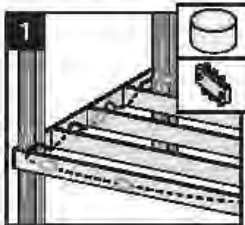


Installing Wiring

NOTES:

- » It is recommended to install wiring and splitters before decking and railing have been installed.
- » Use male-to-male connection wire (lengths vary) that will connect to each required splitter.

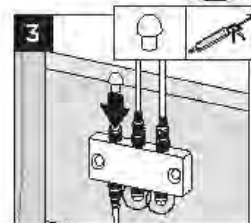
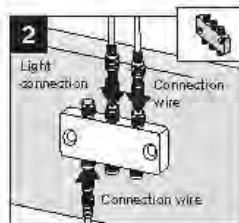
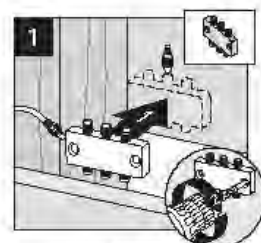
1. Wiring must be run under decking structure and behind stringers. **DO NOT** run wires between deck boards and joists. Staple to frame with cable staples at least 1/4" (6 mm) wide. **DO NOT** crush wire insulation with staples.



2. Wiring can be run under deck and behind risers. Staple to frame with cable staples at least 1/4" (6 mm) wide. **DO NOT** crush wire insulation with staples.
3. Remove 5' (1.52 m) lead wire that is connected to post cap and attach wire to post with male connection at top of post (female connection would be at bottom of post and connect into splitter). Avoid running wire on side of post where railing brackets or deck rail lights will be installed. Leave approximately 6" (152 mm) of lead at top to make connections. Staple to frame and posts with cable staples at least 1/4" (6 mm) wide. **DO NOT** crush wire insulation with staples.

Making Connections

1. Install splitters to inside of framing using hardware provided. Install at every post base where lighting is present and depending on spacing in between each riser and recessed light.



2. Attach male lead from lights to female connections on splitter. Also attach male-to-male connection wires in between each splitter. Continue until all wiring from lights are attached to splitters and connector wires are attached in between splitters.
3. Cap off all unused female connections on splitters using caps provided or weather-resistant silicone.

HOW TO INSTALL TREX® DECKLIGHTING™/CONTINUED

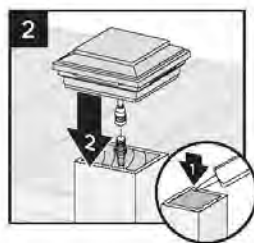
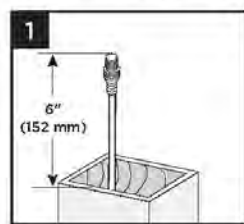
Timer Operation Instructions

1. Select the mode of operation:
 - » Dusk to Dawn
 - » 2-8 hours
 - » Always "ON"
 - » "OFF"

Program repeats daily. When power is flowing to lights, green light above POWER is on.

Installing Post Cap Lights

NOTE: Install post cap lights after the railing system, post sleeve skirt, and post sleeve have been installed.

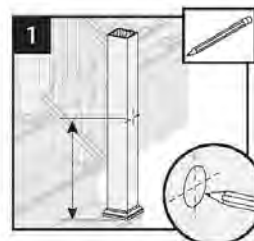


1. Connect male lead from wiring to female connector from cap. Also attach male-to-male connection wires in between each splitter. Continue until all wiring from lights is attached to splitters and connector wires are attached in between splitters.
(See *Making Connections* section for details.)
2. After verifying wiring is correct by turning lights on, attach cap to top of post with silicone caulk.

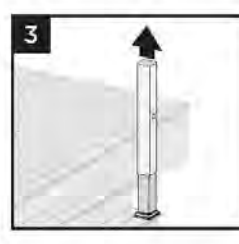
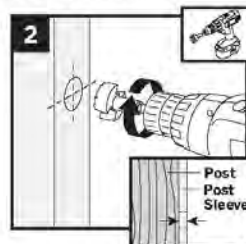
Installing Deck Rail Lights

NOTE: Instructions shown below are for new deck installation and are shown **BEFORE** railing system has been installed.

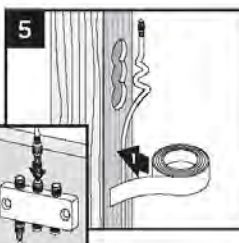
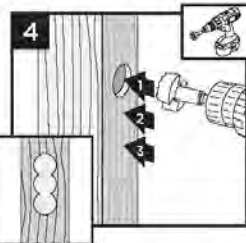
1. Place post sleeve over pressure-treated post and mark desired height, centered on post sleeve for deck rail light location.



NOTE: If deck boards are not installed yet, place a deck board on framing to ensure post sleeve is at correct height.

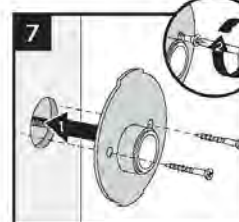
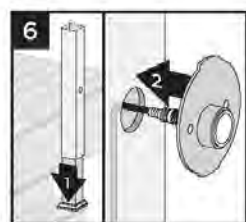


2. Drill a 1" (25 mm) hole through post sleeve. Drill deep enough to mark location on pressure-treated post.
3. Remove the post sleeve from the post.



4. Drill out existing hole on pressure-treated post 3/4" (19 mm) deep. Drill two additional holes vertically below main hole—this will allow space for wiring after post sleeve is attached.
5. Leave enough slack at top of lead wire and attach lead wire to post using heavy duty tape. Attach lead wire to splitter under decking.

TIP: To hold lead wire in place at drilled-out location, use painters tape.

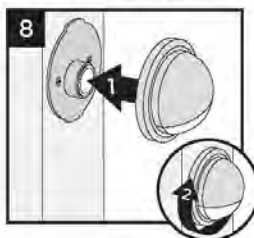


6. Slide post sleeve back over post. If using a post sleeve skirt, make sure to install the skirt first. Connect plug on deck rail light to lead wire and tuck wiring into previously drilled-out pockets on post.
7. Align holes for screws horizontally and attach fixture base to post with provided screws.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL TREX® DECKLIGHTING™/CONTINUED

8. Line up polycarbonate lens with fixture housing. Twist onto fixture base. Continue until all wiring from lights is attached to splitters and connector wires are attached in between splitters. (See *Making Connections* section for details.)



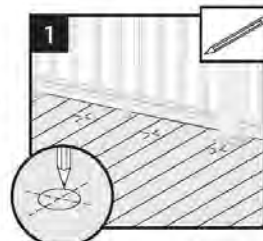
Continue until all wiring from lights is attached to splitters and connector wires are attached in between splitters. (See *Making Connections* section for details.)

NOTE: DO NOT install riser light or deck rail light into top or bottom rails or balusters.

Installing Recessed Deck Lights

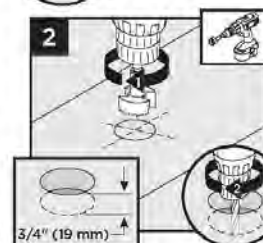
NOTE: Install recessed deck lights after installing decking.

1. Mark locations for lights in deck boards.



NOTE: If possible, avoid locations over joists as holes will be more difficult to create.

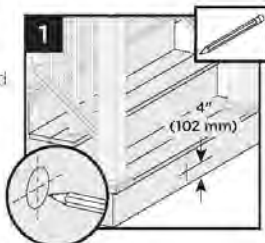
2. Drill a 1" (25 mm) diameter hole 3/4" (19 mm) deep into deck board. Hole cannot go all the way through deck board or light will fall through. Make sure drill bit is perpendicular to board. Drill a 1/2" (13 mm) diameter hole in base of the first hole through deck board.



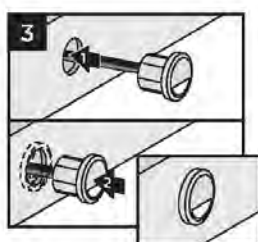
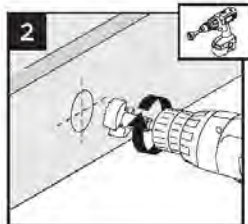
Installing Riser Lights

NOTE: Install riser lights after stairs and risers have been installed.

1. Mark locations for each light, generally 4" (102 mm) above tread. Consult local codes for lighting requirements.

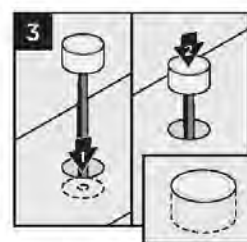


NOTE: If possible, avoid locations over stringers as holes will be more difficult to create.

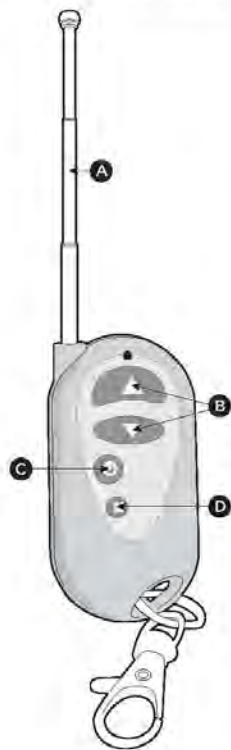


2. Drill a 1" (25 mm) diameter hole at least 1" (25 mm) deep into riser. If riser material is thicker than 1" (25 mm), use a 1/2" (13 mm) drill bit to create a passage for wires.
3. Thread wires through hole. Press light into hole, ensuring lens is horizontal. Make connections behind stairs from male lead wire from recessed light into female connection on splitter. Also attach male-to-male connection wires in between each splitter.

3. Thread wires through hole. **DO NOT pull LED into hole by pulling on wires. This may damage wires or LED.** Press light into hole until flush with surface. Make connections under deck from male lead wire from riser light into female connection on splitter. Also attach male-to-male connection wires in between each splitter. Continue until all wiring from lights is attached to splitters and connector wires are attached in between splitters. (See *Making Connections* section for details.)



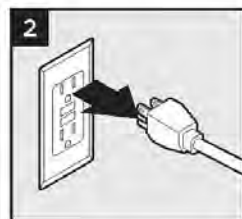
HOW TO PROGRAM DIMMER REMOTE



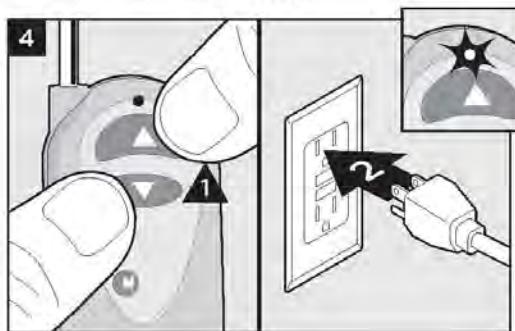
- A. **ALWAYS** keep antenna fully extended for maximum range.
- B. Up/Down arrows gradually dim or brighten lighting.
- C. On/Off button cycles lights ON/OFF.
- D. Mode button cycles through 3 preset dimming levels: High, Medium, Low, and Off.

NOTE: First, make sure the red light is illuminated on the remote. If there is no red light and the product is new, contact 1-800 BUY-TREX for a replacement. If the product is not new, the A27 battery is replaceable.

1. Install dimmer per instructions and make sure lights are ON and working properly.
2. Unplug the transformer to turn lights OFF.



3. Press and hold both the up and down arrow on the dimmer remote simultaneously.

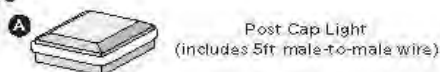


4. With the dimmer arrow buttons held down, plug the transformer back in. The lights should blink once to confirm programming.
5. Release the up and down arrows on the remote and test remote to confirm proper operation.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL TREX SIGNATURE® CAP LIGHT (can only be used on Trex Signature® posts)

PARTS



- » 5ft, 10ft, 20ft, 40ft, and 60ft connection/extension wires sold separately (these are male-to-male connection wires).

TOOLS NEEDED



Helpful Tips

- » Leave slack in wire to make fixture terminations.
- » Post lamps work well at changes in levels of a deck—at the top or the bottom of the stairs, or in conjunction with post cap lights.
- » Splitters should be used at each post that has lights and depending on spacing in between each riser and recessed light.
- » Cap all unused female connections with caps provided or weather-resistant silicone to prevent water damage or corrosion.
- » The splitter is cross-linked so there is no specified plug for lights versus lead wires.
- » Leads attached to each light are approx. 5.5' (1.67 m) in length and have male terminals to plug into splitter.
- » Use a separate dimmer control for each light type for maximum control.
- » It is recommended to have power source on when installing lights to ensure all components work.

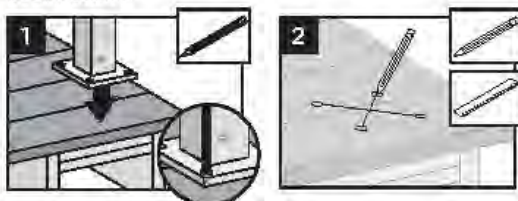
Transformer Capacity by Type

| Type of Light | 8.3A Transformer (9.3 DL TRANSFORMER) | 2.5A Transformer (2.5 DL TRANSFORMER) |
|--------------------|--|--|
| Signature Post Cap | 59 | 29 |

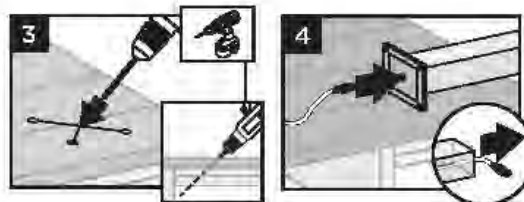
Above listing is for maximum number of each individual light fixture type. For mixing and matching requirements, visit Trex.com and use the interactive Lighting Transformer Calculator (located on the Trex® Decklighting™ product page).

Installing Post Cap Lights

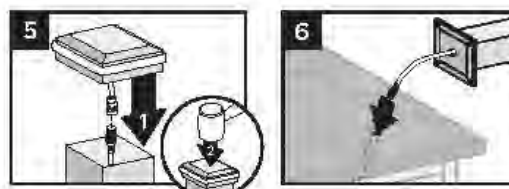
NOTE: Instructions shown below are for new deck installation and are shown **BEFORE** railing system has been installed.



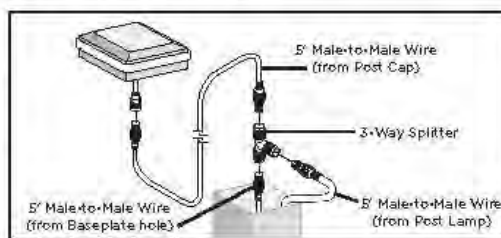
1. Before attaching post to deck, locate placement of post and mark desired bolt locations.
2. Using a straight edge, mark an "X" between the four bolt locations.



3. Using a 9/16" (14 mm) x 6" (152 mm [or longer]) drill bit, drill a diagonal hole through the decking and blocking. Ensure that the angle will allow wire to not be pinched by support plate under blocking (if using Trex ALPOSTHWDECK mounting kit). (See *Making Connections* section for details.)
4. Turn post upside down and fish 5' male-to-male wire (provided) through hole in baseplate.



5. Connect the female connector on the post cap light to this wire and, using a rubber mallet, gently tap the cap onto top of post until it is secure.
6. Turn post over and carefully fish wire through hole created in Step 3 to underside of the deck. Ensure exit point of wire under blocking will not be pinched by ALPOSTHWDECK plate.
7. Mount post per instructions.



NOTE: If connecting a Trex Wedge Deck Rail Light as well, a 3-way adapter and extra 5' male-to-male wire (not provided) can be used inside the post so that only one wire must be run through the hole in the base of the post (and post blocking). This is optional.

HOW TO INSTALL TREX® WEDGE DECK RAIL LIGHT

PARTS



Wedge Deck Rail Light
(includes 5ft male-to-male wire)

- » 5ft, 10ft, 20ft, 40ft, and 60ft connection/extension wires sold separately (these are male-to-male connection wires).

TOOLS NEEDED



Helpful Tips

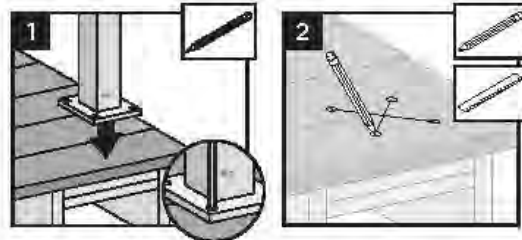
- » Leave slack in wire to make fixture terminations.
- » Deck rail lights work well at changes in levels of a deck—at the top or the bottom of the stairs, or in conjunction with post cap lights.
- » Splitters should be used at each post that has lights and depending on spacing in between each riser and recessed light.
- » Cap all unused female connections with caps provided or weather-resistant silicone to prevent water damage or corrosion.
- » The splitter is cross-linked so there is no specified plug for lights versus lead wires.
- » Leads attached to each light are approx. 5.5' (1.67 m) in length and have male terminals to plug into splitter.
- » Use a separate dimmer control for each light type for maximum control.
- » It is recommended to have power source on when installing lights to ensure all components work.

| Type of Light | Transformer Capacity by Type | |
|---------------------------------|--------------------------------------|---------------------------------------|
| | 8.3A Transformer (B3-DL TRANSFORMER) | 2.5A Transformer (Q-5-DL TRANSFORMER) |
| Signature Wedge Deck Rail Light | 79 | 27 |

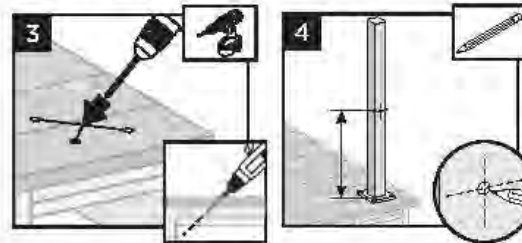
Above listing is for maximum number of each individual light fixture type. For mixing and matching requirements, visit Trex.com and use the interactive Lighting Transformer Calculator (located on the Trex® Decklighting™ product page).

Installing Post Lamps

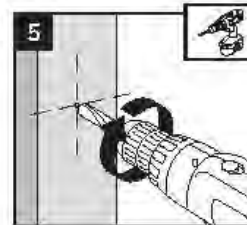
NOTE: Instructions shown below are for new deck installation and are shown BEFORE railing system has been installed.



1. Before attaching post to deck, locate placement of post and mark desired bolt locations.
2. Using a straight edge, mark an "X" between the four bolt locations.

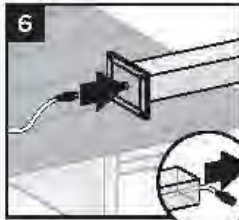


3. Using a 9/16" (14 mm) x 6" (152 mm [or longer]) drill bit, drill a diagonal hole through the decking and blocking. Ensure that the angle will allow wire to not be pinched by support plate under blocking (if using Trex ALPOSTHWDECK mounting kit).
4. Locate placement of post lamp. Mark entry point of the wire.
5. Drill 9/16" (14 mm) hole where wire will enter post.



NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

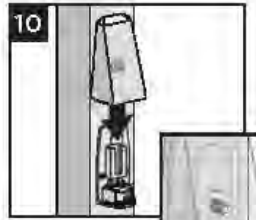
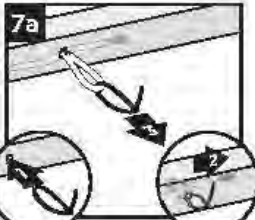
HOW TO INSTALL TREX® WEDGE DECK RAIL LIGHT/CONTINUED



6. Turn post upside down and fish 5' male-to-male wire (provided) through hole in baseplate.

7a. If connecting a Wedge Deck Rail Light only, pull wire through hole.

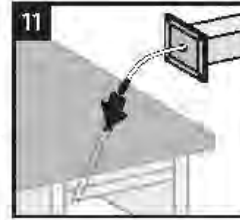
TIP: Insert a zip-tie loop (or small grabber tool) through 9/16" (14 mm) hole. Fish wire through loop in zip-tie. Pull wire through hole with zip-tie.



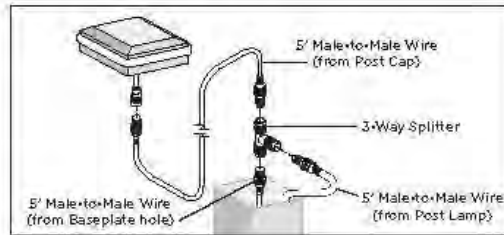
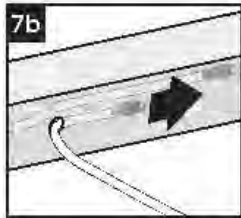
10. Slide light cover down over backing plate, adjusting mounting screws as necessary to achieve a tight fit.

11. Turn post over and carefully fish wire through hole created in Step 3 to underside of the deck. Ensure exit point of wire under blocking will not be pinched by ALPOSTHWDECK plate.

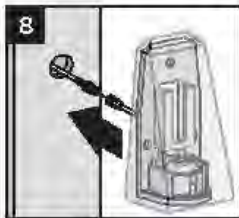
12. Mount post per instructions.



7b. If connecting a Trex Signature post cap light as well, and using the 3-way splitter (see note after Step 12), simply run one wire through the hole created in Step 5 to the top of the post.



NOTE: If connecting a Trex Signature post cap light as well, a 3-way adapter and extra 5' male-to-male wire (not provided) can be used inside the post so that only one wire must be run through the hole in the base of the post (and post blocking). This is optional.



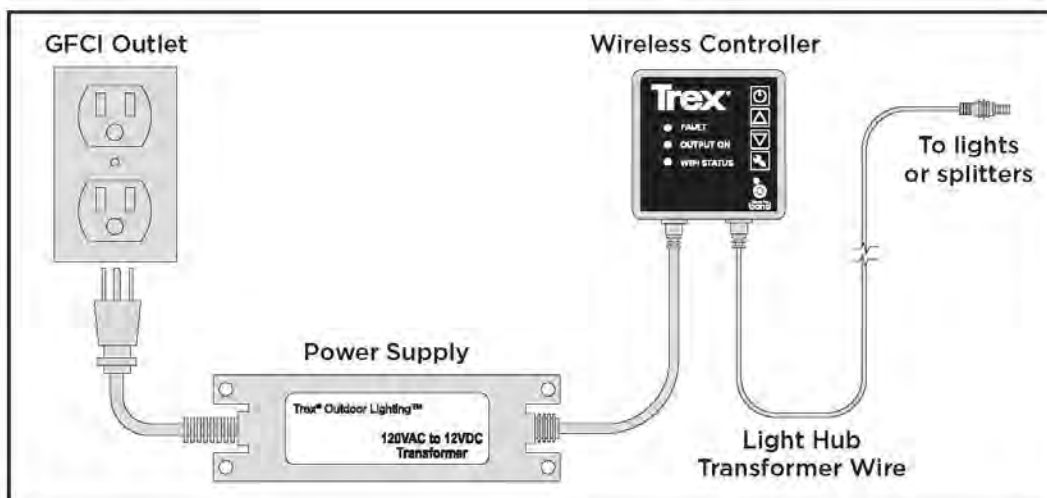
8. Connect male connector to female connector on light housing.



9. Place light and attach backing plate to post with three screws (provided).

TREX® WIFI CONTROLLER SETUP INSTALLATION INSTRUCTIONS

The Trex® WiFi Controller allows you to control your Trex® Decklighting™ from anywhere. With the easy-to-use Bond Home app, you can monitor status, set schedules and fine-tune the brightness of your installations. The controller is compatible with the Trex® Light Hub system and can be used to control up to 60W of LED lights.



Controller Installation

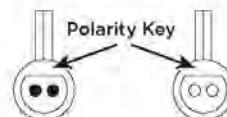
1. With the power supply unplugged, connect the input lead of the Trex WiFi Controller to the Trex Transformer.
2. Connect the Light Hub Transformer Wire to the output terminal of the Trex WiFi controller then to the first light installation.

CAUTION:

When making connection between a Light Hub connector or splitter, observe the polarity key to make a proper connection.

The male and female connectors have a flat side that **MUST MATCH UP**. Do not force the connections together.

Light Hub connectors are waterproof, but for increased protection the dielectric grease should be added prior to connection.



3. Plug the power supply into a GFCI-protected wall socket. If you see the red "FAULT" light, your system has reversed polarity. Check the polarity key on your input cable and correct any problems before proceeding.
Note: WiFi controller has built-in overload protection. System will fault when used to control more than 60W of LED lights. To reset: **unplug** transformer from the power source, decrease control to 60W of LED lights or less, then plug back into power source.
4. Mount the WiFi controller in place with the included pressure sensitive adhesive strips and/or by replacing the installed black screws with the included 1.5" black wood screws.

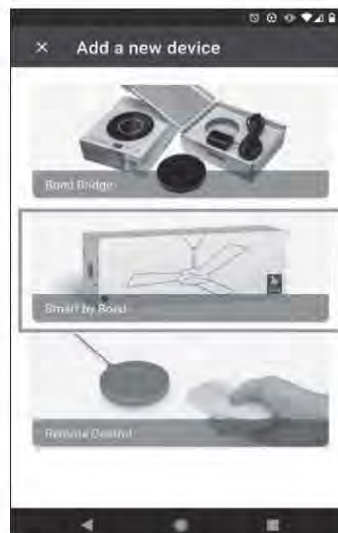
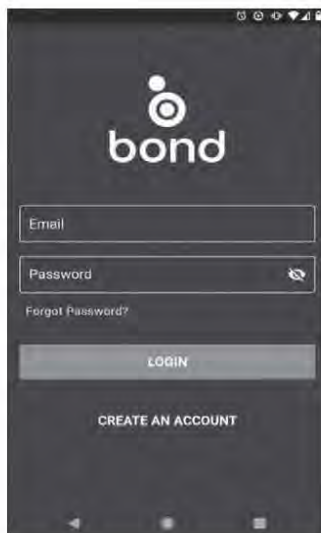
For wireless connection support, visit the help center in the app.

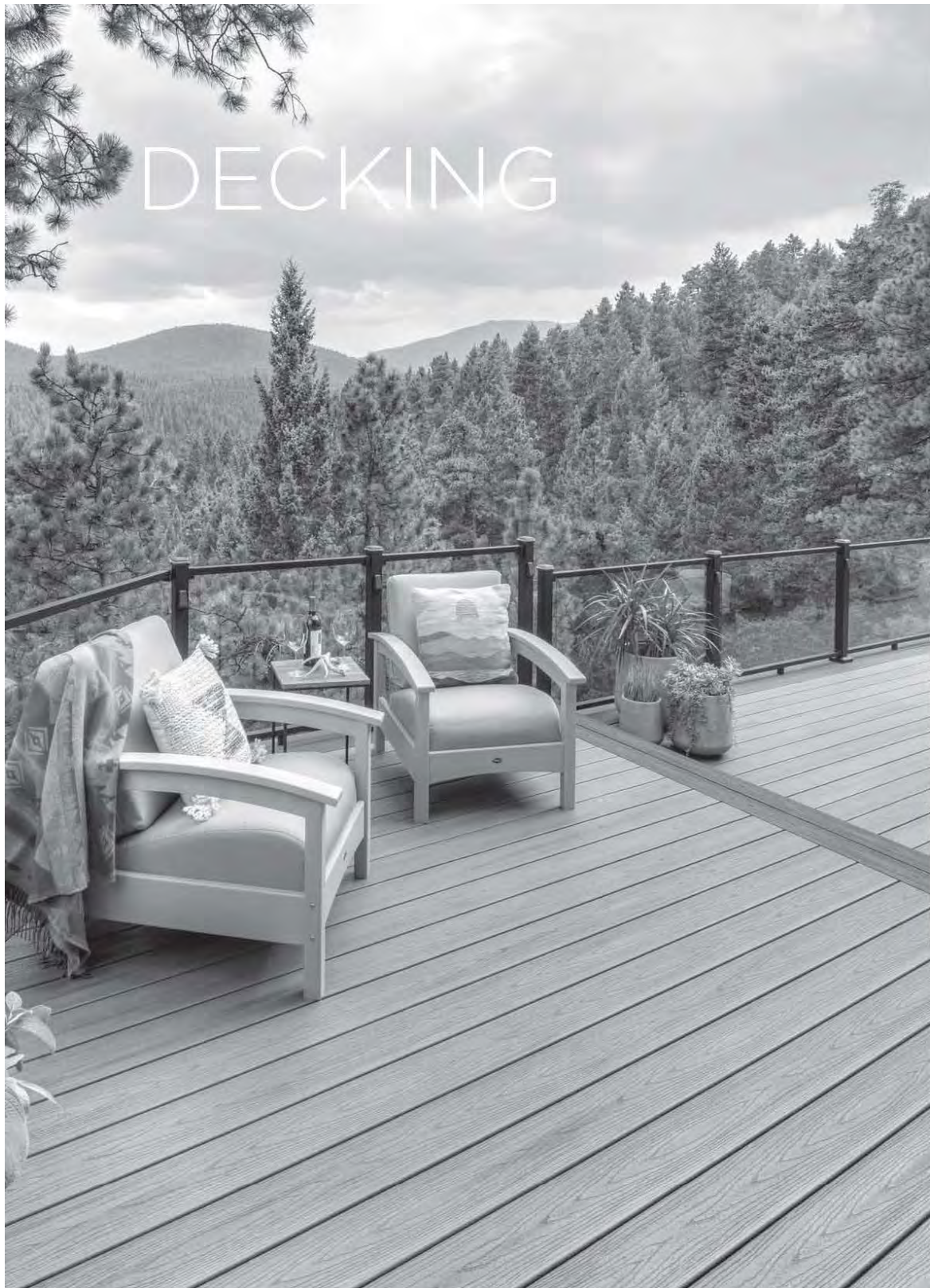
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

TREX® WIFI CONTROLLER SETUP INSTALLATION INSTRUCTIONS

Controller Setup

1. On an Android or iOS device, download the Bond Home App.
2. Create an account and sign in to the app.
3. Trex WiFi Controller is a "Smart by Bond" device. Follow the in-app prompts to add the controller to your account and connect it to your home WiFi network.





TREX® DECKING & FASCIA

| PROFILE | DESCRIPTION | ITEM # | COLORS |
|--|---|--|--|
| 1" Square-Edge Board <i>Actual dimensions:</i> Transcend & Enhance: .94 in x 5.5 in x 12 ft / 16 ft / 20 (24 mm x 140 mm x 365 cm / 487 cm / 609 cm) Select: .82 in x 5.5 in x 12 ft / 16 ft / 20 ft (20 mm x 140 mm x 365 cm / 487 cm / 609 cm) |  1 x 6 x 16' 1 x 6 x 20' | Transcend Lineage XX010616TLS01 XX010620TLS01 | RN, CL, BC, JA |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Transcend Tropicals XX010612TS01 XX010616TS01 XX010620TS01 | IM, TT, HG, SR, LR |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Transcend Earth Tones XX010612T2S01 XX010616T2S01 XX010620T2S01 | GP, RS, VL |
| |  7/8 x 6 x 12' 7/8 x 6 x 16' 7/8 x 6 x 20' | Select XX010612SS01 XX010616SS01 XX010620SS01 | PG, WG, SD, WB, MB |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Enhance Naturals XX010612E2S01 XX010616E2S01 XX010620E2S01 | FW, RH, TS, CB |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Enhance Basics XX010612E2S01 XX010616E2S01 XX010620E2S01 | CS, BD, SD |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Transcend Lineage XX010612TLG01 XX010616TLG01 XX010620TLG01 | RN, CL, BC, JA |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Transcend Tropicals XX010612TG01 XX010616TG01 XX010620TG01 | IM, TT, HG, SR, LR |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Transcend Earth Tones XX010612T2G01 XX010616T2G01 XX010620T2G01 | GP, RS, VL |
| |  7/8 x 6 x 12' 7/8 x 6 x 16' 7/8 x 6 x 20' | Select XX010612SG01 XX010616SG01 XX010620SG01 | PG, WG, SD, WB, MB |
| 1" Grooved-Edge Board <i>Actual dimensions:</i> Transcend & Enhance: .94 in x 5.5 in x 12 ft / 16 ft / 20 ft (24 mm x 140 mm x 365 cm / 487 cm / 609 cm) Select: .82 in x 5.5 in x 12 ft / 16 ft / 20 ft (20 mm x 140 mm x 365 cm / 487 cm / 609 cm) |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Transcend Lineage XX010612TLG01 XX010616TLG01 XX010620TLG01 | RN, CL, BC, JA |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Transcend Tropicals XX010612TG01 XX010616TG01 XX010620TG01 | IM, TT, HG, SR, LR |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Transcend Earth Tones XX010612T2G01 XX010616T2G01 XX010620T2G01 | GP, RS, VL |
| |  7/8 x 6 x 12' 7/8 x 6 x 16' 7/8 x 6 x 20' | Select XX010612SG01 XX010616SG01 XX010620SG01 | PG, WG, SD, WB, MB |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Enhance Naturals XX010612E2G01 XX010616E2G01 XX010620E2G01 | FW, RH, TS, CB |
| |  1 x 6 x 12' 1 x 6 x 16' 1 x 6 x 20' | Enhance Basics XX010612E2G01 XX010616E2G01 XX010620E2G01 | CS, BD, SD |
| |  1 x 8 x 12' 1 x 8 x 12' 1 x 8 x 12' | Transcend Lineage XX010812TLS01 Transcend Tropicals XX010812TS01 Transcend Earth Tones XX010812T2S01 | RN, CL, BC, JA IM, TT, HG, SR, LR GP, RS, VL |
| |  1 x 8 x 12' 1 x 8 x 12' | Select XX010812SS01 | PG, WG, SD, WB, MB |
| |  1 x 8 x 12' 1 x 8 x 12' | Enhance Naturals XX010812E2S01 Enhance Basics XX010812E2S01 | FW, RH, TS, CB CS, BD, SD |
| |  1 x 8 x 12' | Universal White WW010812ES01 | WW |
| 1" x 8" Fascia Board <i>Actual dimensions:</i> Transcend, Enhance, Select, Universal White: .56 in x 7.25 in x 12 ft (14 mm x 184 mm x 365 cm) |  1 x 12 x 12' 1 x 12 x 12' 1 x 12 x 12' | Transcend Lineage XX011212TLS01 Transcend Tropicals XX011212TS01 Transcend Earth Tones XX011212T2S01 | RN, CL, BC, JA IM, TT, HG, SR, LR GP, RS, VL |
| |  1 x 12 x 12' 1 x 12 x 12' | Select XX011212SS01 | PG, WG, SD, WB, MB |
| |  1 x 12 x 12' 1 x 12 x 12' | Enhance Naturals XX011212E2S01 Enhance Basics XX011212E2S01 | FW, RH, TS, CB CS, BD, SD |
| |  1 x 12 x 12' | Universal White WW011212ES01 | WW |
| |  2 x 4 x 16' 2 x 6 x 12' 2 x 6 x 16' 2 x 6 x 20' | Transcend Tropicals XX020416TS01 Transcend Tropicals XX020612TS01 Transcend Tropicals XX020616TS01 Transcend Tropicals XX020620TS01 | IM, TT, HG, SR, LR IM, TT, HG, SR, LR |
| |  2 x 6 x 12' 2 x 6 x 16' 2 x 6 x 20' | Select XX020612SS01 XX020616SS01 XX020620SS01 | PG, SD, WB, MB |

XX = COLOR PREFIX

| | | | | | | | | |
|-------------|----------------|----------------|--------------------|--------------------|-------------------|------------------|---------------|---------------|
| RN Rainier | JA Jasper | HG Havana Gold | GP Gravel Path | PG Pebble Grey | WB Woodland Brown | RH Rocky Harbor | CS Clam Shell | WW Wood Grain |
| CL Carmel | IM Island Mist | SR Spiced Rum | RS Rope Swing | WG Winchester Grey | MB Madeira | TS Toasted Sand | BD Beach Dune | White |
| BC Biscayne | TT Tiki Torch | LR Lava Rock | VL Vintage Lantern | SD Saddle | FW Foggy Wharf | CB Coastal Bluff | SD Saddle | |

Trex Hideaway® Hidden Fastening System

| COMPONENT | DESCRIPTION | DESCRIPTION |
|--|--|------------------------|
| Universal Fastener (glass-filled nylon) |  .50 sq. ft. (4.6 sq. m.) box 500 sq. ft. (46.5 sq. m.) bucket | UNIVCONCLIP DA00002 |
| Universal Starter Clip |  400 sq. ft. (37 sq. m.) bag | UNIVSTARTCLIP |
| Router Bit |  Router Bit | ROUTBIT |
| Universal Fastener Installation Tool |  Universal Fastener Installation Tool | ONESTEPTL |



Decking and Fascia Recommended Fasteners

If any condition occurs which is attributable to the use of non-recommended fasteners, such condition shall not be covered under the Trex Limited Warranty.

| | Transcend™ | Enhance™ (scalloped profile) | Select™ |
|-----------------------|--|---------------------------------|---------|
| RECOMMENDED FASTENERS | DECKING-HIDDEN FASTENERS | | |
| | Trex Hideaway™ Universal Hidden Fastener | X | X |
| | TigerClaw™ TC-G Hidden Fastener | X | X |
| | Cortex™ Concealed Fasteners* | X | X |
| | Starborn® Pro Plug® System for PVC & Composite (Epoxy Coated & Stainless) (2" are approved for sleeper & roof top applications only) | X | X |
| | Simpson Strong-Tie® Deck Drive™ DCU Composite Screw & DCU Screw Plugs (Handdrive only & must also use Auto-Set Drive Bit) | X | X |
| | DECKING-COMPOSITE SCREWS | | |
| | FastenMaster® Trap Ease® Ultimate Composite Deck Screw | X | X |
| | Simpson Strong-Tie® Deck-Drive™ DCU Composite Screw (Collated & Handdrive) | X | X |
| | Quik Drive™ Composi-Lok Deck Screw | X | X |
| RECOMMENDED FASTENERS | SplitStop™ Titan III Composite Screw | X | X |
| | Starborn® Cap-Tor™ xd Epoxy Coated & HeadCote® Stainless (available collated for Muro CH7390 Driver™) (2" are approved for sleeper & roof top applications only) | X | X |
| | Screw Products C-Deck Exterior Star Drive Composite Deck Screw | X | X |
| | Phillips II Plus® Pozisquare | X | X |
| | Muro® T-Screw Torx Stainless Steel Screw - Collated (TX02125FD or M-TX03005EP) | X | X |
| | Kameleon™ GRKFasteners™ | | X |
| | FASCIA™ | | |
| | Cortex™ Hidden Fastening System for Fascia | X | X |
| RECOMMENDED FASTENERS | Starborn® Pro Plug® System for Fascia - Epoxy Coated & Stainless | X | X |
| | Starborn® DeckFast® Fascia System - Epoxy Coated & HeadCote® Stainless | X | X |
| | SplitStop™ Fascia Screw | X | X |
| | Simpson Strong-Tie® Fascia Board Screw | X | X |
| | FastenMaster® Trap Ease® Fascia Fastener | X | X |

NOTES:

- Do not use any hidden fasteners that are plug based with Trex Enhance profiles with scalloped bottom.
- 2-3/4" or 3" screws can be used with Trex 2x6 product.
- In most cases plugged based fasteners can be used with 2x6 decking product. Always refer to screw manufacturer for details.
- Muro T-Screw M-TX03005EP listed above is approved for 2x6 decking (can also be used with standard 1" (decking as listed above). This screw is collated and can be used with Muro Auto Feed Screw Gun FDVLIH Speed Driver. **(NOTE: THIS IS NOT A COLOR-MATCH SCREW.)**
- All decking products are approved for use with Trex Hideaway Hidden Fasteners, thus all decking products can be routed according to our instructions.
- Simpson Strong-Tie Deck Drive DCU Composite Screw in collated versions works with Quik Drive gun.
- * Not for use with sleeper systems. Refer to FastenMaster® literature for more information. Also, these are approved with Trex 2x6 decking profiles.
- ** Fascia system screws listed above can only be used with composite fascia profiles, and cannot be used with standard thickness decking boards used as fascia. Use stainless steel screws near water applications.
- Trex recommends the use of two screws per joist.
- All recommended screws are designed to be installed flush with decking surface. DO NOT countersink screws.

- Use recommended stainless steel screws in any areas near bodies of saltwater.

FastenMaster® Trap Ease® and Cortex™ are registered trademarks of DMG, Inc.

Quik Drive® is a registered trademark and Composi-Lok® is a trademark of Simpson Strong-Tie Company, Inc.

DeckFast® Cap-Tor™ xd and HeadCote® Cap-Tor™ xd are registered trademarks of Starborn Industries Inc.

C-Deck Exterior Star Deck Composite Deck Screw is a product of Screw Products Inc.

Phillips II Plus® is a registered trademark of Phillips Fasteners LLC. SplitStop™ screws are a registered trademark of Titan Metal Works, Inc.

| Minimum Fastener Size | | |
|-----------------------|------------------|---------|
| SCREWS | | |
| Profile | Length | No. |
| 1x6 | 2-1/2" or 2-3/4" | #8, #10 |
| 2x6 | 2-3/4" or 3" | #8, #10 |

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

Trex® Fascia Installation Recommendations

General Notes:

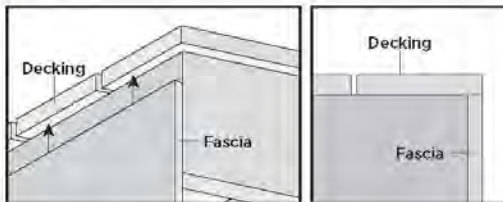
- » Trex Fascia utilized around the perimeter of a deck must be gapped with the same requirements as Trex decking to allow for expansion/contraction of the fascia.
- » When using 2" x 8" framing, attach fascia using 2 fascia approved fasteners; when using 2" x 10" or larger framing, attach fascia using 3 fascia approved fasteners. Top screw should be placed 1" from the top of the rim joist, the second screw in the center of the rim joist, and the third screw 1" from the bottom of the rim joist.

WHEN USING APPROVED FASCIA FASTENERS:

- » Approved fascia fasteners can only be used with 1x8 or 1x12 fascia product and cannot be used with decking products that are being used as fascia trim or stair risers.

Method 1: Fascia Under Decking

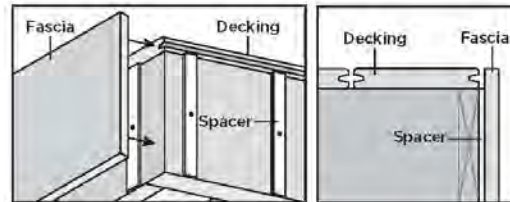
(Note: reflects 2x8 fascia installation & square-edge decking.)



Install fascia **UNDER** decking edges/ends. This will optimize the aesthetics of the installation.

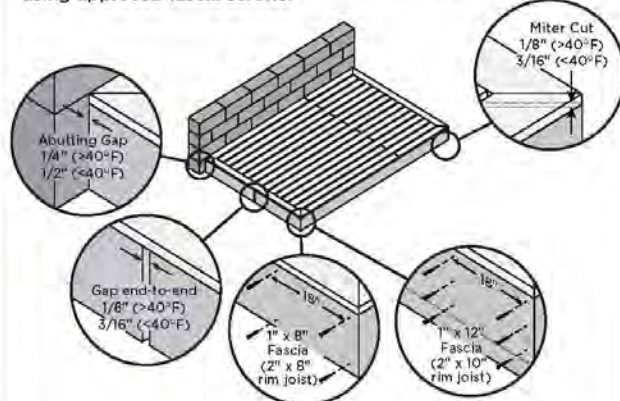
Method 2: Fascia Beside Decking

(Note: spacers below reflect 2x8 fascia installation.)



Install 3/16" to 1/4" thick x minimum 1" wide exterior grade spacers (these should be cut the same length as the rim joist), and spaced 9" on center. Install fascia screws as stated below at spacer locations (ensure that spacer screw does not interfere with fascia screw).

All images shown here reflect fascia under the decking as well as using approved fascia screws.



NOTE: English measurements are shown. Convert to metric measurements if necessary.

Trex Recommended Fascia Fasteners:

Cortex® Hidden Fastening System for Fascia

Starborn® Pro Plug® System for Fascia - Epoxy & Stainless

Starborn® Deckfast® Fascia System - Epoxy Coated and Headcote® Stainless

SplitStop™ Fascia Screws

Simpson Strong-Tie® Fascia Board Screw

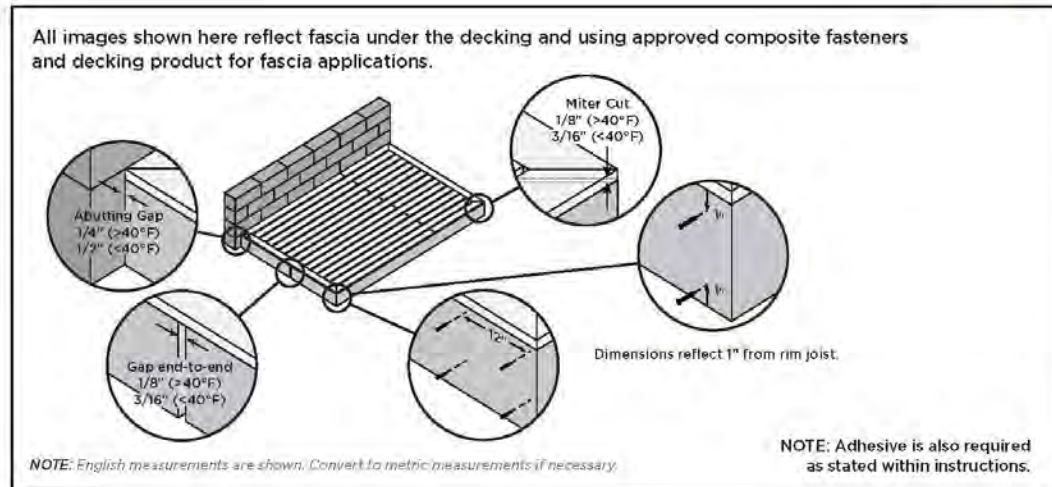
FastenMaster® TrapEase® Fascia Fastener

Trex® Fascia Installation Recommendations

WHEN USING DECK BOARDS AND COMPOSITE DECKING FASTENERS FOR FASCIA.

While Trex prefers the previous methods of attachment for fascia applications, as these are the very best options, there are also other recommendations that can be followed for deck boards being used for fascia. Use two Trex recommended composite decking screws every 12". **NOTE THAT TREX RECOMMENDED FASCIA APPROVED FASTENERS CANNOT BE USED IN THIS APPLICATION. IN ADDITION ALWAYS refer to manufacturer instructions to ensure that recommended screws can be used for fascia applications.** The top screw should be placed 1" from the top of the rim joist and the second screw 1" from the bottom of the rim joist.

****IN ADDITION,** also use a weather-resistant, construction-grade adhesive (adhesives that work with wood will work with Trex products) as a **SECONDARY** fastener when attaching deck boards used for fascia. **Remember to wipe away any excess before it dries or is allowed to drip onto other Trex surfaces.**

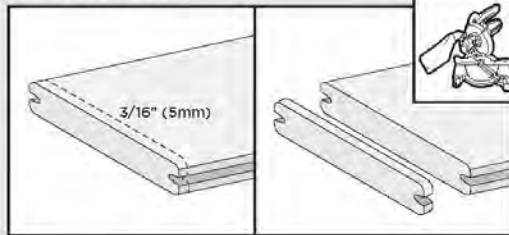


Framing and Fastening Tips

Fastening Tip for Trex Transcend, Trex Enhance, and Trex Select

NOTE: When using pneumatic or battery-operated equipment, adjust the pressure so that you only shoot the head of the screw to be flush with the board's cap. DO NOT shoot the fastener head completely through the shell.

Clean Cut Boards



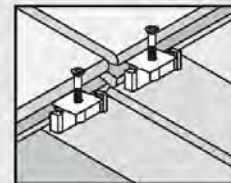
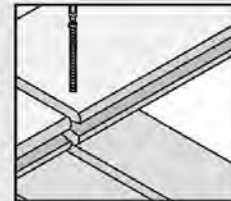
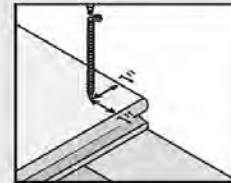
It is recommended that boards be clean cut on both ends a minimum of 3/16" (5mm). Ensure board ends are cut square.

Composite decking is a great alternative to traditional wood decking. When building your deck and railing, it is recommended that code-approved structural material be used as the framing and joists. Check your local building codes for restrictions. Trex decking cannot be used for structural applications. **Do not** attach Trex decking directly to any solid surface or watertight system.

In most cases, install fasteners at a 90° angle (perpendicular to the board).

At board ends on the deck's edge, you can install screws placed perpendicularly at the recommended distance, at minimum of 1" (25mm) from the board end and edge, without splitting the board.

For butt joints, where boards meet over a single joist, add a 2" x 4" "nailer" board at the butt joint. This allows screw-in at 90 degrees and allows fasteners to be used at end of each board.



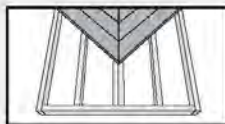
Dock Applications

Trex decking contains no materials that will harm marine life and is safe for the environment. As long as dock is in intermittent contact with water, i.e., splashing and not in continuous direct contact with water, the durability of the Trex decking should not be affected.

For docks, a 3/8" (10mm) width-to-width gap between boards is recommended to allow for increased drainage due to increased contact with water. In addition, stainless steel fasteners should be used. If there is sufficient contact between the dock and gasoline, grounding of the dock is also recommended.

Special Patterns

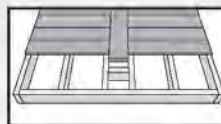
When planning a unique pattern, you will need to adjust the framing to support the surface pattern. Many decks are designed to take advantage of angles, as shown below.



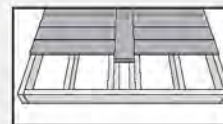
Herringbone Pattern



Picture Frame Pattern



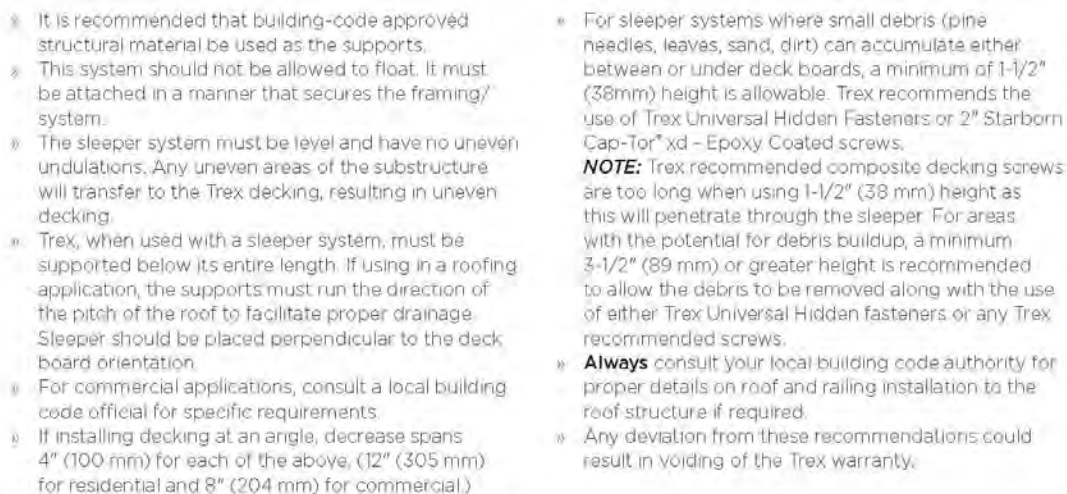
Breaker Board
Single Joist



Breaker Board
Double Joist

DECKING

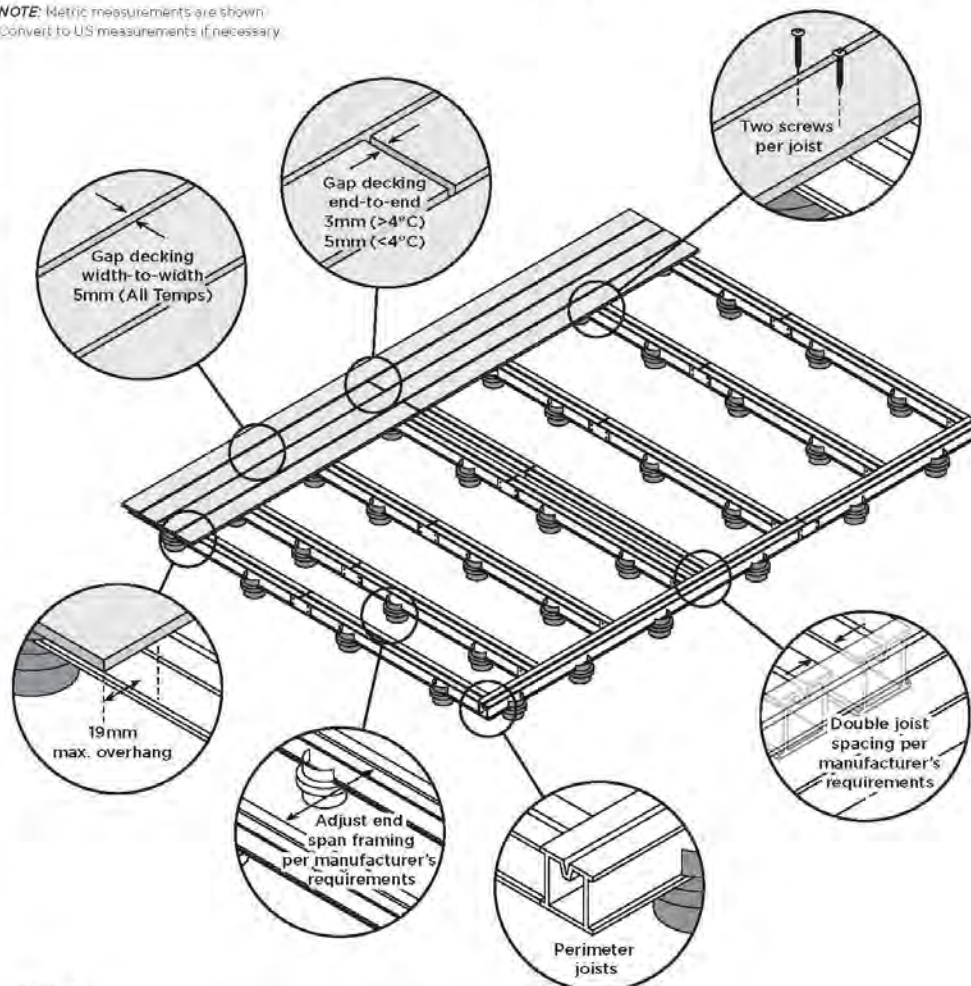
NOTE: English measurements are shown.
Convert to metric measurements if necessary.



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Metal Framing Requirements and Gapping

NOTE: Metric measurements are shown.
Convert to US measurements if necessary.



NOTES:

- When using an aluminum framing system or other type of metal for sleeper systems, follow manufacturer's instructions for proper installation.
- Depending on type of structure being used, different types of fasteners must be used for attachment.
- When using screws to attach decking to framing, use two screws per every joist.

Code Compliance

Joist Spanning for Decking

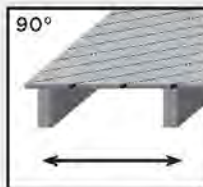
Trex decking meets all applicable national model building codes. The joists must be spaced on center according to the chart below. Be sure that joists are level and plumb. Trex decking must span at least three joists. For heavy items such as hot tubs, planters, etc., consult a local building engineer or inspector for span recommendations. If you want to minimize the appearance of joists through the spaces between boards, use Trex Protect® Joist and Beam Tape or paint the top of your joists black.

Code Listings

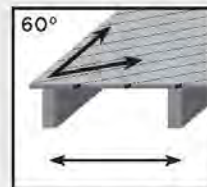
Trex complies with major model building codes and has been evaluated by the International Code Council evaluation service.

For a Safety Data Sheets (SDS), please visit www.trex.com.

Adjust Joist Spanning to Accommodate Angled Decking Patterns



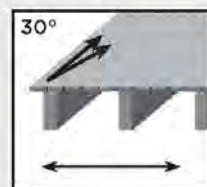
Perpendicular to joists.
See chart below.



At a 60° angle, maximum joist spanning is 2" (51 mm) less than listed in the chart below.



At a 45° angle, maximum joist spanning is 4" (102 mm) less than listed in the chart below.



At a 30° angle, maximum joist spanning is 1/2 of the distance listed in the chart below.

| Trex Decking Span Chart (on center) | | |
|--|--|---|
| | Residential Decks, Light Duty Docks, Residential/Day Care Playground | Commercial Decks, Boardwalks and Marinas |
| Decking Loading | 100 psf = 4.8 kN/m ² | 100 psf = 4.8 kN/m ² 200 psf = 9.5 kN/m ² |
| 1" (25 mm) Boards (including Porch), and .875" (22 mm) Select Boards | 16" (406 mm) | 16" (406 mm) 12" (305 mm) |
| 2" x 8" (51 mm x 152 mm) Boards | 24" (610 mm) | 24" (610 mm) 16" (406 mm) |

| Trex Railing Span Chart | |
|---|--|
| Maximum Railing Span for all Applications | |
| Transcend, Select and Signature railing | 96" on center (2438 mm) for Transcend, 72" on center (1829 mm) for Select, 96" (2438 mm) clear span for Trex Signature <i>Note: Glass installation spanning varies, see specific instructions for details</i> |

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

Gapping and Overhang

You must gap Trex decking both end-to-end and width-to-width. Gapping is necessary for drainage and the slight thermal expansion and contraction of Trex decking boards. Gapping also allows for shrinkage of the wood joist system.

- » **ALWAYS** follow Trex-recommended gapping guidelines.
- » Maximum allowable perpendicular overhang for all Trex decking is 3/4" (19 mm).
- » All decks require air circulation to keep them dry and looking good. To improve air flow, leave openings under the decking or increase gapping to 3/8" (10 mm).

Width-to-Width Gap

3/16" (5 mm)

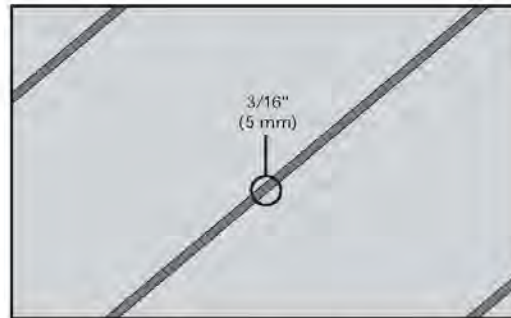
End-to-End/End-to-Width and Abutting Gap

| | End-to-End/ End-to-Width | Abutting Gap |
|----------------------|-----------------------------|--------------|
| Above 40°F* (4.5°C)* | 1/8" (3 mm) | 1/4" (6 mm) |
| Below 40°F* (4.5°C)* | 3/16" (5 mm) | 1/2" (13 mm) |

*Temperature at installation.

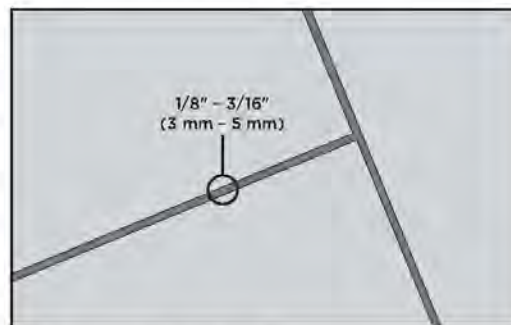
When you use the recommended hidden fasteners, the placement of the hidden fastener establishes the designated gap size.

When installing fascia, gapping rules must apply.



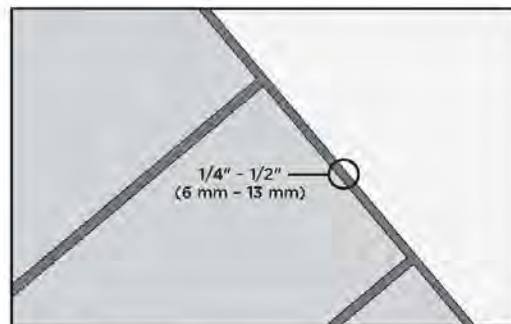
Width-to-Width

The minimum required width-to-width gapping is 3/16" (5 mm). This is allowed for both hot and cold weather installations. For docks and heavily wooded areas, Trex recommends a 3/8" (10 mm) gap. No gapping should ever exceed 1/2" (13 mm).



End-to-End/End-to-Width

Gap Trex decking end-to-end, based upon the temperature at installation. *See chart at left.* For fastening tips, see page 30.

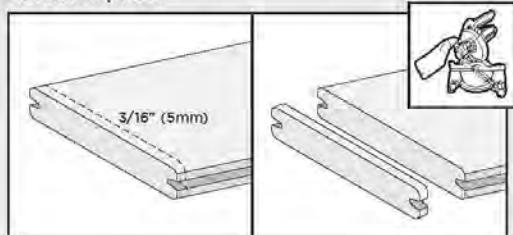


Abutting Solid Objects

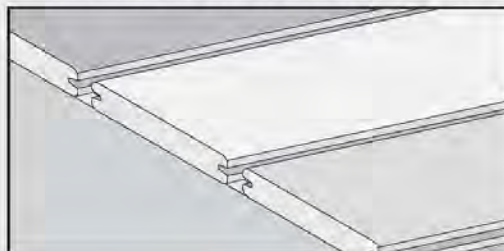
When decking is abutting a wall, you must also gap it 1/4"-1/2" (6-13 mm) depending on the temperature at installation. *See chart at left.*

Important Notes Before Installing Trex® Decking

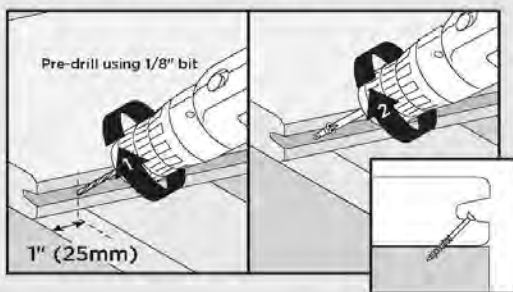
It is recommended to clean cut boards on both ends a minimum 3/16" (5mm). Ensure board ends are cut square.



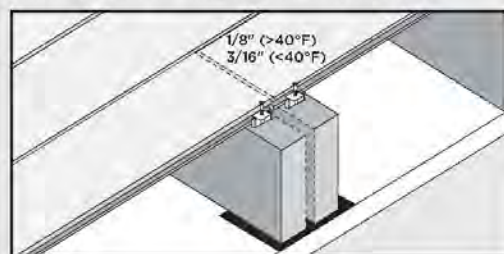
To ensure an appealing mix of color tones, mix and match all boards prior to installation.



If installing in localities prone to large temperature shifts within a 24-hour period, and installing Trex Universal Hidden Fasteners, predrill and toenail a screw (use same screw used in hidden fasteners) at an angle in groove at both ends (at least 1" (25mm) from board end) and center of each board.

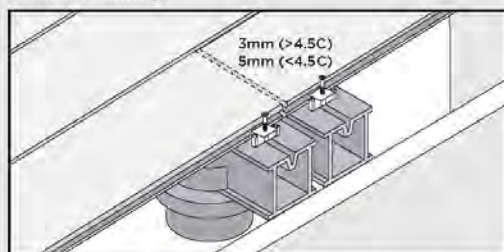


Abutted Board Attachment Requirements



NOTE: Optional - Gap joist framing 1/8" - 3/16" to allow for water drainage

Metal Framing

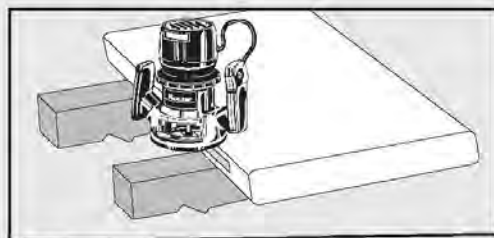


NOTE: Hidden Fasteners MUST be used at every joist.

NOTE: Use a drill (with adjustable clutch and torque) and adjust these settings if necessary to ensure screw is seated correctly in fastener. DO NOT countersink the screw head into the fastener. Screw head should be flush with the top of the fastener.

Routing Square-Edge Boards for Trex Hideaway® Hidden Fasteners

NOTE: All Trex square-edge profiles, either 1x6 or 2x6, can be routed.



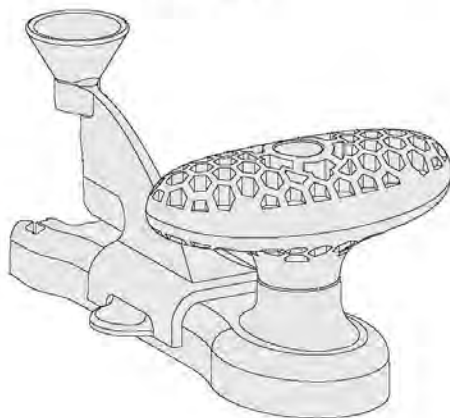
Using a Trex routerbit with standard router:

1. Rout from bottom side of board.
2. Rout the entire length of the board, or at every intersection where board is over support joists.

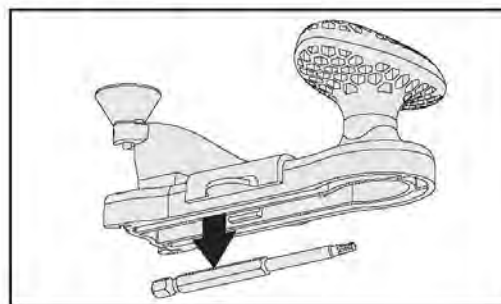
TREX HIDEAWAY® One-Step Hidden Fastener Tool Instructions

The Hideaway® One-Step Installation Tool increases installation speed by allowing you to install the fastener in one easy step. With this tool you can fully actuate the fastener and still install your next deck board, converting what's normally a two-step process into a one-step installation process.

One-Step Hidden Fastener Tool

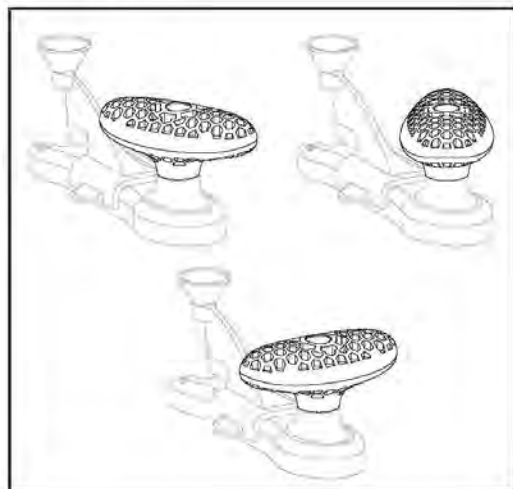


One-Step Hidden Fastener Tool Bit

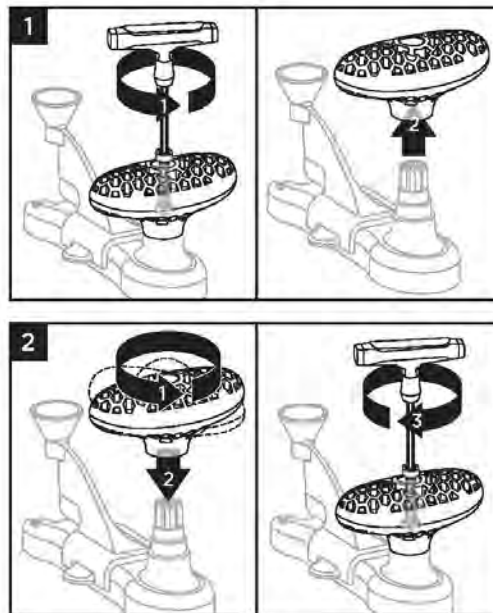


The bit supplied with the Trex Universal Fasteners and the One Step Tool are the same bit, and both are compatible with the tool. Turned down-T10 bits from other manufacturers will also work, but please ensure the turned down portion (the narrow nose) is at least 1-1/2" long. Using an inappropriate bit will not allow fasteners to seat correctly and could damage the tool. Bit is conveniently located on the underside of the one-step tool. For replacement Trex® bits please visit Shop.Trex.com.

Handle Adjustment



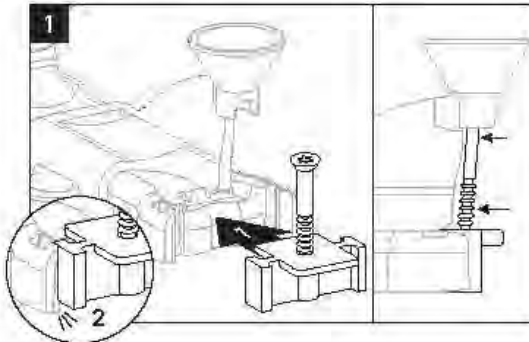
Handle is adjustable and can be loosened and rotated using a 3/16" hex tool to a comfortable position for the user.



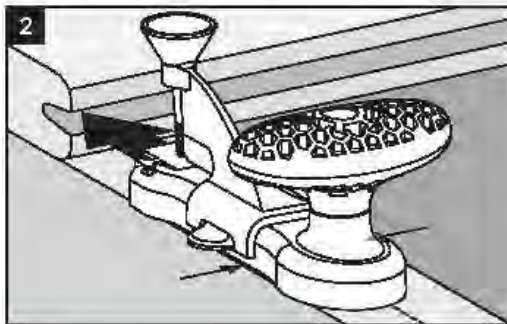
TREX HIDEAWAY® One-Step Hidden Fastener Tool Instructions/CONTINUED

NOTE: See instructions included with Trex Hideaway Universal Hidden Fasteners for general rules including clean cutting board ends, gapping rules, abutted board rules and installation of angled deck boards, as well as start clip instructions, steps to take for large temperature shifts and installation of last deck board.

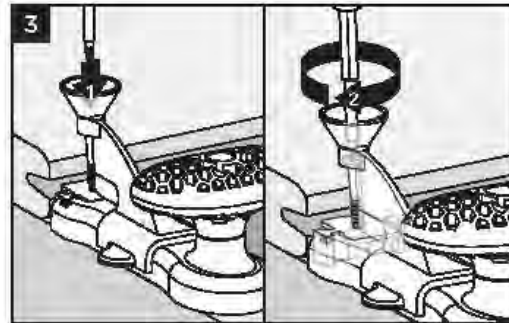
Installation Instructions



1. Place Hideaway hidden fastener into one-step tool. There will be a slight click when fastener is engaged properly. Screw will also be slightly at an angle when engaged in one-step tool properly.

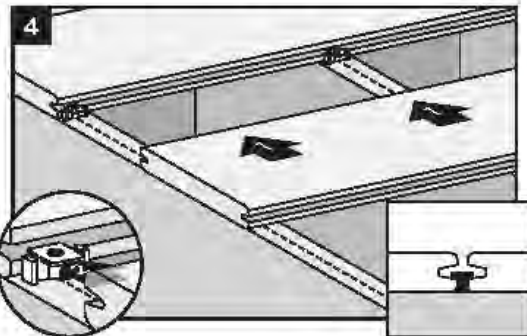


2. Center one-step tool (with fastener included) on joist and push into groove of board.



3. Using bit included with one-step tool, install screw as shown. Screw should be slightly countersunk into fastener when installed correctly. Continue to install fasteners on every joist. **Do Not Overdrive Screw.**

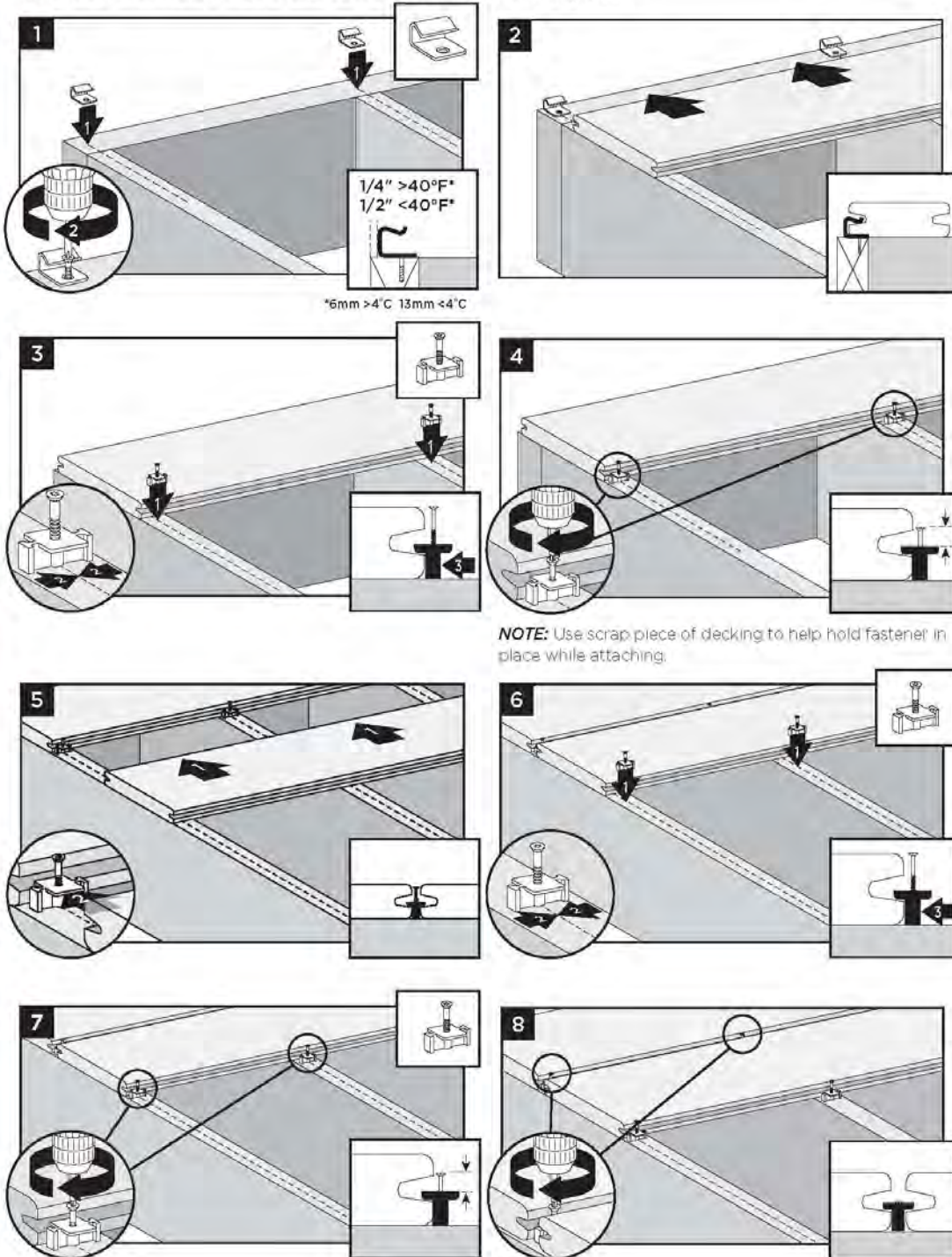
NOTE: Signs of overtightening would be the tool getting stuck and unable to remove properly and/or signs that the shaft of the bit is damaging the conical screw guide.



4. Install next board against installed hidden fasteners. Some slight force (using a rubber mallet) to seat next board against fasteners may be required.

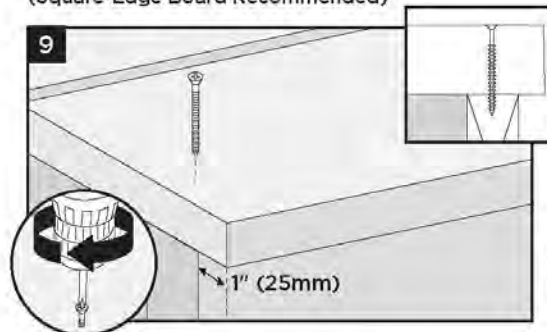
Installing Trex Transcend®, Enhance®, Select® Decking

Note: These instructions should be followed when NOT using the One-Step Tool.



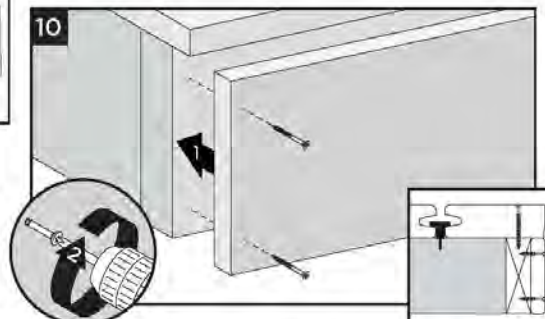
Installing Trex Transcend®, Enhance®, Select® Decking/continued

Installing Last Deck Board (Square-Edge Board Recommended)



Route one side of square-edge board to use with hidden fasteners.

TIP: Use a recommended hidden fastener screw and plug for last board installation.

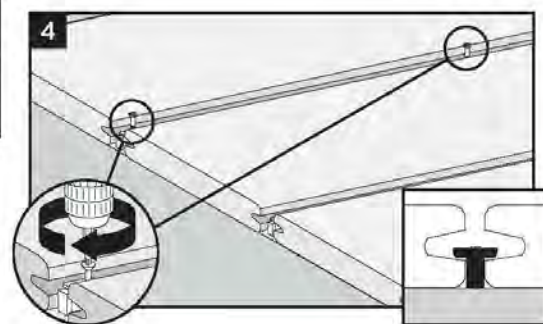
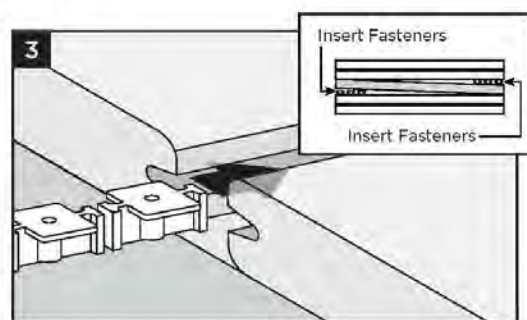
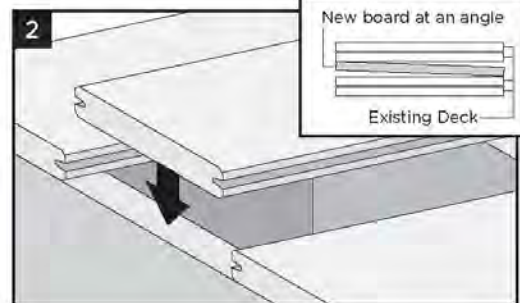
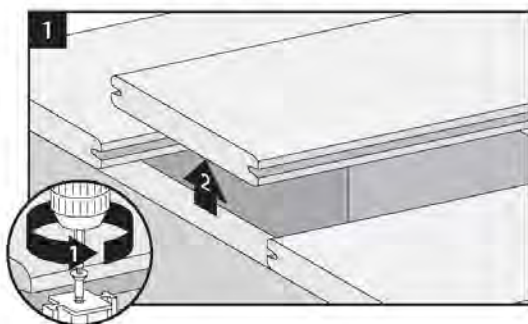


Fascia screws supplied by installer (1x 8 fascia shown).

NOTE: Refer to page 28 for detailed fascia attachment instructions.

Replacing Trex Boards (Transcend®, Enhance®, Select®)

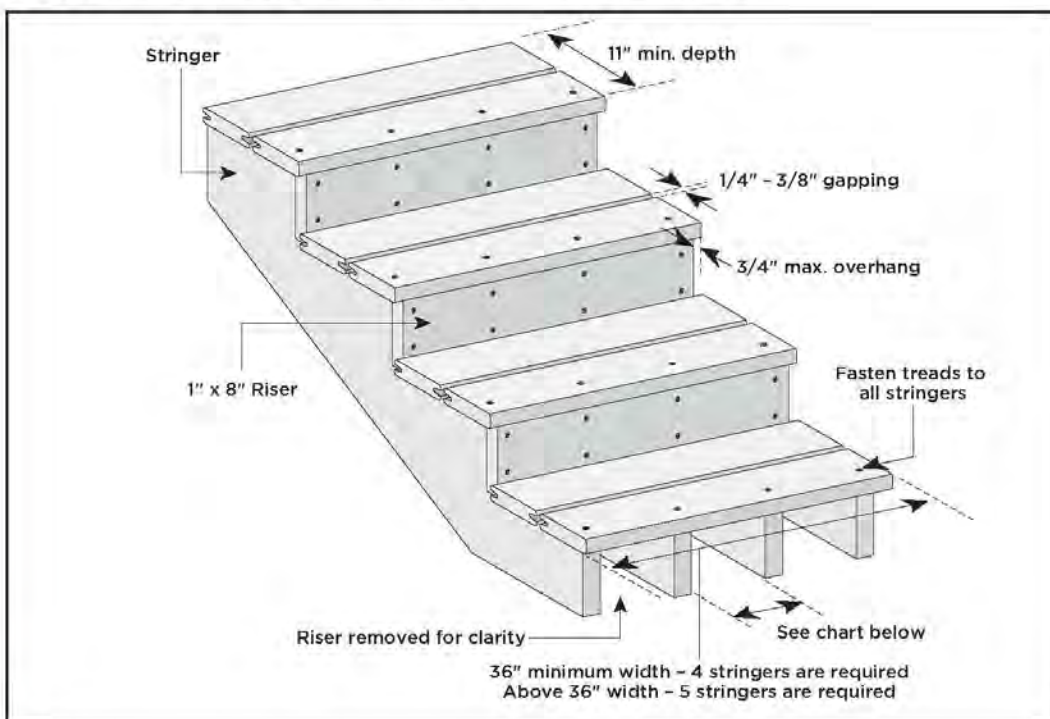
Installed with Trex Hideaway® Universal Fasteners



NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

Spanning Requirements for Trex® Stairs

Note: English measurements are shown. Convert to metric measurements if necessary.



Stairs

Stairway Detail

- » Stair treads built with Trex meet requirements of the major national building codes. Consult your local municipality for specific requirements.
- » Fasten stair treads continuously across at least four stringers.
- » See chart (at right) for center-to-center spacing of profiles.
- » Dress the sides of the stringers and risers with trim or Trex Fascia for a finished look.
- » When installing risers, use two screws per every stringer.
- » Fascia fasteners can only be used if fascia boards are being used for risers. If deck boards are used, recommended composite deck screws must be used (glue is not required for this application).
- » Most model building codes require the stair treads to be constructed under the following requirements:
 - ↳ Stairways must be at least 36" wide*
 - ↳ Stair treads must be at least 11" deep
- » Gapping between Trex boards on stair treads must be 1/4"-3/8"
- » The overhang of the stair tread is not to exceed 3/4"

*For railings that are installed directly over stair treads, the stair treads may need to be larger than 36" wide. Refer to local building code regulations for details prior to installing stairs and railings.

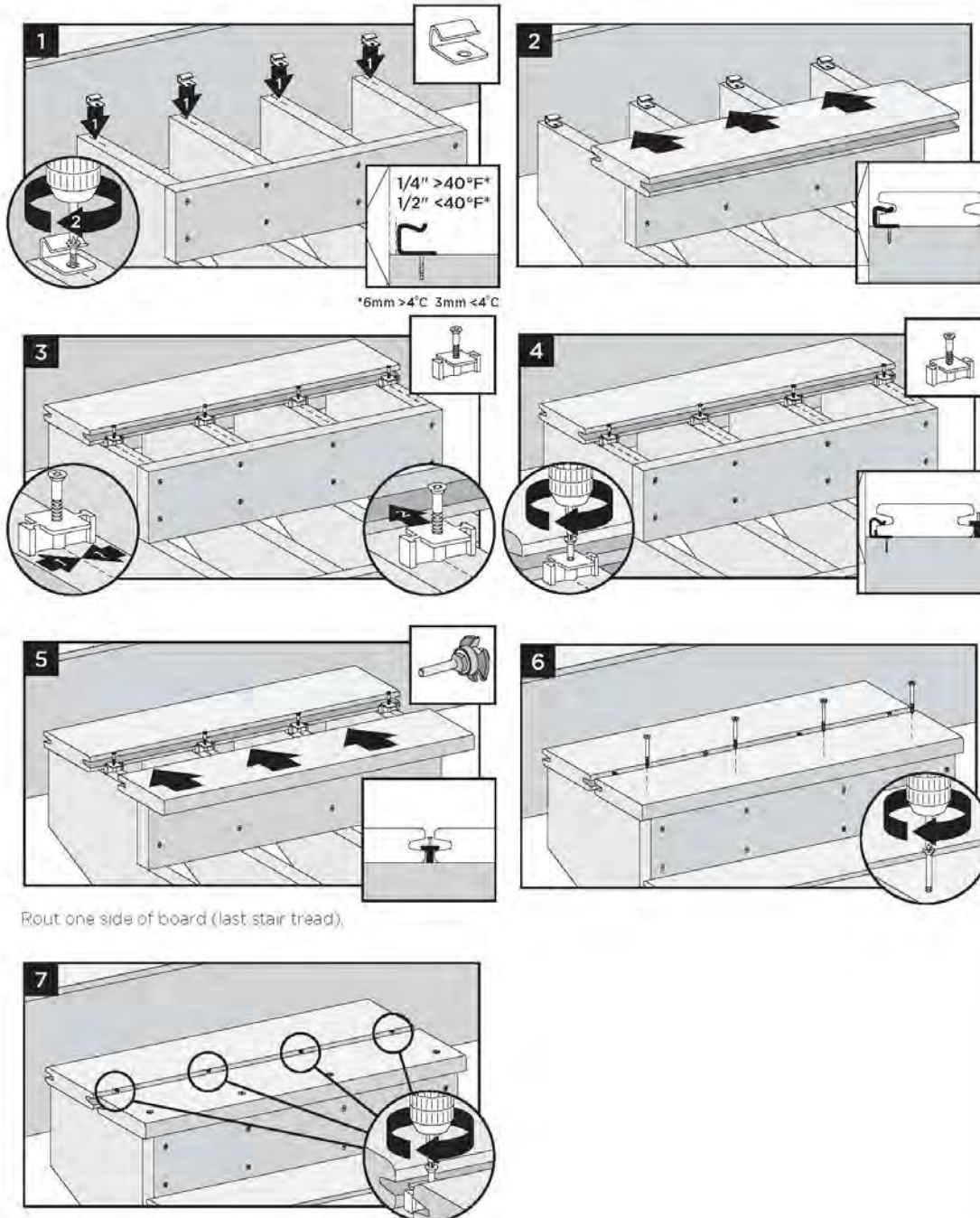
NOTES:

- » Trex rails meet all major building codes for use as a guardrail system. Local municipalities may require a graspable handrail on stairways. Check with your local building code official for local requirements. See Trex ADA Handrail System in the Trex product catalog.

| Maximum Spacing on Center of Stair Stringer | |
|---|-----|
| Transcend 1" x 6" | 12" |
| Select & Enhance (scalloped bottom) | 9" |
| Transcend & Select 2" x 6" | 12" |

Installing Trex® Stair Treads Installed with Hidden Fasteners

NOTE: If using hidden fasteners, use square-edge, composite decking boards and manually route these on required sides to allow for use with hidden fasteners. In addition, if not using hidden fasteners, square-edge boards can all be used and face fastened using Trex recommended fasteners.



LOCATION AND INSTALLATION OF SURFACE MOUNT POST - DECKING

IMPORTANT NOTES:

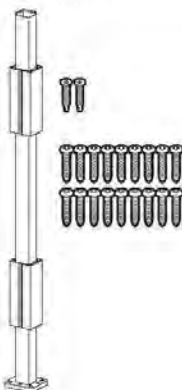
- » **EACH POST MUST BE ATTACHED AS SHOWN TO ENSURE A CODE COMPLIANT AND SAFE INSTALLATION.**
- » **ALWAYS REFER TO YOUR LOCAL BUILDING CODE OFFICIAL PRIOR TO INSTALLING ANY RAILING SYSTEM TO ENSURE ALL CODE AND SAFETY REQUIREMENTS ARE MET. TREX® CANNOT BE HELD RESPONSIBLE FOR IMPROPER OR NON-RECOMMENDED INSTALLATIONS.**
- » **WHEN INSTALLING TREX POST MOUNTS ON ACQ OR CCA SURFACES, USE AN APPROPRIATE ISOLATION BARRIER BETWEEN POST AND SURFACE (CONTACT LOCAL BUILDING CODE OFFICIAL IF NEEDED).**
- » **ENSURE THAT CORRECT SKU HARDWARE IS ORDERED FOR THE TYPE OF RAILING BEING INSTALLED.**
- » **CANNOT BE USED WITH TREX TRANSCEND COCKTAIL RAILING.**

TOOLS AND MATERIALS NEEDED

- » Drill and/or screw gun
- » 1/2" (1.27 cm) drill bit for wood
- » Blocking - 2" x 8" (5.1 cm x 20.3 cm) pressure-treated Southern Yellow Pine or equivalent
- » Qty. 36 (per post) - 3" pressure-treated compatible wood screws

PARTS

- » (1) Post mount
- » (2) Guide blocks
- » (18) #8-15 x 1-1/4" (3.2 cm) screws
- » (2) 10 x 1" (2.5 cm) Self-tapping screws



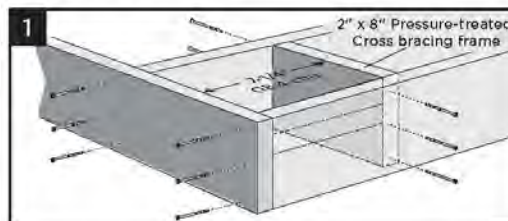
SKU ALPOSTHWDECK
(this SKU SOLD SEPARATELY
and must be used for
code-approved applications)

- » (4) 3/8" x 6" (1 cm x 15.2 cm) Hex cap bolts
- » (1) Back plate
- » (8) Flat washers
- » (4) Hex nuts

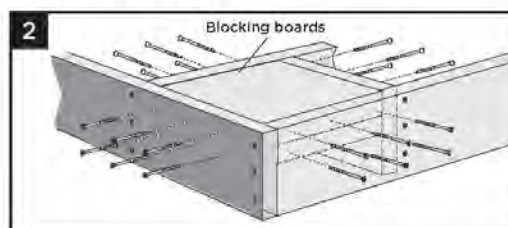


Installing Post Mounts on Pressure-Treated Wood Framing

Corner Post Installation



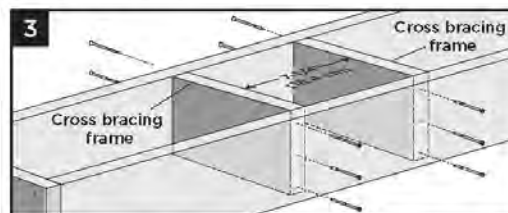
1. Install 2" x 8" (5.1 cm x 20.3 cm) cross bracing frame in between joists at 7-1/4" (18.4 cm). Attach a total of twelve 3" (7.6 cm) pressure-treated compatible screws (*not provided*).



2. Install two 2" x 8" (5.1 cm x 20.3 cm) boards as blocking under post location. Securely attach blocking using a total of twenty-four 3" (7.6 cm) pressure-treated compatible screws (*not provided*).

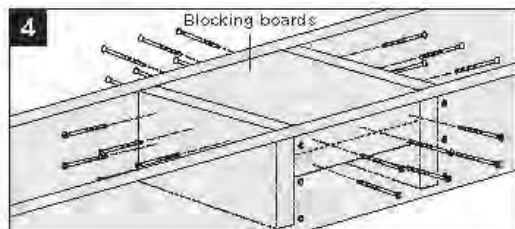
NOTE: TO ENSURE THE BLOCKING IS FULLY SECURE, USE THE AMOUNT OF SCREWS INDICATED ABOVE.
TIP: USE TWO ADDITIONAL SCREWS TO "SANDWICH" BLOCKING BOARDS TOGETHER FOR EASIER ATTACHMENT TO FRAMING.

Line Post Installation

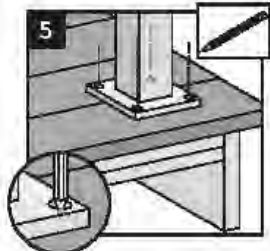


3. Install two 2" x 8" (5.1 cm x 20.3 cm) cross bracing frames in between joists at 7-1/4" (18.4 cm). Attach a total of twelve 3" (7.6 cm) pressure-treated compatible screws (*not provided*).

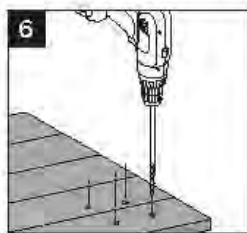
LOCATION AND INSTALLATION OF SURFACE MOUNT POST - DECKING/ CONTINUED



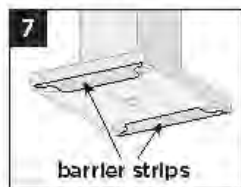
4. Install two 2" x 8" (5.1 cm x 20.3 cm) boards as blocking under post location. Securely attach blocking using a total of twenty-four 3" (7.6 cm) pressure-treated compatible screws (not provided).



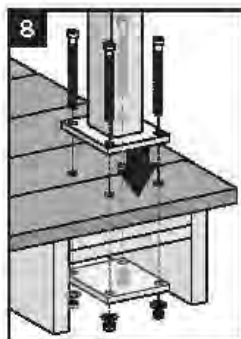
5. Using post a template, mark locations of holes.
6. Drill through decking and blocking boards using 5/8" diameter bit (long drill bit will be required).



7. Insert the (2) stainless steel barrier strips under the mounting bolt holes. **BARRIER STRIPS ARE REQUIRED ONLY IF ATTACHING POST DIRECTLY TO PRESSURE-TREATED FRAMING.**



8. Attach posts using four 3/8" x 8" (1 cm x 15.2 cm) hex cap bolts, washers, and nuts, along with aluminum back plate on underside of blocking. If the project requires IRC compliance, this back plate **MUST** be installed under the decking to ensure this will meet code compliance. Reference SKU part number ALPOSTHWDECK for required hardware and aluminum plate. (Consult local code official for more information on IRC Compliance.)



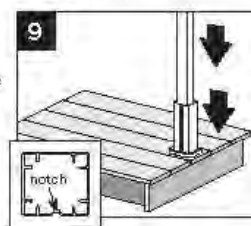
NOTES:

- » Use composite shims or similar material (not provided) if posts are not plumb. Ensure that post is placed on decking surface so that it clears the rim joist and there is enough clearance on the underside blocking for the back plate to be installed.
- » Rim joist removed to show proper attachment of hardware.

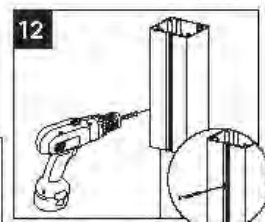
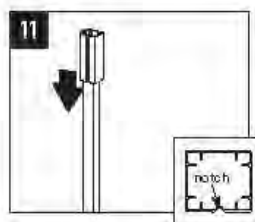
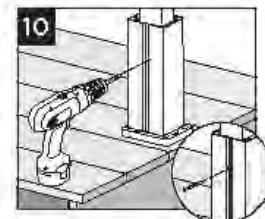
Install Guide Blocks

NOTE: Pre-drilling is not required but is optional for attachment of guide blocks to post. Use a drill bit slightly smaller in size than that of screw being installed.

9. Place or rest bottom aluminum guide block on bottom of post. Place guide on post so that notch is on a side that does not require railing to be attached.



10. Attach bottom guide block using one 10 x 1" self-tapping screw (provided) in notch to lock guide block onto post.



11. Location of top guide block will vary slightly depending on type and height of railing being installed. Determine this measurement and place top guide block in location where top bracket for desired railing would be approximately on center of the top railing bracket location.
12. Attach top guide block using one 10 x 1" self-tapping screw (provided) in notch to lock guide block onto post.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

LOCATION AND INSTALLATION OF SURFACE MOUNT POST - DECKING/ CONTINUED

Install Railing System of Choice

NOTES:

- » A quantity of 18 #8-15 x 1-1/4" screws are provided to cover all types of Trex railing bracket installations (Transcend, Trex Signature, and Select). Depending on the type railing being installed, you may have screws that are not used.
- » If using 6x6 post sleeves, or installing stair railings, attach designated railing brackets using #8-15 x 1-3/4" (4.4 cm) 316 stainless steel self-tapping screws (not provided).

- » Pre-drilling IS REQUIRED when attaching brackets to designated posts. Use a 9/64" (3.6 mm) drill bit to pre-drill at specified locations according to instructions provided with railing kits.

Note: If installing Trex Deck Lighting on the posts, drill hole through support blocks to allow wiring for lights to be below the surface of the decking.

LOCATION AND INSTALLATION OF IRC-APPROVED POST MOUNTS - CONCRETE

NOTES:

- » **INSTALLATION SHOWN HERE IS FOR IRC APPROVED APPLICATIONS ONLY.**
- » **MAKE SURE CONCRETE IS LEVEL BEFORE INSTALLING POSTS.**
- » **ALWAYS REFER TO YOUR LOCAL BUILDING CODE OFFICIAL PRIOR TO INSTALLING ANY RAILING SYSTEM TO ENSURE ALL CODE AND SAFETY REQUIREMENTS ARE MET. TREX® CANNOT BE HELD RESPONSIBLE FOR IMPROPER OR NON-RECOMMENDED INSTALLATIONS.**
- » **CANNOT BE USED WITH TREX TRANSCEND COCKTAIL RAILING.**

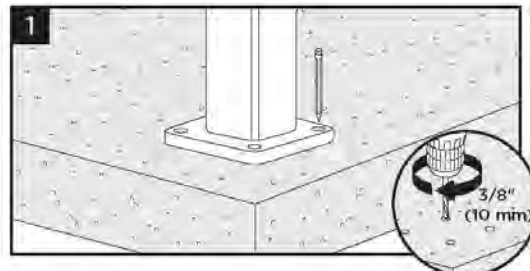
SKU ALPOSTHWCONC

(this SKU SOLD SEPARATELY)

- » (4) 3/8" x 3-3/4" (10 mm x 95 mm) Expansion anchor
- » (4) Flat washers
- » (4) Hex nuts



Pre-drill Holes



1. Using post as a template, mark locations of the four holes and drill into concrete at least 2-5/8" (66.7 mm) using a 3/8" (10 mm) masonry bit.

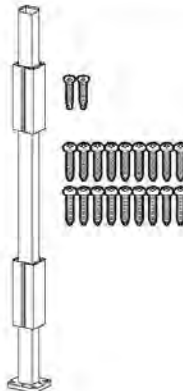
NOTE: You can either set drill bit to correct depth on drill or mark drill bit with tape at required dimension to ensure all holes are drilled at the correct depth.

TOOLS NEEDED

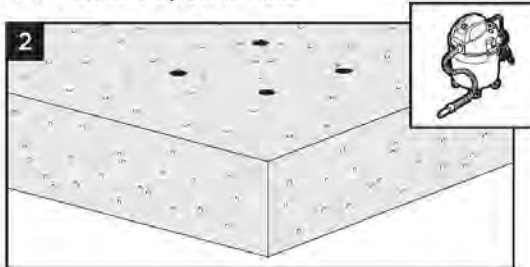
- » Hammer
- » Drill and/or screw gun
- » 3/8" (10 mm) drill bit for concrete

PARTS

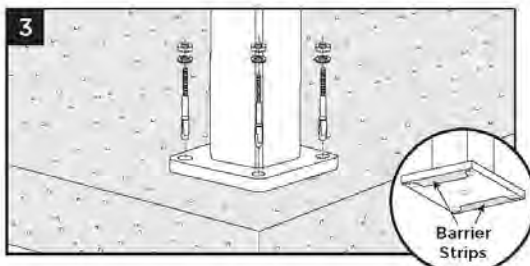
- » (1) Post mount
- » (2) Guide blocks
- » (18) #8-15 x 1-1/4" (32 mm) screws
- » (2) 10 x 1" (25 mm) Self-tapping screws



LOCATION AND INSTALLATION OF IRC-APPROVED POST MOUNTS - CONCRETE/*CONTINUED*



2. Clean out holes to remove all concrete dust.



3. Insert the (2) stainless steel barrier strips under the mounting bolt holes. Use appropriate shims if posts are not plumb. Secure post mount with the four expansion anchors, washers and nuts.

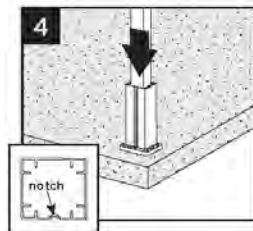
NOTE: When using hammer to tap anchors in place, keep the threaded nut at the top of the anchor in order to not damage the threads.

NOTE: Recommended torque for anchors is 20 ft-lbs.

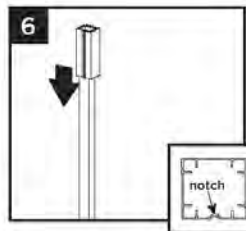
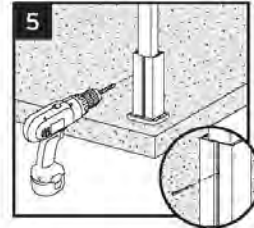
Install Guide Blocks

NOTE: Pre-drilling is not required but is optional for attachment of guide blocks to post. Use a drill bit slightly smaller in size than that of screw being installed.

4. Place or rest bottom aluminum guide block on bottom of post. Place guide on post so that notch is on a side that does not require railing to be attached.

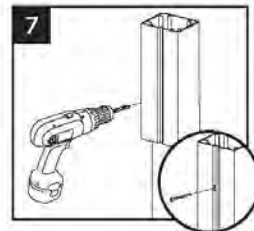


5. Attach bottom guide block using one 10 x 1" (25 mm) self-tapping screw (*provided*) in notch to lock guide block onto post.



6. Location of top guide block will vary slightly depending on type and height of railing being installed. Determine this measurement and place top guide block in location where top bracket for desired railing would be approximately on center of the top railing bracket location.

7. Attach top guide block using one 10 x 1" (25 mm) self-tapping screw (*provided*) in notch to lock guide block onto post.



Install Railing System of Choice

IMPORTANT NOTES:

- » A quantity of 18 #8-15 x 1-1/4" screws are provided to cover all types of Trex railing bracket installations (Transcend, Trex Signature, and Select). Depending on the type railing being installed, you may have screws that are not used.
- » **Pre-drilling IS REQUIRED** when attaching brackets to designated posts. Use a 9/64" (3.6 mm) drill bit to pre-drill at specified locations according to instructions provided with railing kits.
- » If using 6x6 post sleeves or installing stair railings, attach designated railing brackets using #8-15 x 1-3/4" (44 mm) 316 stainless steel self-tapping screws (not provided).

NOTE: If installing Trex Lighting on the posts, drill hole through support blocks to allow wiring for lights to be below the surface of the decking.

HOW TO INSTALL JOIST MOUNT POSTS

ALL INSTRUCTIONS BELOW ARE FOR METAL POSTS ONLY; NO PRESSURE-TREATED POSTS ARE TO BE USED FOR THESE INSTRUCTIONS.

Joist Mount Post for Trex Composite Post Sleeve SKU CPJMNTPOST63

- » (1) Joist Mount Post
- » (2) Guide blocks
- » (2) 10 x 1" (2.5 cm) Screws
- » (18) #8-15 x 1-1/4" (3.2 cm) Screws
- » (2) 1/2" x 8" Bolts, Washers, & Nuts

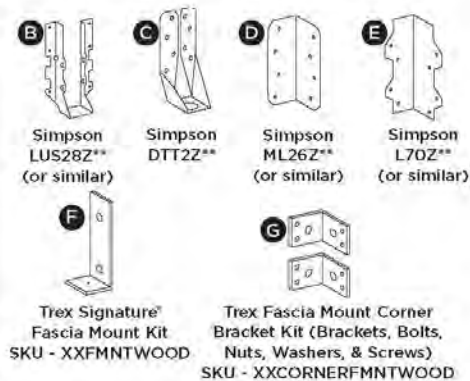
***NOTE:** If using 6x6 post sleeves, attach designated railing brackets using #8-15 x 1-3/4" (4.4 cm) 316 stainless steel self-tapping screws (not provided). Pre-drilling IS REQUIRED when attaching brackets to designated posts. Use a 9/64" (3.6 mm) drill bit.

Trex Joist Mount Post for Trex Signature® Railing SKU XXJMNTPOST63

XX denotes color: (BK-Black, BZ-Bronze, WT-White)

- » (1) Joist Mount Post
- » (2) 1/2" x 8" Bolts, Washers, & Nuts**
- » (1) Post Cap
- » (1) Post Skirt

***NOTE:** bolt heads, washers, and nuts are color matched to joist mount post color



XX denotes color BK-Black, BZ-Bronze, WT-White

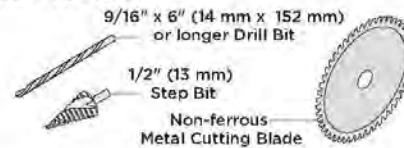
GENERAL GUIDELINES

» Code-Approved Joist Mount Post Applications:

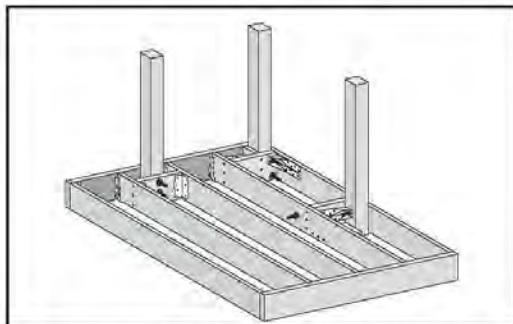
- 30" or less deck height - Code approval not applicable
- IRC Compliant - Yes
- IBC Compliant - No
- » Minimum framing is 2" x 8" (51 mm x 203 mm). (Ensure all structural brackets are sized appropriately for framing.)
- » Follow all structural bracket manufacturer's guidelines for fastener selection and corrosion protection requirements.
- » Maximum OC framing is 16" (406 mm).
- » This post is designed to cut-to-length and will accommodate up to 42" (1067 mm) stair railing on 2" x 12" (51 mm x 305 mm) framing.

- » Included template works for most, but not all, applications. Review instructions carefully prior to drilling holes, making sure to center holes on post.
- » **Simpson structural brackets are not included with joist mount posts and must be purchased separately.

HELPFUL TOOLS

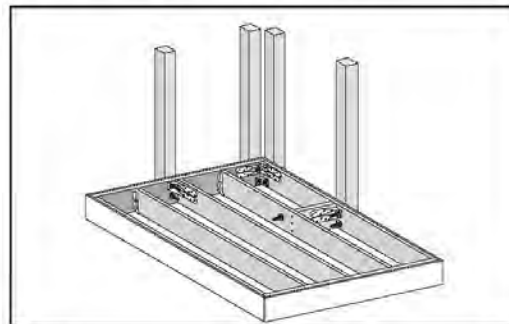


Wood Frame (Inside Mount) Overview



NOTE: To allow fascia to sit flat against framing, route/trim out back side of fascia to allow for fit over bolt locations.

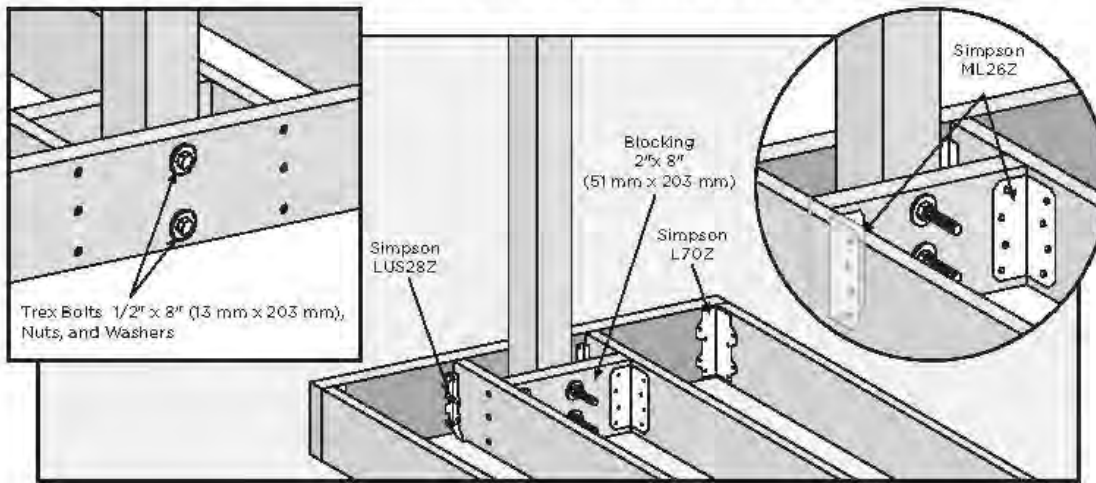
Wood Frame (Fascia Mount) Overview



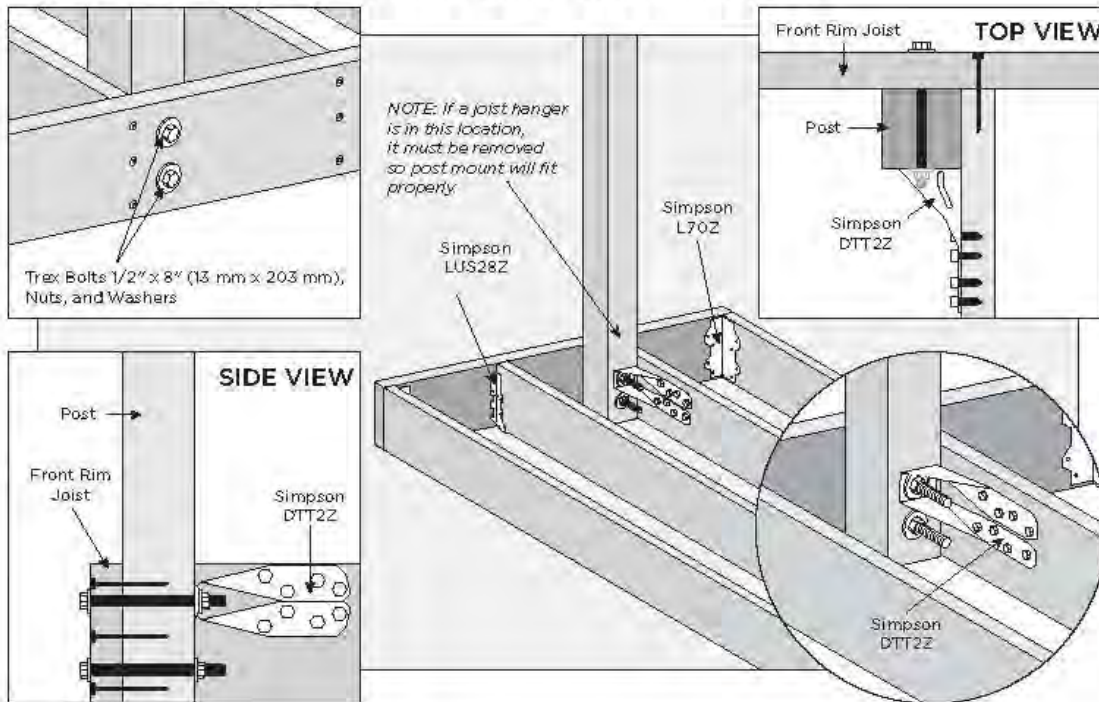
NOTES:

- » Trex fascia should be installed prior to installing any outside joist post mounts.
- » Can only be used with Trex Signature 6' or less railing spans.

INSIDE MOUNT (FRONT RIM PLATE - BETWEEN JOISTS WITH BLOCKING)



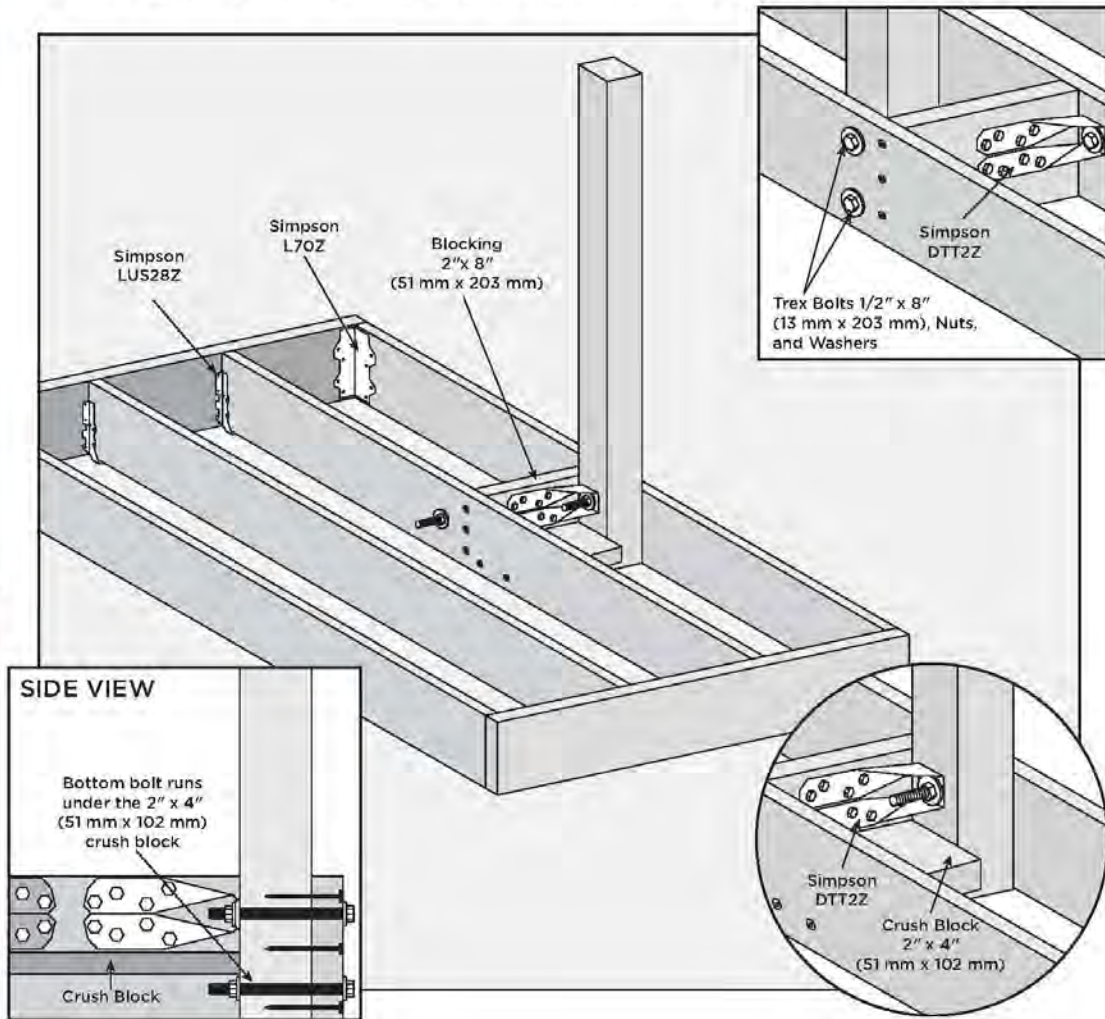
INSIDE MOUNT (FRONT RIM PLATE - NEXT TO JOIST)



NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

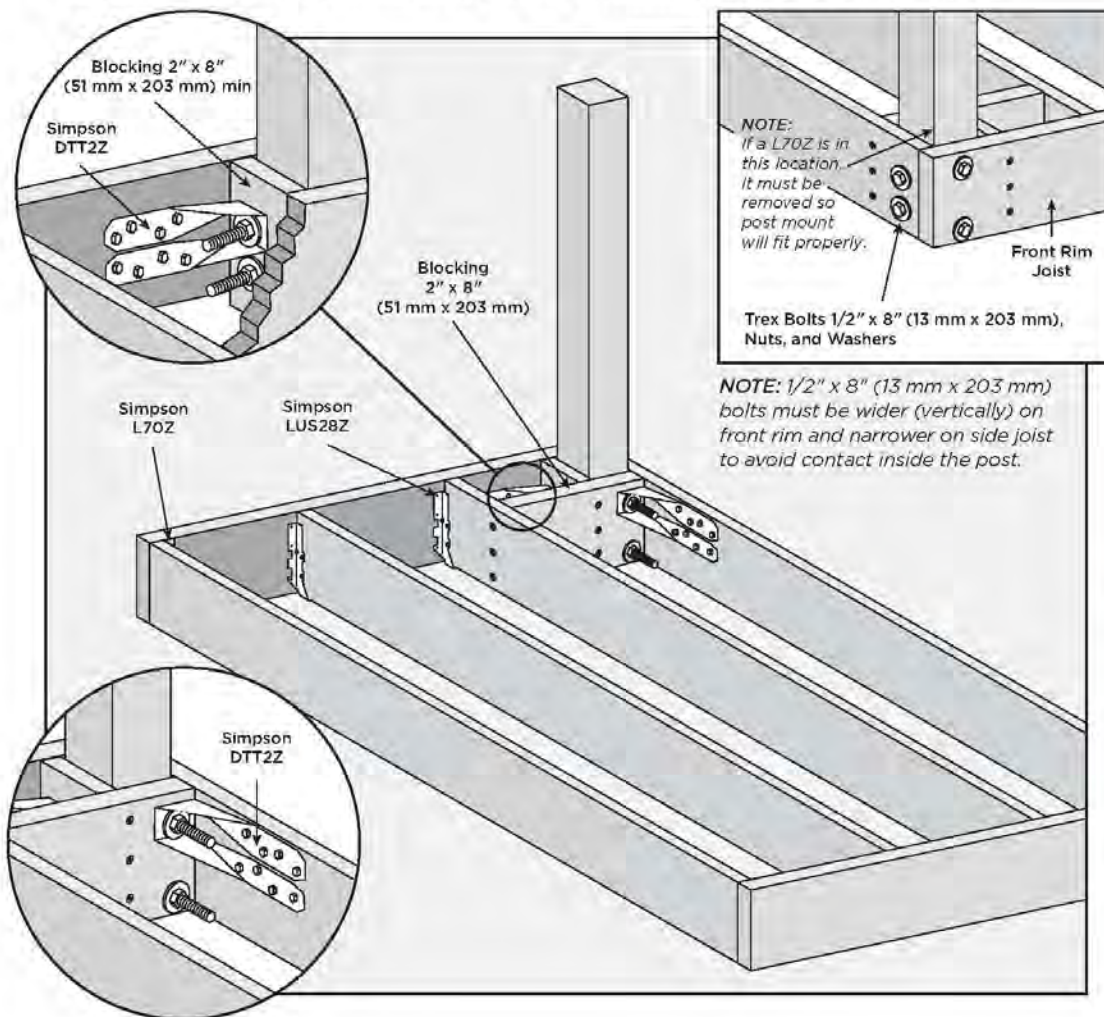
INSIDE MOUNT (SIDE JOIST)

- » TREX SUPPLIES (2) HG 1/2" X 8" (13 MM X 203 MM) BOLTS, NUTS, AND WASHERS.
- » CUSTOMER MUST SUPPLY ADDITIONAL HG 1/2" X 8" (13 MM X 203 MM) BOLTS, NUTS, AND WASHERS.



INSIDE MOUNT (CORNER)

- » TREX SUPPLIES (2) HG 1/2" X 8" (13 MM X 203 MM) BOLTS, NUTS, AND WASHERS.
- » CUSTOMER MUST SUPPLY ADDITIONAL HG 1/2" X 8" (13 MM X 203 MM) BOLTS, NUTS, AND WASHERS.

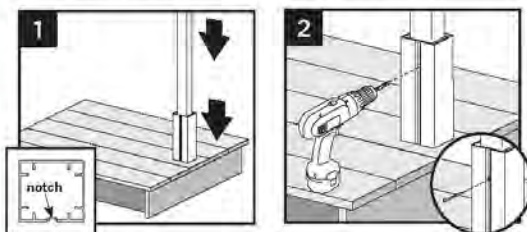


NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

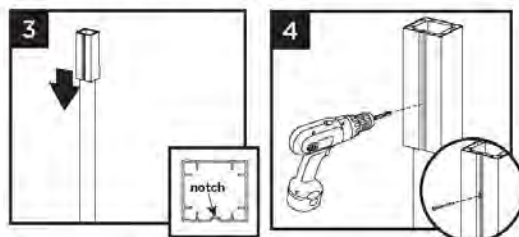
COMPOSITE POST SLEEVE APPLICATIONS

Installation of Guide Blocks and Railing

NOTE: Pre-drilling is not required but is optional for attachment of guide blocks to post. Use a drill bit slightly smaller in size than that of screw being installed.



1. Place or rest bottom aluminum guide block on bottom of post. Place guide on post so that notch is on a side that does not require railing to be attached.
2. Attach bottom guide block using one 10 x 1" self-tapping screw (*provided*) in notch to lock guide block onto post.



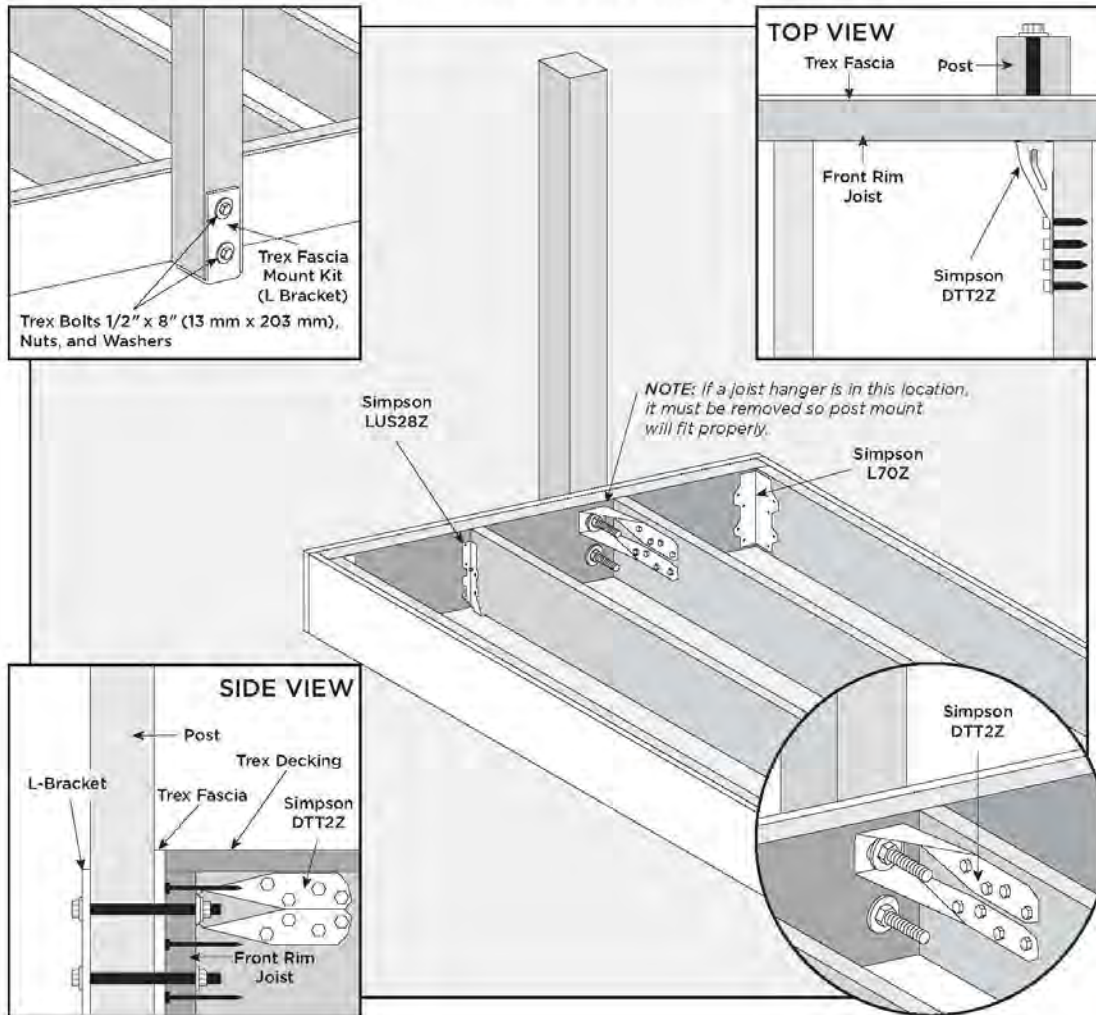
3. Location of top guide block will vary slightly based on type and height of railing being installed. Determine this measurement and place top guide block in location where top bracket for desired railing would be approximately on center of the top railing bracket location.
4. Attach top guide block using one 10 x 1" self-tapping screw (*provided*) in notch to lock guide block onto post.

- » If using the joist mount post with composite post sleeve, a quantity of 18 #8-15 x 1-1/4" screws are provided to cover all types of Trex railing bracket installations (Trex Signature, Transcend and Select). Therefore, depending on the type railing being installed, you may have screws that are not used.
- » If using 6x6 post sleeves, attach designated railing brackets using #8-15 x 1-3/4" (4.4 cm) 316 stainless steel screws (not provided).
- » **Pre-drilling IS REQUIRED** when attaching brackets to designated posts. Use a 9/64" (3.6 mm) drill bit to predrill at specified locations according to instructions provided with railing kits.

FASCIA MOUNT (FRONT RIM PLATE - NEXT TO JOIST)

» FOR USE WITH TREX SIGNATURE 6' RAILING SECTIONS ONLY.

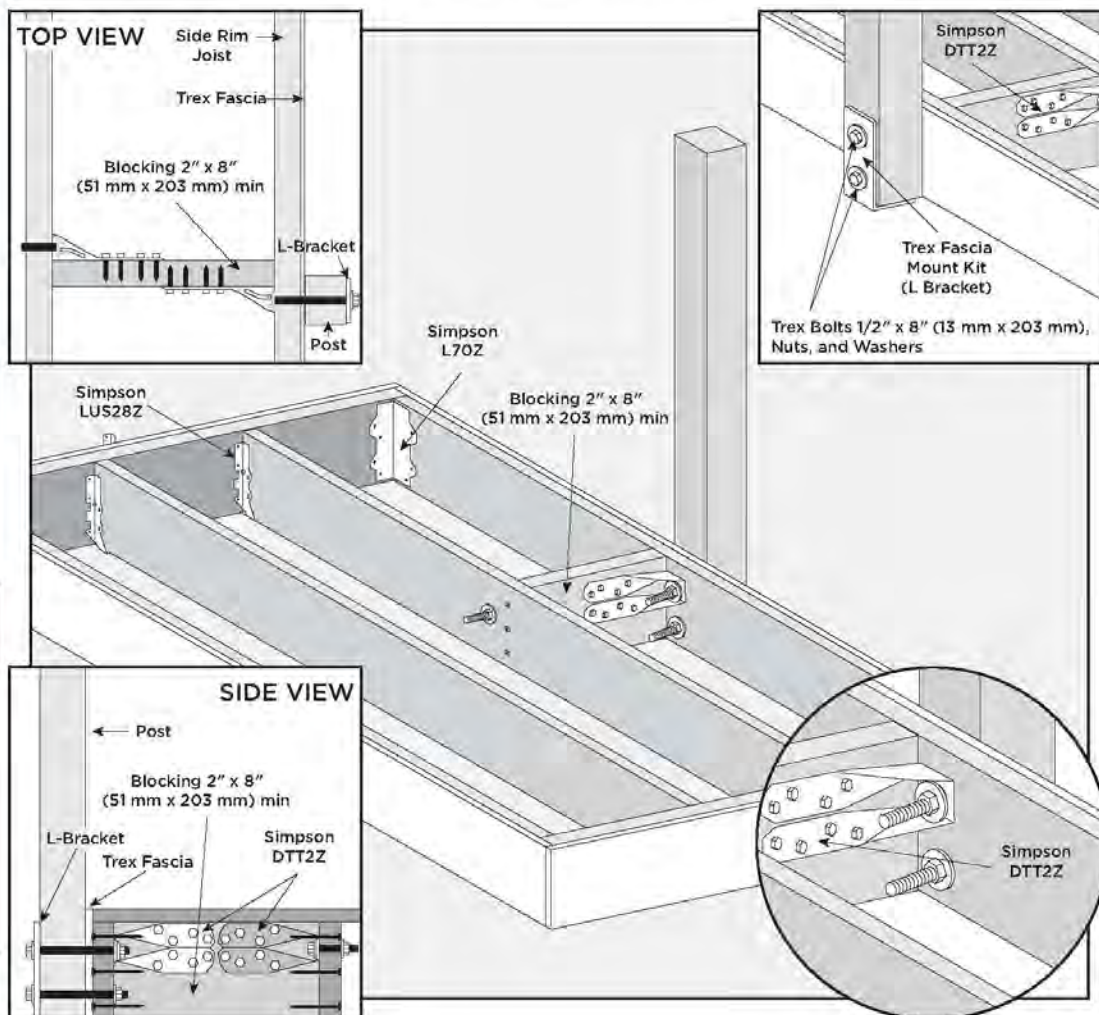
» TREX SUPPLIES (2) HG 1/2" X 8" (13 mm x 203 mm) BOLTS, NUTS, AND WASHERS.



FASCIA MOUNT (SIDE JOIST - WITH BLOCKING)

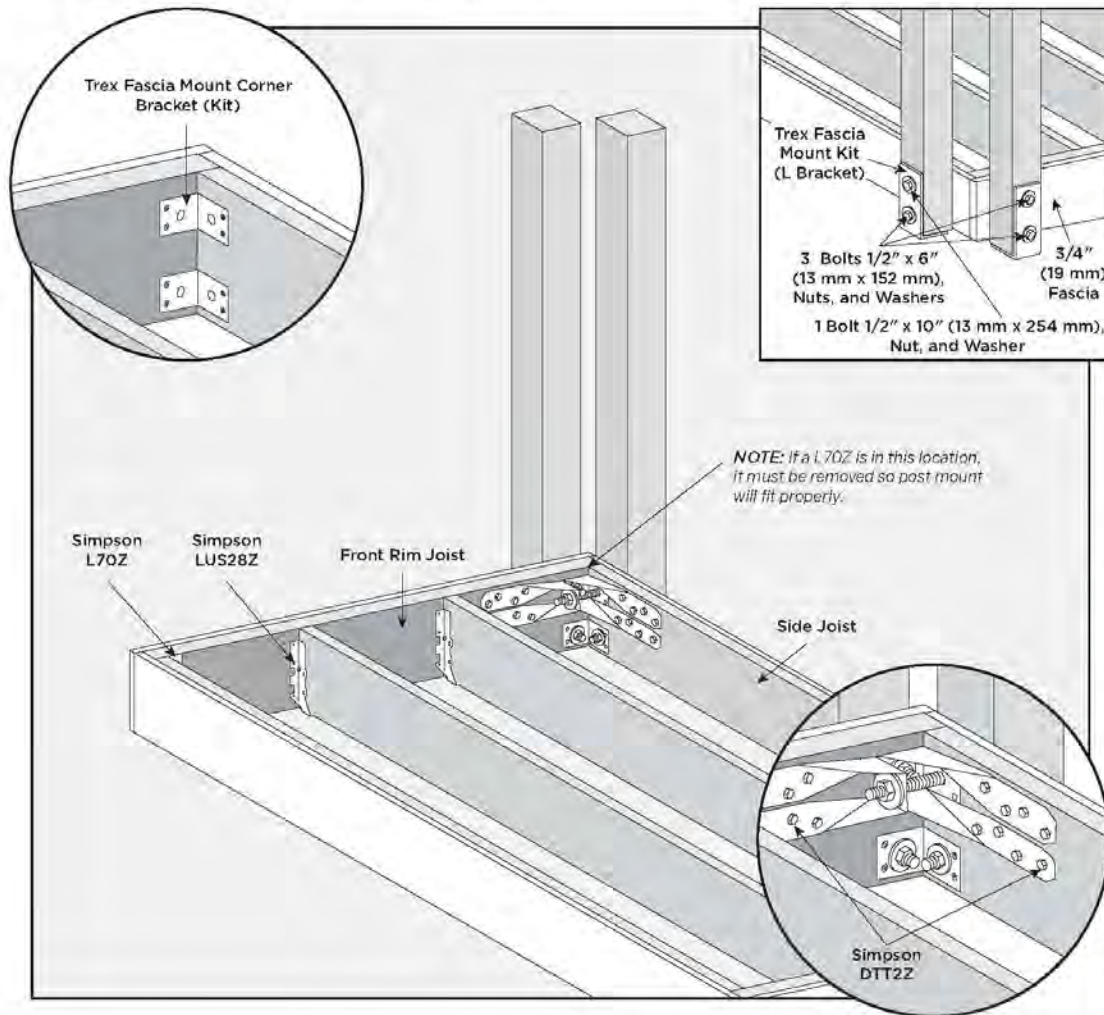
» TREX SUPPLIES (2) HG 1/2" X 8" (13 mm x 203 mm) BOLTS, NUTS, AND WASHERS.

» CUSTOMER MUST SUPPLY ADDITIONAL HG 1/2" X 8" (13 mm x 203 mm) BOLTS, NUTS, AND WASHERS.



FASCIA MOUNT (OUTSIDE FRAME CORNER)

- » 3/4" (19 mm) FASCIA MUST BE USED, OR BOLTS MUST BE CUT DOWN.
- » INSTALL POST TIGHTLY ON RIM JOIST FIRST – NUTS WILL BE INACCESSIBLE LATER.
- » MUST USE TREX FASCIA MOUNT CORNER BRACKET KIT.

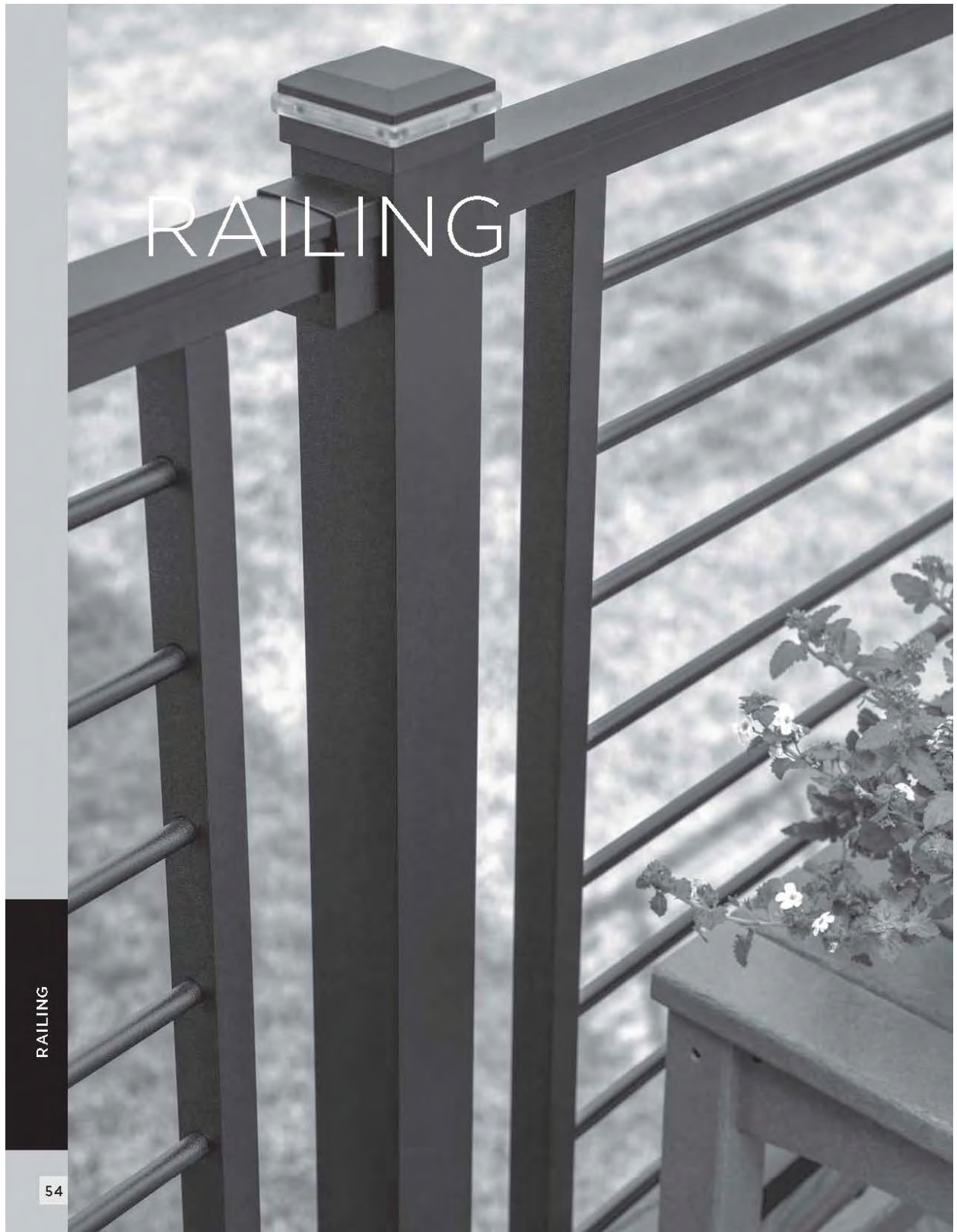


1. Install post on rim joist and fully tighten using Simpson DTT2Z on top bolt.
2. Run 10" (254 mm) bolt through gap in existing Simpson DTT2Z and tighten into second DTT2Z.
3. Install bottom bolt.

TREX SIGNATURE RAILING APPLICATIONS

Installation of Railing

1. All required hardware is included with Trex Signature railing, follow Trex Signature railing instructions for complete installation requirements.



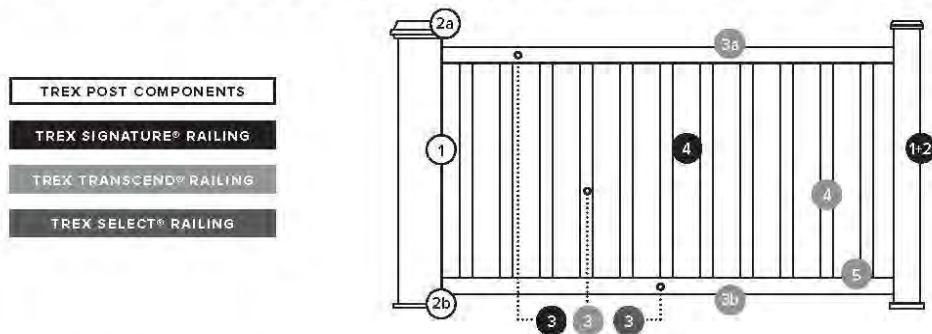
RAILING

RAILING

54







TREX RAILING—three lines, endless possibilities

Please read the system descriptions at the top of each product section so you can choose exactly which railing components you need to complete your design. For additional guidance, the chart below depicts each railing system's components.



Trex Post Sleeves, Caps & Skirts

These components can be used as steps 1 & 2 for all Trex railing lines.

| STEP | COMPONENT | DESCRIPTION | ITEM # |
|-------------|--|---|--|
| 1 | Post Sleeve Each 4x4 and 6x6 post sleeve fits over a 4x4 pressure treated post or equivalent post mount. <i>Dimensions are nominals. See below for actuals and metrics.</i> [4.45 in x 4.45 in x 40 in (113 mm x 113 mm x 101 cm) external dimensions] [4.45 in x 4.45 in x 108 in (113 mm x 113 mm x 274 cm) external dimensions] [5.5 in x 5.5 in x 39 in (139 mm x 139 mm x 990 mm) external dimensions] [5.5 in x 5.5 in x 108 in (139 mm x 139 mm x 274 cm) external dimensions] |  4" x 4" x 39" Post Sleeve 4" x 4" x 108" Post Sleeve  6" x 6" x 39" Post Sleeve 6" x 6" x 108" Post Sleeve | XX040439APS XX0404108APS WT060639APS WT0606108APS |
| 2a | Post Sleeve Cap Also available with LED lighting. See page 50. <i>Dimensions are nominals. See below for actuals and metrics.</i> [4.55 in x 4.55 in (115 mm x 115 mm) internal dimensions] [5.55 in x 5.55 in (140 mm x 140 mm) internal dimensions] |  Flat 4" x 4" Post Sleeve Cap Flat 6" x 6" Post Sleeve Cap | PX0SQCAP4X4 PWTSQCAP6X6 |
| 2b | Post Sleeve Skirt <i>Dimensions are nominals. See below for actuals and metrics.</i> [4.55 in x 4.55 in (115 mm x 115 mm) internal dimensions] [5.55 in x 5.55 in (140 mm x 140 mm) internal dimensions] |  4" x 4" Post Sleeve Skirt 6" x 6" Post Sleeve Skirt | PX0SKIRT4X4 PWTSKIRT6X6 |
| ACCESSORIES | COMPONENT | DESCRIPTION | ITEM # |
| | Surface Mount Post For use with 4x4 composite post sleeve. <i>Actual external dimensions of insert:</i> 3.75 in x 3.75 in x 7 in (95 mm x 95 mm x 177 mm) 3.75 in x 3.75 in x 7 in (95 mm x 95 mm x 177 mm) |  Aluminum Surface Mount Post for 36" (914 mm) Rail Height (1/box) Aluminum Surface Mount Post for 42" (1066 mm) Rail Height (1/box) Surface Mount Post Hardware—Wood (10 kits/box) | ALPOSTMOUNT36 ALPOSTMOUNT42 ALPOSTHWDECK |
| | Joist Mount Post For use with 4x4 composite post sleeve. <i>Actual external dimensions of insert:</i> 3.75 in x 3.75 in x 7 in (95 mm x 95 mm x 177 mm) |  Aluminum Joist Mount Post for use with all Trex railing heights (1/box) | CPJMNTPOST63 |

XX = COLOR PREFIX

| | | |
|------------------|----------------|--------------------|
| WT Classic White | GP Gravel Path | TH Tree House |
| BK Charcoal | RS Rope Swing | VL Vintage Lantern |

Trex Signature® Railing

Choose either aluminum posts or composite post sleeves, caps and skirts for steps 1 & 2.
Pair with a rail kit (step 3) and infill panel (step 4) if needed.

| STEP | DESCRIPTION | ITEM # | DESCRIPTION | ITEM # |
|------|---|--|---|------------------------------|
| 1+2 | Aluminum Posts | | | |
| | Can only be used within the Trex Signature line. Trex Signature aluminum posts fulfill steps 1 & 2. If using composite post sleeves, refer to page 55. | | | |
| | 2.5" x 2.5" x 37" Aluminum Post—Horizontal 2.5" x 2.5" x 43" Aluminum Post—Horizontal 2.5" x 2.5" x 53" Aluminum Post—Stair <i>Comes with cap and skirt</i> | XXAL252537RCAP XXAL252543RCAP XXAL252553RCAP | IRC Aluminum Mounting Plate & Hardware <i>For use with all Trex 2.5" Surface Mount Aluminum Posts.</i> Concrete Post Mount Kit | ALPOSTHWDECK ALPOSTHWCONC |
| | 2.5" x 2.5" x 36" Crossover Post—Horizontal 2.5" x 2.5" x 42" Crossover Post—Horizontal <i>Comes with skirt</i> | XXAL252536RCCP XXAL252542RCCP | 2.5" x 2.5" x 63" Aluminum Joist Mount Post <i>Comes with cap and skirt</i> Trex Signature Fascia Mount Kit - wood framing <i>For use with Joist Mount Trex Signature Railing Post only.</i> | XXJWNTPOST63 XXFMNTWOOD |
| | 2.5" x 2.5" x 37" Line Post with Premounted Brackets 2.5" x 2.5" x 37" End Post with Premounted Brackets 2.5" x 2.5" x 37" Corner Post with Premounted Brackets 2.5" x 2.5" x 43" Line Post with Premounted Brackets 2.5" x 2.5" x 43" End Post with Premounted Brackets 2.5" x 2.5" x 43" Corner Post with Premounted Brackets <i>Comes with cap and skirt</i> | BKAL252537RCAPLINE BKAL252537RCAPEND BKAL252537RCAPCNR BKAL252543RCAPLINE BKAL252543RCAPEND BKAL252543RCAPCNR | <i>Dimensions are nominal. See below for actuals and metrics.</i> [2.5 in x 2.5 in x 36 in (63 mm x 63 mm x 914 mm) actual dimensions] [2.5 in x 2.5 in x 37 in (63 mm x 63 mm x 939 mm) actual dimensions] [2.5 in x 2.5 in x 42 in (63 mm x 63 mm x 106 cm) actual dimensions] [2.5 in x 2.5 in x 43 in (63 mm x 63 mm x 109 cm) actual dimensions] [2.5 in x 2.5 in x 53 in (63 mm x 63 mm x 134 cm) actual dimensions] [2.5 in x 2.5 in x 63 in (63 mm x 63 mm x 160 cm) actual dimensions] | |

| STEP | DESCRIPTION | ITEM # | DESCRIPTION | ITEM # |
|------|--|--|--|--|
| 3 | Rail & Baluster Kit | | | |
| | <i>(Includes top rail, bottom rail, balusters and mounting and support hardware)</i> <i>Available in WT, BZ, and BK.</i> | | | |
| | 6' x 36" Rail Kit w. Round Balusters—Horizontal 6' x 36" Rail Kit w. Round Balusters—Stair 8' x 36" Rail Kit w. Round Balusters—Horizontal 8' x 36" Rail Kit w. Round Balusters—Stair | BKAR0636HRK BKAR0636SRK BKAR0836HRK BKAR0836SRK | 6' x 42" Rail Kit w. Square Balusters—Horizontal 6' x 42" Rail Kit w. Square Balusters—Stair 8' x 42" Rail Kit w. Square Balusters—Horizontal 8' x 42" Rail Kit w. Square Balusters—Stair | XXAS0642HRK XXAS0642SRK XXAS0842HRK XXAS0842SRK |
| | 6' x 42" Rail Kit w. Round Balusters—Horizontal 6' x 42" Rail Kit w. Round Balusters—Stair 8' x 42" Rail Kit w. Round Balusters—Horizontal 8' x 42" Rail Kit w. Round Balusters—Stair | BKAR0642HRK BKAR0642SRK BKAR0842HRK BKAR0842SRK | 4' x 36" Assembled Panel (Square)—Horizontal 6' x 36" Assembled Panel (Square)—Horizontal 6' x 36" Assembled Panel (Square)—Stair 8' x 36" Assembled Panel (Square)—Horizontal 8' x 36" Assembled Panel (Square)—Stair 4' x 42" Assembled Panel (Square)—Horizontal 6' x 42" Assembled Panel (Square)—Horizontal 6' x 42" Assembled Panel (Square)—Stair 8' x 42" Assembled Panel (Square)—Horizontal 8' x 42" Assembled Panel (Square)—Stair | BKAS0436HRPNL BKAS0636HRPNL BKAS0636SRPNL BKAS0836HRPNL BKAS0836SRPNL BKAS0442HRPNL BKAS0642HRPNL BKAS0642SRPNL BKAS0842HRPNL BKAS0842SRPNL |
| | 6' x 36" Rail Kit w. Square Balusters—Horizontal 6' x 36" Rail Kit w. Square Balusters—Stair 8' x 36" Rail Kit w. Square Balusters—Horizontal 8' x 36" Rail Kit w. Square Balusters—Stair | XXAS0636HRK XXAS0636SRK XXAS0836HRK XXAS0836SRK | <i>Does not include hardware. Assembled Panels available in BK.</i> | |


| | | | | |
|---|--|--|---|--|
| 3 | Rod Rail Kit | | | |
| | <i>(Includes top rail, bottom rail, rods and mounting and support hardware)</i> | | | |
| | 6' x 36" Black Rails & Platinum Rods Kit—Horizontal 6' x 36" Black Rails & Platinum Rods Kit—Stair 8' x 36" Black Rails & Platinum Rods Kit—Horizontal 8' x 36" Black Rails & Platinum Rods Kit—Stair | BKPLROD0636HRK BKPLROD0636SRK BKPLROD0836HRK BKPLROD0836SRK | 6' x 42" Black Rails & Black Rods Kit—Horizontal 6' x 42" Black Rails & Black Rods Kit—Stair 8' x 42" Black Rails & Black Rods Kit—Horizontal 8' x 42" Black Rails & Black Rods Kit—Stair | BKBKR0D0642HRK BKBKR0D0642SRK BKBKR0D0842HRK BKBKR0D0842SRK |
| | 6' x 36" Bronze Rails & Platinum Rods Kit—Horizontal 6' x 36" Bronze Rails & Platinum Rods Kit—Stair 8' x 36" Bronze Rails & Platinum Rods Kit—Horizontal 8' x 36" Bronze Rails & Platinum Rods Kit—Stair | BZPLROD0636HRK BZPLROD0636SRK BZPLROD0836HRK BZPLROD0836SRK | 36" Rod Rail Vertical Kit—Horizontal 36" Rod Rail Vertical Kit—Stair 42" Rod Rail Vertical Kit—Horizontal 42" Rod Rail Vertical Kit—Stair <i>Uses an accessory for cut rod rail sections.</i> <i>Available in BK and PL.</i> | XX36R0D0HVERTK XX36R0D0SVERTK XX42R0D0HVERTK XX42R0D0SVERTK |
| | 6' x 36" Black Rails & Black Rods Kit—Horizontal 6' x 36" Black Rails & Black Rods Kit—Stair 8' x 36" Black Rails & Black Rods Kit—Horizontal 8' x 36" Black Rails & Black Rods Kit—Stair | BKBKR0D0636HRK BKBKR0D0636SRK BKBKR0D0836HRK BKBKR0D0836SRK | <i>Dimensions are nominal. See below for actuals and metrics.</i> [4' x 36" 48 in x 36 in (122 cm x 914 mm) actual dimensions] [4' x 42" 48 in x 42 in (122 cm x 106 cm) actual dimensions] [6' x 36" 72 in x 36 in (182 cm x 914 mm) actual dimensions] [6' x 36" 96 in x 36 in (243 cm x 914 mm) actual dimensions] [6' x 42" 72 in x 42 in (182 cm x 106 cm) actual dimensions] [8' x 42" 96 in x 42 in (243 cm x 106 cm) actual dimensions] | |
| | 6' x 42" Black Rails & Platinum Rods Kit—Horizontal 6' x 42" Black Rails & Platinum Rods Kit—Stair 8' x 42" Black Rails & Platinum Rods Kit—Horizontal 8' x 42" Black Rails & Platinum Rods Kit—Stair | BKPLROD0642HRK BKPLROD0642SRK BKPLROD0842HRK BKPLROD0842SRK | | |
| | 6' x 42" Bronze Rails & Platinum Rods Kit—Horizontal 6' x 42" Bronze Rails & Platinum Rods Kit—Stair 8' x 42" Bronze Rails & Platinum Rods Kit—Horizontal 8' x 42" Bronze Rails & Platinum Rods Kit—Stair | BZPLROD0642HRK BZPLROD0642SRK BZPLROD0842HRK BZPLROD0842SRK | | |

XX = COLOR PREFIX

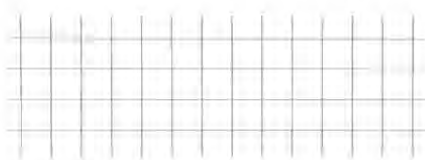
WT Classic White BZ Bronze BK Charcoal Black PL Platinum



NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

| STEP | COMPONENT | DESCRIPTION | ITEM # |
|------|---|--|---|
| 3 | Mesh Rail Kit <i>(Includes top rail, bottom rail, foot block, verticals, anti-rattle gaskets, hardware and bracket pack)</i> <i>Available in BK and BZ. Mesh Infill sold separately.</i> |  | 6' x 36" Mesh Railing Kit—Horizontal 6' x 36" Mesh Railing Kit—Stair 8' x 36" Mesh Railing Kit—Horizontal 8' x 36" Mesh Railing Kit—Stair 6' x 42" Mesh Railing Kit—Horizontal 6' x 42" Mesh Railing Kit—Stair 8' x 42" Mesh Railing Kit—Horizontal 8' x 42" Mesh Railing Kit—Stair 36" Mesh Railing Vertical Kit—Horizontal 36" Mesh Railing Vertical Kit—Stair 42" Mesh Railing Vertical Kit—Horizontal 42" Mesh Railing Vertical Kit—Stair <i>Use as an accessory for cut mesh railing sections.</i> |
| | <i>Dimensions are nominal. See below for actuals and metrics.</i> [6' x 36": 72 in x 36 in (182 cm x 914 mm) actual dimensions] [8' x 36": 96 in x 36 in (243 cm x 914 mm) actual dimensions] [6' x 42": 72 in x 42 in (182 cm x 106 cm) actual dimensions] [8' x 42": 96 in x 42 in (243 cm x 106 cm) actual dimensions] | XXA0636PNLHRK XXA0636PNLSRK XXA0836PNLHRK XXA0836PNLSRK XXA0642PNLHRK XXA0642PNLSRK XXA0842PNLHRK XXA0842PNLSRK XX36MSHHVERTK XX36MSHSVERTK XX42MSHHVERTK XX42MSHSVERTK | |

| | | | | |
|---|--|---|--|------------|
| 3 | Glass Rail Kit <i>(Includes top rail, bottom rail, foot block, verticals, hardware and bracket pack)</i> <i>Available in BK and WT. Glass Infill sold separately. Visit glass.trex.com to order custom glass panels to complete your build.</i> |  | 6' Glass Railing Kit—Horizontal <i>Dimension above is nominal. See below for actual and metric.</i> [6': 72 in (182 cm) actual dimension] | XXA06HGLRK |
| | | | | |
| | | | | |

| | | | | |
|---|--|---|--|--------------|
| 4 | Mesh Panel <i>(Includes stainless steel mesh panel)</i> For use with Trex Signature Mesh Rail Kit |  | 6' x 36" Stainless Steel Mesh Panel—Horizontal | SSMESH0636HZ |
| | | | 8' x 36" Stainless Steel Mesh Panel—Horizontal | SSMESH0836HZ |
| | | | 8' x 42" Stainless Steel Mesh Panel—Horizontal | SSMESH0842HZ |
| | | | Universal 316 Stainless Steel Mesh Panel—Stair | SSMESHUNIVST |
| <hr/> | | | | |
| <i>Dimensions are nominal. See below for actuals and metrics.</i> | | | | |
| [6' x 36": 64 in x 32.375 in (162 cm x 822 mm) actual dimensions] | | | | |
| [8' x 36": 88 in x 32.375 in (223 cm x 822 mm) actual dimensions] | | | | |
| [8' x 42": 88 in x 38.375 in (223 cm x 974 mm) actual dimensions] | | | | |
| [Universal 316: 108.1875 in x 36.1875 in (274 cm x 919 mm) actual dimensions] | | | | |

| | | | |
|---|--|--|--|
| 4 | Glass Panel For use with Trex Signature Glass Rail Kit. Visit glass.trex.com to order custom glass panels to complete your build. | for 36" Rail Height—Horizontal for 42" Rail Height—Horizontal | |
| | | | |







| ACCESSORIES | COMPONENT | ITEM # | COMPONENT | ITEM # |
|---|--|--------------------------|---|---|
|  | Signature Bracket Template—Horizontal (36" and 42") - Composite Sleeve | SIGTEMP4X4SLEEVE | Cocktail Rail Bracket (10/pack) Tabless Fixed Bracket—Horizontal (4/pack) Fixed Bracket—Stair (4/pack) Swivel Bracket—Horizontal (2/pack—1 top, 1 bottom) Swivel Bracket—Stair (2/pack—1 top, 1 bottom) | XXCTBKAL10PK XXFHBKALPNL XXFSBKAL XXSWHBKAL XXSWSBKAL |
| | Signature Bracket Template—Horizontal (36" and 42") - 2.5" Aluminum Post | SIGTEMPRCPOST | 2.5" Crossover Bracket—Horizontal (1/pack) 90° Crossover Bracket—Horizontal (1/pack) 2.5" Swivel Crossover Bracket—Stair (1/pack) Compound Swivel Bracket (2/pack—1 top, 1 bottom) | XX25FHCBKAL XX90FHCBKAL XX25RCSWSCBKAL XXCPDSWBKAL |
|  | Aluminum Foot Block Extended Aluminum Foot Block | XXALFTBLK XXAL08FTBLK | Rail End Cap Touch-up Pen | XXXOVERENDCAP XXTOUCHUPPEN |

XX = COLOR PREFIX

WT Classic White BZ Bronze BK Charcoal Black

Trex Transcend® Railing

Transcend is either a 3-step or 5-step process. Choose Trex post sleeves, caps and skirts (steps 1 & 2), then choose a rail kit (step 3). OR choose each component individually for a custom design (steps 3a, 3b, 4 & 5).

| STEP | COMPONENT | DESCRIPTION | ITEM # | COLOR | | | | | | | | | | | | | | | | | | | |
|---|---|---|--|--|------------------------|----------|-------------|------------|------------|------------------|------------|----|----|-------|----|----|----------------|------------|----|----|-------|----|----|
| 3 | Rail & Square Composite Baluster Kit <i>(Includes Crown top rail, Universal bottom rail, square composite balusters, baluster spacers, adjustable foot block and mounting hardware)</i> <i>Color option indicates rails and balusters.</i> |  | 6' x 36" Rail & Baluster Kit—Horizontal 6' x 36" Rail & Baluster Kit—Stair 8' x 36" Rail & Baluster Kit—Horizontal 8' x 36" Rail & Baluster Kit—Stair | XX0636HRK WT0636SRK XX0836HRK XX0836SRK | WT, BK, VL | | | | | | | | | | | | | | | | | | |
| | |  | 6' x 42" Rail & Baluster Kit—Horizontal 8' x 42" Rail & Baluster Kit—Horizontal 8' x 42" Rail & Baluster Kit—Stair | XX0642HRK XX0842HRK XX0842SRK | WT, BK, VL | | | | | | | | | | | | | | | | | | |
| 3 | Rail & Round Aluminum Baluster Kit <i>(Includes Crown top rail, Universal bottom rail, round aluminum balusters, baluster spacers, adjustable foot block and mounting hardware)</i> <i>Color option indicates rails. Round aluminum balusters come in BK.</i> |  | 6' x 36" Rail & Baluster Kit—Horizontal 8' x 36" Rail & Baluster Kit—Horizontal 8' x 36" Rail & Baluster Kit—Stair | XXRD0636HRK XXRD0836HRK XXRD0836SRK | WT, BK, VL | | | | | | | | | | | | | | | | | | |
| | |  | 6' x 42" Rail & Baluster Kit—Horizontal 8' x 42" Rail & Baluster Kit—Horizontal 8' x 42" Rail & Baluster Kit—Stair | XXRD0642HRK XXRD0842HRK XXRD0842SRK | WT, BK, VL | | | | | | | | | | | | | | | | | | |
| 3 | Cocktail Rail & Round Aluminum Baluster Kit <i>(Includes Universal top/bottom rails, round aluminum balusters, baluster spacers, adjustable foot block and mounting hardware)</i> <i>Round aluminum balusters come in BK.</i> <i>Only Trex Transcend and Select deck boards can be used for cocktail rail application.</i> |  | 6' x 36" Cocktail Rail & Baluster Kit—Horizontal 8' x 36" Cocktail Rail & Baluster Kit—Horizontal 8' x 36" Cocktail Rail & Baluster Kit—Stair | WTRD0636HRKCKTL WTRD0836HRKCKTL WTRD0836SRKCKTL | WT | | | | | | | | | | | | | | | | | | |
| <i>Dimensions are nominal. See below for actuals and metrics:</i> 6' x 36": 67.5 in x 36 in (171 cm x 914 mm) 6' x 42": 67.5 in x 42 in (171 cm x 106 cm) 8' x 36": 91.5 in x 36 in (232 cm x 914 mm) 8' x 42": 91.5 in x 42 in (232 cm x 106 cm) | | | | | | | | | | | | | | | | | | | | | | | |
| 3a | Top Rail Universal top rail is used for cocktail rail applications. |  | 6' Crown Top Rail 8' Crown Top Rail 6' Universal Top/Bottom Rail 8' Universal Top/Bottom Rail | XXCROWNTR06 XXCROWNTR08 XXUNIVTR06 XXUNIVTR08 | WT, BK, GP, RS, TH, VL | | | | | | | | | | | | | | | | | | |
| 3b | Bottom Rail |  | 6' Universal Top/Bottom Rail 8' Universal Top/Bottom Rail | XXUNIVTR06 XXUNIVTR08 | WT, BK, GP, RS, TH, VL | | | | | | | | | | | | | | | | | | |
| 4 | Balusters See chart below for number of balusters needed to complete each railing section. <i>Composite balusters are available in WT, BK, GP, RS, TH and VL.</i> <i>Aluminum balusters are available in WT, BZ and BK.</i> |  | Square Composite Balusters for 36" Rail Height (16/pack) Square Composite Balusters for 42" Rail Height (16/pack) | XX020230SBK XX020238SBK | WT, BK, GP, RS, TH, VL | | | | | | | | | | | | | | | | | | |
| | | | Round Aluminum Balusters for 36" Rail Height (20/pack) Round Aluminum Balusters for 42" Rail Height (20/pack) | XXTA30RBK XXTA38RBK | WT, BZ, BK | | | | | | | | | | | | | | | | | | |
| <i>Dimensions are nominal. See below for actuals and metrics:</i> 6" Rail: 67.5 in (171 cm) 8" Rail: 91.5 in (232 cm) Composite 36" Baluster: 1.418 in x 1.418 in x 30.375 in (36 mm x 36 mm x 771 mm) Composite 42" Baluster: 1.418 in x 1.418 in x 36.375 in (36 mm x 36 mm x 923 mm) Aluminum 36" Baluster: .75 in x 30.25 in (19 mm x 768 mm) Aluminum 42" Baluster: .75 in x 36.25 in (19 mm x 920 mm) | | | | | | | | | | | | | | | | | | | | | | | |
| <table><tr><th>BALUSTER</th><th>ORIENTATION</th><th>6" SECTION</th><th>8" SECTION</th></tr><tr><td rowspan="2">Square composite</td><td>Horizontal</td><td>13</td><td>18</td></tr><tr><td>Stair</td><td>11</td><td>15</td></tr><tr><td rowspan="2">Round aluminum</td><td>Horizontal</td><td>15</td><td>20</td></tr><tr><td>Stair</td><td>12</td><td>16</td></tr></table> | | | | | | BALUSTER | ORIENTATION | 6" SECTION | 8" SECTION | Square composite | Horizontal | 13 | 18 | Stair | 11 | 15 | Round aluminum | Horizontal | 15 | 20 | Stair | 12 | 16 |
| BALUSTER | ORIENTATION | 6" SECTION | 8" SECTION | | | | | | | | | | | | | | | | | | | | |
| Square composite | Horizontal | 13 | 18 | | | | | | | | | | | | | | | | | | | | |
| | Stair | 11 | 15 | | | | | | | | | | | | | | | | | | | | |
| Round aluminum | Horizontal | 15 | 20 | | | | | | | | | | | | | | | | | | | | |
| | Stair | 12 | 16 | | | | | | | | | | | | | | | | | | | | |

XX = COLOR PREFIX

Composite Colors



| | | |
|-------------------|----------------|--------------------|
| WT Classic White | GP Gravel Path | TH Tree House |
| BK Charcoal Black | RS Rope Swing | VL Vintage Lantern |

Aluminum Colors

| | |
|------------------|-------------------|
| WT Classic White | BK Charcoal Black |
| BZ Bronze | |



Trex Transcend® Railing

Transcend is either a 3-step or 5-step process. Choose Trex post sleeves, caps and skirts (steps 1 & 2), then choose a rail kit (step 3).
OR choose each component individually for a custom design (steps 3a, 3b, 4 & 5).

| STEP | COMPONENT | DESCRIPTION | ITEM # | COLOR |
|---|--|---|--|------------------------|
| 5 | Accessory Infill Kit <i>(includes, baluster spacers, adjustable foot block and mounting hardware)</i> <i>Dimensions are nominal. See below for actuals and metrics.</i> 6": 67.5 in (171 cm) 8": 91.5 in (232 cm) | 6' Accessory Infill Kit for Square Composite Balusters—Horizontal | XXSQHK06 | WT, BK, GP, RS, TH, VL |
| | | 6' Accessory Infill Kit for Square Composite Balusters—Stair | XXSQSK06 | |
| | | 8' Accessory Infill Kit for Square Composite Balusters—Horizontal | XXSQHK08 | |
| | | 8' Accessory Infill Kit for Square Composite Balusters—Stair | XXSQSK08 | |
| | | 6' Accessory Infill Kit for Round Aluminum Balusters—Horizontal | XXRDHK06 | WT, BK, GP, RS, TH, VL |
| | | 6' Accessory Infill Kit for Round Aluminum Balusters—Stair | XXRDSK06 | |
| | | 8' Accessory Infill Kit for Round Aluminum Balusters—Horizontal | XXRDHK08 | |
| | | 8' Accessory Infill Kit for Round Aluminum Balusters—Stair | XXRDSK08 | |
| | | 6' Glass Panel Accessory Infill Kit | XXGLK06 | WT, BK, GP, RS, TH, VL |
| ACCESSORIES | COMPONENT | ITEM # | COMPONENT | ITEM # |
|  | Transcend Bracket Template—Horizontal (36" and 42")—Composite Sleeve | TSCTEMP4X4SLEEVE | Mounting Hardware for Cut Rails—Horizontal | XXHZACCYKIT |
| | | | Mounting Hardware for Cut Rails—Stair | XXSTACCYKIT |
|  | Foot Block | XXFTBLKPC | Transcend RSB Bracket Pack—Horizontal (24/box) | TSHBRACKET |
| | | | Transcend RSB Bracket Pack—Stair (24/box) | TSSBRACKET |
| | | | 0 Degree Rail Gasket Pack—Horizontal | XX00HGASK |
| | | | 0 Degree Rail Gasket Pack—Stair | XX00SGASK |
| | | | 22.5 Degree Gasket Pack | XX22HGASK |
| | | | 45 Degree Blidsmouth Gasket Pack (for 4x4) | XX45RSBADAPK |
| | | | 45 Degree Gasket Pack (for 6x6) | WT45HGASK |

Trex Select® Railing

Trex Select is a 3-step process. Choose Trex post sleeves, caps and skirts (steps 1 & 2) and a rail kit (step 3).

| STEP | COMPONENT | DESCRIPTION | ITEM # |
|---|---|---|---------------|
| 3 | Rail & Round Aluminum Baluster Kit <i>(includes top rail, bottom rail, round aluminum balusters, adjustable foot block and hardware pack)</i> <i>Available in WT rails with aluminum balusters in BK.</i> <i>Dimensions are nominal. See below for actuals and metrics.</i> 6' x 36": 67.5 in x 36 in (171 cm x 914 mm) 6' x 42": 67.5 in x 42 in (171 cm x 106 cm) 8' x 36": 91.5 in x 36 in (232 cm x 914 mm) 8' x 42": 91.5 in x 42 in (232 cm x 106 cm) | 6' x 36" Rail & Baluster Kit—Horizontal | WTRD0636HSELK |
| | | 6' x 36" Rail & Baluster Kit—Stair | WTRD0636SSELK |
| | | 8' x 36" Rail & Baluster Kit—Horizontal | WTRD0836HSELK |
| | | 8' x 36" Rail & Baluster Kit—Stair | WTRD0836SSELK |
| | | 6' x 42" Rail & Baluster Kit—Horizontal | WTRD0642HSELK |
| | | 6' x 42" Rail & Baluster Kit—Stair | WTRD0642SSELK |
| | | 8' x 42" Rail & Baluster Kit—Horizontal | WTRD0842HSELK |
| | | 8' x 42" Rail & Baluster Kit—Stair | WTRD0842SSELK |
| ACCESSORIES | COMPONENT | ITEM # | |
|  | Mounting Hardware for Cut Rails—Horizontal (10 kits/box) | BKENVHBKT | |
| | Mounting Hardware for Cut Rails—Stair (10 kits/box) | BKENSTBKT | |
|  | Trex Select 8" Aluminum Rail Stiffener | SELALRAILSTIFFENER | |

XX = COLOR PREFIX

Composite Colors

| | | |
|-------------------|----------------|--------------------|
| WT Classic White | GP Gravel Path | TH Tree House |
| BK Charcoal Black | RS Rope Swing | VL Vintage Lantern |

Trex Aluminum ADA-Compliant Handrail

| COMPONENT | ITEM # |
|--|------------------|
| 1.375 in x 8 ft (34 mm x 243 cm) Hand Rail | XXALADARAIL8 |
| Wall Return 90° | XXALADA90WR2G |
| Wall Mount | XXALADAWMNT2G |
| Corner Mount | XXALADAICORNER2G |
| Post Return ("Candy Cane") | XXALADA18OCCANE |
| 5° Elbow | XXALADA05ELB |
| 31° Elbow | XXALADA31ELB |
| 34° Elbow | XXALADA34ELB |
| 36° Elbow | XXALADA36ELB |
| 90° Inside/Outside Elbow | XXALADA90ELB2G |
| Adjustable ADA Elbow | XXALADAADJELB |
| Straight 4 in (101 mm) Internal Connector | XXALINTCONN |
| Inline Rail Termination Adapter | XXALADAINLINE |
| Rail End Cap | XXALADACAP |
| Aluminum Collar | XXALADACLRL |

All Trex ADA handrail components are made of powder-coated aluminum. For detailed installation instructions, visit trex.com/2022



- 1 36° Elbow
- 2 Wall Mount
- 3 Aluminum Collar
- 4 Wall Return 90°
- 5 Hand Rail

Trex Aluminum Gates

| COMPONENT | DESCRIPTION | ITEM # |
|--|---|--|
| Gate Rail Kit <i>Available in all aluminum colors (WT, BZ and BK). When ordering, refer to prefix codes at the bottom of this page.</i> | 36" Rail Height, Square Balusters, Adjustable up to 48" wide opening 36" Rail Height, Round Balusters, Adjustable up to 48" wide opening 42" Rail Height, Square Balusters, Adjustable up to 48" wide opening 42" Rail Height, Round Balusters, Adjustable up to 48" wide opening [Actual height 36" Rail: 36 in (914 mm); 42" Rail: 42 in (106 cm) Actual width is 47.5 in (120 cm) but can be cut to fit any width.] | XX36SQADJGATE XX36RDADJGATE XX42SQADJGATE XX42RDADJGATE |

Hardware Pack
Hardware for attachment to wood post with composite sleeve or aluminum posts



BKGATEHW



XX = COLOR PREFIX

WT Classic White BZ Bronze BK Charcoal Black

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

TREX TRANSCEND® HORIZONTAL RAILING

NOTES:

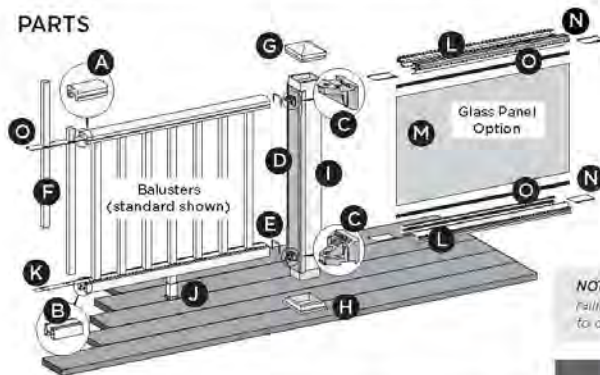
- » TREX TRANSCEND RAILINGS ARE DESIGNED TO BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST. NOTCHING OF PRESSURE-TREATED POSTS OR POSTS INSTALLED ON OUTSIDE OF RIM JOIST IS NOT ALLOWED.
- » All Trex Transcend railing lengths are manufactured at ON CENTER dimensions (spanning from center of each post): 67-5/8" (1718 mm) for 6' (1.83 m) on center, and 91-5/8" (2353 mm) for 8' (2.44 m) on center. Note that railings are designed to be slightly longer than required to allow for very slight play in post placement – some minimal trimming may be required. IT IS VERY IMPORTANT TO MEASURE FIRST.
- » USE STANDARD DRILL WHEN INSTALLING BRACKETS TO POSTS AND BRACKETS TO RAILS. DO NOT USE IMPACT DRIVER.

Care and Cleaning

Maintaining the appearance of your Trex Transcend railing is important. Occasional washing is recommended. Over time your railing may show signs of weathering as a result of exposure to the elements. The frequency of cleaning will depend on the environment and exposure to various types of elements.

- » Clean railing with standard cleaning vinegar or mild soap and water.
- » For more detailed cleaning recommendations, please refer to the Trex Railing Care and Cleaning guide found on www.trex.com.

PARTS



- A. Crown or Universal Rail
- B. Universal Rail
- C. Railing Support Bracket (RSB)
- D. TrexExpress™ Railing Assembly Template
Cardboard template is attached to 4x4 x 39" post sleeve box. All other templates are included inside post sleeves
- E. Rail gaskets
- F. Balusters
- G. Post sleeve cap*
- H. Post sleeve skirt*
- I. Post sleeve – 4x4 (102 mm x 102 mm) or 6x6 (152 mm x 152 mm)**
- J. Adjustable Foot Block (quantity of one is required for all railing span lengths)***
- K. Baluster spacer

Trex Transcend Glass Panel Parts List

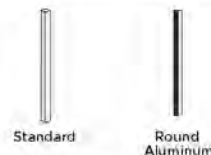
- L. Panel support molding
- M. Tempered glass panel*
- N. Panel support molding spacer
- O. Weather-stripping

* Item not included in the Transcend railing kits.

** Both 4x4 (102 mm x 102 mm) and 6x6 (152 mm x 152 mm) post sleeves are designed to fit over 4x4 pressure-treated post.

*** For commercial applications, spans over 6' will require two Foot Blocks. One will be included in kit, a second one will need to be purchased separately.

BALUSTER OPTIONS



NOTE: Pictorial representations shown may only show one style of railing, while others may also be used. Review detailed instructions to determine what railing styles and combinations can be used.

DETERMINING BALUSTERS NEEDED

| Baluster Type | Per 6' OC Section | Per 8' OC Section |
|---|-------------------|-------------------|
| Standard (Horizontal Application) | 15 | 18 |
| Round Aluminum (Horizontal Application) | 15 | 20 |

NOTES:

- » Basic installation for balusters is the same for all options. When using round or square aluminum balusters, use correct baluster spacers.
- » If installing 42" (1067 mm) railing, use longer post sleeves and measure accordingly to ensure a proper cut. DO NOT CUT TO ACTUAL 42" LENGTH WITHOUT CONFIRMING WHAT STYLE OF RAILING YOU ARE INSTALLING.
- » Ensure pressure-treated posts are installed at proper heights so when post sleeves are installed, both the PT post and post sleeve are flush at top.
- » If using post mounts, refer to detailed instructions provided with post mounts for attaching these prior to installation of any railing type.

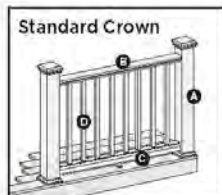
Screws Supplied with RSB

- C1 Wood screw for attachment of RSB to wood post/composite sleeve
- C2 Self-drilling screw for attachment of RSB to rail



TREX TRANSCEND® HORIZONTAL RAILING RAILING CONFIGURATIONS

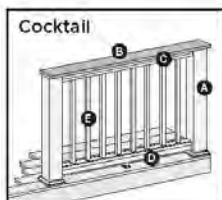
Note: See specific installation instructions for attachment of Trex post mounts or Trex Joist Mount Posts prior to installing any railing.



Cutting post sleeves is **NOT** required.

- A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex 4x4 or 6x6 post mount/Trex post sleeve, or Joist Mount Post/4x4 or 6x6 Trex post sleeve (INSIDE MOUNT ONLY)
- B. Crown rail
- C. Universal bottom rail
- D. Trex balusters

See page 63 for "How to Install Standard Railing".



Post sleeves **WILL NEED TO BE CUT.**

- A. Pressure-treated post with Trex post sleeve

NOTE: » Only for use with 4x4 (102 mm x 102 mm) post sleeve.

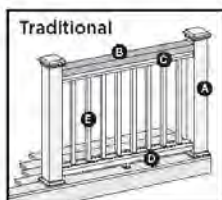
» Trex post mounts cannot be used with Transcend cocktail design.

- B. Deck board top rail (1 x 6 or 2 x 6). **NOTE: Enhance cannot be used.**
- C. Universal top rail
- D. Universal bottom rail
- E. Trex balusters

See page 65 for "How to Install Cocktail Railing".

NOTE: Additional pan head screws will need to be purchased - see detailed instructions.

**POST
SLEEVES
WILL
NEED TO
BE CUT**

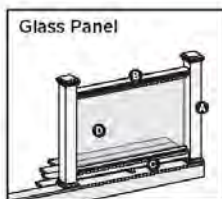


Cutting post sleeves is **NOT** required.

- A. Pressure-treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 or 6x6 post sleeve, or Joist mount post/Trex 4x4 or 6x6 post sleeve (INSIDE MOUNT ONLY)
- B. 2x4 top rail
- C. Universal top rail
- D. Universal bottom rail
- E. Trex balusters

See page 66 for "How to Install Traditional Railing".

NOTE: Additional pan head screws will need to be purchased - see detailed instructions.



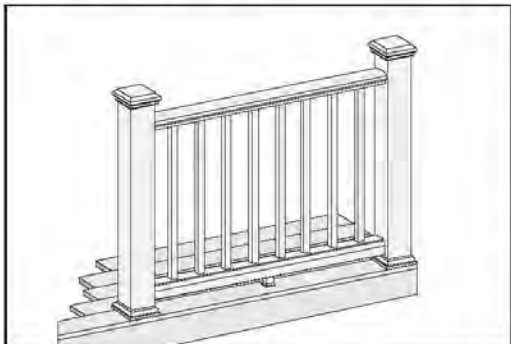
Cutting post sleeves is **NOT** required.

- A. Pressure-treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 or 6x6 post sleeve, or Joist mount post/Trex 4x4 or 6x6 post sleeve (INSIDE MOUNT ONLY)
- B. Crown rail (use universal rail if building cocktail or traditional design with glass inserts)
- C. Universal bottom rail

D. Tempered glass panel (**NOT** included in kit)

*See page 67 for "How to Install Standard Glass Panel Railing", page 69 for "How to Install Cocktail Style Glass Panel Railing" (**NOTE: Trex Post Mounts or Trex Joist Mount Posts cannot be used with this railing configuration), and page 70 for "How to Install Traditional Style Glass Panel Railing"*

HOW TO INSTALL STANDARD HORIZONTAL RAILING TREX TRANSCEND®



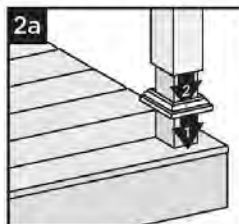
Read all instructions BEFORE installation.

Important: Post sleeves are **NOT** to be cut for this design style.

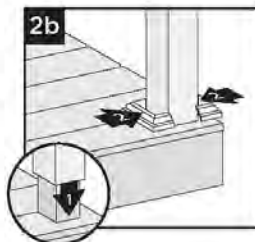
1. **Installing Pressure-Treated Posts**
Please refer to local building code requirements prior to attaching pressure treated posts.
Posts are to be installed 6' (1.83 m) or 8' (2.44 m) on center to accommodate appropriate railing length.

Installing Post Sleeve Skirts and Post Sleeves

2a. If using a 1-piece skirt, slide post sleeve skirt over post and down to rest on decking surface. Slide post sleeve over post and position inside post sleeve skirt.



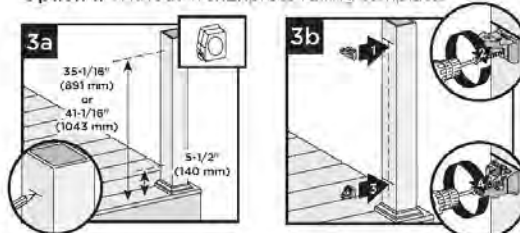
2b. If using a two-piece skirt, slide post sleeve over post and down to rest on decking surface. Snap two piece skirt over post sleeve.



NOTE: Shims can be used to plumb post sleeves.

Installing Railing Support Brackets (RSBs)

Option 1: Without TrexExpress railing template:

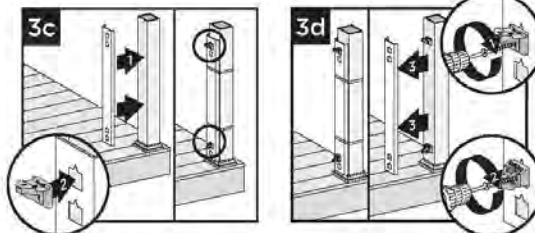


3a Mark 5-1/2" (140 mm) and 35-1/16" (891 mm) from deck surface **OR** for 42" (1067 mm) height, mark 5-1/2" (140 mm) and 41-1/16" (1043 mm) from the deck surface.

3b Place RSBs directly under marks, center on posts, and secure with 2" (51 mm) wood screws (provided). **Place top RSBs flat side up, bottom RSBs flat side down.**

6X6 POST SLEEVE NOTES:

- » 6x6 post sleeve is designed to fit over 4x4 pressure-treated post.
- » When using a 6x6 post sleeve with PT post, secure RSB's to post with 2 1/2" (64mm) wood screws provided with the 6x6 post sleeve.
- » If using 6x6 post sleeve with surface mount or joist mount post, attach RSB's using #8-15 x 1-3/4" (4.4cm) 316 stainless steel self-tapping screws (not provided). Pre-drilling IS REQUIRED when attaching brackets to designated posts. Use a 9/64" (3.6 mm) drill bit.

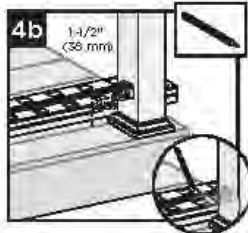
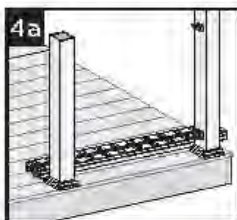


Option 2: With TrexExpress railing template:

- 3c Secure template on post with tape or rubber band, with bottom of template resting on post skirt. Place RSBs in template. Place top RSBs flat side UP, bottom RSBs flat side DOWN.
- 3d Secure RSBs with 2" (51 mm) wood screws (provided in railing kit) and remove template.

HOW TO INSTALL STANDARD HORIZONTAL RAILING/CONTINUED TREX TRANSCEND®

Cutting Railings and Baluster Spacers



- 4a. Temporarily snap baluster spacers into both bottom and top rail. Position bottom and top rails between posts, ensuring baluster holes are lined up and spaced evenly.
- 4b. Also allow for a minimum of 1-1/2" (38mm) on each end of rail and baluster spacer for bracket placement AND baluster clearance. Mark rails baluster spacers at intersection of rail and post.
5. Keeping the baluster spacers in the rails, cut to specified length and then gently remove baluster spacers.

NOTES:

- » If using optional rail gaskets, subtract 1/16" (1.6 mm) from each end.
- » Cut slow to ensure baluster spacer does not break.
- » In some cases, the gasket can be attached before tightening railing to RSB.
- » If gaskets are tight, use a small flat head screwdriver to compress the tabs of the gasket if they are stuck outside the rail.

IMPORTANT NOTE REGARDING FOOT BLOCK INSTALLATION:

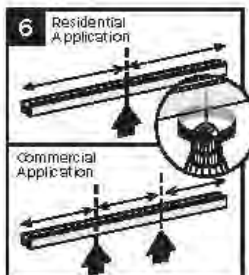
- » One Foot Block is **REQUIRED** for all railing spans. For commercial applications, spans over 6' will require two Foot Blocks.
- » Refer to detailed instructions (Trex Transcend® rail instructions) included with Foot Block prior to installation of railing section as these include other required steps for proper installation.



Attaching Foot Block to Bottom Rail

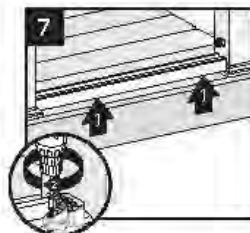
6. Invert the bottom rail. Center and drill a hole using a 3/16" drill bit. This will be location for Foot Block attachment to be installed last.

For spans over 6' in commercial applications drill two holes spaced evenly apart for two Foot Blocks.



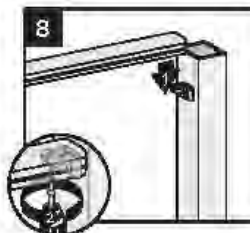
Attaching Bottom Rail (Universal Rail)

7. Lift bottom rail so RSBs are in the channel and attach with three self-drilling screws provided (use three outer holes; do not use hole in RSB that is closest to post).



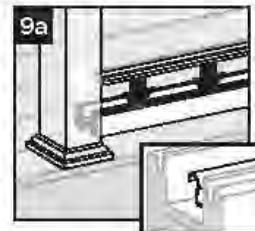
Attaching Top Rail - (Crown Rail)

8. Place crown rail on RSBs. Attach top rail to RSB with three self-drilling screws provided (use three outer holes; do not use hole in RSB that is closest to post).

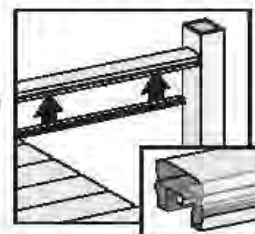


Installing Aluminum Baluster Adaptor Strips (for Aluminum Balusters Only)

- 9a. After bottom rail is fully installed, place aluminum baluster adaptor strip into channel of bottom rail, ensuring that it's fully seated into the channel. When rail lengths are non-standard, the baluster adaptor strip will need to be cut 2-1/2" (64 mm) shorter than the rail to allow clearance for the RSBs on each end.



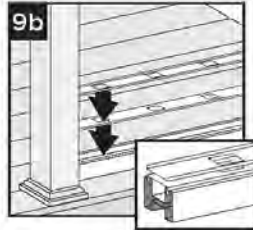
After top rail is fully installed, place aluminum baluster adaptor strip into channel of top rail, ensuring that it's fully seated into the channel. When rail lengths are non-standard, the adaptor strip will need to be cut 2 1/2" (64mm) shorter than the rail to allow clearance for the RSB's on each end.



HOW TO INSTALL STANDARD HORIZONTAL RAILING/CONTINUED TREX TRANSCEND®

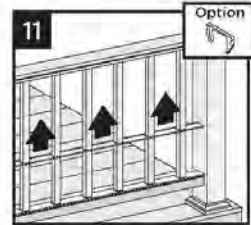
Placing Baluster Spacers

- 9b. Snap baluster spacer into bottom rail. Place inverted baluster spacer on top of first baluster spacer.



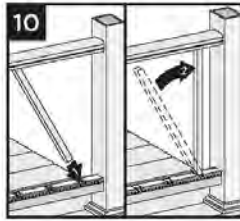
11. Slide baluster spacer up and snap into top rail. Place optional top rail gaskets on each end of rail.

TIP: Use soapy water on balusters when sliding baluster spacer up to avoid potential scratching of balusters.



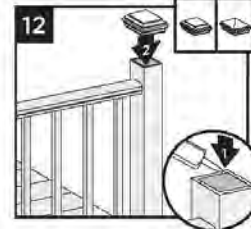
Attaching Balusters

10. Place baluster into both baluster spacers, ensuring that balusters are fully seated into the channel. Working at a slight angle, maneuver balusters into top rail.



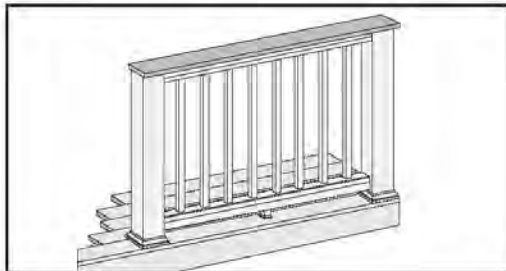
Attaching Post Caps and Installing Foot Blocks

12. Secure post caps with silicone or PVC adhesive (apply adhesive on the inside self-centering/corner tabs). Attach foot block per foot block instructions.



NOTE: Clean up any excess adhesive before it dries.

HOW TO INSTALL COCKTAIL HORIZONTAL RAILING TREX TRANSCEND



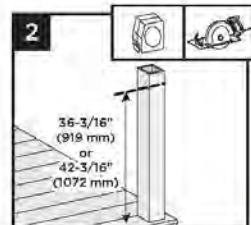
IMPORTANT NOTES:

- » **ONLY** use with 4" x 4" (102 mm x 102 mm) post and post sleeve. Cutting post and post sleeve **ONLY** applies to the Cocktail railing.
- » Enhance cannot be used as top board for cocktail rail.

1. Installing Pressure-Treated Posts
See instructions on page 63.

Cutting Post and Post Sleeve

2. Mark and cut post and post sleeve measuring from deck surface:
- » 36-3/16" (919 mm) for 36" (914 mm) height.
 - » 42-3/16" (1072 mm) for 42" (1067 mm) height.



3. Installing Post Sleeve Skirts and Post Sleeves
See instructions on page 63.

4. Installing Railing Support Brackets (RSBs)
See instructions on page 63.

5. Cutting Railings and Baluster Spacers
See instructions on page 64.

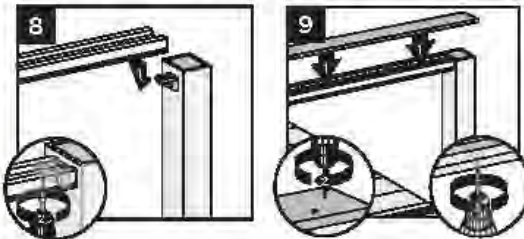
6. Attaching Foot Block to Bottom Rail
See instructions on page 64.

7. Attaching Bottom Rail (Universal Rail)
See instructions on page 64.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL COCKTAIL HORIZONTAL RAILING/CONTINUED TREX TRANSCEND®

Attaching Inverted Universal Rail as Top Rail



8. Place inverted universal rail onto RSBs. Attach universal rail to RSBs with three self-drilling screws provided (use three outer holes; do not use hole in RSB that is closest to post).
9. Place deck boards over universal rails (**DO NOT** use *Enhance* deck boards for top rail). Attach boards on each post with Trex-recommended composite screws (quantity of 2 per post as well as each board end). Secure boards to universal rails from underside of railing into bottom of decking board, with 1-5/8" (41 mm) pan-head screws (*not provided*) approximately every 16" (406 mm) on center.

10. Placing Baluster Spacers

See instructions on page 65.

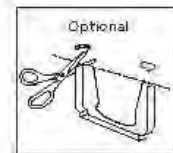
11. Attaching Balusters

See instructions on page 65 for standard balusters or page 64 for aluminum balusters.

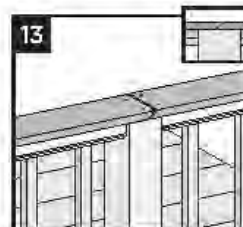
12. Slide baluster spacers up and snap into universal rails.



NOTE: If necessary, cut tips off rail gaskets prior to installation.



13. Use scarf cut for posts where two deck boards meet.

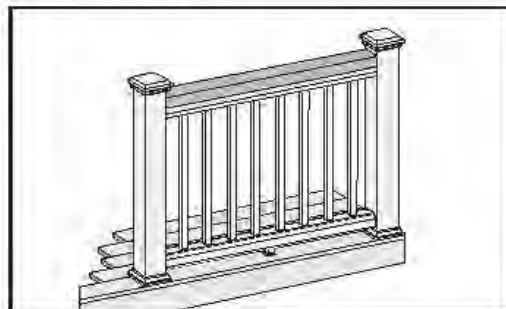


14. **Installing Foot Block**
Attach Foot Block per detailed instructions.

NOTES:

- » Leave 1/8" (3 mm) gap between deck boards.
- » Deck boards can overhang end of last post a maximum 1/2" (13 mm).

HOW TO INSTALL TRADITIONAL HORIZONTAL RAILING TREX TRANSCEND®



1. Installing Pressure-Treated Posts

See instructions on page 63.

2. Installing Post Sleeve Skirts and Post Sleeves

See instructions on page 63.

3. Installing Railing Support Brackets (RSBs)

See instructions on page 63.

4. Cutting Railings and Baluster Spacers

See instructions on page 64.

5. Attaching Foot Block to Bottom Rail

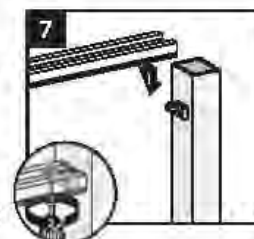
See instructions on page 64.

6. Attaching Bottom Rail (Universal Rail)

See instructions on page 64.

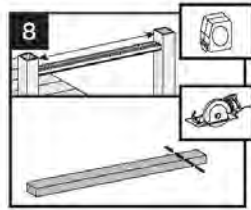
Attaching Inverted Universal Rail as Top Rail

7. Place inverted universal rail onto RSBs with balusters in channel. Attach universal rail with three self-drilling screws provided (use three outer holes; do not use hole in RSB that is closest to post).

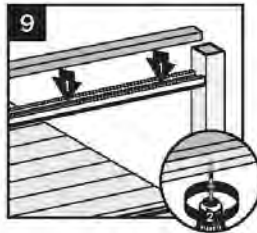


HOW TO INSTALL TRADITIONAL HORIZONTAL RAILING/CONTINUED TREX TRANSCEND®

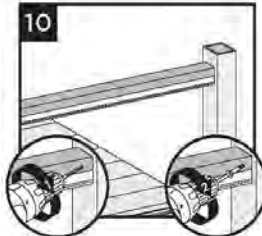
8. Measure between posts and cut 2 x 4 to length.



9. Place 2 x 4 on universal rail. Attach board to rail with 1-5/8" (41 mm) pan-head screws (*not provided*) approximately every 16" (406 mm) on center.



10. Pre-drill a pilot hole and toenail 2-1/2" (64 mm) composite decking screw (*not provided*) at each end of 2 x 4 into post on back side of rail (side not facing decking).

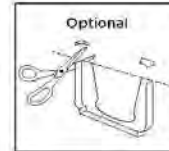
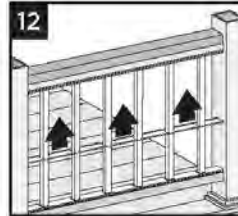


11. Placing Baluster Spacers

See instructions on page 65.

12. Attaching Balusters

See instructions (page 65) for standard balusters or instructions below for aluminum balusters.

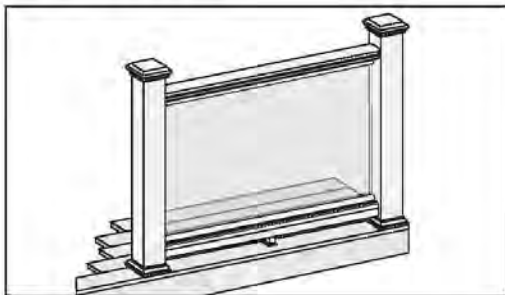


13. Slide baluster spacer up and snap into universal rail

NOTE: If necessary, cut tips off rail gaskets prior to installation.

14. Attaching Post Caps and Installing Foot Block
Attach Foot Block per detailed instructions.

HOW TO INSTALL STANDARD HORIZONTAL GLASS PANEL RAILING TREX TRANSCEND



Notes: Read all instructions **BEFORE** installation.

- » You must purchase the 1/4" (6 mm) tempered glass panels. See dimensions below.
- » Glass panels **ONLY** for use with maximum 6' (1.83 m) on center post spacing.

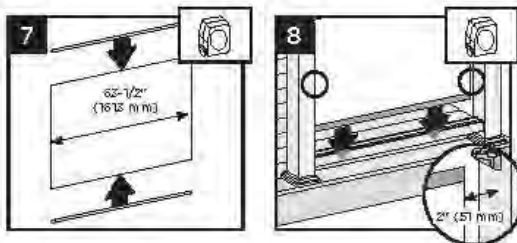
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL STANDARD HORIZONTAL GLASS PANEL RAILING/CONTINUED TREX TRANSCEND®

TEMPERED GLASS PANEL DIMENSIONS

- ④ **36" (914 mm) high rail:**
1/4" x 30" x 63-1/2" max.
(6 mm x 762 mm x 1613 mm)
- ④ **42" (1067 mm) high rail:**
1/4" x 36" x 63-1/2" max.
(6 mm x 914 mm x 1613 mm)

1. **Installing Pressure-Treated Posts**
See instructions on page 63.
2. **Installing Post Sleeve Skirts and Post Sleeves**
See instructions on page 63.
3. **Installing Railing Support Brackets (RSBs)**
See instructions on page 63.
4. **Cutting Railings**
See instructions on page 64.
5. **Attaching Foot Block to Bottom Rail**
See instructions on page 64.
6. **Attaching Bottom Rail (Universal Rail)**
See instructions on page 64.

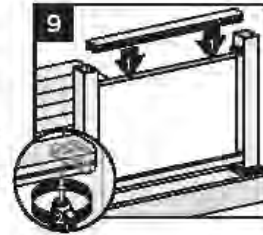


Attaching Weather-stripping and Positioning Panel

7. Push black edge trim onto top and bottom edges of glass panel. Be sure trim runs entire length of glass. Extra trim can be cut with razor blade or scissors.
8. Position panel with weather-stripping into lower rail channel. Center panel between posts with about 2" (51 mm) of air space on each side of panel.

Attaching Top (Crown) Rail

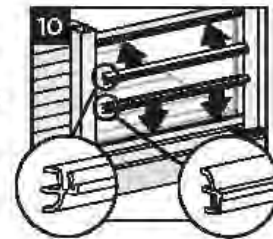
9. Place top rail over RSB brackets and glass panel. Attach top rail to RSB with three self-drilling screws provided (use three outer holes; do not use hole in RSB that is closest to post).



NOTE: Avoid hitting glass panel while using the drill.

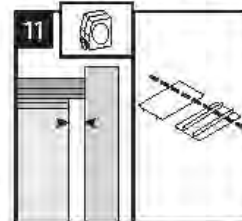
Attaching Panel Support Molding (PSM)

10. Push RSM into bottom and top rails on both sides of glass to complete shap connection. Lower rail PSM edge rests on top of rail. Top rail PSM snaps flush into rail. When rail lengths are non-standard, the PSM will need to be cut the same length of the cut rails.

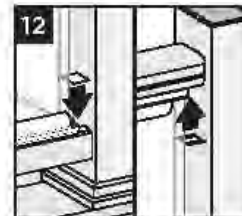


Hiding Brackets

11. Cut Transcend baluster spacer into four lengths equal to distance between the glass panel and posts. Cut slowly and one at a time to avoid chipping.

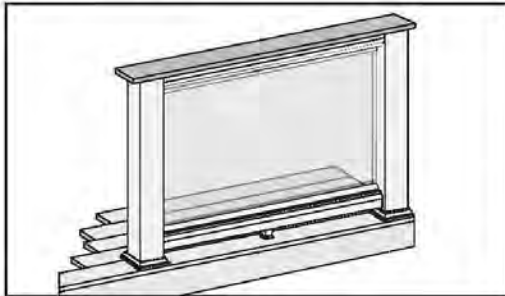


12. Snap spacer into bottom and top rail to hide brackets and create a seamless look.



13. **Attaching Post Caps and Installing Foot Blocks**
See instructions on page 65 and provided detailed Foot Block instructions.

HOW TO INSTALL COCKTAIL HORIZONTAL GLASS PANEL RAILING TREX TRANSCEND®



NOTES: Read all instructions **BEFORE** installation.

- » You must purchase the 1/4" (6 mm) tempered glass panels. See dimensions below.
- » Glass panels **ONLY** for use with maximum 6' (1.83 m) on center post spacing.
- » Trex post mounts cannot be used for this application.
- » **DO NOT** use Enhance deck board for top rail over universal rails.

TEMPERED GLASS PANEL DIMENSIONS

- » **36" (914 mm) high rail:**
1/4" x 30" x 63-1/2" max.
(6 mm x 762 mm x 1613 mm)
- » **42" (1067 mm) high rail:**
1/4" x 36" x 63-1/2" max.
(6 mm x 914 mm x 1613 mm)

1. **Installing Pressure-Treated Posts**
See instructions on page 63.

NOTE: If installing glass with cocktail rail design, rail posts and post sleeves must be cut.

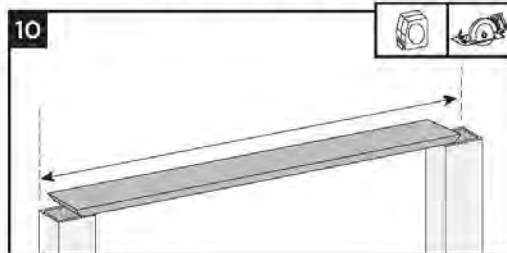
2. **Cutting Post and Post Sleeve**
See instructions on page 63.
3. **Installing Post Sleeve Skirts and Post Sleeves**
See instructions on page 63.
4. **Installing Railing Support Brackets (RSBs)**
See instructions on page 63.
5. **Cutting Railings**
See instructions on page 64.

6. **Attaching Foot Block to Bottom Rail**
See instructions on page 64.

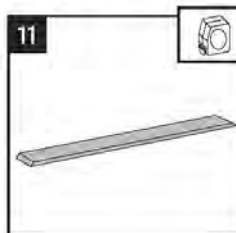
7. **Attaching Bottom Rail (Universal Rail)**
See instructions on page 64.

- 8-9. **Attaching Weather-stripping and Positioning Glass Panel**
See instructions on page 68.

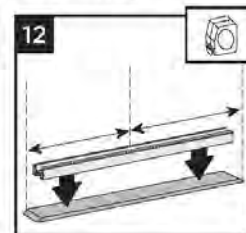
Attaching Inverted Universal Rail as Top Rail



10. Cut deck boards to appropriate length of railing span, remembering to include extra space on each side of the deck board to allow for attachment to the post. Decking boards must cover 1/2 of the pressure-treated post to allow this to be fastened later. If you include extra decking material on each side, this can be cut off later if necessary.



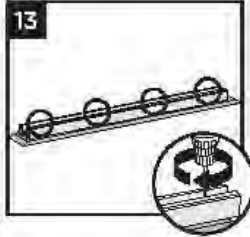
11. Place inverted deck board (place top side of deck board down) on clean, flat surface.



12. Place universal rail on the deck board. Orient this properly so when flipped over, the universal rail will accept the glass panel and panel support molding. Center in both directions to allow final attachment to post.

HOW TO INSTALL COCKTAIL HORIZONTAL GLASS PANEL RAILING TREX TRANSCEND®

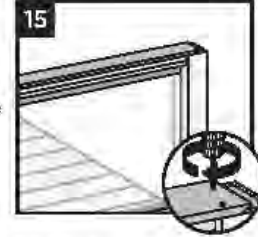
13. Secure deck board to universal rail with 1 5/8" (41 mm) pan head screws (not provided), approximately every 16" (406 mm) on center. (DO NOT overtighten. Attach from underside of rail into bottom of decking board.)



14. Place inverted universal rail with deck board attached over RSBs and glass panel. Attach universal rail to RSB's with three self-drilling screws provided (use three outer holes; do not use hole in RSB that is closest to post).



15. Attach deck board to post (ensure that screws are attached to wood post) with Trex recommended composite screws (quantity of 2 per each board end).

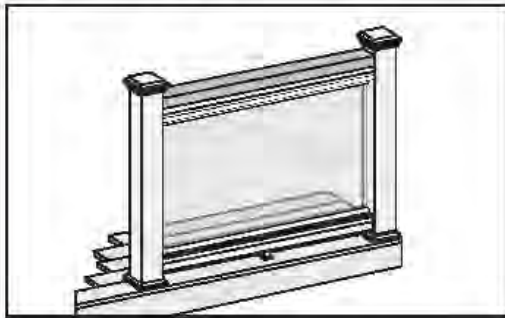


16. **Attaching Panel Support Moldings**
See instructions on page 68.

- 17-18. **Hiding Brackets**
See instructions on page 68.

19. **Installing Foot Block**
Attach Foot Block per provided detailed instructions.

HOW TO INSTALL TRADITIONAL HORIZONTAL GLASS PANEL RAILING TREX TRANSCEND



NOTES: Read all instructions **BEFORE** installation.

- » You must purchase the 1/4" (6 mm) tempered glass panels. See dimensions below.
- » Glass panels **ONLY** for use with maximum 6' (1.83 m) on center post spacing.

TEMPERED GLASS PANEL DIMENSIONS

- » **36" (914 mm) high rail:**
1/4" x 30" x 63-1/2" max.
(6 mm x 762 mm x 1613 mm)
- » **42" (1067 mm) high rail:**
1/4" x 36" x 63-1/2" max.
(6 mm x 914 mm x 1613 mm)

1. **Installing Pressure-Treated Posts**
See instructions on page 63.
2. **Installing Post Sleeve Skirts and Post Sleeves**
See instructions on page 63.
3. **Installing Railing Support Brackets (RSBs)**
See instructions on page 63.
4. **Cutting Railings**
See instructions on page 64.

HOW TO INSTALL TRADITIONAL HORIZONTAL GLASS PANEL RAILING/ CONTINUED TREX TRANSCEND®

5. **Attaching Foot Block to Bottom Rail**

See instructions on page 64.

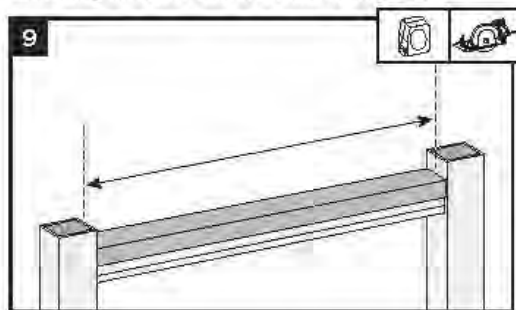
6. **Attaching Bottom Rail (Universal Rail)**

See instructions on page 64.

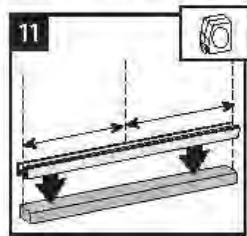
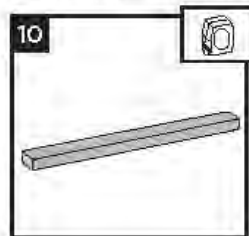
7-8. **Attaching Weather-stripping and Positioning Panel**

See instructions on page 68.

Attaching Inverted Universal Rail as Top Rail



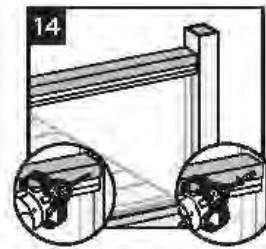
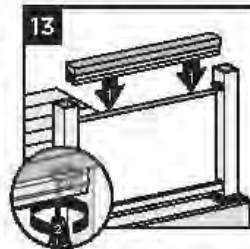
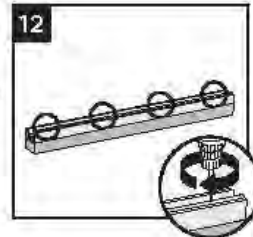
9. Measure between posts and cut 2 x 4 to length.



10. Place inverted 2 x 4 on clean, flat surface (place top side down).

11. Place universal rail (remembering to orient this properly so that when flipped over, the universal rail will accept the glass panel and panel support molding), on the 2 x 4, centered.

12. Secure 2 x 4 to universal rail with 1-5/8" (41 mm) pan head screws (*not provided*) approximately every 16" (406 mm) on center (DO NOT overtighten. Attach from underside of rail into bottom of decking board.)



13. Place inverted universal rail with 2 x 4 attached over RSBs and glass panel. Attach universal rail to RSB's with three self-drilling screws provided (use three outer holes; do not use hole in RSB that is closest to post).

14. Pre-drill a pilot hole and to nail 2-1/2" (64 mm) composite deck screw (*not provided*) at each end of the 2 x 4 into post on back side (side not facing decking).

15. **Attaching Panel Support Moldings**

See instructions on page 68.

16-17. **Hiding Brackets**

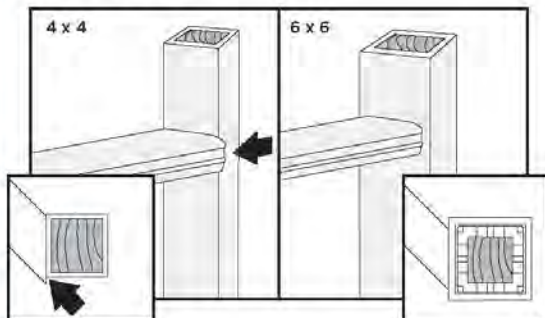
See instructions on page 68.

18. **Attaching Post Caps and Installing Foot Block**

See instructions on page 65 and detailed Foot Block instructions.

HOW TO INSTALL ON-AN-ANGLE RAILING TREX TRANSCEND® (CROWN AND UNIVERSAL RAILING)

NOTE: Trex railing brackets are designed to be installed up to a 45° angle.



- » **Small angles (1° - 30°)** Both 4x4 (102 mm x 102 mm) or 6x6 (152 mm x 152 mm) post sleeves work well.
- » **Large angles (31° - 45°)** Use only 6x6 (152 mm x 152 mm) post sleeves when installing on flat side.
- » **45° angles** using 4x4 (102 mm x 102 mm) post sleeves **must** use Transcend Bird's Mouth brackets. Using 6x6 (152 mm x 152 mm) post sleeves at 45° angles. Brackets are installed off-center and use 45° Transcend gaskets.
- » Railing gaskets are designed to fit at 0°, 22.5°, and 45° angles. Gaskets are labeled with appropriate angle dimension.

HOW TO INSTALL CROWN AND UNIVERSAL BIRDSMOUTH HORIZONTAL RAILING TREX TRANSCEND®

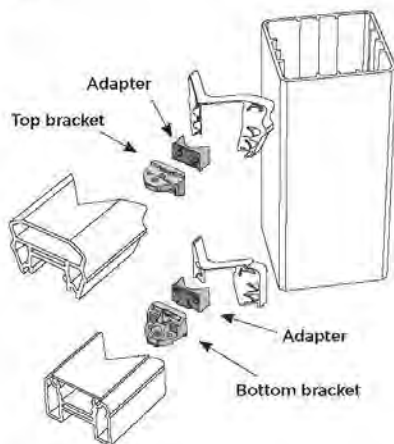
NOTES:

>>IMPORTANT - 6' and 8' rails cannot be installed at full on center post spans when using Birdsmouth applications. Rail posts must be spanned less than 6' or 8' OC.

- » Use with 4x4 (102 mm x 102 mm) post sleeve **ONLY**.
- » Gaskets are only designed for use with Transcend crown and universal railing.

Read all instructions **BEFORE** installation.

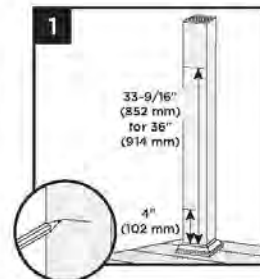
PARTS



Mark Posts

1. Measure and mark 4" (102 mm) and 33-9/16" (852 mm) up from top of post skirt.

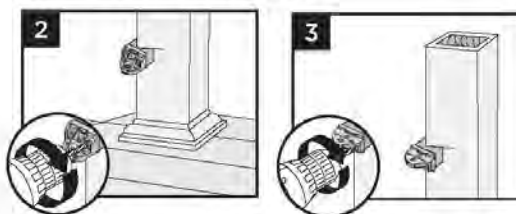
NOTE: Without skirt, add 1-1/2" (38 mm) to measurements.



Attaching Adapters

Snap adapters into RSBs.

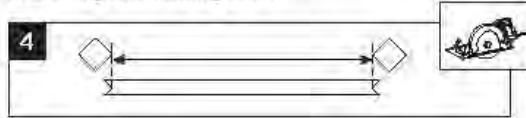
Pre-drill Bottom and Top RSBs



2. Position RSBs with adapter (flat side DOWN) for lower rail, mark and pre-drill screw holes with 1/8" (3 mm) drill bit on post.
3. Position RSBs with adapter (flat side UP) for top rail, mark and pre-drill screw holes with 1/8" (3 mm) drill bit on post.

HOW TO INSTALL CROWN AND UNIVERSAL BIRDSMOUTH HORIZONTAL RAILING/CONTINUED TREX TRANSCEND®

Measuring and Cutting Rails



4. Measure from corner-to-corner between posts. Mark 45° cuts on rails with template on assembly tool. Center of "V's" is the distance from corner-to-corner for posts.

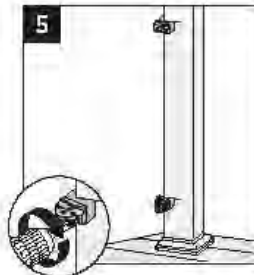
NOTE: Subtract 1/16" (1.6 mm) from each end to accommodate rail gaskets.

Attaching Top and Bottom RSBs

5. Attach RSBs with adapters to posts with wood screws (provided).

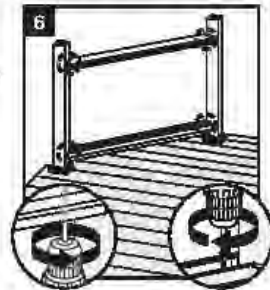
NOTES:

- » Drill at slight inward angle to drill holes on marks.
- » Lay cut lower rail into position on decking surface between the posts before attaching the lower RSB. There may be some difficulty attaching the lower rail if you fail to do this.



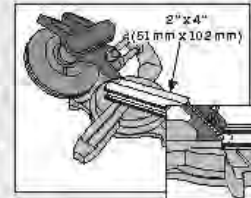
Installing Railings to RSB's

6. Attach with self-tapping screws (provided).



Using Miter Box Saw to Cut Rails

1. Place 2" x 4" (51 mm x 102 mm) on edge behind the rail to allow for complete cut.
2. Angle blade to 45°.
3. Set stop on saw so blade travels half the depth of rails. Several test cuts can be made on scrap material to accurately set the stop.
4. "V" cut both sides of the rail.



NOTE: Transcend's crown and universal rails will require different stop settings.

TREX TRANSCEND® STAIR RAILING

IMPORTANT NOTES:

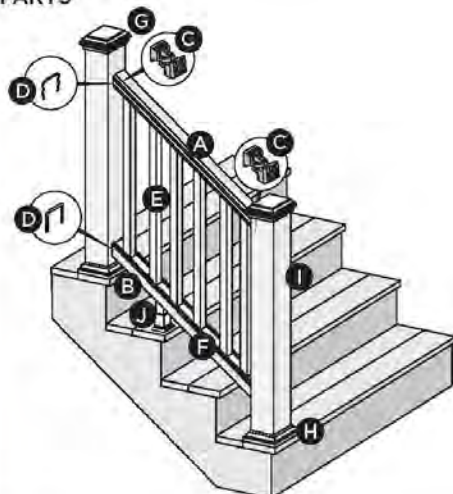
- » TREX TRANSCEND RAILINGS ARE DESIGNED TO BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST. NOTCHING OF PRESSURE-TREATED POSTS OR POSTS INSTALLED ON OUTSIDE OF RIM JOIST IS NOT ALLOWED.
- » POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.

Care and Cleaning

Maintaining the appearance of your Trex Transcend railing is important. The occasional wash is recommended as over time your railing may show signs of weathering as a result of exposure to the elements. The frequency of cleaning will depend on the environment and exposure to various types of elements.

- » Clean railing using a standard cleaning vinegar or mild soap and water.
- » For more detailed cleaning recommendations please refer to the Trex Railing Care and Cleaning guide found on www.trex.com.

PARTS



- A. Crown or Universal rail
- B. Universal rail
- C. Railing Support Brackets (RSB)
- D. Stair rail gaskets
- E. Balusters
- F. Stair baluster spacer
- G. Post sleeve cap*
- H. Post sleeve skirt*
- I. Post sleeve = 4x4 (102 mm x 102 mm) or 6x6 (152 mm x 152 mm)**
- J. Adjustable Foot Block (quantity of one is required for all railing span lengths)***

* Item not included in the Transcend railing kits.

** Both 4x4 (102 mm x 102 mm) and 6x6 (152 mm x 152 mm) post sleeves are designed to fit over 4x4 pressure-treated post.

*** For commercial applications, spans over 6' will require two Foot Blocks. One will be included in kit, a second one will need to be purchased separately.

BALUSTER OPTIONS



NOTE: Pictorial representations shown may only show one style of railing, while others may also be used. Review detailed instructions to determine what railing styles and combinations can be used.

DETERMINING BALUSTERS NEEDED

| Baluster Type | For 6' Stair Rail | For 8' Stair Rail |
|---|-------------------|-------------------|
| Standard (Stair Application) | 11 | 15 |
| Round/Square Aluminum (Stair Application) | 12 | 16 |

NOTES:

- » Basic installation for balusters is the same for all options. When using round or square aluminum balusters, use correct baluster spacers.
- » If installing 42" (1067 mm) railing, use longer post sleeves and measure accordingly to ensure a proper cut. DO NOT CUT TO ACTUAL 42" LENGTH WITHOUT CONFIRMING WHAT STYLE OF RAILING YOU ARE INSTALLING.
- » Ensure pressure-treated posts are installed at proper heights so when post sleeves are installed, both the PT post and post sleeve are flush at top.
- » If using post mounts, refer to detailed instructions provided with post mounts for attaching these prior to installation of any railing type.

Screws Supplied with RSB

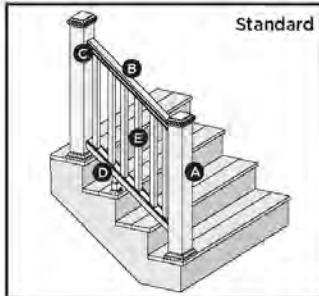
- C1. Wood screw for attachment of RSB to wood post/composite sleeve
- C2. Self-drilling screw for attachment of RSB to rail.



NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

TREX TRANSCEND® STAIR RAILING CONFIGURATIONS

Note: See specific installation instructions for attachment of Trex Post Mounts or Trex Joist Mount Posts prior to installing any railing.



Cutting post sleeves is **NOT** required.

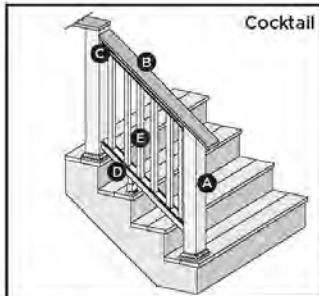
A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 or 6x6 post sleeve, or Joist Mount Post/Trex 4x4 or 6x6 post sleeve (INSIDE MOUNT ONLY)

B. Crown rail

C. Universal bottom rail

D. Trex balusters (must also use appropriate stair baluster spacer)

See page 76 for "How to Install Standard Stair Railing".



Post sleeves **WILL NEED TO BE CUT.**

A. Pressure-Treated post with Trex post sleeve

NOTE: » Only for use with 4x4 (102 mm x 102 mm) post sleeve.

» Trex post mounts cannot be used with Transcend cocktail design.

B. Deck board top rail (1 x 6 or 2 x 6) **NOTE: Enhance cannot be used.**

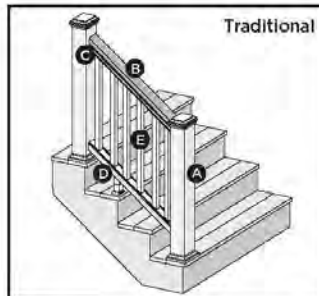
C. Universal top rail

D. Universal bottom rail

E. Trex balusters (must also use appropriate stair baluster spacer)

See page 80 for "How to Install Cocktail Stair Railing".

POST
SLEEVES
WILL
NEED TO
BE CUT



Cutting post sleeves is **NOT** required. Ensure both top and bottom post/post sleeves are tall enough to accommodate top rail and 2 x 4.

A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 or 6x6 post sleeve, or Joist mount post/Trex 4x4 or 6x6 post sleeve (INSIDE MOUNT ONLY)

B. 2 x 4 top rail

C. Universal top rail

D. Universal bottom rail

E. Trex balusters (must also use appropriate stair baluster spacer)

See page 82 for "How to Install Traditional Stair Railing".

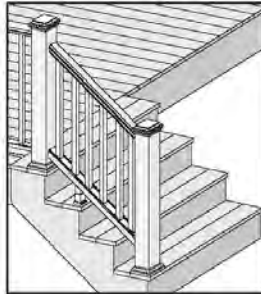
NOTES:

- » If using Round or Square Aluminum Balusters, follow desired railing style instructions found above, substituting correct baluster spacer for type of baluster being used.

HOW TO INSTALL STANDARD STAIR RAILING TREX TRANSCEND®

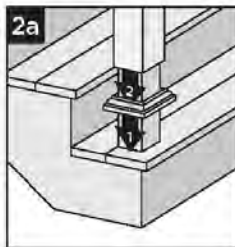
1. Installing Pressure-Treated Posts

- » PLEASE REFER TO LOCAL BUILDING CODE REQUIREMENTS PRIOR TO ATTACHING PRESSURE TREATED POSTS.
- » PRESSURE TREATED POSTS MUST BE INSTALLED ON INSIDE OF STAIR STRINGER AND AT NOSE OF STAIR TREAD.
- » POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.
- » In most cases, a post and post sleeve longer than 39" (991 mm) will be needed on the lower section of stair rail to accommodate stair angle.

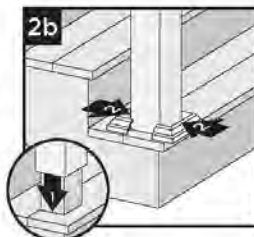


Installing Post Sleeve Skirts and Post Sleeves

- 2a. If using a 1-piece skirt, slide post sleeve skirt over post and down to rest on decking surface. Slide post sleeve over post and position inside post sleeve skirt.

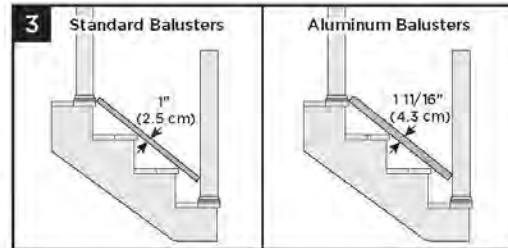


- 2b. If using a two-piece skirt. Slide post sleeve over post and down to rest on decking surface. Snap two piece skirt over post sleeve.

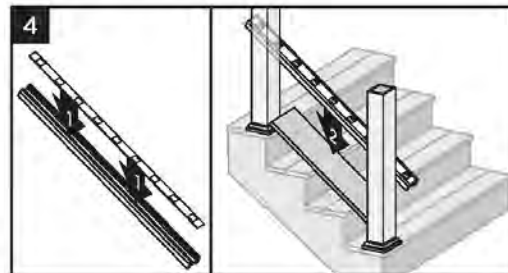


NOTE: Shims can be used to plumb post sleeves.

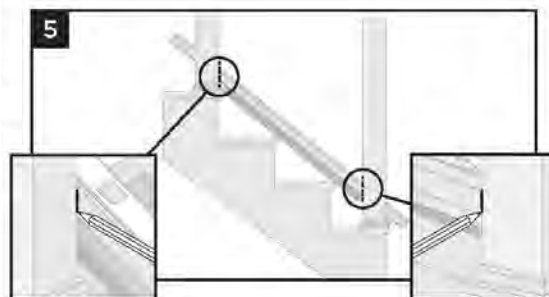
Measuring and Cutting Bottom Stair Rail



3. If using standard balusters, place a 1" (254 mm) deck board on the nose of the stair tread. If using aluminum balusters, use a scrap piece of wood measuring at least 1-11/16" thick, and place on the nose of the stair tread.



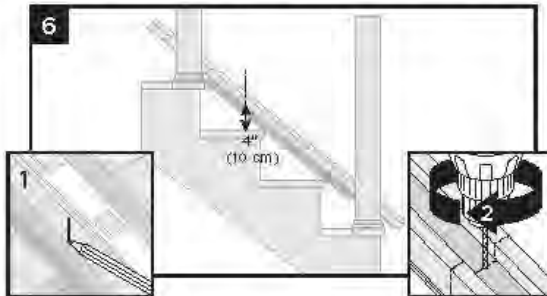
4. Snap baluster spacer into bottom stair rail and lay bottom stair rail on top of the deck board.



5. Use the lower and upper stair post to set the length of the bottom stair rail. Ensure that baluster spacer holes are spaced evenly between posts. Also allow for a minimum of 1-1/2" (292 mm) at each end of the stair rail for bracket placement and baluster clearance. Mark rail at post intersections.

HOW TO INSTALL STANDARD STAIR RAILING/CONTINUED TREX TRANSCEND®

Marking Location for Foot Block to Bottom Rail



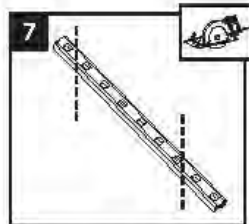
6. Mark approximate location for Foot Block, allowing a measurement of 4" maximum. Invert the bottom rail, and at marked location drill a hole using a 3/16" drill bit in the center of the channel. Foot Block is to be installed at last step. For spans over 6' in commercial applications, mark and drill two locations spaced evenly apart for two Foot Blocks.

Cutting Bottom Stair Rail and Baluster Spacer

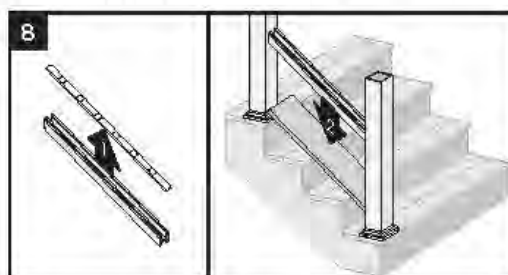
7. Keeping baluster spacer in rail, cut along marks.

NOTES:

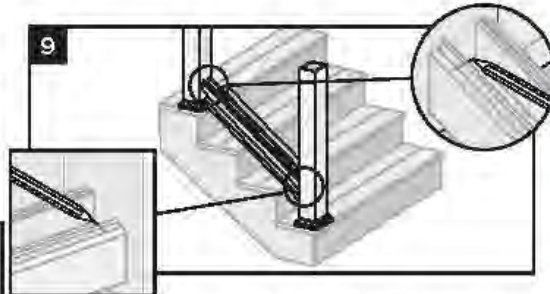
- » If using rail gaskets, subtract 1/16" from each end and cut.
- » KEEP BALUSTER SPACER IN RAIL WHEN CUTTING. CUT VERY CAREFULLY TO NOT BREAK BALUSTER SPACER.



Attaching RSB's for Bottom Stair Rail

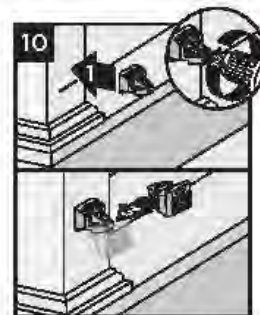


8. Remove baluster spacer from bottom rail and place rail in between posts, keeping rail on deck board.

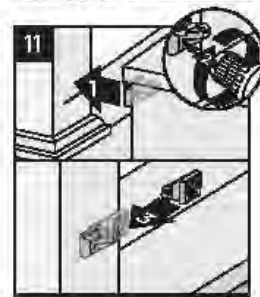


9. Mark both posts on inside channel of the bottom stair rail. Remove bottom stair rail.

10. For **UPPER** post - install **RSB FLAT SIDE DOWN, ABOVE MARKED LINE**, using two wood screws provided. Take second RSB, turn upside down and interlock into first RSB.



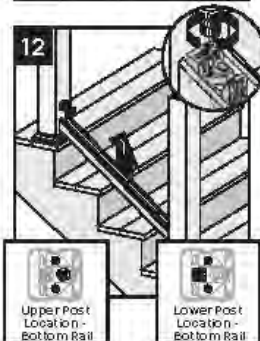
11. For **LOWER** post - install **RSB FLAT SIDE UP, ABOVE MARKED LINE**, using two wood screws provided. Take second RSB, turn upside down and interlock into first RSB.



Attaching Bottom (Universal) Stair Rail

12. Lift bottom stair rail so RSB's are in the channel and attach with 3 self-drilling screws provided. Use the three outer holes in RSB to attach screws.

Tip: Deck board can be placed underneath bottom stair rail to help hold rail firmly in place while attaching.

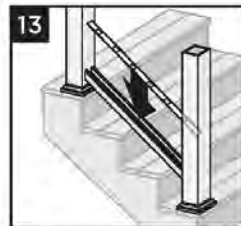


HOW TO INSTALL STANDARD STAIR RAILING/CONTINUED TREX TRANSCEND®

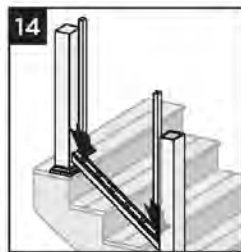
IMPORTANT NOTE IF INSTALLING ALUMINUM

BALUSTERS: If necessary cut aluminum baluster adaptor strip at appropriate length to ensure this can be fully seated into the bottom stair rail without interfering with the RSBs.

13. Snap bottom baluster spacer into bottom stair rail.

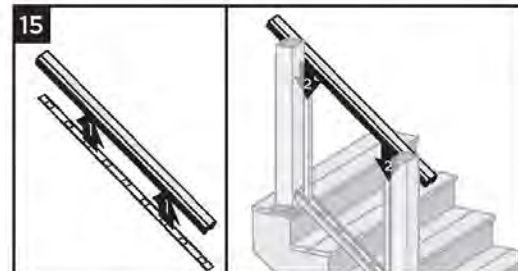


14. Place two balusters into bottom stair rail at each end closest to the post, and ensure these balusters are parallel to posts.

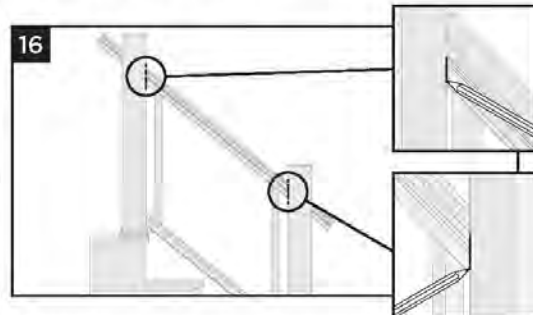


Tip: Use clamps to help hold balusters in place.

Measuring and Cutting Top Stair Rail and Baluster Spacer

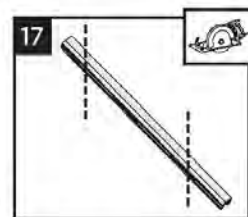


15. Snap baluster spacer into top stair rail. Position top stair rail onto balusters, ensuring balusters are fully seated in rail (position to side of post), and **ENSURE** that balusters are spaced evenly **AND** parallel with post. Also allow for a minimum of 1-1/2" (292 mm) at each end of the stair rail for bracket placement and baluster clearance.



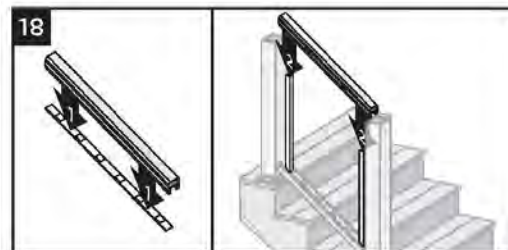
16. Mark rail at post intersection.

17. Remove top rail, keeping baluster spacer in rail, and cut along marks.

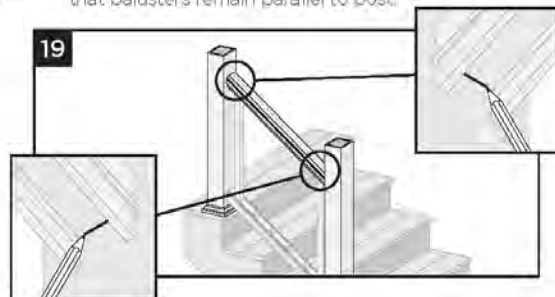


NOTES:

- » If using rail gaskets, subtract 1/16" from each end and cut.
- » **KEEP BALUSTER SPACER IN RAIL WHEN CUTTING. CUT VERY CAREFULLY IN ORDER TO NOT BREAK BALUSTER SPACER.**



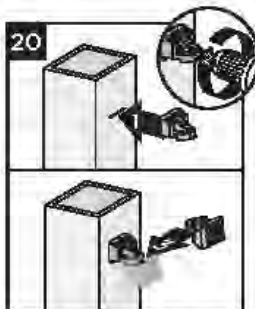
18. Remove baluster spacer from top stair rail and place rail in between posts on top of balusters. **ENSURING** that balusters remain parallel to post.



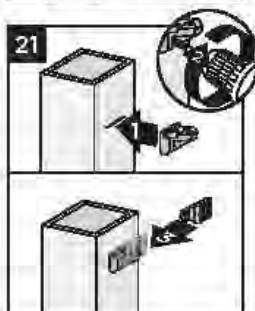
19. Mark both posts on inside channel of the top stair rail. Remove top stair rail.

HOW TO INSTALL STANDARD STAIR RAILING/CONTINUED TREX TRANSCEND®

20. For **UPPER** post - install **RSB FLAT SIDE DOWN BELOW MARKED LINE** using two wood screws provided. Take second RSB, turn upside down and interlock into first RSB.

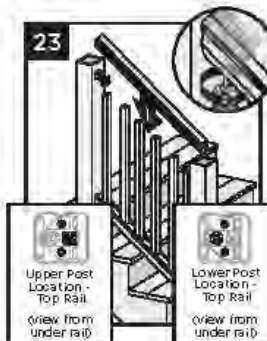


21. For **LOWER** post - install **RSB FLAT SIDE UP BELOW MARKED LINE** using two wood screws provided. Take second RSB, turn upside down and interlock into first RSB.

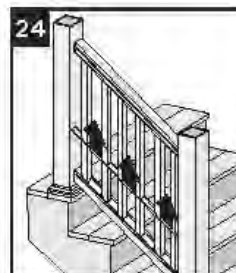


Attaching Top Stair Rail

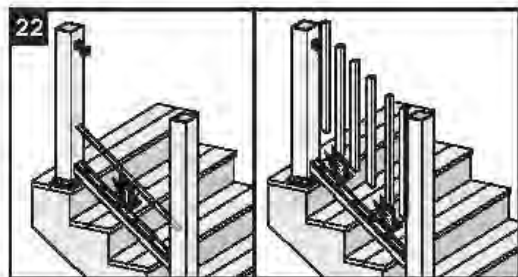
23. Place top stair rail on RSB's (ensuring balusters are also in channel of rail). Attach with 3 self-drilling screws provided. Use the three outer holes in RSB to attach screws.



24. Slide baluster spacer up and snap into top rail.



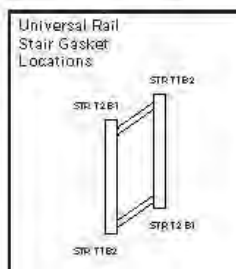
Installing Inverted Top Baluster Spacer and Placing Balusters



22. Place inverted top baluster spacer on bottom rail rail/baluster spacer, ensuring that baluster holes line up. Install balusters into bottom stair rail.

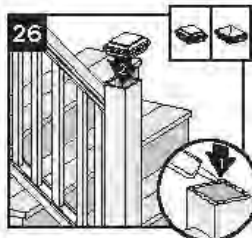
Installing Optional Gaskets

25. Stair rail gaskets are designed to fit at slopes of 32° to 37°. Gaskets are labeled in order to ensure correct location.



Attaching Post Caps and Installing Foot Block

26. Secure post caps with silicone or PVC adhesive (apply adhesive on the inside self-centering corner tabs). Attach Foot Block per Foot Block instructions.



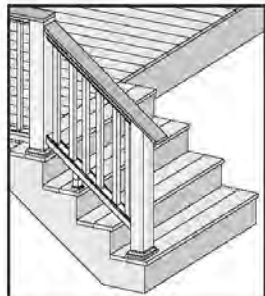
NOTE: Clean-up any excess adhesive before it dries.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL COCKTAIL STAIR RAILING TREX TRANSCEND®

IMPORTANT NOTES:

- » Only for use with pressure-treated 4x4 post (3.5" nominal square) and 4x4 (102 mm X 102 mm) post sleeve. Trex post mounts or joist mount posts cannot be used with Trex Transcend stair railing. Cutting post and post sleeve only applies to Cocktail railing.



- » **DO NOT CUT POST/POST SLEEVES UNTIL TOP RAIL IS FULLY INSTALLED. THE DECK BOARD USED IN TRANSCEND STAIR COCKTAIL RAILING WILL NEED TO TERMINATE AT THE TOP OF THE POST AS SHOWN ABOVE. THE DECK BOARD WILL HAVE TO BE INSTALLED INTO THE SIDE OF THE POST IN THESE AREAS USING 2 APPROPRIATE COMPOSITE DECKING SCREWS - PRE-DRILLING IS RECOMMENDED.**

Installing Pressure-Treated Posts, Post Sleeves, and Skirts

1. See instructions on page 76. See notes on page 76 regarding not cutting post/post sleeve.

Measuring and Cutting Bottom Stair Rail

2. See instructions on page 76.

Marking Location for Foot Block on Bottom Rail

3. See instructions on page 77.

Attaching RSB's for Bottom Stair Rail

4. See instructions on page 77.

Attaching Bottom (Universal) Stair Rail

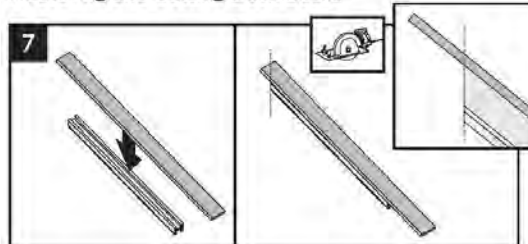
5. See instructions on page 77.

IMPORTANT NOTE: REMEMBER TO INVERT UNIVERSAL TOP RAIL BEFORE MARKING AND CUTTING

Measuring and cutting Top Stair Rail

6. See instructions on page 78.

Measuring and Cutting Deck Board



7. Using the cut top rail as template, cut deck board at upper post location at same angle as the top rail. Leave a generous amount of deck board material at lower post location as this will allow for overhang and can be cut later.

Attaching RSB's for Top Stair Rail

8. See instructions on page 79.

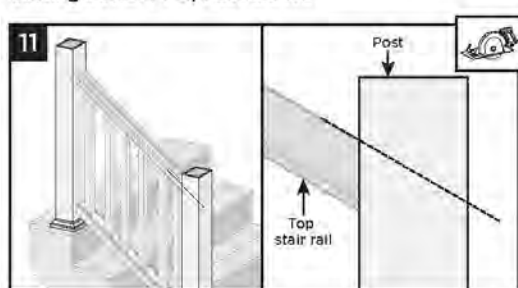
Installing Inverted Top Baluster Spacer and Placing balusters

9. See instructions on page 79.
DO NOT SLIDE TOP BALUSTER SPACER INTO PLACE YET.

Attaching Top Stair Rail

10. See instructions on page 79.

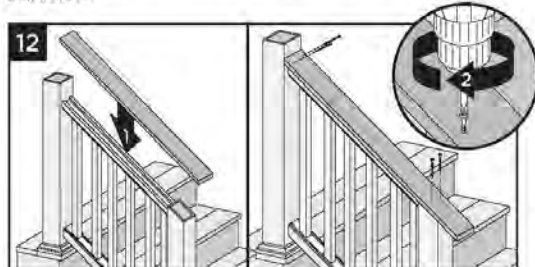
Cutting Lower Post/Post Sleeve



11. Cut post and post sleeves to proper angle so cut is flush with the top rail. Be careful to not cut top rail.

HOW TO INSTALL COCKTAIL STAIR RAILING CONTINUED TREX TRANSCEND®

Attaching Deck Board to Top Stair Rail and Securing Balusters

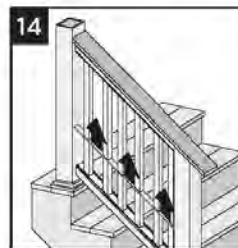
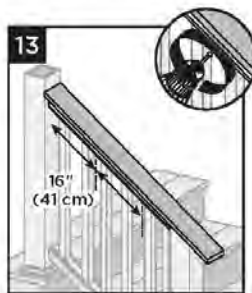


12. Place deck board on top rail and attach board to posts using two Trex recommended composite decking screws (use two screws per each post).

NOTE: At upper post location pre-drilling is recommended and install screws perpendicular to the post.

13. Secure board to top (universal) rail from underside of rail into bottom of deck board with 1-5/8" (41 mm) pan-head screws (*not provided*) approximately every 16"

NOTE: balusters can be shifted out of the way if necessary.



14. Slide baluster spacer up and snap into top rail.

Installing Optional Gaskets

15. See instructions on page 79.

NOTE: Top gaskets may have to be trimmed to fit properly.

Installing Foot Block

16. See instructions on page 79.

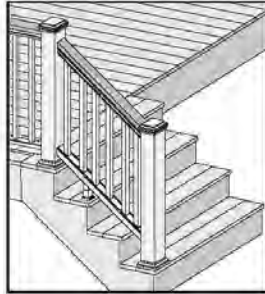
HOW TO INSTALL TRADITIONAL STAIR RAILING TREX TRANSCEND®

Installing Pressure-treated Posts, Post Sleeves, and Skirts

1. See instructions on page 76.

Measuring and Cutting Bottom Stair Rail

2. See instructions on page 76.



Marking Location for Foot Block on Bottom Rail

3. See instructions on page 77.

Attaching RSB's for Bottom Stair Rail

4. See instructions on page 77.

Attaching Bottom (Universal) Stair Rail

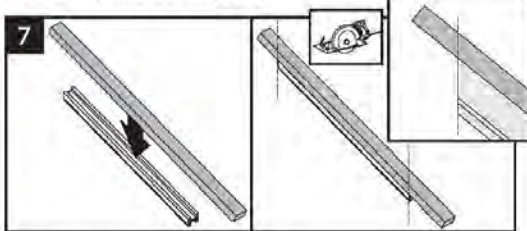
5. See instructions on page 77.

IMPORTANT NOTE: REMEMBER TO INVERT UNIVERSAL TOP RAIL BEFORE MARKING AND CUTTING

Measuring and cutting Top Stair Rail

6. See instructions on page 78.

Measuring and Cutting 2x4



7. Using the cut top rail as template, cut 2x4 at same angle and length of the top rail.

Attaching RSB's for Top Stair Rail

8. See instructions on page 79.

Installing Inverted Top Baluster Spacer and Placing Balusters

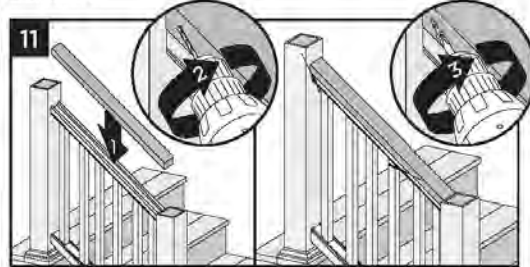
9. See instructions on page 79.

DO NOT SLIDE TOP BALUSTER INTO PLACE YET

Attaching Top Stair Rail

10. See instructions on page 79.

Attaching 2x4 to Top Stair Rail and Securing Balusters



11. Pre-drill a pilot hole and toenail 2-1/2" (6.4 cm) composite deck screw at each end of 2 x 4 into post on back side of stair rail (side not facing decking).

12. Secure 2x4 to top (universal) rail from underside of rail into bottom of 2x4 with 1-5/8" pan-head screws (not provided) approximately every 16"



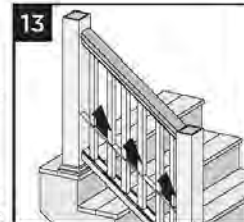
NOTE: Balusters can be shifted out of the way if necessary.

13. Slide baluster spacer up and snap into top rail.

Installing Optional Gaskets

14. See instructions on page 79.

NOTE: top gaskets may have to be trimmed to fit properly.



Attaching Post Caps and Installing Foot Block

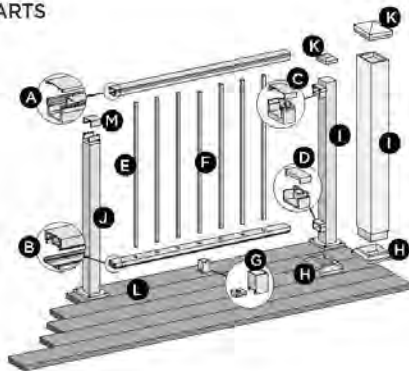
15. See instructions on page 79.

TREX SIGNATURE® RAILING

NOTES:

- » TREX SIGNATURE POSTS CANNOT BE USED WITH TRADITIONAL OR COCKTAIL DESIGNS. ONLY PRESSURE TREATED POSTS/POST SLEEVES CAN BE USED. REFER TO DETAILED INSTRUCTIONS FOR MORE INFORMATION.
- » TREX SIGNATURE RAILINGS ARE DESIGNED TO BE ATTACHED WITH POSTS INSTALLED AT A CLEAR SPAN OF 6' (1.83 M) OR 8' (2.44 M).
- » IF INSTALLING AT EXACT SPAN LENGTHS OF 6' (1.83 M) OR 8' (2.44 M), AND USING POST-TO-POST CONFIGURATION, THE BOTTOM RAIL WILL NOT NEED TO BE CUT, BUT THE TOP RAIL WILL NEED TO BE MEASURED (MAKING SURE BALUSTERS LINE UP VERTICALLY) AND CUT.
- » IF INSTALLING AT EXACT SPAN LENGTHS OF 6' (1.83 M) OR 8' (2.44 M), AND USING CROSSOVER POST CONFIGURATION (SPANS FROM ONE CROSSOVER POST TO ANOTHER CROSSOVER POST), BOTH THE BOTTOM RAIL AND TOP RAIL WILL NOT NEED TO BE CUT.
- » IN ADDITION, AT ALL FINAL END POST CONFIGURATIONS, TOP RAIL WILL NEED TO BE MEASURED (MAKING SURE BALUSTERS LINE UP VERTICALLY) AND CUT.
- » ALL TREX SIGNATURE SPANS OVER 6' WILL REQUIRE THE USE OF A FOOT BLOCK. THUS THESE RAILING SPANS MUST BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST.
- » SEE INFORMATION WITHIN DETAILED INSTRUCTIONS FOR MORE INFORMATION.
- » SEE PAGE 52-54 FOR SKU NUMBERS.

PARTS



BALUSTER OPTIONS



DETERMINING BALUSTERS NEEDED

| Baluster Type | Per 6' Section | Per 8' Section | Per 6' Stair Section | Per 8' Stair Section |
|---------------|----------------|----------------|----------------------|----------------------|
| Square | 15 | 20 | 13 | 17 |
| Round | 15 | 20 | 13 | 17 |

NOTE: THIS IS AN OVERVIEW OF ALL RAILING COMPONENTS FOR TREX SIGNATURE HORIZONTAL APPLICATIONS – REFER TO DETAILED INSTRUCTIONS FOR SPECIFIC RAILING CONFIGURATIONS.

- A. Trex Signature top rail and crowned cover
 - 6' (actual length 73.5" [186.7 cm])
 - 8' (actual length 97.5" [247.7 cm])
- B. Trex Signature bottom rail and flat cover
 - 6' (actual length 71.5" [181.6 cm])
 - 8' (actual length 95.5" [242.6 cm])
- C. Trex Signature upper rail bracket and cover
- D. Trex Signature lower rail bracket and cover
- E. Trex Signature balusters (square or round)
- F. Trex Signature center baluster (square or round)
- G. Trex Signature Foot Block**
- H. Trex Signature post skirt or post sleeve skirt*
- I. Trex Signature post*
 - 36" (actual length 37" [94.0 cm])
 - 42" (actual length 43" [109.2 cm])
 - or Trex post sleeve***
 - 36" (actual length 40" [102 cm])
 - 42" (actual length 46" [117 cm])

- J. Trex Signature crossover post*
 - 36" (actual length 34.5" [87.6 cm])
 - 42" (actual length 40.5" [102.9 cm])
- K. Trex Signature post cap or post sleeve cap*
- L. Trex decking
- M. Crossover bracket cover (supplied with crossover post)

* Item not included in Trex Signature Railing kits.

** Required ONLY for All Clear Span Applications over 6' (1.83 m) when smaller fixed baluster is fully centered, or unsupported spans greater than 5' (1.52 m) (example: 8' (2.44 m) span cut into one 5' (1.52 m) span and one 3' (0.91 m) span would require Foot Block under 5' (1.52 m) span since smaller fixed baluster is no longer centered). Included with 8' (2.44 m) railing kits.

*** Both 4" x 4" (10.2 cm x 10.2 cm) and 6" x 6" (15.2 cm x 15.2 cm) post sleeves are designed to fit over 4" x 4" pressure-treated post.

NOTE: If installing 42" (106.7 cm) railing, and using pressure-treated posts with Trex post sleeves, ensure that a longer pressure-treated post is used along with longer post sleeve, both cut to a height of 46" (116.8 cm) from decking surface.

NOTE: MUST USE TREX DECK MOUNT POST HARDWARE AND METAL PLATE WHEN ATTACHING TREX SIGNATURE POSTS.

INSTALLING TREX SIGNATURE® POSTS AND/OR CROSSOVER POSTS ON WOOD OR CONCRETE

IMPORTANT NOTES:

- » EACH POST MUST BE ATTACHED AS SHOWN TO ENSURE A CODE-COMPLIANT AND SAFE INSTALLATION.
- » TREX SIGNATURE POSTS CANNOT BE USED WITH TREX SIGNATURE TRADITIONAL OR TREX SIGNATURE COCKTAIL DESIGNS. ONLY PRESSURE-TREATED POST/POST SLEEVES CAN BE USED. REFER TO DETAILED INSTRUCTIONS FOR MORE INFORMATION.
- » ALWAYS refer to your local building code official prior to installing any railing system to ensure all code and safety requirements are met. Trex cannot be held responsible for improper or non-recommended installations.
- » When installing Trex Signature posts on ACQ, CCA or concrete surfaces, use an appropriate isolation barrier between post and surface (contact local building code official if needed).
- » For installing Trex Signature Post and/or Trex Signature Crossover Posts, see below.
- » For pressure-treated posts, post sleeves, and skirts, see detailed instructions provided with Trex Signature Railing Kits.
- » All Trex Signature stair installations require the use of a 53" (1346 mm) stair post, measured and cut to appropriate length if necessary.
- » If crossover stair post is required, use stair post (again cut to appropriate length if necessary) and use swivel crossover bracket.
- » If installing on concrete, make sure all surfaces are level.
- » In areas of extreme cold/cold weather conditions (ex. ice/snow) it's recommended to drill a small weephole at the base of the post (can be hidden under post skirt) to allow for water drainage.

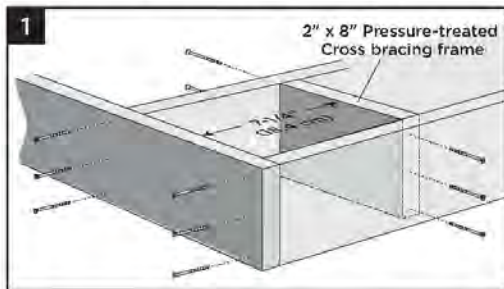
TOOLS AND MATERIALS NEEDED

- » Drill and/or screw gun (hammer drill for concrete)
- » 1/2" (13 mm) drill bit for wood, 3/8" (10 mm) drill bit for concrete
- » Blocking - 2" x 8" (51 mm x 203 mm) pressure-treated Southern Yellow Pine or equivalent
- » Qty: 36 (per post) - 3" pressure-treated compatible wood screws

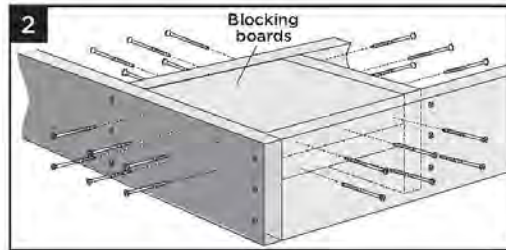
CODE APPROVED POST APPLICATIONS

| POST SIZE | 2.5" (64 mm) |
|----------------------|---|
| | 2.5" (64 mm) |
| | 2.5 x 2.5 (64 mm x 64 mm) Post (IRC) |
| ≤ 30" height decking | Acceptable (Code Approval not Applicable) |
| IRC Compliant | Yes |
| IBC Compliant | No |

Installing Trex Signature Posts and/or Trex Signature Crossover Posts on Pressure-Treated Wood Framing (Corner Post Installation)



1. Install 2" x 8" (51 mm x 203 mm) cross bracing frame in between joists at 7-1/4" (184 mm). Attach a total of twelve 3" (76 mm) pressure-treated compatible screws (*not provided*).

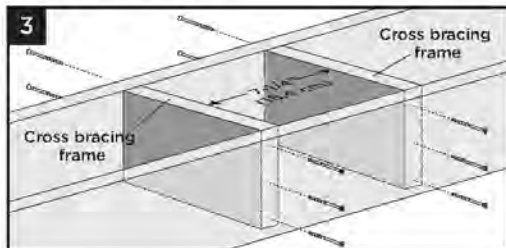


2. Install two 2" x 8" (51 mm x 203 mm) boards as blocking under post location. Securely attach blocking using a total of 24 3" (76 mm) pressure-treated compatible screws (*not provided*).

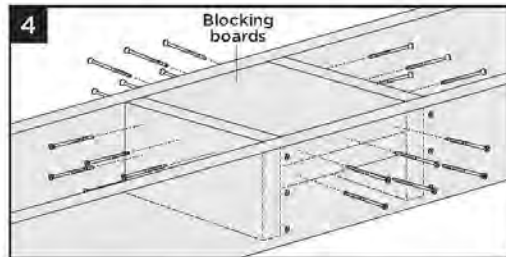
NOTE: TO ENSURE THE BLOCKING IS FULLY SECURE, USE THE AMOUNT OF SCREWS indicated ABOVE.

TIP: Use two additional screws to "sandwich" blocking boards together for easier attachment to framing.

Line Post Installation



3. Install two 2" x 8" (51 mm x 203 mm) cross bracing frames in between joists at 7-1/4" (184 mm). Attach a total of twelve 3" (76 mm) pressure-treated compatible screws (*not provided*).

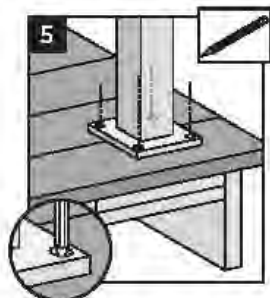


4. Install two 2" x 8" (51 mm x 203 mm) boards as blocking under post location. Securely attach blocking using a total of twenty-four 3" (76 mm) pressure-treated compatible screws (*not provided*).

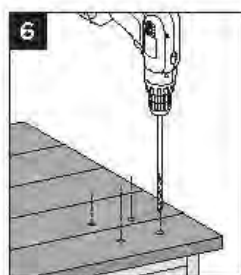
INSTALLING TREX SIGNATURE® POSTS AND/OR CROSSOVER POSTS ON WOOD OR CONCRETE/CONTINUED

NOTES:

- » *Metal backplate is only required for 2.5" (64 mm) post in IRC installations. (Consult local code official for more information.)*
- » *If using crossover post in areas prone to long periods of cold weather, drill a weep hole at the base of the post to allow for water drainage. Ensure to drill on side of post an at location that post skirt will cover.*



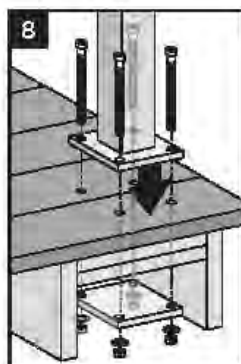
5. Using post as a template, mark locations of holes.
6. Drill through decking and blocking boards using 5/8" diameter bit (long drill bit will be required).



7. Insert the (2) stainless steel barrier strips under the mounting bolt holes. BARRIER STRIPS ARE REQUIRED ONLY IF ATTACHING POST DIRECTLY TO PRESSURE TREATED FRAMING.



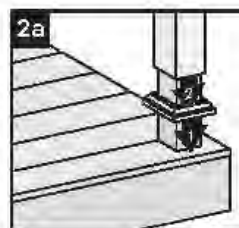
8. Attach posts using four 3/8" x 6" (10 mm x 152 mm) hex cap bolts, washers, and nuts, along with aluminum back plate on underside of blocking. If the project requires IRC compliance, this back plate MUST be installed under the decking to ensure this will meet code compliance. Reference SKU part number ALPOSTHWDECK for required hardware and aluminum plate. (Consult local code official for more information on IRC Compliance.)



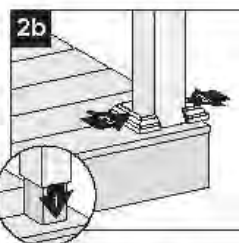
INSTALLING PRESSURE-TREATED POSTS, POST SLEEVES, AND SKIRTS TO USE WITH TREX SIGNATURE RAILING

1. PLEASE REFER TO LOCAL BUILDING CODE REQUIREMENTS PRIOR TO ATTACHING PRESSURE TREATED POSTS. BELOW INSTRUCTIONS ARE GUIDELINES FOR GENERAL REQUIREMENTS.

- 2a. If using a 1-piece skirt, slide post sleeve skirt over post and down to rest on decking surface. Slide post sleeve over post and position inside post sleeve skirt.



- 2b. If using a two-piece skirt Slide post sleeve over post and down to rest on decking surface. Snap two piece skirt over post sleeve.



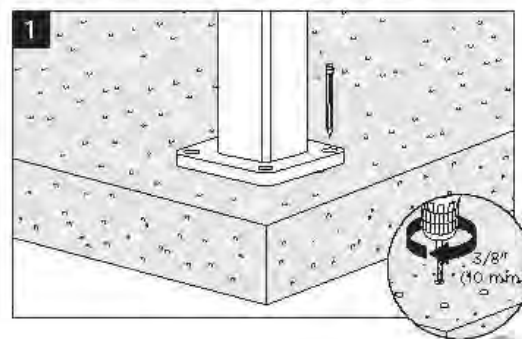
NOTE: Shims can be used to plumb post sleeves.

Installing Trex Signature Posts on Concrete Pre-Drilled Holes

1. Using post as a template, mark locations of the four holes and drill into concrete at least 2-5/8" (67 mm) using a 3/8" (10 mm) masonry bit.

NOTE: You can either set drill bit to correct depth on drill or mark drill bit with tape at required dimension to ensure all holes are drilled at correct depth.

2. Clean out holes to remove all concrete dust using a shop vacuum or other appropriate tool.



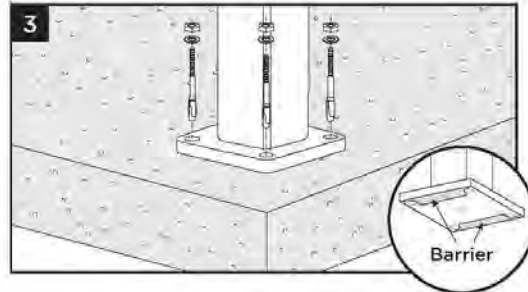
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

INSTALLING TREX SIGNATURE® POSTS AND/OR CROSSOVER POSTS ON WOOD OR CONCRETE/CONTINUED

3. Insert (2) stainless steel barrier strips under mounting bolt holes. Use appropriate shims if posts are not plumb. Attach posts using four TREX SUPPLIED 3/8" x 3-3/4" (10 mm x 95 mm) wedge anchors. Reference SKU part number **ALPOSTHWCONC** for required hardware (wedge anchors, washers, and nuts).

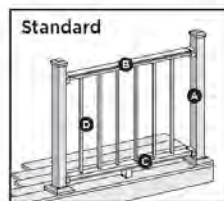
NOTES:

- » When using hammer to tap anchors in place, keep threaded nut at top of anchor in order to not damage threads.
- » Recommended torque for anchors is 20 ft-lbs.



TREX SIGNATURE® RAILING CONFIGURATIONS

Note: See specific installation instructions for attachment of Trex post mounts or Trex Joist Mount Posts prior to installing any railing.

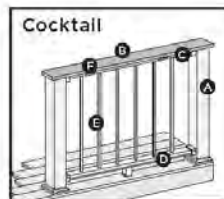


Cutting posts/post sleeves is **NOT** required.

- A. Trex Signature post, pressure-treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 post sleeve, or Composite Joist Mount Post/Trex 4x4 post sleeve (Inside mount), or Signature Joist Mount Post (Span of 6' or less only)*

- B. Trex Signature top rail
- C. Trex Signature bottom rail
- D. Trex Signature balusters

See page 88 for "How to Install Standard Horizontal Railing".



Post sleeves will need to be cut.

- A. Pressure-Treated post, with Trex post sleeve

NOTE: » Only for use with 4x4 (102 mm x 102 mm) post sleeve.

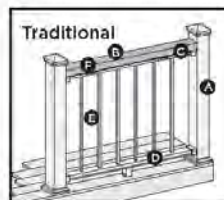
- » Trex Signature Posts, Trex Post Mounts or Joist Mount Posts cannot be used with Trex Signature Cocktail design.

- B. Deck board top rail. **NOTE:** Enhance cannot be used.

- C. Trex Signature top rail
- D. Trex Signature bottom rail
- E. Trex Signature balusters
- F. Trex Signature Cocktail Rail Bracket**

See page 102 for "How to Install Signature Horizontal Cocktail Railing".

POST
SLEEVES
WILL
NEED TO
BE CUT



Cutting posts/post sleeves is Not required.

- A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 post sleeve, or Joist Mount Post/Trex 4x4 post sleeve*

NOTE: » Trex Signature Posts or Trex Signature Joist Mount Posts cannot be used.

- B. 2 x 4 lateral top rail
- C. Trex Signature top rail
- D. Trex Signature bottom rail
- E. Trex Signature balusters
- F. Trex Signature Cocktail Rail Bracket**

See page 103 for "How to Install Trex Signature Horizontal Traditional Railing".

** Trex Signature Cocktail Rail brackets (sold separately) are for use with either Trex Signature Traditional or Trex Signature Cocktail designs. For a 6' section, use 4 brackets and screws provided, for 8' section, use 5 brackets and screws provided.

BRACKET HARDWARE - HORIZONTAL APPLICATIONS (INCLUDING HORIZONTAL SWIVEL BRACKETS) TREX SIGNATURE®

HORIZONTAL RAILING HARDWARE

- AA. Lower rail bracket
- BB. Lower rail bracket cover
- CC. Upper rail bracket cover
- DD. Upper rail bracket



FOOT BLOCK COMPONENTS

- EE. Foot Block base
- FF. Foot Block support



HORIZONTAL SWIVEL HARDWARE

- GG. Swivel base
- HH. Horizontal swivel bracket top rail
- II. Horizontal swivel bracket top rail cover
- JJ. Horizontal swivel bracket bottom rail cover
- KK. Horizontal swivel bracket bottom rail
- LL. Swivel base cover



NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL HORIZONTAL RAILING TREX SIGNATURE®

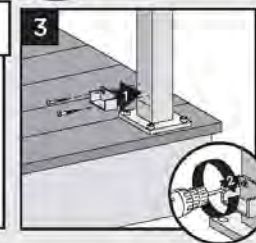
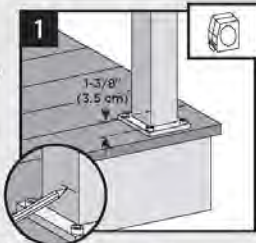
NOTES:

- » FOR EASE OF INSTALLATION, IT IS RECOMMENDED THAT YOU USE THE TREX SIGNATURE RAIL TEMPLATES TO ATTACH BRACKETS (SOLD SEPARATELY).
- » Do not use impact driver when installing Signature Railing, only use standard drill for screw attachment of bracket to posts and rails.

Attach Brackets Using Trex Signature Posts

TIP: Use a clamp to help hold brackets in place while fastening with screws.

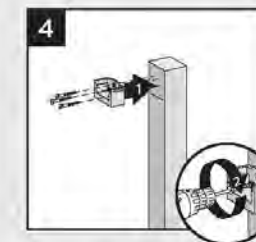
1. Measure 1-3/8" (3.5 cm) from top of post base plate or 1-7/8" (4.8 cm) from decking surface. Mark with light line.



2. Measure up from post base plate 33-7/16" (84.9 cm) for 36" (92 cm) rail height or 39-7/16" (100.2 cm) for 42" (107 cm) rail height. Mark with light line.

NOTE: If measuring from decking surface, measure up 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height.

3. Center lower bracket on post **above** the marked line and attach using two self-tapping screws (provided).
4. Center upper bracket on post **above** marked line and attach using (3) self-tapping screws (provided).

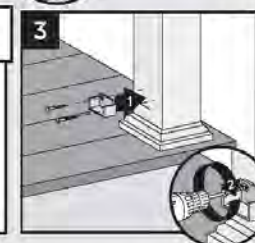
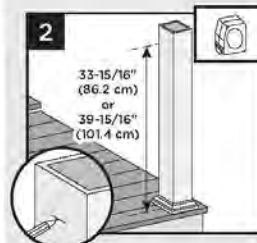
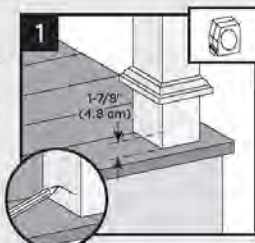


NOTE: Upper bracket is not required on crossover post configuration.

Attach Brackets Using Pressure-Treated Posts and Post Sleeves

TIP: Use a clamp to help hold brackets in place while fastening with screws.

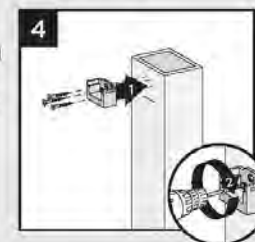
1. Measure 1-7/8" (4.8 cm) up from deck surface to bottom of bracket. Slide skirt up to allow for proper measurement. Mark with light line.



2. Measure up from decking surface 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height. Mark with light line.

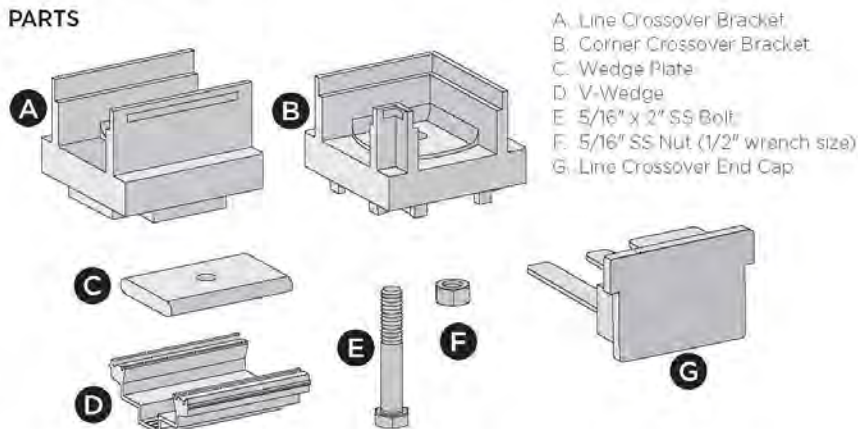
NOTE: Push skirt back down onto surface of decking **BEFORE ATTACHING BRACKETS**.

3. Center lower bracket on post **above** the marked line and attach using two 2" (51 mm) wood screws (provided).
4. Center upper bracket on post **above** marked line and attach using three 2" (51 cm) wood screws (provided).



HOW TO INSTALL HORIZONTAL LINE AND CORNER CROSSOVER BRACKETS TREX SIGNATURE®

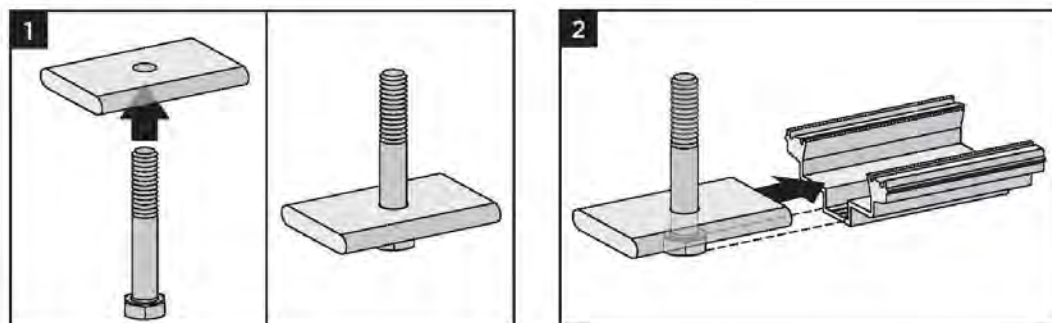
PARTS



IMPORTANT NOTE REGARDING CUTTING SIGNATURE POSTS:

- Signature posts must be cut to proper length when using crossover brackets:
36" rail height - cut post to 34" height (measured from deck surface)
42" rail height - cut post to 40" height (measured from deck surface)

Wedge Plate Assembly



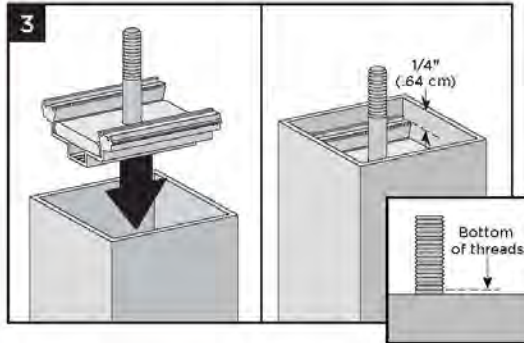
1. Insert the bolt through the hole in wedge plate

2. Align and insert the wedge plate with bolt into the V-wedge. Slide the wedge plate in until the ends are flush with the ends of the V-wedge.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

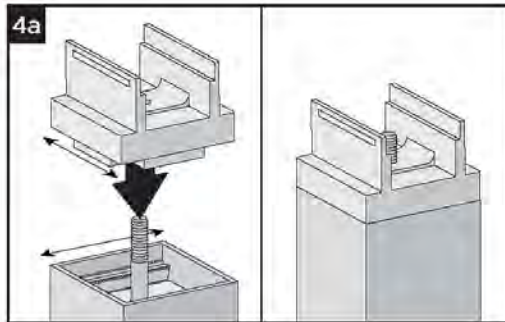
HOW TO INSTALL HORIZONTAL LINE AND CORNER CROSSOVER BRACKETS/CONTINUED TREX SIGNATURE®

Installing Wedge Plate Assembly Into Top of Post



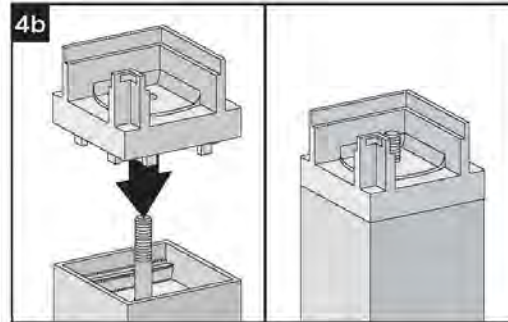
3. Insert assembly (from step 2) into the top of post. Stop when top of v-wedge is about 1/4" into top of post.

Note: Threads of bolt will be slightly above the end of the post.

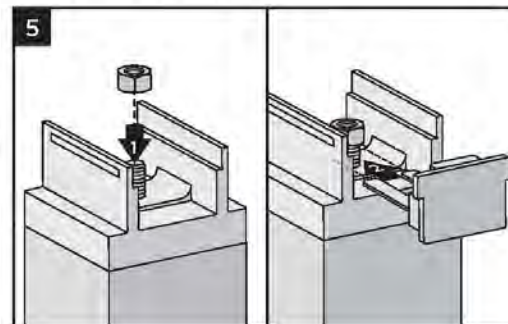


- 4a. Place the line crossover bracket over the bolt onto the end of the post.

IMPORTANT NOTE: For Line Crossover Bracket: Align the bracket such that the rail channel is perpendicular (90°) to the length of the wedge plate assembly.

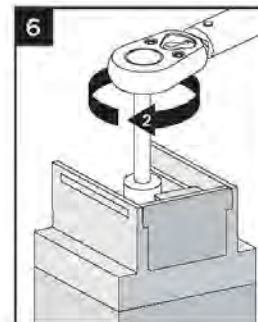


- 4b. Place the corner crossover bracket over the bolt onto the end of the post.



5. Thread the nut onto the bolt. When attaching crossover end cap, slide u-channel on end cap under the nut until cap is flush with the end of the bracket. End cap is for use with the line crossover bracket only (when terminating a rail at a line crossover post).

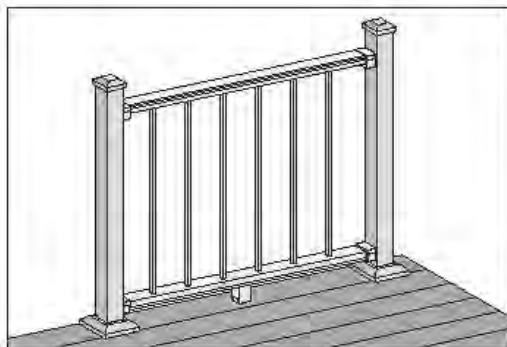
6. Tighten the nut to **10 ft-lbs** with a torque wrench with 1/2" socket adapter.



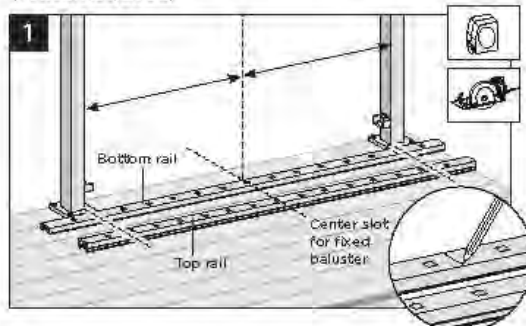
HOW TO INSTALL HORIZONTAL RAILING POST TO POST TREX SIGNATURE®

NOTES:

- 1. TREX SIGNATURE RAILINGS ARE DESIGNED TO BE ATTACHED WITH POSTS INSTALLED AT A CLEAR SPAN OF 6' (1.83 M) OR 8' (2.44 M).
- 2. IF INSTALLING AT EXACT SPAN LENGTHS OF 6' (1.83 M) OR 8' (2.44 M), AND USING POST-TO-POST CONFIGURATION, THE BOTTOM RAIL WILL NOT NEED TO BE CUT, BUT THE TOP RAIL WILL NEED TO BE MEASURED (MAKING SURE BALUSTERS LINE UP VERTICALLY) AND CUT.
- 3. FOR ODD SPAN LENGTHS, BOTH TOP RAIL AND BOTTOM RAIL WILL NEED TO BE MEASURED (MAKING SURE BALUSTERS LINE UP VERTICALLY) AND CUT. ENSURE THAT BALUSTERS ARE SPACED WITH AN EQUAL DISTANCE ON EACH SIDE OF THE POST.
- 4. WHEN RAILINGS ARE CUT TO ODD SPANS, ALL SPANS GREATER THAN 5' (1.52 M) (EXAMPLE: 8' (2.44 M) SPAN CUT INTO ONE 5' (1.52 M) SPAN AND ONE 3' (0.91 M) SPAN) WOULD REQUIRE FOOT BLOCK UNDER 5' (1.52 M) SPAN SINCE SMALLER FIXED BALUSTER IS NO LONGER CENTERED.



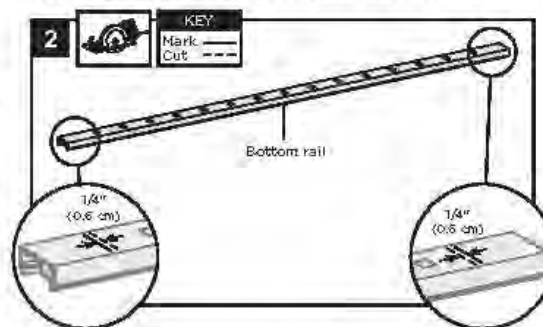
How to Measure and Cut Bottom and Top Railings (When Required)



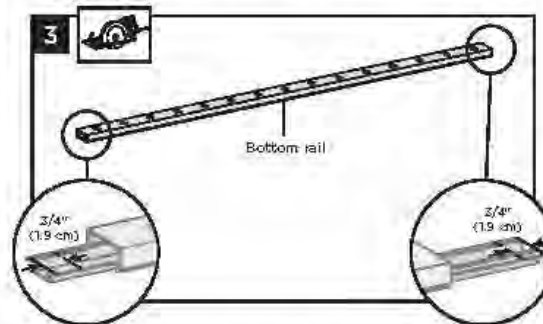
1. Position bottom and top rails between posts and align with bottom bracket. Align the center baluster slot in both rails with the middle of the span between posts.* This will allow an equal number of baluster holes on each side of center slot. Mark bottom rail and top rail at each end (ensure both rails are centered between posts).

* In some cases, due to odd railing spans, the center baluster may need to be offset in one direction to ensure there is enough room at both post locations for balusters to be placed. Review this BEFORE cutting any railings to ensure all balusters are equally spaced.

Cutting Bottom Rail and Bottom Rail Cover

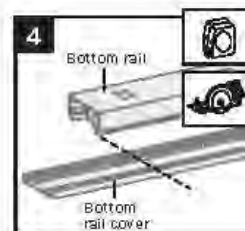


2. Cut each end of bottom rail 1/4" (0.6 cm) shorter than mark on each end to allow for fit into bottom rail brackets.



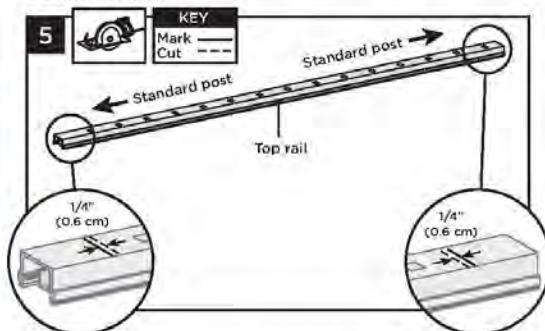
3. Slide rail insert out and cut 3/4" (19 mm) FROM EACH SIDE of insert, then slide back inside rail and center.

4. Mark and cut bottom rail cover the same length as the bottom rail.



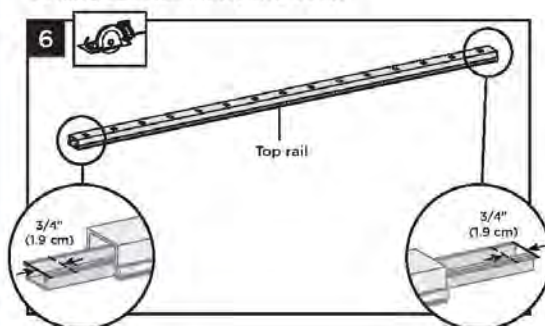
HOW TO INSTALL HORIZONTAL RAILING POST TO POST/CONTINUED TREX SIGNATURE®

Cutting Top Rail

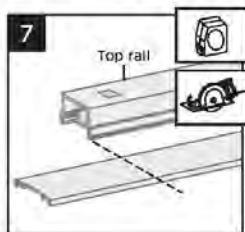


5. Cut each end of top rail $1/4"$ (0.6 cm) shorter than mark to allow for fit into top rail brackets.

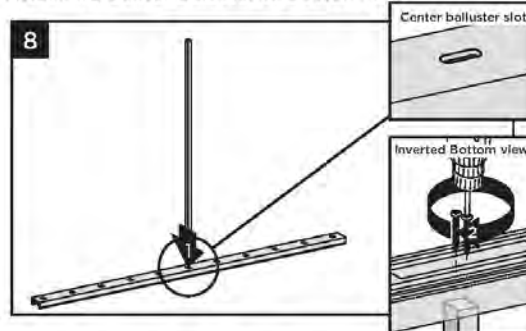
Cutting Top Rail Insert and Cover



6. Slide rail insert out and cut $3/4"$ (1.9 cm) **FROM EACH SIDE** of insert, then slide back inside rail and center.
7. Mark and cut top rail cover same length as top rail for all top rail configurations.

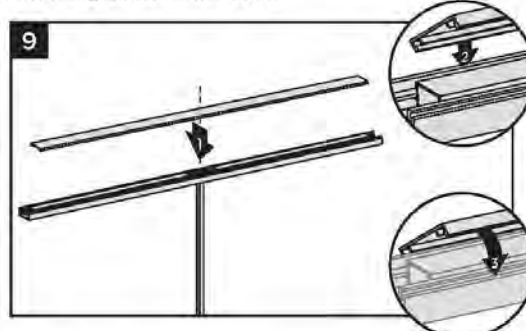


Attaching Center Baluster to Bottom Rail



8. Attach shorter, center baluster in center slot in bottom rail using two #8 x $1-1/4"$ (3.2 cm) screws (provided).

Attaching Bottom Rail Cover

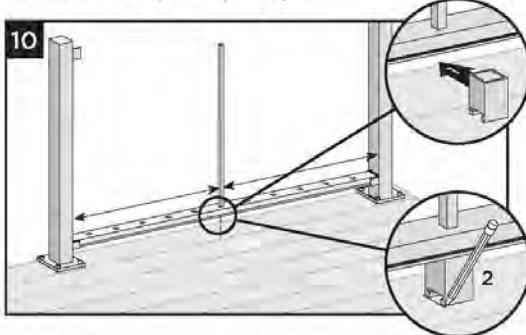


9. Align flat cover on one side of bottom rail in slot on side of rail. Then starting from one end of rail snap cover onto opposing slot working down the length of rail. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

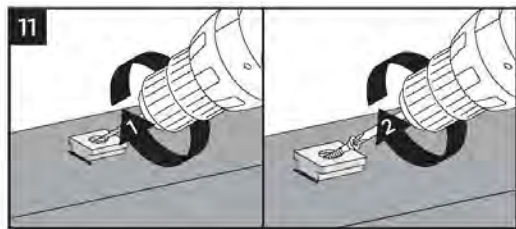
HOW TO INSTALL HORIZONTAL RAILING POST TO POST/CONTINUED TREX SIGNATURE®

Attaching Foot Block (when required)

Required **ONLY** for All Clear Span Applications over 6' (1.83 m) when shorter fixed baluster is centered, or unsupported spans greater than 5' (1.52 m) (example: 8' (2.44 m) span cut into one 5' (1.52 m) span and one 3' (0.91 m) span would require Foot Block under 5' (1.52 m) span since shorter fixed baluster is no longer centered). Included with 8' (2.44 m) railing kits.

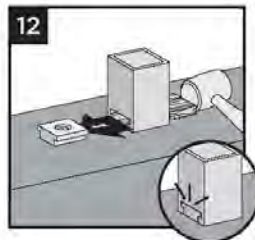


10. Temporarily set bottom rail into bottom brackets, and place Foot Block under center of bottom rail. Mark to provide placement location of base. Remove bottom rail.



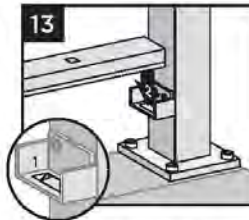
11. Place base (smaller side facing down) on decking surface. Pre-drill using a 3/16" bit. Attach base of Foot Block using one screw at an angle through base and into decking.

12. After attached, use a **rubber mallet** along with **scrap piece of wood** to tap Foot Block until it locks into place.



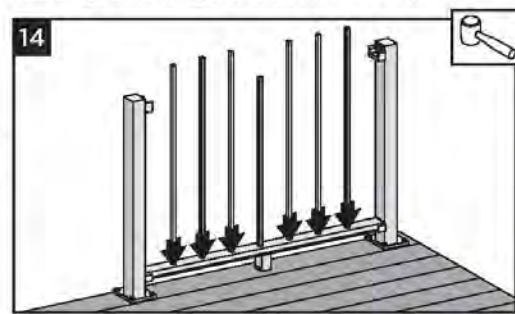
Installing Lower Rail to Brackets

13. Place adhesive strips (provided) into bottom rail brackets, and then place bottom rail into brackets.



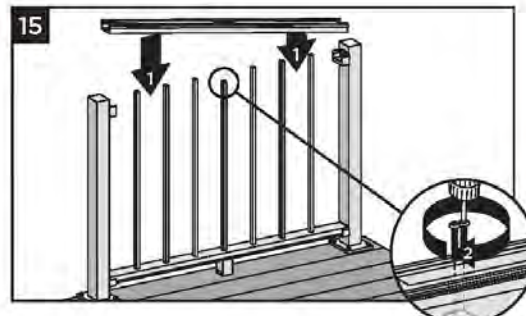
NOTE: Make sure surface is clean and dry.

Installing Remaining Balusters into Bottom Rail



14. Place remaining balusters into holes in lower rail by snapping fully into place. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

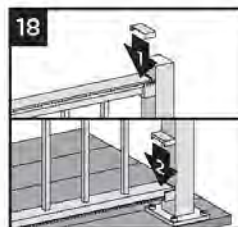
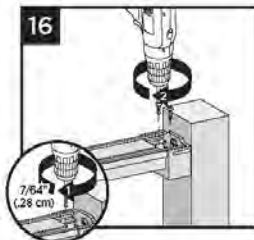
Attach Upper Railings



15. Working from one end of upper rail, snap balusters into upper rail working down length of rail. Fasten center baluster into center slot using two #8 x 1-1/4" (3.2 cm) screws (provided).

HOW TO INSTALL HORIZONTAL RAILING POST TO POST/CONTINUED TREX SIGNATURE®

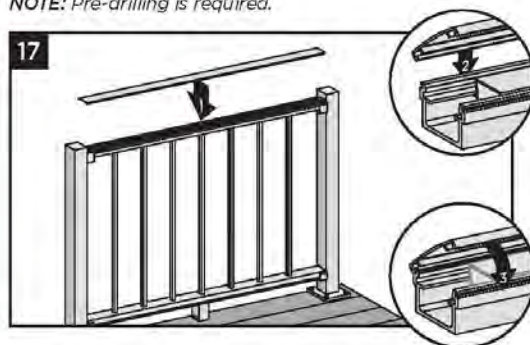
16. Using a 7/64" (0.28 cm) drill bit, pre-drill at marked location for attachment of railing to bracket. Attach upper rail to each bracket by installing screws diagonally through upper rail into bracket using two self-tapping screws each side (*provided*).



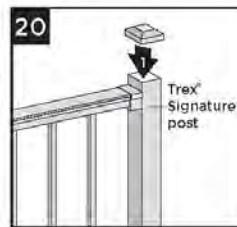
18. Attach corresponding bracket covers over opening in upper and bottom rails.

19. Attach provided post skirt to bottom of posts when using Trex Signature posts.

NOTE: Pre-drilling is required.



17. Attach "crowned" upper rail cover to upper rail by aligning cover on one side of rail. Then starting from one end of rail, snap cover onto opposing slot working down length of rail. **GENTLE** tapping with a **rubber mallet** may facilitate fastening.



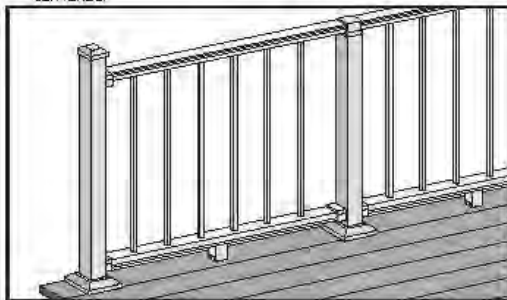
20. Attach post caps to Trex Signature posts. (Use of **rubber mallet** may be required for secure attachment.)

21. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).

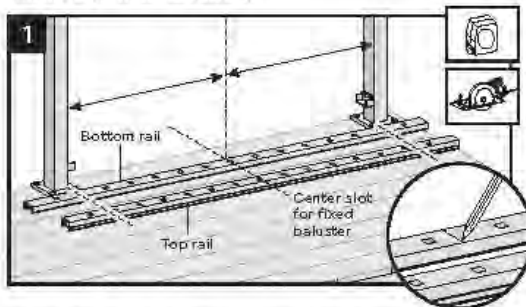
HOW TO INSTALL HORIZONTAL RAILING POST TO CROSSOVER POST TREX SIGNATURE®

NOTES:

- " TREX SIGNATURE RAILINGS ARE DESIGNED TO BE ATTACHED WITH POSTS INSTALLED AT A CLEAR SPAN OF 6' (1.83 M) OR 8' (2.44 M).
- " IF INSTALLING AT EXACT SPAN LENGTHS OF 6' (1.83 M) OR 8' (2.44 M), AND USING POST-TO-CROSSOVER POST CONFIGURATION, THE BOTTOM RAIL WILL NOT NEED TO BE CUT, BUT THE TOP RAIL WILL NEED TO BE MEASURED (MAKING SURE BALUSTERS LINE UP VERTICALLY) AND CUT.
- " AT ALL FINAL END POST CONFIGURATIONS, TOP RAIL WILL NEED TO BE MEASURED (MAKING SURE BALUSTERS LINE UP VERTICALLY) AND CUT.
- " FOR ODD SPAN LENGTHS, BOTH TOP RAIL AND BOTTOM RAIL WILL NEED TO BE MEASURED (MAKING SURE BALUSTERS LINE UP VERTICALLY) AND CUT, ENSURE THAT BALUSTERS ARE SPACED WITH AN EQUAL DISTANCE ON EACH SIDE OF THE POST.
- " WHEN RAILINGS ARE CUT TO ODD SPANS, ALL SPANS GREATER THAN 5' (1.52 M) (EXAMPLE: 8' (2.44 M) SPAN CUT INTO ONE 5' (1.52 M) SPAN AND ONE 3' (0.91 M) SPAN), WOULD REQUIRE FOOT BLOCK UNDER 5' (1.52 M) SPAN SINCE SMALLER FIXED BALUSTER IS NO LONGER CENTERED.



How to Measure, Mark and Cut Bottom and Top Railings (When Required)

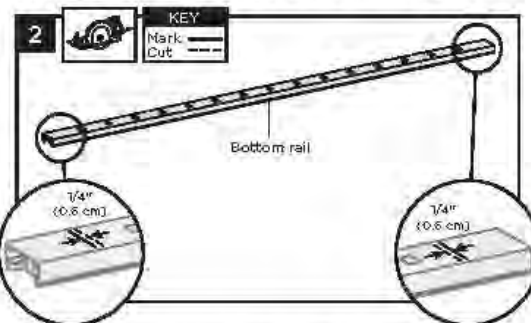


Important: DO NOT cut top rail the same length as bottom rail.

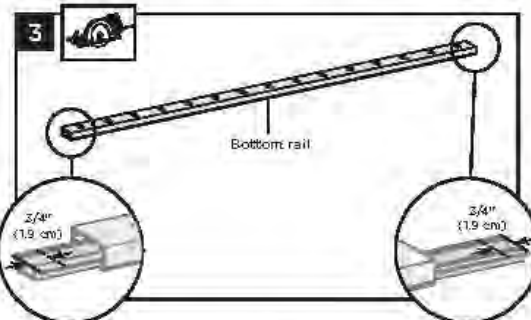
1. Position bottom and top rails between posts and align with bottom bracket. Align the center baluster slot in both rails with the middle of the span between posts.* This will allow an equal number of baluster holes on each side of center slot. Mark bottom rail and top rail at each end (ensure both rails are centered between posts).

* In some cases, due to odd railing spans, the center baluster may need to be offset in one direction to ensure there is enough room at both post locations for balusters to be placed. Review this BEFORE cutting any railings to ensure all balusters are equally spaced.

Cutting Bottom Rail and Bottom Rail Cover ONLY

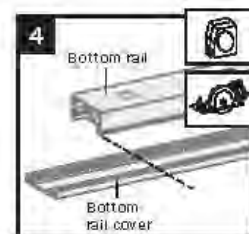


2. Cut each end of bottom rail 1/4" (0.6 cm) shorter than mark on each end to allow for fit into bottom rail brackets.



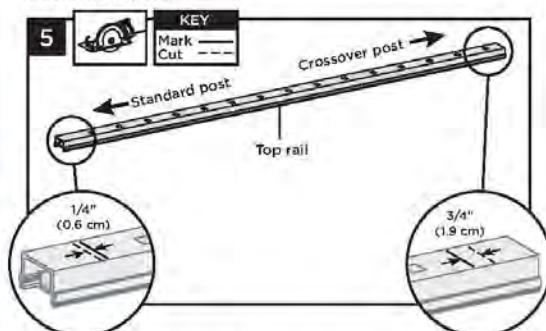
3. Slide rail insert out and cut 3/4" (1.9 cm) FROM EACH SIDE of insert, then slide back inside rail and center.

4. Mark and cut bottom rail cover the same length as bottom rail.



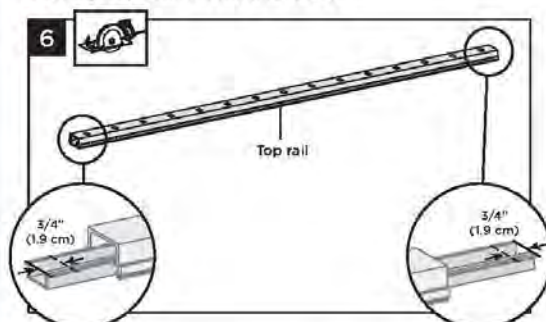
HOW TO INSTALL HORIZONTAL RAILING POST TO CROSSOVER POST/CONTINUED TREX SIGNATURE®

Cutting Top Rail

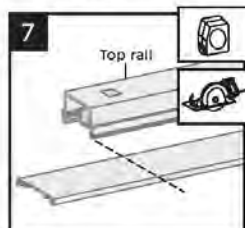


5. Top rail must be cut differently on each side of the rail. Railing side that attaches to standard post should be cut 1/4" (0.6 cm) shorter than the mark to allow for fit into top rail bracket. Railing side that attaches to the crossover post should be cut 3/4" (1.9 cm) **LONGER** than the mark to allow for fit into the crossover post bracket.

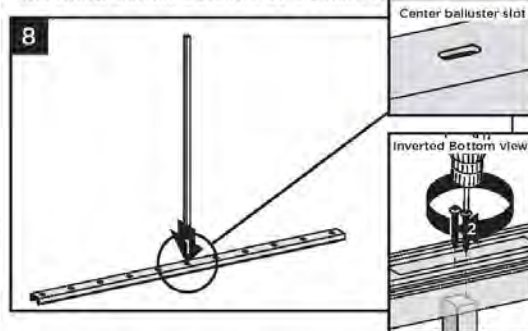
Cutting Top Rail Insert and Cover



6. Slide rail insert out and cut 3/4" (1.9 cm) **FROM EACH SIDE** of insert, then slide back inside rail and center.
7. Mark and cut top rail cover same length as top rail for all top rail configurations.

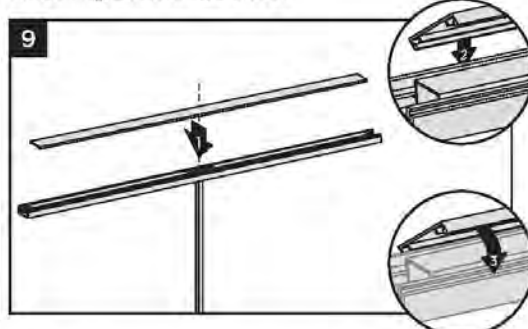


Attaching Center Baluster to Bottom Rail



8. Attach shorter, center baluster in center slot in bottom rail using two #8 x 1-1/4" (3.2 cm) screws (provided).

Attaching Bottom Rail Cover



9. Align flat cover on one side of bottom rail in slot on side of rail. Then starting from one end of rail snap cover onto opposing slot working down the length of rail. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

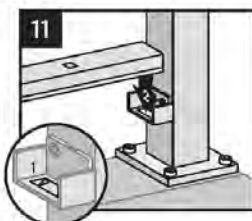
10. **Attaching Foot Block (when required)**
See instructions on page 93.

HOW TO INSTALL HORIZONTAL RAILING POST TO CROSSOVER POST/*CONTINUED* TREX SIGNATURE®

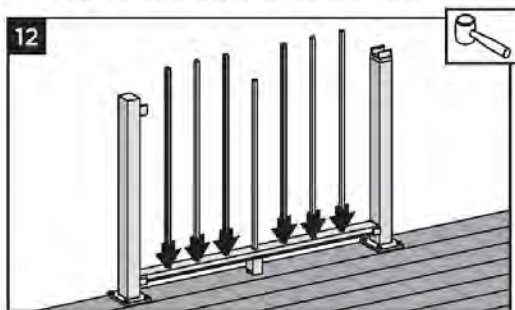
Installing Lower Rail to Brackets

11. Place adhesive strips (provided) into bottom rail brackets, and then place bottom rail into brackets.

NOTE: Make sure surface is clean and dry.

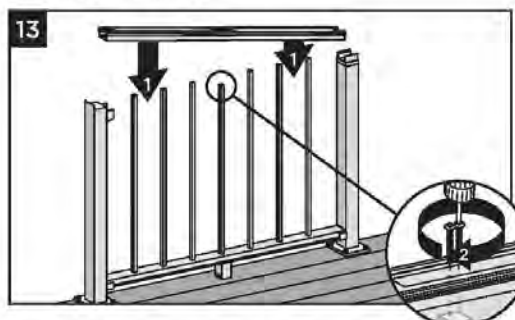


Installing Remaining Balusters into Bottom Rail



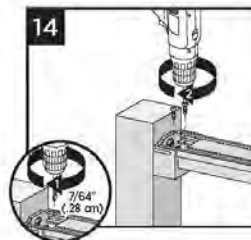
12. Place remaining balusters into holes in lower rail by snapping fully into place. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

Attach Upper Railings



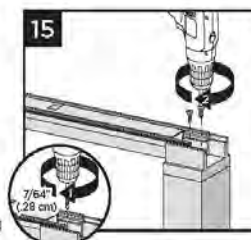
13. Working from one end of upper rail, snap balusters into upper rail working down length of rail. Fasten center baluster into center slot using two #8 x 1-1/4" (3.2 cm) screws (*provided*).

14. At post location, using a 7/64" (0.28 cm) drill bit, pre-drill at marked location for attachment of railing to bracket. Attach fasten upper rail to each bracket by installing screws diagonally through upper rail into bracket. Using two self-tapping screws each side (*provided*).

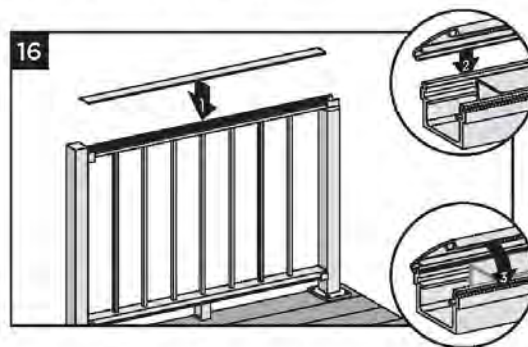


NOTE: Pre-drilling is required.

15. At crossover post location, using a 7/64" (0.28 cm) drill bit, pre-drill at marked location for attachment of railing to crossover post bracket. Attach fasten upper rail to crossover post bracket by installing screws diagonally through upper rail into post using two self-tapping screws each side (*provided*).



NOTE: Pre-drilling is required.

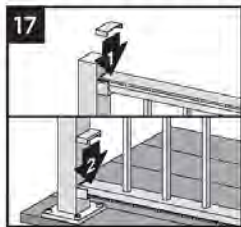


16. Attach "crowned" upper rail cover to upper rail by aligning cover on one side of rail. Then starting from one end of rail, snap cover onto opposing slot working down length of rail. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

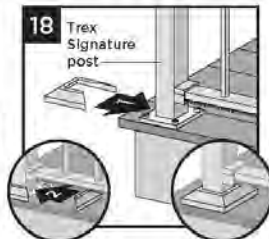
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL HORIZONTAL RAILING POST TO CROSSOVER POST/CONTINUED TREX SIGNATURE®

Attachment of Bracket Covers, Skirts, and Caps



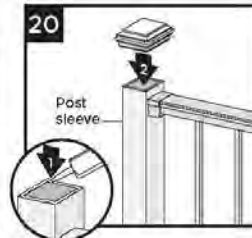
17. Attach corresponding bracket covers over opening in upper and bottom rails.



18. Attach provided post skirt to bottom of posts when using Trex Signature posts.

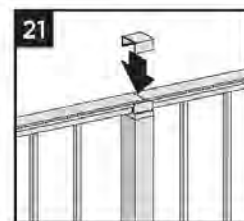


19. Attach post caps to Trex Signature posts. (Use of **rubber mallet** may be required for secure attachment.)



20. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).

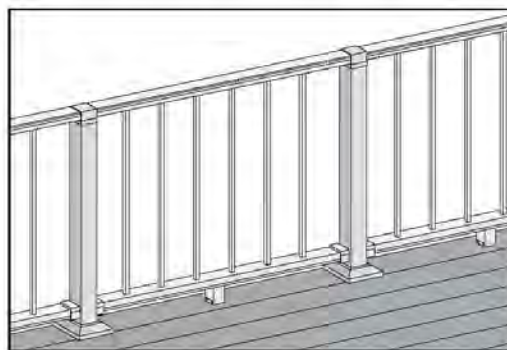
21. For crossover post configuration, attach crossover post cap to crossover post.



HOW TO INSTALL HORIZONTAL RAILING CROSSOVER POST TO CROSSOVER POST TREX SIGNATURE®

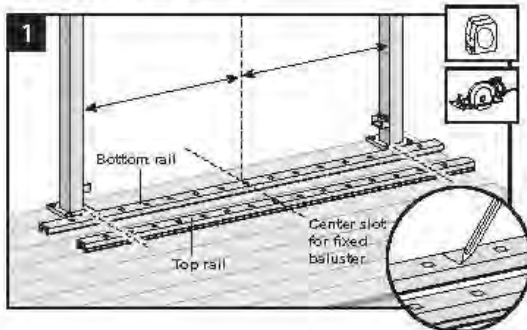
NOTES:

- » TREX SIGNATURE RAILINGS ARE DESIGNED TO BE ATTACHED WITH POSTS INSTALLED AT A CLEAR SPAN OF 6' (1.83 M) OR 8' (2.44 M).
- » IF INSTALLING AT EXACT SPAN LENGTHS OF 6' (1.83 M) OR 8' (2.44 M), AND USING POST-TO-CROSSOVER POST CONFIGURATION, THE BOTTOM RAIL WILL NOT NEED TO BE CUT, BUT THE TOP RAIL WILL NEED TO BE MEASURED (MAKING SURE BALUSTERS LINE UP VERTICALLY) AND CUT.
- » FOR ODD SPAN LENGTHS, BOTH TOP RAIL AND BOTTOM RAIL WILL NEED TO BE MEASURED (MAKING SURE BALUSTERS LINE UP VERTICALLY) AND CUT. ENSURE THAT BALUSTERS ARE SPACED WITH AN EQUAL DISTANCE ON EACH SIDE OF THE POST.
- » WHEN RAILINGS ARE CUT TO ODD SPANS, ALL SPANS GREATER THAN 5' (1.52 M) (EXAMPLE: 8' (2.44 M) SPAN CUT INTO ONE 5' (1.52 M) SPAN AND ONE 3' (0.91 M) SPAN) WOULD REQUIRE FOOT BLOCK UNDER 5' (1.52 M) SPAN SINCE SMALLER FIXED BALUSTER IS NO LONGER CENTERED.



HOW TO INSTALL HORIZONTAL RAILING CROSSOVER POST TO CROSSOVER POST/CONTINUED TREX SIGNATURE®

How to Measure, Mark and Cut Bottom and Top Railings (When Required)

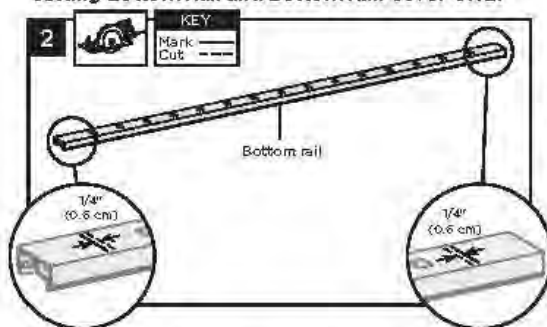


Important: DO NOT cut top rail the same length as bottom rail.

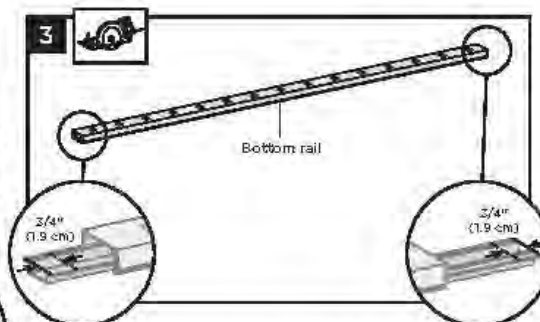
1. Position bottom and top rails between posts and align with bottom bracket. Align the center baluster slot in both rails with the middle of the span between posts.* This will allow an equal number of baluster holes on each side of center slot. Mark bottom rail and top rail at each end (ensure both rails are centered between posts).

* In some cases, due to odd railing spans, the center baluster may need to be offset in one direction to ensure there is enough room at both post locations for balusters to be placed. Review this BEFORE cutting any railings to ensure all balusters are equally spaced.

Cutting Bottom Rail and Bottom Rail Cover ONLY

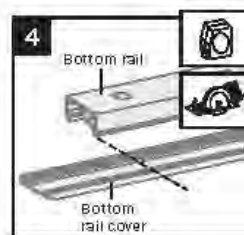


2. Cut each end of bottom rail 1/4" (0.6 cm) shorter than mark on each end to allow for fit into bottom rail brackets.

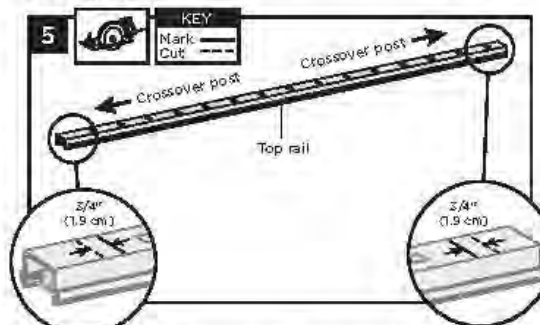


3. Slide rail insert out and cut 3/4" (1.9 cm) FROM EACH SIDE of insert, then slide back inside rail and center.

4. Mark and cut bottom rail cover same length as bottom rail.



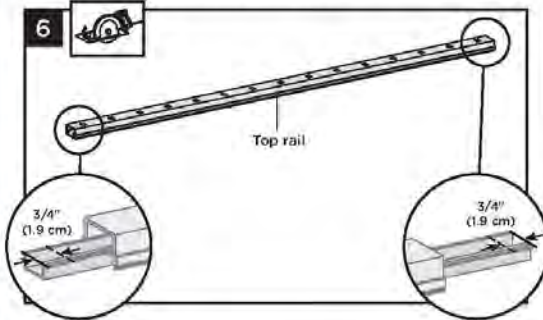
Cutting Top Rail



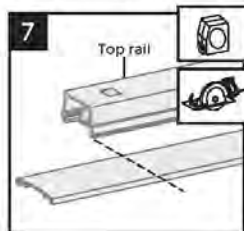
5. Cut each end of top rail 3/4" (1.9 cm) LONGER than the mark to allow for fit into the crossover post bracket on each side.

HOW TO INSTALL HORIZONTAL RAILING CROSSOVER POST TO CROSSOVER POST/CONTINUED TREX SIGNATURE™

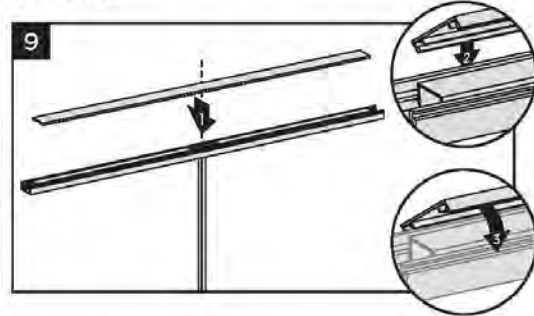
Cutting Top Rail Insert and Cover



6. Slide rail insert out and cut 3/4" (1.9 cm) **FROM EACH SIDE** of insert, then slide back inside rail and center.
7. Mark and cut top rail cover same length as top rail for all top rail configurations.



Attaching Bottom Rail Cover and Bottom Rail to Brackets

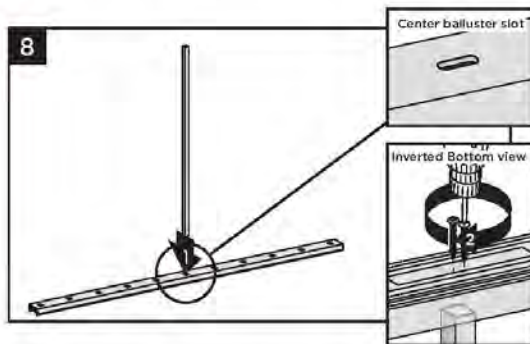


9. Align flat cover on one side of bottom rail in slot on side of rail. Then starting from one end of rail snap cover onto opposing slot working down the length of rail. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

10. **Attaching Foot Block (when required)**
See instructions on page 93.

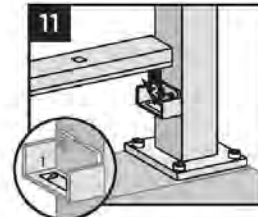
Installing Lower Rail to Brackets

11. Place adhesive strips (provided) into bottom rail brackets, and then place bottom rail into brackets.



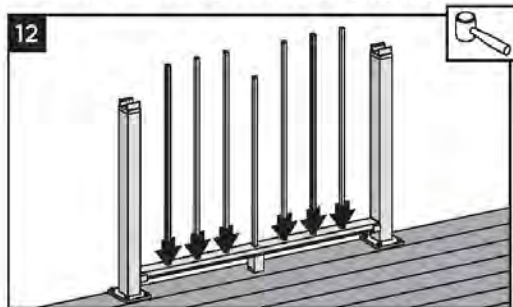
8. Attach shorter, center baluster in center slot in bottom rail using two #8 x 1-1/4" (3.2 cm) screws (provided).

NOTE: Make sure surface is clean and dry.



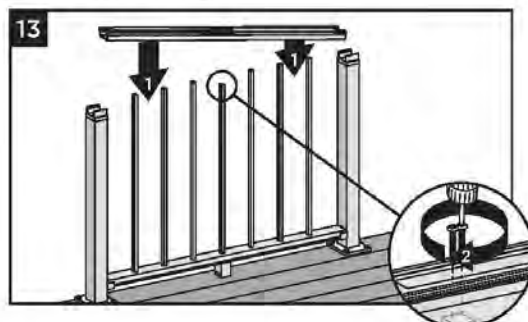
HOW TO INSTALL HORIZONTAL RAILING CROSSOVER POST TO CROSSOVER POST/CONTINUED TREX SIGNATURE™

Installing Remaining Balusters into Bottom Rail



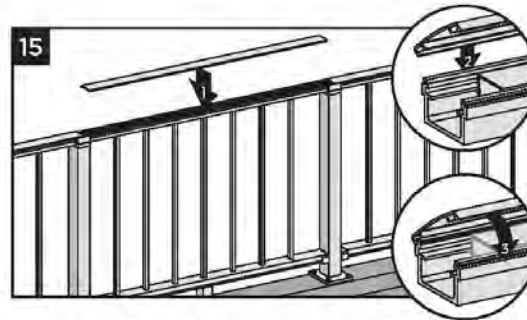
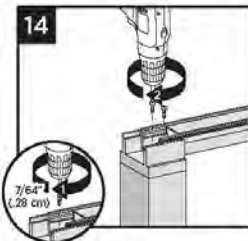
12. Place remaining balusters into holes in lower rail by snapping fully into place. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

Attach Upper Railings



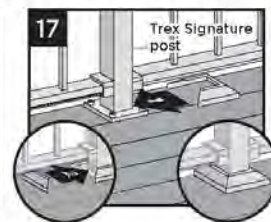
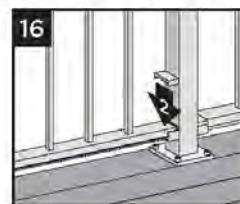
13. Working from one end of upper rail, snap balusters into upper rail working down length of rail. Fasten center baluster into center slot using two #8 x 1-1/4" (3.2 cm) screws (**provided**).

14. At crossover post locations using a 7/64" (0.28 cm) drill bit, pre-drill at marked location for attachment of railing to crossover post bracket. Attach fasten upper rail to crossover post by installing screws diagonally through upper rail into post using two self-tapping screws each side (**provided**).



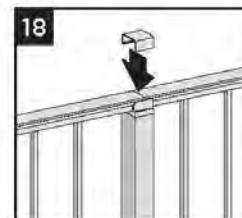
15. Attach "crowned" upper rail cover to upper rail by aligning cover on one side of rail. Then starting from one end of rail, snap cover onto opposing slot working down length of rail. **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

Attachment of Bracket Covers, Skirts, and Caps



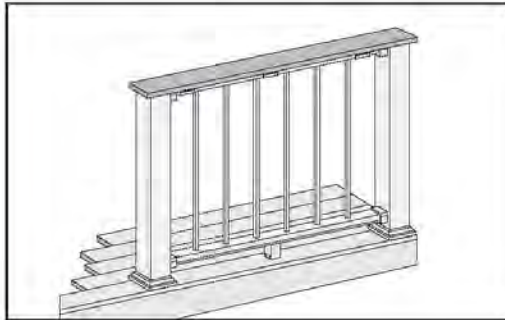
16. Attach corresponding bracket covers over opening in bottom rails.
17. Attach provided post skirt to bottom of posts when using Trex Signature posts.

18. Attach crossover post cap to crossover post.



NOTE: Pre-drilling is required.

HOW TO INSTALL TREX SIGNATURE® COCKTAIL RAILING



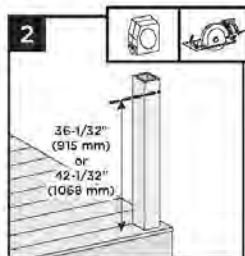
IMPORTANT NOTE:

- » **ONLY** for use with pressure-treated 4x4 post (3.5" nominal square) and 4x4(102 mm x 102 mm) post sleeve. Trex Signature posts, Trex post mounts or joist mount posts cannot be used with Trex Signature Cocktail railing. Cutting post and post sleeve only apply to the Cocktail style railing.

1. **Installing Pressure-Treated Posts, Post Sleeves, and Skirts to Use with Trex Signature Railing**
See instructions on page 85.

Cutting Post and Post Sleeve

2. Mark and cut post and post sleeve measuring from deck surface:
- » 36-1/32" (915 mm) for 36" (914 mm) height;
 - » 42-1/32" (1068 mm) for 42" (1067 mm) height.

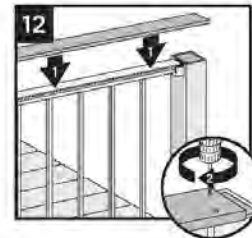


3. **Installing Horizontal Fixed Brackets**
See instructions on page 88.
4. **Installing Horizontal Swivel Brackets**
See instructions on page 105.
5. **Cutting Railings for Horizontal Fixed Brackets**
See instructions on page 91 - Post-to-Post, page 95 - Post-to-Crossover Post, or page 99 - Crossover Post-to-Crossover Post.
6. **Cutting Railings for Horizontal Swivel Brackets**
See instructions on page 106.

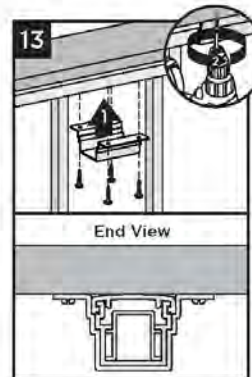
7. **Attaching Center Baluster to Bottom Rail**
See instructions on page 92 - Post-to-Post, page 96 - Post-to-Crossover Post, or page 100 - Crossover Post-to-Crossover Post.
8. **Attaching Foot Block (when required)**
See instructions on page 93.
9. **Attaching Bottom Rail Cover and Bottom Rail to Brackets**
See instructions on page 92 - Post-to-Post, page 96 - Post-to-Crossover Post, or page 100 - Crossover Post-to-Crossover Post.
10. **Installing Remaining Balusters into Bottom Rail**
See instructions on page 93 - Post-to-Post, page 97 - Post-to-Crossover Post, or page 101 - Crossover Post-to-Crossover Post.
11. **Attaching Top Rail and Top Rail Cover**
See instructions on page 93 - Post-to-Post, page 97 - Post-to-Crossover Post, or page 101 - Crossover Post-to-Crossover Post.

NOTE: Top Bracket Covers are not attached in this configuration.

12. **Attaching Deck Board to Top Rail**
Place deck boards (DO NOT use Enhance deck boards for top rail) over top rails. Attach boards on each post with Trex-recommended composite screws (quantity of 2 per each board end).



13. **Secure boards to top rail using Trex Signature Cocktail Bracket (sold separately).** Ensure that there is a bracket at each end of the railing section, then space brackets approximately every 24" and attach with 4 screws provided.



NOTE: Pre-drilling before attachment is recommended.

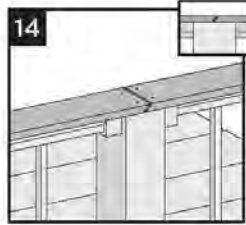
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL TREX SIGNATURE® COCKTAIL RAILING/CONTINUED

14. Use scarf cut for posts where two deck boards meet.

NOTES:

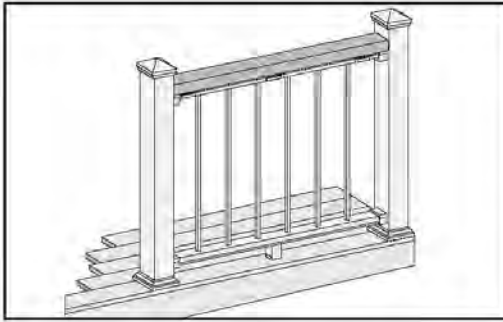
- » Leave 1/8" (3 mm) gap between deck boards.
- » Deck boards can overhang end of last post maximum 1/2" (13 mm).



15. Attachment of Bottom Bracket Covers and Skirts

See instructions on page 101.

HOW TO INSTALL TREX SIGNATURE® TRADITIONAL RAILING



Important: Only use for use with pressure-treated 4x4 post (3.5" nominal square), Trex Post Mounts or Joist Mount Posts and 4x4 (102 mm x 102 mm) or 6x6 post sleeve. Trex Signature Posts and Joist Mount Posts cannot be used with Trex Signature Traditional railing.

1. Installing Pressure-Treated Posts, Post Sleeves, and Skirts to Use with Trex Signature Railing
See instructions on page 85.
2. Installing Horizontal Fixed Brackets
See instructions on page 88.
3. Installing Horizontal Swivel Brackets
See instructions on page 105.
4. Cutting Railings for Horizontal Fixed Brackets
See instructions on page 91 - Post-to-Post, page 95 - Post-to-Crossover Post, or page 99 - Crossover Post-to-Crossover Post.
5. Cutting Railings for Horizontal Swivel Brackets
See instructions on page 106.

6. Attaching Center Baluster to Bottom Rail

See instructions on page 92 - Post-to-Post, page 96 - Post-to-Crossover Post, or page 100 - Crossover Post-to-Crossover Post.

7. Attaching Foot Block (when required)

See instructions on page 93.

8. Attaching Bottom Rail Cover and Bottom Rail to Brackets

See instructions on page 92 - Post-to-Post, page 96 - Post-to-Crossover Post, or page 100 - Crossover Post-to-Crossover Post.

9. Installing Remaining Balusters into Bottom Rail

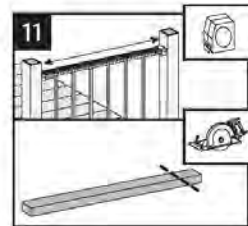
See instructions on page 93 - Post-to-Post, page 97 - Post-to-Crossover Post, or page 101 - Crossover Post-to-Crossover Post.

10. Attaching Top Rail and Top Rail Cover

See instructions on page 92 - Post-to-Post, page 95 - Post-to-Crossover Post, or page 99 - Crossover Post-to-Crossover Post.

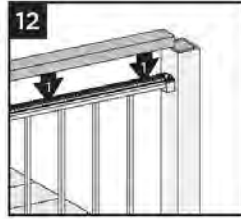
NOTE: Top Bracket Covers are not attached in this configuration.

11. Attaching 2x4 to Top Rail
Measure between posts and cut 2x4 to length.

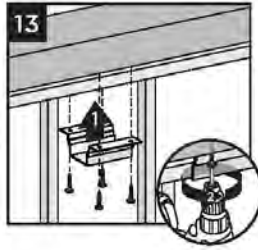


HOW TO INSTALL TREX SIGNATURE® TRADITIONAL RAILING/CONTINUED

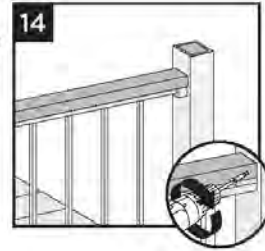
- 12 Place 2x4 on Trex Signature top rail.



- 13 Secure 2x4 (to top rail using Trex Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the railing section, then space brackets approximately every 24" and attach with 4 screws provided.



- 14 Pre-drill and toenail 2-1/2" (6.4 cm) approved deck screw at each end of 2 x 4 into post on back side of rail (side not facing decking).



- 15 **Attachment of Bottom Rail Bracket Covers and Caps**
See instructions on page 94.

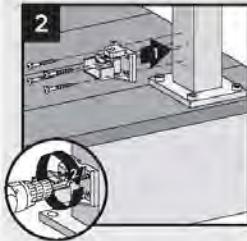
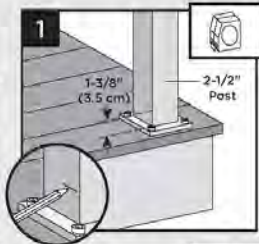
NOTE: Pre-drilling before attachment is recommended.

HOW TO INSTALL HORIZONTAL SWIVEL BRACKETS TREX SIGNATURE® STANDARD

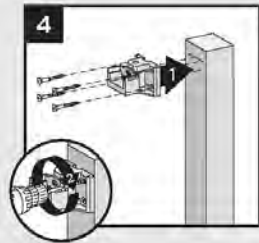
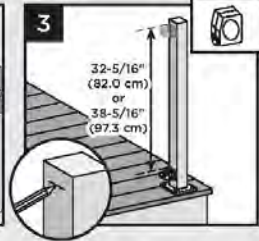
Attach Swivel Brackets Base Using Trex Signature Posts

TIP: Use a clamp to help hold brackets in place while fastening with screws.

1. Measure 1-3/8" (3.5 cm) from top of post base plate or 1-7/8" (4.8 cm) from decking surface. Mark with light line.



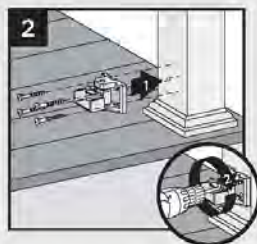
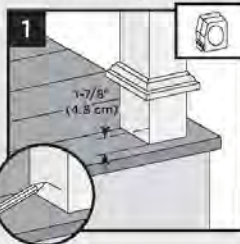
2. Center lower bracket on post **above** the marked line and attach using four self-tapping screws (*provided*).
3. Measure up 32-5/16" (82.0 cm) for 36" (91.4 cm) tall railing or 38-5/16" (97.3 cm) for 42" (106.7 cm) tall railing from top of lower rail bracket. Mark with a light line.
4. Center upper bracket on post **below** marked line and attach using four self-tapping screws (*provided*).



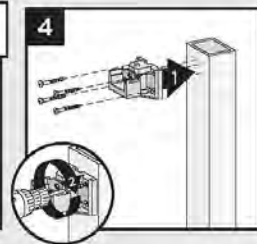
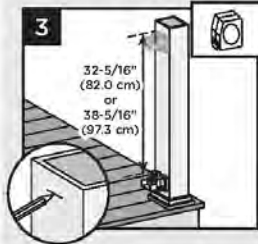
NOTE: Upper bracket is not required on crossover post configuration.

Attach Swivel Brackets Using Pressure-Treated Posts and Post Sleeves

TIP: Use a clamp to help hold brackets in place while fastening with screws.



1. Measure 1-7/8" (4.8 cm) up from deck surface to bottom of bracket. Slide skirt up to allow for proper measurement, then push skirt back down onto surface of decking **BEFORE ATTACHING BRACKET**. Mark with light line.
2. Center lower bracket on post **above** the marked line and attach using four 2" (5.1 cm) wood screws (*provided*).

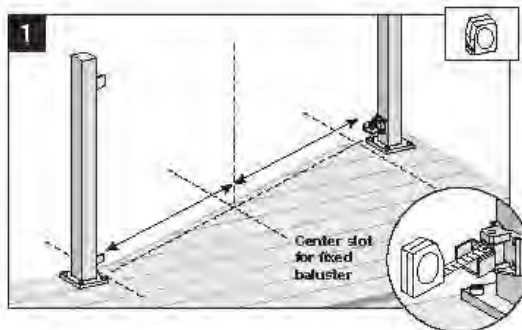


3. Measure up 32-5/16" (82.0 cm) for 36" (91.4 cm) tall railing or 38-5/16" (97.3 cm) for 42" (106.7 cm) tall railing from top of lower rail bracket. Mark with a light line.
4. Center upper bracket on post **below** marked line and attach using four 2" (5.1 cm) wood screws (*provided*).

HOW TO INSTALL HORIZONTAL SWIVEL RAILING TREX SIGNATURE® STANDARD

NOTES:

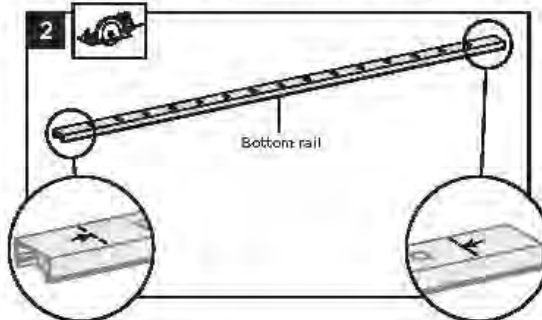
- 1. WHEN USING TREX SIGNATURE HORIZONTAL SWIVEL BRACKETS, BOTH BOTTOM AND TOP RAILS WILL NEED TO BE MEASURED AND CUT TO APPROPRIATE LENGTHS.
- 2. HORIZONTAL SWIVEL BRACKETS CAN BE USED UP TO A 50° ANGLE FOR TREX SIGNATURE RAILINGS.
- 3. WHEN USING HORIZONTAL SWIVEL BRACKETS VERY IMPORTANT TO LAY OUT LOCATION AND ORIENTATION OF POSTS AND SWIVEL BRACKETS BEFORE INSTALLING SWIVEL BRACKETS.
- 4. WHEN RAILINGS ARE CUT TO ODD SPANS, ALL SPANS GREATER THAN 5' (1.52 M) (EXAMPLE: 8' (2.44 M) SPAN CUT INTO ONE 5' (1.52 M) SPAN AND ONE 3' (0.91 M) SPAN) WOULD REQUIRE FOOT BLOCK UNDER 5' (1.52 M) SPAN SINCE SMALLER FIXED BALUSTER IS NO LONGER CENTERED.



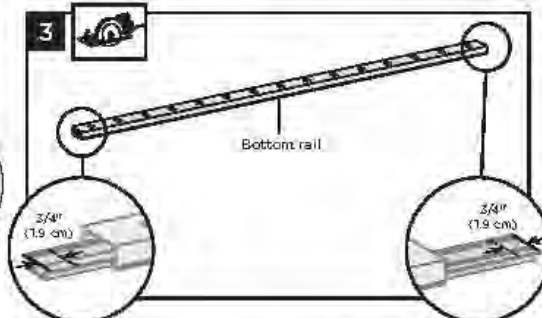
How to Measure and Cut Bottom and Top Railings

1. With brackets in correct swivel location, measure distance from inside of bracket to inside of bracket. ENSURE THAT BEFORE CUTTING, BALUSTERS HOLES ON BOTH BOTTOM AND TOP RAIL LINE UP. ALSO MAKE SURE CENTER BALUSTER SLOT IS AS CLOSE TO THE MIDDLE OF THE SPAN AS POSSIBLE. In some cases, due to odd railing spans, the center baluster may need to be offset in one or the other direction to ensure there is enough room at both post locations for balusters to be placed.

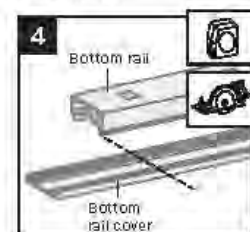
Cutting Bottom Rail and Bottom Rail Cover



2. Cut bottom rail to the measurement between the bottom swivel brackets.



3. Slide rail insert out and cut 3/4" (1.9 cm) FROM EACH SIDE of insert, then slide back inside rail and center.
4. Mark and cut bottom rail covers same length as bottom rail.

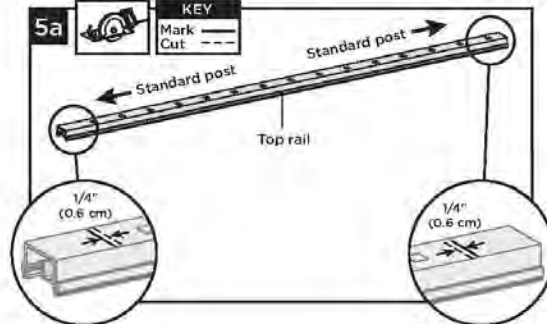


HOW TO INSTALL HORIZONTAL SWIVEL RAILING/CONTINUED TREX SIGNATURE® STANDARD

Cutting Top Rail

Option 1:

For Post-to-Post Configuration

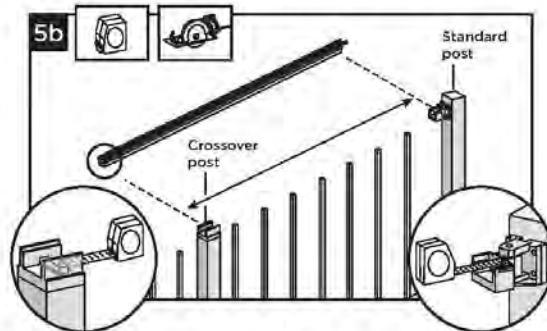


5a. Cut top rail to the measurement between the top swivel brackets. For standard post-to-standard post configurations this would be same dimensions as that of the bottom rail.

Cutting Top Rail

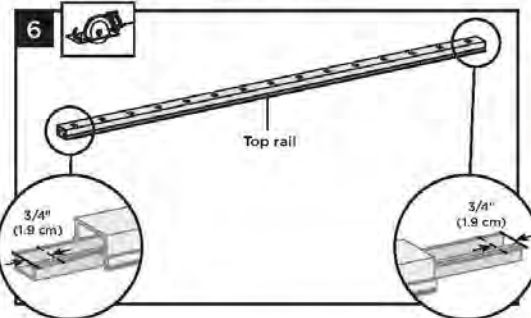
Option 2:

For Post-to-Crossover Post Configuration



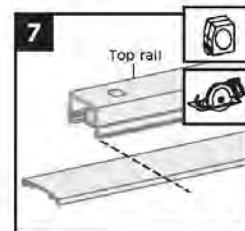
5b. When going from standard-post to crossover post, measurement must be taken from inside of top horizontal swivel bracket to inside lip of crossover bracket (which is attached to top of crossover post).

Cutting Top Rail Insert and Cover



6. Slide rail insert out and cut 3/4" (1.9 cm) FROM EACH SIDE of insert, then slide back inside rail and center.

7. Mark and cut top rail cover same length as top rail for all top rail configurations.



8. Attaching Center Baluster to Bottom Rail

See instructions on page 92 Post-to-Post or 96 Post-to-Crossover Post.

9. Attaching Foot Block (when required)

See instructions on page 93.

10. Attaching Bottom Rail Cover and Bottom Rail to Brackets

See instructions on page 93 Post-to-Post or 96 Post-to-Crossover Post.

11. Installing Remaining Balusters into Bottom Rail

See instructions on page 93 Post-to-Post or 98 Post-to-Crossover Post.

12. Attach Upper Railings

See instructions on page 93 Post-to-Post or 97 Post-to-Crossover Post.

13. Attachment of Bracket Covers, Skirts, and Caps

See instructions on page 94 Post-to-Post or 98 Post-to-Crossover Post.

TREX SIGNATURE® STAIR RAILING

BRACKET HARDWARE (INCLUDING STAIR SWIVEL BRACKETS, STAIR CROSSOVER BRACKET, AND COMPOUND SWIVEL BRACKETS) TREX SIGNATURE

FIXED BRACKET - STAIR HARDWARE

- AA. Bottom Stair Bracket and Cover - Lower Rail
- BB. Top Stair Bracket and Cover - Lower Rail
- CC. Fastener Pack
- DD. Bottom Stair Bracket and Cover - Upper Rail
- EE. Top Stair Bracket and Cover - Upper Rail



SWIVEL BRACKET - STAIR HARDWARE

- FF. Swivel Top Rail Bracket and Cover - Stair
- GG. Swivel Bottom Rail Bracket and Cover - Stair
- HH. Fastener Covers
- II. Fastener Pack



COMPOUND SWIVEL BRACKET - STAIR HARDWARE

- JJ. Compound Swivel Top Rail Bracket and Cover - Stair
- KK. Compound Swivel Bottom Rail Bracket and Cover - Stair
- LL. Fastener Covers
- MM. Fastener Pack



SWIVEL CROSSOVER BRACKET KIT - STAIR HARDWARE

- NN. Swivel Crossover Bracket - Stair
- OO. Post-to-Bracket Fasteners



HOW TO INSTALL STAIR POSTS AND STAIR RAILING TREX SIGNATURE®

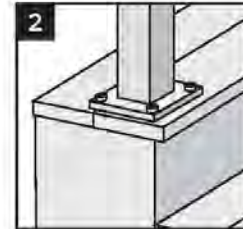
IMPORTANT NOTES:

- » FOR A 6' OR 8' STAIR RAIL, POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING STAIR POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM STAIR RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE STAIR RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.
- » TREX SIGNATURE POSTS CANNOT BE USED WITH TREX SIGNATURE TRADITIONAL OR TREX SIGNATURE COCKTAIL STAIR DESIGNS, ONLY PRESSURE-TREATED POST/POST SLEEVES CAN BE USED. REFER TO DETAILED INSTRUCTIONS FOR MORE INFORMATION.
- » All Trex Signature stair installations require the use of 53" (134.6 CM) stair post, measured and cut to appropriate length if required.
- » If crossover stair post is required, use stair post (again cut to appropriate length if required) and use swivel crossover bracket.
- » Trex Signature Stair fixed brackets are designed to work only with stair slopes of 32°-37°.
- » For smaller (less than 32°) or larger angles (greater than 37°), use the Trex Signature Stair Swivel brackets.
- » Trex Signature Compound swivel stair brackets are designed for flared stair designs.
- » At all final end post configurations, top stair rail will need to be measured (making sure balusters line up vertically) and cut.
- » For odd span lengths, both bottom and top stair rails will need to be measured (making sure balusters line up vertically) and cut. Also, ensure that balusters are spaced with equal distance on each side of the post.
- » Rails that do not require cutting must be oriented in the correct direction to ensure balusters are spaced properly when installed in brackets. On both bottom and top stair railings, baluster hole closest to the end of each stair rail is to be installed at the top of the stair section. Ensure that both bottom and top rails are correct and balusters line up vertically before INSTALLING.
- » Foot Blocks for stairs are sold separately and recommended for use in Signature Cocktail and Signature Traditional applications.

Installing Standard Trex Signature Stair Posts, Trex Signature Stair Crossover Posts, or Pressure-Treated Post, Post Sleeves and Skirts

1. Make sure 53" (135.6 cm) posts are used for all stair posts.

2. If Trex Signature stair posts are used, install at nose of stair tread directly under required blocking. See Trex Signature horizontal post instructions.



Installing Pressure-Treated Posts

- » PLEASE REFER TO LOCAL BUILDING CODE REQUIREMENTS PRIOR TO ATTACHING PRESSURE TREATED POSTS.
- » PRESSURE TREATED POSTS MUST BE INSTALLED ON INSIDE OF STAIR STRINGER AND AT NOSE OF STAIR TREAD.
- » POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.
- » In most cases, a post and post sleeve longer than 39" (991 mm) will be needed on the lower section of stair rail to accommodate stair angle.

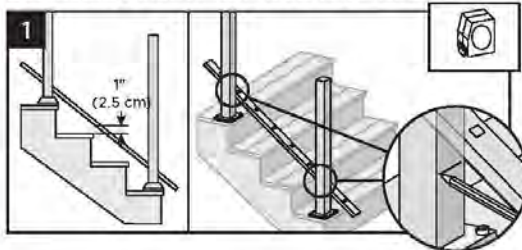
ATTACHING FIXED STAIR BRACKETS AND RAILS TO POSTS AND PRESSURE-TREATED POST AND POST SLEEVES TREX SIGNATURE®

NOTES:

- » All Trex Signature fixed stair brackets work **ONLY** with stair slopes of 32°-37°.
- » Illustrations shown are representations when using Trex Signature post, but same rules apply if using pressure-treated posts and post sleeves.
- » Use a clamp to help hold stair brackets in place while fastening with screws.

IMPORTANT NOTE:

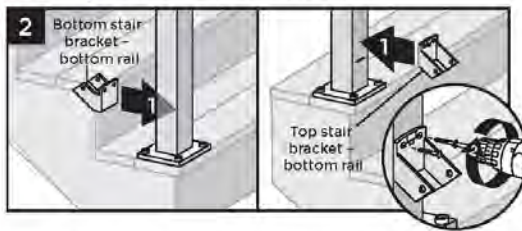
» **BEFORE ATTACHING ANY UPPER BRACKETS MAKE SURE PROPER RAILING HEIGHTS ARE ACHIEVED. RAILING HEIGHTS AND UPPER BRACKET HEIGHTS MAY NEED TO BE ADJUSTED, HOWEVER, DO NOT REDUCE HEIGHTS BASED ON YOUR RAILING CODE REQUIREMENTS. MEASURE CAREFULLY AS DIMENSION HEIGHTS MAY NEED TO BE ADJUSTED!**



1. Lay bottom stair rail on steps beside posts. Position bottom rail at least 1" (2.5 cm) above nose of stair tread

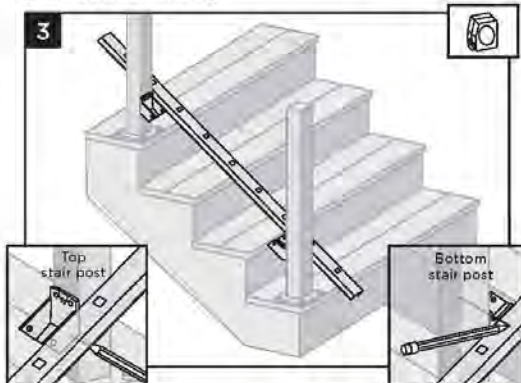
Tip: Use a 1" (2.5 cm) deck board as a spacer board and clamp rails to post. Mark where lower brackets are to be attached to both posts. Mark at underside of railing location.

Installing Lower Fixed Stair Brackets

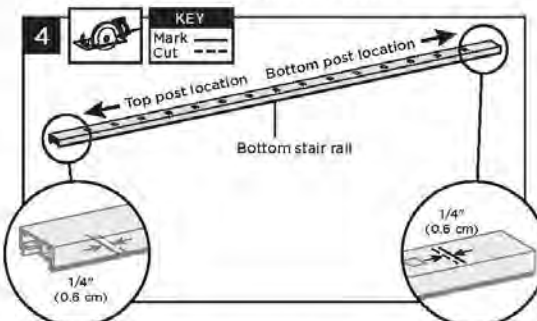


2. Center lower stair bracket on post above the marked line and attach using two self-tapping screws (provided). In some cases it may be difficult to attach the stair bracket on the lower stair post. A 90° cordless drill is recommended to attach screws in this area.

How to Measure Bottom Stair Railing (WHEN REQUIRED)



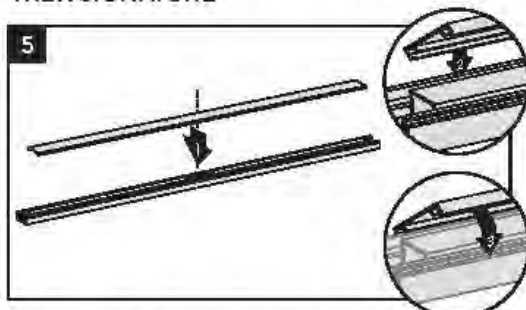
3. Position bottom stair rail along the nose of the stair treads. Ensure that before cutting, balusters holes are centered in between the posts and also allow for clearance for attachment to brackets. On top stair post location, mark **UNDERSIDE** of lower rail. On bottom stair post location mark **TOPSIDE** of lower rail at angled intersection of the bracket.



4. Cut each end of the bottom stair rail, rail insert, and bottom rail cover 1/4" (0.6 cm) shorter than the mark on each end to allow for fit into bottom stair rail brackets.

NOTE: Railing does not need to be cut at angle. Brackets are designed to allow for railing to be installed with standard straight cut.

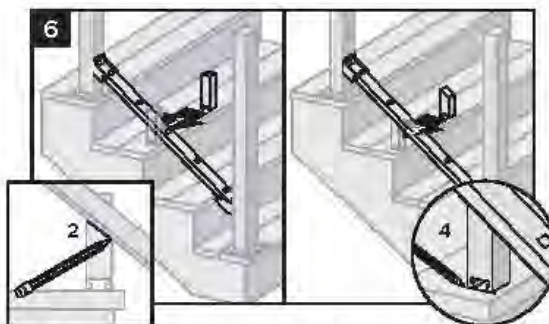
ATTACHING FIXED STAIR BRACKETS AND RAILS TO POSTS AND PRESSURE-TREATED POST AND POST SLEEVES/CONTINUED TREX SIGNATURE®



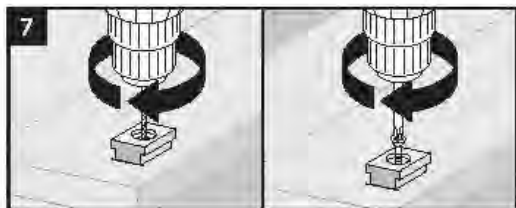
5. Attach "flat" bottom stair rail cover to bottom stair rail. Align cover on one side of the bottom rail in slot on side of rail. Then starting from one end of rail snap cover onto opposing slot working down the length of the rail. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

Attaching Foot Block (where recommended)

Recommended for all spans over 6' for Signature Cocktail and Signature Traditional applications)

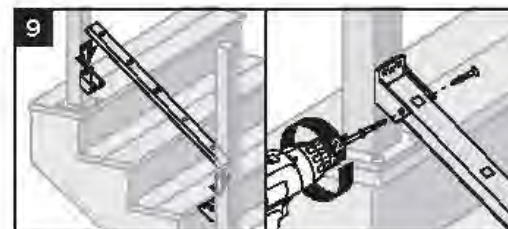
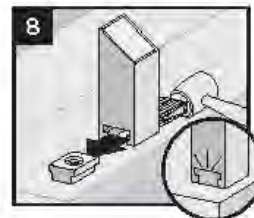


6. Temporarily set bottom rail in bottom brackets, and place Foot Block towards the nose of the stair tread along the side of the bottom rail. Mark location of angle on Foot Block and cut on mark. Then place Foot Block under the center of the bottom rail. Mark placement location of the base. Remove lower rail.



7. Place base (smaller side facing down) on decking surface. Pre-drill using a 3/16" bit. Attach base of Foot Block using one screw at an angle through base and into decking.

8. After attached, use a **rubber mallet** along with **scrap piece of wood** to tap Foot Block until it locks into place.

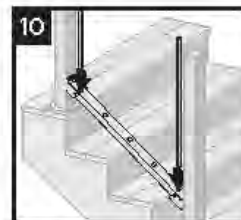


9. Set bottom stair rail into bottom stair rail brackets. Attach bottom stair rail to bottom stair bracket using two self-tapping screws (*provided*) on each side of bracket.

Installing Upper Fixed Stair Brackets and Measuring Upper Rail

IMPORTANT NOTE: BEFORE CUTTING ANY TOP RAILS, MAKE SURE THAT ALL BALUSTER HOLES LINE UP PARALLEL WHEN MEASURING!

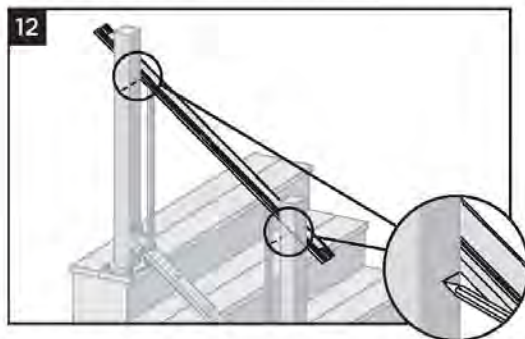
10. Place two balusters into lower rail at each end closest to post.



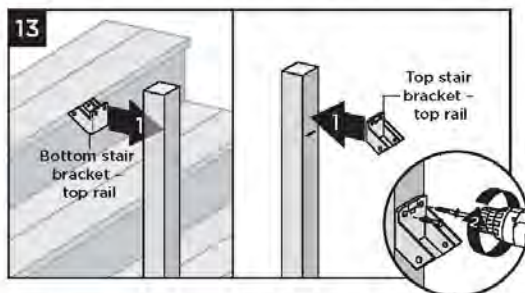
ATTACHING FIXED STAIR BRACKETS AND RAILS TO POSTS AND PRESSURE-TREATED POST AND POST SLEEVES/CONTINUED TREX SIGNATURE®



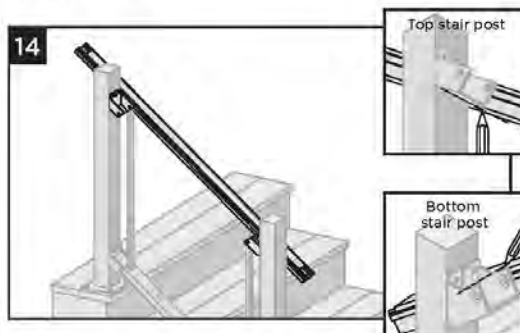
- 11 Position top stair rail onto balusters ensuring balusters are fully seated in top rail (position to side of post) and **ENSURE** that balusters are parallel with post.



- 12 Mark a light line on posts at **UNDERSIDE** of rail to show the location of the fixed stair brackets.

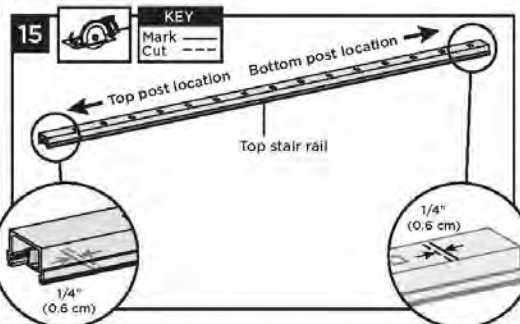


- 13 Remove upper stair rail and center upper stair fixed bracket on post **above** the marked line and attach using two self-tapping screws (*provided*).



- 14 On top stair post location, mark **UNDERSIDE** of upper rail. On bottom stair post location mark **TOPSIDE** of upper rail at angled intersection inside the bracket.

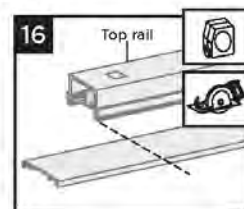
Cutting Top Stair Rail Cover, and Attachment of Top Stair Rail Cover



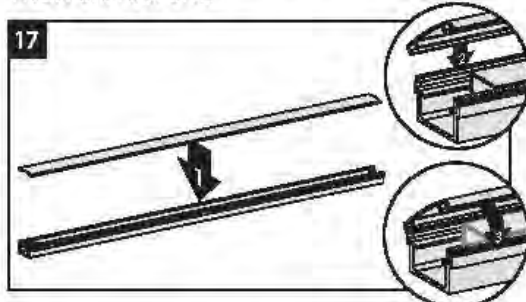
- 15 Cut each end of top stair rail along with rail insert $\frac{1}{4}$ " (0.6 cm) shorter than mark to allow for fit into top stair rail bracket.

NOTE: Railing does not need to be cut at angle. Brackets are designed to allow for railing to be installed with standard straight cut.

- 16 Mark and cut top rail cover same length as top rail for all top rail configurations.



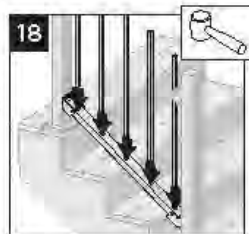
ATTACHING FIXED STAIR BRACKETS AND RAILS TO POSTS AND PRESSURE-TREATED POST AND POST SLEEVES/CONTINUED TREX SIGNATURE®



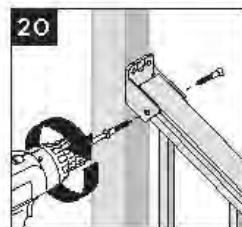
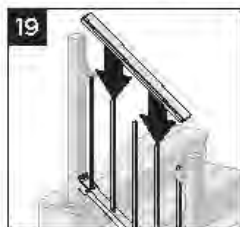
17. Attach "crowned" upper stair rail cover to upper stair rail by aligning cover on one side of rail. Then starting from one end of stair rail, snap cover onto opposing slot working down length of stair rail. **GENTLE** tapping with a **rubber mallet** may facilitate the fastening.

Installing Balusters Into Bottom Stair Rail

18. Place balusters into holes in lower stair rail by snapping fully into place. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.



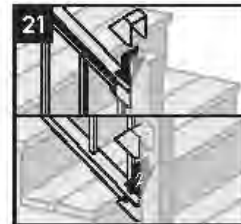
Attaching Upper Stair Rails



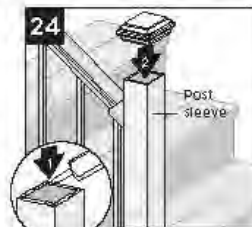
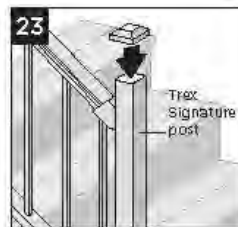
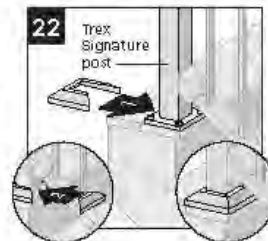
19. Working from one end of upper stair rail, snap balusters into upper stair rail working down length of rail.
20. Attach top stair rail to top stair bracket (all types) using two self-tapping screws (*provided*) on each side of stair bracket.

Attachment of Stair Bracket Covers, Skirts, and Caps

21. Attach corresponding bracket covers over opening in upper and bottom rails.



22. Attach provided post skirt to bottom of posts when using Trex Signature posts.



23. Attach post caps to Trex Signature posts (use of **rubber mallet** may be required for secure attachment).
24. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).

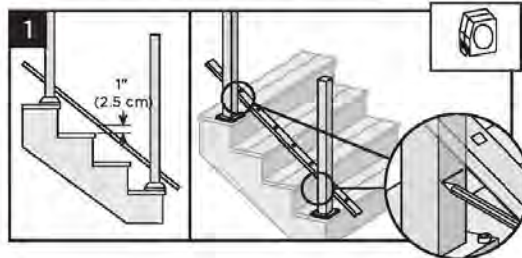
ATTACHING STAIR SWIVEL/COMPOUND SWIVEL BRACKETS AND RAILS TO POSTS AND PRESSURE-TREATED POST AND POST SLEEVES TREX SIGNATURE®

NOTES:

- » Illustrations shown are representations when using Trex Signature posts, but same rules apply if using pressure-treated posts and post sleeves.
- » Use a clamp to help hold stair brackets in place while fastening with screws.

IMPORTANT NOTE:

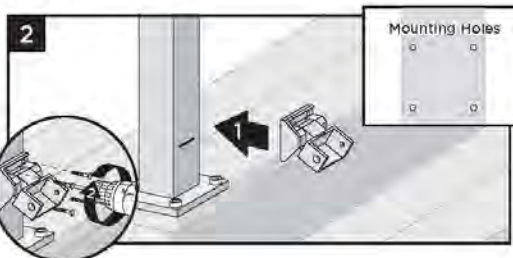
- » BEFORE ATTACHING ANY UPPER BRACKETS, MAKE SURE PROPER RAILING HEIGHTS ARE ACHIEVED. RAILING HEIGHTS AND UPPER BRACKET HEIGHTS MAY NEED TO BE ADJUSTED, HOWEVER, DO NOT REDUCE HEIGHTS BASED ON YOUR RAILING CODE REQUIREMENTS. MEASURE CAREFULLY AS DIMENSION HEIGHTS MAY NEED TO BE ADJUSTED!



1. Lay bottom stair rail on steps beside posts.
Position bottom rail at least 1" (2.5 cm) above nose of stair tread

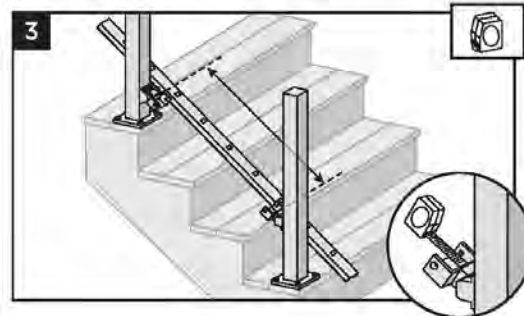
Tip: Use a 1" (2.5 cm) deck board as a spacer board and clamp rails to post. Mark where lower brackets are to be attached to both posts. Mark at underside of railing location.

Installing Lower Stair Swivel and Compound Swivel Brackets



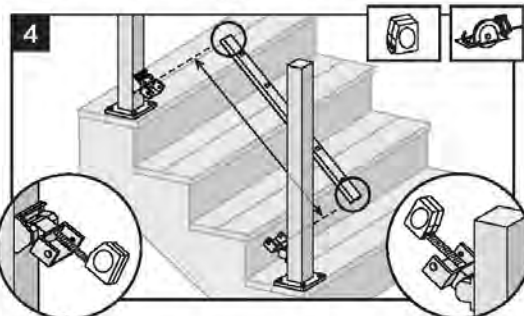
2. Center lower stair swivel bracket on post above the marked line and attach using four self-tapping screws (provided). In some cases it may be difficult to attach the stair bracket on the lower stair post.
A 90° cordless drill is recommended to attach screws in this area.

How to Measure Bottom Stair Railings (WHEN REQUIRED)



3. With brackets in correct swivel locations, measure distance from inside of swivel bracket to inside of swivel bracket. Ensure that before cutting, balusters holes are parallel and centered in between the posts and also allow for clearance for attachment to brackets. Mark bottom stair rail at each intersection.

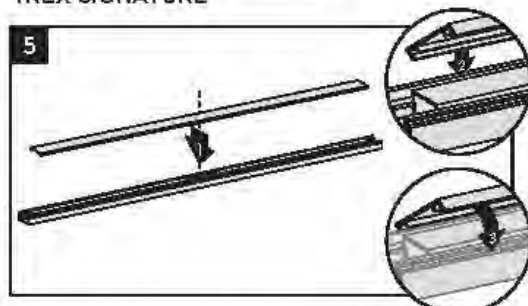
Cutting Bottom Stair Rail, Bottom Stair Rail Cover, and Attachment of Bottom Stair Rail Cover



4. Cut each end of the bottom rail, rail insert, and bottom rail cover at the mark on each end to allow for fit into bottom stair rail brackets.

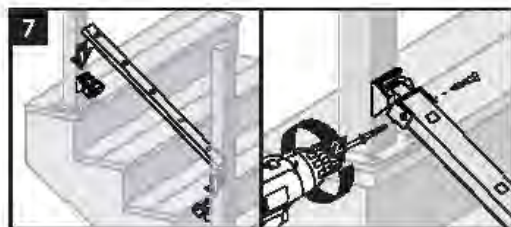
NOTE: Railing does not need to be cut at angle. Brackets are designed to allow for railing to be installed with standard straight cut.

ATTACHING STAIR SWIVEL/COMPOUND SWIVEL BRACKETS AND RAILS TO POSTS AND PRESSURE-TREATED POST AND POST SLEEVES/CONTINUED TREX SIGNATURE®



5. Attach "flat" bottom stair rail cover to bottom stair rail. Align cover on one side of the bottom rail in slot on side of rail. Then starting from one end of rail snap cover onto opposing slot working down the length of the rail. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

6. **Attaching Foot Block (where recommended)**
See instructions on page 111.

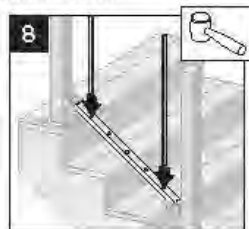


7. Set bottom stair rail into bottom stair rail brackets. Attach bottom stair rail to bottom stair bracket using two self-tapping screws (*provided*) on each side of bracket.

Installing Upper Brackets and Measuring Upper Stair Rail-Stair Swivel and Compound Swivel

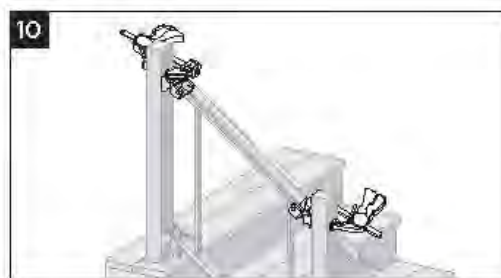
IMPORTANT NOTE: BEFORE CUTTING ANY TOP RAILS MAKE SURE THAT WHEN MEASURING, ALL BALUSTER HOLES LINE UP PARALLEL!

8. Place two balusters into lower rail at each end closest to post.

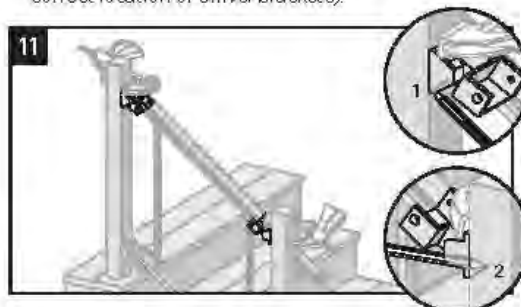


9. Position top stair rail onto balusters ensuring balusters are fully seated in top rail (position to side of post) and **ENSURE** that balusters are parallel with post.

Installing Upper Stair Swivel and Compound Swivel Brackets



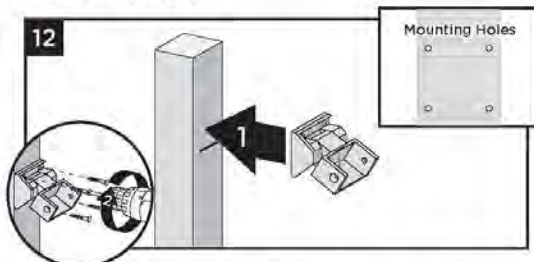
10. Clamp brackets to side of rail with brackets in correct swivel location/angle (this is important to ensure correct location of swivel brackets).



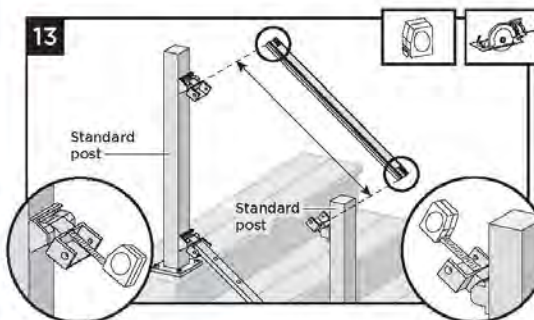
11. Mark a light line on posts at **UNDERSIDE** of where swivel bases (positioned correctly) meets the posts.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

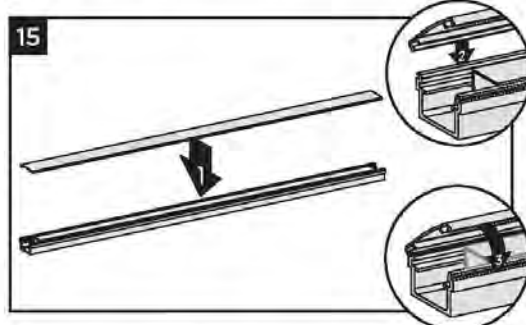
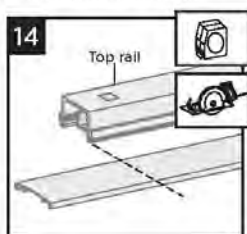
ATTACHING STAIR SWIVEL/COMPOUND SWIVEL BRACKETS AND RAILS TO POSTS AND PRESSURE-TREATED POST AND POST SLEEVES/CONTINUEDTREX SIGNATURE®



12. Remove upper stair rail from balusters and center upper stair swivel bracket on post **above** the marked line and attach using four self-tapping screws (*provided*)



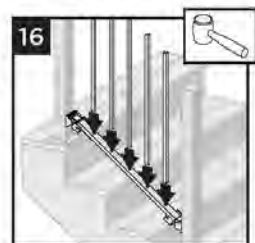
13. Cut top rail along with rail insert to the measurement between the top stair swivel brackets. For standard post to standard post configurations this would be same dimensions as that of the bottom stair rail.
14. Mark and cut top rail cover same length as top rail for all top rail configurations.



15. Attach "crowned" upper stair rail cover to upper stair rail by aligning cover on one side of rail. Then starting from one end of stair rail, snap cover onto opposing slot working down length of stair rail. **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

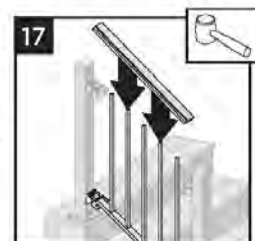
Installing Balusters into Bottom Stair Rail

16. Place balusters into holes in lower stair rail by snapping fully into place. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

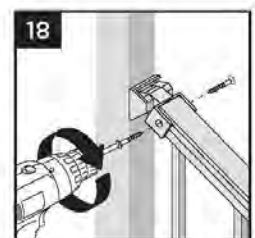


Attaching Upper Stair Rails

17. Working from one end of upper stair rail, snap balusters into upper stair rail working down length of rail.

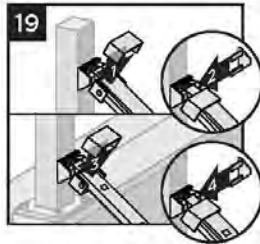


18. Attach top stair rail to top stair bracket (all types) using two self-tapping screws (*provided*) on each side of stair bracket.



ATTACHING STAIR SWIVEL/COMPOUND SWIVEL BRACKETS AND RAILS TO POSTS AND PRESSURE-TREATED POST AND POST SLEEVES/CONTINUED TREX SIGNATURE®

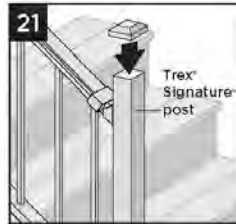
Attachment of Stair Bracket Covers, Skirts, and Caps



19. Attach corresponding bracket covers over opening in upper and bottom rails.



20. Attach provided post skirt to bottom of posts when using Trex Signature posts.



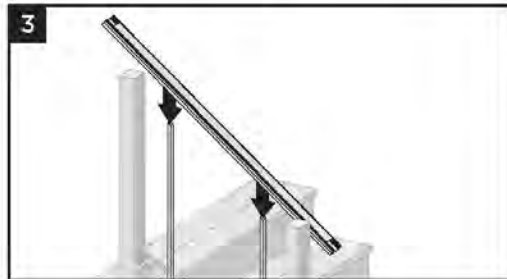
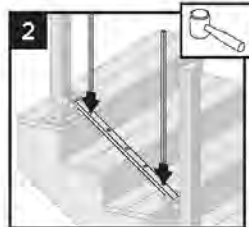
21. Attach post caps to Trex Signature posts (use of **rubber mallet** may be required for secure attachment).



22. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).

ATTACHING CROSSOVER SWIVEL BRACKETS ON SIGNATURE POSTS TREX SIGNATURE

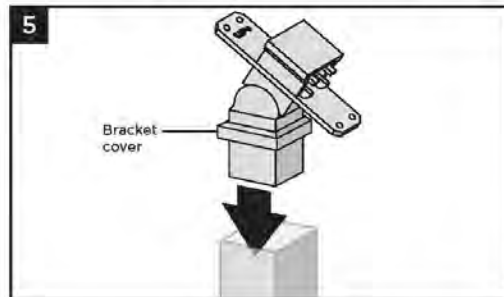
1. Follow previous instructions for installation of lower stair rail into either fixed or swivel brackets.
2. Place two balusters into lower stair rail at each end of post.



3. Position top stair rail onto balusters ensuring balusters are fully seated in top rail (position to side of post) and **ENSURE** that balusters are parallel with post.

4. Follow previous instructions marking and installation of either fixed or swivel bracket where this is required.

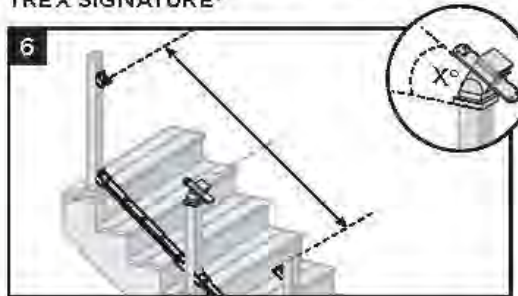
Attaching Stair Crossover Swivel Bracket to Post



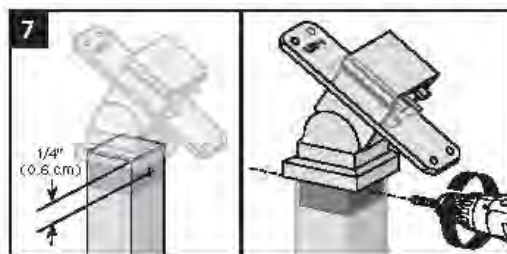
5. Insert stair crossover swivel bracket into post.

NOTE: Keep the bracket cover on when inserting this into post, this will cover the screw attachment area.

ATTACHING CROSSOVER SWIVEL BRACKETS TO POSTS/CONTINUED TREX SIGNATURE®

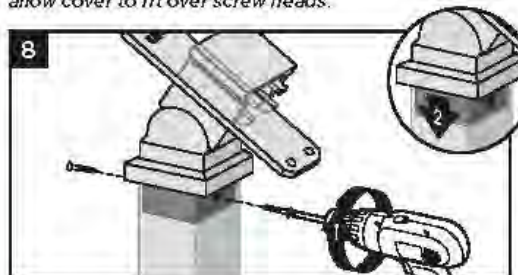


6. Determine location/height of the stair crossover swivel bracket by aligning the angle of this with the fixed brackets (or compound swivel brackets) already installed (posts can be cut if necessary).



7. Once location/height is determined, center and pre-drill two holes (using a drill bit slightly smaller than that of self-tapping screw diameter) on opposite sides of post, approx. 1/4" (0.6 cm) from top of post. Drill through the post and into the stair crossover swivel bracket on each side.

NOTE: Slightly countersink pre-drilled holes to allow for flat head screw to seat flush on the post. This will allow cover to fit over screw heads.

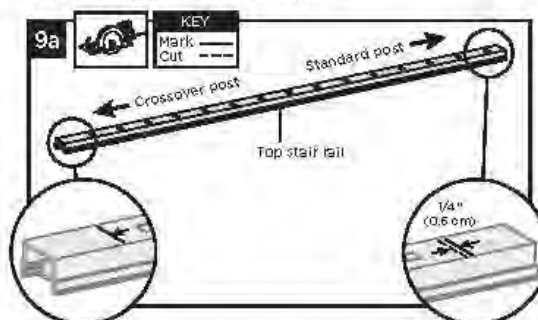


8. Attach stair crossover swivel bracket to post with two self-tapping screws (provided). Slide cover over post to hide screws.

ATTACHING RAILS IN CROSSOVER POST APPLICATIONS TREX SIGNATURE®

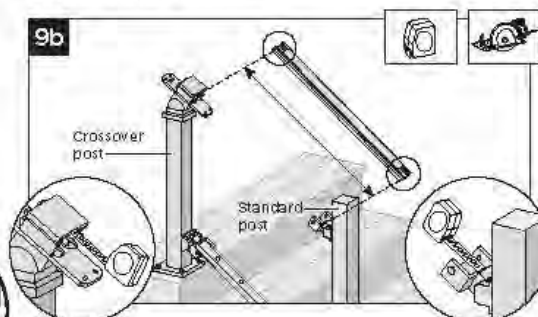
Cutting Top Stair Rail and Insert For Stair Post-to-Stair Crossover Post Configuration

When Using Fixed Stair Brackets:



- 9a. Top stair rail along with rail insert must be cut differently on each side of the rail. Railing side that attaches to standard post should be cut 1/4" (0.6 cm) shorter than the mark to allow for fit into top rail bracket. Railing side that attaches to the crossover post should be cut directly on the mark to allow for fit into the crossover post bracket.

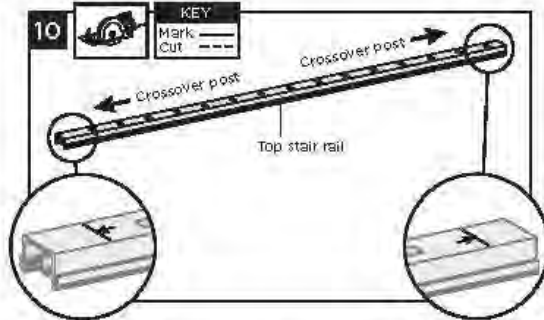
When using Upper Stair Swivel and Stair Crossover Swivel Brackets:



- 9b. When going from standard stair post to stair crossover post, measurement must be taken from inside of top horizontal stair swivel bracket to inside lip of stair crossover bracket. Crossover post will need to be modified to have swivel crossover bracket installed.

ATTACHING RAILS IN CROSSOVER POST APPLICATIONS CONTINUED TREX SIGNATURE®

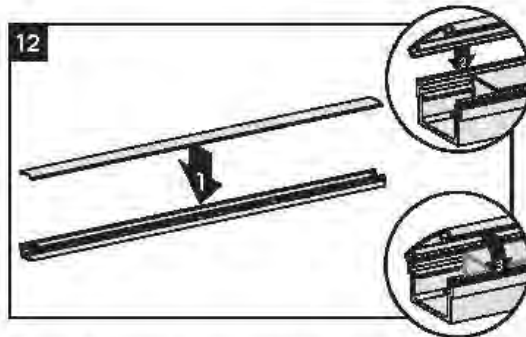
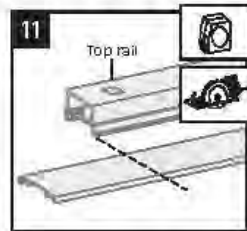
Cutting Top Stair Rail and Rail Insert For Stair Crossover Post-to-Stair Crossover Post Configuration



10. Cut each end of the top stair rail along with rail insert on the mark line to allow for fit into the crossover post bracket on each side.

Cutting Top Stair Rail Cover, and Attachment of Top Stair Rail Cover

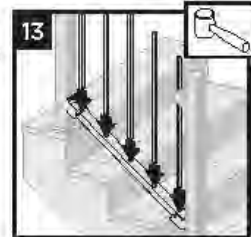
11. Mark and cut top rail cover same length as top rail for all top rail configurations.



12. Attach "crowned" upper stair rail cover to upper stair rail by aligning cover on one side of rail. Then, starting from one end of stair rail, snap cover onto opposing slot working down length of stair rail. **GENTLY** tapping with a **rubber mallet** may facilitate fastening.

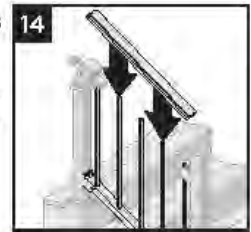
Installing Balusters Into Bottom Stair Rail

13. Place balusters into holes in lower stair rail by snapping fully into place. In some cases, **GENTLE** tapping with a **rubber mallet** may facilitate fastening.

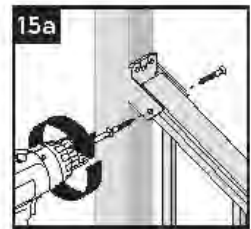


Attaching Upper Stair Rails

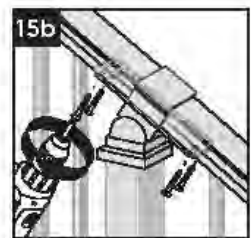
14. Working from one end of upper stair rail, snap balusters into upper stair rail working down length of rail.



- 15a. For stair post-to-post configuration, attach top stair rail to top stair bracket (all types) using two self-tapping screws (*provided*) on each side of stair bracket.



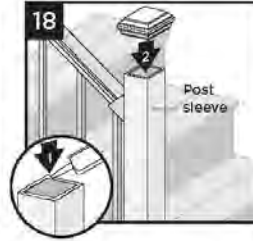
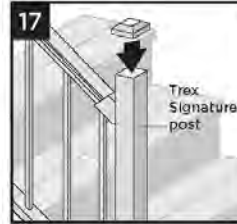
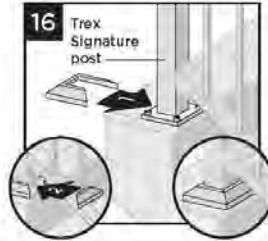
- 15b. For stair crossover post configuration, fasten upper stair rail to swivel crossover post bracket by installing screws diagonally through crossover stair bracket into upper rail using two self-tapping screws (*provided*) on each side.



ATTACHING RAILS IN CROSSOVER POST APPLICATIONS/CONTINUED TREX SIGNATURE®

Attachment of Skirts and Caps

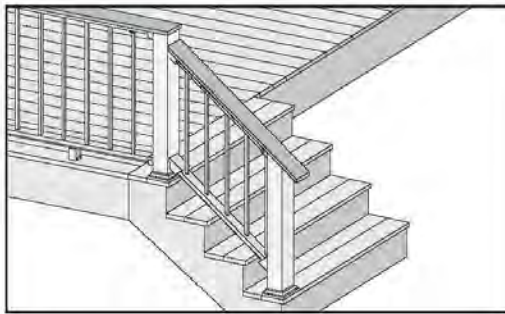
16. Attach provided post skirt to bottom of posts when using Trex Signature posts.



17. Attach post caps to Trex Signature posts (use of **rubber mallet** may be required for secure attachment).

18. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).

HOW TO INSTALL COCKTAIL STAIR RAILING TREX SIGNATURE®



» **THE DECK BOARD USED IN TREX SIGNATURE COCKTAIL RAILING WILL NEED TO TERMINATE AT THE TOP OF THE POST AS SHOWN ABOVE. THE DECK BOARD WILL HAVE TO BE TOENAILED INTO THE SIDE OF THE POST IN THESE AREAS USING 2 APPROPRIATE COMPOSITE DECKING SCREWS - PRE-DRILLING IS RECOMMENDED.**

» **Do Not use Enhance for top board.**

Installing Pressure-Treated Posts, Post Sleeves, and Skirts to Use with Trex Signature Railing

1. See instructions on page 109.

Installing Brackets

2. Follow previous stair instructions for the installation of desired brackets, making sure that all dimensions are calculated before installation, and ensuring deck board is placed in correct location. See instructions on pages 110 for fixed stair brackets and 114 for swivel stair brackets.

Cutting Bottom Stair Rail and Cover

3. See instructions on page 108 for fixed stair brackets and pages 114 for swivel stair brackets.

Installing Foot Block (when recommended)

4. See instructions on page 111.

Attachment of Bottom Stair Rail

5. See instructions on page 111 for fixed stair brackets and page 115 for swivel stair brackets.

How to Measure Top Stair Railings (WHEN REQUIRED)

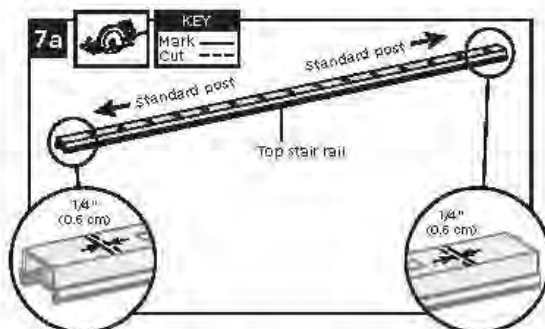
6. See instructions on page 111 for fixed stair brackets and page 116 for swivel stair brackets.

IMPORTANT NOTES:

- » **Only for use with pressure-treated 4x4 post (3.5" nominal square) and 4x4 (102 mm x 102 mm) post sleeve. Trex Signature posts, Trex post mounts or joist mount posts cannot be used with Trex Signature Cocktail stair railing. Cutting post and post sleeve only apply to the Cocktail style railing.**
- » **DO NOT CUT POST/POST SLEEVES UNTIL TOP RAILING AND COVER IS FULLY INSTALLED.**
- » **When referring to previous instructions referenced, disregard all crossover post instructions as these cannot be used with Cocktail railing.**

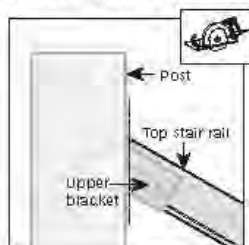
HOW TO INSTALL COCKTAIL STAIR RAILING/CONTINUED TREX SIGNATURE®

Cutting Top Stair Rail and Rail Insert When using Fixed Stair Brackets



- 7a. Cut each end of top stair rail along with rail insert 1/4" (0.6 cm) shorter than mark to allow for fit into top stair rail bracket.

NOTE: THE TOP RAIL WILL NEED TO BE CUT AT APPROPRIATE ANGLE ON THE END OF THE RAIL THAT CONNECTS TO THE UPPER FIXED BRACKET, SO THAT WHEN THE RAIL IS INSTALLED IT SITS FLUSH WITH THE END OF THE BRACKET AS SHOWN.



Cutting Top Stair Rail and Rail Insert When using Upper Stair Swivel and Compound Swivel Brackets

7b. See instructions on page 115.

Cutting Top Stair Rail Cover, and Attachment of Top Stair Rail Cover

8. See instructions on page 112.

Installing Balusters into Bottom Stair Rail

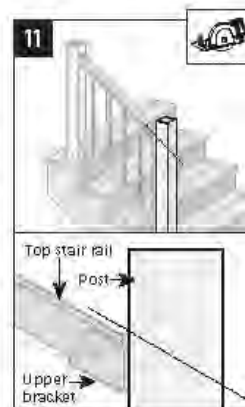
9. See instructions on page 113.

Attaching Upper Stair Rails

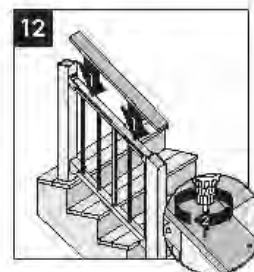
10. See instructions on page 113.

Cutting Post and Post Sleeve and Attaching Deck Board to Top Rail

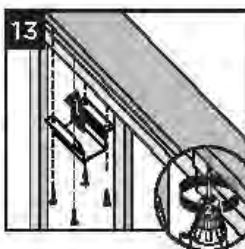
11. Cut post and post sleeves at proper angle so these are flush with the top of the top brackets and/or top rail cover. BE CAREFUL NOT to CUT brackets.



12. Place deck boards over top rails. PLACE DECK BOARD ON TOP RAIL TO CHECK FOR PROPER FIT AND RAIL CLEARANCE AT BRACKET LOCATIONS. DECK BOARD MAY REQUIRE EITHER A NOTCH CUT ON THE UNDERSIDE OR SLIGHT PLANING ON THE UNDERSIDE TO ALLOW DECK BOARD TO CLEAR TOPS OF BRACKETS AND SIT FLUSH ON TOP OF POSTS AND RAILS. Attach boards on each post with Trex-recommended composite screws (quantity of 2 per each board end).



13. Secure boards to top rail using Trex Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the stair railing section, then space brackets approximately every 24" and attach with 4 screws provided.

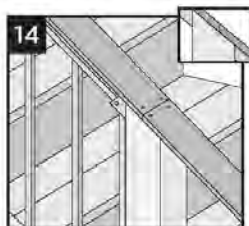


NOTE: Pre-drilling before attachment is recommended.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL COCKTAIL STAIR RAILING/CONTINUED TREX SIGNATURE®

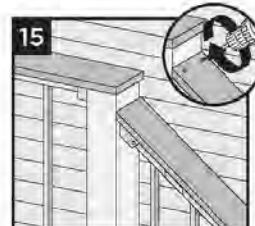
14. Use scarf cut for posts where two deck boards meet.



NOTES:

- » Leave 1/8" (3 mm) gap between deck boards.
- » Deck boards can overhang end of last post maximum 1/2" (13 mm).

15. Where deck board terminates at top of post horizontal deck board, PREDRILL and toenail two approved composite deck screws as shown into post, being careful to avoid hitting stair bracket.

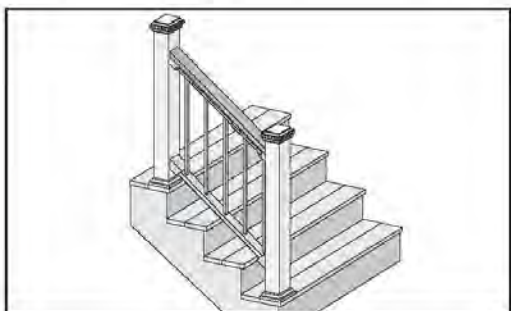


Attachment of Bracket Covers and Skirts

16. See instructions on page 113.

NOTE: Top Bracket Covers are not attached in this configuration.

HOW TO INSTALL TRADITIONAL STAIR RAILING TREX SIGNATURE®



IMPORTANT NOTE:

- » Only for use with pressure-treated 4x4 post (3.5" nominal square) and 4x4 (102 mm x 102 mm) or 6x6 post sleeve. Trex Signature Posts, Trex Post Mounts or Joist Mount Posts cannot be used with Trex Signature Traditional railing.

Installing Standard Trex Signature Stair Posts, or Pressure-Treated Post

1. See instructions on page 109.

Installing Lower Fixed Stair Brackets

- 2a. See instructions on pages 110.

Installing Lower Stair Swivel and Compound Swivel Brackets

- 2b. See instructions on page 114.

How to Measure Bottom Stair Railings Fixed Stair Brackets

- 3a. See instructions on page 110.

How to Measure Bottom Stair Railings When using Stair Swivel and Compound Swivel Brackets

- 3b. See instructions on page 114.

Cutting Bottom Stair Rail, Bottom Stair Rail Cover When Using Fixed Stair Brackets

- 4a. See instructions on page 110.

Cutting Bottom Stair Rail, Bottom Stair Rail Cover When Using Stair Swivel and Compound Swivel Brackets

- 4b. See instructions on page 114.

Attaching Foot Block (when recommended)

5. See instructions on page 111.

Attachment of Bottom Stair Rail Cover and Bottom Stair Rail to Fixed Brackets

- 6a. See instructions on page 111.

Attachment of Bottom Stair Rail Cover and Bottom Stair Rail to Swivel and Compound Swivel Brackets

- 6b. See instructions on page 115.

Installing Upper Fixed Stair Brackets and Measuring Upper Rail

- 7a. See instructions on pages 111.

Installing Upper Swivel and Swivel Compound Stair Brackets and Measuring Upper Rail

- 7b. See instructions on pages 115.

HOW TO INSTALL TRADITIONAL STAIR RAILING/CONTINUED

TREX SIGNATURE®

Cutting Top Stair Rail and Rail Insert When Using Fixed Stair Brackets

8a. See instructions on page 112.

Cutting Top Stair Rail and Rail Insert When Using Swivel Compound Stair Brackets and Measuring Upper Rail

8b. See instructions on page 115.

Installing Balusters into Bottom Stair Rail When Using Fixed Stair

9a. See instructions on page 113.

Installing Balusters into Bottom Stair Rail When Using Swivel and Compound Swivel Brackets

9b. See instructions on page 116.

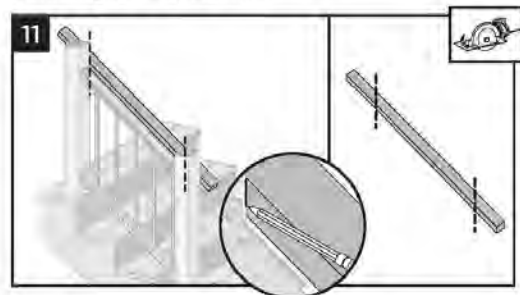
Attaching Upper Stair Rails When Using Fixed Stair Brackets

10a. See instructions on page 113.

Attaching Upper Stair Rails When Using Swivel Compound Stair Brackets

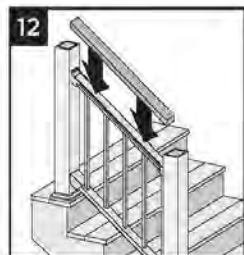
10b. See instructions on page 116.

Attaching 2 x 4 to Top Rail

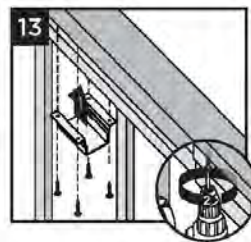


11. Place 2 x 4 beside top rail. Mark and cut (both ends need to be cut on an angle for proper fit).

12. Place 2 x 4 on Trex Signature top stair rail

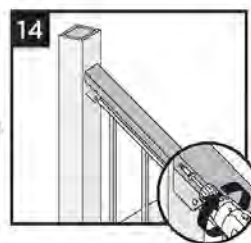


13. Secure 2 x 4 to top rail using Trex Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the railing section. Then space brackets approximately every 24" and attach with 4 screws provided.



NOTE: Pre-drilling before attachment is recommended.

14. Pre-drill a pilot hole and toenail 2-1/2" (6.4 cm) screw at each end of 2 x 4 into post on back side of rail (side not facing decking).



Attachment of Lower Stair Bracket Covers, Skirts, and Caps Fixed Bracket

15a. See instructions on page 113.

Attachment of Lower Stair Bracket Covers, Skirts, and Caps Swivel or Compound Swivel Bracket

15b. See instructions on page 117.

NOTE: Top Bracket Covers are not attached in this configuration.

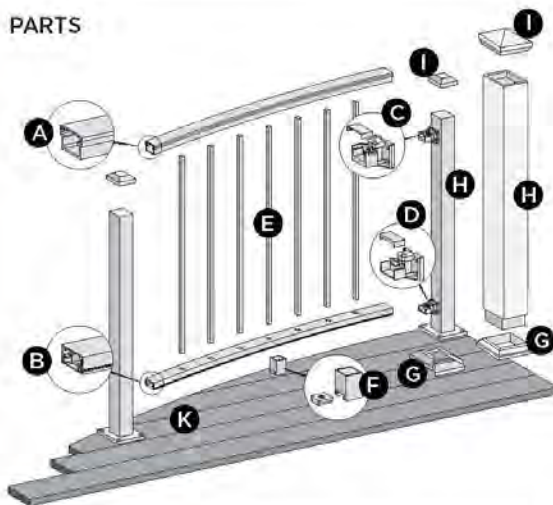
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HORIZONTAL CURVED RAILING TREX SIGNATURE™

NOTES:

- » DESIGN AND FABRICATION WILL BE HANDLED BETWEEN TREX COMMERCIAL PRODUCTS (TCP) AND THE CONTRACTOR/CUSTOMER. FOR MORE INFORMATION VISIT TREX.COM OR CALL 1-800-BUY TREX.
- » EVERY SECTION IS CUSTOM FABRICATED FOR EACH SPECIFIC JOB. CURVED RAILS ARE DESIGNED WITH 8' LENGTH RAILS, BUT DUE TO MANUFACTURING PROCESS THIS WILL ALLOW 6' USABLE SECTIONS. THUS, WHEN DESIGNING CURVED RAILING, SPANNING IS 6' MAXIMUM CURVED SPAN.
- » SIGNATURE CURVED RAILINGS CAN ONLY BE USED WITH HORIZONTAL RAILINGS. STAIR RAILINGS CANNOT BE CURVED.
- » WHEN INSTALLING SIGNATURE CURVED RAILING, ONLY HORIZONTAL SWIVEL TABLESS BRACKETS CAN BE USED.
- » FOOTBLOCKS ARE REQUIRED FOR EVERY SIGNATURE CURVED RAIL SECTION. THUS THESE RAILING SPANS MUST BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST.
- » CANNOT BE USED WITH TREX JOIST MOUNT POSTS THAT ARE ATTACHED OUTSIDE OF THE RIM JOIST.

PARTS



BALUSTER OPTIONS



NOTES: This is an overview of CURVED railing components for Signature Horizontal applications.

- A. Trex Signature curved top rail
- B. Trex Signature bottom rail and flat cover
- C. Trex Signature top rail bracket and cover
- D. Trex Signature bottom rail bracket and cover
- E. Trex Signature balusters (square)
- F. Trex Signature Foot Block**
- G. Trex Signature post skirt or post sleeve skirt*
- H. Trex Signature post*
 - 36" (actual length 37" [94.0 cm])
 - 42" (actual length 43" [109.2 cm])
 - or Trex post sleeve***
 - 36" (actual length 40" [102 cm])
 - 42" (actual length 46" [117 cm])

- J. Trex Signature post cap or post sleeve cap*

* Item not included in Trex Signature Railing kits.

** One required per each curved railing section.

*** Both 4x4 (10.2 cm x 10.2 cm) and 6x6 (15.2 cm x 15.2 cm) post sleeves are designed to fit over 4x4 pressure-treated post.

NOTE: If installing 42" (106.7 cm) railing, and using pressure-treated posts with Trex post sleeves, ensure that a longer pressure-treated post is used along with longer post sleeve, both cut to a height of 46" (116.8 cm) from decking surface.

NOTE: MUST USE TREX DECK MOUNT POST HARDWARE AND METAL PLATE WHEN ATTACHING TREX SIGNATURE POSTS.

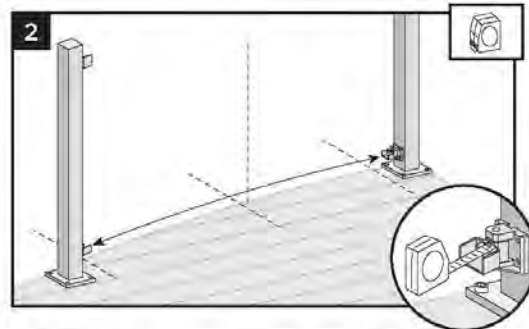
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL HORIZONTAL CURVED RAILING/CONTINUED TREX SIGNATURE®

Installing Posts and Swivel Brackets

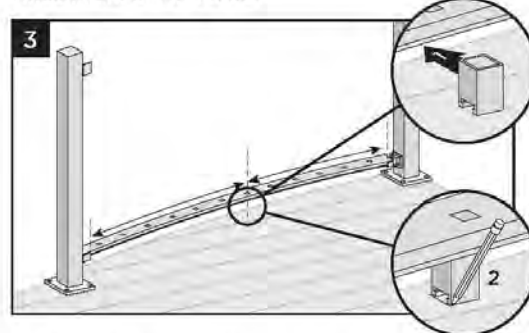
1. Install posts and horizontal swivel brackets as stated within Trex Signature Post and Horizontal Swivel Bracket Instructions.

How to Measure and Cut Bottom and Top Rails

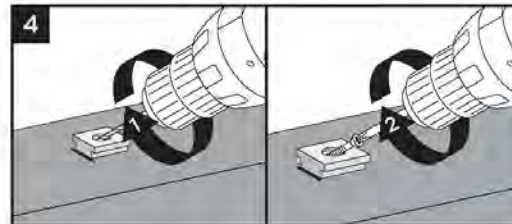


2. With brackets in correct swivel location, measure distance from inside of bracket to inside of bracket. **BEFORE CUTTING, ENSURE THAT BALUSTER HOLES ON BOTH BOTTOM AND TOP RAIL LINE UP.**

Attachment of Foot Block

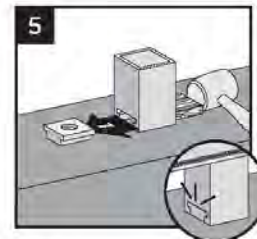


3. Temporarily set bottom rail into bottom brackets, and place Foot Block under bottom rail centered between bottom brackets. Mark to provide placement location of base. Remove bottom rail.



4. Place base (smaller side facing down) on decking surface. Pre-drill using a 3/16" bit. Attach base of Foot Block using one screw at an angle through base and into decking.

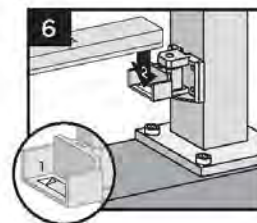
5. After attached, use a rubber mallet along with scrap piece of wood to tap Foot Block until it locks into place.



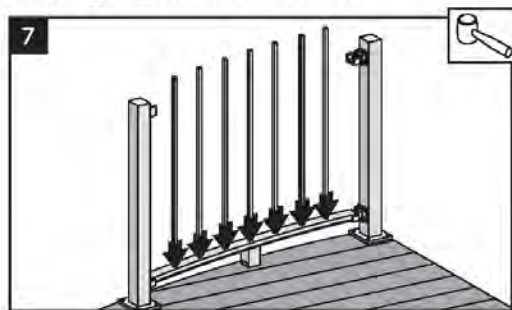
Installing Lower Rail to Brackets

6. Place adhesive strips (provided) into bottom rail brackets, and then place bottom rail into brackets (proceed to step 8).

NOTE: Make sure surface is clean and dry.



Installing Balusters into Bottom Rail

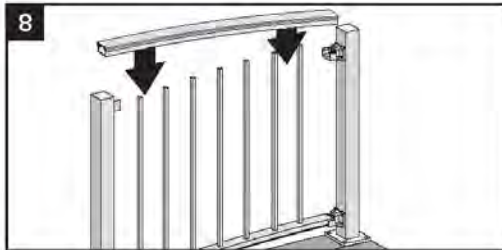


7. Place balusters into holes in lower rail by snapping fully into place.

HOW TO INSTALL CURVED RAILING/CONTINUED

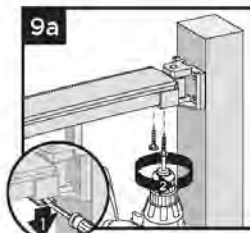
TREX SIGNATURE[®] STANDARD

Attach Upper Railings



8. Working from one end of upper rail, snap balusters into upper rail, working down length of curved rail.

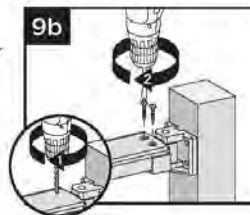
9a. If there is room to get drill in between last baluster and post, pop out access panel on underside of top bracket, and using a 7/64" (0.28 cm) drill bit, pre-drill at marked location for attachment of railing to bracket. Attach top rail to bracket using two self-tapping screws each side (provided). Screw from the bottom up into the top rail.



NOTE: Pre-drilling is required.

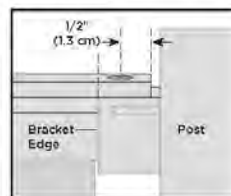
If there is no room to get drill in between last baluster and post:

9b. Drill two 1/2" holes approximately 1/2" from end of top rail. Repeat this on opposite side of top rail. Using a 7/64" (0.28 cm) drill bit, pre-drill at marked location for attachment of railing to bracket. Attach top rail to bracket using two self-tapping screws on each side (provided).



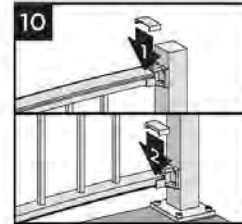
IMPORTANT NOTES:

- » HOLES CANNOT EXTEND PAST BRACKET, OTHERWISE BRACKET COVER WILL NOT COVER HOLES.
- » ONLY DRILL 1/2" HOLES THRU TOP WALL OF TOP RAIL. DO NOT USE A STEP BIT.



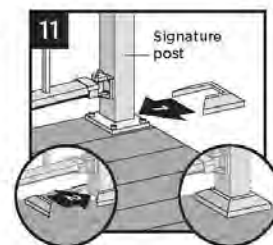
NOTE: Pre-drilling is required.

10. Install upper and lower bracket covers. If self-tapping screws were installed from above on top rail, bracket cover will hide the screw hole locations.

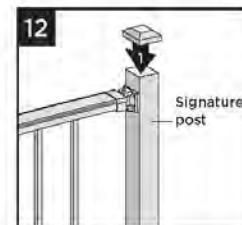


Attachment of Skirts and Caps

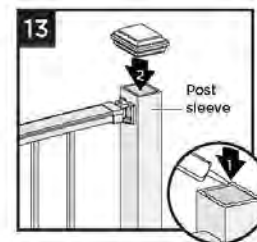
11. Attach provided post skirt to bottom of posts when using Signature posts.



12. Attach post caps to Signature posts. (A **rubber mallet** may be required for secure attachment.)



13. Attach post caps to post sleeves using external-grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).

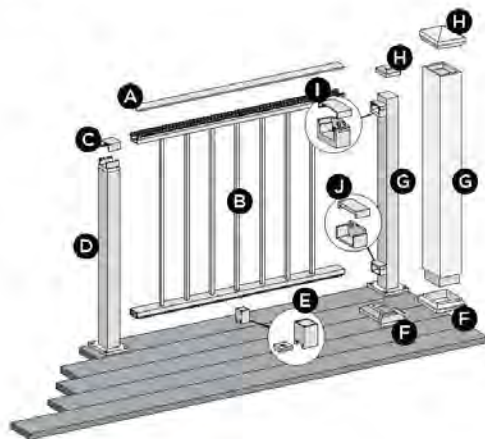


TREX SIGNATURE® HORIZONTAL PANELS

NOTES:

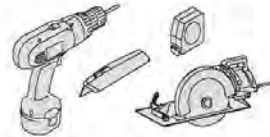
- » TREX SIGNATURE RAILINGS ARE DESIGNED TO BE ATTACHED WITH POSTS INSTALLED AT A CLEAR SPAN OF 6' (1.83 M) OR 8' (2.44 M). THUS THESE RAILING SPANS MUST BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST.
- » IF INSTALLING AT EXACT SPAN LENGTHS OF 6' (1.83 M) OR 8' (2.44 M), AND USING POST-TO-POST CONFIGURATION, THE BOTTOM RAIL WILL NOT NEED TO BE CUT, BUT THE TOP RAIL WILL NEED TO BE MEASURED AND CUT.
- » IF INSTALLING AT EXACT SPAN LENGTHS OF 6' (1.83 M) OR 8' (2.44 M), AND USING CROSSOVER POST CONFIGURATION (SPANS FROM ONE CROSSOVER POST TO ANOTHER CROSSOVER POST), BOTH THE BOTTOM RAIL AND TOP RAIL WILL NOT NEED TO BE CUT.
- » IN ADDITION, AT ALL FINAL END POST CONFIGURATIONS, TOP RAIL WILL NEED TO BE MEASURED AND CUT.
- » SEE INFORMATION WITHIN DETAILED INSTRUCTIONS FOR MORE INFORMATION.
- » SEE PAGE 56 FOR SKU NUMBERS.

PARTS



- A. Trex Signature upper rail cover*
 - 6' (actual length 73-1/2" [1867 mm])
 - 8' (actual length 97-1/2" [2477 mm])
- B. Trex Signature Panel (includes top and bottom railings and square balusters)
- C. Crossover bracket cover (supplied with crossover post)
- D. Trex Signature crossover post**
 - 36" (actual length 34-1/2" [876 mm])
 - 42" (actual length 40-1/2" [1029 mm])
- E. Trex Signature Foot Block***
- F. Trex Signature post skirt or post sleeve skirt**
- G. Trex Signature post**
 - 2-1/2"
 - 36" (actual length 37" [940 mm])
 - 42" (actual length 43" [1092 mm])
 or Trex 4x4 post sleeve**
 - 36" (actual length 40" [102 cm])
 - 42" (actual length 46" [117 cm])
- H. Trex Signature post cap or post sleeve cap**

TOOLS NEEDED



NOTES:

- » Assembled Trex Signature Panels DO NOT come with Foot Blocks. You must purchase Foot Blocks separately. SKU - BKALFTBLK (one per panel required on spans greater than 6'; see note below**).
- » Assembled Trex Signature Panels DO NOT come with brackets and screws. You must purchase the horizontal rail hardware separately. SKU - BKFHBKTALPNL (one per panel).

- I. Trex Signature upper rail bracket and cover
- J. Trex Signature lower rail tabless bracket and cover

* Covers are slightly longer to accommodate crossover post applications.

** Item not included in Trex Signature Panel kits. Both 4" x 4" (102 mm x 102 mm) and 6" x 6" (152 mm x 152 mm) post sleeves are designed to fit over 4" x 4" pressure-treated post.

*** Required ONLY for all clear span applications over 6' (1.83 m) when fixed baluster is centered or unsupported spans greater than 5' (1.52 m). For example, if an 8' (2.44 m) panel is cut into a 5-1/2' (1.68 m) section, it would require a Foot Block due to the off-center placement of the fixed baluster.

NOTE: If installing 42" (1067 mm) railing, and using pressure-treated posts with Trex post sleeves, ensure that a longer pressure-treated post is used along with longer post sleeve, both cut to a height of 46" (1168 mm) from decking surface.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

BRACKET HARDWARE - HORIZONTAL APPLICATIONS (INCLUDING HORIZONTAL SWIVEL BRACKETS) TREX SIGNATURE®

HORIZONTAL RAILING HARDWARE

- AA. Tableless Lower rail bracket
- BB. Lower rail bracket cover
- CC. Upper rail bracket cover
- DD. Upper rail bracket



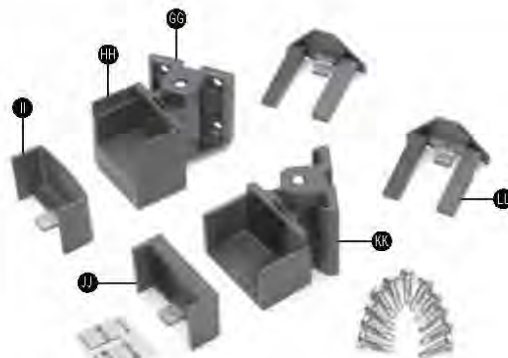
FOOT BLOCK COMPONENTS

- EE. Foot Block base
- FF. Foot Block support



HORIZONTAL SWIVEL HARDWARE

- GG. Swivel base
- HH. Horizontal swivel bracket top rail
- II. Horizontal swivel bracket top rail cover
- JJ. Horizontal swivel bracket bottom rail cover
- KK. Horizontal swivel bracket bottom rail bracket
- LL. Swivel base cover



NOTE: For measurements and detailed horizontal swivel hardware installation instructions, please see the complete Trex Signature installation section.

HOW TO INSTALL HORIZONTAL PANELS TREX SIGNATURE®

NOTE:

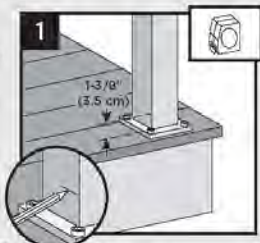
» FOR POST INSTALLATIONS, SEE PAGES 84-85 FOR DETAILS

» FOR EASE OF OF INSTALLATION, IT IS RECOMMENDED THAT YOU USE THE Trex Signature RAIL TEMPLATES TO ATTACH BRACKETS (SOLD SEPARATELY).

Attach Brackets Using Trex Signature Posts

TIP: Use a clamp to help hold brackets in place while fastening with screws.

1. Measure 1-3/8" (3.5 cm) from top of post base plate or 1-7/8" (4.8 cm) from decking surface. Mark with light line.

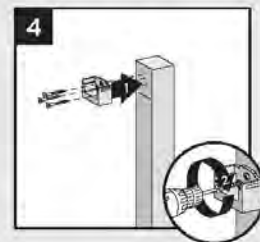


2. Measure up from post base plate 33-7/16" (84.9 cm) for 36" (92 cm) rail height or 39-7/16" (100.2 cm) for 42" (107 cm) rail height. Mark with light line.

NOTE: If measuring from decking surface, measure up 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height.

3. Center lower bracket on post **above** the marked line and attach using two self-tapping screws (provided).
4. Center upper bracket on post **above** marked line and attach using (3) self-tapping screws (provided).

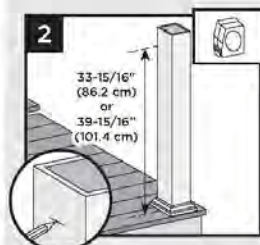
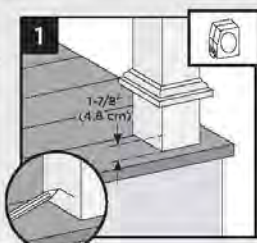
NOTE: Upper bracket is not required on crossover post configuration.



Attach Brackets Using Pressure-Treated Posts and Post Sleeves

TIP: Use a clamp to help hold brackets in place while fastening with screws.

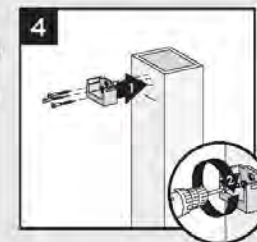
1. Measure 1-7/8" (4.8 cm) up from deck surface to bottom of bracket. Slide skirt up to allow for proper measurement. Mark with light line.



2. Measure up from decking surface 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height. Mark with light line.

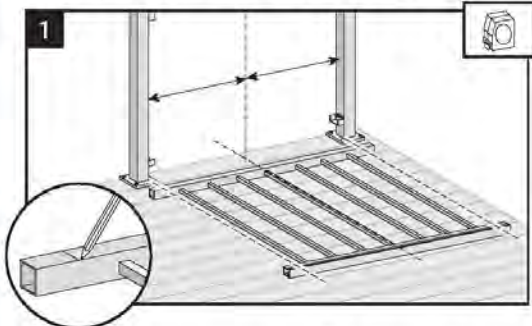
NOTE: Push skirt back down onto surface of decking **BEFORE ATTACHING BRACKETS.**

3. Center lower bracket on post **above** the marked line and attach using two 2" (51 mm) wood screws (provided).
4. Center upper bracket on post **above** marked line and attach using three 2" (51 mm) wood screws (provided).



HOW TO INSTALL HORIZONTAL PANELS/CONTINUED TREX SIGNATURE®

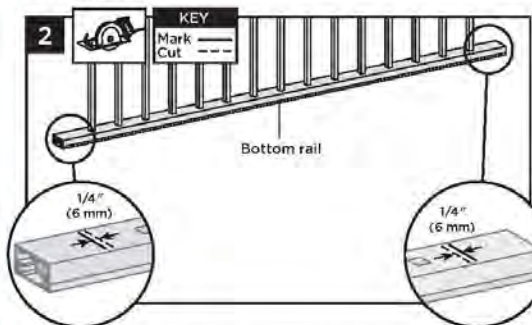
How to Measure and Cut Bottom and Top Railings of Trex Signature Panel (When REQUIRED)



1. Position panel between posts and align with bottom bracket. Align center baluster with middle of span between posts (this will allow for equal spacing between end balusters and each post). Mark bottom and top rail at each end.

NOTE: If the end balusters fall too close to the brackets, the center point can be adjusted one baluster to the left or right to allow more room.

Cutting Bottom Rail

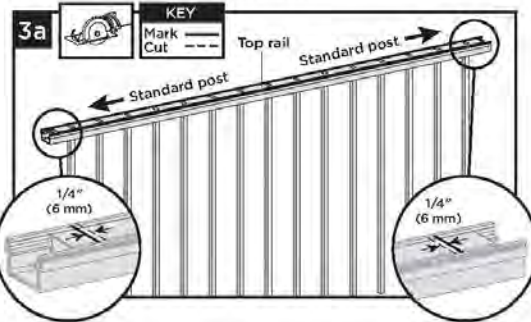


2. Using a saw equipped with a non-ferrous metal blade, cut each end of bottom rail and bottom rail insert 1/4" (6 mm) shorter than mark on each end to allow for fit into bottom rail brackets.

Cutting Top Rail

Option 1:

For Post-to-Post Configuration

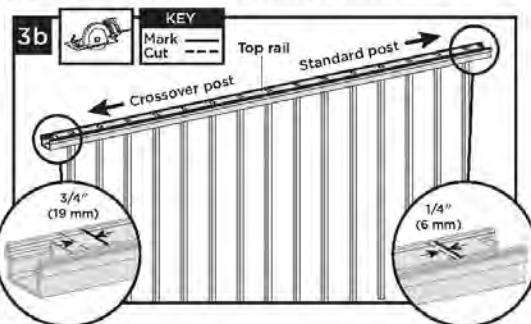


- 3a. Using a saw equipped with a non-ferrous metal blade, cut each end of top rail 1/4" (6 mm) shorter than mark to allow for fit into top rail brackets.

Cutting Top Rail

Option 2:

For Post-to-Crossover Post Configuration



- 3b. Top rail must be cut differently on each side of the rail. Railing side that attaches to standard post should be cut 1/4" (6 mm) shorter than the mark to allow for fit into top rail bracket. Railing side that attaches to the crossover post should be cut 3/4" (19 mm) **LONGER** than the mark to allow for fit into the crossover post bracket.

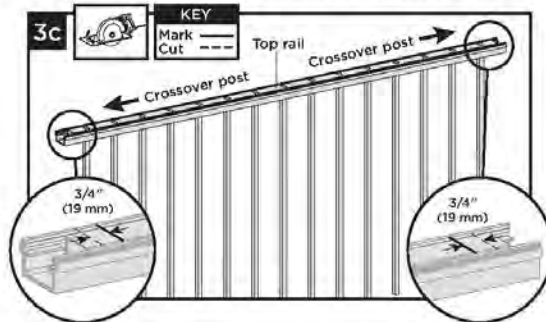
HOW TO INSTALL HORIZONTAL PANELS/CONTINUED

TREX SIGNATURE[®]

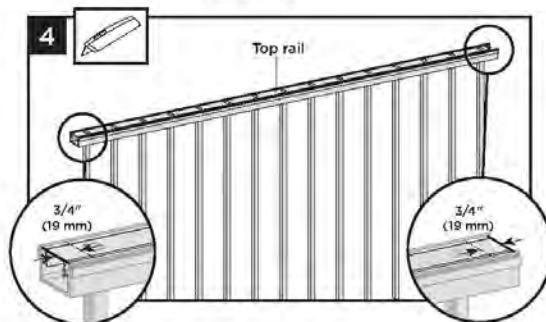
Cutting Top Rail

Option 3:

For Crossover Post-to-Crossover Post Configuration

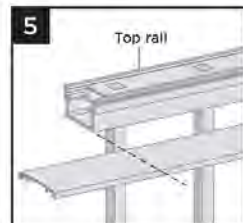


- 3c. Cut each end of top rail $\frac{3}{4}$ " (19 mm) **LONGER** than the mark to allow for fit into the crossover post bracket on each side.



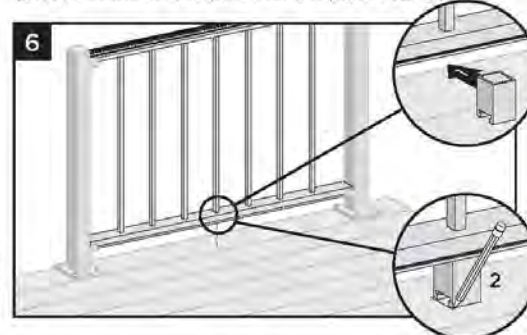
4. Using razor knife or other cutting tool, cut rail insert $\frac{3}{4}$ " (19 mm) **FROM EACH SIDE**.

5. Mark and cut top rail cover same length as top rail for all top rail configurations.

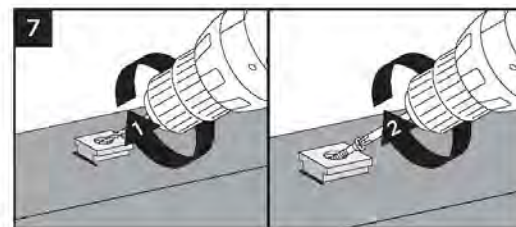


Attaching Foot Block (when required)

(One Foot Block is required for all spans over 6')

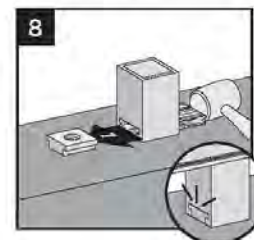


6. Temporarily place panel onto brackets. To ensure correct location, place Foot Block under center of bottom panel rail. Mark to provide placement location of base.



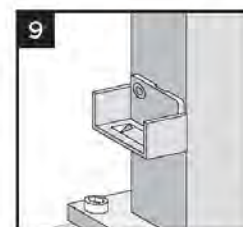
7. Remove railing panel and place base (smaller side facing down) on decking surface. Pre-drill using a $\frac{3}{16}$ " bit. Attach base of Foot Block using one screw at an angle through base and into decking.

8. After attached, use a **rubber mallet along with scrap piece of wood** to tap Foot Block until it locks into place.



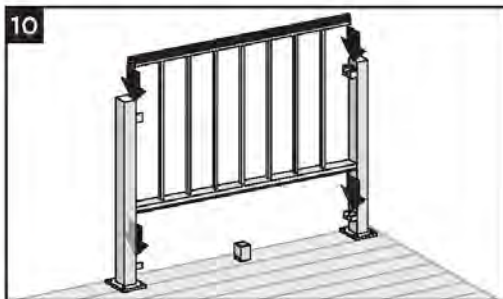
Installing Trex Signature Panel Using Lower Rail Tabless Bracket

9. Peel backings from adhesive strip provided and place inside the bottom bracket.



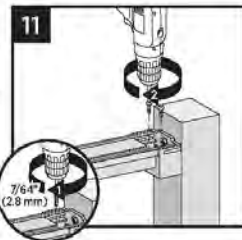
NOTE: Make sure surface is clean and dry.

HOW TO INSTALL HORIZONTAL PANELS/CONTINUED TREX SIGNATURE®

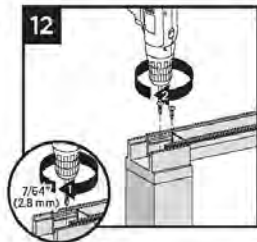


10. Place panel in bottom and top brackets

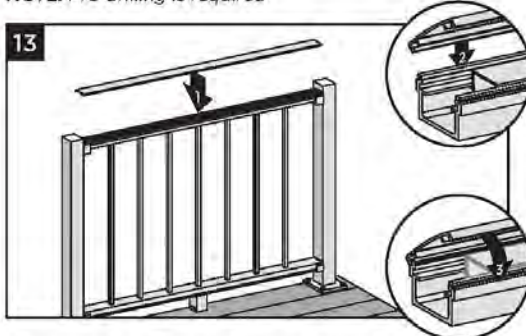
11. For post-to-post configuration, pre-drill using a 7/64" (0.28 cm) drill bit, and fasten upper rail to each bracket by installing screws diagonally through upper rail into bracket using two self-tapping screws each side (provided with bracket kit)



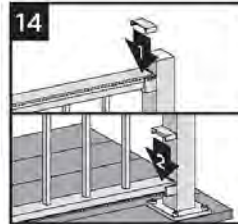
12. For crossover post configuration, fasten upper rail to crossover post by installing screws diagonally through upper rail into post using two self-tapping screws each side (provided with bracket kit)



NOTE: Pre-drilling is required



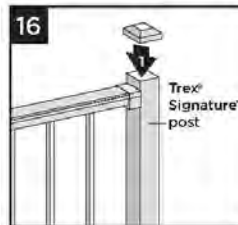
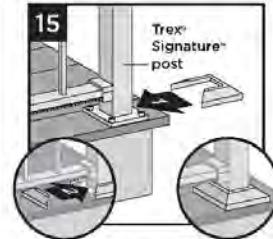
13. Attach upper rail cover to upper rail by aligning cover on one side of rail. Then, starting from one end of rail, snap cover onto opposing slot working down length of rail. **GENTLE** tapping with a **rubber mallet** may facilitate fastening.



Attachment of Bracket Covers, Skirts, and Caps

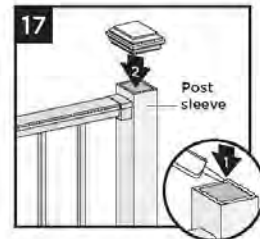
14. Attach corresponding bracket covers over opening in upper and bottom rails

15. Attach provided post skirt to bottom of posts when using Trex Signature posts.

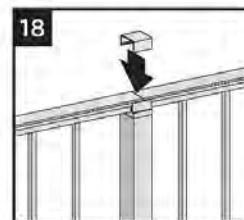


16. Attach post caps to Trex Signature posts (use of **rubber mallet** may be required for secure attachment).

17. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).



18. For crossover post configuration, attach crossover post cap to crossover post.

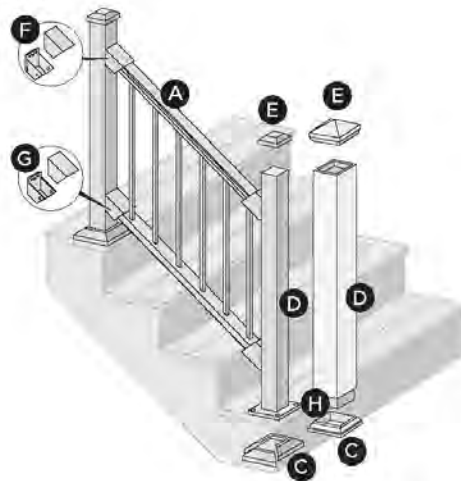


TREX SIGNATURE® STAIR PANELS

NOTES:

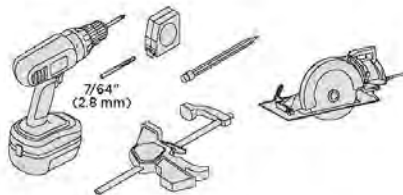
- » FOR A 6' OR 8' STAIR RAIL, POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING STAIR POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM STAIR RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE STAIR RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.
- » TREX SIGNATURE POSTS CANNOT BE USED WITH TREX SIGNATURE TRADITIONAL OR TREX SIGNATURE COCKTAIL STAIR DESIGNS; ONLY PRESSURE-TREATED POST/POST SLEEVES CAN BE USED. REFER TO DETAILED INSTRUCTIONS FOR MORE INFORMATION.
- » Assembled Trex Signature Stair Panels DO NOT come with brackets and screws. You must purchase the stair rail hardware separately (sku BKI-SBKTL) (one per panel).
- » All Trex Signature stair installations require the use of 53" (134.6 CM) stair post, measured and cut to appropriate length if required.
- » If crossover stair post is required, use stair post (again cut to appropriate length if required) and use swivel crossover bracket.
- » Trex Signature Stair fixed brackets are designed to work only with stair slopes of 32°-37°. For smaller (less than 32°) or larger angles (greater than 37°), use the Trex Signature Stair Swivel brackets.
- » At all final end post configurations, top stair rail will need to be measured (making sure balusters line up vertically) and cut.
- » SEE PAGE 56 FOR SKU NUMBERS.

PARTS



- A. Trex Signature Stair Panel (includes top and bottom railings and square balusters).
- B. Trex Signature Foot Block (not shown)***
- C. Trex Signature post skirt or post sleeve skirt**
- D. Trex Signature post**
 - 36" (actual length 37" [940 mm])
 - 42" (actual length 43" [1092 mm])
 or Trex 4x4 post sleeve**
 - 36" (actual length 40" [102 cm])
 - 42" (actual length 46" [117 cm])
- E. Trex Signature post cap or post-sleeve cap**

TOOLS NEEDED



- F. Trex Signature upper stair rail fixed bracket and cover
- G. Trex Signature lower stair rail fixed bracket and cover
- * Covers are slightly longer to accommodate crossover post applications.
- ** Item not included in Trex Signature Stair Panel kits. Both 4" x 4" (102 mm x 102 mm) and 6" x 6" (152 mm x 152 mm) post sleeves are designed to fit over 4" x 4" pressure-treated post.
- *** Foot Blocks for stairs are sold separately and recommended for use in Signature Cocktail and Signature Traditional stair applications.

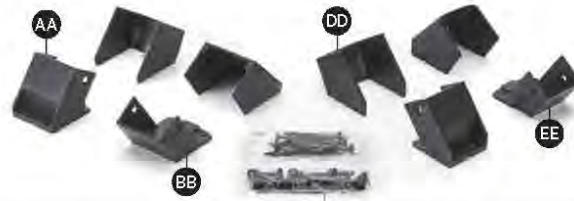
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

TREX SIGNATURE® STAIR PANELS

BRACKET HARDWARE (INCLUDING STAIR SWIVEL BRACKETS, STAIR CROSSOVER BRACKET, AND COMPOUND SWIVEL BRACKETS) TREX SIGNATURE

FIXED BRACKET - STAIR HARDWARE

- AA. Bottom Stair Bracket and Cover - Lower Rail
- BB. Top Stair Bracket and Cover - Lower Rail
- CC. Fastener Pack
- DD. Bottom Stair Bracket and Cover - Upper Rail
- EE. Top Stair Bracket and Cover - Upper Rail



SWIVEL BRACKET - STAIR HARDWARE

- FF. Swivel Top Rail Bracket and Cover - Stair
- GG. Swivel Bottom Rail Bracket and Cover - Stair
- HH. Fastener Covers
- II. Fastener Pack



COMPOUND SWIVEL BRACKET - STAIR HARDWARE

- JJ. Compound Swivel Top Rail Bracket and Cover - Stair
- KK. Compound Swivel Bottom Rail Bracket and Cover - Stair
- LL. Fastener Covers
- MM. Fastener Pack



SWIVEL CROSSOVER BRACKET KIT - STAIR HARDWARE

- NN. Swivel Crossover Bracket - Stair
- OO. Post-to-Bracket Fasteners



HOW TO INSTALL TREX SIGNATURE® STAIR PANELS

TREX SIGNATURE®

Post Installation:

- » If Trex Signature Stair posts are used, install at nose of stair tread directly under required blocking. See Trex Signature horizontal post instructions for details.
- » If installing pressure-treated posts, please refer to local building code requirements prior to attaching pressure treated posts. Pressure treated posts must be installed on the inside of the stair stringer and at the nose of the stair tread. In most cases, a pressure-treated post and post sleeve longer than 39" will be needed for stair applications.

Attaching Signature Stair Panel using Fixed Stair Brackets

1 Use a 1" deck board as a spacer board and lay this on the stair treads between the posts. Place stair panel on top of the deck board and clamp stair panel to posts. Ensure that balusters are straight and positioned with equal spacing at post locations.

2 Mark posts for bracket locations. Mark at the underside of both top and bottom stair railing locations.

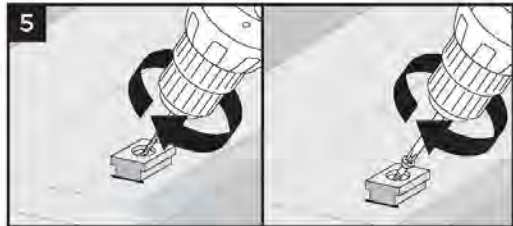
3 Mark stair rails to cut. At top stair post location, mark **UNDERSIDE** of lower and upper stair rails. At bottom stair post location, mark **TOPSIDE** of lower and upper stair rails.

Attaching Foot Block (where recommended)

4 Mark location of angle on foot block and cut on mark. Then place foot block under the center of the bottom stair rail. Mark placement location of the base.

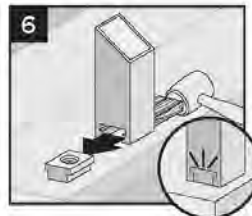
HOW TO INSTALL TREX SIGNATURE® STAIR PANELS/CONTINUED

TREX SIGNATURE®

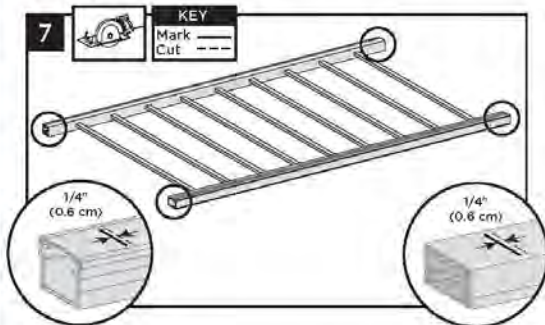


5. Place base (smaller side facing down) on decking surface. Pre-drill using a 3/16" bit. Attach base of foot block using one screw at an angle through base and into decking.

6. After attached, use a rubber mallet along with scrap piece of wood to tap foot block until it locks into place.



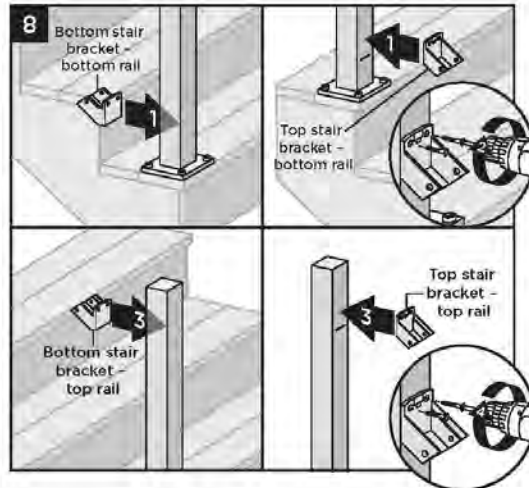
Cutting Stair Panel Rails:



7. Remove panel and place on flat surface. Cut each end of the bottom and top stair rails 1/4" (0.6 cm) shorter than the mark on each end to allow for fit into stair rail brackets.

NOTES:

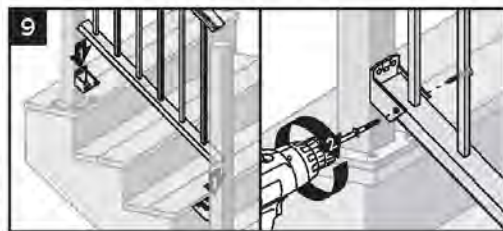
- » Railing does not need to be cut at angle. Brackets are designed to allow for railing to be installed with standard straight cut.



Attaching Upper and Lower Stair Brackets

8. Center stair brackets on posts above the marked line and attach using two self-tapping screws (provided). In some cases it may be difficult to attach the stair bracket on the lower stair post. A 90° cordless drill is recommended to attach screws in this area.

Attaching Stair Panel to Brackets

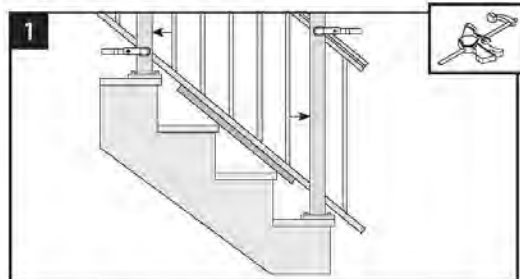


9. Attach stair panel to brackets using two self-tapping screws (provided) on each side of stair bracket.

HOW TO INSTALL TREX SIGNATURE® STAIR PANEL USING STAIR SWIVEL/COMPOUND SWIVEL BRACKETS

TREX SIGNATURE®

Attaching Signature Stair Panel using Fixed Stair Brackets

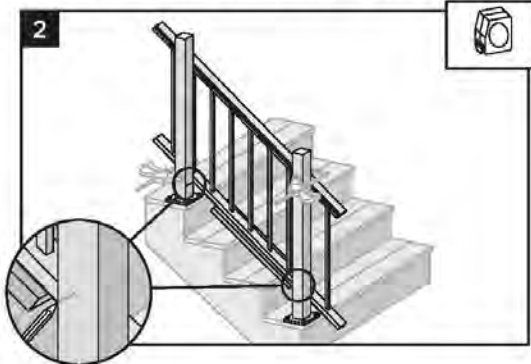


1. Use a 1" deck board as a spacer board and lay this on the stair treads between the posts. Place stair panel on top of the deck board and clamp stair panel to posts. Ensure that balusters are straight and positioned with equal spacing at post locations.

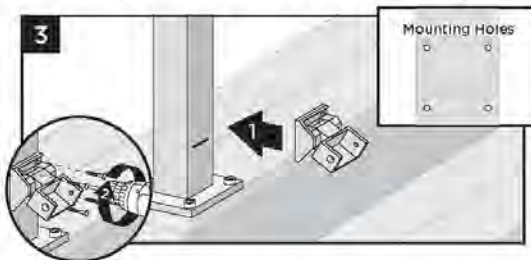


4. After lower swivel brackets are installed clamp panel to posts in same location as before, again ensuring balusters are parallel and evenly spaced between posts.

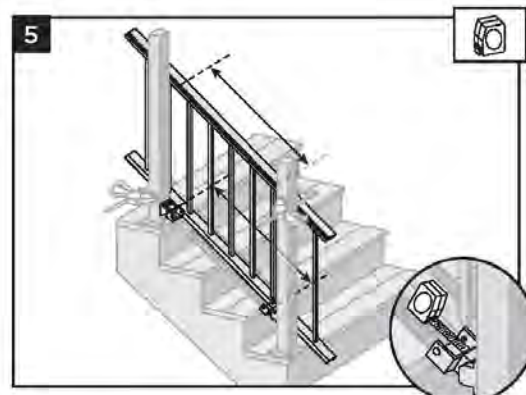
Installing Lower Stair Swivel or Compound Brackets



2. Mark where lower swivel brackets are to be attached to both posts. Mark posts at underside of railing.



Center lower stair swivel brackets on posts above the marked line and attach using four self-tapping screws (provided). In some cases it may be difficult to attach the stair bracket on the lower stair post. A 90° cordless drill is recommended to attach screws in this area.

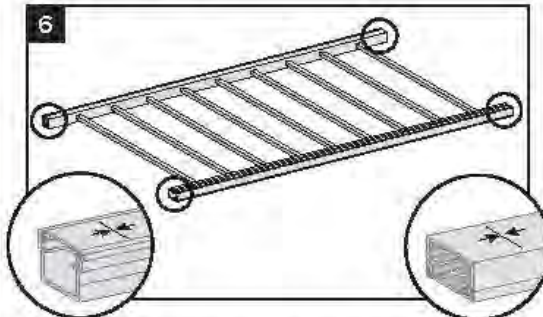


5. With lower swivel brackets in correct locations, measure distance from inside of swivel bracket to inside of swivel bracket. Ensure balusters are parallel and centered in between the posts and also allow for clearance for attachment of brackets. Mark both lower and upper rail at this distance.

HOW TO INSTALL TREX SIGNATURE® STAIR PANEL USING STAIR SWIVEL/COMPOUND SWIVEL BRACKETS/CONTINUED

TREX SIGNATURE®

Cutting Stair Panel Rails:

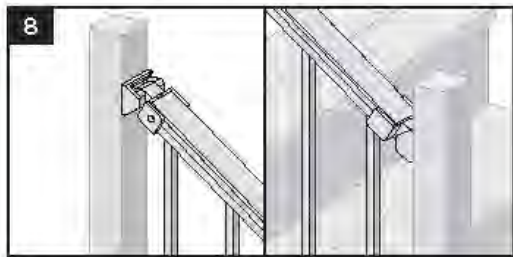


6. Remove panel and place on flat surface. Cut each end of the bottom and top stair rails on marked location.

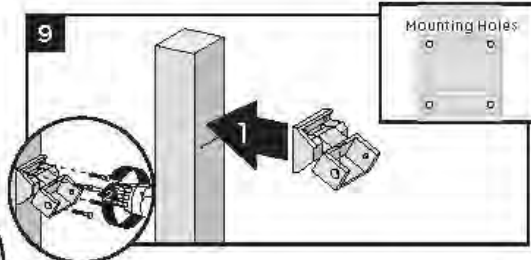
NOTE: Railing does not need to be cut at angle. Brackets are designed to allow for railing to be installed with standard straight cut.



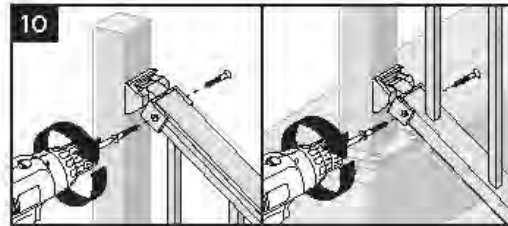
7. Set stair panel into lower swivel brackets.



8. Temporarily place upper swivel brackets on top rail and mark location on posts at underside of the brackets.

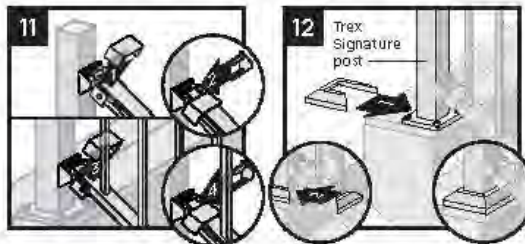


9. Remove stair panel and center upper swivel brackets on post above marked line and attach using four self-tapping screws (provided).



10. Set stair panel into lower and upper swivel brackets. Attach stair panel to brackets using two self-tapping screws (provided) on each side of stair bracket.

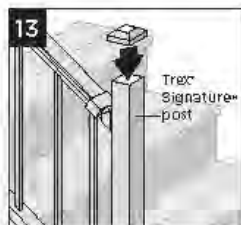
Attachment of Stair Bracket Covers, Skirts, and Caps



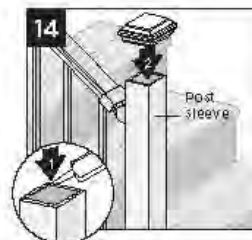
11. Attach corresponding bracket covers over opening in upper and bottom rails.
12. Attach provided post skirt to bottom of posts when using Trex Signature posts.

HOW TO INSTALL TREX SIGNATURE® STAIR PANEL USING STAIR SWIVEL/COMPOUND SWIVEL BRACKETS/*CONTINUED* TREX SIGNATURE®

13. Attach post caps to Trex Signature posts (use of **rubber mallet** may be required for secure attachment).



14. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).



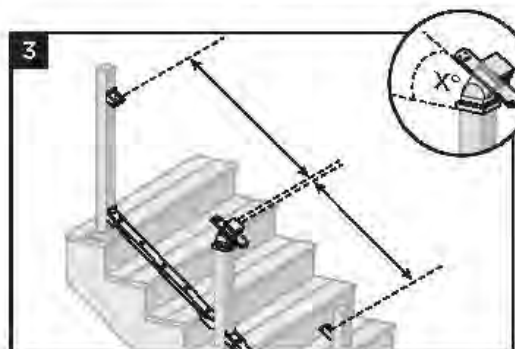
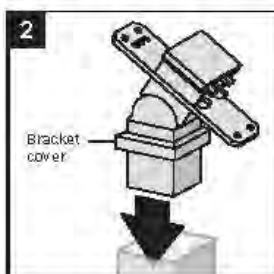
ATTACHING CROSSOVER SWIVEL BRACKETS ON SIGNATURE POSTS TREX SIGNATURE®

1. Follow previous instructions for installation of stair panel using fixed or swivel brackets but **DO NOT CUT TOP RAIL**.

Determining Placement of Stair Crossover Swivel Bracket

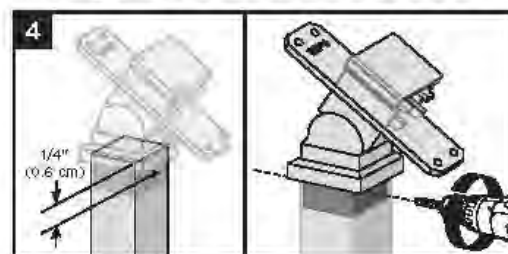
2. Insert stair crossover swivel bracket into post.

NOTE: Keep the bracket cover on when inserting this into post, this will cover the screw attachment area.



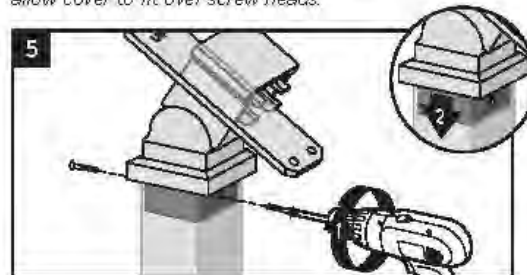
3. Determine location/height of the stair crossover swivel bracket by aligning the angle of this with the fixed brackets already installed. Note that the crossover post may need to be cut to ensure the top stair rail is parallel to the bottom stair rail.

Attaching Stair Crossover Swivel Bracket to Post



4. Once location/height is determined, center and predrill two holes (using a drill bit slightly smaller than that of self-tapping screw diameter) on opposite sides of post, approximately 1/4" (0.6 cm) from top of post. Drill through the post and into the stair crossover swivel bracket on each side.

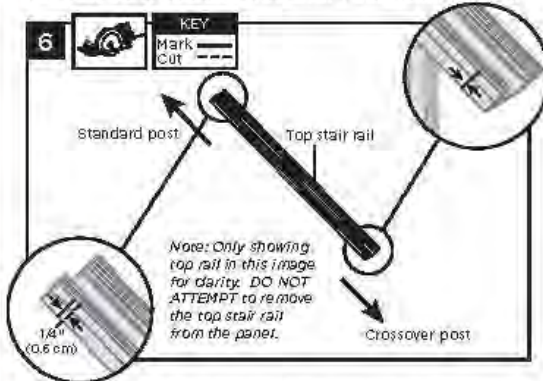
NOTE: Slightly countersink pre-drilled holes to allow for flat head screws to seat flush on the post. This will allow cover to fit over screw heads.



5. Attach stair crossover swivel bracket to post with two self-tapping screws (provided). Slide cover over post to hide screws.

ATTACHING CROSSOVER SWIVEL BRACKETS ON SIGNATURE POSTS TREX SIGNATURE®

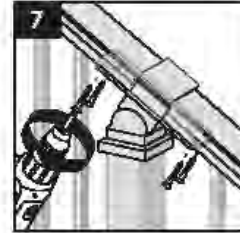
Cutting Top Stair Rail For Stair Post-to-Stair Crossover Post Configuration



6. Top stair rail must be cut differently on each side of the rail. Railing side that attaches to standard post and if using a fixed bracket, should be cut 1/4" (0.6 cm) shorter than the mark to allow for fit into top rail bracket. Railing side that attaches using a stair swivel bracket should cut on the mark. Railing side that attaches to the crossover post should be cut directly on the mark to allow for fit into the crossover post bracket.

NOTE: Railing does not need to be cut at angle. Brackets are designed to allow for railing to be installed with standard straight cut.

7. For stair crossover post 7 configuration, fasten upper stair rail to swivel crossover post bracket by installing screws diagonally through crossover stair bracket into upper rail using two self-tapping screws (provided) on each side.



Attachment of Brackets

8. See previous instructions based on bracket type installed.

Bracket Covers, Skirts, and Caps

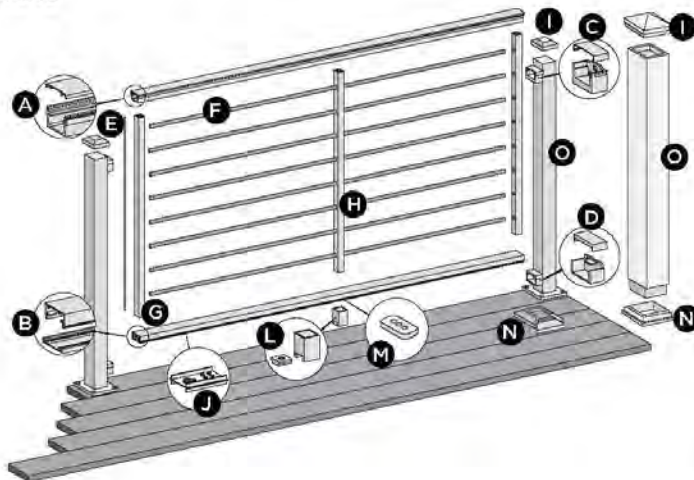
9. See instructions on page 139.

HORIZONTAL ROD RAILING TREX SIGNATURE®

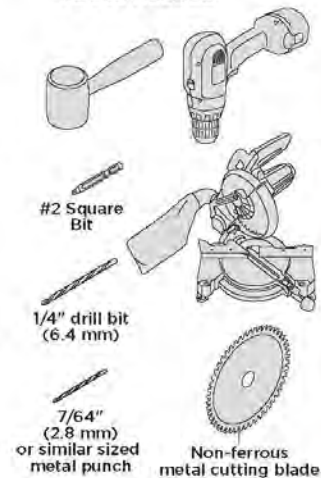
NOTES:

- » Adjust drill power to lowest setting that will drive screw. **DO NOT OVER TORQUE 316 STAINLESS STEEL STAINLESS FASTENERS.**
- » **NEVER** use impact tools on 316 Stainless Steel Fasteners.
- » Be careful inserting rods through intermediate vertical supports. Lay pieces on a flat, solid surface and insert as straight as possible to prevent scratching.
- » When marking lines on bottom rail, do not make a mark wider than 1" or it will be visible after installation.
- » **TOP AND BOTTOM RAILS ARE DIFFERENT LENGTHS, TO ACCOMMODATE THE INSTALLATION OF CROSSOVER POST APPLICATIONS.**
- » **ALL ROD RAILS OVER 6' WILL REQUIRE THE USE OF A FOOT BLOCK, THUS THESE RAILING SPANS MUST BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST.**

PARTS



TOOLS NEEDED



- A. Trex Signature top rail and crowned cover
 - 6' (actual length 73-1/2" [1867 mm])
 - 8' (actual length 97-1/2" [2477 mm])
- B. Trex Signature bottom rail and flat cover
 - 6' (actual length 71-1/2" [1816 cm])
 - 8' (actual length 95-1/2" [2426 cm])
- C. Trex Signature upper rail bracket and cover
- D. Trex Signature lower rail bracket and cover
- E. Anti-rattle strip
- F. Rod
- G. End vertical support
- H. Intermediate vertical support
 - Note: 1 for 6' span/2 for 8' span**
- I. Trex Signature post cap or post sleeve cap**
- J. Template
- L. Trex Signature Foot Block****

- M. HZ spacer
- N. Trex Signature post skirt or post sleeve skirt**
- O. Trex Signature post
 - 36" (actual length 37" [94.0 cm])
 - 42" (actual length 43" [109.2 cm])
 - or Trex 4" x 4" post sleeve**
 - 36" (actual length 40" [102 cm])
 - 42" (actual length 46" [117 cm])

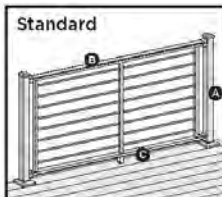
** Item not included in Trex Signature Railing kits. Both 4" x 4" (10.2 cm x 10.2 cm) and 6" x 6" (15.2 cm x 15.2 cm) post sleeves are designed to fit over 4" x 4" pressure-treated post.

*** For 8' Rail Sections only - RODRAILSTIFFENER (included with kit), not shown above

****Foot Block required for all spans greater than 6'

TREX SIGNATURE® HORIZONTAL ROD RAILING RAILING CONFIGURATIONS

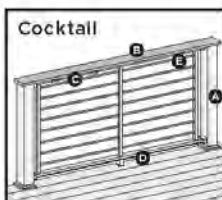
Note: See specific Installation Instructions for attachment of Trex post mounts or Trex Joist Mount Posts prior to installing any railing.



Cutting posts/post sleeves is **NOT** required

- A. Trex Signature post, pressure-treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 post sleeve, or Composite Joist Mount Post/Trex 4 x 4 post sleeve (Inside mount), or Signature Joist Mount Post (Span of 6' or less only)*
- B. Trex Signature top rail
- C. Trex Signature bottom rail

See page 46 for "How to Install Standard Rod Railing".

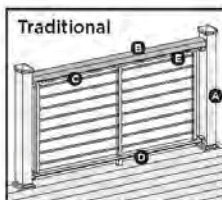


Post sleeves will need to be cut

- A. Pressure-Treated post with Trex post sleeve
- NOTE:** » Only for use with 4x 4 (102 mm x 102 mm) post sleeve, Trex Signature Posts, Trex Post Mounts or Joist Mount Posts cannot be used with Trex Signature Cocktail design.
- B. Deck board top rail. **NOTE: Enhance cannot be used.**
- C. Trex Signature top rail
- D. Trex Signature bottom rail
- E. Trex Signature Cocktail Rail Bracket**

See page 150 for "How to Install Rod Rail Cocktail Railing".

**POST
SLEEVES
WILL
NEED TO
BE CUT**



Cutting posts/post sleeves is **Not** required

- A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 post sleeve, or Joist Mount Post/Trex 4x4 post sleeve*
- NOTE:** » Trex Signature Posts or Trex Signature Joist Mount Posts cannot be used.
- B. 2 x 4 lateral top rail
- C. Trex Signature top rail
- D. Trex Signature bottom rail
- E. Trex Signature Cocktail Rail Bracket**

See page 152 for "How to Install Rod Rail Traditional Railing".

» **NOTES:** For post installations refer to page 84.

** Trex Signature Cocktail Rail brackets (sold separately) are for use with either Trex Rod Rail Traditional or Trex Rod Rail Cocktail designs. For a 6' section, use 4 brackets and screws provided, for 8' section, use 5 brackets and screws provided.

BRACKET HARDWARE - HORIZONTAL APPLICATIONS (INCLUDING HORIZONTAL SWIVEL BRACKETS) TREX SIGNATURE®

HORIZONTAL RAILING HARDWARE

- AA. Lower rail bracket
- BB. Lower rail bracket cover
- CC. Upper rail bracket cover
- DD. Upper rail bracket



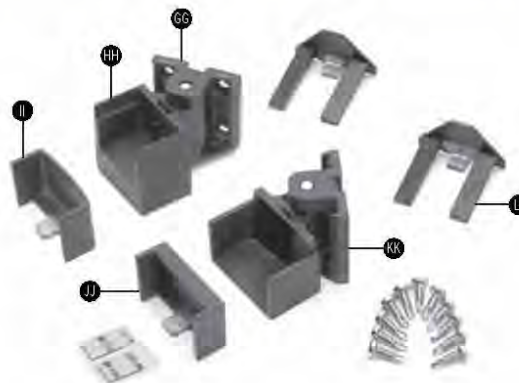
FOOT BLOCK COMPONENTS

- EE. Foot Block base
- FF. Foot Block support



HORIZONTAL SWIVEL HARDWARE

- GG. Swivel base
- HH. Horizontal swivel bracket top rail
- II. Horizontal swivel bracket top rail cover
- JJ. Horizontal swivel bracket bottom rail cover
- KK. Horizontal swivel bracket bottom rail
- LL. Swivel base cover



HOW TO INSTALL HORIZONTAL ROD RAILING BRACKETS TREX SIGNATURE®

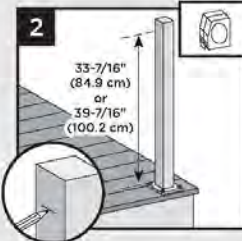
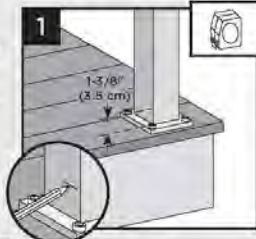
NOTE:

» FOR POST INSTALLATIONS, SEE PAGES 84-85 FOR DETAILS.

Attach Brackets Using Trex Signature Posts

TIP: Use a clamp to help hold brackets in place while fastening with screws.

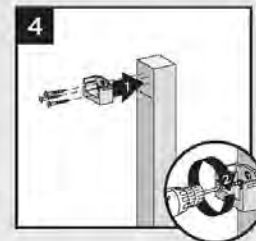
1. Measure 1-3/8" (3.5 cm) from top of post base plate or 1-7/8" (4.8 cm) from decking surface. Mark with light line.



2. Measure up from post base plate 33-7/16" (84.9 cm) for 36" (92 cm) rail height or 39-7/16" (100.2 cm) for 42" (107 cm) rail height. Mark with light line.

NOTE: If measuring from decking surface, measure up 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height.

3. Center lower bracket on post **above** the marked line and attach using two self-tapping screws (provided).
4. Center upper bracket on post **above** marked line and attach using (3) self-tapping screws (provided).

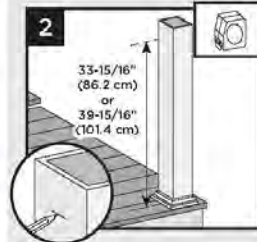
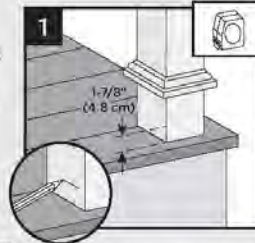


NOTE: Upper bracket is not required on crossover post configuration.

Attach Brackets Using Pressure-Treated Posts and Post Sleeves

TIP: Use a clamp to help hold brackets in place while fastening with screws.

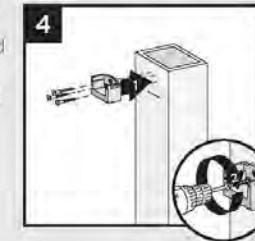
1. Measure 1-7/8" (4.8 cm) up from deck surface to bottom of bracket. Slide skirt up to allow for proper measurement. Mark with light line.



2. Measure up from decking surface 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height. Mark with light line.

NOTE: Push skirt back down onto surface of decking **BEFORE ATTACHING BRACKETS.**

3. Center lower bracket on post **above** the marked line and attach using two 3" (51 mm) wood screws (provided).
4. Center upper bracket on post **above** marked line and attach using three 2" (51 cm) wood screws (provided).



NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL HORIZONTAL ROD RAILING SWIVEL BRACKETS TREX SIGNATURE®

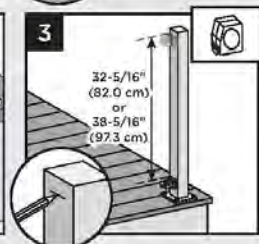
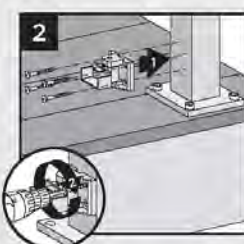
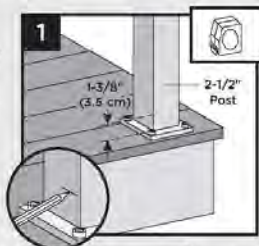
NOTE:

» FOR POST INSTALLATIONS, SEE PAGES 84-85 FOR DETAILS.

Attach Swivel Brackets Base Using Trex Signature Posts

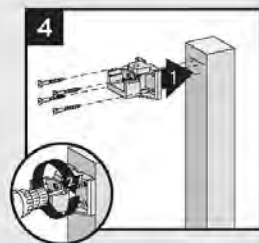
TIP: Use a clamp to help hold brackets in place while fastening with screws.

1. Measure 1-3/8" (3.5 cm) from top of post base plate or 1-7/8" (4.8 cm) from decking surface. Mark with light line.



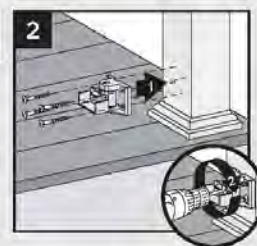
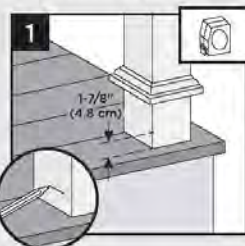
2. Center lower bracket on post **above** the marked line and attach using four self-tapping screws (provided).
3. Measure up 32-5/16" (82.0 cm) for 36" (91.4 cm) tall railing or 38-5/16" (97.3 cm) for 42" (106.7 cm) tall railing from top of lower rail bracket. Mark with a light line.
4. Center upper bracket on post **below** marked line and attach using four self-tapping screws (provided).

NOTE: Upper bracket is not required on crossover post configuration.

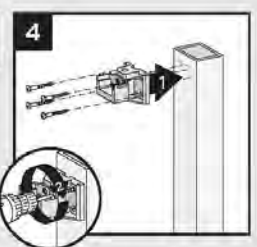
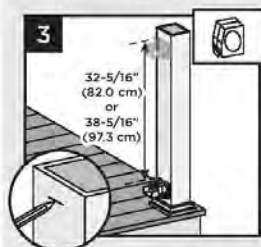


Attach Swivel Brackets Using Pressure-Treated Posts and Post Sleeves

TIP: Use a clamp to help hold brackets in place while fastening with screws.

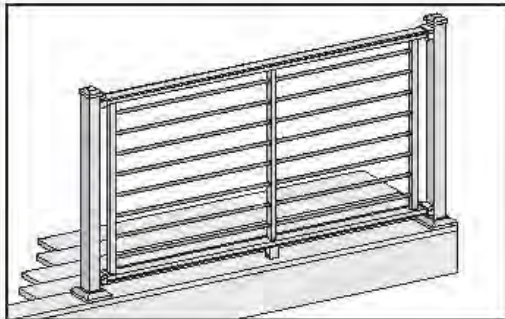


1. Measure 1-7/8" (4.8 cm) up from deck surface to bottom of bracket. Slide skirt up to allow for proper measurement, then push skirt back down onto surface of decking **BEFORE ATTACHING BRACKET**. Mark with light line.
2. Center lower bracket on post **above** the marked line and attach using four 2" (5.1 cm) wood screws (provided).



3. Measure up 32-5/16" (82.0 cm) for 36" (91.4 cm) tall railing or 38-5/16" (97.3 cm) for 42" (106.7 cm) tall railing from top of lower rail bracket. Mark with a light line.
4. Center upper bracket on post **below** marked line and attach using four 2" (5.1 cm) wood screws (provided).

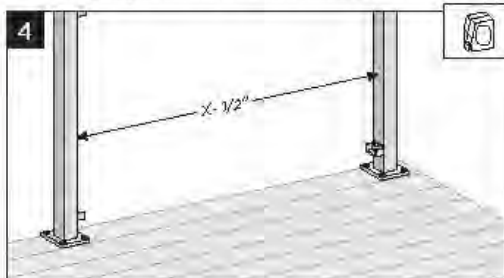
HOW TO INSTALL ROD RAIL STANDARD RAILING TREX SIGNATURE®



1. Prepare a solid work surface area (plywood, deck surface, etc.).

How to Measure Bottom and Top Railings (When Required)

2. **For Full Span Post to Post Applications** – only top rail will need to be cut.
3. **For Full Span Crossover to Crossover post Applications** – no rails have to be cut, HOWEVER the location of the HZ Template on the top rail will need to be adjusted in 3/4" on each side of top rail to allow for proper placement of vertical supports.

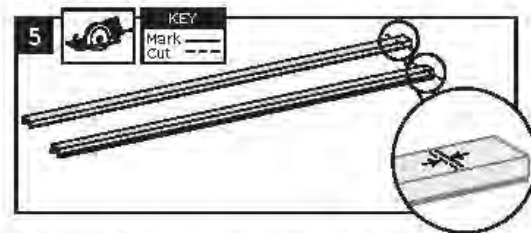


4. Measure distance between posts (X), and subtract 1/2" for bracket clearance.

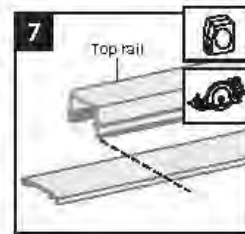
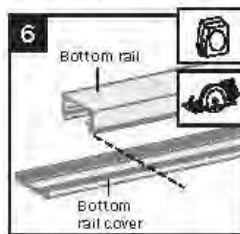
If installing crossover post configurations adjust top rail length: $X + 3/4"$ if using one crossover post, or $X + 1-1/2"$ if using two crossover posts.

If using swivel brackets, measure distance between brackets and cut railings to this distance.

Cutting Railings and Covers

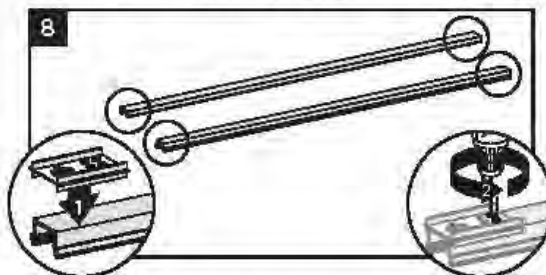


5. Cut both bottom and top rail to length as determined in previous step.



6. Mark and cut bottom rail cover same length as bottom rail for all bottom rail configurations.
7. Mark and cut top rail cover same length as top rail for all top rail configurations.

Locating Vertical Holes on Bottom and Top Rails



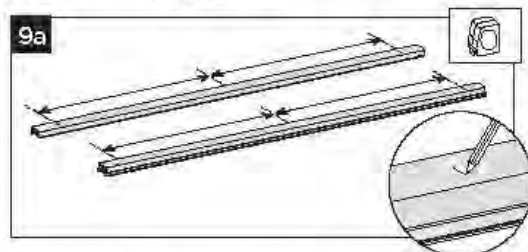
8. Place HZ template at end of top and bottom rails. Pre-drill pilot holes (using a 7/64" bit or small punch) at locations. Ensure that template is oriented correctly before drilling holes.

NOTES:

- » Template is labeled for the type of bracket used.
- » Pilot holes will be drilled out larger in a later step.
- » For Compound Swivel Brackets, set the rail in the bracket and mark 3.75" from the post.

HOW TO INSTALL ROD RAIL STANDARD RAILING/CONTINUED TREX SIGNATURE®

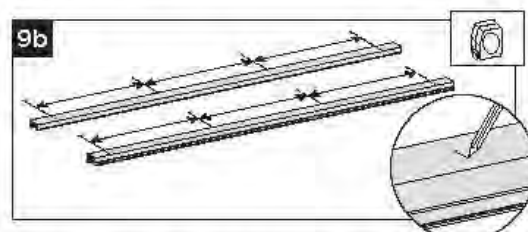
6' Rail Spans or Shorter



9a. Measure the distance between the vertical end holes on **both top and bottom rails**. Mark the center.

IMPORTANT NOTE: DO NOT mark the line across the entire width of the bottom rail, as it will be visible after install. Maximum recommended line width is 1".

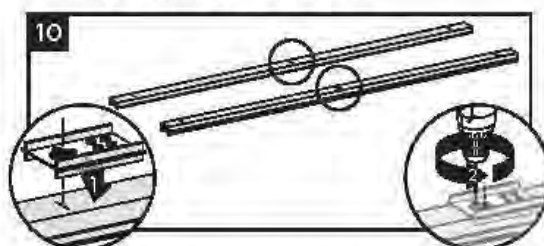
Over 6' Rail Spans



9b. Measure the distance between the vertical end holes on **both top and bottom rails**. Divide the distance into thirds and make two marks on top and bottom rails.

NOTE: Maximum unsupported rod span is 32.25".

Locating and Drilling Midspan Holes

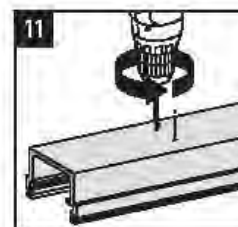


10. Using the slot on the HZ template, locate marked line and drill two 7/64" pilot holes (or mark with a punch).

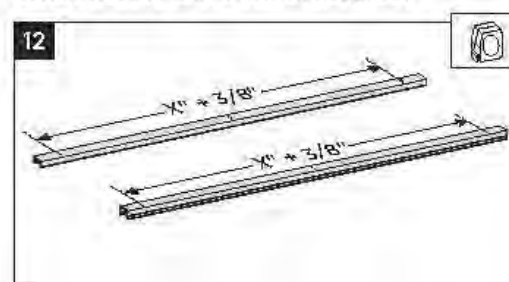
NOTE: Pilot holes will be drilled out larger in next step.

11. Using pilot holes (or marks), drill 1/4" holes for all vertical supports in both top and bottom rails.

NOTE: Clean any burrs from edges of holes to ensure good fit on both sides.

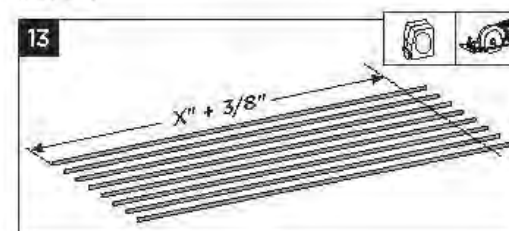


Cutting Rods to Length (When Required)



12. Measure the distance between the end (outer) holes (X") on top or bottom rail and add 3/8" to this measurement.

NOTE: If installed at exact spans, rods do not have to be cut.



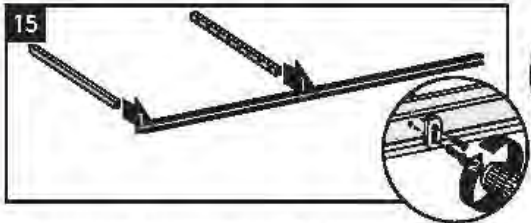
13. Cut rods to the length measured in previous step.

HOW TO INSTALL ROD RAIL STANDARD RAILING/CONTINUED TREX SIGNATURE®

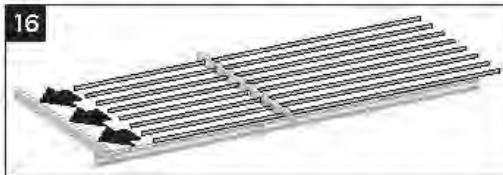
Vertical and Rod Assembly

14. Insert anti-rattle strips into the vertical supports.

NOTE: There are two anti-rattle strips for each support which can only be inserted in one side.

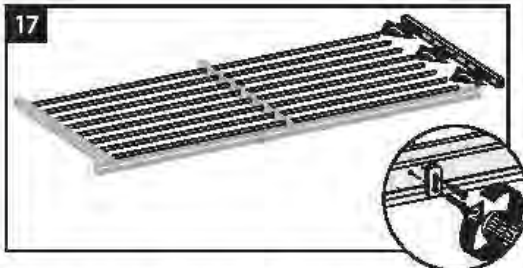


15. Attach **one** end vertical and **all** intermediate verticals to bottom rail using HZ spacer and screws provided. HZ spacer should be oriented so the ribbed side of the spacer is not showing.



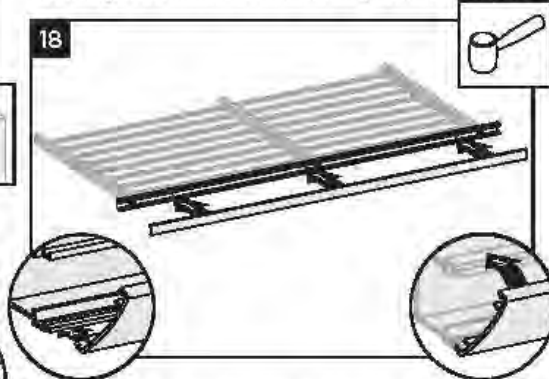
16. Slide all rods through intermediate supports and into end vertical support.

NOTE: When inserting rods through intermediate supports, keep rods straight to avoid scratching.

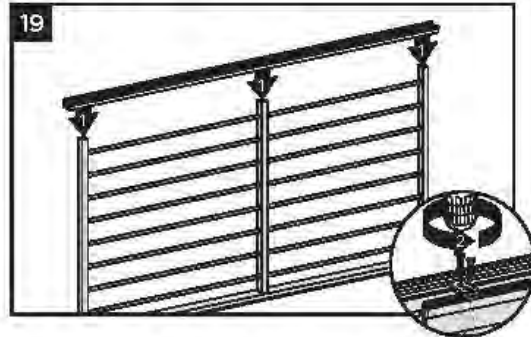


17. Slide end vertical onto rods and attach to bottom rail using HZ spacer and screws provided. HZ spacer should be oriented so the ribbed side of the spacer is not showing.

Installing Bottom Rail Cover and Top Rail to Verticals



18. Align flat cover on one side of bottom rail in slot on side of rail. Then starting from one end of rail snap cover onto opposing slot working down the length of rail. In some cases, GENTLE tapping with a rubber mallet may facilitate fastening.

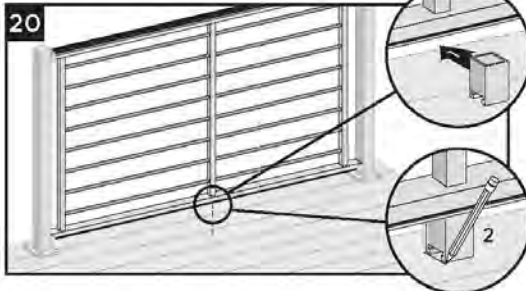


19. Install top rail to all vertical and end supports using HZ spacer and screws provided. HZ spacer should be oriented so the ribbed side of the spacer is not showing.

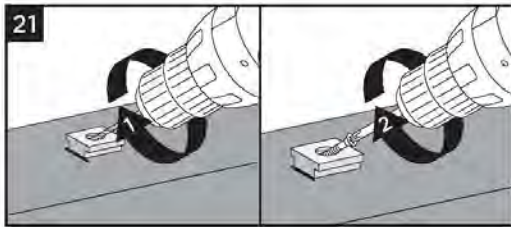
HOW TO INSTALL ROD RAIL STANDARD RAILING/CONTINUED TREX SIGNATURE®

Attaching Foot Block (when required)

Required **ONLY** for All Clear Span Applications over 6' (1.83 m). Included with 8' (2.44 m) railing kits.

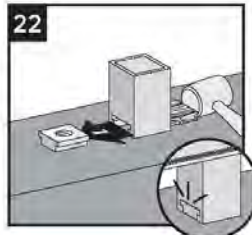


20. Temporarily drop rod rail panel into brackets. To ensure correct location, place Foot Block under center of bottom panel. Mark to provide placement location of base. Once marked remove panel.



21. Place base (smaller side facing down) on decking surface. Pre-drill using a 3/16" bit. Attach base of Foot Block using one screw at an angle through base and into decking.

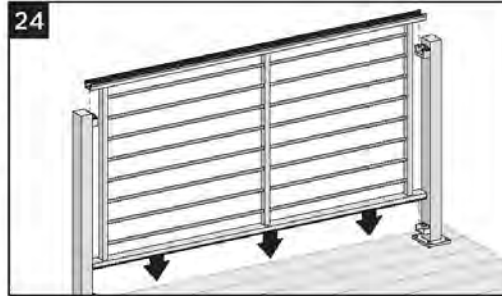
22. After attached, use a **rubber mallet along with scrap piece of wood** to tap Foot Block until it locks into place.



Installing Lower Rail to Brackets

23. Place adhesive strips (provided) into bottom rail brackets.

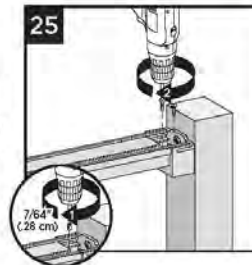
NOTE: Make sure surface is clean and dry.



24. Drop assembled rod rail panel into brackets.

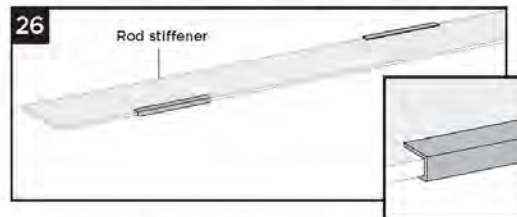
Attaching Panel to Brackets

25. Using a 7/64" (0.28 cm) drill bit, pre-drill at marked location for attachment of railing to bracket. Attach top rail to top brackets by using two self-tapping screws (provided) for each bracket.

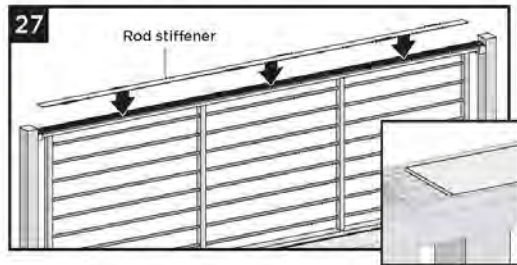


NOTE: Pre-drilling is required.

Inserting Rod Rail Stiffener - For Rail Sections Over 6'



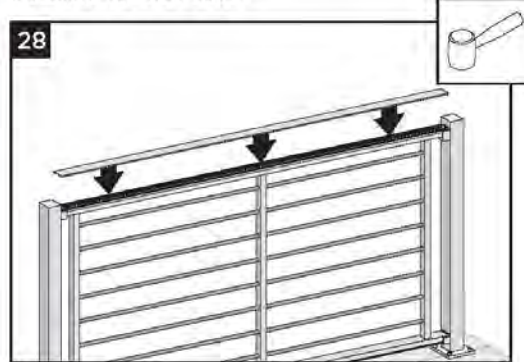
26. Attach tape (qty 6 provided) to alternating sides of the rod stiffener as shown.



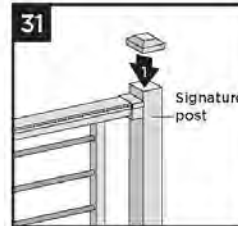
27. Place rod stiffener inside rail channel.

HOW TO INSTALL ROD RAIL STANDARD RAILING/CONTINUED TREX SIGNATURE®

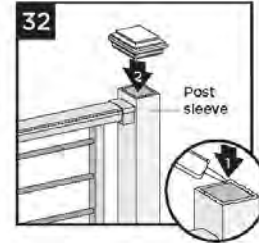
Installing Top Rail Cover



28. Using a mallet, install top rail cover.

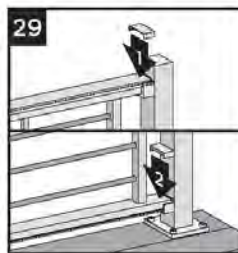


31. Attach post caps to Trex Signature posts.
(Use of **rubber mallet** may be required for secure attachment.)

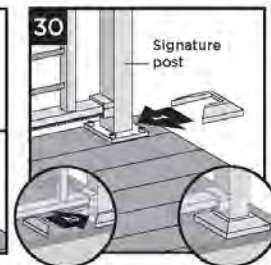


32. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).

Attachment of Bracket Covers, Skirts, and Caps

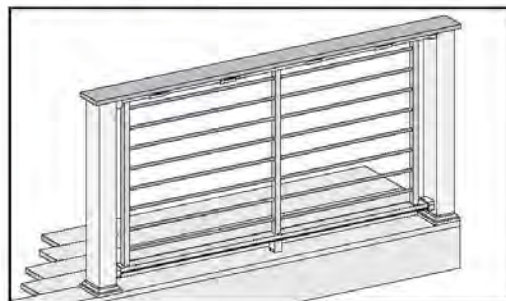


29. Attach corresponding bracket covers over opening in top and bottom rails.



30. Attach provided post skirt to bottom of posts when using Trex Signature posts.

HOW TO INSTALL ROD RAIL COCKTAIL RAILING TREX SIGNATURE®



IMPORTANT NOTE:

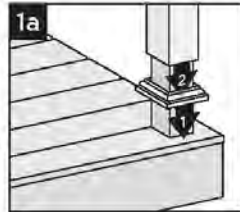
» **ONLY** for use with pressure treated 4 x 4 post (3.5" nominal square) and 4" x 4" (102 mm x 102 mm) post sleeve. Trex Signature posts, Trex post mounts or joist mount posts cannot be used with Trex® Rod Rail Cocktail railing. Cutting post and post sleeve **ONLY** applies to the Cocktail railing.

HOW TO INSTALL ROD RAIL COCKTAIL RAILING/CONTINUED TREX SIGNATURE®

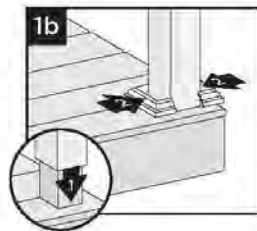
Installing Pressure-Treated Posts, Post Sleeves, and Skirts to Use with Rod Rail Cocktail Railing

NOTE: PLEASE REFER TO LOCAL BUILDING CODE REQUIREMENTS PRIOR TO ATTACHING PRESSURE TREATED POSTS. BELOW INSTRUCTIONS ARE GUIDELINES FOR GENERAL REQUIREMENTS.

- 1a. If using a 1-piece skirt, slide post sleeve skirt over post and down to rest on decking surface. Slide post sleeve over post and position inside post sleeve skirt.



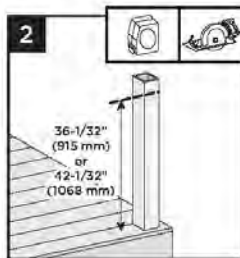
- 1b. If using a two-piece skirt Slide post sleeve over post and down to rest on decking surface. Snap two-piece skirt over post sleeve.



NOTE: Shims can be used to plumb post sleeves.

Cutting Post and Post Sleeve

2. Mark and cut post and post sleeve measuring from deck surface
- 36-1/32" (915 mm) for 36" (914 mm) height.
 - 42-1/32" (1068 mm) for 42" (1067 mm) height.



3. Measuring and Cutting Rails and Covers
See instructions on page 146.

4. Locating Vertical Holes on Bottom and Top Rails
See instructions on page 146.

5. Locating and Drilling Midspan Holes
See instructions on page 147.

6. Cutting Rods to Length (when required)
See instructions on page 147.

7. Vertical and Rod Assembly
See instructions on page 148.

8. Installing Bottom Rail Cover and Top Rail to Verticals
See instructions on page 148.

9. Installing Foot Blocks (when required)
See instructions on page 149.

10. Installing Railing to Brackets
See instructions on page 149.

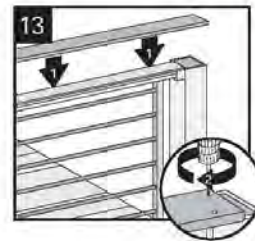
11. Installing Rod Rail Stiffener (when required)
See instructions on page 149.

12. Installing Top Rail Cover
See instructions on page 150.

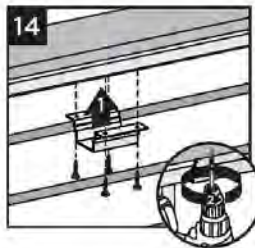
NOTE: Top Bracket Covers are not attached in this configuration.

Attaching Deck Board to Top Rail

13. Place deck boards (**DO NOT** use Enhance deck boards for top rail) over top rails. Attach boards on each post with Trex-recommended composite screws (quantity of 2 per each post/board end)

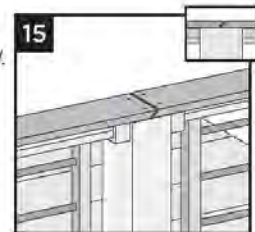


14. Secure boards to top rail using Trex Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the railing section, then space brackets approximately every 24" and attach with 4 screws provided.



NOTE: Pre-drilling before attachment is recommended.

15. Use scarf cut for posts where two deck boards meet.

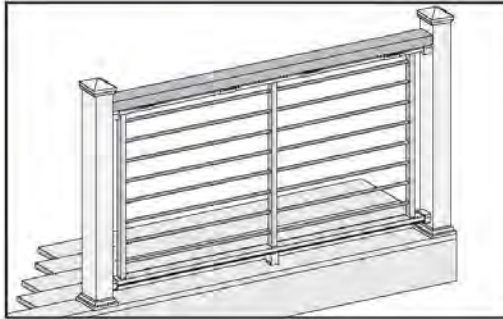


NOTES:

- Leave 1/8" (3 mm) gap between deck boards.
- Deck boards can overhang end of last post maximum 1/2" (13 mm).

16. Attachment of Bottom Bracket Covers
See instructions on page 150.

HOW TO INSTALL ROD RAIL TRADITIONAL RAILING TREX SIGNATURE®



Important: ONLY use with Pressure-Treated post, Trex Post Mounts or Trex Joist Mount Post WITH Trex-post sleeves. Trex Signature Posts and Joist Mount Posts cannot be used with Rod Rail Traditional.

1. Installing Posts, Post Sleeve Skirts and Post Sleeves

See instructions on page 84 for pressure treated posts. Refer to detailed Trex Post Mount instructions if using these. Post and Post Sleeves are **NOT CUT** in this installation.

2. Measuring and Cutting Rails and Covers

See instructions on page 146.

3. Locating Vertical Holes on Bottom and Top Rails

See instructions on page 146.

4. Locating and Drilling Midspan Holes

See instructions on page 147.

5. Cutting Rods to Length (when required)

See instructions on page 147.

6. Vertical and Rod Assembly

See instructions on page 148.

7. Installing Bottom Rail Cover and Top Rail to Verticals

See instructions on page 148.

8. Installing Foot Blocks (when required)

See instructions on page 149.

9. Installing Railing Panel to Brackets

See instructions on page 149.

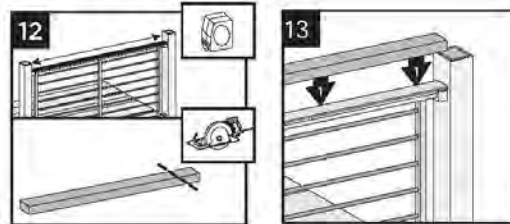
10. Installing Rod Rail Stiffener (when required)

See instructions on page 149.

11. Installing Top Rail Cover

See instructions on page 150.

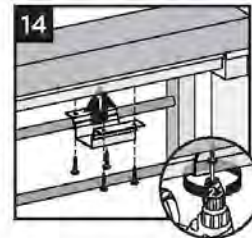
Attaching 2 x 4 to Top Rail



12. Measure between posts and cut 2 x 4 to length.

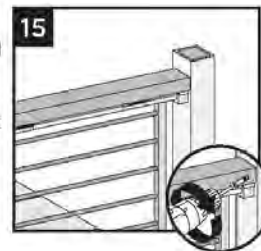
13. Place 2 x 4 on Trex® Signature top rail.

14. Secure 2 x 4 to top rail using Trex® Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the railing section, then space brackets approximately every 24" and attach with 4 screws provided.



NOTE: Pre-drilling before attachment is recommended.

15. Pre-drill and toenail 2-1/2" (6.4 cm) approved deck screw at each end of 2 x 4 into post on back side of rail (side not facing decking).



16. Attachment of Bottom Rail Bracket Covers and Caps

See instructions on page 141.

ROD RAIL STAIR RAILING BRACKET HARDWARE (INCLUDING STAIR SWIVEL BRACKETS AND STAIR CROSSOVER BRACKET) TREX SIGNATURE®

FIXED BRACKET - STAIR HARDWARE

- AA. Bottom Stair Bracket and Cover - Lower Rail
- BB. Top Stair Bracket and Cover - Lower Rail
- CC. Fastener Pack
- DD. Bottom Stair Bracket and Cover - Upper Rail
- EE. Top Stair Bracket and Cover - Upper Rail



SWIVEL BRACKET - STAIR HARDWARE

- FF. Swivel Top Rail Bracket and Cover - Stair
- GG. Swivel Bottom Rail Bracket and Cover - Stair
- HH. Fastener Covers
- II. Fastener Pack



SWIVEL CROSSOVER BRACKET KIT - STAIR HARDWARE

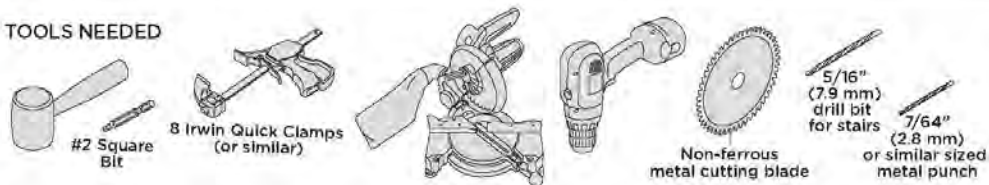
- NN. Swivel Crossover Bracket - Stair
- OO. Post-to-Bracket Fasteners



HOW TO INSTALL ROD RAIL STAIR POSTS

TREX SIGNATURE®

TOOLS NEEDED



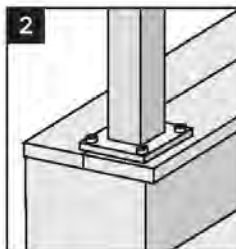
IMPORTANT NOTES:

- » FOR A 6' OR 8' STAIR RAIL, POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING STAIR POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM STAIR RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE STAIR RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.
 - » TREX SIGNATURE POSTS CANNOT BE USED WITH TREX ROD RAIL TRADITIONAL OR TREX ROD RAIL COCKTAIL STAIR DESIGNS, ONLY PRESSURE-TREATED POST/POST SLEEVES CAN BE USED. REFER TO DETAILED INSTRUCTIONS FOR MORE INFORMATION.
 - » All Trex Rod Rail stair installations require the use of 53" (134.6 CM) stair post, measured and cut to appropriate length if required.
 - » If crossover stair post is required, use stair post (again cut to appropriate length if required) and use swivel crossover bracket.
 - » Trex Signature Stair fixed brackets are designed to work only with stair slopes of 32°-37°.
 - » Foot Blocks are sold separately and recommended for all spans over 6' for Rod Rail Cocktail and Rod Rail Traditional stair applications)
- Installing Pressure-Treated Posts**
- » PLEASE REFER TO LOCAL BUILDING CODE REQUIREMENTS PRIOR TO ATTACHING PRESSURE TREATED POSTS.
 - » PRESSURE TREATED POSTS MUST BE INSTALLED ON INSIDE OF STAIR STRINGER AND AT NOSE OF STAIR TREAD.
 - » POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.
 - » In most cases, a post and post sleeve longer than 39" (991 mm) will be needed on the lower section of stair rail to accommodate stair angle.

Installing Standard Trex Signature Stair Posts, Trex Signature Stair Crossover Posts, or Pressure-Treated Post, Post Sleeves and Skirts

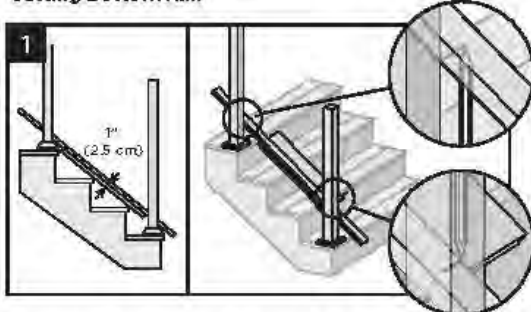
- 1 Make sure 53" (135.6 cm) posts are used for all stair posts.

- 2 If Trex Signature stair posts are used, install at nose of stair tread directly under required blocking. See Trex Signature horizontal post instructions for blocking requirements.

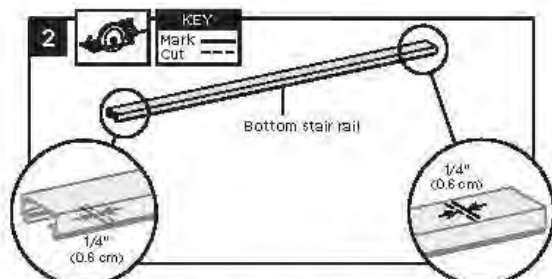


HOW TO INSTALL ROD RAIL STANDARD STAIR RAILING TREX SIGNATURE®

Cutting Bottom Rail

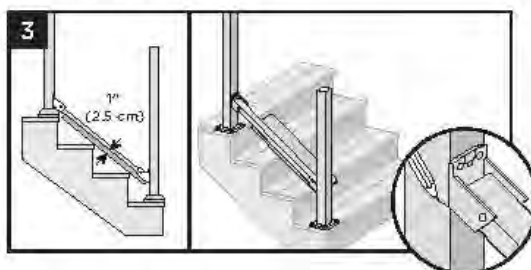


1. Place a 1" deck board on the nose of the stair tread, then lay the bottom stair rail on top of the deck board. Use the lower and upper stair post to set the size of the lower stair rail. On **UPPER STAIR POST**, mark from underside of bottom rail. On **LOWER STAIR POST**, mark from top side of bottom rail.



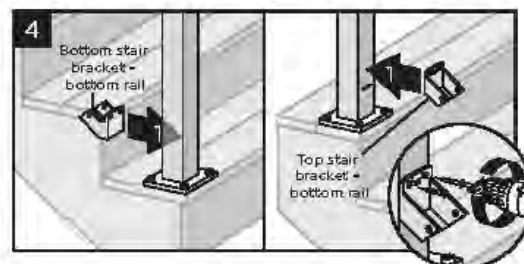
2. Cut each end of the bottom stair rail and bottom rail cover 1/4" (0.6 cm) shorter than the mark on each end to allow for fit into bottom stair rail brackets.

NOTE: Railing does not need to be cut at angle. Brackets are designed to allow for railing to be installed with standard straight cut.



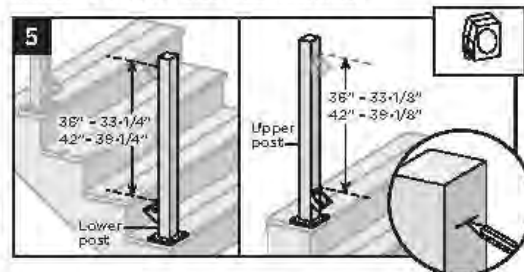
3. With deck board still on nose of stair tread, place brackets on end of bottom stair rail (DO NOT attach brackets to rail) and mark posts for bracket locations.

Installing Lower Fixed Stair Brackets

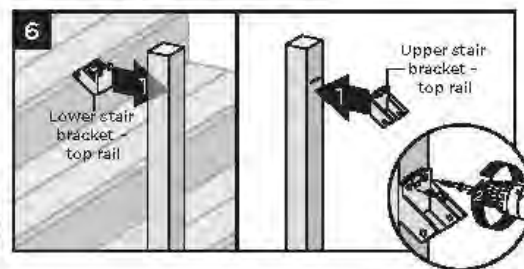


4. Center lower stair bracket on post above the marked line and attach using two self-tapping screws (provided). In some cases it may be difficult to attach the stair bracket on the lower stair post. Recommend using a 90° drill adapter or loosen the post to get access to the lower bracket screw holes.

Installing Upper Fixed Stair Brackets



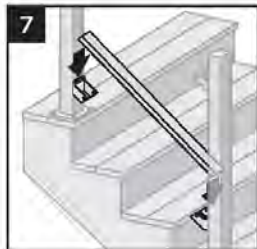
5. **On Lower Post** - From top of lower bracket, measure up and mark with light line (33-1/4" for 36" rail; 39-1/4" for 42" rail).
On Upper Post - From top of lower (upper) bracket, measure up and mark with light line (33-1/8" for 36" rail; 39-1/8" for 42" rail).



6. Center upper stair brackets on posts **below** the marked lines and attach using two self-tapping screws (provided).

HOW TO INSTALL ROD RAIL STANDARD STAIR RAILING/CONTINUED TREX SIGNATURE®

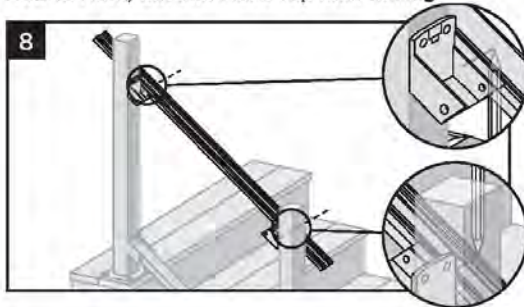
7. Set bottom stair rail into bottom stair rail brackets.



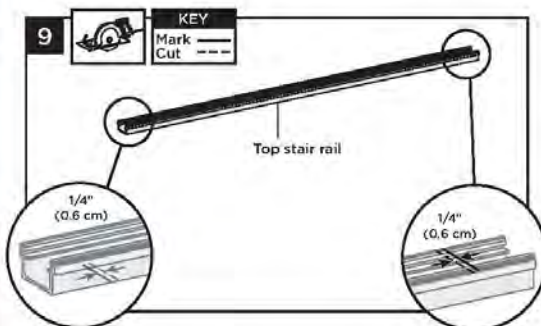
10. Set top stair rail into top stair rail brackets.



How to Mark, Cut and Place Top Stair Railing



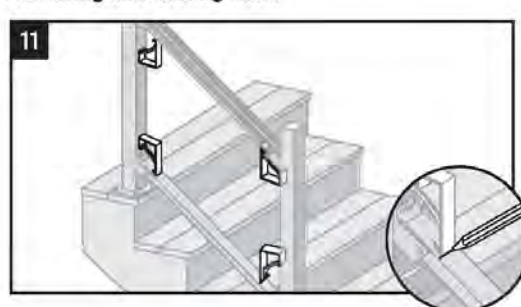
8. Position top rail to side of post. Mark top stair rail at each location stated. On **UPPER STAIR POST**, mark from underside of bottom rail. On **LOWER STAIR POST**, mark from topside of bottom rail.



9. Cut each end of top stair rail and top rail cover $\frac{1}{4}$ " (0.6 cm) shorter than mark to allow for fit into top stair rail bracket.

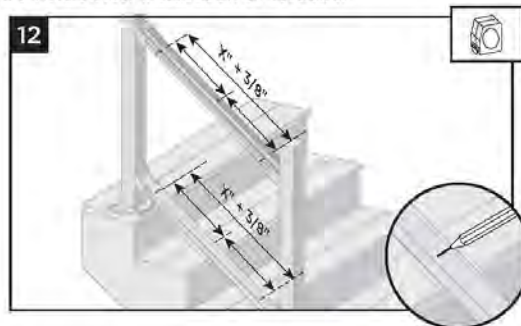
NOTE: Railing does not need to be cut at angle. Brackets are designed to allow for railing to be installed with standard straight cut. **HOWEVER IF INSTALLING ROD RAIL WITH EITHER COCKTAIL OR TRADITIONAL DESIGN, THE TOP RAIL WILL NEED TO BE CUT ON AN ANGLE.**

Measuring and Cutting Rods



11. Using the long edge of the stair template, mark the location of the end verticals on the upper and lower rails.

NOTE: Mark should only be 1" max length or it will be visible after installation of verticals.

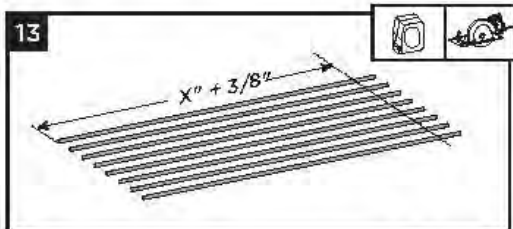


12. Measure and mark the mid-line (6" sections) of the two end marks of the top and bottom rail. Take that measurement and add $\frac{3}{8}$ " for rod length in next step.

NOTE: For 8' sections divide the distance into thirds and make two marks for the two verticals.

HOW TO INSTALL ROD RAIL STANDARD STAIR RAILING/CONTINUED

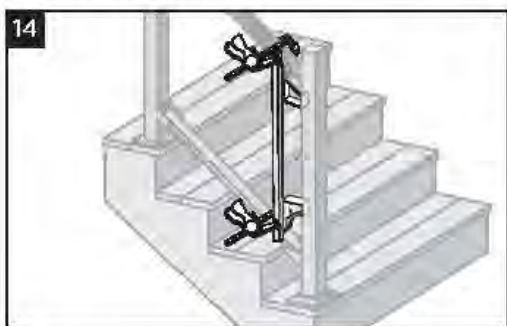
TREX SIGNATURE®



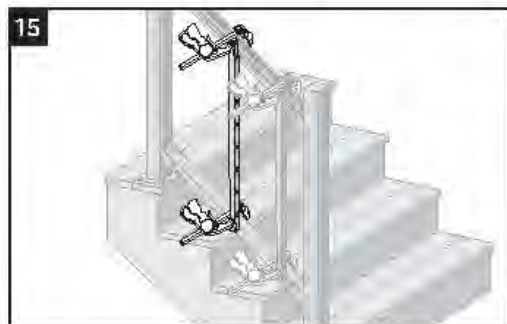
13. Cut rods to the length measured in previous step.



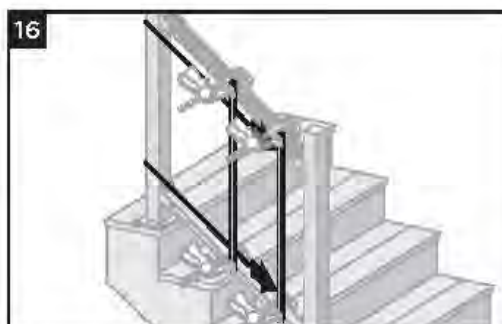
IMPORTANT: DO NOT CUT RODS AT RAIL ANGLE; MAKE 90° CUTS ONLY!



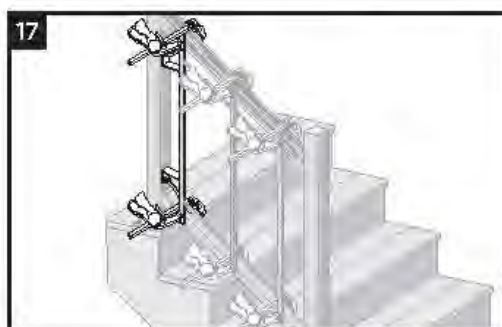
14. Clamp first vertical (lower part of stairs) in place, using width of stair template to position.



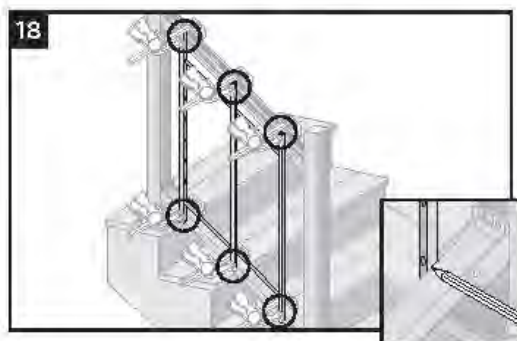
15. Clamp middle vertical(s) in place.



16. Slide a rod into top and bottom of all verticals. Ensure that distance of top rod to top rail and bottom rod to bottom rail are equal.



17. Clamp top vertical (upper part of stairs) in place, using width of stair template to position.



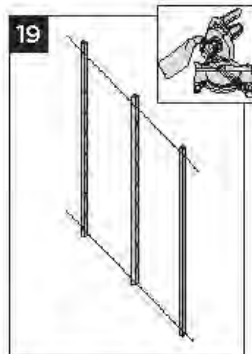
18. Mark angle cuts at top and bottom on all verticals.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL ROD RAIL STANDARD STAIR RAILING/CONTINUED

TREX SIGNATURE®

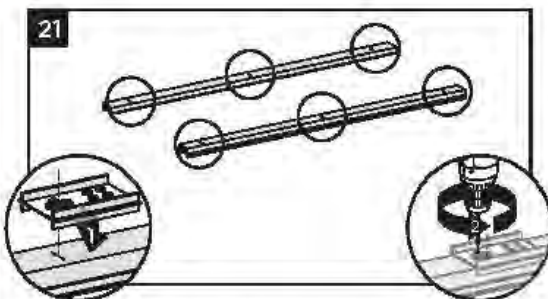
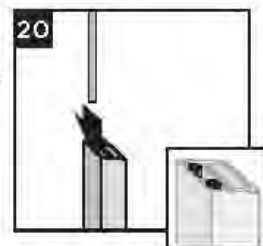
19. After removing rods and verticals, make angle cuts on top and bottom of verticals following marks from previous step.



Vertical and Rod Assembly

20. Insert anti-rattle strips into the vertical supports.

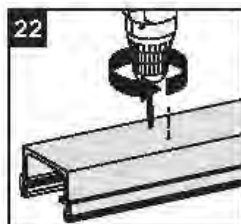
NOTE: There are two anti-rattle strips for each support, which can only be inserted in one side.



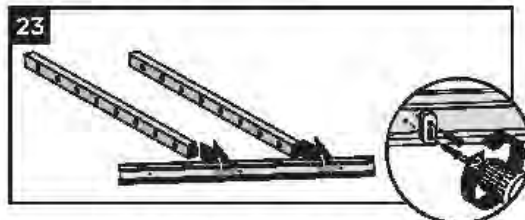
21. Using the slot on the HZ template, locate marked line and drill two 7/64" pilot holes at each mark (or mark with a punch).

NOTE: Pilot holes will be drilled out larger in next step.

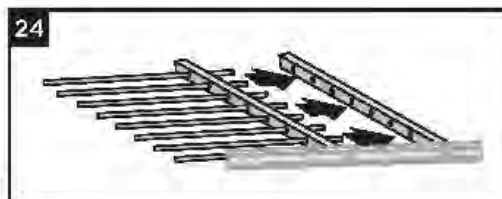
22. Using pilot holes (or marks), drill 5/16" holes for all vertical supports in both top and bottom rails.



Installing Top and Bottom Rails

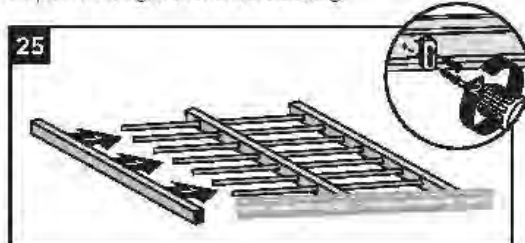


23. Install lowest end vertical and all intermediate verticals to bottom rail using ST Wedge Spacer and screws provided.

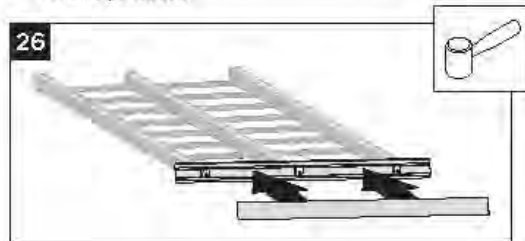


24. Slide rods into lower end and all intermediate verticals.

NOTE: When inserting rods into intermediate supports, keep rods straight to avoid scratching.

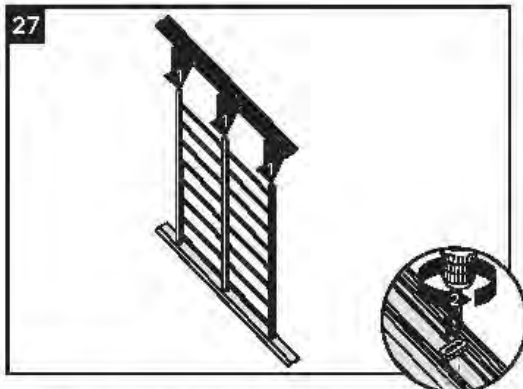


25. Slide upper end vertical onto rods and attach to bottom rail using ST Wedge Spacer and screws provided.



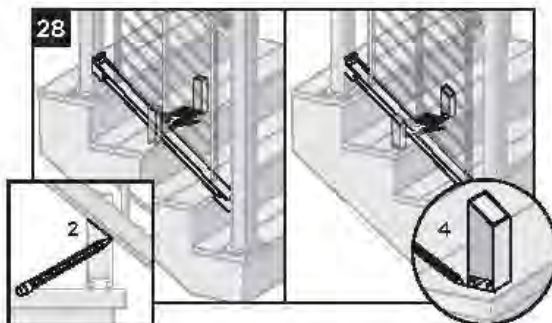
26. Using a mallet, install bottom rail cover onto bottom rail.

HOW TO INSTALL ROD RAIL STANDARD STAIR RAILING TREX SIGNATURE®

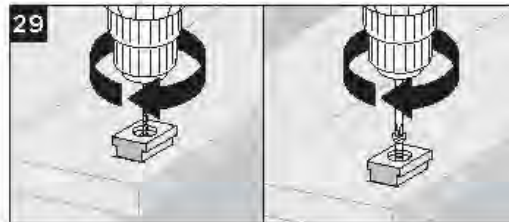


27. Install top rail to all vertical and end supports using ST Wedge Spacer and screws provided.

Attachment of Foot Block (where recommended)

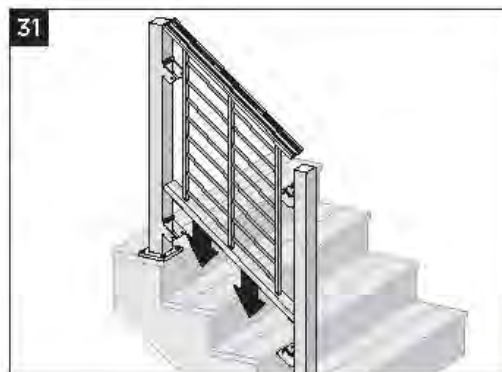
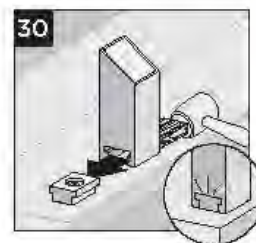


28. Temporarily drop assembled stair rod rail panel into brackets. To ensure proper location place Foot Block towards the nose of the stair tread along the side of the bottom rail. Mark location of angle on Foot Block and cut on mark. Then place Foot Block under the center of the bottom rail. Mark placement location of the base.



29. Place base (smaller side facing down) on decking surface. Pre-drill using a 3/16" bit. Attach base of Foot Block using one screw at an angle through base and into decking.

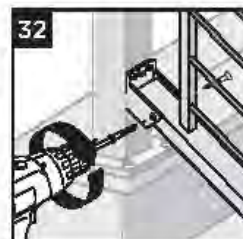
30. After attached, use a **rubber mallet along with scrap piece of wood** to tap Foot Block until it locks into place.



31. Drop assembled stair rod rail panel into brackets.

Attaching Stair Panel to Brackets

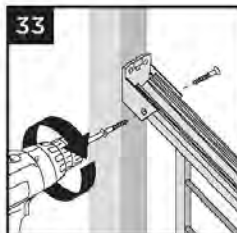
32. Attach bottom stair rail to bottom stair bracket using two self-tapping screws (provided) on each side of bracket.



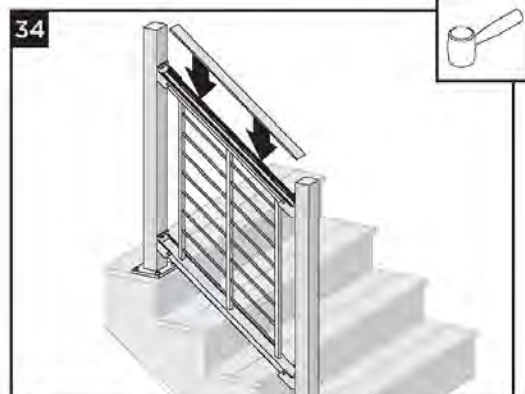
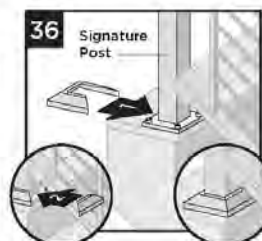
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL ROD RAIL STANDARD STAIR RAILING CONTINUED TREX SIGNATURE®

33. Attach top stair rail to top stair bracket (all types) using two self tapping screws (provided) on each side of stair bracket.



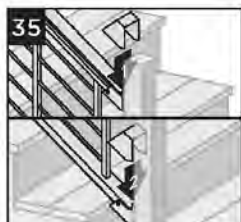
36. Attach provided post skirt to bottom of posts when using Trex Signature posts.



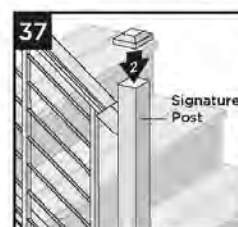
34. Using a mallet, install top rail cover

Attachment of Bracket Covers, Skirts, and Caps

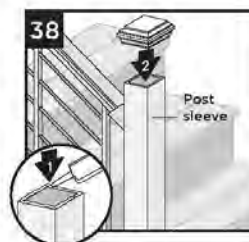
35. Attach corresponding bracket covers over opening in upper and bottom rails.



37. Attach post caps to Trex Signature posts (Use of **rubber mallet** may be required for secure attachment.)



38. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).



HOW TO INSTALL ROD RAIL STAIR CROSSOVER SWIVEL BRACKETS TREX SIGNATURE®

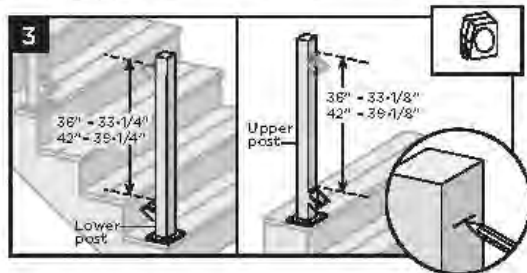
1. **Cutting Bottom Rail**
See instructions on page 155.

2. **Install Lower Fixed Stair Brackets**
See instructions on page 155.
NOTE: These are installed on all posts, including the center crossover post.

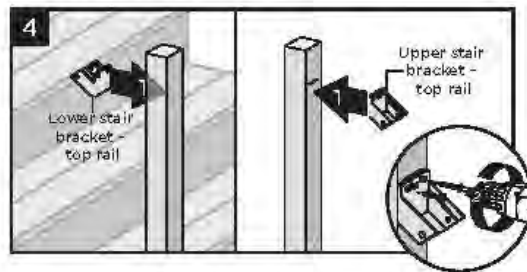


Install Upper Fixed Stair Brackets

NOTE: When using a center crossover post the, upper fixed stair brackets will only be installed at the terminating upper and lower post, and not the center crossover post.

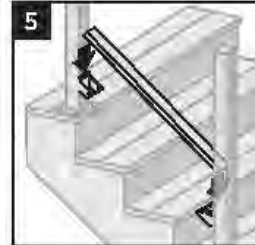


3. **On Lower Post** – From top of lower bracket, measure up and mark with light line (33-1/4" for 36" rail; 39-1/4" for 42" rail).
On Upper Post – From top of lower (upper) bracket, measure up and mark with light line (33-1/8" for 36" rail; 39-1/8" for 42" rail).



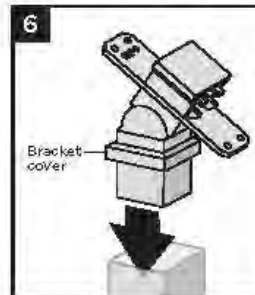
4. Center upper stair brackets on posts **below** the marked lines and attach using two self-tapping screws (provided).

5. Set bottom stair rail into bottom stair rail fixed brackets.

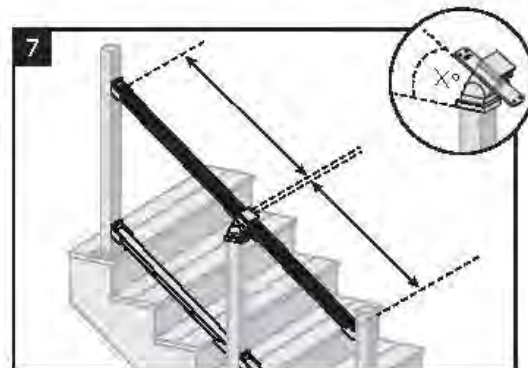


Determining Placement of Stair Crossover Swivel Bracket

6. Insert stair crossover swivel bracket into post.



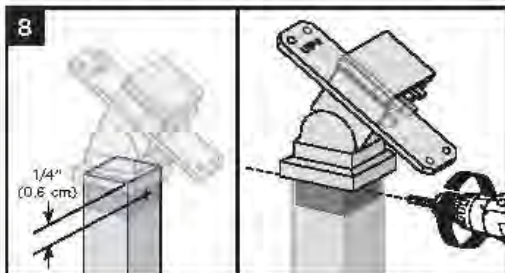
NOTE: Keep the bracket cover on when inserting this into post, this will cover the screw attachment area.



7. Determine location/height of the stair crossover swivel bracket by aligning the angle of this with the fixed brackets already installed. Note that the crossover post may need to be cut to ensure the top stair rail is parallel to the bottom stair rail.

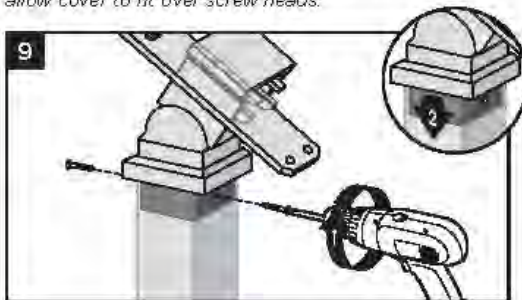
HOW TO INSTALL ROD RAIL STAIR CROSSOVER SWIVEL BRACKETS/CONTINUED TREX SIGNATURE®

Attaching Stair Crossover Swivel Bracket to Post



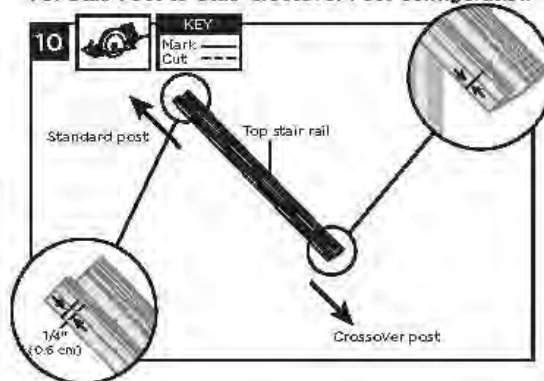
8. Once location/height is determined, center and predrill two holes (using a drill bit slightly smaller than that of self-tapping screw diameter) on opposite sides of post, approximately 1/4" (0.6 cm) from top of post. Drill through the post and into the stair crossover swivel bracket on each side.

NOTE: Slightly countersink pre-drilled holes to allow for flat head screws to seat flush on the post. This will allow cover to fit over screw heads.



9. Attach stair crossover swivel bracket to post with two self-tapping screws (provided). Slide cover over post to hide screws.

Cutting Top Stair Rail For Stair Post-to-Stair Crossover Post Configuration



10. Top stair rail must be cut differently on each side of the rail. Railing side that attaches to standard post should be cut 1/4" (0.6 cm) shorter than the mark to allow for fit into top rail bracket. Railing side that attaches to the crossover post should be cut directly on the mark to allow for fit into the crossover post bracket.

NOTE: Railing does not need to be cut at angle. Brackets are designed to allow for railing to be installed with standard straight cut.

11. Measuring and Cutting Rods

See instructions on page 156.

12. Vertical and Rod Assembly

See instructions on page 158.

13. Installing Top and Bottom Rails

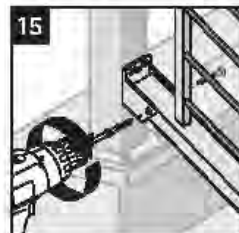
See instructions on page 158.

14. Attachment of Foot Block (where recommended)

See instructions on page 159.

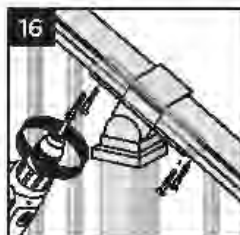
Attachment of Stair Panel to Stair Brackets

15. Attach bottom stair rail to bottom stair bracket using two self-tapping screws (provided) on each side of bracket.



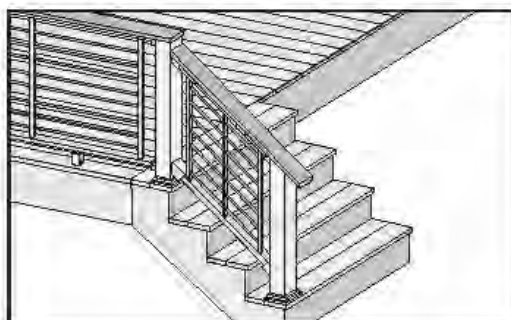
HOW TO INSTALL ROD RAIL STAIR CROSSOVER SWIVEL BRACKETS/CONTINUED TREX SIGNATURE®

16. For stair crossover post configuration, fasten upper stair rail to swivel crossover post bracket by installing screws diagonally through crossover stair bracket into upper rail using two self-tapping screws (provided) on each side.



17. **Attachment of Bracket Covers, Skirts, and Caps**
See instructions on page 160.

HOW TO INSTALL COCKTAIL ROD RAIL STAIR RAILING TREX SIGNATURE®



IMPORTANT NOTES:

- » Only for use with pressure-treated 4x4 post (3.5" nominal square) and 4x4 (102 mm x 102 mm) post sleeve. Trex Signature posts, Trex post mounts or joist mount posts cannot be used with Trex Signature Cocktail Rod Rail stair railing. Cutting post and post sleeve only applies to the Cocktail style railing.
- » DO NOT CUT LOWER POST/POST SLEEVES UNTIL ROD RAIL STAIR PANEL IS FULLY INSTALLED.
- » When referring to previous instructions referenced, disregard all crossover post instructions as these cannot be used with Cocktail railing.
- » THE DECK BOARD USED IN COCKTAIL ROD RAIL STAIR WILL NEED TO TERMINATE AT THE UPPER STAIR POST AS SHOWN ABOVE. THE DECK BOARD WILL HAVE TO BE TOENAILED INTO THE SIDE OF THE POST IN THESE AREAS USING 2 APPROPRIATE COMPOSITE DECKING SCREWS - PRE-DRILLING IS RECOMMENDED.
- » Do Not use Enhance for top board.

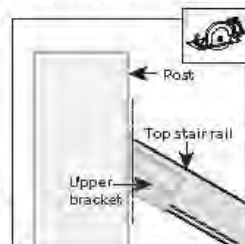
1. **Installing Pressure-Treated Posts, Post Sleeves and Skirts to Use with Trex Signature Railing**
See instructions on page 154.

2. Installing Brackets

Follow previous stair instructions for the installation of desired brackets, making sure that all dimensions are calculated before installation, and ensuring deck board is placed in correct location.

Cutting Top Stair Rail

NOTE: THE TOP RAIL AND TOP RAIL COVER WILL NEED TO BE CUT AT APPROPRIATE ANGLE ON THE END OF THE RAIL THAT CONNECTS TO THE UPPER FIXED BRACKET, SO THAT WHEN THE RAIL IS INSTALLED IT SITS FLUSH WITH THE END OF THE BRACKET AS SHOWN.



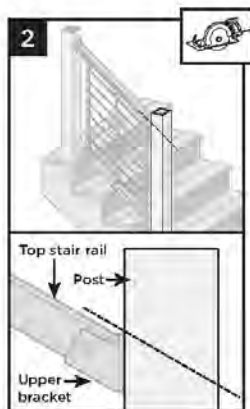
1. Follow all Rod Rail Stair instructions for the assembly of the rod rail stair panel.

HOW TO INSTALL COCKTAIL ROD RAIL STAIR RAILING/CONTINUED

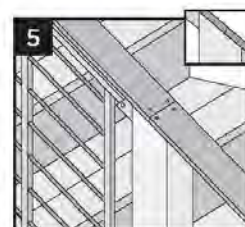
TREX SIGNATURE®

Cutting Post and Post Sleeve and Attaching Deck Board to Top Rail

2. Cut post and post sleeves at proper angle so these are flush with the top of the top brackets and/or top rail cover. BE CAREFUL NOT to CUT brackets.



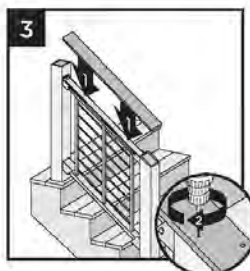
5. Use scarf cut for posts where two deck boards meet.



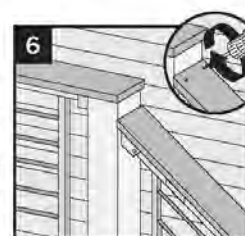
NOTES:

- » Leave 1/8" (3 mm) gap between deck boards.
- » Deck boards can overhang end of last post maximum 1/2" (13 mm).

3. Place deck boards over top rails. **DO NOT** use Enhance deck boards for top rail. PLACE DECK BOARD ON TOP RAIL TO CHECK FOR PROPER FIT AND RAIL CLEARANCE AT BRACKET LOCATIONS. DECK BOARD MAY REQUIRE EITHER A NOTCH CUT ON THE UNDERSIDE OR SLIGHT PLANING ON THE UNDERSIDE TO ALLOW DECK BOARD TO CLEAR TOPS OF BRACKETS AND SIT FLUSH ON TOP OF POSTS AND RAILS. Attach boards on each post with Trex-recommended composite screws (quantity of 2 per each post/board end).

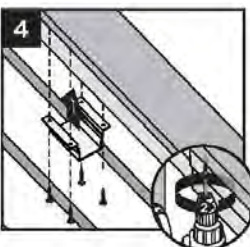


6. Where deck board terminates at upper post, PREDRILL and toenail two approved composite deck screws as shown into post, being careful to avoid hitting stair bracket.



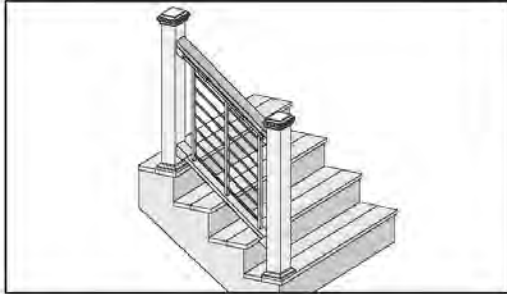
NOTE: Top Bracket Covers are not attached in this configuration.

4. Secure boards to top rail using Trex Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the stair railing section, then space brackets approximately every 24" and attach with 4 screws provided.



NOTE: Pre-drilling before attachment is recommended.

HOW TO INSTALL TRADITIONAL ROD RAIL STAIR RAILING TREX SIGNATURE™



IMPORTANT NOTES:

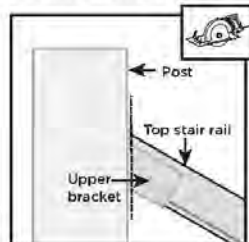
- » Only for use with pressure-treated 4x4 post (3.5" nominal square) and 4x4 (102 mm x 102 mm) or 6x6 post sleeves, Trex Post Mounts or Trex Joist Mount Post WITH Trex post sleeves. Signature Joist Mount Posts cannot be used with Trex Signature Traditional railing.
- » THE TOP RAIL AND TOP RAIL COVER WILL NEED TO BE CUT AT APPROPRIATE ANGLE ON THE END OF THE RAIL THAT CONNECTS TO THE UPPER FIXED BRACKET, SO THAT WHEN THE RAIL IS INSTALLED IT SITS FLUSH WITH THE END OF THE BRACKET AS SHOWN.

1. Installing Pressure-Treated Posts, Post Sleeves, and Skirts to Use with Trex Signature Railing
See instructions on page 154.

2. Installing Brackets
Follow previous stair instructions for the installation of desired brackets, making sure that all dimensions are calculated before installation, and ensuring railing is placed in correct location.

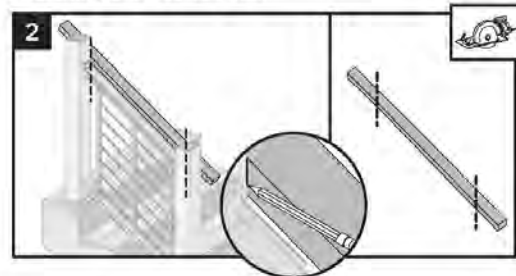
Cutting Top Stair Rail

NOTE: THE TOP RAIL AND TOP RAIL COVER WILL NEED TO BE CUT AT APPROPRIATE ANGLE ON THE END OF THE RAIL THAT CONNECTS TO THE UPPER FIXED BRACKET, SO THAT WHEN THE RAIL IS INSTALLED IT SITS FLUSH WITH THE END OF THE BRACKET AS SHOWN.



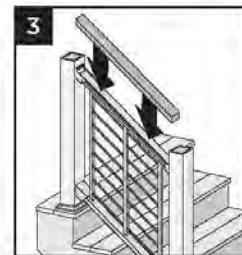
1. Follow all Rod Rail Stair Instructions for the assembly of the rod rail stair panel.

Attaching 2 x 4 to Top Rail

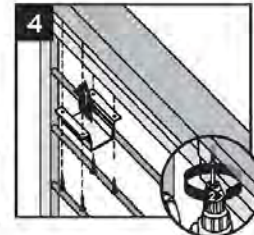


2. Place 2 x 4 beside top rail. Mark and cut (both ends need to be cut on an angle for proper fit).

3. Place 2 x 4 on top stair rail.

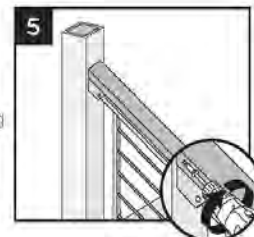


4. Secure 2 x 4 to top rail using Trex Signature™ Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the railing section, then space brackets approximately every 24" and attach with 4 screws provided.



NOTE: Pre-drilling before attachment is recommended.

5. Pre-drill a pilot hole and toenail 2-1/2" (6.4 cm) screw at each end of 2 x 4 into post on back side of rail (side not facing decking).



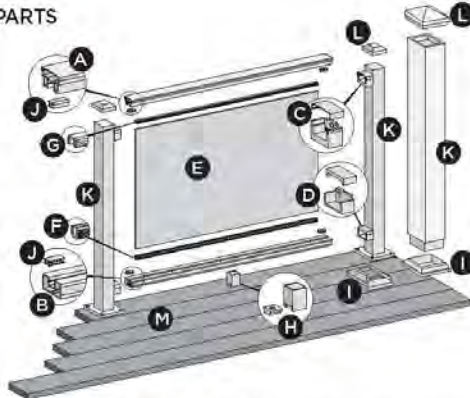
NOTE: Top Bracket Covers are not attached in this configuration.

HORIZONTAL GLASS RAILING TREX SIGNATURE®

NOTES:

- » FOR ORDERING STANDARD OR CUSTOMIZED GLASS PANEL SIZES, GO TO GLASS.TREX.COM. FOR MORE INFORMATION CALL 1-800-BUY TREX.
- » TREX SIGNATURE GLASS RAILINGS ARE DESIGNED TO BE ATTACHED WITH POSTS INSTALLED AT A MAXIMUM CLEAR SPAN OF 6' (1.83M).
- » NOTE: MUST USE TREX DECK MOUNT POST HARDWARE AND METAL PLATE WHEN ATTACHING TREX SIGNATURE POSTS.
- » NOT RECOMMENDED FOR STAIR APPLICATIONS.
- » SEE BELOW FOR SPECIFIC GLASS DIMENSIONS.
- » ALWAYS REFER TO YOUR LOCAL BUILDING CODE OFFICIAL PRIOR TO INSTALLING ANY RAILING SYSTEM TO ENSURE ALL CODE AND SAFETY REQUIREMENTS ARE MET. TREX® CANNOT BE HELD RESPONSIBLE FOR IMPROPER OR NON-RECOMMENDED INSTALLATIONS.
- » ONE FOOT BLOCK IS REQUIRED FOR ALL GLASS PANEL INSTALLATION, THUS THESE RAILING SPANS MUST BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST.

PARTS



NOTE: IMAGE SHOWN HERE IS POST TO POST CONFIGURATION.

TEMPERED GLASS PANEL DIMENSIONS

- » 36" (914 mm) high rail:
1/4" x 32-5/16" x 67" max
(6 mm x 821 mm x 1702 mm)
- » 42" (1067 mm) high rail:
1/4" x 38-5/16" x 67" max
(6 mm x 973 mm x 1702 mm)

NOTE: IF NOT INSTALLING GLASS AT FULL RAILING SPAN, GLASS MUST BE CUT TO ALLOW FOR 2 1/2" CLEARANCE ON EACH SIDE OF POST (DO NOT EXCEED 4").

Screws Supplied



#8 x 1-1/4" Rail to
Bracket Screw



#10 x 5/8" Bracket to
Post Screw

- A. Trex Signature Glass top rail - 6' (actual length 73.5" [186.7 cm])
- B. Trex Signature Glass bottom rail - 6' (actual length 71.5" [181.6 cm])
- C. Trex Signature upper rail bracket and cover
- D. Trex Signature lower rail tabless bracket and cover
- E. Tempered glass panel* (NOT included in kit)
- F. Bottom Sill Gasket
- G. Top Head Gasket
- H. Trex Signature Foot Block (REQUIRED FOR ALL TREX SIGNATURE GLASS INSTALLATIONS)
- I. Trex Signature post skirt or post sleeve skirt*
- J. Snap-in Channel Filler
- K. Trex Signature post*
 - 36" (actual length 37" [94.0 cm])
 - 42" (actual length 43" [109.2 cm])
 - or Trex 4" x 4" post sleeve**
 - 36" (actual length 40" [102 cm])
 - 42" (actual length 46" [117 cm])

- L. Trex Signature post cap or post sleeve cap*

* Item not included in Trex Signature Railing kits. Trex Signature Posts (black only) can also be purchased with brackets installed, eliminating steps 1-4 in instructions below. Sku numbers are as follows:

| SKU number | Description |
|--------------------|--------------------------------|
| BKAL252537RCAPCNR | Signature Post 37" Corner Post |
| BKAL252537RCAPEND | Signature Post 37" End Post |
| BKAL252537RCAPLINE | Signature Post 37" Inline Post |
| BKAL252543RCAPCNR | Signature Post 43" Corner Post |
| BKAL252543RCAPEND | Signature Post 43" End Post |
| BKAL252543RCAPLINE | Signature Post 43" Inline Post |

** Both 4x4 (10.2cm x 10.2cm) and 6x6 (15.2cm x 15.2cm) post sleeves are designed to fit over a 4x4 pressure treated post.

Installing Posts

REFER TO DETAILED INSTRUCTIONS ON HOW TO INSTALL TREX SIGNATURE POSTS OR PRESSURE TREATED POSTS.

HOW TO INSTALL HORIZONTAL GLASS RAILING BRACKETS TREX SIGNATURE®

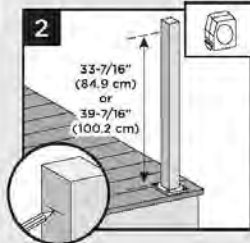
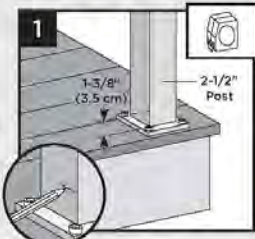
NOTES:

- » FOR EASE OF INSTALLATION, IT IS RECOMMENDED TO USE THE TREX SIGNATURE RAIL TEMPLATES TO ATTACH BRACKETS (SOLD SEPARATELY).
- » TREX SIGNATURE POSTS CAN ALSO BE PURCHASED SEPARATELY WHICH HAVE BRACKETS PREINSTALLED, THUS SKIPPING STEPS 1-4. SEE PREVIOUS PAGE FOR SKU NUMBERS.
- » NOTE: FOR POST INSTALLATIONS, SEE PAGES 84-85 FOR DETAILS.

Attach Brackets Using Trex Signature Posts

TIP: Use a clamp to help hold brackets in place while fastening with screws.

- 1 Measure 1-3/8" (3.5 cm) from top of post base plate or 1-7/8" (4.8 cm) from decking surface. Mark with light line.

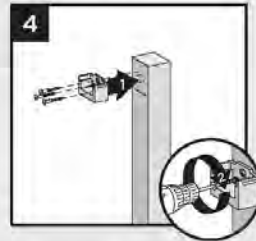


- 2 Measure up from post base plate 33-7/16" (84.9 cm) for 36" (92 cm) rail height or 39-7/16" (100.2 cm) for 42" (107 cm) rail height. Mark with light line.

NOTE: If measuring from decking surface, measure up 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height.

- 3 Center lower bracket on post **above** the marked line and attach using (2) self-tapping screws (provided).
- 4 Center upper bracket on post **above** marked line and attach using (3) self-tapping screws (provided).

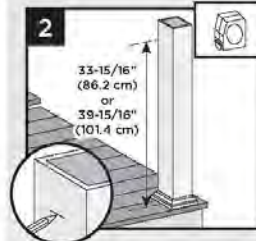
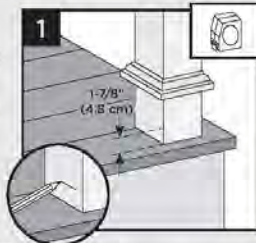
NOTE: Upper bracket is not required on crossover post configuration.



Attach Brackets Using Pressure-Treated Posts and Post Sleeves

TIP: Use a clamp to help hold brackets in place while fastening with screws.

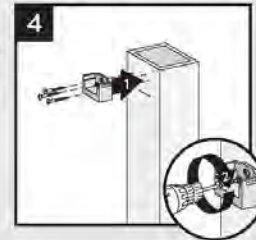
- 1 Measure 1-7/8" (4.8 cm) up from deck surface to bottom of bracket. Slide skirt up to allow for proper measurement. Mark with light line.



- 2 Measure up from decking surface 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height. Mark with light line.

NOTE: Push skirt back down onto surface of decking **BEFORE ATTACHING BRACKETS.**

- 3 Center lower bracket on post **above** the marked line and attach using two 2" (51 mm) wood screws (provided).
- 4 Center upper bracket on post **above** marked line and attach using three 2" (51 cm) wood screws (provided).

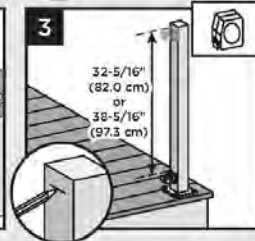
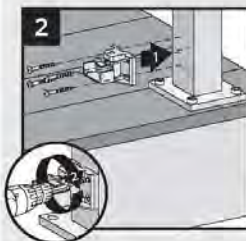
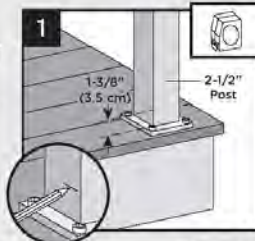


HOW TO INSTALL HORIZONTAL GLASS RAILING SWIVEL BRACKETS TREX SIGNATURE®

Attach Swivel Brackets Base Using Trex Signature Posts

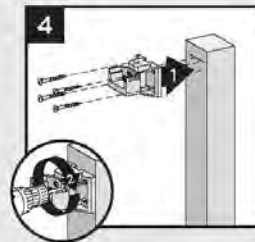
TIP: Use a clamp to help hold brackets in place while fastening with screws.

1. Measure 1-3/8" (3.5 cm) from top of post base plate or 1-7/8" (4.8 cm) from decking surface. Mark with light line.



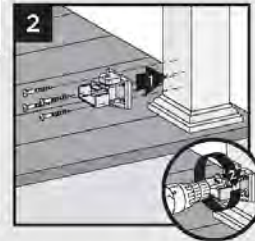
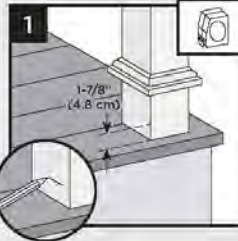
2. Center lower bracket on post **above** the marked line and attach using four self-tapping screws (*provided*).
3. Measure up 32-5/16" (82.0 cm) for 36" (91.4 cm) tall railing or 38-5/16" (97.3 cm) for 42" (106.7 cm) tall railing from top of lower rail bracket. Mark with a light line.
4. Center upper bracket on post **below** marked line and attach using four self-tapping screws (*provided*).

NOTE: Upper bracket is not required on crossover post configuration.

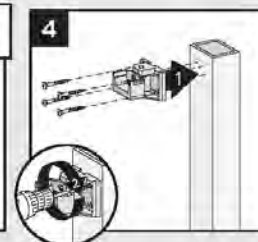
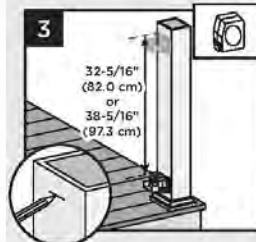


Attach Swivel Brackets Using Pressure-Treated Posts and Post Sleeves

TIP: Use a clamp to help hold brackets in place while fastening with screws.



1. Measure 1-7/8" (4.8 cm) up from deck surface to bottom of bracket. Slide skirt up to allow for proper measurement, then push skirt back down onto surface of decking **BEFORE ATTACHING BRACKET**. Mark with light line.
2. Center lower bracket on post **above** the marked line and attach using four 2" (5.1 cm) wood screws (*provided*).



3. Measure up 32-5/16" (82.0 cm) for 36" (91.4 cm) tall railing or 38-5/16" (97.3 cm) for 42" (106.7 cm) tall railing from top of lower rail bracket. Mark with a light line.
4. Center upper bracket on post **below** marked line and attach using four 2" (5.1 cm) wood screws (*provided*).

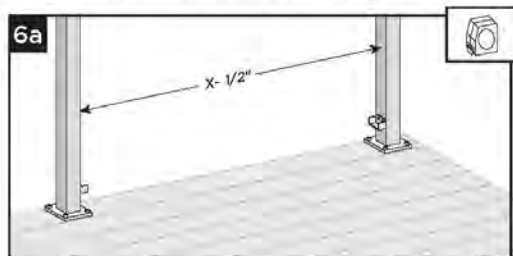
NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL STANDARD HORIZONTAL GLASS RAILING/CONTINUED TREX SIGNATURE®

5. Prepare a clean, soft, solid work surface area for glass (cardboard, blanket, etc.).

How to Measure and Cut Bottom and Top Rails

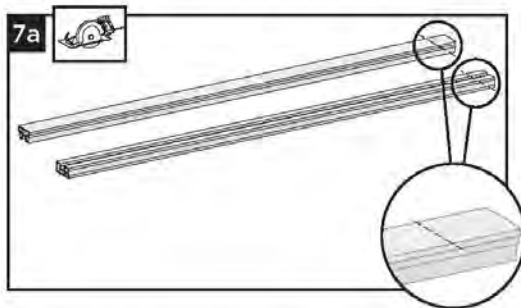
For Full Span Post to Post Applications – only top rail will need to be cut. For Full Span Crossover to Crossover post Applications – no rails have to be cut.



- 6a. Measure distance between posts (X), and subtract 1/2" for bracket clearance.

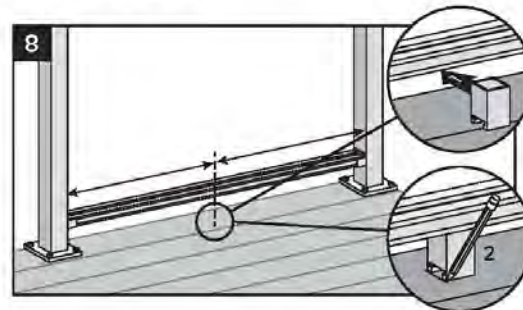
If installing crossover post configurations, adjust top rail length: $X + 3/4"$ if using one crossover post, or $X + 1 1/2"$ if using two crossover posts.

If using swivel brackets, measure distance between brackets and cut railings to this distance. In addition, if tabbed bottom swivel brackets are installed the tab must be removed from bottom swivel brackets.

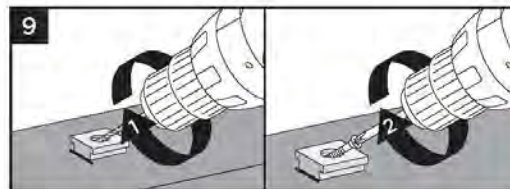


- 7a. Cut both bottom and top rails to length as determined above.

Attachment of Foot Block (One Foot Block is Required for Any Length Glass Railing Span)



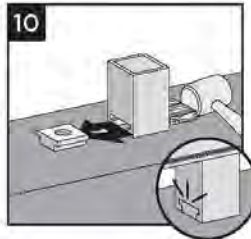
8. Temporarily place bottom rail into lower bracket. To ensure correct location, place Foot Block under center of bottom rail. Mark to provide placement location of base.



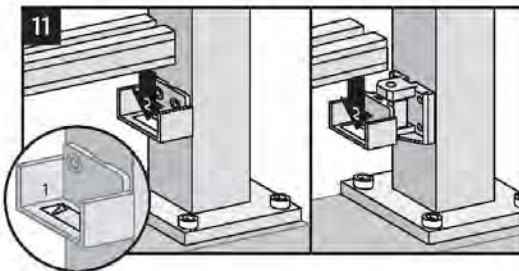
9. Remove bottom rail from lower brackets. Place base (smaller side facing down) on decking surface. Pre-drill using a 3/16" bit. Attach base of Foot Block using one screw at an angle through base and into decking.

HOW TO INSTALL STANDARD HORIZONTAL GLASS RAILING/CONTINUED TREX SIGNATURE®

10. After attached, use a rubber mallet along with scrap piece of wood to tap Foot Block until it locks into place.



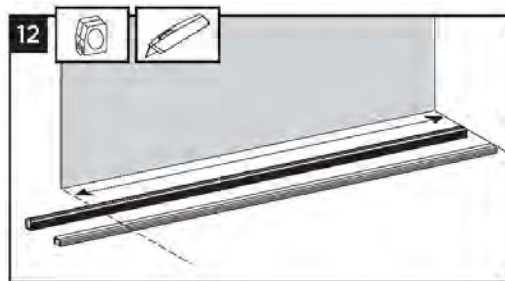
Installing Bottom Rail



11. Place adhesive strips (provided) into bottom rail brackets, and then place bottom rail into brackets.

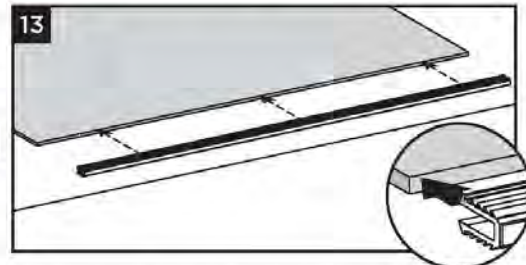
NOTE: Make sure surface is clean and dry.

Cutting Gaskets



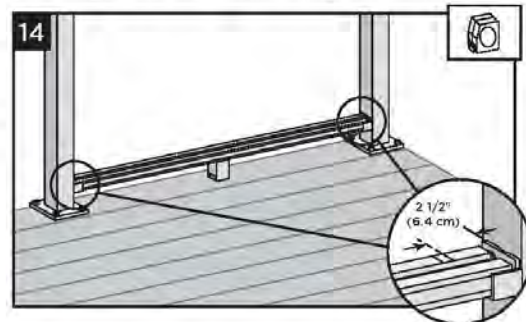
12. Cut both bottom sill gasket and top head gasket to the same length of glass panel.

Installing Bottom Sill Gasket



13. Lay glass on clean soft surface and install the bottom sill gasket onto the bottom edge of the glass panel.

Centering the Glass and Installing into Bottom Rail

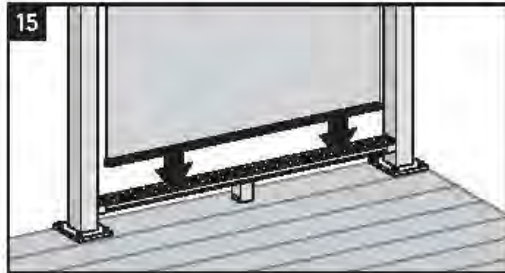


14. For full span installation, make a temporary mark on the bottom rail (example: use removable tape) 2-1/2" from each post. This will allow for glass to be centered between posts on bottom rail.

For all other spans, make sure glass is centered **BEFORE** installing into bottom rail. **WARNING** DO NOT exceed 4" between glass and post.

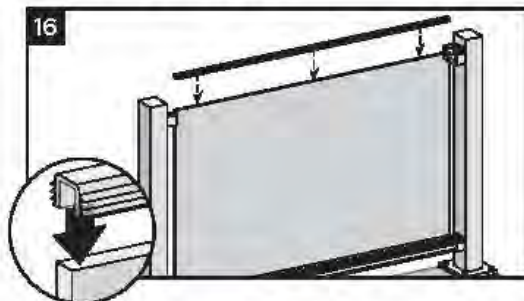
THIS IS IMPORTANT AS THE GLASS MUST BE CENTERED ON THE BOTTOM RAIL BEFORE INSTALLATION, AS THIS IS VERY DIFFICULT TO REMOVE IF PLACED INCORRECTLY.

HOW TO INSTALL STANDARD HORIZONTAL GLASS RAILING/CONTINUED TREX SIGNATURE®

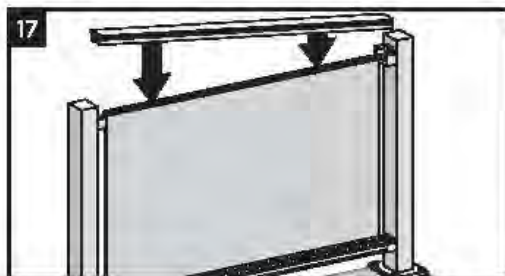


15. Press glass panel (with bottom sill gasket on glass) firmly into the bottom rail.

NOTE: Make sure glass is being secured by hand until final assembly of the top rail.

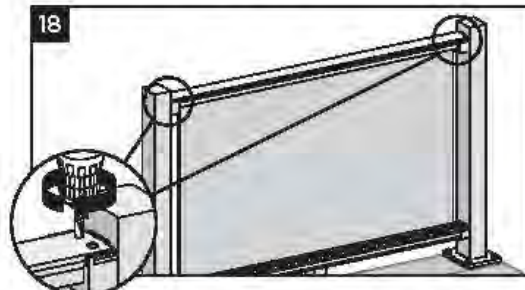


16. Install top head gasket onto the top of the glass panel. Note that the gasket may be loose at this stage.



17. Starting at one end and working down, press the top rail firmly onto the top of the glass panel (with top head gasket on glass). Ensure the top rail is centered properly and top rail will seat into brackets when finished.

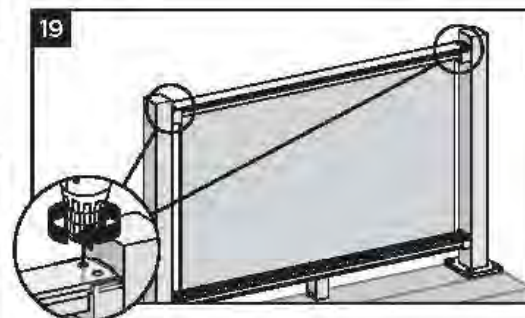
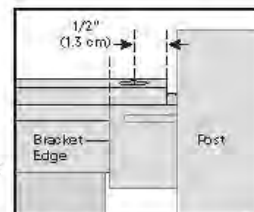
Attaching Top Rail to Brackets



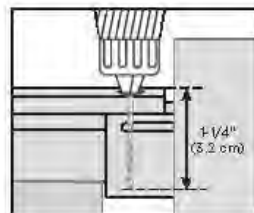
18. Drill two 1/2" holes approximately 1/2" from end of top rail. Repeat this on opposite side of top rail.

IMPORTANT NOTES:

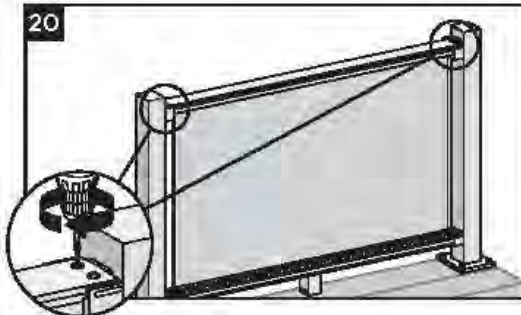
- » HOLES CANNOT EXTEND PAST BRACKET, OTHERWISE BRACKET COVER WILL NOT COVER HOLES.
- » ONLY DRILL 1/2" HOLES THRU TOP WALL OF TOP RAIL. DO NOT USE A STEP BIT.



19. Using 9/64" bit provided, center into above holes and **PREDRILL** into top rail bracket at a depth of approximately 1-1/4". Use care to not drill through underside of top bracket.

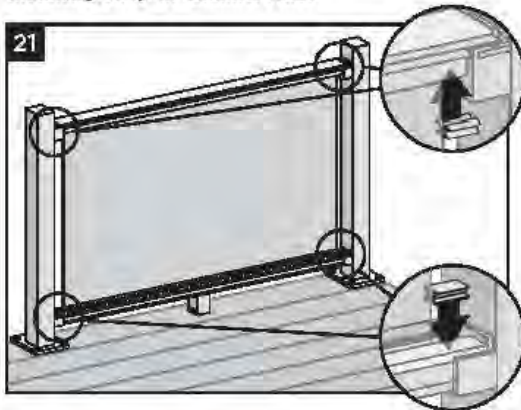


HOW TO INSTALL STANDARD HORIZONTAL GLASS RAILING/CONTINUED TREX SIGNATURE®



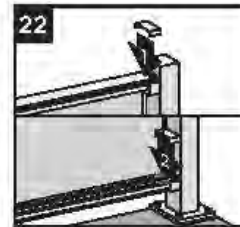
20. Install two #8 x 1-1/4" screws provided into top rail and top bracket on each end of top rail.

Installing Snap-In Channel Filler



21. Cut snap-in channel filler to correct length and install into channels of bottom and top rails. Use of a rubber mallet may assist with this step. **DO NOT** attempt to cut short snap-in pieces with a miter saw. Use an angle grinder or hack saw only.

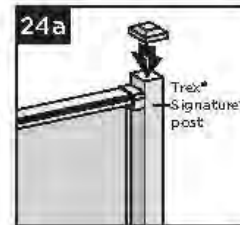
Attachment of Bracket Covers, Skirts, and Caps



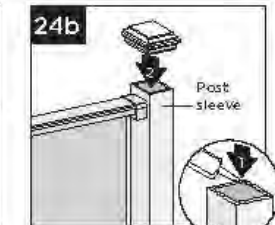
22. Attach corresponding bracket covers over opening in top and bottom rails.



23. Attach provided post skirt to bottom of posts when using Trex Signature posts.



24a. Attach post caps to Trex Signature posts. (Use of **rubber mallet** may be required for secure attachment.)



24b. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).

HORIZONTAL MESH RAILING TREX SIGNATURE®

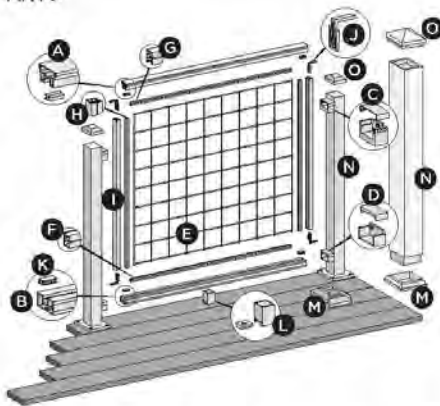
NOTES:

- » TREX SIGNATURE MESH RAILINGS ARE DESIGNED TO BE ATTACHED WITH POSTS INSTALLED AT A MAXIMUM CLEAR SPAN OF 6' (1.83M) OR 8' (2.44M).
- » MUST USE TREX DECK MOUNT POST HARDWARE AND METAL PLATE WHEN ATTACHING SIGNATURE POSTS IN GUARDRAIL APPLICATIONS.
- » FOR FULL SPAN INSTALLATIONS, MESH WILL NOT NEED TO BE CUT WITH THE EXCEPTION OF 6' X 42". IF INSTALLING AT THIS SIZE, PURCHASE 8' X 42" MESH AND CUT TO THE PROPER LENGTH.
- » ALWAYS REFER TO YOUR LOCAL BUILDING CODE OFFICIAL PRIOR TO INSTALLING ANY RAILING SYSTEM TO ENSURE ALL CODE AND SAFETY REQUIREMENTS ARE MET. TREX CANNOT BE HELD RESPONSIBLE FOR IMPROPER OR NON-RECOMMENDED INSTALLATIONS.
- » A FOOTBLOCK IS REQUIRED FOR ALL SPANS OF TREX SIGNATURE MESH RAIL. THUS THESE RAILING SPANS MUST BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST.
- » ENSURE THAT EACH MESH PANEL IS ORIENTED IN SAME DIRECTION FOR EACH SECTION PRIOR TO BEING INSTALLED.

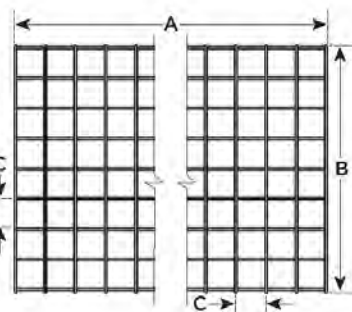
CURVED MESH INSTALLATION NOTES:

- » DESIGN AND FABRICATION FOR CURVED MESH RAILINGS MUST BE HANDLED BETWEEN TREX COMMERCIAL PRODUCTS (TCP) AND THE CONTRACTOR/CUSTOMER. FOR MORE INFORMATION VISIT TREX.COM OR CALL 1-800-BUY-TREX.
- » CURVED MESH RAILING MUST BE INSTALLED USING HORIZONTAL SWIVEL BRACKETS.
- » FOLLOW ALL INSTRUCTIONS AS LISTED BELOW (WITH THE USE OF SWIVEL BRACKETS) FOR INSTALLATION OF CURVED MESH.

PARTS



NOTE: IMAGE SHOWN HERE IS POST TO POST CONFIGURATION



| | A | B | C |
|-------------|-----------|----------|----|
| 6' x 36" HZ | 64" | 32 3/8" | 4" |
| 8' x 36" HZ | 88" | 32 3/8" | 4" |
| 8' x 42" HZ | 88" | 38 3/8" | 4" |
| 8' x 42" ST | 108 3/16" | 36 3/16" | 4" |



- A. Trex Signature Mesh top rail
 - 6' (actual length 73 5/8" [186.7 cm])
 - 8' (actual length 97 3/8" [247.7 cm])
- B. Trex Signature Mesh bottom rail
 - 6' (actual length 71 5/8" [181.6 cm])
 - 8' (actual length 95 5/8" [242.6 cm])
- C. Trex Signature upper rail bracket and cover
- D. Trex Signature lower rail tabless bracket and cover
- E. Mesh Panel - see chart above for dimensions
- F. Horizontal PVC Gasket
- G. Horizontal PVC Gasket
- H. Vertical PVC Gaskets
- I. Vertical Supports
- J. L-Brackets
- K. Snap-in Channel Filler

- L. Trex Signature Foot Block (REQUIRED FOR ALL SPANS - MESH INSTALLATIONS)

- M. Trex Signature post skirt or post sleeve skirt*

- N. Trex Signature post*

- 36" (actual length 37" [94.0 cm])

- 42" (actual length 43" [109.2 cm])

- or Trex 4x4 post sleeve**

- 36" (actual length 40" [102 cm])

- 42" (actual length 46" [117 cm])

- O. Trex Signature post cap or post sleeve cap*

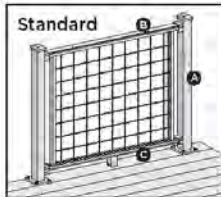
* Item not included in Trex Signature Railing kits.

** Both 4x4 (10.2cm x 10.2cm) and 6x6 (15.2cm x 15.2cm) post sleeves are designed to fit over a 4x4 pressure treated post.

NOTE: If installing 42" (106.7 cm) railing, and using pressure-treated posts with Trex post sleeves, ensure that a longer pressure-treated post is used along with longer post sleeve, both cut to a height of 46" (116.8 cm) from decking surface.

RAILING CONFIGURATIONS

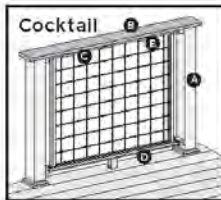
Note: See specific installation instructions for attachment of Trex post mounts or Trex Joist Mount Posts prior to installing any railing.



Cutting posts/post sleeves is **NOT** required.

- A. Trex Signature post, pressure-treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 post sleeve, or Composite Joist Mount Post/Trex 4x4 post sleeve (Inside mount)
- B. Trex Signature top rail
- C. Trex Signature bottom rail

See page 188 for "How to Install Standard Mesh Railing".



Post sleeves will need to be cut.

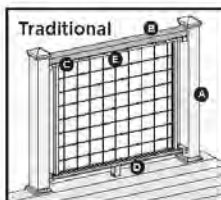
- A. Pressure-Treated post with Trex post sleeve

NOTE: » Only for use with 4x4 (102 mm x 102 mm) post sleeve.
 » Trex Signature Posts, Trex Post Mounts or Joist Mount Posts cannot be used with Trex Signature Cocktail design.

- B. Deck board top rail. **NOTE: Enhance cannot be used.**
- C. Trex Signature top rail
- D. Trex Signature bottom rail
- E. Trex Signature Cocktail Rail Bracket**

See page 198 for "How to Install Mesh Cocktail Railing".

POST
SLEEVES
WILL
NEED TO
BE CUT



Cutting posts/post sleeves is Not required.

- A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 post sleeve, or Composite Joist Mount Post/Trex 4 x 4 post sleeve (Inside mount)

NOTE: » Trex Signature Posts or Trex Signature Joist Mount Posts cannot be used.

- B. 2 x 4 lateral top rail
- C. Trex Signature top rail
- D. Trex Signature bottom rail
- E. Trex Signature Cocktail Rail Bracket**

See page 200 for "How to Install Mesh Traditional Railing".

» **NOTES:** For Signature post or pressure-treated post with post sleeve installations refer To Signature Post Installation Instructions.

** Trex Signature Cocktail Rail brackets (sold separately) are for use with either Trex Mesh Rail Traditional or Trex Mesh Rail Cocktail designs. For a 6' section, use 4 brackets and screws provided, for 8' section, use 5 brackets and screws provided.

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL HORIZONTAL MESH RAILING BRACKETS TREX SIGNATURE®

NOTES:

- » FOR POST INSTALLATION, SEE PAGES 84-85 FOR DETAILS
- » FOR EASE OF INSTALLATION, IT IS RECOMMENDED TO USE THE TREX SIGNATURE RAIL TEMPLATES TO ATTACH BRACKETS (SOLD SEPARATELY).
- » TREX SIGNATURE POSTS (BLACK ONLY) CAN ALSO BE PURCHASED SEPARATELY WHICH HAVE BRACKETS PREINSTALLED, THUS SKIPPING STEPS 1-4 BELOW.

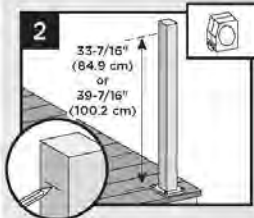
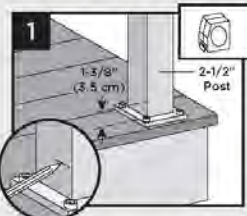
| SKU NUMBER | DESCRIPTION |
|--------------------|--------------------------------|
| BKAL252537RCAPCNR | Signature Post 37" Corner Post |
| BKAL252537RCAPLINE | Signature Post 37" Inline Post |
| BKAL252543RCAPEND | Signature Post 43" End Post |

| SKU NUMBER | DESCRIPTION |
|--------------------|--------------------------------|
| BKAL252537RCAPEND | Signature Post 37" End Post |
| BKAL252543RCAPCNR | Signature Post 43" Corner Post |
| BKAL252543RCAPLINE | Signature Post 43" Inline Post |

Attach Brackets Using Trex Signature Posts

TIP: Use a clamp to help hold brackets in place while fastening with screws.

- 1 Measure 1-3/8" (3.5 cm) from top of post base plate or 1-7/8" (4.8 cm) from decking surface. Mark with light line.



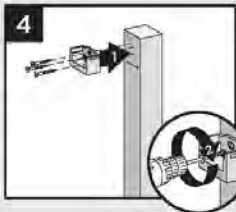
- 2 Measure up from post base plate 33-7/16" (84.9 cm) for 36" (92 cm) rail height or 39-7/16" (100.2 cm) for 42" (107 cm) rail height. Mark with light line.

NOTE: If measuring from decking surface, measure up 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height.

- 3 Center lower bracket on post **above** the marked line and attach using two self-tapping screws (provided).

- 4 Center upper bracket on post **above** marked line and attach using (3) self-tapping screws (provided).

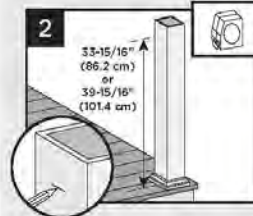
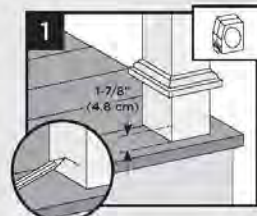
NOTE: Upper bracket is not required on crossover post configuration.



Attach Brackets Using Pressure-Treated Posts and Post Sleeves

TIP: Use a clamp to help hold brackets in place while fastening with screws.

- 1 Measure 1-7/8" (4.8 cm) up from deck surface to bottom of bracket. Slide skirt up to allow for proper measurement. Mark with light line.

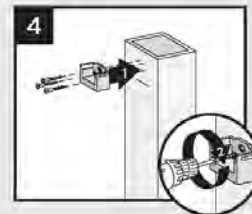


- 2 Measure up from decking surface 33-15/16" (86.2 cm) for 36" (92 cm) rail height or 39-15/16" (101.4 cm) for 42" (107 cm) rail height. Mark with light line.

NOTE: Push skirt back down onto surface of decking **BEFORE ATTACHING BRACKETS**.

- 3 Center lower bracket on post **above** the marked line and attach using two 2" (51 mm) wood screws (provided).

- 4 Center upper bracket on post **above** marked line and attach using three 2" (51 cm) wood screws (provided).

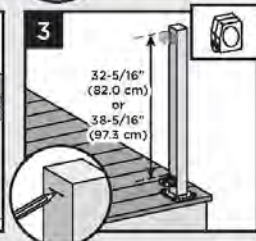
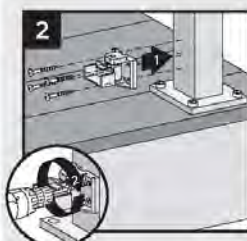
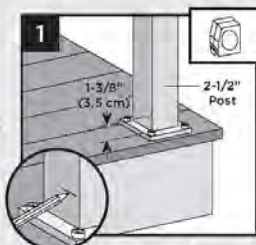


HOW TO INSTALL HORIZONTAL MESH RAILING SWIVEL BRACKETS TREX SIGNATURE®

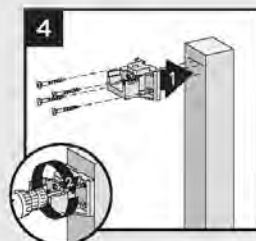
Attach Swivel Brackets Using Trex Signature Posts

TIP: Use a clamp to help hold brackets in place while fastening with screws.

- 1 Measure 1-3/8" (3.5 cm) from top of post base plate or 1-7/8" (4.8 cm) from decking surface. Mark with light line.

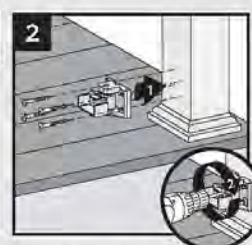
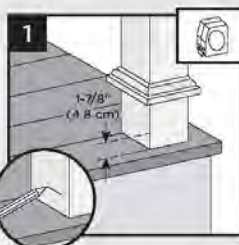


- 2 Center lower bracket on post **above** the marked line and attach using four self-tapping screws (*provided*).
- 3 Measure up 32-5/16" (82.0 cm) for 36" (91.4 cm) tall railing or 38-5/16" (97.3 cm) for 42" (106.7 cm) tall railing from top of lower rail bracket. Mark with a light line.
- 4 Center upper bracket on post **below** marked line and attach using four self-tapping screws (*provided*).

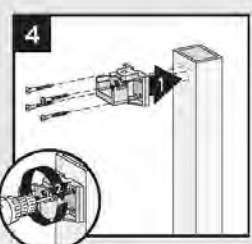
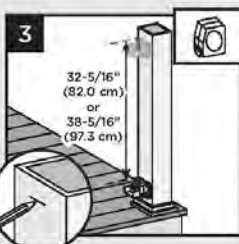


Attach Swivel Brackets Using Pressure-Treated Posts and Post Sleeves

TIP: Use a clamp to help hold brackets in place while fastening with screws.



- 1 Measure 1-7/8" (4.8 cm) up from deck surface to bottom of bracket. Slide skirt up to allow for proper measurement, then push skirt back down onto surface of decking **BEFORE ATTACHING BRACKET**. Mark with light line.
- 2 Center lower bracket on post **above** the marked line and attach using four 2" (5.1 cm) wood screws (*provided*).



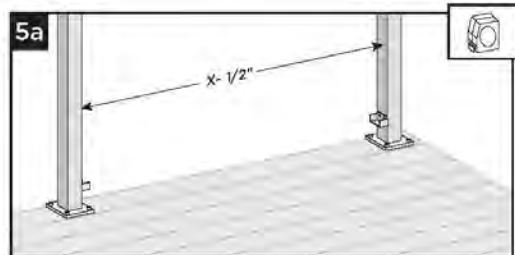
- 3 Measure up 32-5/16" (82.0 cm) for 36" (91.4 cm) tall railing or 38-5/16" (97.3 cm) for 42" (106.7 cm) tall railing from top of lower rail bracket. Mark with a light line.
- 4 Center upper bracket on post **below** marked line and attach using four 2" (5.1 cm) wood screws (*provided*).

NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL HORIZONTAL MESH RAILING/CONTINUED TREX SIGNATURE®

How to Measure and Cut Bottom and Top Rails

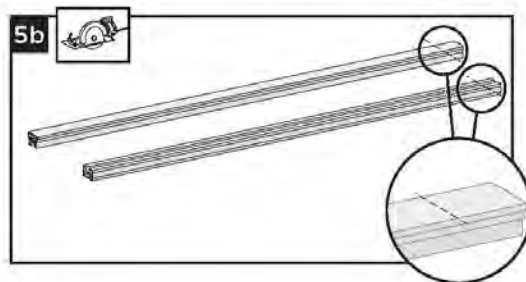
For Full Span Post to Post Applications – only top rail will need to be cut. For Full Span Crossover to Crossover post Applications – no rails have to be cut.



5a. Measure distance between posts (X), and subtract 1/2" for bracket clearance.

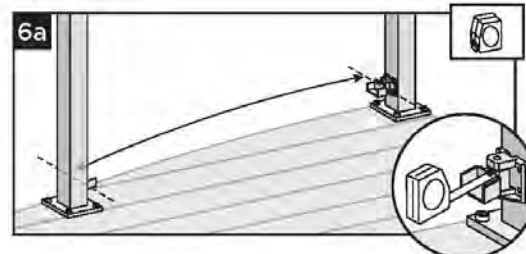
If installing crossover post configurations, adjust top rail length: $X + 3/4"$ if using one crossover post, or $X + 1 1/2"$ if using two crossover posts.

If using swivel brackets, measure distance between brackets and cut railings to this distance. In addition, if tabbed bottom swivel brackets are installed the tab must be removed.



5b. Cut both bottom and top rail to length as determined above.

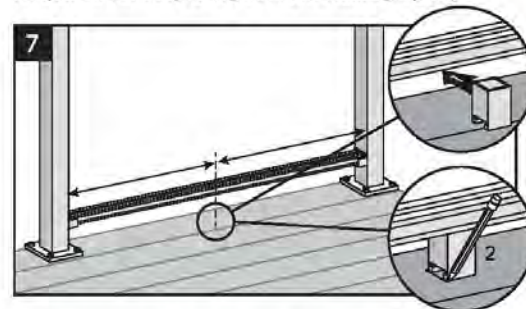
How to Measure and Cut Bottom and Top CURVED Rails.



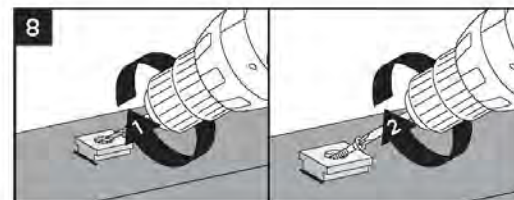
6a. With brackets in correct swivel location, measure distance from inside of bracket to inside of bracket. In addition, if tabbed bottom swivel brackets are installed the tab must be removed.

6b. Cut both curved bottom and top rails to length as determined above.

Attachment of Foot Block (One Footblock is Required for Any Length Mesh Railing Span)



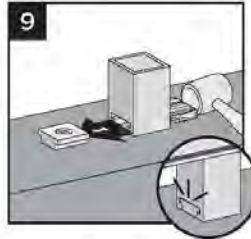
7. Temporarily place bottom rail into lower bracket. To ensure correct location, place Foot Block under center of bottom rail. Mark to provide placement location of base.



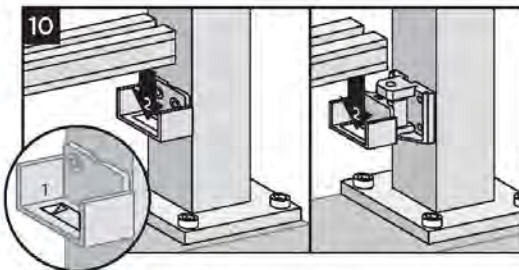
8. Remove bottom rail from lower brackets. Place base (smaller side facing down) on decking surface. Pre-drill using a 3/16" bit. Attach base of Foot Block using one screw at an angle through base and into decking.

HOW TO INSTALL HORIZONTAL MESH RAILING/CONTINUED TREX SIGNATURE®

9. After attached, use a rubber mallet along with scrap piece of wood to tap Foot Block until it locks into place.



Installing Bottom Rail and Adding Weep Holes to Bottom Rail

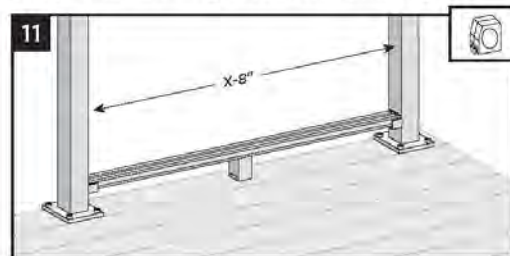


10. Place adhesive strips (provided) into bottom rail brackets, and then place bottom rail into brackets. Using a 3/8" drill bit, drill weep holes through center of bottom rail channel at 4 evenly spanned locations to allow for water drainage.

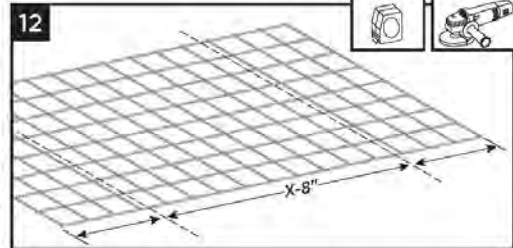
NOTES:

- » Make sure surface is clean and dry.
- » Place a scrap board under rail when drilling weep holes to avoid damage to the deck boards.

Cutting Mesh (Required if installing rails at odd span lengths)



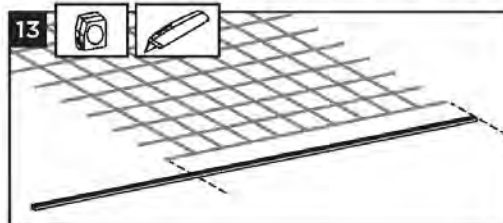
11. If not installing full span, mesh will require cutting from equal distance on each side. Measure distance between posts and subtract 8".



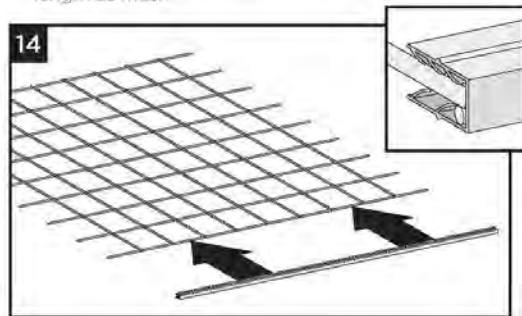
12. Cut mesh panel to this measurement, again cutting equal distances from each side so mesh is centered.

NOTE: An angle grinder (with proper blade) is recommended for cutting wire mesh. (ALWAYS USE PROPER SAFETY GEAR WHEN CUTTING WITH ANGLE GRINDER.) Note that heavy duty bolt cutters can also be used.

Cutting Bottom PVC Gasket & Installing onto Mesh



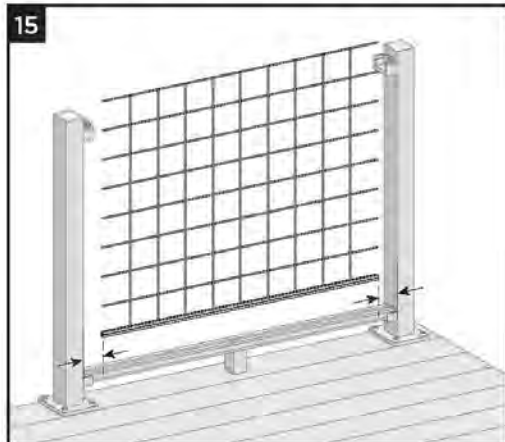
13. Using razor knife, cut bottom PVC gasket the same length as mesh.



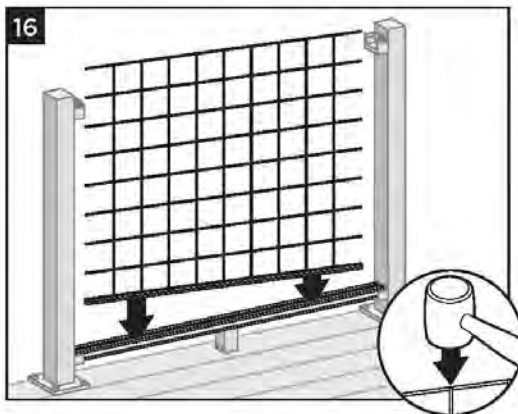
14. Install bottom PVC gasket onto bottom of mesh panel. Make sure gasket is fully seated onto mesh.

HOW TO INSTALL HORIZONTAL MESH RAILING/CONTINUED TREX SIGNATURE®

Centering the Mesh and Installing into Bottom Rail



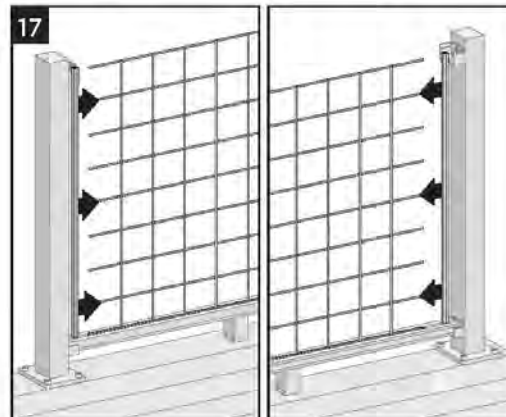
15. Center mesh (with bottom PVC gasket installed) so there is equal distance between sides of mesh and posts.



16. Starting at one end, push mesh (with bottom PVC gasket installed) firmly into the bottom rail. GENTLE tapping with rubber mallet on mesh CROSS-SECTIONS will help prevent mesh from bending.

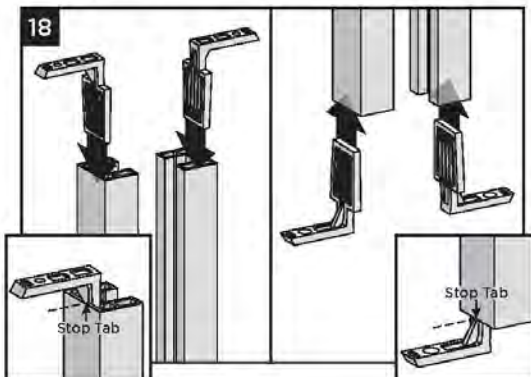
NOTE: Make sure mesh is being secured by hand until final assembly of the top rail.

Installing Vertical PVC Gaskets onto Mesh (No cutting required these come standard size.)



17. Install vertical PVC gaskets onto each side of mesh, ensuring that bottom of gaskets are resting on surface of bottom rail. Make sure that gaskets are fully seating onto the mesh.

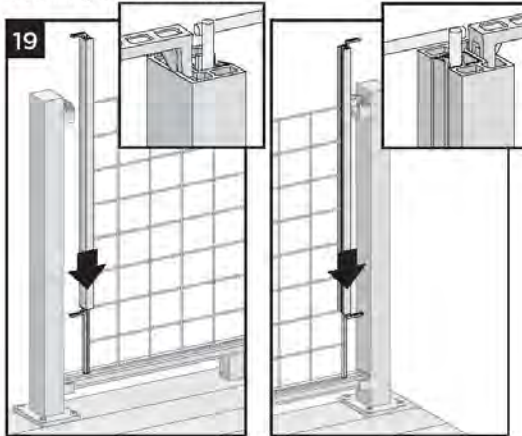
Installing L-Brackets into Vertical Supports



18. Install L-brackets into both top and bottom slots of vertical supports as shown. L-brackets will require light tapping until stop lip of bracket is resting on vertical support.

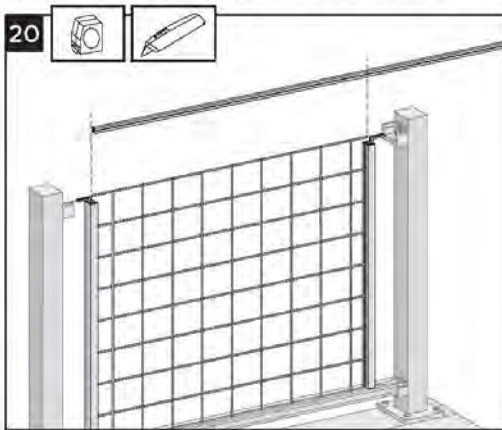
HOW TO INSTALL HORIZONTAL MESH RAILING/CONTINUED TREX SIGNATURE®

Installing Vertical Supports

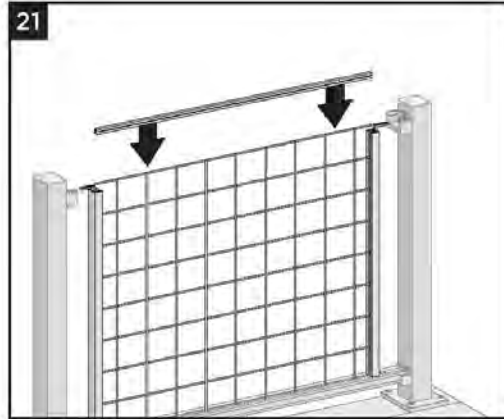


19. Slide vertical supports down onto vertical PVC gaskets, also ensuring that L-bracket is fully seated into bottom rail channel. Light tapping with rubber mallet may be required.

Cutting Top PVC Gasket & Installing onto Mesh

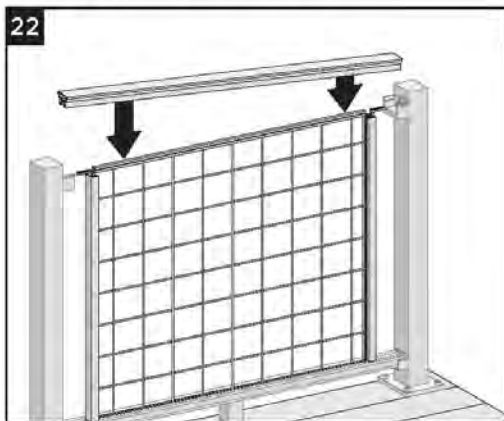


20. Using razor knife, cut top PVC gasket the same length as mesh panel.



21. Install cut gasket onto top of mesh panel. Make sure gasket is fully seated onto mesh.

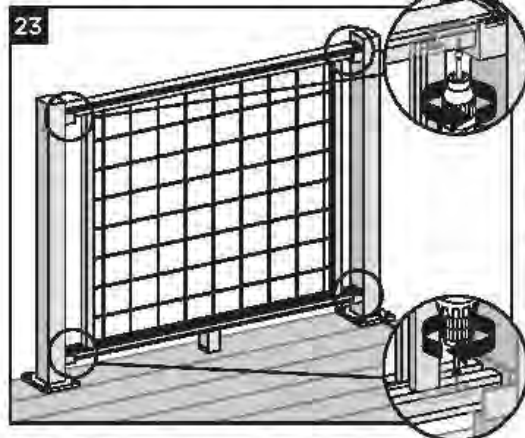
Installing Top Rail onto Mesh Panel



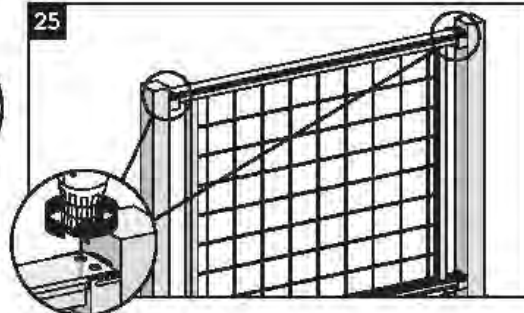
22. Starting at one end and working down, press the top rail firmly onto the top of the mesh panel (with top PVC gasket on mesh). Ensure the top rail is centered properly so top rail will seat into brackets when finished.

HOW TO INSTALL HORIZONTAL MESH RAILING/CONTINUED TREX SIGNATURE®

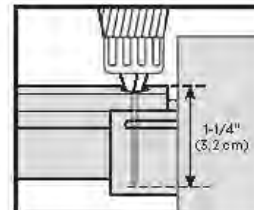
Attaching L-Brackets to Top and Bottom Rails



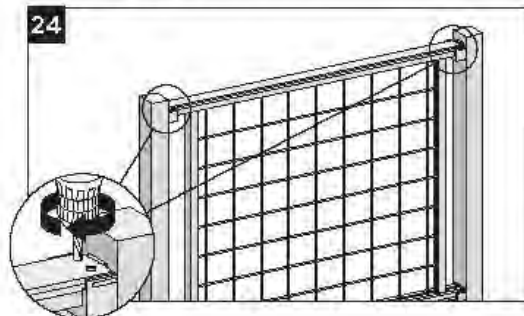
23. Attach L-Brackets to both top and bottom rails using one #8 x 5/8 flat head screw (provided).



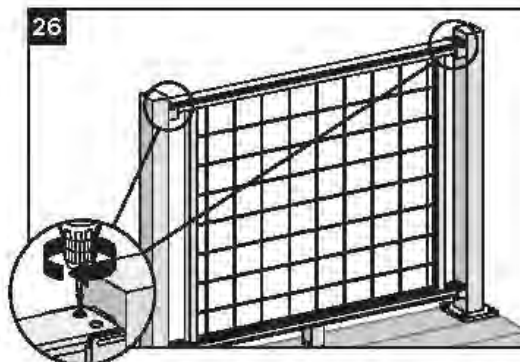
25. Using 9/64" bit provided, center into above holes and **PREDRILL** into top rail bracket at a depth of approximately 1-1/4". Use care to not drill through underside of top bracket.



Attaching Top Rail to Brackets



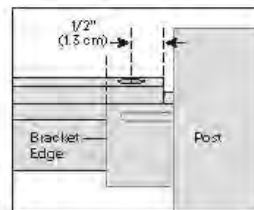
24. Drill two 1/2" holes approximately 1/2" from end of top rail. Repeat this on opposite side of top rail.



26. Install two #8 x 1-1/4" screws provided into top rail and top bracket on each end of top rail.

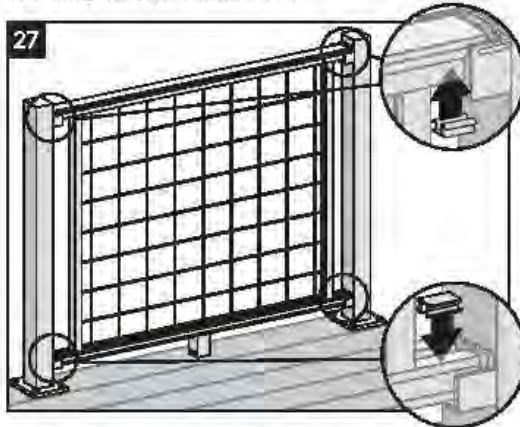
IMPORTANT NOTES:

- » HOLES CANNOT EXTEND PAST BRACKET, OTHERWISE BRACKET COVER WILL NOT COVER HOLES.
- » ONLY DRILL 1/2" HOLES THRU TOP WALL OF TOP RAIL. DO NOT USE A STEP BIT.



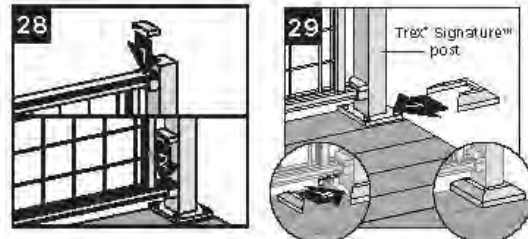
HOW TO INSTALL HORIZONTAL MESH RAILING/CONTINUED TREX SIGNATURE®

Installing Snap-In Channel Filler

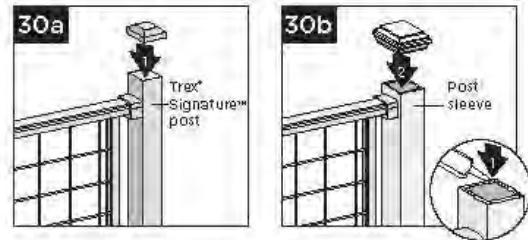


27. Cut snap-in channel filler to correct length at each location and install into channels of bottom and top rails. Use of a rubber mallet may assist with this step. **DO NOT** attempt to cut short snap in pieces with a miter saw. Use an angle grinder or hack saw only.

Attachment of Bracket Covers, Skirts, and Caps

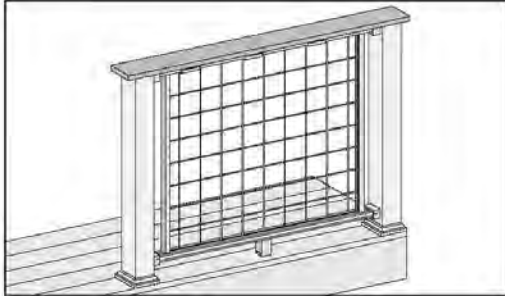


28. Attach corresponding bracket covers over opening in upper and bottom rails.
29. Attach provided post skirt to bottom of posts when using Trex Signature posts.



- 30a. Attach post caps to Trex Signature posts. (Use of **rubber mallet** may be required for secure attachment.)
30b. Attach post caps to post sleeves using external grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).

HOW TO INSTALL MESH COCKTAIL RAILING TREX SIGNATURE®



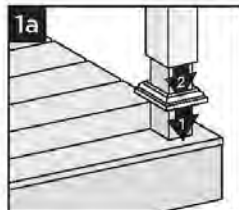
IMPORTANT NOTE:

- » **ONLY** for use with pressure treated 4x4 post (3.5" nominal square) and 4x4 (102 mm x 102 mm) post sleeve. Trex Signature® posts, Trex post mounts or joist mount posts cannot be used with Trex Mesh Cocktail railing. Cutting post and post sleeve **ONLY** applies to the Cocktail style railing.

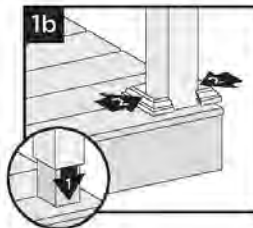
Installing Pressure-Treated Posts, Post Sleeves, and Skirts to Use with Mesh Cocktail Railing

NOTE: PLEASE REFER TO LOCAL BUILDING CODE REQUIREMENTS PRIOR TO ATTACHING PRESSURE TREATED POSTS.

- 1a. If using a 1-piece skirt, slide post sleeve skirt over post and down to rest on decking surface. Slide post sleeve over post and position inside post sleeve skirt.



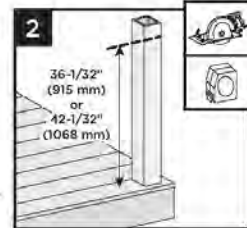
- 1b. If using a two-piece skirt, slide post sleeve over post and down to rest on decking surface. Snap two piece skirt over post sleeve.



NOTE: Shims can be used to plumb post sleeves.

Cutting Post and Post Sleeve

2. Mark and cut post and post sleeve measuring from deck surface:
- » 36-1/32" (915 mm) for 36" (914 mm) height.
 - » 42-1/32" (1068 mm) for 42" (1067 mm) height.



3. **How to Measure Bottom and Top Rails**
See instructions on page 177.

4. **Cutting Rails**
See instructions on page 177.

5. **Attachment of Foot Block (REQUIRED)**
See instructions on page 177.

6. **Installing Bottom Rail and Adding Weep Holes to Bottom Rail**
See instructions on page 178.

7. **Cutting Mesh (if required)**
See instructions on page 178.

8. **Cutting Bottom PVC Gasket and Installing onto Mesh**
See instructions on page 178.

9. **Centering Mesh and Installing into Bottom Rail**
See instructions on page 179.

10. **Installing Vertical PVC Gaskets onto Mesh**
See instructions on page 179.

11. **Installing L-Brackets into Vertical Supports**
See instructions on page 179.

12. **Installing Vertical Supports**
See instructions on page 180.

13. **Cutting Top PVC Gasket and Installing onto Mesh**
See instructions on page 180.

14. **Installing Top Rail onto Mesh Panel**
See instructions on page 180.

15. **Attaching L-Brackets to Top and Bottom Rails**
See instruction on page 181.

16. **Attaching Top Rail to Brackets**
See instructions on page 181.

HOW TO INSTALL MESH COCKTAIL RAILING/CONTINUED TREX SIGNATURE®

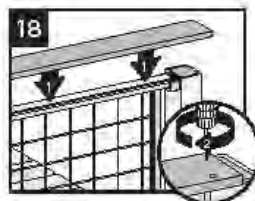
17. Installing Snap-In Channel Filler

See instructions on page 182.

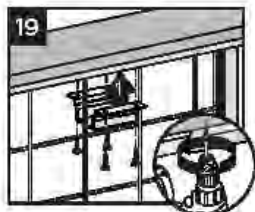
NOTE: Top Bracket Covers are not attached in this configuration.

Attaching Deck Board to Top Rail

18. Place deck boards (DO NOT use Enhance deck boards for top rail) over top rails. Attach boards on each post with Trex-recommended composite screws (quantity of 2 per each post/board end).

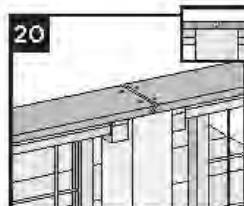


19. Secure boards to top rail using Trex Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the railing section, then space brackets approximately every 24" and attach with 4 screws provided.



NOTE: Pre-drilling before attachment is recommended.

20. Use scarf cut for posts where two deck boards meet.



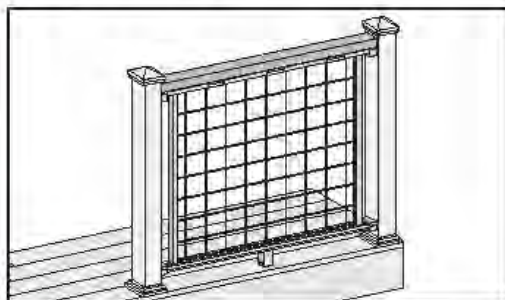
NOTES:

- » Leave 1/8" (3 mm) gap between deck boards.
- » Deck boards can overhang end of last post maximum 1/2" (13 mm).

21. Attachment of Bottom Bracket Covers

See instructions on page 182.

HOW TO INSTALL MESH TRADITIONAL RAILING TREX SIGNATURE®



Important: Only use with Pressure-treated post, Trex Post Mounts or Trex Joist Mount Post WITH Trex post sleeves. Trex Signature Posts and Joist Mount Posts cannot be used with Mesh Traditional.

1. Installing Posts, Post Sleeves, and Skirts

See instructions on page 183 for pressure treated posts. Refer to detailed Trex Post Mount instructions if using these. Post and Post Sleeves are **NOT CUT** in this installation.

2. How to Measure Bottom and Top Rails

See instructions on page 177.

3. Cutting Rails

See instructions on page 177.

HOW TO INSTALL MESH TRADITIONAL RAILING TREX SIGNATURE®

4. Attachment of Foot Block (REQUIRED)

See instructions on page 177.

5. Installing Bottom Rail and Adding Weep Holes to Bottom Rail

See instructions on page 178.

6. Cutting Mesh (if required)

See instructions on page 178.

7. Cutting Bottom PVC Gasket and Installing onto Mesh

See instructions on page 178.

8. Centering Mesh and Installing into Bottom Rail

See instructions on page 179.

9. Installing Vertical PVC Gaskets into Mesh

See instructions on page 179.

10. Installing L-Brackets into Vertical Supports

See instructions on page 179.

11. Installing Vertical Supports

See instructions on page 180.

12. Cutting Top PVC Gasket and Installing onto Mesh

See instructions on page 180.

13. Installing Top Rail onto Mesh Panel

See instructions on page 180.

14. Attaching L-Brackets to Top and Bottom Rails

See instructions on page 181.

15. Attaching Top Rail to Brackets

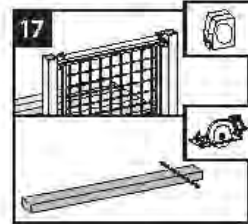
See instructions on page 181.

16. Installing Snap-in Channel Filler

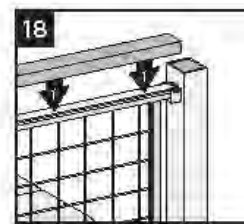
See instructions on page 182.

NOTE: Top Bracket Covers are not attached in this configuration.

Attaching 2 x 4 to Top Rail

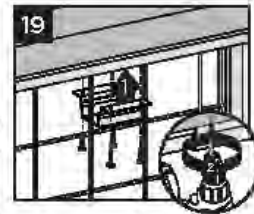


17. Measure between posts and cut 2 x 4 to length.



18. Place 2 x 4 on Trex Signature top rail.

19. Secure 2 x 4 to top rail using Trex Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the railing section, then space brackets approximately every 24" and attach with 4 screws provided.



NOTE: Pre-drilling before attachment is recommended.

20. Pre-drill and toenail 2-1/2" (6.4 cm) approved deck screw at each end of 2 x 4 into post on back side of rail (side not facing decking).



21. Attachment of Bottom Bracket Covers and Caps

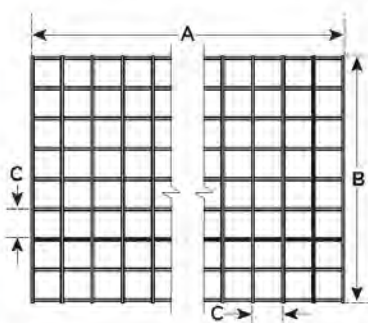
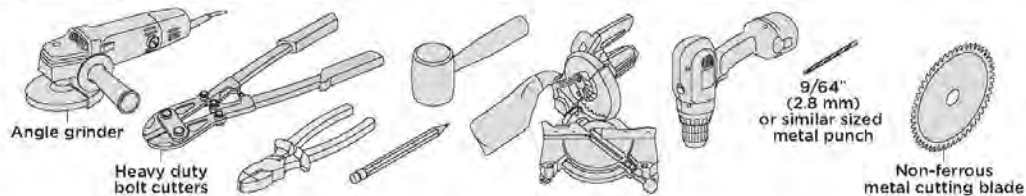
See instructions on page 182.

MESH STAIR RAILING TREX SIGNATURE®

DUE TO THE COMPLEXITY OF THIS PRODUCT, INSTALLATION OF SIGNATURE MESH STAIR RAIL WILL REQUIRE THE USE OF QUALIFIED AND KNOWLEDGABLE CONTRACTORS IN MOST CASES.

HOW TO INSTALL TREX SIGNATURE STAIR POSTS AND STAIR RAILING

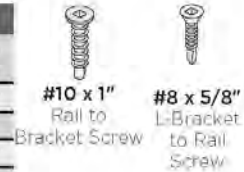
TOOLS NEEDED



| MESH DIMENSIONS CHART | | | |
|-----------------------|-----------|----------|----|
| Panel Size | A | B | C |
| 6" x 36" HZ | 64" | 32 3/8" | 4" |
| 8" x 36" HZ | 88" | 32 3/8" | 4" |
| 8" x 42" HZ | 88" | 38 3/8" | 4" |
| 8" x 42" ST | 108 3/16" | 36 3/16" | 4" |

Stair Post Spanning and Angle Placement Charts

| 42" STAIR GUARDRAIL | | | | | |
|----------------------------|---------------------------------------|-----|-----|-----|-----|
| Use HZ Panel Size | Max Post Spacing Based on Stair Angle | | | | |
| | 30° | 32° | 34° | 37° | 38° |
| 6" x 36" HZ | NA | NA | 42" | 40" | 39" |
| 8" x 36" HZ | NA | NA | 62" | 59" | 58" |
| 8" x 42" HZ | 66" | 65" | 62" | 59" | 58" |
| Use Stair Panel Size | Max Post Spacing | | | | |
| | 30° | 32° | 34° | 37° | 38° |
| 36 3/16" x 108 3/16" ST | 72" | 72" | 72" | 72" | 72" |



| 36" STAIR GUARDRAIL | | | | | |
|----------------------------|---------------------------------------|-----|-----|-----|-----|
| Use HZ Panel Size | Max Post Spacing Based on Stair Angle | | | | |
| | 30° | 32° | 34° | 37° | 38° |
| 6" x 36" HZ | 46" | 45" | 42" | 40" | 39" |
| 8" x 36" HZ | 67" | 65" | 62" | 59" | 58" |
| 8" x 42" HZ | 67" | 65" | 62" | 59" | 58" |
| Use Stair Panel Size | Max Post Spacing | | | | |
| | 30° | 32° | 34° | 37° | 38° |
| 36 3/16" x 108 3/16" ST | 72" | 72" | 72" | 72" | 72" |



HOW TO INSTALL MESH STAIR RAILING POSTS TREX SIGNATURE®

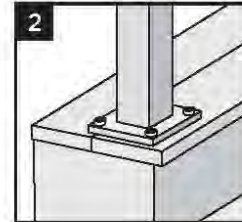
IMPORTANT NOTES:

- » FOR A 6' OR 8' STAIR RAIL, POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING STAIR POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM STAIR RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE STAIR RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.
- » TREX SIGNATURE POSTS CANNOT BE USED WITH TREX SIGNATURE COCKTAIL STAIR MESH OR TRADITIONAL STAIR MESH DESIGNS, ONLY PRESSURE-TREATED POST/POST SLEEVES CAN BE USED. REFER TO DETAILED INSTRUCTIONS FOR MORE INFORMATION.
- » All stair installations require the use of 53" (134.6 CM) stair post, measured and cut to appropriate length if required.
- » All Trex Signature fixed stair brackets ONLY work with stair slopes of 32°-37°.
- » Foot Blocks are sold separately and recommended for all spans over 6' for Signature Mesh Cocktail and Signature Mesh Traditional stair applications.

Installing Standard Trex Signature Stair Posts, or Pressure-Treated Post, Post Sleeves and Skirts

1. Make sure 53" (135.6 cm) posts are used for all stair posts.

2. If Trex Signature stair posts are used, install at nose of stair tread directly under required blocking. See Trex Signature horizontal post instructions.

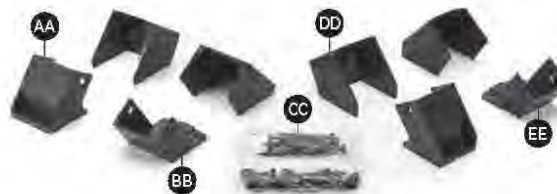


Installing Pressure-Treated Posts

- » PLEASE REFER TO LOCAL BUILDING CODE REQUIREMENTS PRIOR TO ATTACHING PRESSURE TREATED POSTS.
- » PRESSURE TREATED POSTS MUST BE INSTALLED ON INSIDE OF STAIR STRINGER AND AT NOSE OF STAIR TREAD.
- » POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.
- » In most cases, a post and post sleeve longer than 39" will be needed on the lower section of stair rail to accommodate stair angle.

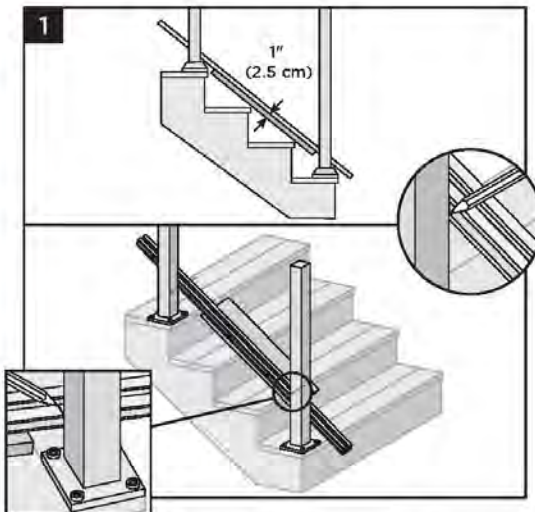
BRACKET HARDWARE - STAIR APPLICATIONS TREX SIGNATURE®

- AA. Bottom Stair Bracket and Cover - Lower Rail
- BB. Top Stair Bracket and Cover - Lower Rail
- CC. Fastener Pack
- DD. Bottom Stair Bracket and Cover - Upper Rail
- EE. Top Stair Bracket and Cover - Upper Rail

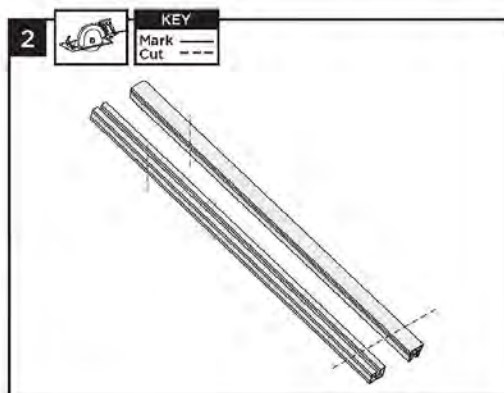


HOW TO INSTALL MESH STAIR RAILING TREX SIGNATURE®

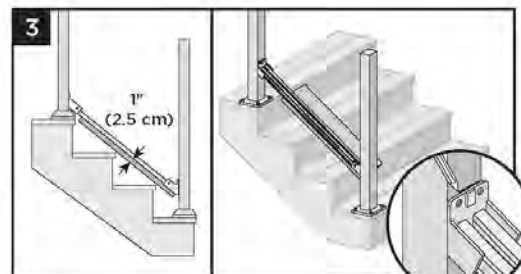
Measuring and Cutting Rails



1. Place a 1" deck board along the nose of the stair tread, then lay the bottom stair rail on top of the deck board. Use the lower and upper stair post to determine the length of the bottom stair rail. At **LOWER STAIR POST**, mark on topside of rail and cut PERPENDICULAR to the rail. At **UPPER STAIR POST**, mark on INTERSECTION/SIDE OF RAIL AND CUT RAIL TO THIS ANGLE.

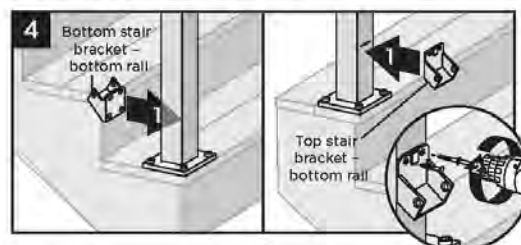


2. Cut both bottom and top rails to same length. ENSURE POSTS ARE PLUMB before cutting.



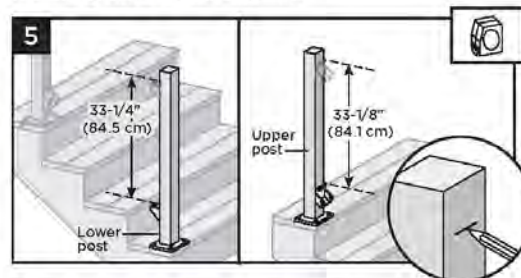
3. With deck board still on nose of stair tread, place brackets on ends of bottom stair rail (but do not attach) and mark posts for bracket locations.

Installing Lower Stair Brackets



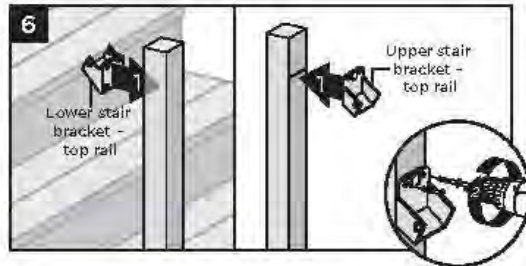
4. Center lower stair bracket on post below the marked line and attach using two #10 x 5/8" self-tapping screws (provided). In some cases it may be difficult to attach the stair bracket on the lower stair post. Recommend using a 90° drill adapter or loosen the post to get access to the lower bracket screw holes.

Installing Upper Stair Brackets



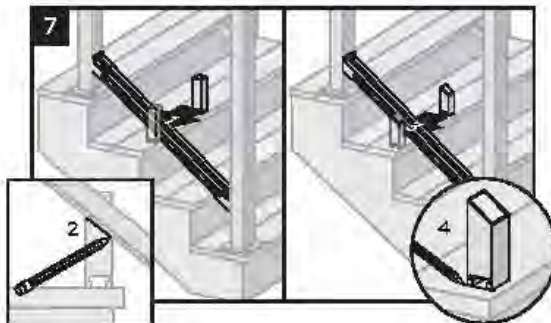
5. On Lower Post: From top of lower bracket, measure up and mark with light line (33-1/4" for 36" rail; 39-1/4" for 42" rail). On Upper Post: From top of lower (upper) bracket, measure up and mark with light line (33-1/8" for 36" rail; 39-1/8" for 42" rail).

HOW TO INSTALL MESH STAIR RAILING/CONTINUED TREX SIGNATURE®

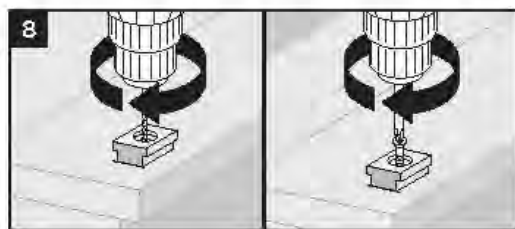


6. Center upper stair brackets on posts **below** the marked lines and attach using two #10 x 5/8" self-tapping screws (*provided*).

Attachment of Foot Block (where recommended)

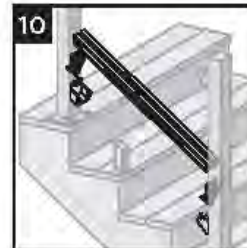
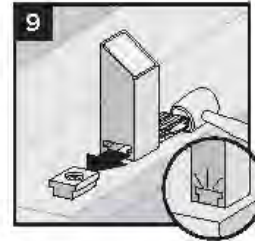


7. Temporarily set bottom stair rail into brackets. To ensure proper location place Foot Block towards the nose of the stair tread along the side of the bottom rail. Mark location of angle on Foot Block and cut on mark. Then place Foot Block under the center of the bottom rail. Mark placement location of the base.

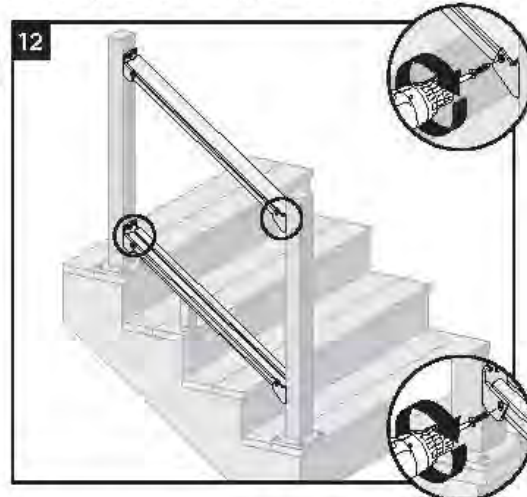


8. Place base (smaller side facing down) on decking surface. Pre-drill using a 3/16" bit. Attach base of Foot Block using one screw at an angle through base and into decking.

9. After attached, use a **rubber mallet along with scrap piece of wood** to tap Foot Block until it locks into place.

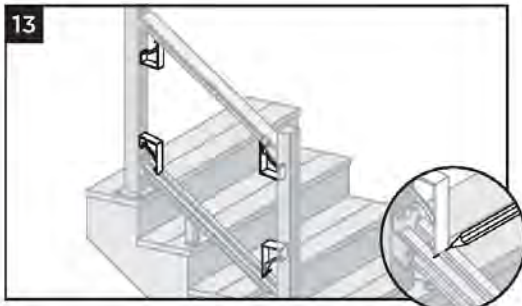


10. Set bottom stair rail into bottom stair rail brackets.
11. Set top stair rail into top stair rail brackets.



12. **TEMPORARILY ATTACH BOTH BOTTOM AND TOP RAIL (IN ONE LOCATION ONLY TO ENSURE RAILS DO NOT MOVE) USING ONE #10 X 1" SELF-TAPPING SCREW (PROVIDED) ON SIDE OF BRACKET. YOU MUST PREDRILL THIS LOCATION FIRST USING 9/64" BIT THAT WAS PROVIDED IN HORIZONTAL MOUNTING KITS.**

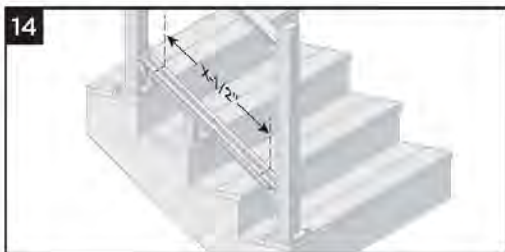
HOW TO INSTALL MESH STAIR RAILING/CONTINUED TREX SIGNATURE[®]



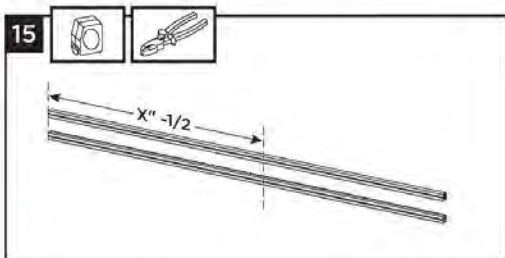
13. Using the long edge of the stair template, mark the location of the end verticals on the upper and lower rails.

NOTE: Mark should only be 1" max length or it will be visible after installation of vertical.

Measuring and Cutting Rail Gaskets

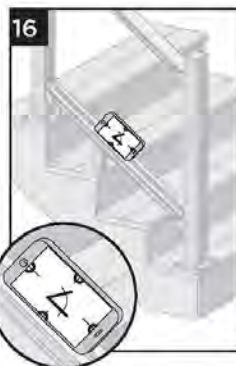


14. Measure distance between marked lines on bottom rail and subtract 1/2" from this measurement.



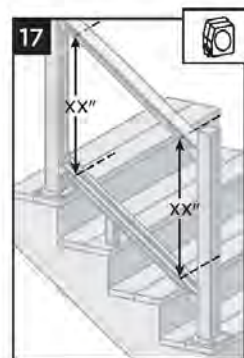
15. Cut both bottom and top rail gaskets to length from previous step.

Measuring Verticals

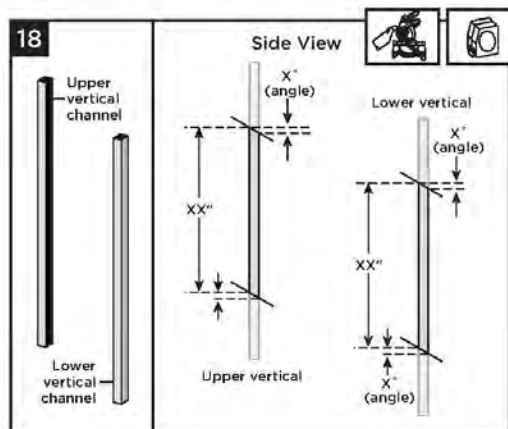


16. Determine the angle of the railing (angle should be between 32-37 degrees).

NOTE: This can easily be done with using an angle measurement app on cellular phone or using a speed square.



17. Measure distance between marks from bottom to top rail

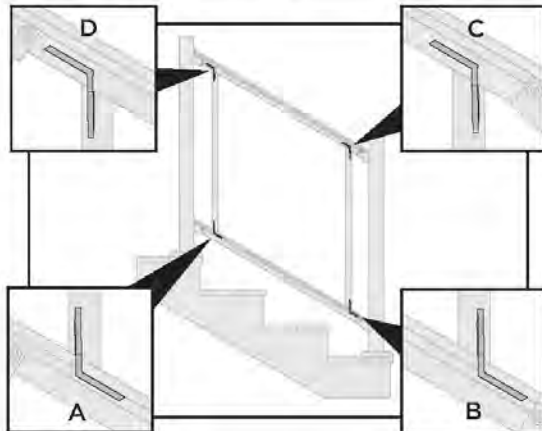


18. Ensure the verticals are oriented in the correct location, with the channels facing toward each other. Cut verticals to the dimension and at the angle provided above.

HOW TO INSTALL MESH STAIR RAILING/CONTINUED

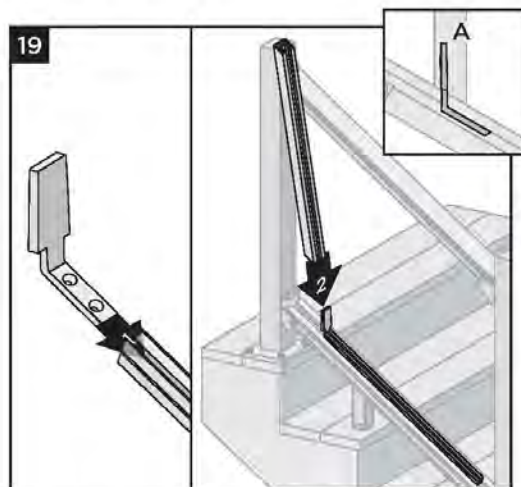
TREX SIGNATURE®

L-BRACKET ORIENTATION



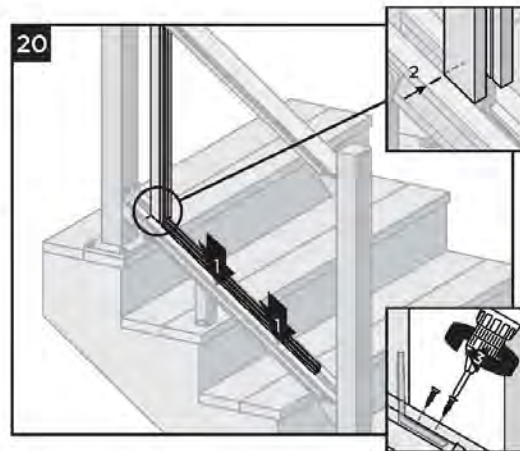
Above is an overall image showing bracket orientation. The next steps will show in detail how to attach them. Refer to corresponding letters in the following steps.

A-Bottom Rail TOP POST LOCATION



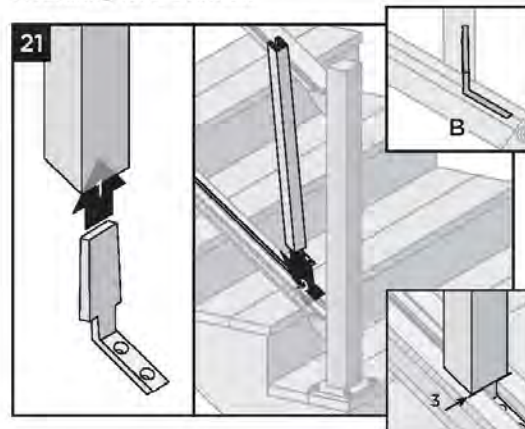
Installing Gaskets and L-Brackets

19. **At TOP POST LOCATION**, slide L-bracket into end of gasket. Place gasket so it's resting on the top of the channel (do not insert gasket fully into channel). Slide vertical onto L-bracket.



20. Gently tap gasket into channel of bottom rail. Make sure that upper vertical is properly aligned with mark on bottom rail to ensure this is seated in correct location **BEFORE** attaching L-bracket. Attach L-bracket to bottom rail with two #8 x 5/8" flat head screws (*provided*).

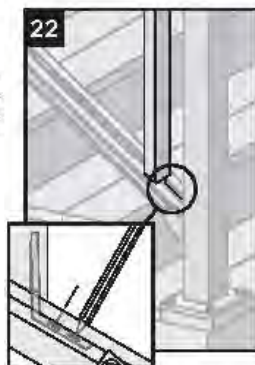
B-Bottom Rail BOTTOM POST LOCATION Measuring for L-Brackets



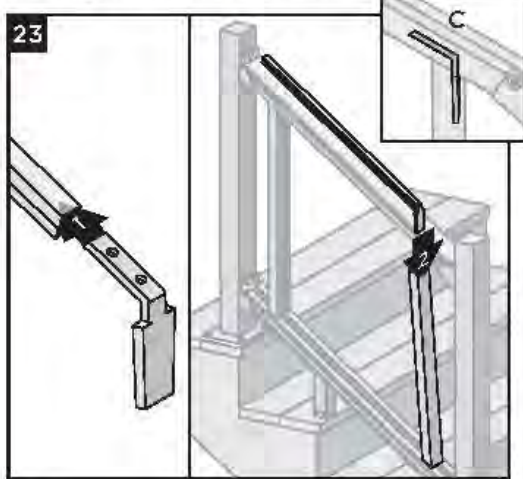
21. **AT BOTTOM POST LOCATION**, place L-bracket into vertical and into channel of bottom rail (L-bracket should be oriented in same direction as previous L-bracket.) Ensure that vertical is seated fully flush with bottom rail, bracket is in the channel, and vertical is aligned with mark on rail.

HOW TO INSTALL MESH STAIR RAILING/CONTINUED TREX SIGNATURE®

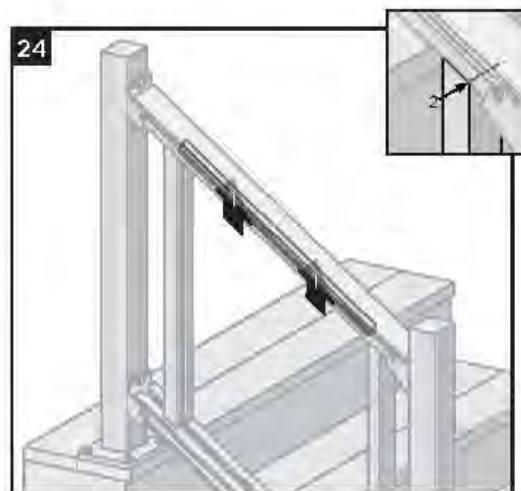
22. Mark location for screw attachments in channel of bottom rail. Make sure to mark the placement of the screw holes. **DO NOT** attach L-bracket at this point.



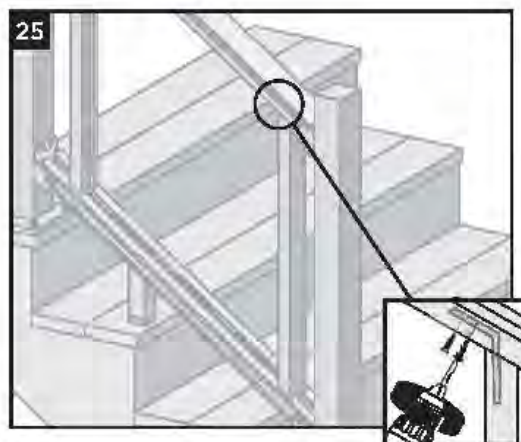
**C-TOP Rail
BOTTOM POST LOCATION**
Installing Gaskets and L-Brackets



23. At **BOTTOM POST LOCATION**, slide L-bracket into end of gasket. Slide L-bracket (with gasket attached) into top of vertical.



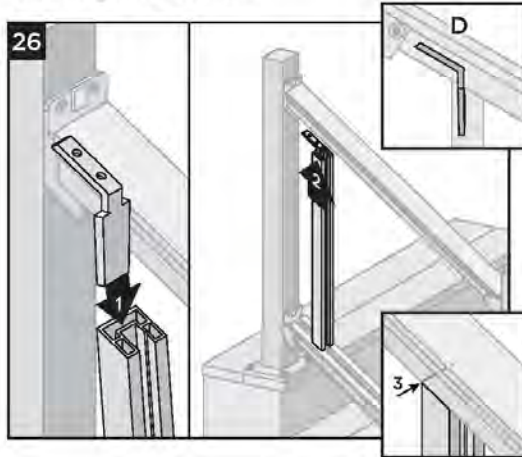
24. Gently tap gasket into channel of top rail. Make sure that vertical is properly aligned with mark on top rail to ensure this is seated in correct location **BEFORE** attaching L-bracket.



25. Attach L-bracket to top rail using two #8 x 5/8" flat head screws (*provided*).

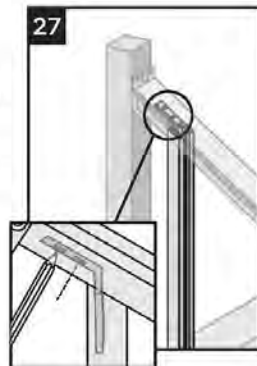
HOW TO INSTALL MESH STAIR RAILING/CONTINUED TREX SIGNATURE®

D - Top Rail TOP POST LOCATION Measuring for L-Brackets

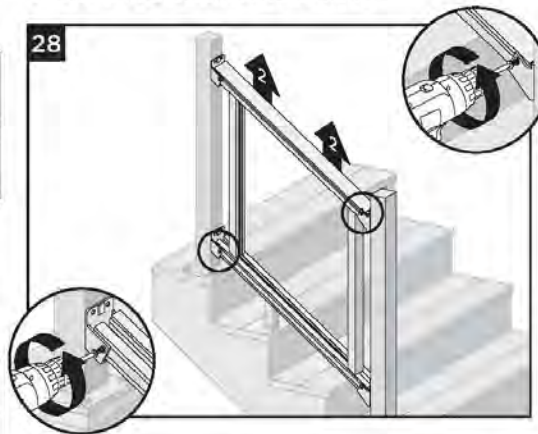


26 Insert L-bracket into vertical and place bracket into channel of top rail. Ensure that vertical is seated fully flush with top rail, bracket is in the channel, and vertical is aligned with mark on rail.

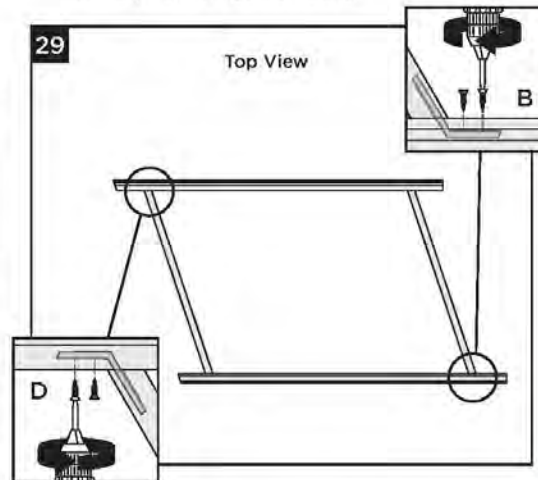
27 Mark location for screw attachments in channel of top rail. Make sure to mark the placement of the screw holes. **DO NOT** attach L-bracket at this point.



Completing L-Bracket Attachments



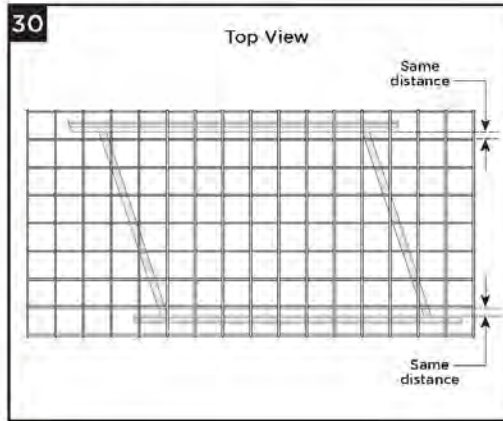
28 Remove the two screws from the brackets that were previously installed in step 9. Remove the railing assembly from the post brackets.



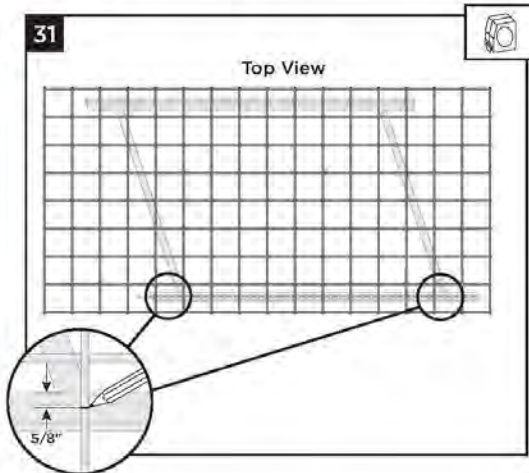
29 Lay railing assembly on large, flat, clean surface. Install remaining L-brackets for section **B** and section **D** into rails where marked using remaining #8 x 5/8" flat head screws (*provided*). Before attachment, verify that verticals align properly with marks.

HOW TO INSTALL MESH STAIR RAILING/CONTINUED TREX SIGNATURE®

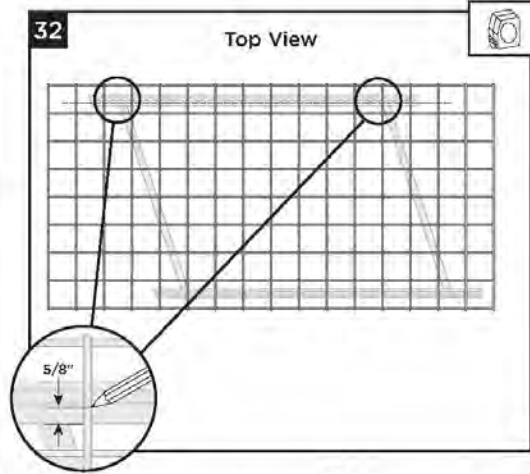
Measuring and Cutting Mesh



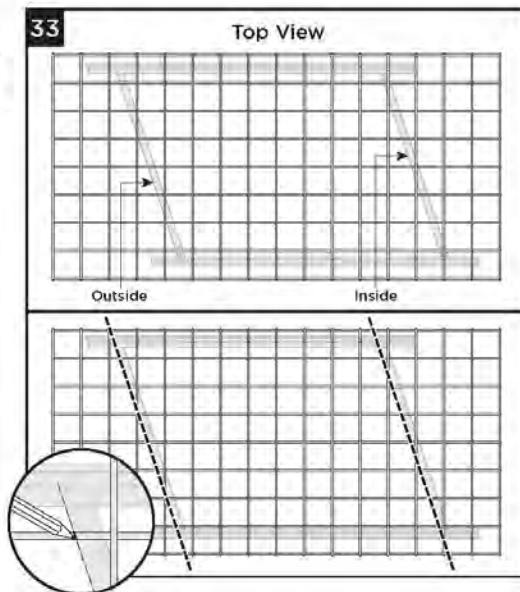
30. Lay mesh panel on top of stair rail assembly and measure so there is equal spacing between mesh panels at both top and bottom rails. Use clamp to hold mesh in place securely once dimensions are set.



31. At inside of bottom rail, measure **DOWN** 5/8" and mark mesh at this location. Do this at opposite end of mesh panel/bottom rail. Using straight edge, mark **MESH ONLY** at all intersection points.

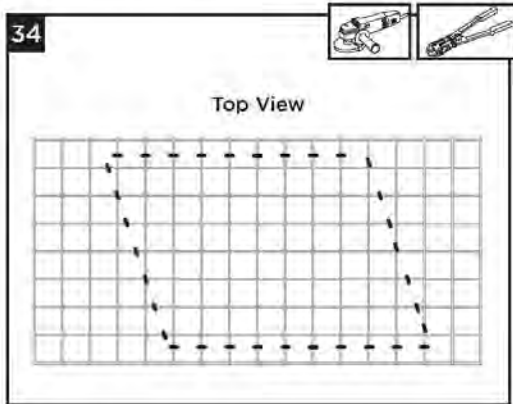


32. At inside of top rail measure **UP** 5/8" and mark mesh at this location. Do this at opposite end of mesh panel/top rail. Using straight edge, mark **MESH ONLY** at all intersection points.



33. For the vertical measurements, align straight edge with **OUTSIDE** of one vertical and mark mesh at all intersection points. Align straight edge with **INSIDE** of opposite vertical and mark mesh at all intersection points.

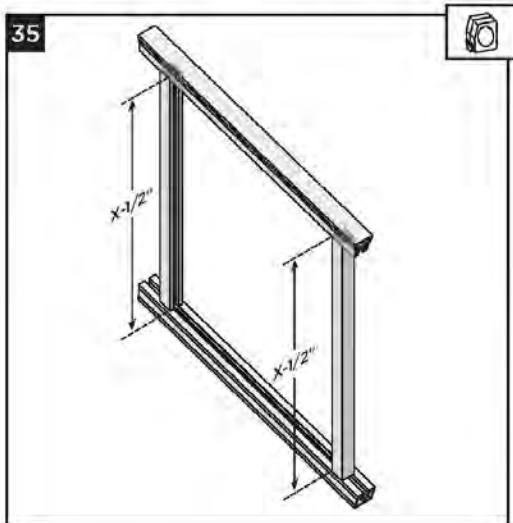
HOW TO INSTALL MESH STAIR RAILING/CONTINUED TREX SIGNATURE®



34. Cut mesh at all marks using heavy-duty bolt cutters or angle grinder.

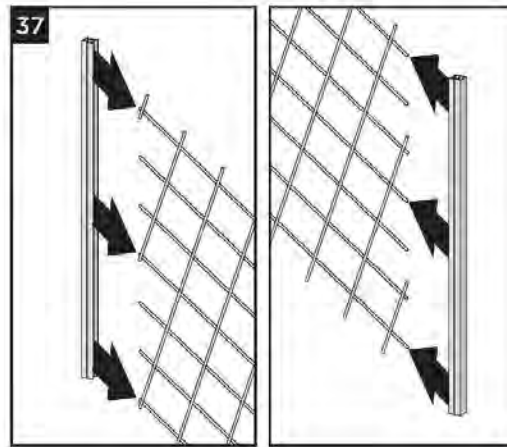
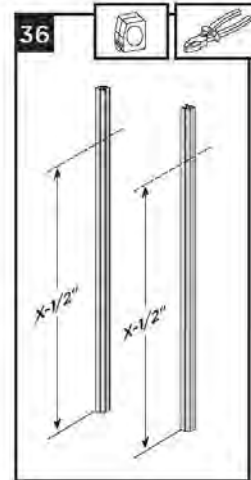
NOTE: USE PROPER SAFETY GEAR IF CUTTING WITH ANGLE GRINDER.

Measuring, Cutting, and Installing Gaskets on Sides of Mesh Panel



35. Measure distance within the channel of vertical and subtract 1/2".

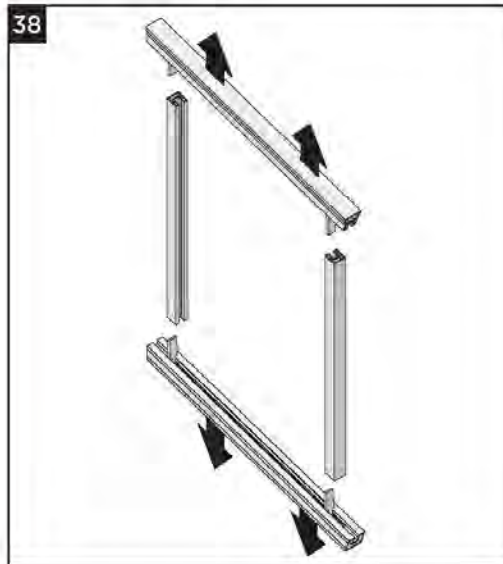
36. Using cutting pliers, cut both vertical gaskets to length determined above.



37. Attach vertical gaskets to each side of mesh panel. Make sure gaskets are fully seated onto mesh.

HOW TO INSTALL MESH STAIR RAILING/CONTINUED

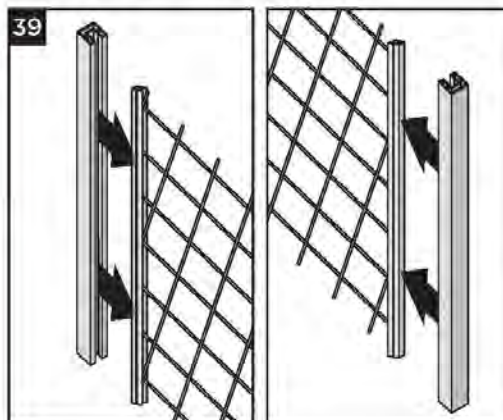
TREX SIGNATURE®



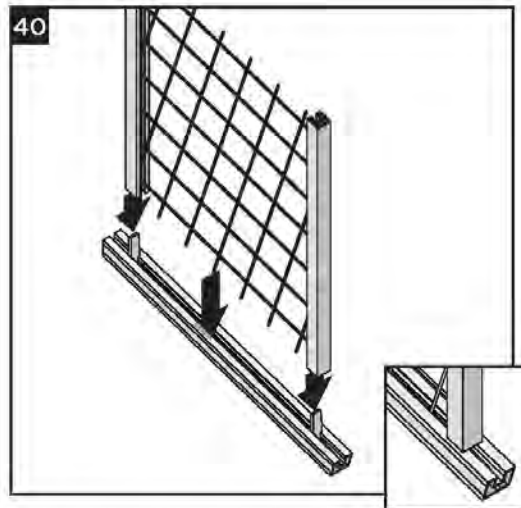
38 Disassemble stair rail panel.

NOTE: No screws have to be removed; verticals will pull off of L-brackets.

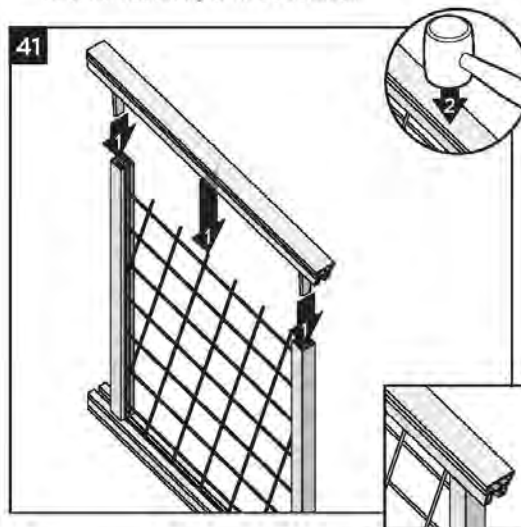
Installing Mesh into Verticals and Rails



39 Snap verticals onto each side of mesh panel (with vertical gaskets installed). Ensure that verticals are still oriented in correct direction and centered appropriately.

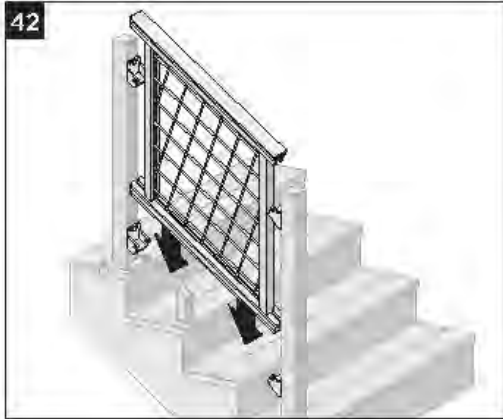


40 Holding verticals, align with L-brackets and press mesh panel into bottom rail gasket in channel. Seat verticals fully onto bottom rail.



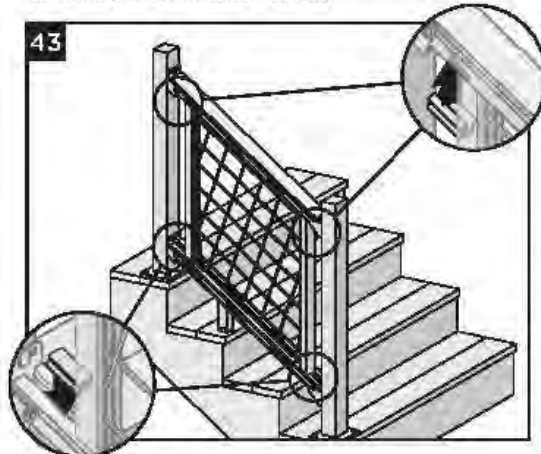
41 Align top rail with L-brackets, and press top rail down so that mesh panel is seated into gasket in channel and top rail is fully seated onto verticals. Use a rubber mallet to gently tap railing into place.

HOW TO INSTALL MESH STAIR RAILING/CONTINUED TREX SIGNATURE®



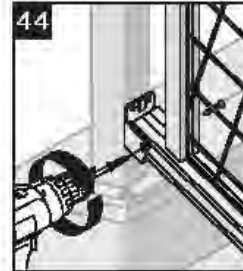
42. Drop assembled stair mesh rail panel into brackets. Ensure that rails are fully seated into brackets and verticals are completely seated on rails.

Installing Snap-In Channel Filler

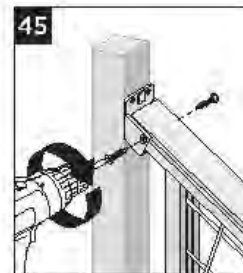


43. Cut snap-in channel filler to correct length and install into channels of bottom and top stair rails. Use of a rubber mallet may assist with this step. **DO NOT** attempt to cut short snap-in pieces with a miter saw. Use an angle grinder or hack saw only.

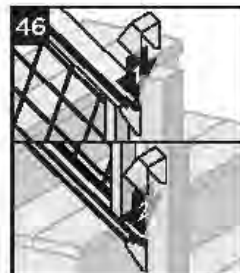
44. Attach bottom stair rail to bottom stair brackets using two #10 x 1" self-tapping screws (provided) on each side of bracket. **YOU MUST PREDRILL ALL EXISTING LOCATIONS FIRST USING 9/64" BIT THAT WAS PROVIDED IN HORIZONTAL MOUNTING KITS.**



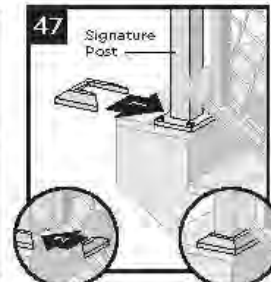
45. Attach top stair rail to top stair brackets using two #10 x 1" self-tapping screws (provided) on each side of bracket. **YOU MUST PREDRILL ALL EXISTING LOCATIONS FIRST USING 9/64" BIT THAT WAS PROVIDED IN HORIZONTAL MOUNTING KITS.**



Attachment of Bracket Covers, Skirts, and Caps



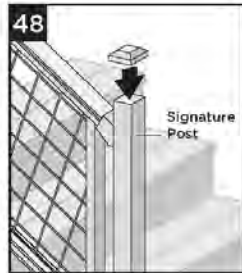
46. Attach corresponding bracket covers over opening in upper and bottom rails.



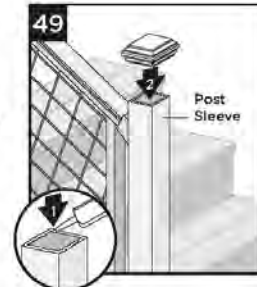
47. Attach provided post skirt to bottom of posts when using Trex Signature posts

HOW TO INSTALL MESH STAIR RAILING/CONTINUED TREX SIGNATURE®

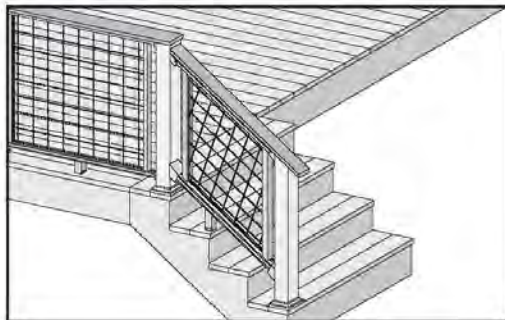
48 Attach post caps to Trex Signature posts. (Use of rubber mallet may be required for secure attachment.)



49 Attach post caps to post sleeves using external-grade PVC construction adhesive (apply adhesive on the inside self-centering/corner tabs).



HOW TO INSTALL COCKTAIL MESH STAIR RAILING TREX SIGNATURE®



IMPORTANT NOTES:

- » Only for use with pressure-treated 4x4 post (3.5" nominal square) and 4x4 (102 mm x 102 mm) post sleeve. Trex Signature posts, Trex post mounts or joist mount posts cannot be used with Trex Signature Cocktail Mesh stair railing. Cutting post and post sleeve only applies to the Cocktail style railing.
- » DO NOT CUT LOWER POST/POST SLEEVES UNTIL MESH RAIL STAIR PANEL IS FULLY INSTALLED.
- » THE DECK BOARD USED IN COCKTAIL MESH STAIR WILL NEED TO TERMINATE AT THE UPPER STAIR POST AS SHOWN ABOVE. THE DECK BOARD WILL HAVE TO BE TOENAILED INTO THE SIDE OF THE POST IN THESE AREAS USING 2 APPROPRIATE COMPOSITE DECKING SCREWS - PRE-DRILLING IS RECOMMENDED.
- » Do Not use Enhance for top board.

1 Installing Pressure-Treated Posts, Post Sleeves, and Skirts

See instructions on page 183.

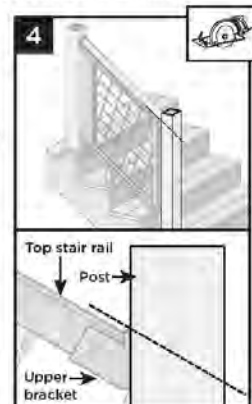
2 Installing Brackets

Follow previous stair instructions for the installation of desired brackets, making sure that all dimensions are calculated before installation, and ensuring deck board is placed in correct location.

3 Follow all Stair Mesh instructions for the assembly of the stair mesh panel

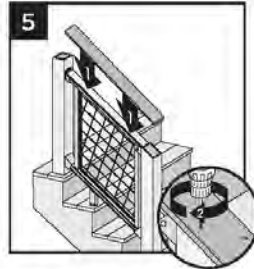
Cutting Post and Post Sleeve and Attaching Deck Board to Top Rail

4. Cut post and post sleeves at proper angle so these are flush with the top of the top brackets and/or top rail. **BE CAREFUL NOT to CUT brackets.**

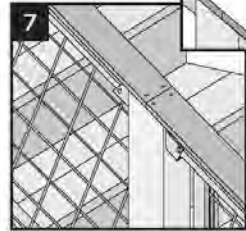
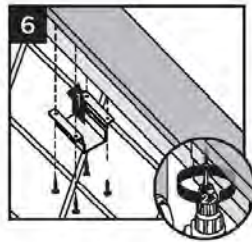


HOW TO INSTALL COCKTAIL MESH STAIR RAILING/CONTINUED TREX SIGNATURE

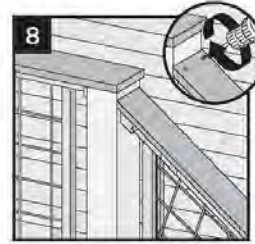
- 5 Place deck boards over top rails. **DO NOT** use Enhance deck boards for top rail. PLACE DECK BOARD ON TOP RAIL TO CHECK FOR PROPER FIT AND RAIL CLEARANCE AT BRACKET LOCATIONS. DECK BOARD MAY REQUIRE EITHER A NOTCH CUT ON THE UNDERSIDE OR SLIGHT PLANING ON THE UNDERSIDE TO ALLOW DECK BOARD TO CLEAR TOPS OF BRACKETS AND SIT FLUSH ON TOP OF POSTS AND RAILS. Attach boards on each post with Trex-recommended composite screws (quantity of 2 per each post/board end).



- 6 Secure boards to top rail using Trex Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the stair railing section, then space brackets approximately every 24" and attach with 4 screws provided.



- 7 Use scarf cut for posts where two deck boards meet.



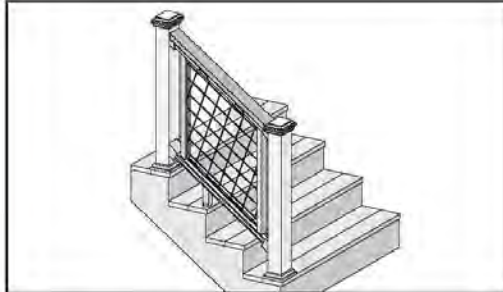
NOTES:

- » Leave 1/8" (3 mm) gap between deck boards.
 - » Deck boards can overhang end of last post maximum 1/2" (13 mm).
- 8 Where deck board terminates at upper post, PREDRILL and toenail two approved composite deck screws as shown into post, being careful to avoid hitting stair bracket.

NOTE: Top Bracket Covers are not attached in this configuration.

NOTE: Pre-drilling before attachment is recommended.

HOW TO INSTALL TRADITIONAL MESH STAIR RAILING TREX SIGNATURE



IMPORTANT NOTES:

» *Only for use with pressure-treated 4x4 post (3.5" nominal square) and 4x4 (102 mm x 102 mm) or 6x6 post sleeves, Trex Post Mounts or Trex Joist Mount Post WITH Trex post sleeves. Signature Joist Mount Posts cannot be used with Trex Signature Traditional railing.*

1. Installing Pressure-Treated Posts, Post Sleeves, and Skirts

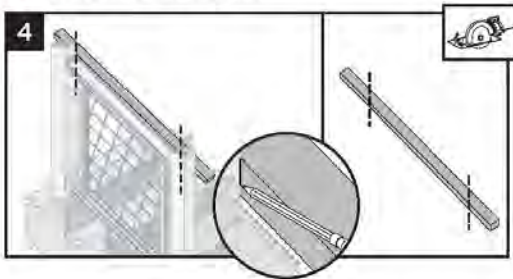
See instructions on page 183.

2. Installing Brackets

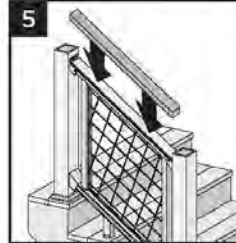
Follow previous stair instructions for the installation of desired brackets, making sure that all dimensions are calculated before installation, and ensuring deck board is placed in correct location.

3. Follow all Stair Mesh instructions for the assembly of the stair mesh panel.

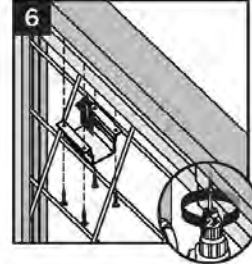
Attaching 2 x 4 to Top Rail



4. Place 2 x 4 beside top rail. Mark and cut (both ends need to be cut on an angle for proper fit).



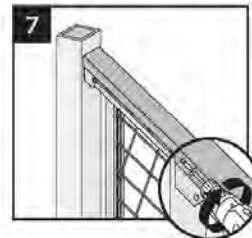
5. Place 2 x 4 on top stair rail.



6. Secure 2 x 4 to top rail using Trex Signature Cocktail Bracket (sold separately). Ensure that there is a bracket at each end of the railing section, then space brackets approximately every 24" and attach with 4 screws provided.

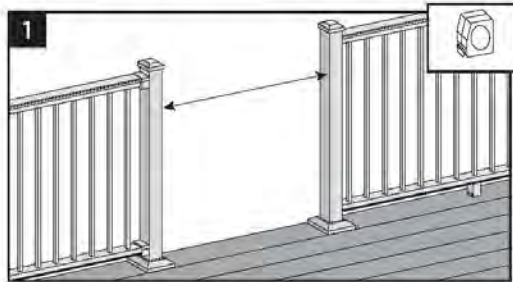
NOTE: Pre-drilling before attachment is recommended.

7. Pre-drill a pilot hole and toenail 2-1/2" (6.4 cm) screw at each end of 2 x 4 into post on back side of rail (side not facing decking).

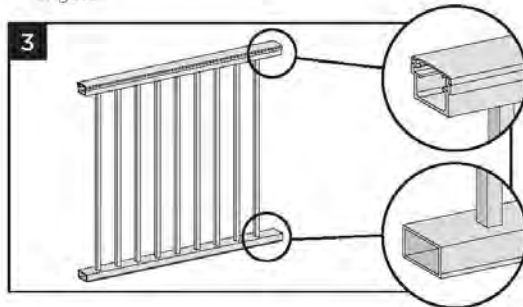


NOTE: Top Bracket Covers are not attached in this configuration.

HOW TO INSTALL ALUMINUM GATE

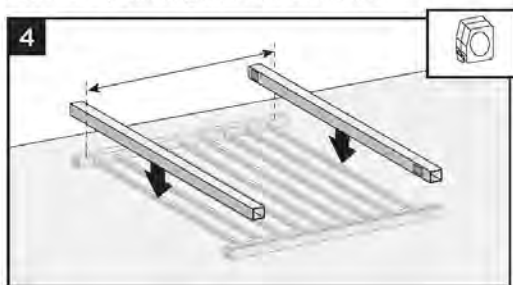


1. Measure opening between posts (gates can be customized to fit nearly any opening up to 48" [1219 mm] wide).
2. Subtract 1-7/8" (48 mm) from above measurement. This will allow for proper gapping and location of gate.

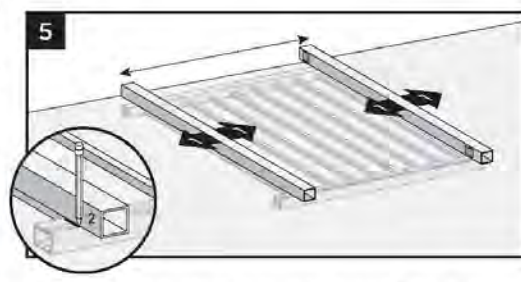


3. Identify top and bottom of panel.

NOTE: The posts only fit in one direction.

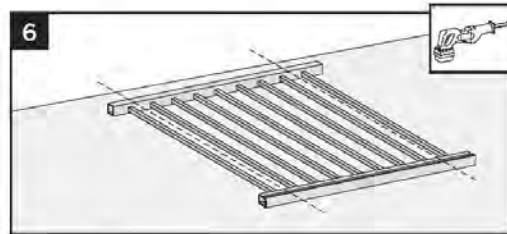


4. Lay panel on a flat non-marring surface. Place posts on top of panel. Place posts so that width measurement from Step 2 is to the outside of each post.

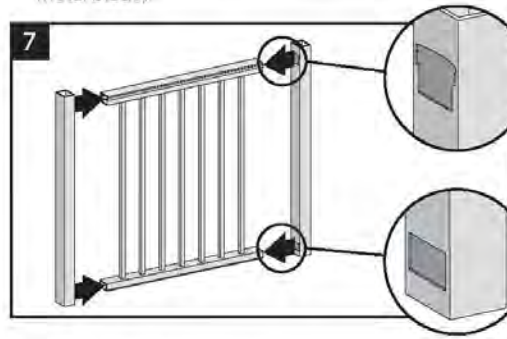


5. Adjust posts so that cut marks do not fall on a baluster. Make sure distance from first baluster to post is the same on both sides. Mark cut locations on panel.

NOTE: If widths do fall on a baluster, cut baluster flush at top and bottom prior to cutting panel.



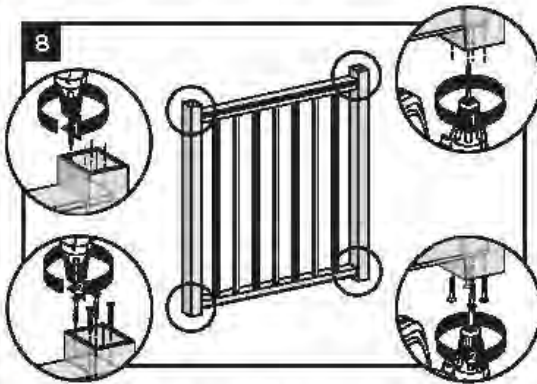
6. Cut panel using a reciprocating saw (equipped with a metal blade).



7. Insert posts into panel.

NOTE: Make sure top and bottom of panel orientation is correct.

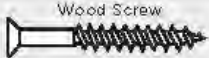

HOW TO INSTALL ALUMINUM GATE/CONTINUED



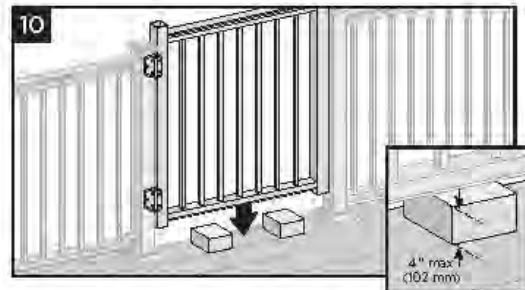
8. Using a 9/64" drill bit, pre-drill at location for attachment of railing to bracket. Secure posts to panel with four #8-18 short self-tapping screws (provided) in each location.
9. Attach shorter side of hinge to the gate.

NOTE: Refer to instructions included in hardware package. Be sure to use correct fasteners for aluminum. See chart below.



| MINIMUM FASTENER SIZE | | |
|--|----------------|-------|
| SCREWS | | |
| Type | Length | No. |
|  Wood Screw | 2-1/2" (64 mm) | #9 |
|  Metal Screw | 2" (51 mm) | #8-18 |

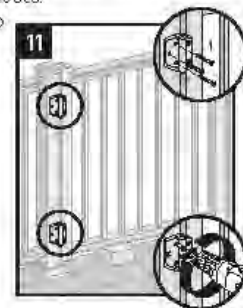
NOTE: Use of non-Trex hardware is not recommended and could result in serious injury or death.



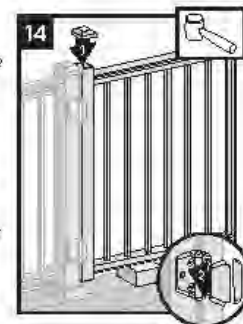
10. Place gate in opening on blocks. Sweep between bottom of gate and top of deck cannot exceed 4" (102 mm) per IRC/IBC code regulations. Ensure bottom gate posts will be high enough to clear skirts on bottom of deck posts.
11. Make sure posts are plumb and gate is level. Attach longer side of hinges to post using appropriate hardware for type of post installed. Install hinge cover.

NOTES:

- » Both wood and aluminum screws are included in hardware kit. (Refer to chart under Step 9.)
- » If using Trex Post Mounts with Post Sleeves, pre-drilling is required using 1/8" (3 mm) drill bit, as you must go through both aluminum sleeve and internal post.



12. After determining location and height of hinge and hasp, install per instructions included with hardware kit.
13. Ensure proper operation of gate. Hinge tension is adjustable (check hardware kit instructions for more detail).
14. After gate installation, place blocks under gate for support. Use a rubber mallet to install cap onto gate post. Repeat for other gate post cap. Snap all hinge covers into place.



TREX SELECT® HORIZONTAL RAILING

NOTES:

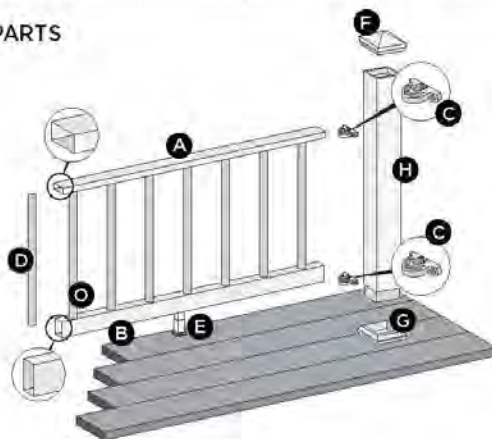
- » TREX SELECT RAILINGS ARE DESIGNED TO BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST. NOTCHING OF PRESSURE-TREATED POSTS OR POSTS INSTALLED ON OUTSIDE OF RIM JOIST IS NOT ALLOWED.
- » All Trex Select Railing lengths are manufactured at ON CENTER dimensions (spanning from center of each post): 67-5/8" (176.8 cm) for 6' (1.83 m) on center, and 91-5/8" (235.3 cm) for 8' (2.44 m) on center. Note that railings are designed to be slightly longer than required to allow for very slight play in post placement – trimming may be required. IT IS VERY IMPORTANT TO MEASURE FIRST.

Care and Cleaning

Maintaining the appearance of your Trex Select railing is important. Occasional washing is recommended. Over time your railing may show signs of weathering as a result of exposure to the elements. The frequency of cleaning will depend on the environment and exposure to various types of elements.

- » Clean railing with standard cleaning vinegar or mild soap and water.
- » For more detailed cleaning recommendations, please refer to the Trex Railing Care and Cleaning guide found on www.trex.com.

PARTS



- A. Select top rail
- B. Select bottom rail
- C. Brackets
- D. Balusters
- E. Adjustable Foot Block
- F. Post sleeve cap*
- G. Post sleeve skirt*
- H. Post sleeve – 4x4 (102 mm x 102 mm) or 6x6 (152 mm x 152 mm) post sleeve**

* Item not included in the Select railing kits.

** Both 4x4 (102 mm x 102 mm) and 6x6 (152 mm x 152 mm) post sleeves are designed to fit over 4x4 pressure-treated post.

DETERMINING BALUSTERS NEEDED

| Baluster Type | Per 6' OC Section | Per 8' OC Section |
|--|-------------------|-------------------|
| Round Aluminum Baluster (Horizontal Application) | 14 | 20 |

CODE APPROVED APPLICATIONS

| | 6' Railing | 8' Railing |
|----------------------|---|---|
| < 30" height decking | Acceptable (Code approval not applicable) | Acceptable (Code approval not applicable) |
| IRC Compliant | Yes | Yes* |
| IBC Compliant | No | No |

*TREX SELECT 8' ALUMINUM RAIL STIFFENER (sku SELALRAILSTIFFENER) MUST ALSO BE USED. Sold separately.

NOTES:

- » If installing 42" (1067 mm) railing, use longer post sleeves and measure accordingly to ensure a proper cut. DO NOT CUT TO ACTUAL 42" LENGTH WITHOUT CONFIRMING WHAT STYLE OF RAILING YOU ARE INSTALLING.
- » If using 8' railings, the Trex Select 8' Aluminum Rail Stiffener (sku SELALRAILSTIFFENER) can also be used to allow for the rail to be stronger if required.
- » Ensure pressure-treated posts are installed at proper heights so when post sleeves are installed, both the PT post and post sleeve are flush at top.
- » See specific installation instructions for attachment of Trex post mounts or Trex Joist Mount Posts prior to installing any railing.

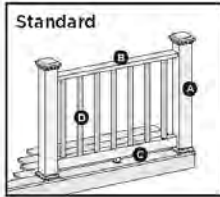
Screws Supplied with RSB

C1 Wood screw for attachment of RSB to wood post/composite sleeve

C2 Self-drilling screw for attachment of RSB to rail



TREX SELECT® HORIZONTAL RAILING RAILING CONFIGURATIONS

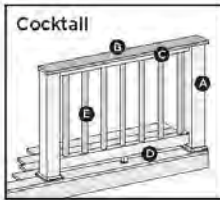


Standard

Cutting post sleeves is **NOT** required.

- A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 or 6x6 post sleeve, or joist mount post/Trex 4x4 or 6x6 post sleeve (INSIDE MOUNT ONLY).
- B. Select top rail
- C. Select bottom rail
- D. Select balusters

See page 205 for "How to Install Standard Railing".



Cocktail

Post sleeves **WILL NEED TO BE CUT**.

- A. Pressure-Treated post with Trex Transcend post-sleeve

NOTE: » Only for use with 4x4 (102 mm x 102 mm) post sleeve.
» Trex post mounts or joist mount posts cannot be Select cocktail design.

- B. Deck board top rail.

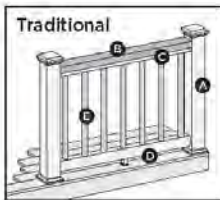
NOTES: » Enhance cannot be used

» Deck boards will need to be cut to fit each rail span.

- C. Select top rail
- D. Select bottom rail
- E. Select balusters

See page 207 for "How to Install Select Cocktail Railing".

**POST
SLEEVES
WILL
NEED TO
BE CUT**



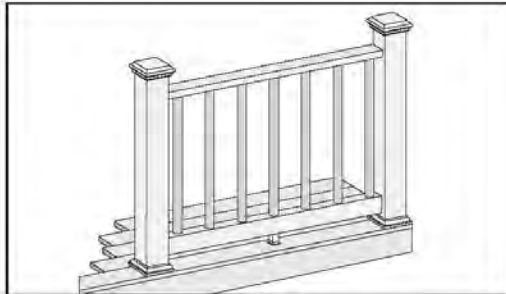
Traditional

Cutting post sleeves is **NOT** required.

- A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 or 6x6 post sleeve, or joist mount post/Trex 4x4 or 6x6 post sleeve (INSIDE MOUNT ONLY).
- B. 2 x 4 lateral top rail
- C. Select top rail
- D. Select bottom rail
- E. Select balusters

See page 209 for "How to Install Traditional Railing".

HOW TO INSTALL HORIZONTAL STANDARD RAILING TREX SELECT™



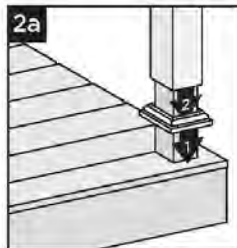
Read all instructions BEFORE installation.

Important: Post sleeves are **NOT** to be cut for this design style.

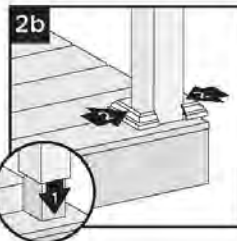
1. **Installing Pressure-Treated Posts**
 - » **PLEASE REFER TO LOCAL BUILDING CODE REQUIREMENTS PRIOR TO ATTACHING PRESSURE TREATED POSTS.**
 - » Select Railing Kits are designed for posts to be installed at maximum of 6' or 8' (1.83 m or 2.44 m) ON CENTER depending on the length being used.
 - NOTE:** Smaller spans are allowed.

Installing Post Sleeve Skirts and Post Sleeves

2a. If using a 1-piece skirt, slide post sleeve skirt over post and down to rest on decking surface. Slide post sleeve over post and position inside post sleeve skirt.

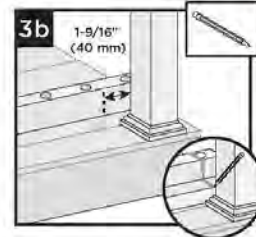
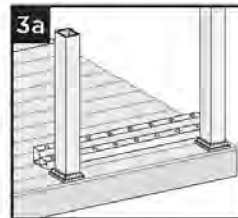


2b. If using a two-piece skirt. Slide post sleeve over post and down to rest on decking surface. Snap two piece skirt over post sleeve.



NOTE: Shims can be used to plumb post sleeves.

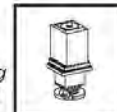
Cutting Railings



- 3a. Position bottom and top rails between posts, ensuring baluster holes are lined up and spaced evenly.
- 3b. Also allow for a minimum of 1-9/16" (40 mm) on each end of rail for bracket placement AND baluster clearance. Mark rails at intersection of rail and post and cut at this location.

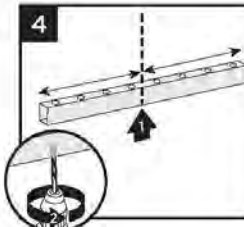
IMPORTANT NOTE REGARDING FOOT BLOCK INSTALLATION:

- » Refer to detailed instructions (Trex Select rail instructions) included with Foot Block prior to installation of railing section as these include other required steps for proper installation.



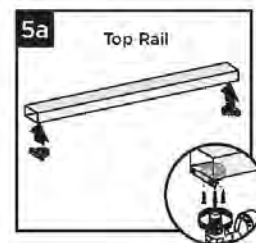
Attaching Foot Block to Bottom Rail

- 4a. Invert the bottom rail. Center and drill a hole using a 3/16" (5 mm) drill bit. This will be location for Foot Block attachment (to be installed last).
- 4b. Keeping bottom rail inverted, Use same drill bit, center and drill weep holes through bottom rail at 4 evenly spaced locations to allow for water drainage.



Attaching Brackets to Rails

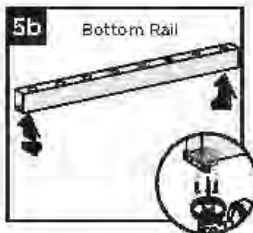
- 5a. Position brackets on each end of TOP RAIL on the same side as baluster holes. Attach brackets using three #8-18 x 1" self-drilling screws (provided).



Tip: Place rail up against a vertical flat surface and align bracket to end of rail to ensure bracket is attached even with rail end

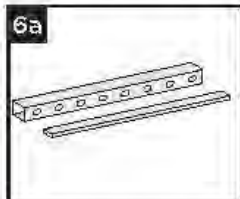
HOW TO INSTALL HORIZONTAL STANDARD RAILING TREX SELECT®

5b. Position brackets on each end of BOTTOM RAIL on the **OPPOSITE SIDE** of the baluster holes. Attach brackets using three #8-18 x 1" self-drilling screws (provided).

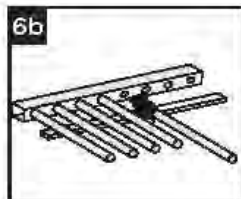


NOTE: For ease of bracket attachment place rail against stationary flat vertical surface along with bracket.

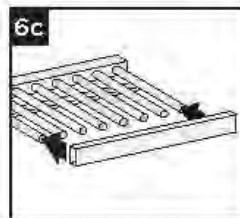
Assembling Railing Section



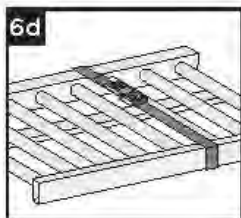
6a. On a clean flat surface, lay bottom railing on its side. Make sure to allow enough room for installation of balusters and top rail. Place a scrap piece of 1" (25 mm) decking board running parallel to bottom rail for support when installing balusters.



6b. Insert balusters into bottom rail slots until balusters are fully seated.

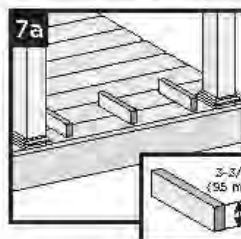


6c. Attach top rail to balusters, feeding each baluster into required slots. Start on one end and work towards the other.

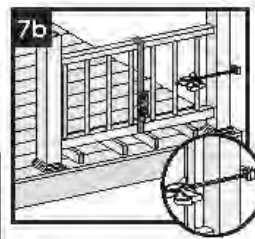


6d. To help temporarily secure the railing section together, place a ratchet strap around the top and bottom rail and tighten until snug.
DO NOT OVERTIGHTEN AS YOU CAN BEND THE RAILING.

Installing Railing Section to Posts

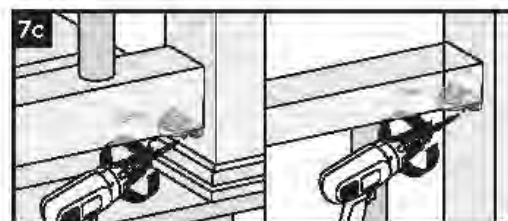


7a. Using scrap material (i.e. 2 x 4s, decking boards, etc.) cut at least three support blocks at 3-3/4" (95 mm) in height. Place one each on decking surface beside each post and one near center of span.



7b. Lift secured railing section up, and **CENTER** this section in between the spanned posts on pre-positioned support blocks.

NOTE: To help stabilize railing section use a quick-grip clamp (or other type of clamp) and clamp the first baluster to post sleeve. **DO NOT OVERTIGHTEN CLAMP.**



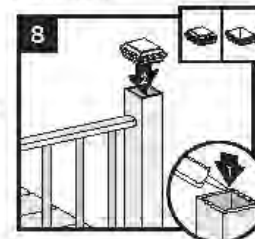
7c. Install both bottom and top brackets on each side to post using two #8-10 x 2" wood screws (provided).

NOTE: screws go in at slight angle.

IMPORTANT NOTE: SET DRILL TO LOW SPEED AND LOW CLUTCH SETTING WHEN INSTALLING THESE SCREWS. DO NOT USE IMPACT DRIVER.

Attaching Post Caps and Installing Foot Block

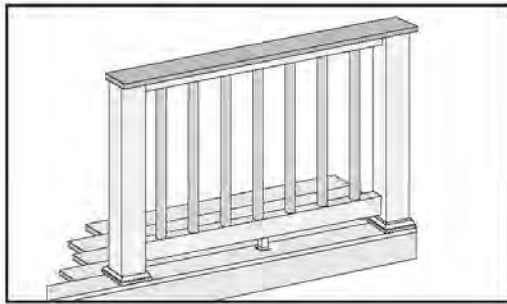
8. Secure post caps with silicone or PVC adhesive (apply adhesive on the inside self-centering/corner tabs). Attach Foot Block per Foot Block instructions.



NOTE: Clean up any excess adhesive before it dries.

HOW TO INSTALL HORIZONTAL COCKTAIL RAILING TREX SELECT®

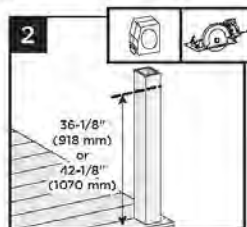
Important: ONLY use for use with pressure-treated 4x4 post (3.5" nominal square) and 4" x 4" (102 mm x 102 mm) post sleeve. Trex Post Mounts or Joist Mount Posts cannot be used with Select Cocktail railing.



1. **Installing Pressure-Treated Posts, Post Sleeve Skirts and Post Sleeves**
See instructions on page 205.

Cutting Post and Post Sleeve

2. Mark and cut post and post sleeve measuring from deck surface
 - » 36-1/8" (918 mm) for 36" (914 mm) height.
 - » 42-1/8" (1070 mm) for 42" (1067 mm) height.



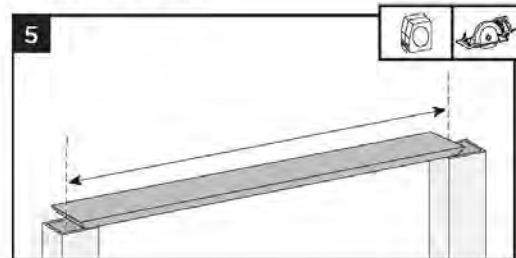
3. **Cutting Railings**
See instructions on page 205.

4. **Attaching Foot Block to Bottom Railing**
See instructions on page 205.

NOTES:

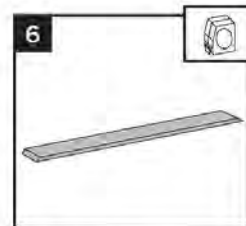
- » Leave 1/8" (3 mm) gap between deck boards.
- » Deck boards can overhang end of last post maximum 1/2" (13 mm).

Cutting Deck Board



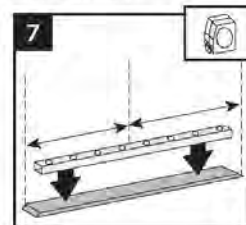
5. Cut deck boards to appropriate length of railing span, remembering to include extra space on each side of the deck board to allow for attachment to the post. Decking boards must cover 1/2 of the pressure-treated post to allow this to be fastened later.

6. Place inverted deck board (top side of deck board face down) on clean, flat surface. (**DO NOT** use Enhance deck boards for top rail).



Attaching Deck Board to Select Top Rail

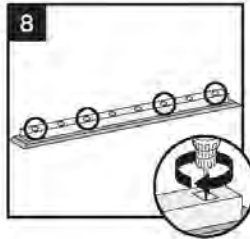
7. Place inverted Select top rail (orient properly so baluster holes are shown top side up), on the deck board, centered in both directions to allow final attachment to post.



NOTE: Construction methods are always improving. Please refer to www.trex.com for the most up-to-date installation requirements.

HOW TO INSTALL HORIZONTAL COCKTAIL RAILING/CONTINUED TREX SELECT®

8. Secure deck board to Select top rail with 3/4" screws provided approx. every 16" on center. Screws are to be installed inside of the baluster holes into the decking board. **DO NOT** overtighten.



NOTES:

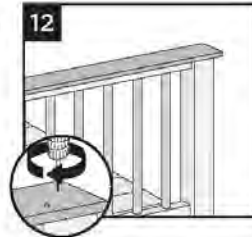
- » A long drill bit will be required to fit inside the baluster holes.
- » If installing 8' rail section and using Aluminum Rail Stiffener, predrilling will be required through the stiffener.

9. **Attaching Brackets to Rails**
See instructions on page 205.

10. **Assembling Railing Sections**
See instructions on page 206.

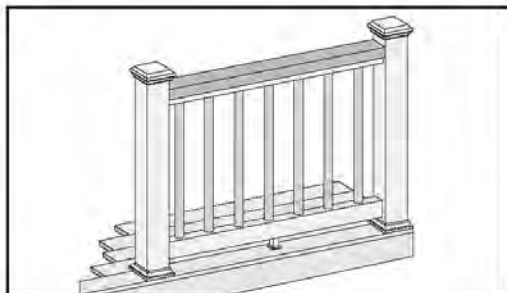
11. **Installing Railing Sections to Posts**
See instructions on page 206.

12. **Attaching Deck Board to Posts**
Attach boards on each post with Trex recommended composite screws (quantity of 2 per each board end).



13. **Installing Foot Block**
Install Foot Block per detailed instructions.

HOW TO INSTALL TRADITIONAL RAILING TREX SELECT™

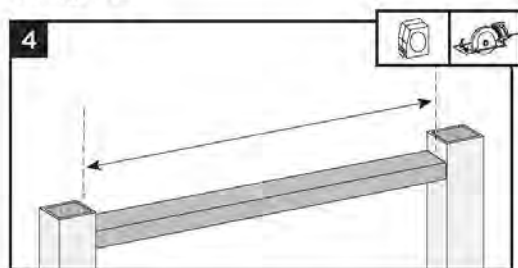


1. **Installing Pressure-Treated Posts, Post Sleeve Skirts and Post Sleeves**
See instructions on page 205.

2. **Attaching Foot Block to Bottom Railing**
See instructions on page 205.

3. **Cutting Railings**
See instructions on page 205.

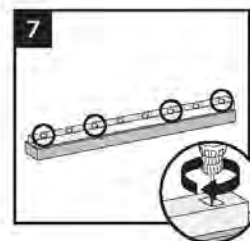
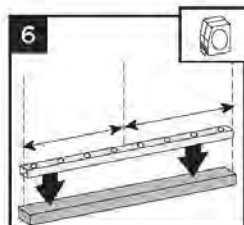
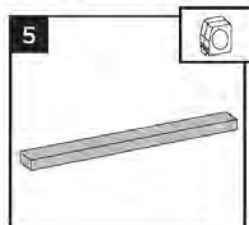
Cutting 2 x 4



4. Cut 2 x 4 to same length of the inverted Select top rail.

Attaching 2 x 4 to Select Top Rail

5. Place inverted 2 x 4 (top side face down) on clean, flat surface.



6. Place inverted Select top (orient properly so baluster holes are shown top side up) on 2 x 4.
7. Secure 2 x 4 to Select top rail with 3/4" screw provided approximately every 16" on center. Screws are to be installed inside of the baluster holes into the decking board.

NOTES:

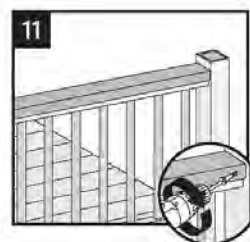
- » **DO NOT** overtighten. Note that a long drill bit will be required to fit inside the baluster holes.
- » If installing 8' rail section and using Aluminum Rail Stiffener, predrilling will be required through the stiffener.

8. **Attaching Brackets to Rails**
See instructions on page 205.

9. **Assembling Railing Sections**
See instructions on page 205.

10. **Installing Railing Sections to Posts**
See instructions on page 206.

11. **Attaching 2x4 to Posts**
Pre-drill a pilot hole and toenail 2-1/2" (64 mm) screw at each end of 2 x 4 into post on back-side of rail (side not facing decking).

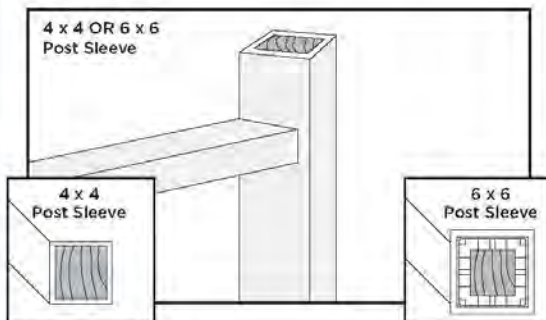


12. **Attaching Post Caps and Installing Foot Block**

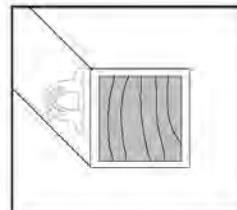
Secure post caps with silicone or PVC adhesive (apply adhesive on the inside self-centering/corner tabs). Attach Foot Block per Foot Block instructions.

HOW TO INSTALL ON-AN-ANGLE RAILING TREX SELECT®

NOTE: Brackets are designed to be installed up to a 45° angle.



Both 4" x 4" (102 mm x 102 mm) or 6" x 6" (152 mm x 152 mm) post sleeves work well for angles up to 45 degrees. Bottom rail brackets may need to be slightly offset to one side in order to fit properly to hold rail in place. Before attaching bracket to rail, measure and mark to ensure bottom rail remains parallel to upper rail.



TREX SELECT® STAIR RAILING

IMPORTANT NOTES:

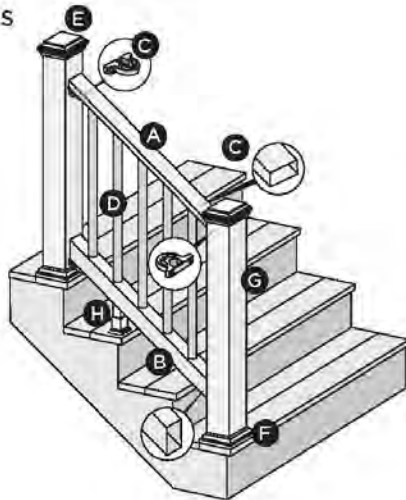
- » TREX SELECT RAILINGS ARE DESIGNED TO BE INSTALLED OVER THE DECKING FRAME OR ON INSIDE OF RIM JOIST. NOTCHING OF PRESSURE-TREATED POSTS OR POSTS INSTALLED ON OUTSIDE OF RIM JOIST IS NOT ALLOWED.
- » POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.

Care and Cleaning

Maintaining the appearance of your Trex Select railing is important. The occasional wash is recommended as over time your railing may show signs of weathering as a result of exposure to the elements. The frequency of cleaning will depend on the environment and exposure to various types of elements.

- » Clean railing using a standard cleaning vinegar or mild soap and water.
- » For more detailed cleaning recommendations please refer to the Trex Railing Care and Cleaning guide found on www.trex.com.

PARTS



- A. Select Stair Top Rail
- B. Select Stair Bottom Rail
- C. Brackets
- D. Round Balusters
- E. Post sleeve cap*
- F. Post sleeve skirt*
- G. Post sleeve - 4x4 (102 mm x 102 mm) or 6x6 (152 mm x 152 mm)**
- H. Adjustable Foot Block (quantity of one is required for all railing span lengths)

* Item not included in the Select railing kits.

** Both 4x4 (102 mm x 102 mm) and 6x6 (152 mm x 152 mm) post sleeves are designed to fit over 4x4 pressure-treated post.

DETERMINING BALUSTERS NEEDED

| Baluster Type | Per 6' OC Section | Per 8' OC Section |
|---|-------------------|-------------------|
| Round Aluminum Baluster (Stair Application) | 12 | 15 |

NOTES:

- » In most cases, a post and post sleeve longer than 39" (991 mm) will be needed on the lower section of stair rail to accommodate stair angle.
- » Make sure top and bottom posts for stairs are installed at nose of each tread.
- » Ensure pressure-treated posts are installed at proper heights so when post sleeves are installed, both the PT post and post sleeve are flush at top.
- » See specific installation instructions for attachment of Trex post mounts or Trex Joist Mount Posts prior to installing any railing.

Screws Supplied with Brackets

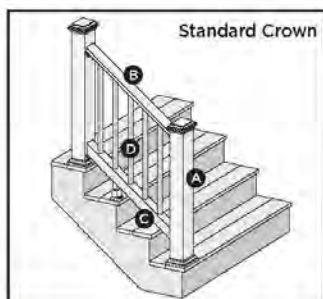
- C1. Wood screw for attachment of bracket to wood post/composite sleeve
- C2. Self-drilling rail-screw for attachment of railing to bracket.



SELECT RAILING

TREX SELECT® STAIR RAILING CONFIGURATIONS

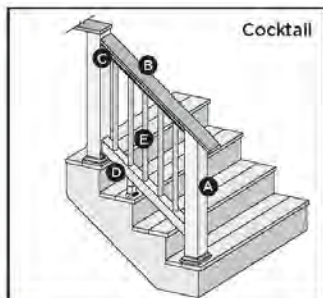
Note: See specific installation instructions for attachment of Trex Post Mounts or Trex Joist Mount Posts prior to installing any railing.



Cutting post sleeves is **NOT** required:

- A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 or 6x6 post sleeve, or joist mount post/Trex 4x4 or 6x6 post sleeve (INSIDE MOUNT ONLY)
- B. Select Stair top rail
- C. Select Stair bottom Rail
- D. Round Aluminum Balusters

See page 213 for "How to Install Standard Stair Railing".



Post sleeves **WILL NEED TO BE CUT.**

- A. Pressure-Treated post with Trex post sleeve

NOTE: » Only for use with 4x4 (102 mm x 102 mm) post sleeve

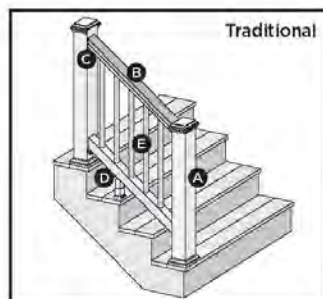
» Trex post mounts or joist mount posts cannot be used with Select Stair cocktail design

- B. Deck board top rail (1 x 6 or 2 x 6). **NOTE: Enhance cannot be used.**
- C. Select Stair top rail
- D. Select Stair bottom rail
- E. Round Aluminum Balusters

See page 216 for "How to Install Cocktail Stair Railing".

**POST
SLEEVES
WILL
NEED TO
BE CUT**

NOTE: Additional pan head screws will need to be purchased-see detailed instructions.



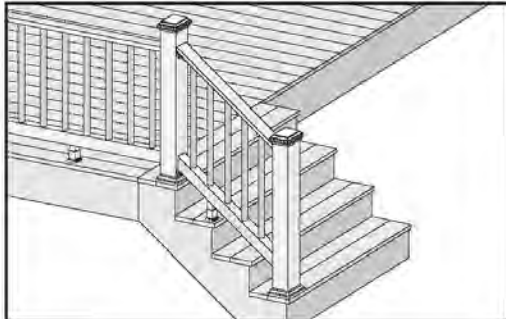
Cutting post sleeves is **NOT** required:

- A. Pressure-Treated post/Trex 4x4 or 6x6 post sleeve, Trex post mount/Trex 4x4 or 6x6 post sleeve, or joist mount post/Trex 4x4 or 6x6 post sleeve (INSIDE MOUNT ONLY)
- B. 2 x 4 lateral top rail
- C. Select Stair top rail
- D. Select Stair bottom rail
- E. Round Aluminum Balusters

See page 218 for "How to Install Traditional Stair Railing".

NOTE: Additional pan head screws will need to be purchased - see detailed instructions.

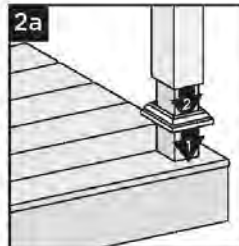
HOW TO INSTALL STANDARD STAIR RAILING TREX SELECT



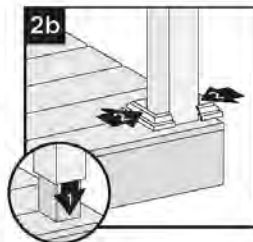
- Installing Pressure-Treated Posts**
- » **PLEASE REFER TO LOCAL BUILDING CODE REQUIREMENTS PRIOR TO ATTACHING PRESSURE TREATED POSTS.**
 - » **PRESSURE TREATED POSTS MUST BE INSTALLED ON INSIDE OF STAIR STRINGER AND AT NOSE OF STAIR TREAD.**
 - » **POST TO POST SPAN WILL BE LESS THAN 6' OR 8'. PRIOR TO INSTALLING POSTS CALCULATE POST TO POST SPAN USING A MAXIMUM RAIL LENGTH REQUIRED AND THE ANGLE (32°-37°) AT WHICH THE RAILS WILL BE INSTALLED. DO NOT INSTALL STAIR POSTS AT 6' OR 8' SPAN, AS STAIR RAILINGS WILL THEN BE TOO SHORT.**
 - » *In most cases, a post and post sleeve longer than 39" (991 mm) will be needed on the lower section of stair rail to accommodate stair angle.*

Installing Post Sleeve Skirts and Post Sleeves

- 2a.** If using a 1-piece skirt, slide post sleeve skirt over post and down to rest on decking surface. Slide post sleeve over post and position inside post sleeve skirt.



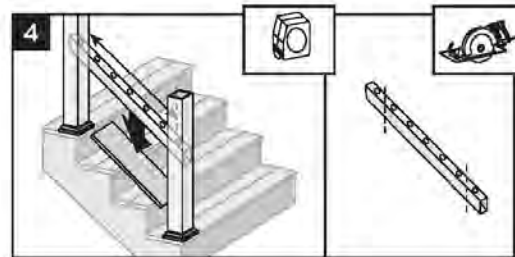
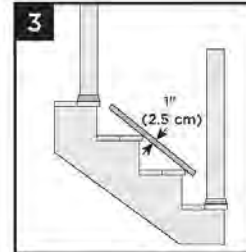
- 2b.** If using a two-piece skirt. Slide post sleeve over post and down to rest on decking surface. Snap two piece skirt over post sleeve.



NOTE: Shims can be used to plumb post sleeves.

Measuring and Cutting Bottom Rail

- 3.** Place a 1" (2.5 cm) deck board on the nose of the stair tread.



- 4.** Set railing on top of deck board, making sure baluster holes are vertically aligned and mark line at each intersection. **When measuring, cut equal lengths from each side of railing allowing a minimum of 2" (51 mm) on each end from the last baluster hole to the end of the rail.** This will ensure proper baluster and bracket placement and equal spacing of balusters per each railing section.

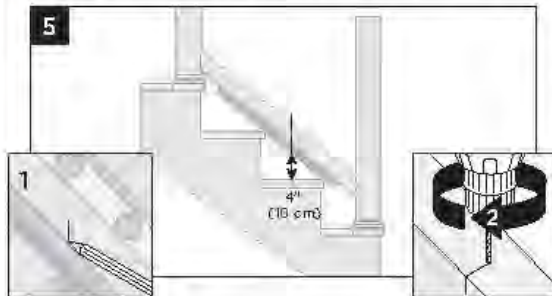
IMPORTANT NOTE REGARDING FOOT BLOCK INSTALLATION:

- » Refer to detailed instructions (Trex Select rail instructions) included with Foot Block prior to installation of railing section as these include other required steps for proper installation.



HOW TO INSTALL STANDARD STAIR RAILING/CONTINUED TREX SELECT®

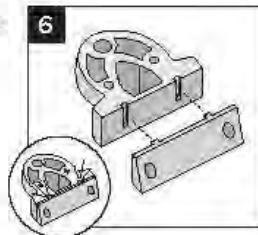
Marking Location for Foot Block to Bottom Rail



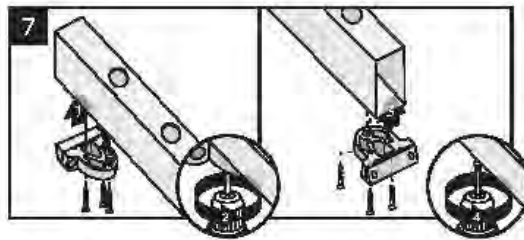
5. Mark approximate location for Foot Block, allowing a measurement of 4" maximum. Invert the bottom rail, and at marked location drill a hole using a 3/16" drill bit in the center of the channel. Foot Block is to be installed at last step.

Attaching Brackets to Bottom Rail

6. Snap the top stair adaptor bracket (labeled TOP) to the standard bracket. Repeat for remaining bottom bracket.



TIP: Use a dab of super glue when snapping bracket together. This will help stabilize bracket when installing.



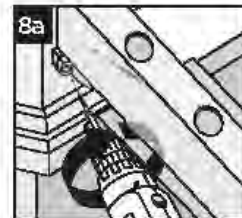
7. On the BOTTOM RAIL, attach the assembled bottom stair brackets to the OPPOSITE SIDE of the baluster holes. Attach both brackets using three #8-18x1" selfdrilling screws (provided).

Attachment of Bottom Rail to Post

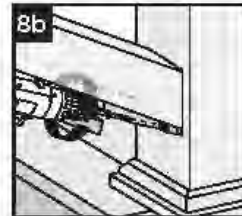
NOTE: For attachment of brackets to posts, use at least a 3" long drill bit or extension so as to not damage sides of rails when installing.

TIP: Pre-drill prior to screw installation using a 7/64" drill bit.

- 8a. Keeping deck board on stair treads, center bottom rail between posts and attach bottom rail stair bracket to upper post using two #8-10 x 3" wood screws (provided).

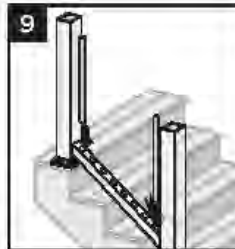


- 8b. Attach bottom stair rail stair bracket to lower post using two #8 10 x 3" wood screws (provided). (deck board can now be removed).



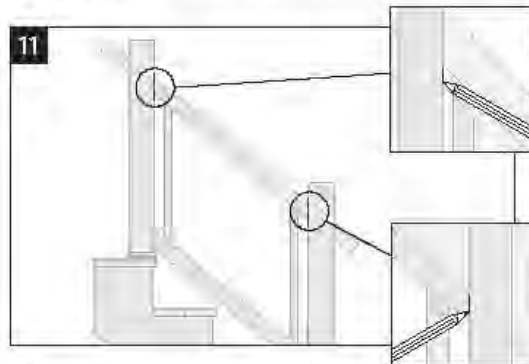
IMPORTANT NOTE:
SET DRILL TO LOW SPEED AND LOW CLUTCH SETTING WHEN INSTALLING THESE SCREWS. DO NOT USE IMPACT DRIVER.

Measuring and Cutting Top Stair Rail



9. Place two balusters into lower stair rail at each end closest to the post.
10. Position top stair rail onto balusters, ensuring balusters are fully seated in rail (position to side of post), and ENSURE balusters are spaced evenly AND parallel with posts.

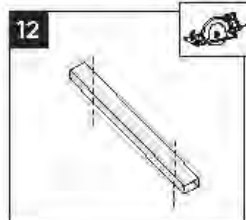
HOW TO INSTALL STANDARD STAIR RAILING/CONTINUED TREX SELECT®



11. Mark top stair rail at post intersections.

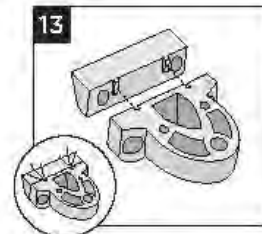
12. Remove rail, and cut along the marks.

NOTE: Verify the height of the railing before installing rail to post to ensure this meets proper height requirements for stairs.

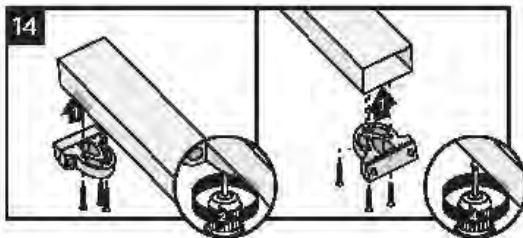


Attaching Brackets on Top Stair Rail

13. Snap the top stair adaptor bracket (labeled TOP) to the standard bracket. Repeat for remaining bracket.



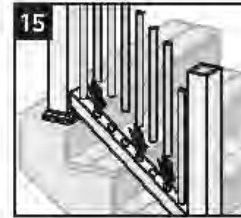
TIP: Use a dab of super glue when snapping bracket together. This will help stabilize bracket when installing.



14. On the TOP RAIL, attach the assembled stair brackets to the side WITH the baluster holes. Attach both brackets using three #8-18x1" self-drilling screws (provided).

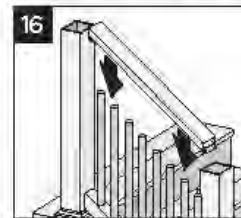
Installing Balusters

15. Slide remaining balusters into bottom rail until balusters are fully seated.



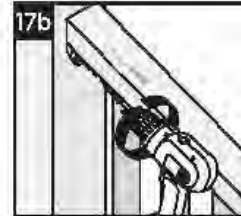
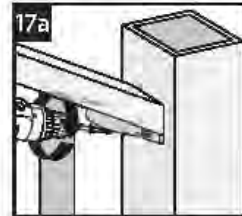
Attachment of Top Rail to Post

16. Place top rail onto balusters, allowing the top rail to rest on the surface of the balusters.



NOTE: For attachment of brackets to posts, use at least a 3" long drill bit or extension so as to not damage sides of rails when installing.

TIP: Pre-drill prior to screw installation using a 7/64" drill bit



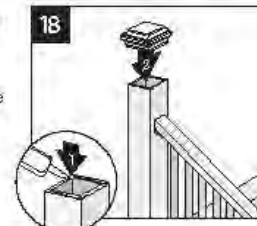
17a. Attach top stair rail bracket to upper post using two #8-10 x 3" screws (provided).

17b. Attach top stair rail bracket to lower post using two #8-10 x 3" screws (provided).

IMPORTANT NOTE:
SET DRILL TO LOW SPEED AND LOW CLUTCH SETTING WHEN INSTALLING THESE SCREWS.
DO NOT USE IMPACT DRIVER.

Attaching Post Caps and Installing Foot Block

18. Secure post caps with silicone or PVC adhesive (apply adhesive on the inside self-centering/corner tabs). Attach Foot Block per Foot Block instructions.

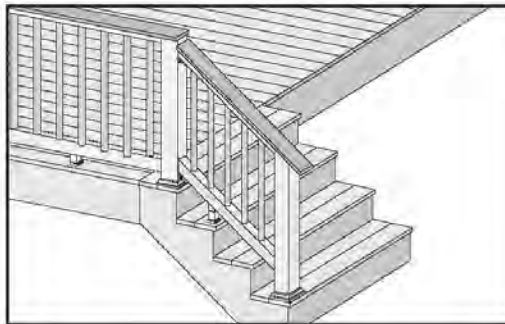


NOTE: Clean up any excess adhesive before it dries.

HOW TO INSTALL COCKTAIL STAIR RAILING TREX SELECT™

IMPORTANT NOTES:

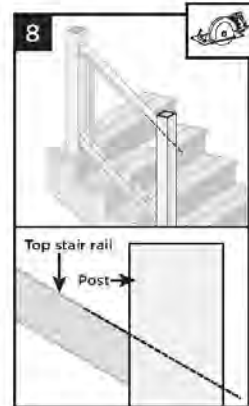
- ❖ Only for use with pressure-treated 4 x 4 post (3.5" nominal square) and 4" x 4" (102 mm x 102 mm) post sleeve. Trex post mounts or joist mount posts cannot be used with Trex Select stair cocktail. Cutting post and post sleeve only apply to the Cocktail style railing.
- ❖ THE DECK BOARD USED IN SELECT STAIR COCKTAIL RAILING WILL NEED TO TERMINATE AT THE UPPER STAIR POST AS SHOWN BELOW. THE DECK BOARD WILL HAVE TO BE TOENAILED INTO THE SIDE OF THE POST IN THESE AREAS USING 2 APPROPRIATE COMPOSITE DECKING SCREWS - PRE-DRILLING IS RECOMMENDED.



1. **Installing Pressure-Treated Posts**
See instructions on page 213.
(See note above in regards to not cutting post/post sleeve).
2. **Installing Post Sleeve Skirts and Post Sleeves**
See instructions on page 213.
3. **Measuring and Cutting Bottom Stair Rail**
See instructions on page 213.
4. **Marking Location for Foot Block to Bottom Rail**
See instructions on page 214.
5. **Attaching Brackets to Bottom Rail**
See instructions on page 214.
6. **Attachment of Bottom Rail to Post**
See instructions on page 214.
7. **Measuring and Cutting Top Stair Rail**
See instructions on page 214.

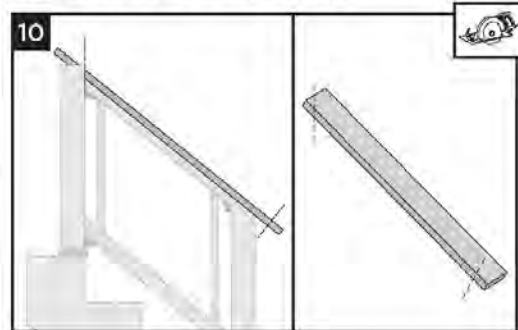
Cutting Post and Post Sleeve

8. Cut lower post/post sleeve at proper angle so this is flush with the top of the top rail.



9. **Attaching Brackets on Top Stair Rail**
See instructions on page 215.

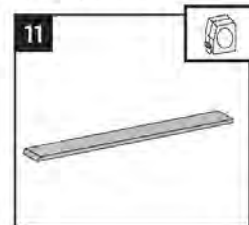
Measuring and Cutting Deck Board



10. Measure accordingly and cut deck boards to appropriate length of railing span also allowing for additional decking material that will be installed over the lower stair rail post.

Attaching Deck Board to Select Top Stair Rail

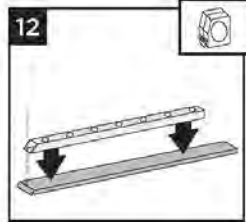
11. Place inverted deck board (place top side of deck board down) on clean, flat surface.



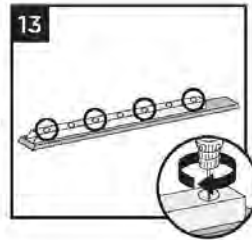
HOW TO INSTALL COCKTAIL STAIR RAILING/CONTINUED TREX SELECT™

Attaching Deck Board to Select Top Rail

12. Place inverted Select top rail (orient properly so baluster holes are shown top side up), on the deck board so the angled cuts will align properly along with centering the top rail on the deck board.



13. Secure deck board to Select top rail with 3/4" screws provided approximately every 16" on center. Screws are to be installed inside of the baluster holes into the decking board.



NOTES:

- * **DO NOT** overtighten.
- * Note that a long drill bit will be required to fit inside the baluster holes.
- * If installing 8' rail section and using the Aluminum Rail Stiffener, predrilling will be required through the stiffener.

14. Installing Balusters

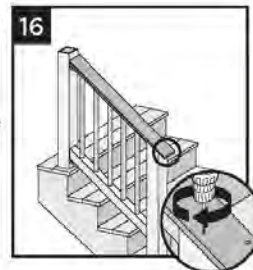
See instructions on page 215.

15. Attachment of Top Rail to Post

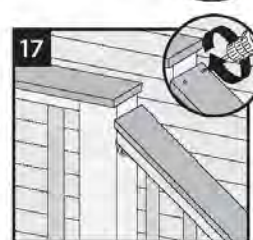
See instructions on page 215.

Attachment of Deck Board to Post

15. Attach deck board to lower post with Trex-recommended composite screws (quantity of 2 per each post/board end).



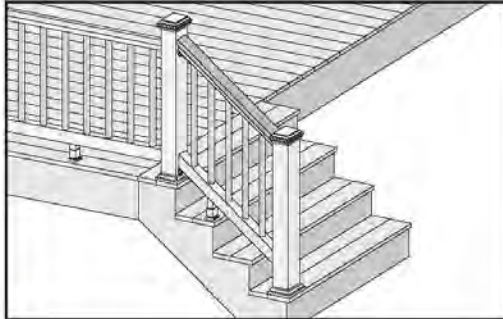
17. Where deck board terminates at upper post, PREDRILL and toenail two approved composite deck screws as shown into post, being careful to avoid hitting stair bracket.



Installation of Foot Block

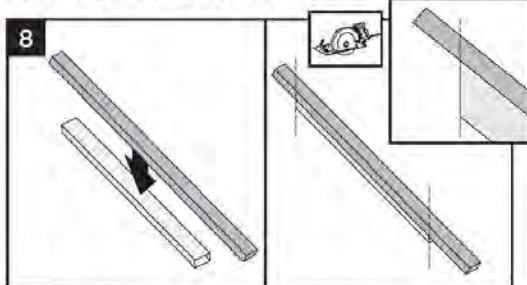
18. Attach Foot Block per Foot Block instructions.

HOW TO INSTALL TRADITIONAL STAIR RAILING TREX SELECT™



1. **Installing Pressure-Treated Posts**
See instructions on page 213.
2. **Installing Post Sleeve Skirts and Post Sleeves**
See instructions on page 213.
3. **Measuring and Cutting Bottom Stair Rail**
See instructions on page 213.
4. **Marking Location for Foot Block to Bottom Rail**
See instructions on page 214.
5. **Attaching Brackets to Bottom Rail**
See instructions on page 214.
6. **Attachment of Bottom Rail to Post**
See instructions on page 214.
7. **Measuring and Cutting Top Stair Rail**
See instructions on page 214.

Measuring and Cutting 2 x 4

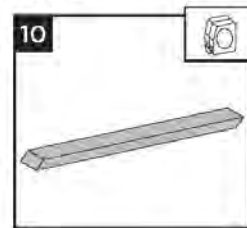


8. Using the cut top rail as template, cut 2 x 4 at same angle and length of the top rail.

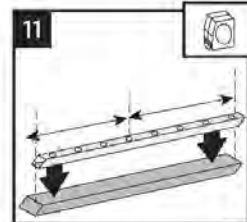
9. **Attaching Brackets on Top Stair Rail**
See instructions on page 215.

Attaching 2 x 4 to Select Top Rail

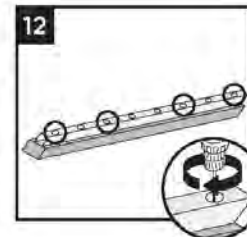
10. Place inverted 2 x 4 (top side face down) on clean, flat surface.



11. Place inverted Select top rail (orient properly so baluster holes are shown top side up) on 2 x 4.



12. Secure 2 x 4 to Select top rail with 3/4" screw provided approximately every 16" on center. Screws are to be installed inside of the baluster holes into the 2 x 4.



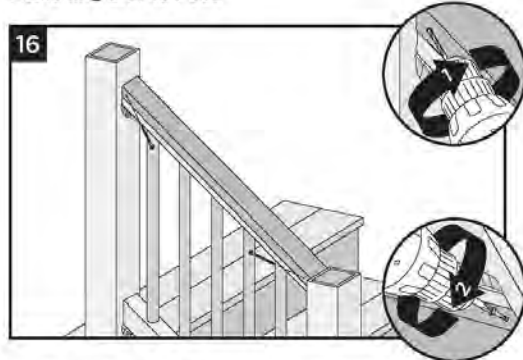
NOTES:

- » **DO NOT** overtighten.
- » Note that a long drill bit will be required to fit inside the baluster holes.
- » If installing 8' rail section and using Aluminum Rail Stiffener, predrilling will be required through the stiffener.

13. **Installing Balusters**
See instructions on page 215.
14. **Attachment of Top Rail to Post**
See instructions on page 215.

HOW TO INSTALL TRADITIONAL STAIR RAILING/CONTINUED TREX SELECT®

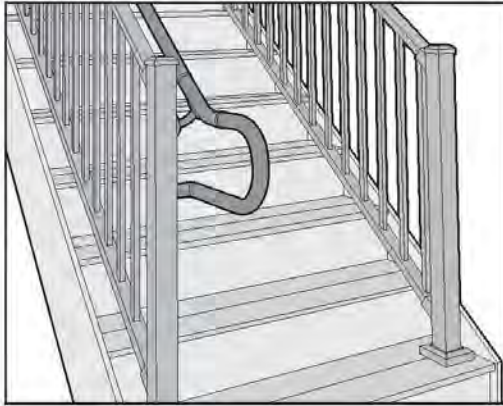
Attaching 2x4 to Post



16. Pre-drill a pilot hole and toenail 2-1/2" (6.4 cm) composite deck screw at each end of 2 x 4 into post on outside of stair rail (side not facing decking).
17. **Attaching Post Caps and Installing Foot Block**
See instructions on page 215.
-

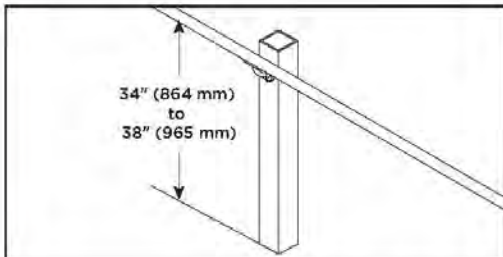
TREX® ALUMINUM ADA COMPLIANT HANDRAIL

STAIR APPLICATION



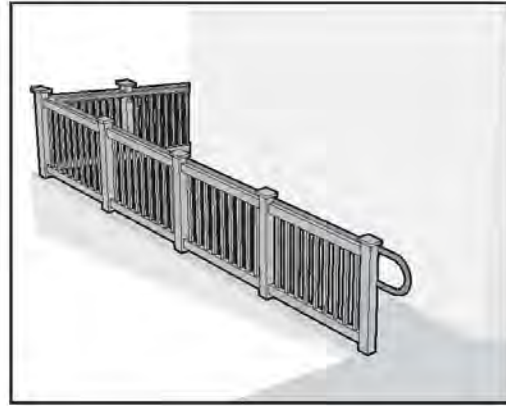
ADA Handrail Guidelines

1. ADA handrails can be installed using various design applications such as those for stairs, ramps, and horizontal applications. Designs include options for straight and 90° wall returns, 90° corners, and adjustable angles. Choose which is best for your needs before installing. *Refer to railing profile page for a more detailed parts list.*



2. The handrail system top rail should be 34" (864 mm) to 38" (965 mm) above the surface. However, verifying height requirements with local building code officials before installing is important as codes vary in different areas.*
3. Maintain a minimum clearance of 1-1/2" (38 mm) between the handrail and any obstructions above or behind the handrail.
4. The end loop return at all landings must extend 12" (305 mm) past the end of the ramp or stair application.*
5. The slope of the handrail for the ramp should not exceed 1" (25 mm) rise over a 12" (305 mm) run.

RAMP APPLICATION



6. The maximum recommended span between supports is 6' (1.83 m) on center. Thus, placement of posts is critical when installation of railing is being considered.*
7. Rails are designed to have a tight fit into other connecting components. It is critical to line these up in the correct orientation BEFORE connecting parts together. If it is necessary to shift or move a component on a rail, wrap with a protective cloth to prevent scratching as you may need to use a wide-mouth wrench to correct this.
8. At any straight location where internal connector is used, it is CRITICAL to locate these as close to a wall mount as possible.
9. If using metal posts, pre-drill all locations for bracket attachment. (ALWAYS use a drill bit slightly SMALLER in diameter than the screw being used for attachment.)
10. All elbow components can be cut down to allow for tighter angles. Cut a maximum of 2" (51 mm) on each side if this is required.








*Refer to the American Disabilities Act for detailed information with regard to handrail requirements.




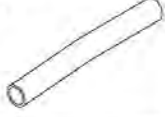


SAFETY NOTES

- » When cutting metal, ALWAYS wear proper safety eyewear (as well as any other proper safety wear).
- » Remove all burrs from cut ends before installation.
- » Use of a non-ferrous metal blade is recommended.


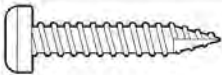

ADA RAILING PROFILES

» SEE PAGE 60 FOR SKU NUMBERS.

| DESCRIPTION | COLOR |
|---|------------|
| ADA Handrail 1.375" (34.9mm) Diameter  | BK, BZ, WT |
| ADA Wall Return (screws included)  | BK, BZ, WT |
| ADA Wall Mount (screws included)  | BK, BZ, WT |
| ADA Corner Mount (screws included)  | BK, BZ, WT |
| ADA Internal Connector  | |
| ADA Handrail Return  | BK, BZ, WT |
| ADA Inline Bracket (screws included)  | BK, BZ, WT |

| DESCRIPTION | COLOR |
|--|------------|
| ADA Adjustable Elbow  | BK, BZ, WT |
| ADA 90° Elbow*  <small>*This component is designed for both inside corners and outside corners.</small> | BK, BZ, WT |
| ADA 36°, 34°, and 31° Elbows  | BK, BZ, WT |
| ADA 5° Elbow  | BK, BZ, WT |
| ADA Collar  | BK, BZ, WT |
| ADA End Cap  | BK, BZ, WT |

HARDWARE

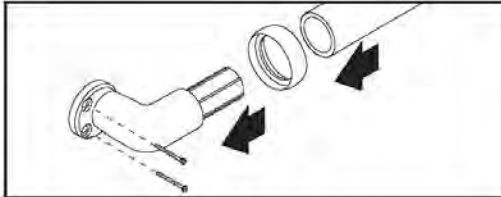
| RAIL TO BRACKET ATTACHMENT | |
|---|--|
| Short Metal Screw (#10 x 5/8" [16 mm]) |  |
| BRACKET TO METAL POST ATTACHMENT | |
| Long Metal Screw (#12 x 1-1/4" [32 mm]) |  |
| BRACKET TO WOOD POST/POST SLEEVE ATTACHMENT | |
| Wood Screw (#10 x 3" [51 mm]) |  |

NOTE: If attaching brackets to 6x6 posts/postsleeves, use #10 x 2-1/2" (64 mm) wood screws (not included).

COLORS: BK Charcoal Black BZ Bronze WT White

HOW TO INSTALL TREX® ALUMINUM ADA COMPLIANT HANDRAIL

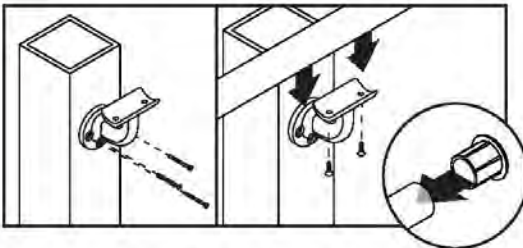
90° Wall Return



1. If required, cut railing to proper length based on location of wall return(s) or attachment to other components.
2. If desired, collar ring can be used to hide seam of wall return to rail. Slide over rail **BEFORE** inserting rail into wall return.
3. Slide rail onto wall return until it is fully inserted and seam is hidden under collar (if collar is being used).
4. Attach wall return to post using specific hardware provided (see chart on previous page). **ENSURING** wall return is at proper angle of alignment to post. (Wall return is designed to have tight fit into rail, thus location of attachment is critical.) If using metal posts, pre-drill post prior to attachment of wall mount.

Wall Mount

NOTE: Refer to Rail-to-Rail Connections section if connecting

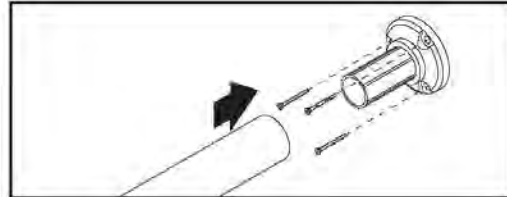


two or more rails together to make continuous straight run.

1. If required, cut railing to proper length based on location of wall mount(s) or attachment to other components.
2. Attach wall mount to post using specific hardware provided (see chart on previous page). **ENSURING** wall mount is at proper angle of alignment to angle of rail. If using metal posts, pre-drill post prior to attachment of wall mount.

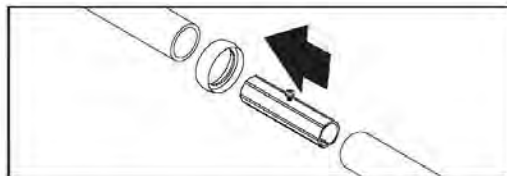
TIP: To help with angled attachment, place one screw into bottom hole of bracket and pivot wall mount to position required.

3. Attach rail to wall mount using specific hardware provided (see chart on previous page).
4. Attach end cap to railing.



Inline Bracket

1. If required, cut railing to proper length based on location of inline bracket(s) or attachment to other components.
2. Attach inline bracket to post using specific hardware provided (see chart on previous page). If using metal posts, pre-drill post prior to attachment of inline bracket.
3. Slide rail onto inline bracket until it is fully inserted.



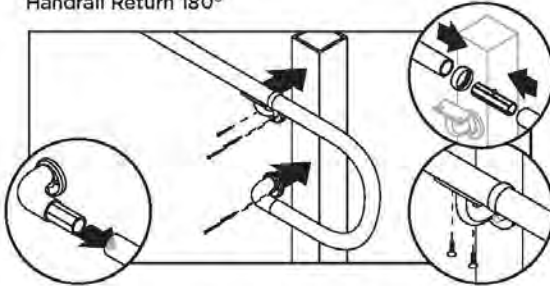
Rail-to-Rail Connections/Internal Connector

NOTE: When rail-to-rail straight connections are used for longer spans, posts must be installed 6' OC max. In addition, a wall mount **MUST** be used at each seam of rail-to-rail connections as close to center of wall mount as possible. If collar is used, this can be offset slightly to allow for the collar to fit.

1. If required, cut railing to proper length.
2. If desired, collar ring can be used to hide seam between rails. Slide ring over rail **BEFORE** inserting rails into internal connector.
3. Slide internal connector into rail end until metal spacer screw is touching either end of rail or collar, if used.
4. Slide second rail over opposite end of internal connector until it is touching metal spacer screw.
5. Remove metal spacer screw using #2 square-head screwdriver.
6. Push second rail further over internal connector until it fits in the collar (if used) or fits tightly against rail.
7. Attach wall mount to post per previous instructions.
8. Attach rail to wall mount per previous instructions.
9. Use end caps where required.

HOW TO INSTALL TREX ALUMINUM ADA COMPLIANT HANDRAIL/CONTINUED

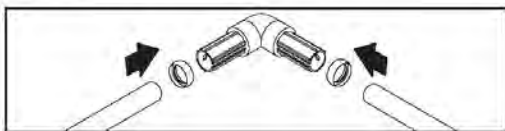
Handrail Return 180°



NOTE: Ramp application shown here. (Appropriate angle elbow also required for stair applications.)

1. If required, cut railing to proper length based on location of elbow used as well as other components being used.
2. If desired, collar ring can be used to hide seam of handrail return to rail or elbow being used. Slide this over rail **BEFORE** inserting rail into other component.
3. Ensure that all components are aligned to both wall mount on post as well as location of elbow on rail **BEFORE** attachment.
4. Slide internal connector into appropriate elbow being until metal spacer screw is touching either end of elbow or the collar, if this was used.
5. Attach wall return to lower end of handrail return (longer side), **ENSURING** wall return is at proper angle of alignment to post. (Wall return is designed to have tight fit into rail, thus location of attachment is critical.)
6. Slide opposite end of handrail return onto internal connector, until it is touching metal spacer screw.
7. Remove metal spacer screw using #2 square-head screwdriver.
8. Push handrail return further over internal connector until it fits in the collar (if used) or fits tightly against elbow.
9. Attach wall return to post per previous instructions.
10. Attach rail to wall mount per previous instructions.
11. Use end caps where required.

Adjustable Elbow

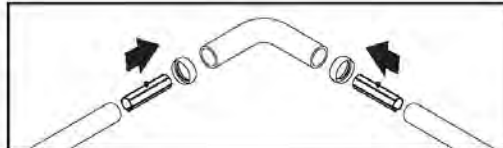


NOTE: This elbow is designed to take the guesswork out of which elbow to buy based on stair angle.

1. If required, cut railing to proper length based on location of elbows and other components being used.
2. If desired, collar ring can be used to hide seam of adjustable elbow to rail. Slide over rail **BEFORE** inserting rail into adjustable elbow.
3. Slide adjustable elbow into rail and ensure this fits tightly against rail.

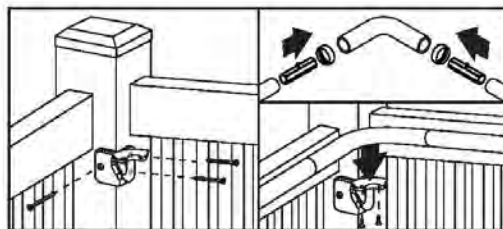
4. Determine angle required and tighten set screw on adjustable elbow. (It is recommended to do this before final attachment in order to access the set screw more easily.)
5. Slide other connector of adjustable elbow into the 180° handrail return or transition rail.

Elbows (90°, 36°, 34°, 31°, 5°)



1. If required, cut railing to proper length based on location of elbows and other components being used.
2. If desired, collar ring can be used to hide seam of elbow to rail. Slide over rail **BEFORE** inserting rail into elbow.
3. Slide internal connector into rail end until metal spacer screw is touching either end of rail or the collar, if this was used.
4. Slide appropriate angled elbow onto opposite end of internal connector, until it is touching metal spacer screw.
5. Remove metal spacer screw using #2 square-head screwdriver.
6. Push elbow further over internal connector until it fits in the collar (if used) or fits tightly against rail.
7. Attach wall mount to post per previous instructions.
8. Attach rail to wall mount per previous instructions.

Corner Mount



1. Pre-drill metal post and install corner post to metal post using specific hardware provided (*see chart on previous page*).
2. If desired, collar ring can be used to hide seam of elbow to rail. Slide this over rail **BEFORE** inserting rail into elbow.
3. Slide internal connector into rail end until metal spacer screw is touching either end of rail or the collar, if this was used.
4. Slide appropriate angled elbow onto opposite end of internal connector, until this is touching metal spacer screw.
5. Remove metal spacer screw using #2 square-head screwdriver.
6. Push elbow further over internal connector until this fits in the collar (if used) or fits tightly against rail.
7. Install elbow to corner mount using specific hardware provided.

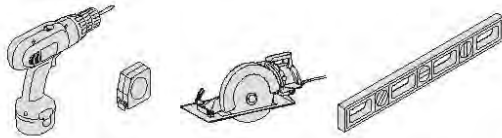
CLADDING

TRANSCEND CLADDING

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HOW TO INSTALL OPEN-JOINT CLADDING TREX TRANSCEND®

TOOLS NEEDED



NOTES:

- » Only Trex Transcend square-edge profiles are approved for use in cladding applications.
- » Consult local building code officials regarding applicable requirements of cladding applications, including that of proper methods of attachment of cladding framing supports.
- » Always install wood or steel furring strips over a flat substrate or a suitable cladding substructure.
- » Ensure that proper gapping requirements are followed as listed within instructions.
- » Open-joint facades are permitted when following Trex Cladding Install instructions.

TREX-APPROVED PRODUCT FOR CLADDING APPLICATIONS:

| PROFILE | DESCRIPTION | ITEM NUMBER | COLORS |
|---|-------------|-----------------------|--------------------|
| Trex Transcend 1" Square-Edge Board <i>Actual dimensions:</i> Transcend: .94 in x 5.5 in x 12 ft / 24 mm x 140 mm x 365 cm / 487 cm / 609 cm | 1 x 6 x 12' | Transcend Tropicals | IM, TT, HG, SR, LR |
| | 1 x 6 x 16' | Transcend Tropicals | |
| | 1 x 6 x 20' | Transcend Tropicals | |
| | 1 x 6 x 12' | Transcend Earth Tones | GP, RS, VL |
| | 1 x 6 x 16' | Transcend Earth Tones | |
| | 1 x 6 x 20' | Transcend Earth Tones | |

Approved Fasteners:

NOTE: The fasteners listed below are all approved fasteners for attachment of Trex Cladding to furring strips. Consult local building code official for proper fasteners to use when attaching furring strips to structural wall. For salt water applications, it is recommended to use wood furring strips with appropriate stainless steel screws.

If any condition occurs which is attributable to the use of non-recommended fasteners, such condition shall not be covered under the Trex Limited Warranty.

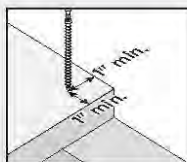
Cladding Attachment to Wood Furring Strips:

- » Starborn® Cap-Tor® xd Epoxy Coated & Headcote® 305 Stainless 2" **ONLY**.
- » Starborn Deckfast® Fascia System - Epoxy Coated & Headcote® 305 Stainless.
- » Starborn® Pro Plug® System for PVC and Composite (Epoxy Coated & 305 or 316 Stainless) 2" **ONLY**.

Cladding Attachment to Steel Furring Strips:

- » Starborn® Pro Plug® System for PVC and Composite for Metal Framing (410SS, self-drilling).
- » Starborn Deckfast® Metal 410SS with Epoxy Coating.

FASTENING TIPS



Install fasteners at a 90° angle (perpendicular to the board).

Install screws at minimum of 1" (25 mm) from the board end and edge, without splitting the board.

Gapping and Overhang:

You must gap Trex cladding both end-to-end and width-to-width. Gapping is necessary for airflow and the slight thermal expansion and contraction of Trex cladding boards.

- » **ALWAYS** follow Trex recommended gapping guidelines.
- » Maximum allowable perpendicular overhang for all Trex decking is 3/4".

WIDTH-TO-WIDTH GAP

3/16" Min.

END-TO-END/END-TO-WIDTH AND ABUTTING GAP

| | End-to-End/ End-to-Width | Abutting Solid Objects |
|----------------------|-----------------------------|---------------------------|
| Above 40°F* (4.5°C)* | 1/8" | 1/4" |
| Below 40°F* (4.5°C)* | 3/16" | 1/2" |

*Temperature at installation

Pro Plug®, DeckFast®, Cap-Tor® xd and HeadCote® are registered trademarks of Starborn Industries Inc.

HOW TO INSTALL OPEN-JOINT CLADDING/CONTINUED TREX TRANSCEND[®]

WOOD FURRING STRIPS (Pressure-Treated Wood)

Minimum 1-1/2" x 1-1/2"



1-1/2" x 3-1/2"

Used for butt joint applications.



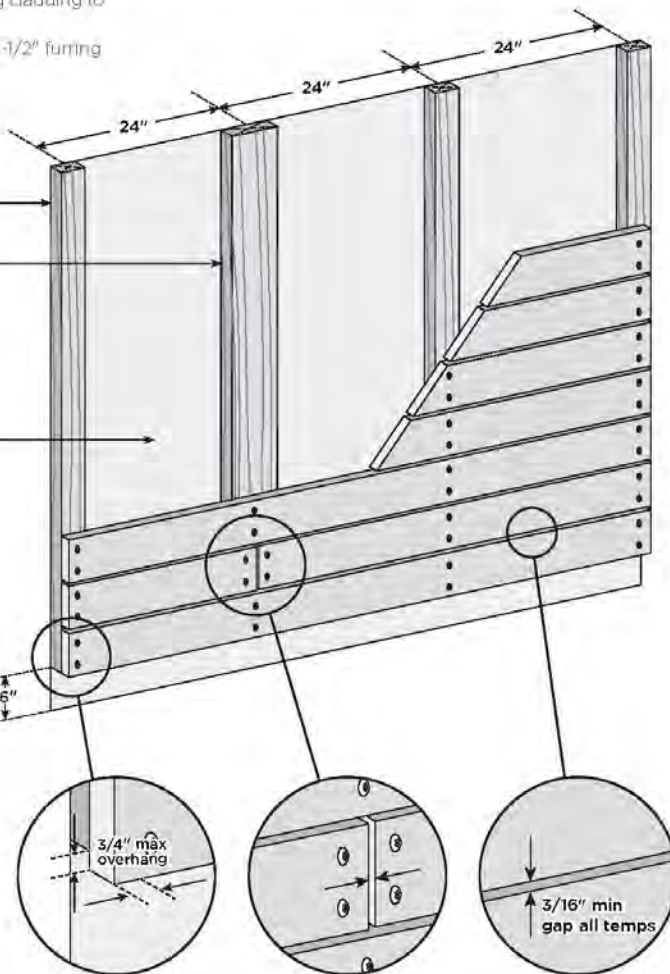
- » Install furring strips at a maximum of 24" on center.
- » Use two approved fasteners for attaching cladding to furring strips.
- » Where cladding boards abut, a 1-1/2" x 3-1/2" furring strip must be used.
- » Always ensure cladding boards are level or plumb for horizontal or vertical applications.

1-1/2" x 1-1/2"
furring strip

1-1/2" x 3-1/2"
furring strip

Install code-approved
water-resistant barrier
as required, before
installing furring strips

Maintain a minimum of
6" of clearance off grade



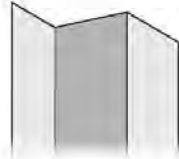
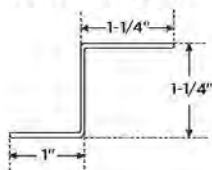
See Page 216 for
Gapping Requirements

HOW TO INSTALL OPEN-JOINT CLADDING/CONTINUED TREX TRANSCEND[®]

METAL FURRING STRIPS (Not Sold by TREX)

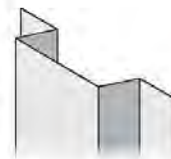
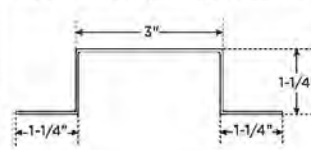
NOTE: 18 ga. (min) 33 ksi at sizes shown below.

Z Furring Strip



Hat Channel Furring Strip

Used for butt joint applications



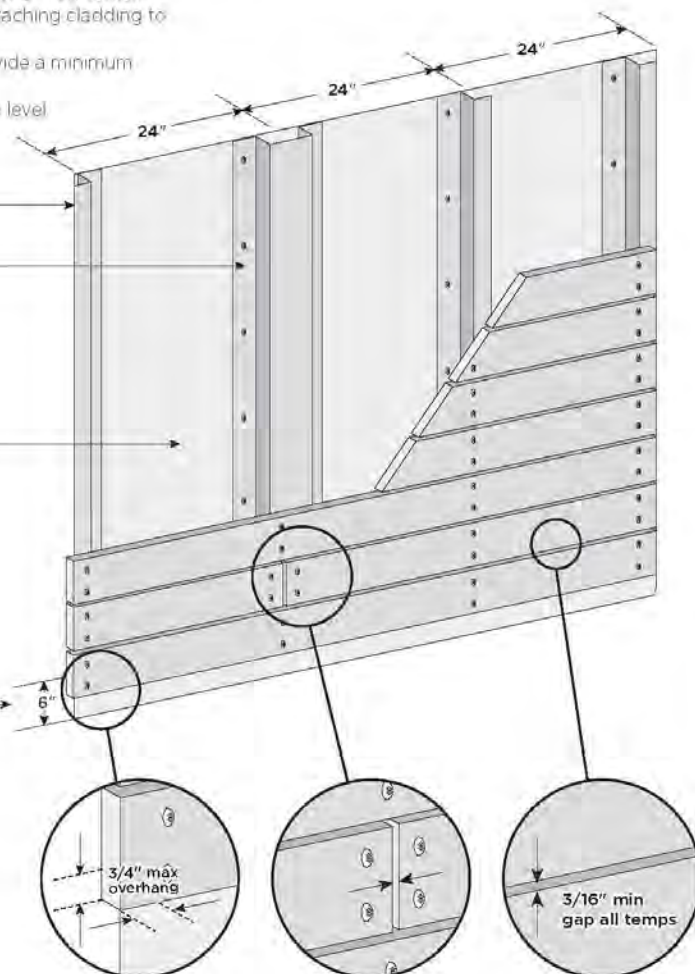
- » Install furring strips at a maximum of 24" on center
- » Use two approved fasteners for attaching cladding to furring strips
- » Where cladding boards abut, provide a minimum attachment surface area of 3"
- » Always ensure cladding boards are level

Steel Z Furring Strip

Steel Hat Channel Furring Strip

Install code-approved water-resistant barrier as required, before installing furring strips

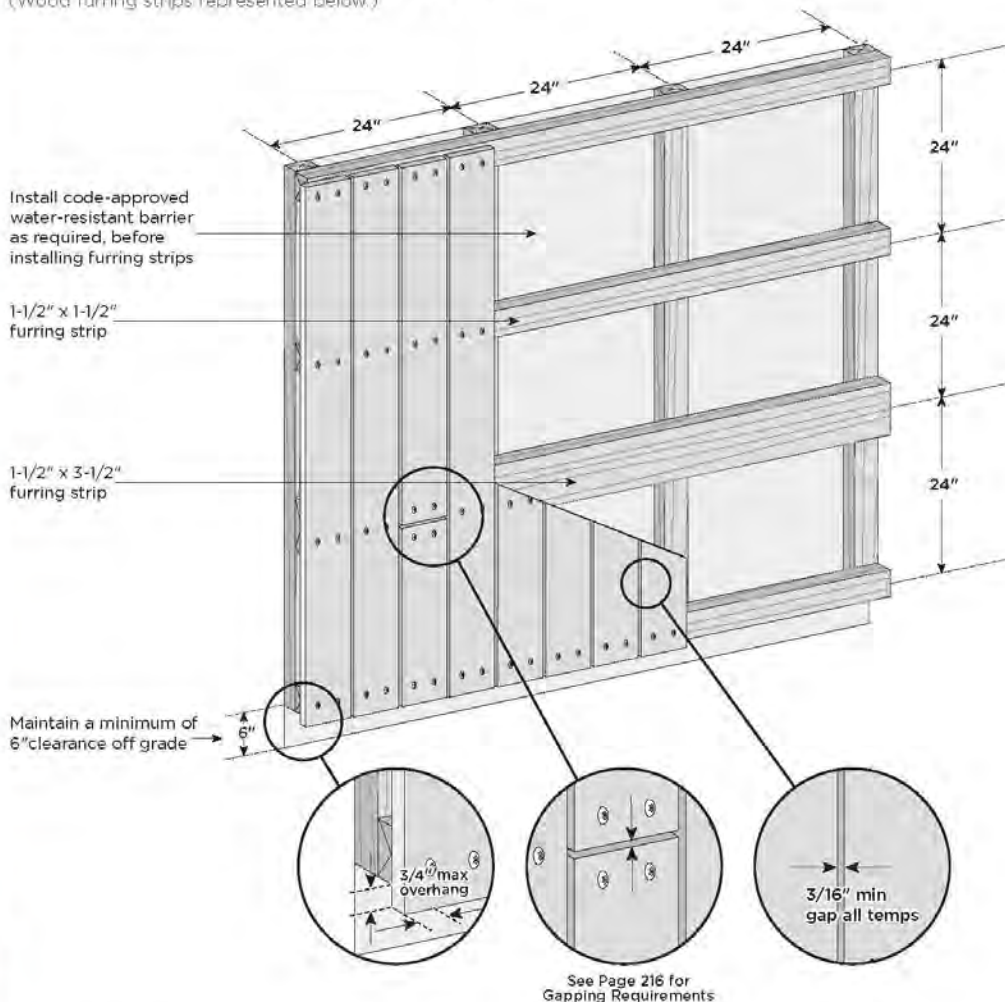
Maintain a minimum of 6" clearance off grade



HOW TO INSTALL OPEN-JOINT CLADDING/CONTINUED TREX TRANSCEND®

VERTICAL ORIENTATION OF CLADDING

(Wood furring strips represented below.)



- » Install furring strips at a maximum of 24" on center.
- » Use two approved fasteners for attaching cladding to furring strips.
- » Where cladding boards abut, a 1-1/2" x 3-1/2" furring strip must be used.
- » Always ensure cladding boards are plumb.





TREX® DECKING, FASCIA & CLADDING LIMITED WARRANTY

Trex Company, Inc. (hereinafter "Trex") warrants to the original end-use purchaser ("Purchaser") that, for the applicable Warranty Period set forth in Table I below, when properly installed, used and maintained under normal use and service conditions and in accordance with Trex's written instructions, Trex® product set forth in Table I below (the "Product") shall perform as follows:

Physical Integrity: The Product shall be free from material defects in workmanship and materials, and shall not split, splinter, rot or suffer structural damage from termites or fungal decay.

Fade Resistance: The Product shall not fade in color from light and weathering exposure as measured by color change of (a) more than 5 Delta E(CIE) units for twenty-five years from the date of original purchase, and (b) more than 15 Delta E(CIE) units for the remainder of the Warranty Period, if any.

While the Product is designed to resist fading, no material is fade proof when exposed to years of UV exposure and the elements. The Product is designed to resist fading under normal weather conditions and will not fade by more than the number of Delta E(CIE) units indicated above.

Stain Resistance: The Product shall be resistant to permanent staining resulting from spills of food and beverage items including ketchup, mustard, salad oils, tea, wine, coffee, fruit punch, barbecue sauce, sodas and other food and beverage related items that would typically be present on a residential deck or mold and mildew naturally occurring in the environment, provided that such substances are removed from the Product with soap and water within one (1) week of exposure of the food or beverage to the surface or first appearance of the mold and mildew. Cleaning procedures are described in the Care & Cleaning Guide at www.trex.com.

Notwithstanding the foregoing, Trex does not warrant that the Product is stain-proof and does not warrant stain resistance resulting from spilled or otherwise applied food and beverage substances which are not properly cleaned as provided above within one (1) week of exposure. In addition, materials not covered in this stain resistance section of this Limited Warranty include abrasive compounds of acidic or basic pH, paints or stains, strong solvents, metallic rust or other abnormal deck use items, and non-food and non-beverage substances, including but not limited to, biocides, fungicides, plant food, bactericides, cement, concrete, mortar, stucco and colored chalk. Mold and mildew can settle and grow on any outdoor surface, including this Product. You should periodically clean your deck to remove dirt and pollen that can feed mold and mildew. This Limited Warranty does not cover mold and mildew which is not properly cleaned as provided above within one (1) week of first appearance.

Residential/Commercial Application: For purposes of this Limited Warranty, a "residential application" shall refer to an installation of the Product on an individual residence, and a "commercial application" shall refer to any installation of the Product other than on an individual residence.

Term of Limited Warranty: The term of this Limited Warranty for a Product (the "Warranty Period") begins on the date of original purchase and shall be equal to the number of years set forth next to such Product in Table I below:

TABLE I

| Product | Residential Warranty Period | Commercial Warranty Period |
|-------------------------------|-----------------------------|----------------------------|
| Signature® decking and fascia | 50 Years | 10 Years |
| Transcend® decking and fascia | 50 Years | 10 Years |
| Transcend® cladding | 50 Years | 25 Years |
| Select® decking and fascia | 35 Years | 10 Years |
| Enhance® decking and fascia | 25 Years | 10 Years |

Transferability: With respect to a residential application, this Limited Warranty may be transferred one (1) time, within the five (5) year period beginning from the date of original purchase by the Purchaser, to a subsequent buyer of the property upon which the Product was originally installed. With respect to a commercial application, this Limited Warranty is freely transferable to subsequent buyers of the property upon which the Product was originally installed.

EXCLUSIONS FROM WARRANTY COVERAGE

The Products must be stored, handled, installed, used and maintained in accordance with instructions provided by Trex, and this Limited Warranty is conditioned upon compliance with all such instructions. Copies of Trex's Installation Guides, Technical Information and Care and Cleaning Guides are available from Trex at the address listed below. The materials may also be obtained on Trex's website at www.trex.com.

Any information or suggestion by Trex with respect to the Products concerning applications, specifications or compliance with codes and standards, including building or safety codes, is provided solely for Purchaser's convenient reference and is made without any representation as to accuracy or suitability. Purchaser must verify and test the suitability of any information with respect to the Products for Purchaser's specific application.

This Limited Warranty does not cover defects caused by:

Exposure to Heat: Direct or indirect contact with extreme heat sources (over 275°F/135°C) may cause fading and may damage the surface of the Product, and any effects of such exposure are expressly excluded from coverage under this Limited Warranty.

Surface Damage: Never use metal shovels or sharp-edged tools to remove snow and ice on the surface of the Product. If the surface of the Product is damaged or punctured, this Limited Warranty will be voided.

Paint or Other Materials Applied to the Product: If paint, solvents or other coating materials are applied to the Product, this Limited Warranty will be voided.

Other Exclusions: This Limited Warranty shall not cover any condition attributable to: (1) improper installation of the Product and/or failure to abide by Trex's installation guidelines, including but not limited to improper gapping; (2) use of the Product beyond normal use or service conditions, or in an application not recommended by Trex's guidelines and local building codes; (3) movement, distortion, collapse or settling of the ground or the supporting structure on which the Product is installed; (4) any act of God (such as flooding, hurricane, earthquake, lightning, etc.), environmental condition (such as air pollution, mold, mildew, etc.), staining from foreign substances other than food and beverages (such as dirt, grease, oil, etc.); (5) improper handling, storage, abuse or neglect of the Product by Purchaser, the transferee or third parties; (6) any fading or staining not on the walking surface of the Product (i.e., the underside or the ends of the Product); or (7) ordinary wear and tear.

Excluded Products: This Warranty shall not apply to any Trex products not listed in Table I, including, but not limited to, Trex Transcend® railing, Trex Enhance® railing, Trex Select® railing, Trex Signature® railing, Trex Decklighting™ products, TrexTrim™ products, Trex® outdoor lighting products, Trex Hideaway® fasteners, and Trex® fencing, which are excluded from this Limited Warranty. Each of these products has a separate Limited Warranty.

PROCEDURE FOR MAKING A CLAIM UNDER THIS LIMITED WARRANTY

To make a claim under this Limited Warranty, Purchaser must do the following:

1. If the Purchaser is making a claim relating to the Limited Warranty on stain resistance, Purchaser must do as follows:

(a) Purchaser must try to clean the affected area of the deck by using the cleaning procedures described above (and provided, in more detail in the Care & Cleaning Guide found at www.trex.com) within one (1) week of exposure of the food or beverage to the Product or first appearance of the mold and mildew.

(b) If the affected area remains reasonably unsatisfactory after Purchaser has tried these cleaning procedures, then Purchaser must have the affected area of the deck professionally cleaned at Purchaser's expense.

(c) If the affected area remains reasonably unsatisfactory after the professional cleaning, Purchaser may make a claim under this Limited Warranty, provided that such claim is made within thirty (30) days after the professional cleaning.

2. To make a claim under this Limited Warranty, Purchaser, or the transferee, shall send to Trex, within the Warranty Period referred to above, a written description and photographs of the claimed defect, proof of purchase, and if the claim relates to the Limited Warranty on stain resistance, proof of compliance with paragraph 1 above, to the following address:

Trex Company, Inc.
Customer Relations
160 Baxter Drive
Winchester, VA 22603-8606



TREX® DECKING, FASCIA & CLADDING LIMITED WARRANTY (continued)

3. Upon confirmation by an authorized Trex representative of a valid claim hereunder, Trex's sole responsibility shall be, at its option, to either: (a) replace the affected Product with new Product in an amount equal to the volume (linear feet) of defective material; or (b) refund the portion of the purchase price paid by Purchaser for such affected Product (not including the cost of its initial installation). Replacement Products will be as close in color, design, and quality to the original Products as reasonably possible in Trex's discretion and determination, but Trex does not guarantee an exact match as colors and designs may change and Trex's obligation as to replacement shall further be limited to replacement with the styles and colors of the Product that are available at the time of the replacement. THE REMEDIES STATED IN THIS PARAGRAPH ARE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES FOR ANY PRODUCT THAT FAILS TO CONFORM TO THIS LIMITED WARRANTY.

If a valid warranty claim hereunder is made during year eleven (11) or any year thereafter through the expiration of the applicable Warranty Period after the original purchase, recovery will be prorated in accordance with Table II, below. If Trex is providing replacement materials, it may elect to replace the percentage listed in Table II, below, or boards otherwise meeting the requirements for a claim, or if it is refunding the purchase price, it may elect to refund the percentage listed below in Table II of the purchase price of Product otherwise meeting the requirements for a claim.

TABLE II

| Year of Claim | Warranty Period | | |
|---------------|-----------------|---------|---------|
| | 50 Year | 25 Year | 25 Year |
| 11 | 90% | 80% | 80% |
| 12 | 90% | 80% | 80% |
| 13 | 90% | 80% | 80% |
| 14 | 90% | 80% | 80% |
| 15 | 90% | 80% | 80% |
| 16 | 90% | 80% | 80% |
| 17 | 70% | 60% | 40% |
| 18 | 70% | 60% | 40% |
| 19 | 70% | 40% | 40% |
| 20 | 70% | 40% | 20% |
| 21 | 70% | 40% | 20% |
| 22 | 70% | 40% | 20% |
| 23 | 50% | 20% | 10% |
| 24 | 50% | 20% | 10% |
| 25 | 50% | 20% | 10% |
| 26 | 50% | 20% | — |
| 27 | 50% | 20% | — |
| 28 | 50% | 20% | — |
| 29 | 30% | 10% | — |
| 30 | 30% | 10% | — |
| 31 | 30% | 10% | — |

| Year of Claim | Warranty Period | | |
|---------------|-----------------|---------|---------|
| | 50 Year | 25 Year | 25 Year |
| 32 | 30% | 10% | — |
| 33 | 30% | 10% | — |
| 34 | 30% | 10% | — |
| 35 | 30% | 10% | — |
| 36 | 20% | — | — |
| 37 | 20% | — | — |
| 38 | 20% | — | — |
| 39 | 20% | — | — |
| 40 | 20% | — | — |
| 41 | 20% | — | — |
| 42 | 20% | — | — |
| 43 | 10% | — | — |
| 44 | 10% | — | — |
| 45 | 10% | — | — |
| 46 | 10% | — | — |
| 47 | 10% | — | — |
| 48 | 10% | — | — |
| 49 | 10% | — | — |
| 50 | 10% | — | — |

THE LIMITED WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES MADE BY TREX IN CONNECTION WITH THESE PRODUCTS. TREX DOES NOT MAKE ANY OTHER WARRANTIES, IMPLIED OR EXPRESS, AND DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TREX'S SOLE OBLIGATION UNDER THIS LIMITED WARRANTY SHALL BE, AT ITS OPTION, REPLACEMENT OF NON-CONFORMING PRODUCTS OR A REFUND OF THE PURCHASE PRICE, AS DESCRIBED ABOVE. PURCHASER ASSUMES ALL RISK WHATSOEVER AS TO THE RESULT OF THE USE OF THE PRODUCTS PURCHASED, WHETHER USED SINGULARLY OR IN COMBINATION WITH ANY OTHER PRODUCTS OR SUBSTANCES.

THIS LIMITED WARRANTY SHALL NOT COVER AND TREX SHALL NOT BE RESPONSIBLE FOR COSTS AND EXPENSES INCURRED WITH RESPECT TO THE REMOVAL OF DEFECTIVE PRODUCT OR THE INSTALLATION OF REPLACEMENT MATERIALS, INCLUDING BUT NOT LIMITED TO LABOR AND FREIGHT.

No person or entity is authorized by Trex to make and Trex shall not be bound by any statement or representation as to the quality or performance of Product other than as contained in this Limited Warranty. This Limited Warranty may not be altered or amended except in a written instrument signed by Trex and Purchaser.

TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, UNDER NO CIRCUMSTANCES WILL TREX BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, RELIANCE, STATUTORY, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOSS OF USE, LOSS OF TIME, LOSS OF REVENUES, INCONVENIENCE, LOSS OF BUSINESS OPPORTUNITIES, OR DAMAGE TO GOOD WILL OR REPUTATION DAMAGES, WHETHER SUCH DAMAGES ARE SOUGHT IN CONTRACT, IN TORT (INCLUDING BUT NOT LIMITED TO NEGLIGENCE AND STRICT LIABILITY) OR OTHERWISE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR SUCH DAMAGES COULD HAVE BEEN REASONABLY FORESEEN, IN CONNECTION WITH, ARISING OUT OF, OR AS A RESULT OF, THE SALE, DELIVERY, INSTALLATION, USE OR LOSS OF USE OF THE PRODUCTS SOLD HEREUNDER, OR FOR ANY LIABILITY OF PURCHASER TO ANY THIRD PARTY WITH RESPECT THERETO, AND TREX'S LIABILITY FOR NON-PERSONAL INJURY CLAIMS WITH RESPECT TO DEFECTIVE PRODUCT SHALL IN NO EVENT EXCEED THE REPLACEMENT OF SUCH PRODUCT OR REFUND OF THE PURCHASE PRICE, AS DESCRIBED ABOVE.

Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Limited Warranty gives you specific legal rights, and you may also have other rights that vary from State to State or Province to Province.

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TREX® RAILING AND ANCILLARY PRODUCTS LIMITED WARRANTY

Trex Company, Inc. (hereinafter "Trex") warrants to the original end-user purchaser ("Purchaser") that, for the applicable Warranty Period set forth in Table I below, when properly installed, used and maintained under normal use and service conditions, and in accordance with Trex's written instructions, Trex® product set forth in Table I below (the "Product") shall be free from material defects in workmanship and materials, and shall not split, splinter, rot or suffer structural damage from termites or fungal decay.

Residential/Commercial Application: For purposes of this warranty, a "residential application" shall refer to an installation of the Product on an individual residence, and a "commercial application" shall refer to any installation of the Product other than on an individual residence.

Term of Limited Warranty: The term of this Limited Warranty for a Product (the "Warranty Period") begins on the date of original purchase and shall be equal to the number of years set forth next to such Product in Table I below.

TABLE I

| Product | Residential Warranty Period | Commercial Warranty Period |
|--|-----------------------------|----------------------------|
| Signature® Railing | 25 Years | 25 Years |
| Transcend® Railing, Select® Railing, Entrance® Railing, Trex® Fencing, and TrexTite™ | 25 Years | 10 Years |
| DeckLighting™ (LED and Halogen) | 7 Years | 7 Years |
| DeckLighting™ (Transformer, Timer, Dimmer, WiFi Controlled) | 3 Years | 3 Years |

Transferability: With respect to a residential application, this warranty may be transferred one (1) time, within the five- (5) year period beginning from the date of original purchase, by the Purchaser, to a subsequent buyer of the property upon which the Product was originally installed. With respect to a commercial application, this warranty is freely transferable to subsequent buyers of the property upon which the Product was originally installed.

EXCLUSIONS FROM WARRANTY COVERAGE

Notwithstanding the foregoing, (a) the warranty for Trex® DeckLighting™ Products is valid only in each case provided that a Trex transformer is used (with no warranty on any components if a Trex transformer is not used), and any other DeckLighting™ parts or accessories not listed in Table I above shall not be warranted; (b) this warranty shall not apply to any Trex products not listed in Table I, including, but not limited to Trex decking products, Trex cladding products, Trex fascia products, and Trex fasteners (which each have separate warranties), and (c) with respect to installations where the atmosphere is influenced by a body of salt water (or other contaminant conditions), failure to adhere to the cleaning guidelines available at www.trex.com will void this warranty with respect to any condition resulting from such failure.

The Products must be stored, handled, installed, used and maintained in accordance with instructions provided by Trex, and this Limited Warranty is conditioned upon compliance with all such instructions. Copies of Trex's Installation Guides, Technical Information and Care and Cleaning Guides are available from Trex at the address listed below. The materials may also be obtained on Trex's website at trex.com.

Any information or suggestion by Trex with respect to the Products concerning applications, specifications or compliance with codes and standards, including building or safety codes, is provided solely for Purchaser's convenient reference and is made without any representation as to accuracy or suitability. Purchaser must verify and test the suitability of any information with respect to the Products for Purchaser's specific application.

Trex does not warrant against and is not responsible for any condition attributable to: (1) improper installation of Product and/or failure to abide by Trex's installation guidelines, including but not limited to improper gapping; (2) use of Product beyond normal use and service conditions, or in an application not recommended by Trex's guidelines and local building codes; (3) movement, distortion, collapse or settling of the ground or the supporting structure on which Product is installed; (4) any act of God (such as flooding, hurricane, earthquake, lightning, etc.), environmental condition (such as air pollution, mold, mildew, etc.), staining from foreign substances (such as dirt, grease, oil, etc.), or normal weathering (defined as exposure to sunlight, weather and atmosphere which will cause any colored surface to gradually fade, chalk, or accumulate dirt or stains); (5) variations or changes in color of Product; (6) improper handling, storage, abuse or neglect of Product by Purchaser, the transferee or third parties; or (7) ordinary wear and tear.

PROCEDURE FOR MAKING A CLAIM UNDER THIS LIMITED WARRANTY

To make a claim under this Limited Warranty, Purchaser, or the transferee, shall send to Trex, within the Warranty Period referred to above, a written description and photographs of the claimed defect and proof of purchase, to the following address:

Trex Company, Inc.
Customer Relations
160 Exeter Drive
Winchester, VA 22603-9805

Upon confirmation by an authorized Trex representative of a valid claim hereunder, Trex's sole responsibility shall be, at its option, to either: (a) replace the affected Product with new Product in an amount equal to the amount of defective material; or (b) refund the portion of the purchase price paid by Purchaser for such affected Product (not including the cost of its initial installation). Replacement Products will be as close in color, design, and quality to the original Products as reasonably possible, in Trex's discretion and determination, but Trex does not guarantee an exact match as colors and designs may change and Trex's obligation as to replacement shall further be limited to replacement with the styles and colors of the Product that are available at the time of the replacement.

THE REMEDIES STATED IN THIS PARAGRAPH ARE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES FOR ANY PRODUCT THAT FAILS TO CONFORM TO THIS LIMITED WARRANTY.

If a valid warranty claim hereunder is made during year eleven (11) or any year thereafter through the expiration of the applicable Warranty Period after the original purchase, recovery will be prorated in accordance with Table II, below. If Trex is providing replacement materials, it may elect to replace the percentage listed in Table II, below, of Product otherwise meeting the requirements for a claim, or if it is refunding the purchase price, it may elect to refund the percentage listed below in Table II of the purchase price of Product otherwise meeting the requirements for a claim.

TABLE II

| Year of Claim | Recovery |
|---------------|----------|
| 11 | 80% |
| 12 | 80% |
| 13 | 80% |
| 14 | 80% |
| 15 | 60% |
| 16 | 60% |
| 17 | 40% |
| 18 | 40% |
| 19 | 40% |
| 20 | 20% |
| 21 | 20% |
| 22 | 20% |
| 23 | 10% |
| 24 | 10% |
| 25 | 10% |



TREX® RAILING AND ANCILLARY PRODUCTS LIMITED WARRANTY (continued)

THE LIMITED WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES MADE BY TREX IN CONNECTION WITH THESE PRODUCTS. TREX DOES NOT MAKE ANY OTHER WARRANTIES, IMPLIED OR EXPRESS, AND DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TREX'S SOLE OBLIGATION UNDER THIS LIMITED WARRANTY SHALL BE, AT ITS OPTION, REPLACEMENT OF NON-CONFORMING PRODUCTS OR A REFUND OF THE PURCHASE PRICE, AS DESCRIBED ABOVE. PURCHASER ASSUMES ALL RISK WHATSOEVER AS TO THE RESULT OF THE USE OF THE PRODUCTS PURCHASED, WHETHER USED SINGULARLY OR IN COMBINATION WITH ANY OTHER PRODUCTS OR SUBSTANCES.

THIS LIMITED WARRANTY SHALL NOT COVER AND TREX SHALL NOT BE RESPONSIBLE FOR COSTS AND EXPENSES INCURRED WITH RESPECT TO THE REMOVAL OF DEFECTIVE PRODUCT OR THE INSTALLATION OF REPLACEMENT MATERIALS, INCLUDING BUT NOT LIMITED TO LABOR AND FREIGHT.

No person or entity is authorized by Trex to make and Trex shall not be bound by any statement or representation as to the quality or performance of Product other than as contained in the Limited Warranty. This Limited Warranty may not be altered or amended except in a written instrument signed by Trex and Purchaser.

TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, UNDER NO CIRCUMSTANCES WILL TREX BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, RELIANCE, STATUTORY, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOSS OF USE, LOSS OF TIME, LOSS OF REVENUES, INCONVENIENCE, LOSS OF BUSINESS OPPORTUNITIES, OR DAMAGE TO GOOD WILL OR REPUTATION DAMAGES, WHETHER SUCH DAMAGES ARE SOUGHT IN CONTRACT, IN TORT (INCLUDING BUT NOT LIMITED TO NEGLIGENCE AND STRICT LIABILITY) OR OTHERWISE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR SUCH DAMAGES COULD HAVE BEEN REASONABLY FORESEEN, IN CONNECTION WITH, ARISING OUT OF, OR AS A RESULT OF, THE SALE, DELIVERY, INSTALLATION, USE OR LOSS OF USE OF THE PRODUCTS SOLD HEREUNDER, OR FOR ANY LIABILITY OF PURCHASER TO ANY THIRD PARTY WITH RESPECT THERETO. AND TREX'S LIABILITY FOR NON-PERSONAL INJURY CLAIMS WITH RESPECT TO DEFECTIVE PRODUCT SHALL IN NO EVENT EXCEED THE REPLACEMENT OF SUCH PRODUCT OR REFUND OF THE PURCHASE PRICE, AS DESCRIBED ABOVE.

Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Limited Warranty gives you specific legal rights, and you may also have other rights that vary from State to State or Province to Province.

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TREX® FASTENERS LIMITED WARRANTY

Trex Company, Inc. (hereinafter "Trex") warrants to the original end-user purchaser ("Purchaser") that, for the period or time set forth in the following paragraph, when properly installed, used and maintained under normal use and service conditions, and in accordance with Trex's written instructions, Trex® product set forth in Table I below (the "Product") shall be free from material defects in workmanship and materials, and shall not structurally fail due to corrosion or rust.

TABLE I

| Product |
|---------------------------------|
| Trex Hideaway® Hidden Fasteners |

Term of Limited Warranty: The term of this Limited Warranty for a Product (the "Warranty Period") begins on the date of original purchase and shall be equal to the warranty period of the Trex Decking Product on which it is installed which can be found in the "Trex Decking, Railing and Cladding Limited Warranty" available from Trex at the address listed below and on Trex's website at trex.com. If the Product is installed on other brands of wood-plastic composite, cellular PVC or mineral-based composite decking, the warranty shall be twenty-five (25) years from the date of original purchase for a residential application, and ten (10) years from the date of original purchase for a commercial application.

Residential/Commercial Application: For purposes of this warranty, a "residential application" shall refer to an installation of the Product on an individual residence, and a "commercial application" shall refer to any installation of the Product other than on an individual residence.

Transferability: With respect to a residential application, this warranty may be transferred one (1) time, within the five-(5) year period beginning from the date of original purchase by the Purchaser, to a subsequent buyer of the property upon which the Product was originally installed. With respect to a commercial application, this warranty is freely transferable to subsequent buyers of the property upon which the Product was originally installed.

EXCLUSIONS FROM WARRANTY COVERAGE

This warranty shall not apply to any Trex products not listed in Table I, including, but not limited to, installation tool bit and hand-held installation tool.

The Products must be stored, handled, installed, used and maintained in accordance with instructions provided by Trex, and this Limited Warranty is conditioned upon compliance with all such instructions. Copies of Trex's Installation Guides and Technical Information are available from Trex at the address listed below. The materials may also be obtained on Trex's website at trex.com.

Any information or suggestion by Trex with respect to the Products concerning applications, specifications or compliance with codes and standards, including building or safety codes, is provided solely for Purchaser's convenient reference, and is made without any representation as to accuracy or suitability. Purchaser must verify and test the suitability of any information with respect to the Products for Purchaser's specific application.

Trex does not warrant against and is not responsible for any condition attributable to: (1) improper installation of Product and/or failure to abide by Trex's installation guidelines, including but not limited to improper gapping; (2) use of Product beyond normal use and service conditions, or in an application not recommended by Trex's guidelines and local building codes; (3) movement, distortion, collapse or settling of the ground or the supporting structure on which Product is installed; (4) any act of God (such as flooding, hurricane, earthquake, lightning, etc.), environmental condition (such as air pollution, mold, mildew, etc.); (5) variations or changes in color of Product; (6) improper handling, storage, abuse or neglect of Product by Purchaser, the transferee or third parties; or (7) ordinary wear and tear.

PROCEDURE FOR MAKING A CLAIM UNDER THIS LIMITED WARRANTY

To make a claim under this Limited Warranty, Purchaser, or the transferee, shall send to Trex, within the Warranty Period referred to above, a written description and photograph of the claimed defect and proof of purchase, to the following address:

Trex Company, Inc.
Customer Relations
160 Baxter Drive
Winchester, VA 22603-2605

Upon confirmation by an authorized Trex representative of a valid claim hereunder, Trex's sole responsibility shall be, at its option, to either: (a) replace the affected Product with new Product in an amount equal to the amount of defective material; or (b) refund the portion of the purchase price paid by Purchaser for such affected Product (not including the cost of its initial installation). Replacement Products will be as close in color, design, and quality to the original Products as reasonably possible, in Trex's discretion and determination, but Trex does not guarantee an exact match as colors and designs may change and Trex's obligation as to replacement shall further be limited to replacement with the styles and colors of the Product that are available at the time of the replacement. THE REMEDIES STATED IN THIS PARAGRAPH ARE PURCHASER'S SOLE AND EXCLUSIVE REMEDIES FOR ANY PRODUCT THAT FAILS TO CONFORM TO THIS LIMITED WARRANTY.

If a valid warranty claim hereunder is made during year eleven (11) or any year thereafter through the expiration of the applicable Warranty Period after the original purchase, recovery will be prorated in accordance with Table II, below. If Trex is providing replacement materials, it may elect to replace the percentage listed in Table II, below, or Product otherwise meeting the requirements for a claim, or if it is refunding the purchase price, it may elect to refund the percentage listed below in Table II of the purchase price of Product otherwise meeting the requirements for a claim.

TABLE II

| Year of Claim | Warranty Period | | |
|---------------|-----------------|---------|---------|
| | 50 Year | 25 Year | 25 Year |
| 11 | 90% | 80% | 80% |
| 12 | 90% | 80% | 80% |
| 13 | 90% | 80% | 80% |
| 14 | 90% | 80% | 80% |
| 15 | 90% | 80% | 80% |
| 16 | 90% | 80% | 80% |
| 17 | 70% | 60% | 40% |
| 18 | 70% | 60% | 40% |
| 19 | 70% | 40% | 40% |
| 20 | 70% | 40% | 20% |
| 21 | 70% | 40% | 20% |
| 22 | 70% | 40% | 20% |
| 23 | 50% | 20% | 10% |
| 24 | 50% | 20% | 10% |
| 25 | 50% | 20% | 10% |
| 26 | 50% | 20% | — |
| 27 | 50% | 20% | — |
| 28 | 50% | 20% | — |
| 29 | 30% | 10% | — |
| 30 | 30% | 10% | — |
| 31 | 30% | 10% | — |
| 32 | 30% | 10% | — |
| 33 | 30% | 10% | — |
| 34 | 30% | 10% | — |
| 35 | 30% | 10% | — |
| 36 | 20% | — | — |



TREX® FASTENERS LIMITED WARRANTY (continued)

| Year of Claim | Warranty Period | | |
|---------------|-----------------|---------|---------|
| | 50 Year | 35 Year | 25 Year |
| 37 | 20% | — | — |
| 38 | 20% | — | — |
| 39 | 20% | — | — |
| 40 | 20% | — | — |
| 41 | 20% | — | — |
| 42 | 20% | — | — |
| 43 | 10% | — | — |
| 44 | 10% | — | — |
| 45 | 10% | — | — |
| 46 | 10% | — | — |
| 47 | 10% | — | — |
| 48 | 10% | — | — |
| 49 | 10% | — | — |
| 50 | 10% | — | — |

THE LIMITED WARRANTIES SET FORTH HEREIN ARE THE ONLY WARRANTIES MADE BY TREX IN CONNECTION WITH THESE PRODUCTS. TREX DOES NOT MAKE ANY OTHER WARRANTIES, IMPLIED OR EXPRESS, AND DISCLAIMS ALL OTHER WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. TREX'S SOLE OBLIGATION UNDER THIS LIMITED WARRANTY SHALL BE, AT ITS OPTION, REPLACEMENT OF NON-CONFORMING PRODUCTS OR A REFUND OF THE PURCHASE PRICE, AS DESCRIBED ABOVE. PURCHASER ASSUMES ALL RISK WHATSOEVER AS TO THE RESULT OF THE USE OF THE PRODUCTS PURCHASED, WHETHER USED SINGULARLY OR IN COMBINATION WITH ANY OTHER PRODUCTS OR SUBSTANCES.

THIS LIMITED WARRANTY SHALL NOT COVER AND TREX SHALL NOT BE RESPONSIBLE FOR COSTS AND EXPENSES INCURRED WITH RESPECT TO THE REMOVAL OF DEFECTIVE PRODUCT OR THE INSTALLATION OF REPLACEMENT MATERIALS, INCLUDING BUT NOT LIMITED TO LABOR AND FREIGHT.

No person or entity is authorized by Trex to make and Trex shall not be bound by any statement or representation as to the quality or performance of Product other than as contained in this Limited Warranty. This Limited Warranty may not be altered or amended except in a written instrument signed by Trex and Purchaser.

TO THE FULLEST EXTENT PERMITTED UNDER THE LAW, UNDER NO CIRCUMSTANCES WILL TREX BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, RELIANCE, STATUTORY, SPECIAL, PUNITIVE OR EXEMPLARY DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, LOSS OF USE, LOSS OF TIME, LOSS OF REVENUES, INCONVENIENCE, LOSS OF BUSINESS OPPORTUNITIES, OR DAMAGE TO GOOD WILL OR REPUTATION DAMAGES, WHETHER SUCH DAMAGES ARE SOUGHT IN CONTRACT, IN TORT (INCLUDING BUT NOT LIMITED TO NEGLIGENCE AND STRICT LIABILITY) OR OTHERWISE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGES OR SUCH DAMAGES COULD HAVE BEEN REASONABLY FORESEEN, IN CONNECTION WITH, ARISING OUT OF, OR AS A RESULT OF, THE SALE, DELIVERY, INSTALLATION, USE OR LOSS OF USE OF THE PRODUCTS SOLD HEREUNDER, OR FOR ANY LIABILITY OF PURCHASER TO ANY THIRD PARTY WITH RESPECT THERETO AND TREX'S LIABILITY FOR NON-PERSONAL INJURY CLAIMS WITH RESPECT TO DEFECTIVE PRODUCT SHALL IN NO EVENT EXCEED THE REPLACEMENT OF SUCH PRODUCT OR REFUND OF THE PURCHASE PRICE, AS DESCRIBED ABOVE.

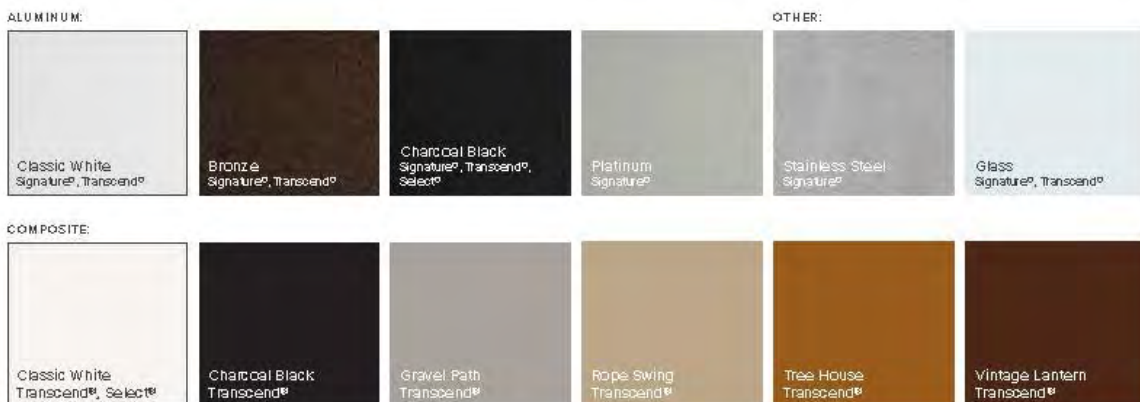
Some States or Provinces do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This Limited Warranty gives you specific legal rights, and you may also have other rights that vary from State to State or Province to Province.

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DECKING COLOR PALETTE



RAILING COLOR PALETTE





front: Transcend Tropicals in Havana Gold with Signature Mesh Railing
back: Transcend Tropicals in Island Mist with Transcend Railing



FIND US ON



Visit [trex.com](https://www.trex.com) or call 1-800-BUY-TREX

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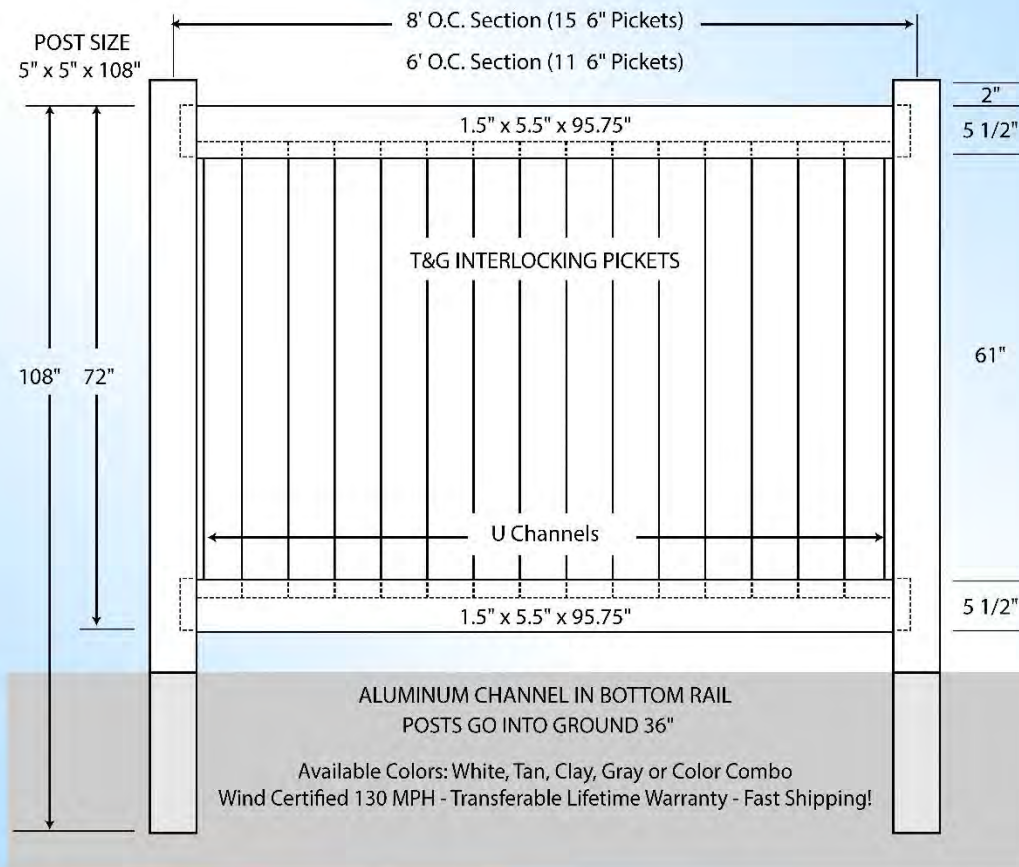
Phone: (507) 206-4154 - Website: www.vinylfenceanddeck.com



VINYL FENCE WHOLESALER

Technical Specifications - Rainier Privacy Fence

6' Tall (8' Wide or 6' Wide Sections)



TYPE II FENCE

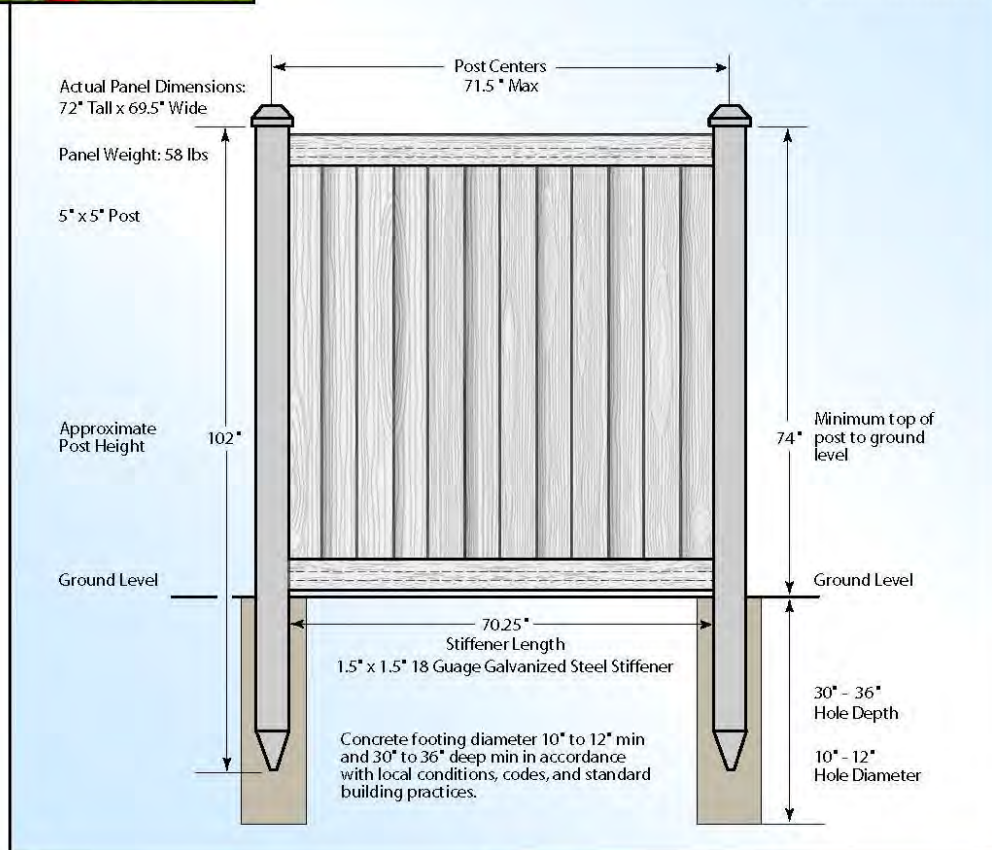
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Phone: (507) 206-4154 - Website: www.vinylfenceanddeck.com



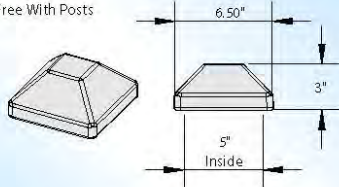
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VINYL FENCE WHOLESALER
Technical Specifications - Ashland Privacy Fence
6' Tall x 6' Wide Sections

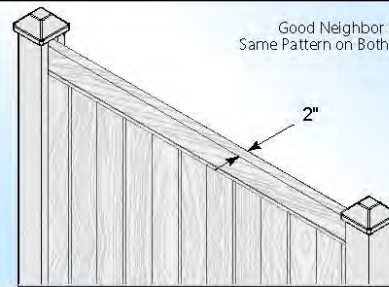


Post Cap Details
Caps Included Free With Posts



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Phone: (507) 206-4154 - Website: www.vinylfenceanddeck.com

Good Neighbor Fence
Same Pattern on Both Sides



Model #: WP72X72

This drawing may not be altered or reproduced without the permission of Vinyl Fence Wholesaler

Date: May 1, 2015

TYPE III FENCE

REV: A Gleason

Sheet 1 of 1

U.S. Patents: 7,478,797 / 7,636,114 Foreign Patents Pending



Website: www.vinylfenceanddeck.com
Phone: (507) 206-4154

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

| | |
|----------------------------|--|
| Project Name: | Quaker Falls Recreation Area - Phase 2 Development |
| Awarding Agency: | DCNR |
| Contract Award Date: | 11/20/2023 |
| Serial Number: | 23-07173 |
| Project Classification: | Heavy/Highway |
| Determination Date: | 8/22/2023 |
| Assigned Field Office: | Pittsburgh |
| Field Office Phone Number: | (412)565-5300 |
| Toll Free Phone Number: | (877)504-8354 |
| Project County: | Lawrence County |

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

| Project: 23-07173 - Building | Effective Date | Expiration Date | Hourly Rate | Fringe Benefits | Total |
|--|----------------|-----------------|-------------|-----------------|---------|
| Asbestos & Insulation Workers | 8/1/2022 | | \$39.36 | \$28.51 | \$67.87 |
| Boilermakers | 6/1/2016 | | \$40.90 | \$27.61 | \$68.51 |
| Bricklayer | 12/1/2022 | | \$34.73 | \$24.49 | \$59.22 |
| Carpenter | 6/1/2022 | | \$34.49 | \$18.54 | \$53.03 |
| Carpenters, Drywall Hangers, Framers, Instrument Men, Lathers, Soft Floor Layers | 6/1/2022 | | \$34.54 | \$18.30 | \$52.84 |
| Cement Finishers | 6/1/2016 | | \$28.71 | \$17.85 | \$46.56 |
| Cement Masons | 6/1/2021 | | \$31.77 | \$21.89 | \$53.66 |
| Drywall Finisher | 6/1/2022 | | \$32.00 | \$21.89 | \$53.89 |
| Drywall Finisher | 6/1/2023 | | \$32.39 | \$23.75 | \$56.14 |
| Drywall Finisher | 6/1/2024 | | \$34.01 | \$24.88 | \$58.89 |
| Electricians | 12/26/2022 | | \$45.55 | \$27.52 | \$73.07 |
| Electricians | 1/1/2024 | | \$47.30 | \$28.51 | \$75.81 |
| Electricians | 12/30/2024 | | \$49.05 | \$29.44 | \$78.49 |
| Elevator Constructor | 1/1/2023 | | \$56.14 | \$42.83 | \$98.97 |
| Glazier | 6/1/2013 | | \$25.56 | \$13.98 | \$39.54 |
| Iron Workers | 6/1/2023 | | \$33.00 | \$27.58 | \$60.58 |
| Laborers (Class 01 - See notes) | 1/1/2023 | | \$25.82 | \$19.46 | \$45.28 |
| Laborers (Class 01 - See notes) | 1/1/2024 | | \$26.82 | \$19.46 | \$46.28 |
| Laborers (Class 01 - See notes) | 1/1/2025 | | \$27.32 | \$19.96 | \$47.28 |
| Laborers (Class 01 - See notes) | 1/1/2026 | | \$27.82 | \$20.46 | \$48.28 |
| Laborers (Class 02 - See notes) | 1/1/2023 | | \$25.97 | \$19.46 | \$45.43 |
| Laborers (Class 02 - See notes) | 1/1/2024 | | \$26.97 | \$19.46 | \$46.43 |
| Laborers (Class 02 - See notes) | 1/1/2025 | | \$27.47 | \$19.96 | \$47.43 |
| Laborers (Class 02 - See notes) | 1/1/2026 | | \$27.97 | \$20.46 | \$48.43 |
| Laborers (Class 03 - See notes) | 1/1/2023 | | \$28.97 | \$19.46 | \$48.43 |
| Laborers (Class 03 - See notes) | 1/1/2024 | | \$29.97 | \$19.46 | \$49.43 |
| Laborers (Class 03 - See notes) | 1/1/2025 | | \$30.47 | \$19.96 | \$50.43 |
| Laborers (Class 03 - See notes) | 1/1/2026 | | \$30.97 | \$20.46 | \$51.43 |
| Laborers (Class 04 - See notes) | 1/1/2021 | | \$23.57 | \$19.32 | \$42.89 |
| Landscape Laborer (Skilled) | 1/1/2020 | | \$21.64 | \$16.98 | \$38.62 |
| Landscape Laborer (Skilled) | 1/1/2023 | | \$23.79 | \$18.28 | \$42.07 |
| Landscape Laborer (Skilled) | 1/1/2024 | | \$24.79 | \$18.53 | \$43.32 |
| Landscape Laborer (Skilled) | 1/1/2025 | | \$25.79 | \$18.78 | \$44.57 |
| Landscape Laborer (Skilled) | 1/1/2026 | | \$26.79 | \$19.03 | \$45.82 |
| Landscape Laborer (Tractor Operator) | 1/1/2020 | | \$21.94 | \$16.98 | \$38.92 |
| Landscape Laborer (Tractor Operator) | 1/1/2023 | | \$24.09 | \$18.28 | \$42.37 |
| Landscape Laborer (Tractor Operator) | 1/1/2024 | | \$25.09 | \$18.53 | \$43.62 |
| Landscape Laborer (Tractor Operator) | 1/1/2025 | | \$26.09 | \$18.78 | \$44.87 |
| Landscape Laborer (Tractor Operator) | 1/1/2026 | | \$27.09 | \$19.03 | \$46.12 |
| Landscape Laborer | 1/1/2020 | | \$21.22 | \$16.98 | \$38.20 |
| Landscape Laborer | 1/1/2023 | | \$23.37 | \$18.28 | \$41.65 |
| Landscape Laborer | 1/1/2024 | | \$24.37 | \$18.53 | \$42.90 |
| Landscape Laborer | 1/1/2025 | | \$25.37 | \$18.78 | \$44.15 |
| Landscape Laborer | 1/1/2026 | | \$26.37 | \$19.03 | \$45.40 |

Commonwealth of Pennsylvania
Report Date: 8/22/2023

Department of Labor & Industry
Page 2 of 7

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

| Project: 23-07173 - Building | Effective Date | Expiration Date | Hourly Rate | Fringe Benefits | Total |
|---|----------------|-----------------|-------------|-----------------|---------|
| Millwright | 6/1/2020 | | \$41.68 | \$20.32 | \$62.00 |
| Operators (Class 01 - see notes) | 6/1/2023 | | \$40.69 | \$23.89 | \$64.58 |
| Operators (Class 01 - see notes) | 6/1/2024 | | \$41.69 | \$24.39 | \$66.08 |
| Operators (Class 02 -see notes) | 6/1/2023 | | \$34.62 | \$23.89 | \$58.51 |
| Operators (Class 02 -see notes) | 6/1/2024 | | \$35.62 | \$24.39 | \$60.01 |
| Operators (Class 03 - See notes) | 6/1/2023 | | \$31.83 | \$23.89 | \$55.72 |
| Operators (Class 03 - See notes) | 6/1/2024 | | \$32.83 | \$24.39 | \$57.22 |
| Painters Class 6 (see notes) | 6/1/2021 | | \$29.15 | \$21.89 | \$51.04 |
| Painters Class 6 (see notes) | 6/1/2022 | | \$29.50 | \$22.82 | \$52.32 |
| Painters Class 6 (see notes) | 6/1/2023 | | \$30.56 | \$24.01 | \$54.57 |
| Painters Class 6 (see notes) | 6/1/2024 | | \$32.14 | \$24.93 | \$57.07 |
| Painters Class 6 (see notes) | 6/1/2025 | | \$34.16 | \$25.81 | \$59.97 |
| Pile Driver Divers (Building, Heavy, Highway) | 1/1/2023 | | \$58.70 | \$21.22 | \$79.92 |
| Pile Driver Divers (Building, Heavy, Highway) | 1/1/2024 | | \$60.95 | \$21.97 | \$82.92 |
| Pile Driver Divers (Building, Heavy, Highway) | 1/1/2025 | | \$62.82 | \$22.72 | \$85.54 |
| Pile Driver Divers (Building, Heavy, Highway) | 1/1/2026 | | \$64.70 | \$23.47 | \$88.17 |
| Piledrivers | 1/1/2023 | | \$39.13 | \$21.22 | \$60.35 |
| Piledrivers | 1/1/2024 | | \$40.63 | \$21.97 | \$62.60 |
| Piledrivers | 1/1/2025 | | \$41.88 | \$22.72 | \$64.60 |
| Piledrivers | 1/1/2026 | | \$43.13 | \$23.47 | \$66.60 |
| Plasterers | 6/1/2023 | | \$32.14 | \$20.54 | \$52.68 |
| plumber | 6/1/2022 | | \$49.35 | \$21.77 | \$71.12 |
| plumber | 6/1/2023 | | \$48.65 | \$25.87 | \$74.52 |
| plumber | 6/1/2024 | | \$51.75 | \$25.87 | \$77.62 |
| plumber | 6/1/2025 | | \$54.95 | \$25.87 | \$80.82 |
| plumber | 6/1/2026 | | \$58.05 | \$25.87 | \$83.92 |
| plumber | 6/1/2027 | | \$61.15 | \$25.87 | \$87.02 |
| Pointers, Caulkers, Cleaners | 12/1/2022 | | \$35.47 | \$20.88 | \$56.35 |
| Roofers | 4/1/2023 | | \$29.03 | \$18.75 | \$47.78 |
| Sheet Metal Workers | 7/1/2022 | | \$39.50 | \$31.43 | \$70.93 |
| Sheet Metal Workers | 8/1/2023 | | \$41.00 | \$32.94 | \$73.94 |
| Sign Makers and Hangars | 7/15/2022 | | \$30.54 | \$24.35 | \$54.89 |
| Sign Makers and Hangars | 7/15/2023 | | \$31.76 | \$24.63 | \$56.39 |
| Sprinklerfitters | 4/1/2023 | | \$44.33 | \$28.04 | \$72.37 |
| Steamfitters | 6/1/2022 | | \$44.15 | \$27.32 | \$71.47 |
| Steamfitters | 6/1/2023 | | \$46.10 | \$28.37 | \$74.47 |
| Stone Masons | 12/1/2022 | | \$38.56 | \$23.61 | \$62.17 |
| Terrazzo Finisher | 12/1/2022 | | \$36.13 | \$18.03 | \$54.16 |
| Terrazzo Mechanics | 12/1/2022 | | \$35.49 | \$20.32 | \$55.81 |
| Tile Finisher | 12/1/2022 | | \$28.76 | \$17.34 | \$46.10 |
| Tile Setter | 12/1/2022 | | \$35.64 | \$21.81 | \$57.45 |
| Truckdriver class 1(see notes) | 1/1/2023 | | \$33.18 | \$22.21 | \$55.39 |
| Truckdriver class 1(see notes) | 1/1/2024 | | \$34.93 | \$22.71 | \$57.64 |
| Truckdriver class 1(see notes) | 1/1/2025 | | \$36.43 | \$23.21 | \$59.64 |

Commonwealth of Pennsylvania
Report Date: 8/22/2023

Department of Labor & Industry
Page 3 of 7

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

| Project: 23-07173 - Building | Effective Date | Expiration Date | Hourly Rate | Fringe Benefits | Total |
|---------------------------------|----------------|-----------------|-------------|-----------------|---------|
| Truckdriver class 1(see notes) | 1/1/2026 | | \$37.93 | \$23.71 | \$61.64 |
| Truckdriver class 2 (see notes) | 1/1/2023 | | \$33.64 | \$22.52 | \$56.16 |
| Truckdriver class 2 (see notes) | 1/1/2024 | | \$35.39 | \$23.02 | \$58.41 |
| Truckdriver class 2 (see notes) | 1/1/2025 | | \$36.89 | \$23.52 | \$60.41 |
| Truckdriver class 2 (see notes) | 1/1/2026 | | \$38.39 | \$24.02 | \$62.41 |
| Truckdriver class 3 (see notes) | 1/1/2016 | | \$28.23 | \$16.98 | \$45.21 |
| Window Film / Tint Installer | 6/1/2019 | | \$24.52 | \$12.08 | \$36.60 |

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

| Project: 23-07173 - Heavy/Highway | Effective Date | Expiration Date | Hourly Rate | Fringe Benefits | Total |
|-----------------------------------|----------------|-----------------|-------------|-----------------|---------|
| Carpenter | 1/1/2023 | | \$38.60 | \$20.59 | \$59.19 |
| Carpenter | 1/1/2024 | | \$40.10 | \$21.34 | \$61.44 |
| Carpenter | 1/1/2025 | | \$41.35 | \$22.09 | \$63.44 |
| Carpenter | 1/1/2026 | | \$42.60 | \$22.84 | \$65.44 |
| Carpenter Welder | 1/1/2023 | | \$40.10 | \$20.59 | \$60.69 |
| Carpenter Welder | 1/1/2024 | | \$41.60 | \$21.34 | \$62.94 |
| Carpenter Welder | 1/1/2025 | | \$42.85 | \$22.09 | \$64.94 |
| Carpenter Welder | 1/1/2026 | | \$44.10 | \$22.84 | \$66.94 |
| Cement Finishers | 1/1/2023 | | \$34.14 | \$25.05 | \$59.19 |
| Cement Finishers | 1/1/2024 | | \$35.14 | \$26.30 | \$61.44 |
| Cement Finishers | 1/1/2025 | | \$35.94 | \$27.50 | \$63.44 |
| Cement Masons | 1/1/2020 | | \$32.84 | \$21.10 | \$53.94 |
| Electric Lineman | 8/29/2022 | | \$62.66 | \$28.08 | \$90.74 |
| Electric Lineman | 9/4/2023 | | \$64.68 | \$29.01 | \$93.69 |
| Iron Workers | 6/1/2021 | | \$31.07 | \$26.00 | \$57.07 |
| Laborers (Class 01 - See notes) | 1/1/2023 | | \$29.95 | \$25.50 | \$55.45 |
| Laborers (Class 01 - See notes) | 1/1/2024 | | \$32.20 | \$25.50 | \$57.70 |
| Laborers (Class 01 - See notes) | 1/1/2025 | | \$33.70 | \$26.00 | \$59.70 |
| Laborers (Class 01 - See notes) | 1/1/2026 | | \$34.70 | \$27.00 | \$61.70 |
| Laborers (Class 02 - See notes) | 1/1/2023 | | \$30.11 | \$25.50 | \$55.61 |
| Laborers (Class 02 - See notes) | 1/1/2024 | | \$32.36 | \$25.50 | \$57.86 |
| Laborers (Class 02 - See notes) | 1/1/2025 | | \$33.86 | \$26.00 | \$59.86 |
| Laborers (Class 02 - See notes) | 1/1/2026 | | \$34.86 | \$27.00 | \$61.86 |
| Laborers (Class 03 - See notes) | 1/1/2023 | | \$30.50 | \$25.50 | \$56.00 |
| Laborers (Class 03 - See notes) | 1/1/2024 | | \$32.75 | \$25.50 | \$58.25 |
| Laborers (Class 03 - See notes) | 1/1/2025 | | \$34.25 | \$26.00 | \$60.25 |
| Laborers (Class 03 - See notes) | 1/1/2026 | | \$35.25 | \$27.00 | \$62.25 |
| Laborers (Class 04 - See notes) | 1/1/2023 | | \$30.95 | \$25.50 | \$56.45 |
| Laborers (Class 04 - See notes) | 1/1/2024 | | \$33.20 | \$25.50 | \$58.70 |
| Laborers (Class 04 - See notes) | 1/1/2025 | | \$34.70 | \$26.00 | \$60.70 |
| Laborers (Class 04 - See notes) | 1/1/2026 | | \$35.70 | \$27.00 | \$62.70 |
| Laborers (Class 05 - See notes) | 1/1/2023 | | \$31.36 | \$25.50 | \$56.86 |
| Laborers (Class 05 - See notes) | 1/1/2024 | | \$33.61 | \$25.50 | \$59.11 |
| Laborers (Class 05 - See notes) | 1/1/2025 | | \$35.11 | \$26.00 | \$61.11 |
| Laborers (Class 05 - See notes) | 1/1/2026 | | \$36.11 | \$27.00 | \$63.11 |
| Laborers (Class 06 - See notes) | 1/1/2023 | | \$28.20 | \$25.50 | \$53.70 |
| Laborers (Class 06 - See notes) | 1/1/2024 | | \$30.45 | \$25.50 | \$55.95 |
| Laborers (Class 06 - See notes) | 1/1/2025 | | \$31.95 | \$26.00 | \$57.95 |
| Laborers (Class 06 - See notes) | 1/1/2026 | | \$32.95 | \$27.00 | \$59.95 |
| Laborers (Class 07 - See notes) | 1/1/2023 | | \$30.95 | \$25.50 | \$56.45 |
| Laborers (Class 07 - See notes) | 1/1/2024 | | \$33.20 | \$25.50 | \$58.70 |
| Laborers (Class 07 - See notes) | 1/1/2025 | | \$34.70 | \$26.00 | \$60.70 |
| Laborers (Class 07 - See notes) | 1/1/2026 | | \$35.70 | \$27.00 | \$62.70 |
| Laborers (Class 08 - See notes) | 1/1/2023 | | \$32.45 | \$25.50 | \$57.95 |

Commonwealth of Pennsylvania
Report Date: 8/22/2023

Department of Labor & Industry
Page 5 of 7

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

| Project: 23-07173 - Heavy/Highway | Effective Date | Expiration Date | Hourly Rate | Fringe Benefits | Total |
|---|----------------|-----------------|-------------|-----------------|---------|
| Laborers (Class 08 - See notes) | 1/1/2024 | | \$34.70 | \$25.50 | \$60.20 |
| Laborers (Class 08 - See notes) | 1/1/2025 | | \$36.20 | \$26.00 | \$62.20 |
| Laborers (Class 08 - See notes) | 1/1/2026 | | \$37.20 | \$27.00 | \$64.20 |
| Millwright | 6/1/2020 | | \$41.68 | \$20.32 | \$62.00 |
| Operators (Class 01 - see notes) | 1/1/2023 | | \$36.79 | \$23.58 | \$60.37 |
| Operators (Class 01 - see notes) | 1/1/2024 | | \$38.59 | \$24.03 | \$62.62 |
| Operators (Class 01 - see notes) | 1/1/2025 | | \$40.39 | \$24.23 | \$64.62 |
| Operators (Class 02 -see notes) | 1/1/2023 | | \$36.53 | \$23.58 | \$60.11 |
| Operators (Class 02 -see notes) | 1/1/2024 | | \$38.33 | \$24.03 | \$62.36 |
| Operators (Class 02 -see notes) | 1/1/2025 | | \$40.13 | \$24.23 | \$64.36 |
| Operators (Class 03 - See notes) | 1/1/2023 | | \$32.88 | \$23.58 | \$56.46 |
| Operators (Class 03 - See notes) | 1/1/2024 | | \$34.68 | \$24.03 | \$58.71 |
| Operators (Class 03 - See notes) | 1/1/2025 | | \$36.48 | \$24.23 | \$60.71 |
| Operators (Class 04 - See notes) | 1/1/2023 | | \$32.42 | \$23.58 | \$56.00 |
| Operators (Class 04 - See notes) | 1/1/2024 | | \$34.22 | \$24.03 | \$58.25 |
| Operators (Class 04 - See notes) | 1/1/2025 | | \$36.02 | \$24.23 | \$60.25 |
| Operators (Class 05 - See notes) | 1/1/2023 | | \$32.17 | \$23.58 | \$55.75 |
| Operators (Class 05 - See notes) | 1/1/2024 | | \$33.97 | \$24.03 | \$58.00 |
| Operators (Class 05 - See notes) | 1/1/2025 | | \$35.77 | \$24.23 | \$60.00 |
| Operators Class 1-A | 1/1/2023 | | \$39.79 | \$23.58 | \$63.37 |
| Operators Class 1-A | 1/1/2024 | | \$41.59 | \$24.03 | \$65.62 |
| Operators Class 1-A | 1/1/2025 | | \$43.39 | \$24.23 | \$67.62 |
| Operators Class 1-B | 1/1/2023 | | \$38.79 | \$23.58 | \$62.37 |
| Operators Class 1-B | 1/1/2024 | | \$40.59 | \$24.03 | \$64.62 |
| Operators Class 1-B | 1/1/2025 | | \$42.39 | \$24.23 | \$66.62 |
| Painters Class 1 (see notes) | 6/1/2022 | | \$34.45 | \$22.82 | \$57.27 |
| Painters Class 2 (see notes) | 6/1/2019 | | \$35.25 | \$20.06 | \$55.31 |
| Painters Class 2 (see notes) | 6/1/2023 | | \$36.01 | \$24.01 | \$60.02 |
| Painters Class 2 (see notes) | 6/1/2024 | | \$38.09 | \$24.93 | \$63.02 |
| Painters Class 2 (see notes) | 6/1/2025 | | \$40.36 | \$25.81 | \$66.17 |
| Painters Class 3 (see notes) | 6/1/2022 | | \$36.77 | \$22.82 | \$59.59 |
| Painters Class 3 (see notes) | 6/1/2023 | | \$38.33 | \$24.01 | \$62.34 |
| Painters Class 3 (see notes) | 6/1/2024 | | \$40.66 | \$24.93 | \$65.59 |
| Painters Class 3 (see notes) | 6/1/2025 | | \$43.69 | \$25.81 | \$69.50 |
| Painters Class 4 (see notes) | 6/1/2019 | | \$28.20 | \$20.06 | \$48.26 |
| Painters Class 5 (see notes) | 6/1/2019 | | \$22.91 | \$20.06 | \$42.97 |
| Pile Driver Divers (Building, Heavy, Highway) | 1/1/2023 | | \$58.70 | \$21.22 | \$79.92 |
| Pile Driver Divers (Building, Heavy, Highway) | 1/1/2024 | | \$60.95 | \$21.97 | \$82.92 |
| Pile Driver Divers (Building, Heavy, Highway) | 1/1/2025 | | \$62.82 | \$22.72 | \$85.54 |
| Pile Driver Divers (Building, Heavy, Highway) | 1/1/2026 | | \$64.70 | \$23.47 | \$88.17 |
| Piledrivers | 1/1/2023 | | \$39.13 | \$21.22 | \$60.35 |
| Piledrivers | 1/1/2024 | | \$40.63 | \$21.97 | \$62.60 |
| Piledrivers | 1/1/2025 | | \$41.88 | \$22.72 | \$64.60 |
| Piledrivers | 1/1/2026 | | \$43.13 | \$23.47 | \$66.60 |

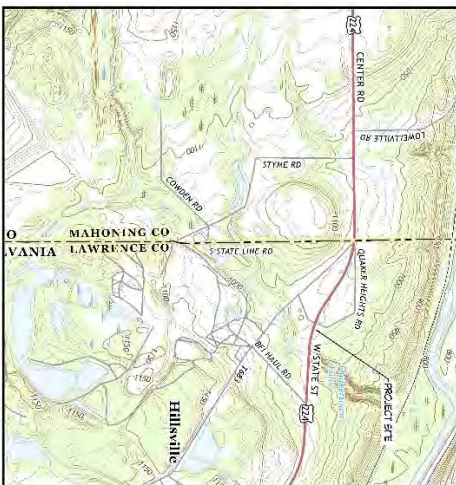
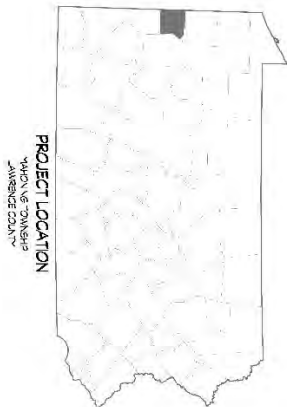
Commonwealth of Pennsylvania
Report Date: 8/22/2023

Department of Labor & Industry
Page 6 of 7

**BUREAU OF LABOR LAW COMPLIANCE
PREVAILING WAGES PROJECT RATES**

| Project: 23-07173 - Heavy/Highway | Effective Date | Expiration Date | Hourly Rate | Fringe Benefits | Total |
|---|----------------|-----------------|-------------|-----------------|---------|
| Steamfitters (Heavy and Highway - Gas Distribution) | 5/1/2022 | | \$48.43 | \$40.28 | \$88.71 |
| Truckdriver class 1(see notes) | 1/1/2023 | | \$33.18 | \$22.21 | \$55.39 |
| Truckdriver class 1(see notes) | 1/1/2024 | | \$34.93 | \$22.71 | \$57.64 |
| Truckdriver class 1(see notes) | 1/1/2025 | | \$36.43 | \$23.21 | \$59.64 |
| Truckdriver class 1(see notes) | 1/1/2026 | | \$37.93 | \$23.71 | \$61.64 |
| Truckdriver class 2 (see notes) | 1/1/2023 | | \$33.04 | \$22.13 | \$55.17 |
| Truckdriver class 2 (see notes) | 1/1/2024 | | \$34.79 | \$22.63 | \$57.42 |
| Truckdriver class 2 (see notes) | 1/1/2025 | | \$36.29 | \$23.13 | \$59.42 |
| Truckdriver class 2 (see notes) | 1/1/2026 | | \$37.79 | \$23.63 | \$61.42 |
| Truckdriver class 3 (see notes) | 1/1/2019 | | \$29.59 | \$19.82 | \$49.41 |

COUNTY OF LAWRENCE MAHONING TOWNSHIP QUAKER FALLS RECREATION AREA PHASE II - OBSERVATION PLATFORMS AND SITE AMENITIES CONSTRUCTION



| Sheet No. | Section |
|-----------|-------------|
| 1 | SECTION 1 |
| 2 | SECTION 2 |
| 3 | SECTION 3 |
| 4 | SECTION 4 |
| 5 | SECTION 5 |
| 6 | SECTION 6 |
| 7 | SECTION 7 |
| 8 | SECTION 8 |
| 9 | SECTION 9 |
| 10 | SECTION 10 |
| 11 | SECTION 11 |
| 12 | SECTION 12 |
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| 91 | SECTION 91 |
| 92 | SECTION 92 |
| 93 | SECTION 93 |
| 94 | SECTION 94 |
| 95 | SECTION 95 |
| 96 | SECTION 96 |
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| 98 | SECTION 98 |
| 99 | SECTION 99 |
| 100 | SECTION 100 |



SEAL OF THE COUNTY OF LAWRENCE, OHIO
JUNE 19, 1848

| NO. | DATE | DESCRIPTION |
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PREPARED FOR:
COUNTY OF LAWRENCE
430 COURT STREET
NEW CASTLE, PA. 16051

JUNE 2023

PREPARED BY:
R.A.R. ENGINEERING GROUP, INC.
1000 W. 10TH STREET, SUITE 100
NEW CASTLE, PA. 16051
WWW.RARENG.COM

[illegible][illegible]

| PROJECT IDENTIFIER | PROJECT NAME | PROJECT ID | DOI/URL |
|--------------------|------------------------|------------|------------|
| 1 | CONTRACTOR | 2405200 | 2706-02080 |
| 2 | RESEARCH & DEVELOPMENT | 2405200 | 2706-02080 |
| 3 | RESEARCH & DEVELOPMENT | 2405200 | 2706-02080 |
| 4 | RESEARCH & DEVELOPMENT | 2405200 | 2706-02080 |
| 5 | RESEARCH & DEVELOPMENT | 2405200 | 2706-02080 |
| 6 | RESEARCH & DEVELOPMENT | 2405200 | 2706-02080 |

PROPERTY INFORMATION NOTES

[illegible]

GENERAL NOTES

1. The following are the main components of a contract:
 - a. Offer and Acceptance: The offer is a promise or proposal made by one party to another, and acceptance is the agreement by the other party to the terms of the offer.
 - b. Consideration: This is the value or benefit that is exchanged between the parties. It can be money, goods, services, or anything of value.
 - c. Intention to Create Legal Relations: The parties must intend that their agreement will be legally binding.
 - d. Capacity: The parties must be legally capable of entering into a contract. This means they must be of legal age and of sound mind.
 - e. Legality: The contract must be for a lawful purpose and must not violate any laws or public policy.
2. The contract is a legally binding agreement between two or more parties that creates legal obligations. It is a promise or set of promises that is enforceable by law. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement.
3. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement.
4. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement.
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8. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement.
9. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement.
10. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement. The contract is a legal relationship between the parties, and it is a legal obligation for each party to perform their part of the agreement.

EARTHWORK CONSTRUCTION SEQUENCE

[illegible]

| | | | | | |
|---|---|--|----|------|----------|
|  G-001 | COUNTY OF LAWRENCE QUAKER FALLS RECREATION AREA PROPOSED OVERLOOK & ENHANCEMENTS PROJECT PHASE II GENERAL NOTES, LEGEND & CONSTRUCTION SEQUENCE |  R.A.R. engineering group, inc. 1119 Butler Avenue, New Castle, Pennsylvania 16101 telephone: 724.862.1004 fax: 724.862.3814 website: www.rarengineering.com | 1 | | |
| | | | 2 | | |
| | | | 3 | | |
| | | | 4 | | |
| | | | 5 | | |
| | | | 6A | DATE | APPROVED |

TEMPORARY SITE STABILIZATION

1. *As a result of the 1990s, the number of people in the United States who are Hispanic has increased by 50 percent.*

PERMANENT SITE STABILIZATION

[illegible]

| ITEM | UNIT | QTY | UNIT PRICE | AMOUNT | REMARKS |
|------|------|-----|------------|--------|---------|
| 1 | 1000 | 1 | 1000 | 1000 | 1000 |
| 2 | 1000 | 1 | 1000 | 1000 | 1000 |
| 3 | 1000 | 1 | 1000 | 1000 | 1000 |
| 4 | 1000 | 1 | 1000 | 1000 | 1000 |
| 5 | 1000 | 1 | 1000 | 1000 | 1000 |
| 6 | 1000 | 1 | 1000 | 1000 | 1000 |
| 7 | 1000 | 1 | 1000 | 1000 | 1000 |
| 8 | 1000 | 1 | 1000 | 1000 | 1000 |
| 9 | 1000 | 1 | 1000 | 1000 | 1000 |
| 10 | 1000 | 1 | 1000 | 1000 | 1000 |
| 11 | 1000 | 1 | 1000 | 1000 | 1000 |
| 12 | 1000 | 1 | 1000 | 1000 | 1000 |
| 13 | 1000 | 1 | 1000 | 1000 | 1000 |
| 14 | 1000 | 1 | 1000 | 1000 | 1000 |
| 15 | 1000 | 1 | 1000 | 1000 | 1000 |
| 16 | 1000 | 1 | 1000 | 1000 | 1000 |
| 17 | 1000 | 1 | 1000 | 1000 | 1000 |
| 18 | 1000 | 1 | 1000 | 1000 | 1000 |
| 19 | 1000 | 1 | 1000 | 1000 | 1000 |
| 20 | 1000 | 1 | 1000 | 1000 | 1000 |
| 21 | 1000 | 1 | 1000 | 1000 | 1000 |
| 22 | 1000 | 1 | 1000 | 1000 | 1000 |
| 23 | 1000 | 1 | 1000 | 1000 | 1000 |
| 24 | 1000 | 1 | 1000 | 1000 | 1000 |
| 25 | 1000 | 1 | 1000 | 1000 | 1000 |
| 26 | 1000 | 1 | 1000 | 1000 | 1000 |
| 27 | 1000 | 1 | 1000 | 1000 | 1000 |
| 28 | 1000 | 1 | 1000 | 1000 | 1000 |
| 29 | 1000 | 1 | 1000 | 1000 | 1000 |
| 30 | 1000 | 1 | 1000 | 1000 | 1000 |
| 31 | 1000 | 1 | 1000 | 1000 | 1000 |
| 32 | 1000 | 1 | 1000 | 1000 | 1000 |
| 33 | 1000 | 1 | 1000 | 1000 | 1000 |
| 34 | 1000 | 1 | 1000 | 1000 | 1000 |
| 35 | 1000 | 1 | 1000 | 1000 | 1000 |
| 36 | 1000 | 1 | 1000 | 1000 | 1000 |
| 37 | 1000 | 1 | 1000 | 1000 | 1000 |
| 38 | 1000 | 1 | 1000 | 1000 | 1000 |
| 39 | 1000 | 1 | 1000 | 1000 | 1000 |
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| 41 | 1000 | 1 | 1000 | 1000 | 1000 |
| 42 | 1000 | 1 | 1000 | 1000 | 1000 |
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| 53 | 1000 | 1 | 1000 | 1000 | 1000 |
| 54 | 1000 | 1 | 1000 | 1000 | 1000 |
| 55 | 1000 | 1 | 1000 | 1000 | 1000 |
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| 58 | 1000 | 1 | 1000 | 1000 | 1000 |
| 59 | 1000 | 1 | 1000 | 1000 | 1000 |
| 60 | 1000 | 1 | 1000 | 1000 | 1000 |
| 61 | 1000 | 1 | 1000 | 1000 | 1000 |
| 62 | 1000 | 1 | 1000 | 1000 | 1000 |
| 63 | 1000 | 1 | 1000 | 1000 | 1000 |
| 64 | 1000 | 1 | 1000 | 1000 | 1000 |
| 65 | 1000 | 1 | 1000 | 1000 | 1000 |
| | | | | | |

$H = 10^{-4}$
 $M_c = \text{MODERATELY LOW}$

| SOIL PROPERTIES | | SOIL TAILORING SYSTEM | | RESULTS | |
|-----------------|-------------------|-----------------------|------------------------|---------|-------------------|
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| 4 | PERCENT CORROSION | 5 | PERCENT CORROSION | 6 | PERCENT CORROSION |
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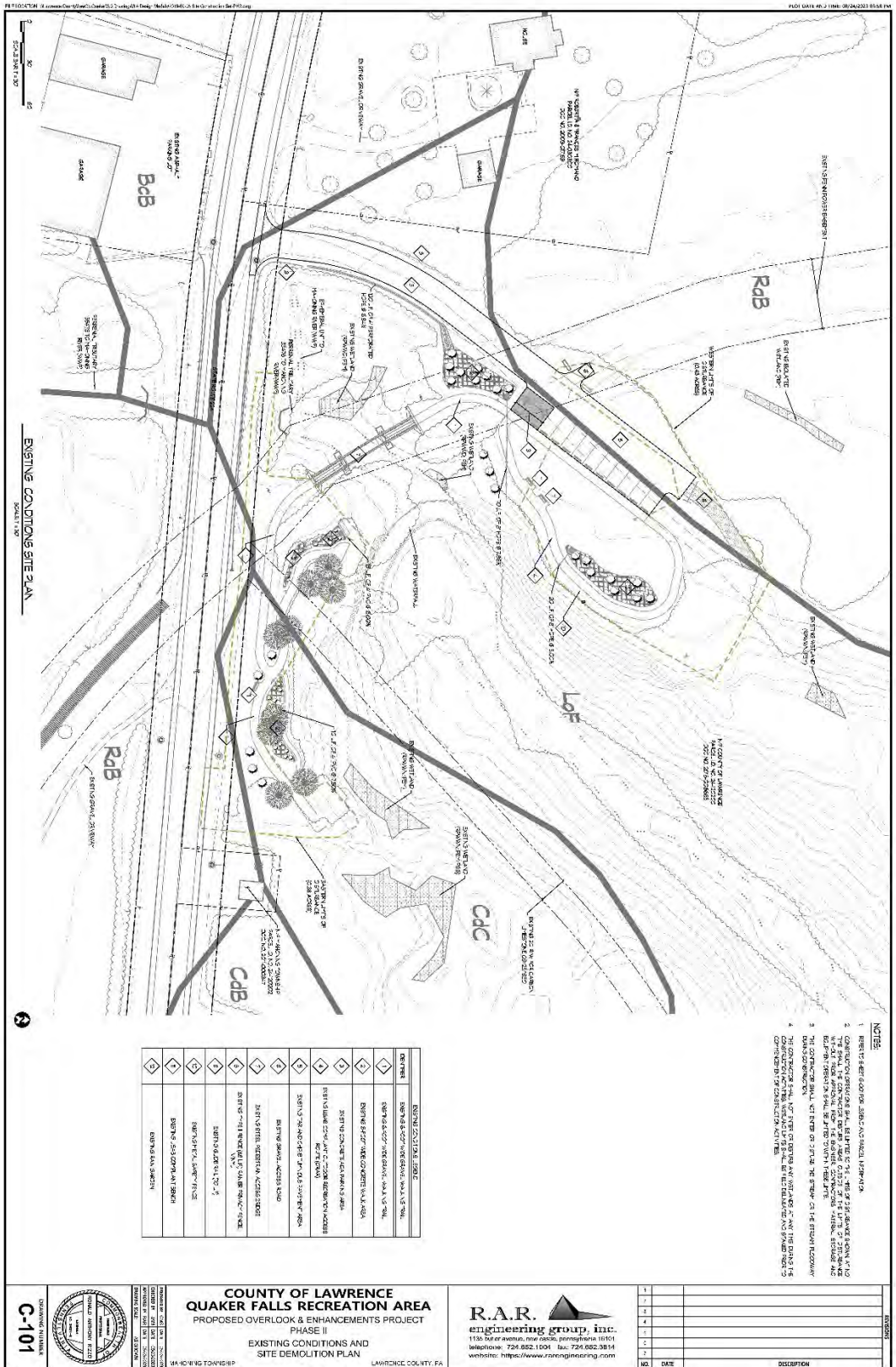
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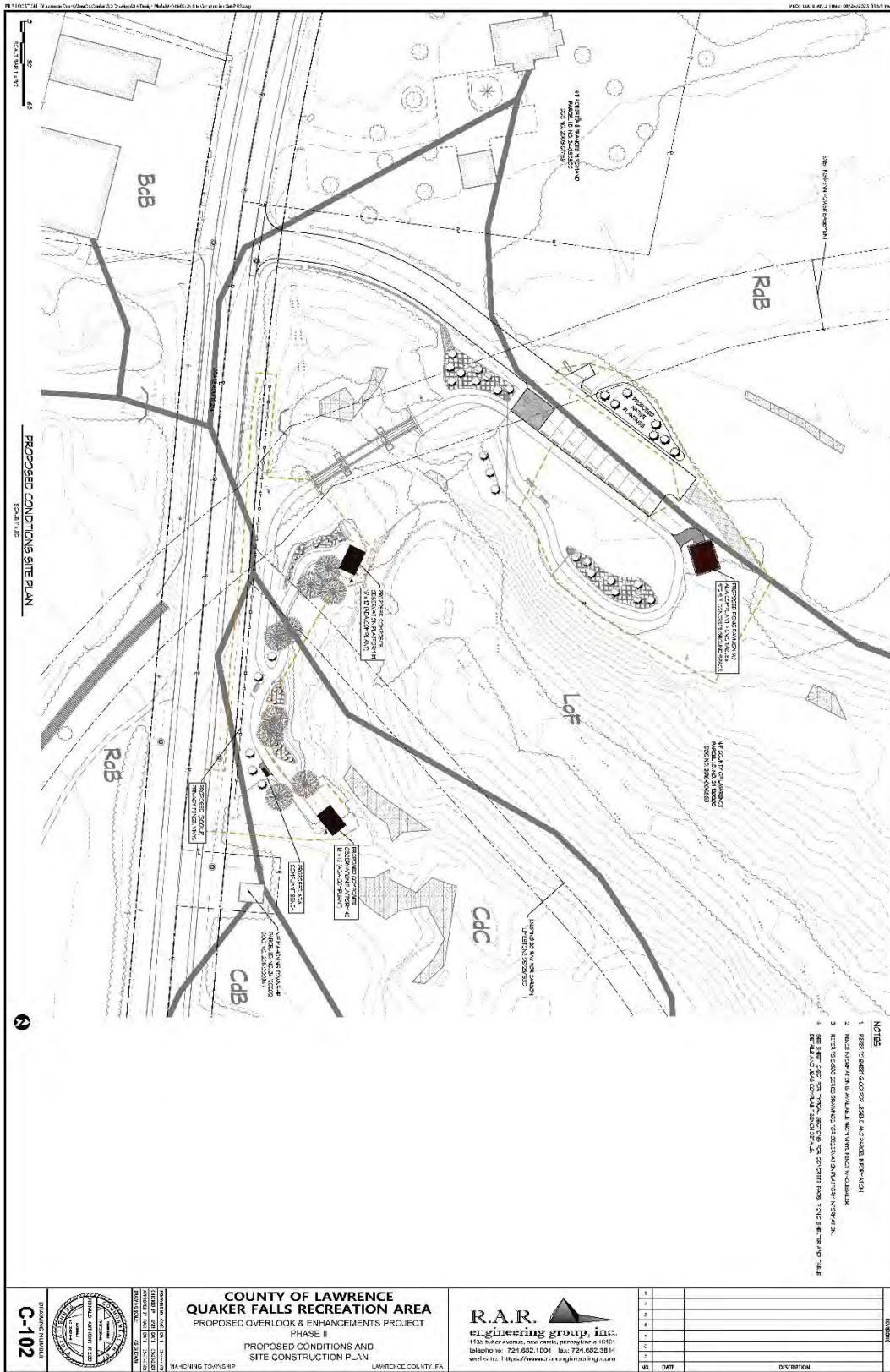
ALLIANCE PROSPECT CONSULTS SHAW, KIRBY
HOW EFFECTIVE WERE THESE PRINCIPLES?

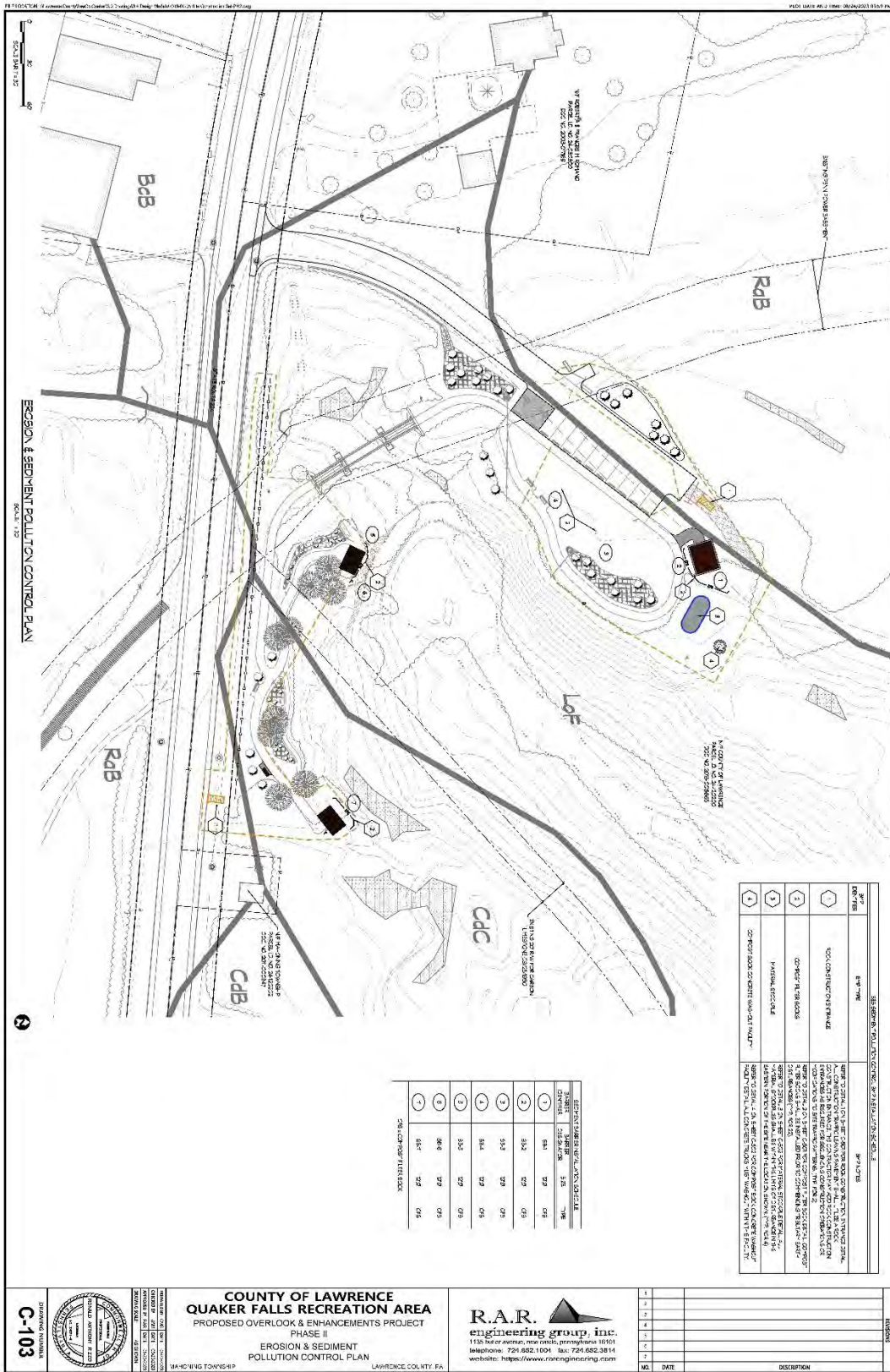
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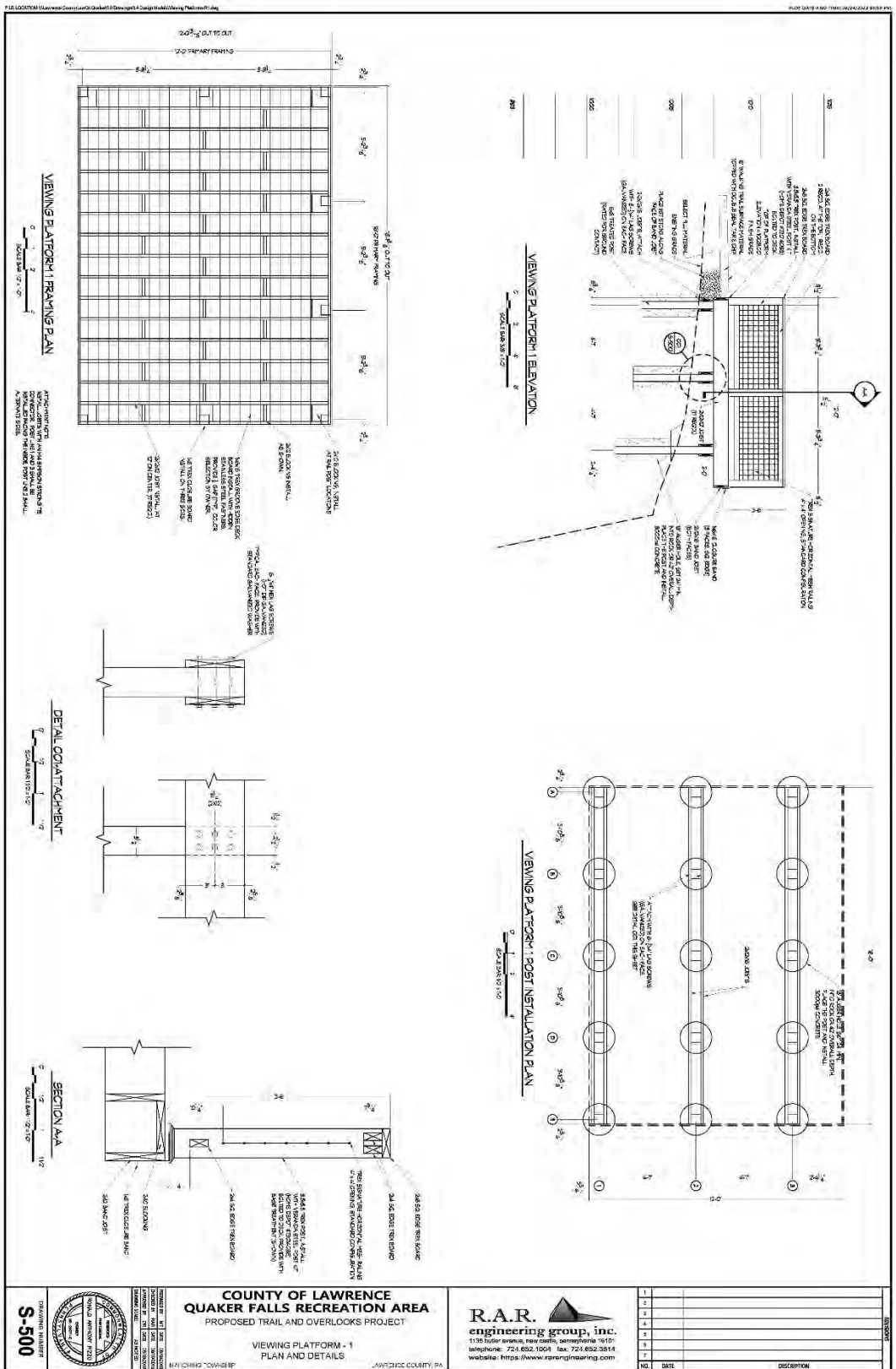
OVERHAULING POLYMER, AND IN

6. A study of the effect of small unbalanced groups on the performance of a task. The study was conducted by a group of 12 subjects, who were divided into three groups of four. Each group was given a task to complete, and the time taken to complete the task was recorded. The results showed that the group with the smallest unbalanced group performed the task most efficiently.









COUNTY OF LAWRENCE
QUAKER FALLS RECREATION AREA
 PROPOSED TRAIL AND OVERLOOKS PROJECT

VIEWING PLATFORM - 1
 PLAN AND DETAILS

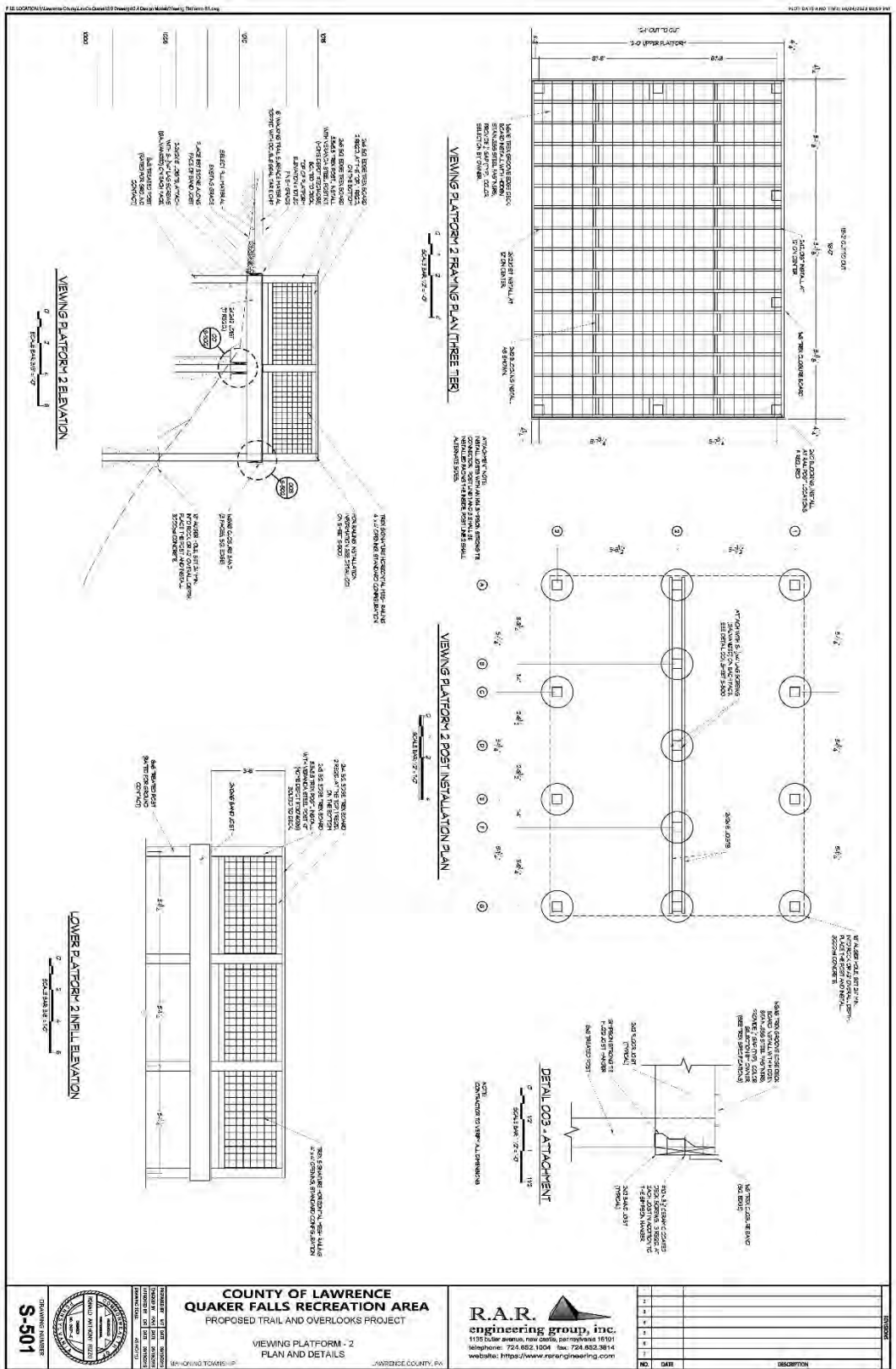
R.A.R. engineering group, inc.
 1195 Fuller Avenue, New Castle, Pennsylvania 16101
 telephone: 724.852.1004 fax: 724.852.3814
 website: <http://www.raengineering.com>

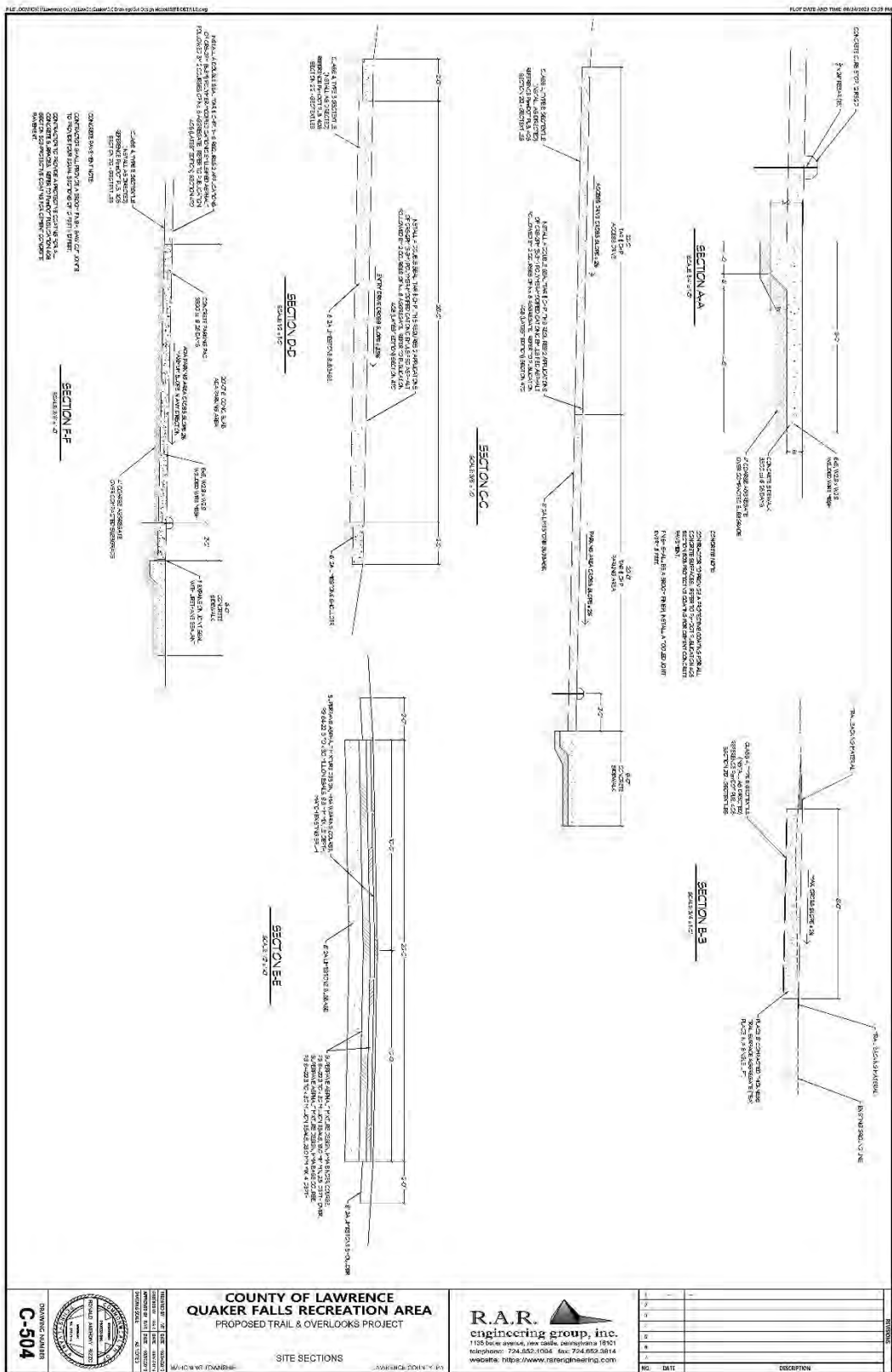
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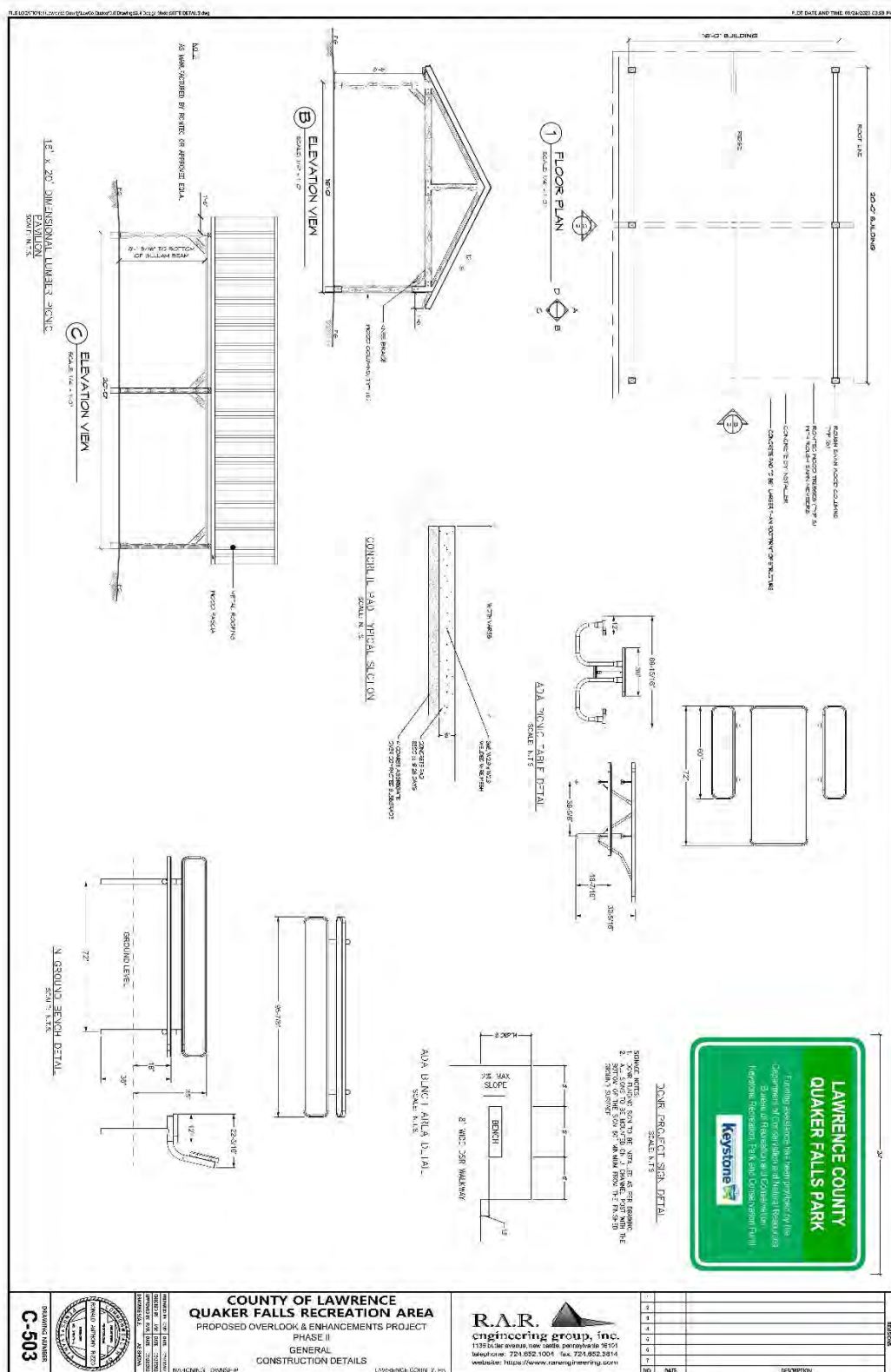
DESIGNED BY: R.A.R. ENGINEERING GROUP, INC.
 DRAWN BY: J. J. JONES
 CHECKED BY: J. J. JONES
 APPROVED BY: J. J. JONES

PROJECT NO. S-500

DATE: 01/10/2012







BID PROPOSAL FORM

FIRM: _____

DATE: _____

CONTRACT: Quaker Falls Recreation Area – Phase II

PROPOSED TO: County of Lawrence

| ITEM DESCRIPTION | | UNIT | QTY. | UNIT COST | TOTAL |
|--------------------|--|------|------|-----------|-------|
| 1 | Mobilization/Demobilization | L.S. | 1 | | |
| 2 | Erosion and Sedimentation Control | L.S. | 1 | | |
| 3 | Site Grading | L.S. | 1 | | |
| 4 | Observation Platform No. 1 (complete) | L.S. | 1 | | |
| 5 | Observation Platform No. 2 (complete) | L.S. | 1 | | |
| 6 | 16' x 20' Dimensional Lumber Picnic Pavilion with Concrete Pad | L.S. | 1 | | |
| 7 | 6' High Vinyl Privacy Fence | L.F. | 300 | | |
| 8 | 72" ADA Picnic Table | Each | 2 | | |
| 9 | Park Bench with Concrete Pad | Each | 2 | | |
| 10 | Native Plantings | L.S. | 1 | | |
| BID TOTAL = | | | | | |

NOTE: The County of Lawrence reserves the right to reject any and all bids. The County of Lawrence is soliciting prices for each listed item. The County of Lawrence also reserves the right to remove or delay certain items due to legal issues that may arise during or following award of contract. The County of Lawrence reserves the right to retain bids for sixty (60) days.

By _____
(Company Name)

Contact Person: _____

Phone Number: _____

(Address)

Email Address: _____

GENERAL INSTRUCTIONS FOR BID BONDS

1. The "Bid Bond" form shall be used for the protection of the COUNTY in receiving bids. There shall be no deviation from this form without prior consent.
2. The surety on each bond must be a responsible surety company, which is qualified to do business in Pennsylvania and satisfactory to the COUNTY.
3. If the principals are partners, their individual names will appear in the body of the bond, with the recital that they are partners composing a firm, naming it, and all the members of the firm shall execute the bond as individuals.
4. If the principals are partners, their individual names will appear in the appropriate place, attesting the signature of each individual party to the bond.
5. IF the principal or surety is a corporation, the name of the state in which incorporated shall be inserted in the appropriate place in the body of the bond and said instrument shall be executed and attested under the corporate seal, as indicated in the form. If the corporation has no corporate seal, the fact shall be stated, in which case of scroll or adhesive seal shall appear following the corporate name.
6. The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary, according to the form attached hereto. In lieu of such certificate, there may be attached to the bond, copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.

BID BOND

KNOW ALL MEN BY THESE PRESENTS, that, _____ having an office at _____, as **Principal**, and _____, having an office located at _____ as **Surety**, both of whom are duly qualified and authorized to transact their respective businesses in the Commonwealth of Pennsylvania are held and firmly bound unto the County of Lawrence and having offices at 430 Court Street, New Castle, PA 16101, as "**Obligee**", in the amount of _____ (\$ _____) Dollars (to be no less than 10% of the total bid price) lawful money of the United States of America, for the payment of which sum well and truly to be made, Principal and Surety bind themselves, their heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

WHEREAS, in response to Obligee's request for bids, the Principal has submitted a written bid relating to the project known as the **Quaker Falls Recreation Area – Phase II ("Project")** (a copy of which Bid dated _____, 20____, is attached hereto and incorporated herein) and the Principal is required to furnish a bond and surety in the amount set forth above.

NOW, THEREFORE, THE CONDITION OF THIS BOND AND OBLIGATION is that if the Principal's bid is accepted and the Principal is awarded a contract for any part of the Project; and if Principal enters into a written Contract for the performance of the Project or so much as may be awarded to the Principal, and upon such execution also executes and delivers to Obligee good and sufficient surety as is required or contemplated by the Contract and related documents including performance, labor, material and maintenance bonds, and furnishes the Obligee proper and acceptable evidence of the existence of the required or contemplated insurance coverages, within the time, in the forms and in the amounts as required or contemplated by the Contract and related documents, then this Bond shall be void; otherwise, the bond shall be and shall remain in full force and effect.

The Principal and the Surety hereby stipulate and agree that if the Principal fails to perform all conditions of this Bond, they will pay the sum of the Bond to the Obligee as fixed, liquidated damages.

The Surety, for value received, hereby stipulates, covenants, and agrees that the obligations of said Surety and its Bond shall be in no way impaired or affected by any extension of time within which the Obligee may accept such Bid; and said Surety does hereby waive notice of any such extension.

IN WITNESS WHEREOF, the Contractor and Surety, intending to be legally bound hereby, and the undersigned pursuant to authority granted by their governing body have full authority to sign and bind themselves and their respective principals hereto, have signed and sealed this agreement, this _____ day of _____, 20____.

WITNESS/ATTEST

Name of Bidder, Corporation, Firm
or Individual

By

_____(SEAL)

(Title)

Business Address of Bidder

WITNESS/ATTEST:

Name of Surety

By:

_____(SEAL)

Title

(ATTACH POWER OF ATTORNEY)

AFFIDAVIT
ACCEPTING PROVISIONS FOR THE WORKMEN'S
COMPENSATION ACT

State of _____

ss:

County of _____

Name of Officer, if Corporation

Title of Officer, if Corporation

Name of Contractor

Being duly sworn according to law deposed and say he/they/it has/have accepted the provisions of the Workmen's Compensation Act of 1915 of the Commonwealth of Pennsylvania, with its supplements and amendments; and has/have insured his/their/its liability thereunder in accordance with the terms of said Act with.

_____ Company.

Contractor

Signature of Officer or Agent

Sworn and subscribed before me this _____ day of _____, 20____.

Notary Public

My Commission Expires: _____

AFFIDAVIT OF NON-COLLUSION
Quaker Falls Recreation Area – Phase II

Commonwealth of Pennsylvania)
)
County of Lawrence) ss:

I, _____, being duly sworn according to law depose and say
that I _____ (Name) am
_____ Owner-Partner of _____ Name and Address of
Bidder _____ who
submits this Bid Proposal to the Board of Commissioners of the County of Lawrence and
hereby declares:

1. That he has read this Project Manual and Proposal and has abided by and agrees to the conditions herein and has carefully read and examined the Proposal and Specifications and does hereby propose to furnish all equipment and do all work required in accordance with said Proposal, Specifications, and Instructions to Bidders for the amount indicated in this Bid Proposal.
2. That said Bidder has not entered into any agreement with any other bidder or prospective bidder or with any other person, firm, or corporation relating to the price named in said proposal or any other proposal, nor any agreement or arrangement under which any person, firm or corporation is to refrain from bidding, nor any agreement or arrangement for any act or omission in restraint of free competition among bidders.
3. That this proposal is genuine, and shall not sham or be collusive, nor made in the interest or in behalf of any other person not herein named, and that the bidder has not directly or indirectly induced or solicited any other bidder or put in a sham bid, and that the bidder has not in any manner sought by collusion to secure for himself an advantage over any other bidder.
4. That said bidder has not disclosed to any person, firm, corporation, or any other entity, public or private, the terms of said proposal or the amount of the Bid Proposal named herein.
5. That this Affidavit, on behalf of said Bidder, has read the foregoing documents of which this affidavit is a part and that the statements and representations made are true and correct to the best of his knowledge, information, and belief.

Bidder: _____

By: _____

(Corporate Seal)

Sworn and subscribed before me this _____ day of _____, 20____.

Notary Public

My Commission Expires: _____

GENERAL INSTRUCTIONS FOR BONDS

1. The "Performance Bond" form shall be used for construction work in furnishing of supplies whenever a bond is required. There shall be no deviation from this form, unless approved in writing by the COUNTY.
2. The "Labor and Material Payment Bond" form, for the protection of persons supplying labor and material, shall be used on all contracts where such bond is required. This bond shall provide that every person, co-partnership, association or corporation who, whether as subcontractors or otherwise, has finished material or supplied or performed labor in the prosecution of the work, as above provided, and who has not been paid therefore, may sue in assumpsit on said bond, the name of the OWNER, for this, their or its use, and prosecute the same to final judgment for such sum or sums as may be justly due him, them or it, and have execution thereon, but the OWNER shall not be liable for the payment of any costs or expense of any suit. There shall be no deviation from this form, unless approved in writing by the COUNTY.
3. The "Maintenance Bond" form for the protection of the OWNER shall be used on all contracts where such bond is required. There shall be no deviation from this form, unless approved in writing by the COUNTY.
4. The surety on each bond must be a responsible surety company, which is qualified to do business in Pennsylvania and satisfactory to the OWNER.
5. If the principals are partners, their individual names will appear in the body of the bond, with the recital that they are partners composing a firm, naming it, and all the members of the firm shall execute the bond as individuals.
6. If the principals are partners, their individual names will appear in the appropriate place, attesting the signature of each individual party to the bond.
7. If the principal or surety is a corporation, the name of the state in which incorporated shall be inserted in the appropriate place in the body of the bond and said instrument shall be executed and attested under the corporate seal, as indicated in the form. If the corporation has no corporate seal, the fact shall be stated, in which case of scroll or adhesive seal shall appear following the corporate name.
8. The official character and authority of the person or persons executing the bond for the principal, if a corporation, shall be certified by the secretary or assistant secretary, according to the form attached hereto. In lieu of such certificate, there may be attached to the bond, copies of so much of the records of the corporation as will show the official character and authority of the officer signing, duly certified by the secretary or assistant secretary, under the corporate seal, to be true copies.

PERFORMANCE BOND

KNOWN ALL MEN BY THESE PRESENTS: that _____, having an office at _____, as Principal, hereinafter called CONTRACTOR, and _____, having an office at _____, as **Surety**, hereinafter called Surety, both of whom are duly qualified and authorized to transact their respective businesses in the Commonwealth of Pennsylvania, are held and firmly bound unto the County of Lawrence, having offices at 430 Court Street New Castle, PA 16101, as **Obligee**, hereinafter individually called OWNER, in the amount of _____ 00/100 (\$_____) Dollars, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, CONTRACTOR has by written agreement effective as of the _____ day of _____, 20____, entered into a Contract with COUNTY OF LAWRENCE for the construction of the project entitled "**Quaker Falls Recreation Area – Phase II**" ("**Project**") in accordance with plans, drawings and specifications prepared by RAR Engineering, which Contract and all documents and writings related thereto are incorporated herein by reference and are hereinafter referred to as the Contract.

WHEREAS, under the terms of the Specifications and Contract for the Project, the Contractor is required to make, execute, and deliver a Performance Bond to protect the Owner against Contractor's failure to timely and faithfully perform the said Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION AND BOND is that, if the CONTRACTOR shall timely and faithfully perform said Contract in strict accordance with its terms and conditions, then this obligation shall be null and void; otherwise, it shall remain in full force and effect.

The Surety hereby waives notice of any alteration or extension of time made by the OWNER.

Whenever CONTRACTOR shall be declared by OWNER to be in default under the Contract, Surety shall promptly and satisfactorily remedy the default. If the OWNER terminates the Contract for any default, the following shall govern the liability of the CONTRACTOR and the Surety hereunder.

In the event of termination as a result of the Contractor's failure to timely complete or faithfully perform the Contract, the CONTRACTOR and the Surety shall remain fully liable to the OWNER for all additional costs, losses, expenses and damages incurred by the OWNER in relation to the completion or performance of the Contract, including, without limitation, all costs, losses and damages incurred by the OWNER as a result of the default in performance and/or delay in completion of the work from the originally scheduled completion date to the date of the actual and satisfactory completion of the work by or on behalf of the OWNER.

In the event of a termination of the Contract, the Surety Company may elect to take over and complete performance of the Contract by giving written notice to the OWNER of such determination within seven (7) days of the OWNER'S mailing of notice of the termination to the Surety and the Surety actually commencing completion of the Project and Contract with fourteen (14) days of the OWNER'S notice to the Surety. The Contractor and Surety shall remain fully liable to the OWNER for all costs, losses, expenses, and damages incurred by the OWNER including, without limitation, those relating to or connected with the default in performance and/or

delay in the completion of the Project and Contract. The Contract, including completion of the Contract after any default, shall be performed under the full supervision of a duly qualified engineer.

Any suit under this bond must be instituted before the expiration of two (2) years from the date on which Contractor ceased work on said Contract or Project, it being understood, however, that if the limitations period set forth in this Bond is prohibited by applicable laws controlling the matters relating hereto, the limitation period herein set forth shall be deemed to be amended so as to be equal to such mandatory period of limitations permitted by such applicable laws.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the OWNER named herein or the heirs, executors, administrators, representatives, or successors of the OWNER.

IN WITNESS WHEREOF the Contractor and Surety, intending to be legally bound hereby, and the undersigned pursuant to authority granted by their governing body have full authority to sign and bind themselves and their respective principals hereto, have signed and sealed this agreement and Bond this _____ day of _____, 20____.

Witness/Attest:

Contractor

By

_____(SEAL)

(Title)

Witness/Attest:

Name of Surety

By _____(SEAL)
(ATTACH POWER OF ATTORNEY)

(Title)

LABOR AND MATERIAL PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS: that _____, having an office at _____, as **Principal**, hereinafter called CONTRACTOR, and _____, having an office at _____, as Surety, hereinafter called **Surety**, are held and firmly bound unto the County of Lawrence, having offices at 430 Court Street New Castle, PA 16101, as **Obligee**, hereinafter called OWNER, in the amount of _____ 00/100 (\$_____) Dollars, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, CONTRACTOR has by written agreement effective as of the _____ day of _____, 20____, entered into a Contract with Lawrence County for the construction of the project entitled "**Quaker Falls Recreation Area – Phase II**" ("**Project**") in accordance with plans, drawings and specifications prepared by RAR Engineering which Contract and all documents and writings related thereto are incorporated herein by reference and are hereinafter referred to as the Contract.

WHEREAS, under the terms of the Specifications and Contract for the Project, the Contractor is required to give a bond to protect the Owner against all costs, losses, expenses and damages incurred as a result of Contractor's failure to make all payments due for all labor and material used or reasonably required for the use in the Project or performance of the Contract.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION AND BOND is that, if CONTRACTOR shall pay promptly and in full to all claimants as hereinafter defined for all labor and material furnished, used or reasonably required for use in the performance of the Contract; and any and all authorized modifications of the Contract (notice of modifications to Surety being waived), then this obligation shall be void; otherwise it shall remain in full force and effect:

1. A claimant is defined as one having a direct contract with the CONTRACTOR or with a subcontractor of the CONTRACTOR for labor, material or both, used or reasonably required for use in the performance of the Contract, labor and material being construed to include that part of water, gas, light, heat, oil, gasoline, telephone service or rental of equipment or furnishing appliances, motor vehicles or power applicable to the Contract.
2. The above named CONTRACTOR and Surety hereby jointly and severally covenant and agree with the OWNER that every claimant as herein defined, who has not been paid in full before the expiration of a period of sixty (60) days after the date on which the last of such claimant's work or labor was done or performed, or materials were furnished by such claimant, may sue on this bond for the use of such claimant in the name of the OWNER (provided, however, Claimant shall first give written notice to OWNER of Claimant's intent to file such suit), prosecute the suit to final judgment for such sum or sums as may be justly due claimant, and have execution thereon, provided, however, that OWNER shall have no responsibility or liability whatsoever for the payment of any sums to the Claimant or for any costs, expenses or fees in any amount or of any type whatsoever connected with or relating to any such suit.
3. No suit or action shall be commenced hereunder by any claimant:

- a. Unless claimant shall have given written notice to the following: the CONTRACTOR, the OWNER and the Surety above named, within ninety (90) days after such claimant did or performed the last of the work or labor or furnished the last of the materials for which said claim is made, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were furnished, or for whom the work or labor was done or performed. Such notice shall be served by mailing the same by certified mail, return receipt requested, postage prepaid, in an envelope addressed to the CONTRACTOR, OWNER, and Surety at their respective addresses as set forth above.
- b. After the expiration of one (1) year following the date on which CONTRACTOR ceased work on said Contract, it being understood, however, that if the limitations period set forth in this bond is prohibited by applicable laws controlling the matters relating hereto, the limitation period herein set forth shall be deemed to be amended so as to be equal to such mandatory period of limitations permitted by such applicable laws.

IN WITNESS WHEREOF the Contractor and Surety, intending to be legally bound hereby, and the undersigned pursuant to authority granted by their governing body have full authority to sign and bind themselves and their respective principals hereto, have signed and sealed this agreement and Bond this _____ day of _____, 20__.

Witness/Attest:

Contractor

By _____(SEAL)

(Title)

Witness/Attest:

Name of Surety

By

_____(SEAL)

(ATTACH POWER OF ATTORNEY)

(Witness)

(Title)

MAINTENANCE BOND AND AGREEMENT

KNOW ALL MEN BY THESE PRESENTS: that _____, having an office at _____, as Principal, hereinafter called CONTRACTOR, and _____, having an office at _____, as Surety, hereinafter called **Surety**, are held and firmly bound unto the County of Lawrence, having offices at 430 Court Street, New Castle, PA 16101, as **Obligee**, hereinafter individually called OWNER, in the amount of _____ 00/100 (\$_____) Dollars, for the payment whereof Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, CONTRACTOR has by written agreement effective as of the _____ day of _____, 20____, entered into a Contract with County of Lawrence for the construction of the project entitled "**Quaker Falls Recreation Area – Phase II**" ("**Project**") in accordance with plans, drawings and specifications prepared by RAR Engineering, which Contract and all documents and writings relating thereto are incorporated herein by reference and are hereinafter referred to as the Contract.

WHEREAS, under the terms of the Specifications and Contract for the Project, the Contractor is required to give a bond to protect the Owner against the losses, expenses and damages incurred as a result of defective or faulty materials or workmanship for a period of two (2) years after completion of the Project in strict accordance with the Contract and final acceptance of and payment for the same by Owner.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION AND BOND is that if, for a period of two (2) years from and after the completion of the Project in strict accordance with the Contract and Specifications and final acceptance of and payment for the same by Owner, the Contractor shall replace and remedy completely and satisfactorily any defects (as defined in the Contract) in the work whether resulting from defective materials or defective workmanship, then the above obligation shall be null and void; otherwise, it shall remain in full force and effect.

IN WITNESS WHEREOF, the Contractor and Surety, intending to be legally bound hereby, and the undersigned pursuant to authority granted by their governing body have full authority to sign and bind themselves and their respective principals hereto, have signed and sealed this agreement and Bond this _____ day of _____, 20____.

Witness/Attest:

Contractor

By _____ (SEAL)

(Title)

Witness/Attest:

Name of Surety

By _____ (SEAL)
(ATTACH POWER OF ATTORNEY)

(Title)

NONDISCRIMINATION/SEXUAL HARASSMENT CLAUSE [Grants]

The Grantee agrees:

1. In the hiring of any employee(s) for the manufacture of supplies, performance of work, or any other activity required under the grant agreement or any subgrant agreement, contract, or subcontract, the Grantee, a subgrantee, a contractor, a subcontractor, or any person acting on behalf of the Grantee shall not discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the *Pennsylvania Human Relations Act* (PHRA) and applicable federal laws, against any citizen of this commonwealth who is qualified and available to perform the work to which the employment relates.
2. The Grantee, any subgrantee, contractor or any subcontractor or any person on their behalf shall not in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, against or intimidate any of its employees.
3. Neither the Grantee nor any subgrantee nor any contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, in the provision of services under the grant agreement, subgrant agreement, contract or subcontract.
4. Neither the Grantee nor any subgrantee nor any contractor nor any subcontractor nor any person on their behalf shall in any manner discriminate against employees by reason of participation in or decision to refrain from participating in labor activities protected under the *Public Employee Relations Act*, *Pennsylvania Labor Relations Act* or *National Labor Relations Act*, as applicable and to the extent determined by entities charged with such Acts' enforcement, and shall comply with any provision of law establishing organizations as employees' exclusive representatives.
5. The Grantee, any subgrantee, contractor or any subcontractor shall establish and maintain a written nondiscrimination and sexual harassment policy and shall inform their employees in writing of the policy. The policy must contain a provision that sexual harassment will not be tolerated and employees who practice it will be disciplined. Posting this Nondiscrimination/Sexual Harassment Clause conspicuously in easily-accessible and well-lighted places customarily frequented by employees and at or near where the grant services are performed shall satisfy this requirement for employees with an established work site.
6. The Grantee, any subgrantee, contractor or any subcontractor shall not discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, against any subgrantee, contractor, subcontractor or supplier who is qualified to perform the work to which the grant relates.

7. The Grantee and each subgrantee, contractor and subcontractor represents that it is presently in compliance with and will maintain compliance with all applicable federal, state, and local laws and regulations relating to nondiscrimination and sexual harassment. The Grantee and each subgrantee, contractor and subcontractor further represents that it has filed a Standard Form 100 Employer Information Report ("EEO-1") with the U.S. Equal Employment Opportunity Commission ("EEOC") and shall file an annual EEO-1 report with the EEOC as required for employers' subject to *Title VII of the Civil Rights Act of 1964*, as amended, that have 100 or more employees and employers that have federal government contracts or first-tier subcontracts and have 50 or more employees. The Grantee, any subgrantee, any contractor or any subcontractor shall, upon request and within the time periods requested by the Commonwealth, furnish all necessary employment documents and records, including EEO-1 reports, and permit access to their books, records, and accounts by the granting agency and the Bureau of Diversity, Inclusion and Small Business Opportunities for the purpose of ascertaining compliance with the provisions of this Nondiscrimination/Sexual Harassment Clause.
8. The Grantee, any subgrantee, contractor or any subcontractor shall include the provisions of this Nondiscrimination/Sexual Harassment Clause in every subgrant agreement, contract or subcontract so that those provisions applicable to subgrantees, contractors or subcontractors will be binding upon each subgrantee, contractor or subcontractor.
9. The Granter's and each subgrantee's, contractor's and subcontractor's obligations pursuant to these provisions are ongoing from and after the effective date of the grant agreement through the termination date thereof. Accordingly, the Grantee and each subgrantee, contractor and subcontractor shall have an obligation to inform the commonwealth if, at any time during the term of the grant agreement, it becomes aware of any actions or occurrences that would result in violation of these provisions.
10. The commonwealth may cancel or terminate the grant agreement and all money due or to become due under the grant agreement may be forfeited for a violation of the terms and conditions of this Nondiscrimination/Sexual Harassment Clause. In addition, the granting agency may proceed with debarment or suspension and may place the Grantee, subgrantee, contractor, or subcontractor in the Contractor Responsibility File.

Based on Management Directive 215.16 Amended (8/2/18)

County of Lawrence Quaker Falls Recreation Area - Phase II

This Contract ("Contract") is entered into effective as of the 3rd day of March, 2020 between COUNTY, a political subdivision in Lawrence County, Pennsylvania, (hereinafter called "COUNTY") with an office located at 430 Court Street, New Castle, PA 16101, and _____, a Pennsylvania corporation, authorized to do and doing business in Pennsylvania, with offices located at _____ (hereinafter called "Contractor").

WHEREAS, the COUNTY has entered a contract with the Commonwealth of Pennsylvania acting through the Department of Conservation and Natural Resources ("Department") and the Commonwealth has agreed to provide funds to the COUNTY for certain programs and projects; and

WHEREAS, the Municipality has applied to and received approval for a project to be funded by the Commonwealth acting through the Department and the COUNTY and other available funding sources (hereinafter individually and collectively referred to as "Commonwealth") to enable the Municipality to undertake and make certain repairs, replacements, improvements and/or alterations described in the Specifications and this Contract and located at Quaker Falls Recreational Area, Mahoning Township, Edinburg, Pennsylvania ("Project Site"); and

WHEREAS, the COUNTY has entered a contract with the Commonwealth to provide certain management and administrative services regarding certain programs and projects which are funded by the Commonwealth, and which include the following Project:

NOW, THEREFORE, in consideration of the foregoing, all of which is incorporated herein, the mutual promises and agreements hereinafter set forth and intending to be legally bound hereby, the Municipality and Contractor covenant and agree as follows:

ARTICLE 1 **DEFINITIONS**

Whenever used in this Contract, the Specifications and any writings or documents relating to this Contract or Project, terms or words highlighted in this Contract shall have and include the meanings as indicated or set forth in this Contract and the following terms shall have and include the meanings as hereinafter set forth:

1.1. Include the "Provisions for Compliance with Conservation Community Partnership Program (C2P2) Programs Regarding Use of Grant Funds" which are attached to this Contract and all of which provisions are made a part of and incorporated herein as part of this Contract.

1.2 "Bonds" shall mean and include all bonds required, identified, or contemplated in any of the contracts, agreements, specifications, documents or writings related to or connected with this Contract, the Work, Specifications or Project including, without

limitation, bid bond, performance bond, labor and material payment bond, maintenance bond and/or other bonds.

1.3. "Contract" shall mean and include this Contract, Appendix A, the Agreement between the Contractor and Municipality, the Specifications and Guidelines.

1.4. "Guidelines" shall mean and include the applicable program and project guidelines as set forth by the Department and any other Commonwealth, federal, local and/or COUNTY Guidelines and Laws applicable to the program or Project.

1.5. "Laws" shall mean and include the Guidelines and any and all applicable federal, state and local laws, rules, codes, ordinances, regulations, including, without limitation, environmental laws and regulations and orders of any court, governmental bodies, authorities or agencies.

1.6. "Liens" shall mean and include all mechanic's liens, materialmen's liens and any other types or kinds of liens, charges, claims, encumbrances, security interests upon real or personal property or claims or demands of any kind whatsoever relating to the Work, Project, the Project Site, this Contract or any activities performed or connected with this Contract or Project.

1.7. "Project" shall mean and include the Project Site as defined in this Contract and Appendix A and the program and project as defined, set forth or indicated in the Specifications, this Contract, the related contracts, plans, drawings, specifications and all other present and future documents, agreements and writings included or referenced in this Contract, Appendix A, the Specifications or connected with the furnishing or performance of the Work or materials relating to the Project or this Contract.

1.8. "Specifications" shall mean and include the contracts between the Municipality and Contractor, the Municipality and the Commonwealth, the Municipality's proposal submitted to and approved by the Department, the Bid Proposal and Invitation to Bid, the Contractor's Bid and any present and future documentation connected with the Bid, all Bonds, all contracts, plans, drawings and specifications including, without limitation, the Quaker Falls Recreation Area, County of Lawrence prepared by RAR Engineering Group ("Engineer") and dated June 2023, and all present and future documents, writings, change orders and agreements made in accordance with this Contract and Appendix A and contemplated by or included or referenced in any of the foregoing and/or related to the performance of the Work, materials or services relating to the Project.

1.9. "Work" shall mean and include all materials, supplies, appliances, equipment, services, and work as necessary or advisable to timely and satisfactorily complete the Project as described or referred to or indicated in this Contract, Appendix A, the Specifications, the Agreement between COUNTY and the Municipality and as more fully described in Article 3.

ARTICLE 2
AMOUNT OF CONTRACT AND PAYMENT

2.1 Amount of Contract:

Subject to the terms of this Contract, the Specifications, the Guidelines and Laws, the COUNTY, will pay to the Contractor the total sum of _____ Dollars (\$_____) from funds appropriated from a grant from the Commonwealth, or others subject to the conditions that the COUNTY is able to obtain the funds and the funds shall be used by the COUNTY and Contractor solely to carry out the Project, work and activities described in this Contract, the Specifications, and in the proposal submitted to and approved by the COUNTY and the Department (which proposal is incorporated herein by reference) in strict accordance with the terms and provisions of this Contract, Appendix A and the Specifications.

2.2 Payment of Funds:

The COUNTY will pay to the Contractor, and the Contractor shall accept in full payment and complete performance of this Contract, the Specifications and all Work, services, materials, supplies, and equipment used in connection with or supplied for the Project, the total sum of _____ Dollars (\$_____) ("Contract Price"). Payment of said sum shall be made only upon the timely and satisfactory completion of the Project and all Work, as hereinafter defined, in strict accordance with the provisions of the Specifications and this Contract, acceptance, in writing, of the Work by the Engineer and COUNTY, and receipt by the COUNTY of the following items:

- (a) Written certifications from the Engineer and the Contractor that the Project and all Work and services related thereto have been completed in strict accordance with the Specifications and this Contract and all necessary or advisable certificates, authorizations and approvals required by law have been obtained together with such other writings, certifications, and documentation as may be requested by the COUNTY, all in form and substance acceptable to the COUNTY.
- (b) All certificates, authorizations and approvals required by applicable Laws all in form and substance acceptable to the Department, Engineer, and the COUNTY.
- (c) Written releases and waivers of all Liens and all rights to assert, claim or file any Liens or charges of any kind whatsoever relating to the Work, Project, the Project Site or this Contract duly signed and acknowledged by the Contractor, all subcontractors and persons involved in the Project or Work, all in form and substance satisfactory to the Department, Engineer and the COUNTY.
- (d) Contractor's written certification that all warranties, guaranties, instruction booklets and manuals of all manufacturers and suppliers and relating to the materials, Work or this Contract have been delivered and explained to the Municipality.

The Contractor's failure to timely and properly complete the Project and all Work within the time limits set forth in this Contract, shall constitute a forfeiture and waiver by the

Contractor of any and all rights to receive any payments from the COUNTY or Commonwealth. Time is of the essence for the performance by Contractor of all of its obligations and duties under this Contract and the Specifications.

2.3 Change Orders Required:

(a) Change orders must be recommended, prepared, and signed by the Engineer and signed by the Municipality and Contractor and approved in writing by the municipality to authorize any deviation, addition or deletion made to the Specifications, Work or this Contract. This must occur prior to any work being done. The Municipality and Contractor acknowledge and agree that this provision is mandatory. The Municipality shall advise the Engineer of this requirement and shall obtain from the Engineer a written acknowledgment and agreement to fully comply with this paragraph and the Contract and shall furnish a true and complete copy of the acknowledgment to the municipality. The Municipality shall deliver a copy of this Contract to the Engineer and keep a copy on file for the Department.

(b) The COUNTY and Commonwealth shall not have any responsibility or liability whatsoever to pay the Contractor or any person for any additional Work, revisions or alterations, of any kind, to the Work, Specifications or Project or cost overruns, the same being the sole and full responsibility of the Municipality and Contractor, unless such additional work, revisions or alterations are set forth in a written change order recommended by the Engineer and signed by a duly authorized representative of the Engineer, Municipality and Contractor and approved in writing by the COUNTY. The order must set forth specifically the work, revisions, or alterations to be performed or deleted and the change in the Contract Price, if any, to result therefrom. If any order given pursuant to this Contract or Article does not specify: (1) the amount by which the Contract Price shall be adjusted, then there shall be no adjustment to the Contract Price; or (2) the time for the completion of the work, as hereinafter defined, will be extended or shortened, then there shall be no such extension or shortening of the time for completion.

2.4 Recommendations of COUNTY.

No approval or recommendation given by the COUNTY or any payments made, including the final payment, shall mean or be construed that the COUNTY is responsible or liable for any deficiencies or defects in all or any part of the materials or Work or for the Contractor's techniques or methods of construction, or the safety or quality of the materials or Work or the precautions taken by the Contractor or for any failure of Contractor to fully or timely comply with this Contract, the Specifications or applicable Laws all of which liability and responsibility shall remain solely with the Contractor.

2.5 Limitation of Responsibility.

Any consent, approval or recommendation given, or payments made by the COUNTY shall not constitute or be interpreted as either: (1) an approval or acceptance by the COUNTY of the proposed Work or Work done; or (2) a representation or indemnity by the COUNTY to any person against any deficiency or defect in or relating to the Work or

breach of this Contract or any related agreements or documents. Under no circumstances shall any such actions by the COUNTY impose or be construed to impose any responsibility or liability of any nature whatsoever on the COUNTY or Commonwealth to any person whatsoever.

2.6 Independent Contractor.

Contractor acknowledges and agrees that Contractor is an Independent Contractor and shall fully comply, at Contractor's expense, with all applicable Laws, including, without limitation, all Laws relating to worker's compensation and employer liability, federal social security, unemployment compensation and all similar or other applicable regulations and Laws. Contractor accepts sole and exclusive liability for all payroll deductions, taxes and contributions, insurance premiums, expenses and benefits required by the Contract or applicable Laws. For all purposes including, without limitation, all applicable Laws, Contractor agrees that all persons and entities employed by Contractor are and shall be solely the employees of Contractor and not employees, agents, or representatives of the Municipality.

ARTICLE 3 **DESCRIPTION OF THE WORK**

3.1 The Contractor is an Independent Contractor, and it shall perform all of the Work required or indicated in this Contract, the Specifications and approved Change Orders in strict accordance with all requirements of this Contract, the Specifications and all other present and future agreements, writings and documents related thereto or to the Project. All of the terms and provisions of this Contract and the Specifications shall apply to all Work and services performed by or on behalf of the Contractor including, without limitation, all additions and revisions to the Work. The Contractor shall obtain or shall cause to be obtained, at its sole expense, all necessary or advisable permits, authorizations and approvals for the Work or Project and deliver true and complete copies of same to the Municipality and the COUNTY. Under the direction and to the satisfaction of the Engineer and Municipality, the Contractor shall furnish all services, materials, labor, tools, equipment, machinery, appliances, fuel, transportation, power, light, water, telephone, heat, plant facilities and everything necessary to undertake and timely and satisfactorily complete in a thoroughly first-class workmanlike manner and in accordance with the standards of professional care expected of a qualified and experienced contractor all of the construction and Work required, indicated or contemplated in the Specifications and/or this Contract. The Contractor shall be solely and fully responsible for timely, satisfactory, and complete performance of all Work related to this Contract or the Project and the COUNTY and Commonwealth shall have no responsibility or liability whatsoever relating to the timely, complete, or satisfactory performance of any or all Work or the Project.

3.2 The term "Work", whenever used in this Contract, the Appendix A and any related documents, shall mean and include the timely and satisfactory completion of the Project and: (1) all the materials and supplies, of all kinds whatsoever including, without

limitation, all fixtures, equipment and machinery, reasonably necessary to, for or incorporated into the Project, improvements and/or Work, other machinery, equipment and appliances (individually and collectively hereinafter referred to as "materials"), labor, services, tools, plant facilities and other items connected with, contemplated or required by the Specifications or this Contract to fully comply with the requirements of Section 3.1 above, the Specifications and this Contract; (2) performance of all Work in strict accordance with all applicable Laws, the Contract and manufacturer's recommendations for product use and/or installation of materials; (3) the coordination of the Contractor's work with that of any other trades and other contractors and subcontractors or persons involved in the Work or Project; (4) supplying a sufficient number of competent, qualified personnel to survey, lay out, schedule, supervise, inspect and direct the Work competently and efficiently and timely perform all services and the Work as herein defined and as required by this Contract and Specifications; and (5) Contractor's full cooperation with the Municipality, Engineer and the COUNTY and its timely performance, to satisfactory completion, of all Work, services and everything else required, indicated or contemplated by the Specifications or this Contract.

3.3 Without invalidating this Contract and without notice to any surety, the Municipality, at any time or from time-to-time and with the written approval of the COUNTY, may order additions, deletions, or revisions in the Work. Such additions, deletions or revisions must be authorized by a written Change Order (see Section 2.3 above) amendment to this Contract. Upon receipt of any such document, Contractor shall promptly proceed with the Work involved which will be performed under all of the applicable conditions and provisions of this Contract and the Specifications, except as otherwise specifically provided in the Change Order or amendment.

3.4 The Engineer, Municipality, the Department, and any of their representatives shall have access to the Project Site and Work at all reasonable times for their observation, inspection and testing. The Municipality, Engineer and/or Contractor shall not make any changes to the Work or substitution of any materials or items specified in the Specifications of this Contract without first obtaining the written approval of the COUNTY. All consents or approvals made or given by the COUNTY under this Contract or Appendix "A" are made solely for the purposes of the COUNTY and may not be relied upon by any person or entity for any reason whatsoever.

3.5 Contractor shall confine construction equipment, the storage of materials and equipment and the operations of workers to the Project Site and land in areas agreed to by the Municipality and Contractor. The contractor shall not unreasonably encumber the Project Site with construction equipment or other materials or equipment. The Contractor shall be and is fully and solely responsible for any damage or injury to any person or land or property or to the owner or occupant thereof or resulting, directly or indirectly, from the performance of the Work or the Contract.

3.6 During the progress and performance of the Work, Contractor shall keep the Project Site and surrounding area in a safe, neat, and clean condition and free from accumulations of waste materials, rubbish and other debris resulting from the Work. After

the completion and acceptance of the Work, Contractor shall remove immediately all waste materials, rubbish, and debris from and about the Project Site as well as all tools, appliances, construction equipment and machinery, and surplus materials, and shall leave the Project Site in a safe, neat, and clean condition and ready for use and occupancy by the Municipality and public. Contractor shall restore all property not designated for alteration by the Contract or Specifications to its original condition.

3.7 The Contractor represents and warrants that it has had an opportunity to examine and has carefully examined the Specifications, this Contract and the Project Site and surrounding area and has made all investigations essential to a full understanding of the difficulties which may be encountered in performing the Work. The Contractor agrees that, regardless of any such conditions relevant to the Work, the Project Site or its surroundings, Contractor shall complete the Work for the compensation stated in Article I and Contractor assumes full and complete responsibility for the timely and satisfactory completion of the Work under any such conditions which may exist at the Project Site or its surroundings. The Contractor accepts and assumes all risks in connection with the Work or Project. The Contractor represents that it is fully qualified and able to timely and satisfactorily perform the Work in strict accordance with the terms of this Contract and the Specifications within the time specified.

3.8 Neither the acceptance of nor payment for the work or any part thereof, nor the partial or entire use of the work by the Municipality shall constitute a waiver by the Municipality of or release the Contractor from any liabilities or responsibilities: (1) under this Contract or the Specifications or for any guarantees or warranties of the Work, materials or equipment installed, or (2) for materials, workmanship or Work which is defective, unsound, unsafe, damaged, improper, not first-class workmanship, unsatisfactory or not in strict accordance with this Contract and/or the Specifications (individually and collectively herein called "defects"). The Municipality and Engineer shall have the right and authority to disapprove or reject any or all materials and Work if either of them believes there are any defects in the materials or Work. If required by the Municipality or Engineer, Contractor shall promptly, as directed, correct, replace and/or remedy completely and satisfactorily all defects in the materials and Work or if any or all of the materials or Work is rejected by the Municipality or Engineer, remove, replace and remedy completely and satisfactorily all defects, materials and/or Work.

3.9 Contractor warrants and guarantees its services, the materials and Work and, at its own expense, shall repair, replace, and remedy completely and satisfactorily all defects in the Work, construction, or materials whether done or furnished by or on behalf of Contractor or its subcontractors or other persons engaged by or on behalf of Contractor. Contractor shall remove, replace, and remedy completely and satisfactorily any defects in the materials or Work which are discovered within two (2) years after the completion of the Work in strict accordance with the Contract and Specifications and final acceptance of the Work by the Municipality and Engineer and payment by the Department or within such longer period of time as required by applicable Guidelines or Laws.

3.10 Any and all payments due to Contractor under this Contract or otherwise may be withheld by the Department and the Municipality for such time as the Municipality and the Department may deem necessary or advisable on account of, connected with or relating to: (1) any defects in the materials or Work not timely and satisfactorily remedied or replaced; (2) any claims or Liens asserted or filed by any person or entity; (3) any violation or breach of applicable Laws by Contractor or any violation, breach or default in performance by Contractor under this Contract; or (4) for any reason set forth in this Contract or Specifications.

ARTICLE 4

COMMENCEMENT AND COMPLETION OF WORK

4.1 Contingencies. This Contract is expressly subject to and contingent upon the proposed Work and Project being permitted and lawful under all applicable Laws. If any necessary permits, licenses, approvals, or authorizations cannot be obtained, then this Contract may be canceled and ended by the Municipality or the COUNTY and, if canceled and ended, no person or entity shall have any further liability or responsibility whatsoever to any person or entity under or in connection with this Contract or otherwise. This Contract is also expressly subject to and contingent upon the Contractor's delivery to the COUNTY at the time of the execution of this Contract, all Bonds, in form and substance acceptable to COUNTY, as indicated or required in the Specifications. In the event the Contractor fails to timely deliver any or all Bonds as indicated or required by this Contract or the Specifications, all payments due to Contractor under this Contract or otherwise may be withheld by the COUNTY and the Municipality until all such Bonds are delivered to the Municipality and the COUNTY and all matters or issues relating thereto are resolved to the satisfaction of the Municipality and the COUNTY. The failure of Contractor to timely deliver any or all Bonds shall not constitute a waiver or release of any of Contractor's duties or obligations under or connected with this Contract or Specifications.

4.2 The Contractor shall commence the work or cause the work to be commenced on or about _____, 202__ and prosecute the work continuously and with due diligence, to satisfactory completion on _____, 202__, time being of the essence. Notwithstanding anything in this Contract to the contrary, if the Work and Project are not satisfactorily completed on or before _____, 202__ ("Completion Date"), the Municipality and Contractor agree that they shall forfeit and waive any and all rights they may have to receive any of the compensation or monies described in Article 2 above or any other compensation whatsoever from the COUNTY and or Commonwealth.

4.3 In the event the Contractor is delayed by any floods, abnormal weather, casualty, acts of God or similar conditions beyond the control of the Contractor, then the time fixed herein for the completion of the Work may be extended for a period equivalent to the time lost by reason of any or all the aforesaid causes provided, however, that the Contractor shall promptly notify, in writing, the Municipality and the Department of such delay and make an immediate written request for an extension of time for completion and which request must be approved in a writing signed by the Municipality and the Department.

Contractor shall not be entitled to any increase in the Contract Price or any other compensation as a result of any such extension of time.

4.4 Time is of the essence for performance by the Contractor of all its duties and obligations under this Contract and the Specifications. The COUNTY and Contractor agree that each of them shall not enter any contracts or take or omit any actions which may adversely impair or affect their ability to timely and properly complete the Work and Project in accordance with this Contract and Specifications.

ARTICLE 5

WAIVER OF LIENS

5.1 Contractor, for itself, and its employees, agents, consultants, subcontractors, material men, suppliers and all persons furnishing or performing any Work or materials (collectively the "Subcontractors") does hereby fully and forever waive, relinquish and release all Liens and rights to assert, maintain, claim or file any Liens against any part of or the entire Work, improvements or materials or against any part of or the entire Project Site or the estate, interest, rights or title of the Municipality therein or any part thereof or the appurtenances thereto under or in connection with the Work, Project, this Contract or the Specifications or any other agreement or for additional or extra Work. At the time of signing this Contract and prior to commencing any Work, the Contractor shall sign and deliver to the COUNTY a separate written waiver and release of all Liens, properly acknowledged by a notary public and in form and substance acceptable to the COUNTY and Engineer and suitable for recording. Prior to entering into any agreement with any Subcontractors, the Contractor shall provide actual written notice of this Waiver of Liens to each of its Subcontractors and persons performing any Work and shall require all Subcontractors and such persons performing any Work or furnishing any materials relating to the Project or this Contract to fully and forever waive, relinquish and release, in their subcontracts or contracts and in a separate writing, all Liens and each of Subcontractor's rights to have, assert, claim, maintain or file any Liens against any part of or the entire Work, improvements or materials or against any part of or the entire Project Site or the estate, interest, rights or title of the Municipality. The separate writing shall be signed and acknowledged by a person duly authorized to do so and shall be in form and substance suitable for recording and acceptable to the Municipality, Engineer, and the Department.

5.2 Contractor shall fully indemnify, hold harmless and defend the Municipality and Department against all claims, demands, costs, losses, damages, fines, penalties, liabilities and expenses, including attorney's and expert's fees, arising, directly or indirectly, from or connected with any and all Liens that may be asserted, claimed, maintained or filed and the removal of all Liens. Contractor further agrees that so much of the monies due under this Contract, as may be considered necessary or advisable by the COUNTY, may be retained by the COUNTY until all such Liens, suits, demands, claims for damages or expenses, as aforesaid, shall have been settled and paid in full and each and every such Lien is removed and fully satisfied. All indemnifications by Contractor referred to or set forth in this Contract, the Specifications or Appendix A shall

survive the expiration or any termination of this Contract regardless of the reason, therefore.

ARTICLE 6

SAFETY PRECAUTIONS

6.1 Contractor shall not create or permit the existence of any unsafe, dangerous, or hazardous conditions in, on or about the Project Site or in connection with the Work, Project, or Contractor's activities. Contractor is solely responsible for and shall take all necessary or advisable precautions and actions to prevent injury, damages or loss to any person or property during the performance of the Contract, Project or the Work and construction. Contractor shall provide sufficient, safe, proper, and advisable facilities and safeguards at all times for the safety of all persons, the Project Site, Project and the performance of all Work and construction and the inspection and testing of the Work and construction by or on behalf of the Engineer, the Municipality or the Department. The Contractor acknowledges and agrees that neither the COUNTY nor any other person has made any representations or warranties, express or implied, concerning the safety or condition of the Project Site or any other premises or any other matter whatsoever.

ARTICLE 7

DEFAULT BY CONTRACTOR

7.1 Events of Default:

Any one of the following events shall constitute an event of default by Contractor under this Contract:

- (a) If Contractor files for bankruptcy or is adjudged a bankrupt, or if it becomes insolvent or makes a general assignment for the benefit of its creditors, or if a receiver is appointed on account of its insolvency.
- (b) The Engineer, Municipality or the COUNTY determines there are defects in any part or all of the Work or materials or any or all of the Work or materials is found unsafe, unsatisfactory or is not in strict accordance with requirements of this Contract or Specifications;
- (c) Contractor has not made prompt and proper payments to subcontractors or other persons for labor, materials, equipment or other goods or services furnished to or for Contractor relating to the Work, Contract or Project;
- (d) Contractor fails to supply a sufficient number of competent, qualified and skilled workers or sufficient or required materials or equipment to timely and satisfactorily complete the Work, Contract or Project.
- (e) Any Liens or claims whatsoever are asserted or filed on or against the Work, improvements, Project Site, Project or any part thereof, or the interests, estate or title of the Municipality, or there exists reasonable evidence indicating the probability of such assertion or filing;
- (f) In the opinion of the Engineer, the Municipality or the Department, there are deficiencies or defects in the materials or Work or Contractor's performance or the Work

is not progressing satisfactorily or cannot be timely or satisfactorily completed within the above mandatory time frames or for the amount of the Contract Price; or

(g) If Contractor fails to timely and fully perform, keep, or observe any term, provision, condition, covenant, agreement, warranty, or representation contained in this Contract, the Specifications, or in any other present or future agreement between Contractor and the Municipality or Engineer.

7.2 Notice:

If an event of default occurs under paragraphs 7.1 (b) through (g) above and such default continues for more than five (5) calendar days (in the case of performance of Work), or ten (10) days in all other cases after the date on which the Engineer or the Municipality provides written notice of such default to Contractor, then the Municipality may terminate this Contract and/or the employment of the Contractor and pursue any and all rights and remedies available to the Municipality under this Contract, the Specifications, at law, equity or otherwise. Notwithstanding the foregoing, if the event of default relates solely to non-work related matters, and it is such that it cannot be reasonably cured within said ten-day cure period, and the Municipality reasonably believe that Contractor can timely effectuate a cure, then Contractor may have an additional period of time agreed to in a writing signed by the Municipality and Contractor and approved by the Municipality, in writing, but not to exceed an additional thirty (30) days to completely and satisfactorily cure the default, provided the Contractor promptly commences such cure and pursues such cure diligently, continuously and in good faith. The notice and right to cure provisions of this paragraph shall not apply to a default under paragraph 7.1 (a) above.

7.3 Rights and Remedies:

If any event of default is not completely and satisfactorily cured within the foregoing mandatory time periods, the Municipality, in their sole and absolute discretion, may pursue any and all available rights, benefits, remedies and relief including, without limitation: order the Contractor to stop the Work or any portion thereof, terminate this Contract and/or the employment of the Contractor and/or take possession and control of the Work, Project Site and Project and replace Contractor with a new contractor selected by the Municipality approved by the COUNTY to complete the Work. Further, if final completion and acceptance of the Project, Work and construction has not occurred by the Completion Date set forth in this Contract, the Municipality shall have the right, in their sole and absolute discretion, by written notice to Contractor, to immediately terminate this Contract, take possession and control of the Work, Project Site and Project and replace Contractor with a new contractor selected by the Municipality and approved by the COUNTY, without affording Contractor an opportunity to cure the default. Upon any termination of this Contract or Contractor's employment hereunder, the Municipality and the COUNTY will pay Contractor for the fair value and cost of the Work and construction timely and properly performed in strict accordance with this Contract and the Specifications prior to the date of such termination and accepted and approved by the Engineer and the COUNTY less any and all costs, expenses, losses, liabilities, legal and expert's fees or other expenses, losses or damages incurred or anticipated to be incurred

by the Municipality and/or Commonwealth resulting, directly or indirectly, from the Contractor's default or such termination. The rights and remedies of the Municipality under this Contract, the Specifications and all other related agreements and documents shall be cumulative and not exclusive and are in addition to any and all other available rights, benefits, remedies and relief, all of which may be exercised or pursued at any time or times, separately or concurrently, at the election of the Municipality. No exercise by the Municipality of one right or remedy shall be deemed an election, and no waiver by the Municipality of any default or breach on the Contractor's part shall be deemed a continuing waiver. No custom, course of dealing, delay, or failure to act by the Municipality shall constitute a waiver, release, election, or acquiescence by either or both of them.

In the event of any termination of this Contract or Contractor's services, Contractor shall remain fully liable and responsible for all losses and damages incurred or sustained by the Municipality Commonwealth or any person as a direct or indirect result of Contractor's breach or default in performance of any of Contractor's duties, obligations, or agreements under or in connection with this Contract.

7.4 Responsibilities of Contractor upon Termination:

Upon any termination of this Contract or employment of the Contractor by the Municipality or Contractor shall:

- (1) Discontinue performance of the Work and construction and the other services to be performed by Contractor under this Contract on the date and to the extent specified in the termination notice of the Municipality;
- (2) Make no further commitment with respect to the Work or construction or Project except as may be necessary or advisable to assure the safety of the Work, Project, Municipality or any person or property;
- (3) Promptly transfer and deliver to the Municipality, in the manner, at the time and to the extent directed by the Municipality, the Project Site, Work and all drawings, surveys, notes, writings, supplies, materials, equipment and other property used or produced as part of or acquired by Contractor for or in performance of the Project, Work or services relating to the Project; and
- (4) Immediately take all other actions as the Municipality shall recommend for the safety of any person or protection and preservation of any property, the Project Site, Project, Work or construction or the interest of the Municipality's interest therein.

ARTICLE 8 **ARBITRATION**

8.1 Any disputes or controversies arising during the performance of the Work or this Contract, shall first be presented, in writing, to the Engineer and COUNTY within two (2) days after the dispute or controversy arises. The writing must state all necessary facts to fully describe the nature of the dispute or controversy. After receipt of the writing by the Engineer and COUNTY and their investigation of the dispute, the Engineer and COUNTY will submit a recommendation to the Contractor and Municipality to resolve the dispute.

8.2 If any dispute or controversy arises under or in connection with the Work, this Contract, the Specifications, the Project or the performance or enforcement of any part thereof, and is not resolved within a reasonable time (in no event to exceed thirty (30) days) under Section 8.1 above, then upon written demand and notice by either the Municipality or Contractor or successor in interest, the dispute or controversy shall be decided finally in a common law arbitration proceeding by a single duly qualified and impartial arbitrator mutually agreed upon by the parties and the COUNTY. In the event the parties cannot agree on a single arbitrator, then duly qualified and impartial arbitrators shall be appointed as follows: one by the Contractor and one by the Municipality and the third by the said two arbitrators, or if they cannot agree, then the third arbitrator shall be appointed by the Court of Common Pleas of Lawrence County, Pennsylvania. The third arbitrator shall be the chairman of the panel. Except as otherwise set forth in this Contract, the parties will share equally the fees and costs of the single arbitrator or third arbitrator and pay the costs and fees of the arbitrator each party selects. The arbitration shall take place in New Castle, Pennsylvania. Pennsylvania law shall govern all evidentiary and legal issues. Each party consents and agrees for itself and its respective successors and assigns, to the submission of any dispute or controversy under or in connection with this Contract or the Specifications to the arbitration process as herein set forth.

8.3 All decisions and findings of the arbitrator or a majority of the arbitrators shall be: (1) in writing and signed by the arbitrator(s), and (2) final and conclusively binding upon all parties and persons including any decision with regard to costs as set forth below in Section 8.4. No party or person or any successor in interest shall have a right of appeal from any such decision to any court. However, solely for the purpose of implementing the decision of the arbitrator(s) judgment may be entered on the award of the arbitrator(s) and fully enforceable as a judgment in any court of appropriate jurisdiction. This arbitration provision shall be strictly enforceable.

8.4 In the event that any person submits a dispute to arbitration, as aforesaid, then all costs and expenses of the arbitration (including, without limitation, reasonable attorneys' and experts' fees, fees and expenses of the arbitrators, stenographer and other expenses) paid or incurred by the party or person who prevails in the arbitration shall be paid by the party or person who does not prevail in the arbitration. The arbitrator(s) shall decide which party or person prevails with regard to the dispute or controversy, as well as the specific amount of costs and expenses as aforesaid to be paid by the party or person who does not prevail.

8.5 In the event that, for any reason, the foregoing mandatory arbitration provisions are held to be invalid or unenforceable with respect to any party, person or set of circumstances, then all parties and persons involved in such proceedings do hereby EXPRESSLY WAIVE ANY RIGHT TO TRIAL BY JURY AND AGREE THEY SHALL NOT ELECT OR DEMAND A TRIAL BY JURY in connection with any dispute, controversy or matter arising under or in connection with the Work, Project, Contract or the Specifications

or the performance or enforcement thereof. In any such judicial proceeding, the court shall award costs and expenses and enter judgment as set forth in Section 8.4 above.

8.6 No Work or construction shall be delayed or postponed in any manner pending resolution of any dispute, disagreement, or controversy unless the Municipality specifically direct, in writing, that the Work or any part thereof be delayed or postponed.

ARTICLE 9

BINDING EFFECT

9.1 All terms, provisions, covenants and agreements contained or incorporated into this Contract, Appendix A and the Specifications shall be binding upon and inure to the benefit of the Municipality, and the Contractor and their respective heirs, personal representatives, successors and assigns provided, however, the Municipality and Contractor shall not have the right to and shall not assign or otherwise transfer in any manner to any person the Work, Contract, Appendix A or the Specifications or any part thereof or any rights, duties or obligations under the Contract, Appendix A or Specifications or any part thereof or any of the payments due under this Contract without the prior written consent of the other party and the written approval of the COUNTY. Unless specifically stated to the contrary in any written consent to or approval of any assignment or transfer, no assignment or transfer will release or discharge the assignor from any duty, obligation, liability or responsibility under this Contract, Appendix A or the Specifications.

ARTICLE 10

THIRD PARTY RIGHTS

10.1 Except as set forth in or contemplated by this Contract, Appendix A and the Specifications relating to the rights and interests of the COUNTY, Commonwealth and Department, no provision of this Contract or the Specifications shall be construed in any manner so as to create any rights or interests of any kind in any third parties or persons not a party to this Contract. This Contract, Appendix A, Specifications, and related documents and agreements shall be interpreted solely to define the specific rights, duties and responsibilities among the Municipality, the Contractor, the COUNTY, Department and Commonwealth and shall not provide any basis for any claims of any other person, partnership, corporation, organization, entity or municipal entity.

ARTICLE 11

NOTICES

11.1 Any notice, communication, demand, or other writing (a "notice") required or permitted to be given, made or accepted by Contractor the COUNTY or any person shall be given by personal delivery, facsimile or by depositing the same in the United States mail, properly addressed to the last known address of the intended recipient, postage prepaid for certified mail, return receipt requested. Except as otherwise expressly

provided in this Contract, a notice given by personal delivery or facsimile shall be effective upon the date of delivery or transmission and a notice given by certified mail shall be deemed effective on the second day after such deposit in the mail.

ARTICLE 12

WARRANT OF AUTHORITY

12.1 Each party represents and warrants that: (1) the execution and delivery of this Contract by the undersigned persons and the performance of this Contract and the actions contemplated hereby have been duly authorized and approved by all requisite action and each party has taken all actions required by law or otherwise regarding the execution, delivery and performance of this Contract; (2) this Contract constitutes a legal, valid and binding obligation of each party enforceable in accordance with its terms; and (3) each party and the COUNTY may fully rely on these warranties without any further verification or investigation.

ARTICLE 13

FURTHER ACTIONS

13.1 The Contractor covenants and agrees to sign, acknowledge and deliver promptly to the Municipality and the COUNTY such further writings and documents and promptly take such further and other actions as the Municipality and/or COUNTY may request to more fully put into binding effect any or all of the provisions, purposes or intent as set forth in or contemplated by this Contract, the Specifications or any part thereof.

ARTICLE 14
ENTIRE AGREEMENT AND AMENDMENT

14.1 This Contract, including any Appendix and the Specifications shall constitute the entire agreement between the parties and supersede all prior or contemporaneous agreements and understandings. The various documents constituting the Specifications and the provisions therein contained are mutually dependent and complimentary, and what is required by any one of the documents shall be binding as if required or called for by all. This Contract, Appendix A, the Work and/or the Specifications shall be validly amended or changed only by a writing signed by the duly authorized representatives of the parties herein and approved by the COUNTY, in writing. Oral agreements are not valid or binding.

IN WITNESS WHEREOF, the COUNTY and Contractor, intending to be legally bound, have signed and sealed this Agreement to be effective as of the day and year first above written.

ATTEST/WITNESS:

COUNTY:

ATTEST/WITNESS:

CONTRACTOR:

_____ By:_____

APPENDIX A TO THIS CONTRACT IS ATTACHED HERETO AND MADE A PART OF THIS CONTRACT. (SEE SECTIONS 1.1 AND 1.3).

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Article 1 – Subcontracts

Article 2 – Compliance with Applicable Statutes and Department Regulations

Article 3 – Liability and Insurance

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Article 7 – Temporary Suspension of Contract

Article 8 – Termination of Contract by the Department

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Article 12 – Interpretation of Contract and Appendix A

Exhibit 1 – Assurances and Special Conditions -

CONTRACT BETWEEN COUNTY OF LAWRENCE AND CONTRACTOR PROVISIONS FOR COMPLIANCE REGARDING USE OF GRANT FUNDS

WHEREAS, the Municipality, as identified in the Contract has applied to and received approval from the COUNTY OF LAWRENCE ("COUNTY") for a Conservation Community Partnership Program (C2P2) Program and Project to be funded by the Commonwealth of Pennsylvania (hereinafter "Commonwealth") acting through the Department of Conservation and Natural Resources (hereinafter called "Department"), and the COUNTY, as grantee, has agreed to make available to the Municipality, funds provided by the Commonwealth and federal government to enable the COUNTY on Behalf of Municipality to undertake the Quaker Falls Recreation Area – Phase II, Mahoning Township, Lawrence County Pennsylvania.

WHEREAS, the COUNTY is entering into a contract with _____ (hereinafter called "Contractor") to provide certain materials, equipment, supplies and/or services for the Project and this document is required to be and hereby is incorporated into and made a part of the Contract with the Contractor.

NOW, THEREFORE, in consideration of the making of the Contract and the foregoing all of which is incorporated herein, the COUNTY and Contractor intending to be legally bound do mutually covenant and agree as follows:

DEFINITIONS

Whenever used in this Appendix and any writings or documents relating to the Project, words or terms defined in the Contract or highlighted in the Contract shall have and include the meanings as indicated or set forth in the Contract. Words or terms highlighted herein shall have and include the meanings set forth or indicated herein.

ARTICLE 1 SUBCONTACTS

Neither the Municipality nor Contractor shall execute or concur in any contract or subcontract with any person or entity in any respect concerning the Project or activities related thereto without prior written approval of the Department or the COUNTY. Such prior written approval shall not be required for the purchase by the Municipality or Contractor of articles, supplies, equipment, and activities which are both necessary for and merely incidental to the performance of the Work required under the COUNTY Contract. Neither the Municipality nor Contractor shall execute or concur in any contract or subcontract declared disapproved by the Department.

A subcontractor shall be automatically disapproved, without a declaration from the Department or the COUNTY, if the subcontractor is currently or becomes suspended or debarred by the Commonwealth, any other state, or the federal government. In any event, the Municipality and the Contractor shall be fully responsible for the quantity and quality

of the performance of all Work and furnishing of materials both by them and any of their subcontractors.

All subcontracts must contain provisions of nondiscrimination/sexual harassment and other provisions as specified in Article 2 entitled Compliance with Applicable Statutes and Department Regulations. In addition, all subcontracts involving the pass through of Contract funds to sub-recipients must include and require compliance with the audit requirements contained in the Article entitled contract Audit and Closeout Requirements in the contract between the COUNTY and Commonwealth. The COUNTY is responsible for ensuring that all required audits of subcontractors are performed, and for resolving any findings contained in the audit reports. All costs deemed unallowable in the subcontract audit report are required to be returned to the Department by the Municipality and Contractor.

The Municipality and Contractor covenant and agree that they shall insert in any and all contracts with other contractors, subcontractors or persons relating to the Project or performing any services or Work or providing any materials, equipment or supplies relating to or for the Project, Contract or Specifications, the requirement to fully comply with all terms, rules and provisions required by the Contract, COUNTY Contract and/or the Guidelines and all applicable Laws, including those relating to the use of funds under the Conservation Community Partnership Program (C2P2) Program or by the Commonwealth or federal government.

ARTICLE 2 COMPLIANCE WITH APPLICABLE STATUTES AND DEPARTMENT REGULATIONS

2.1 All activities related to the Project or authorized or contemplated by the Contract shall be performed in accordance with all applicable Laws and Guidelines including, without limitation, the requirements set forth in Exhibit 1 attached hereto, the following provisions and additional requirements as are otherwise provided by the Department. The Municipality and Contractor acknowledge that the Contract is subject to all requirements set forth herein and further agree that they will comply with future requirements determined by the Department as necessary.

2.2 Compliance with Laws and Regulations:

The Municipality and Contractor agree to fully comply with all applicable Laws of the Commonwealth, local and federal governments including, without limitation, the following.

2.3 Nondiscrimination / Sexual Harassment Provisions:

The grantee agrees:

(a) In the hiring of any employee(s) for the manufacture of supplies, performance of work, or any other activity required under the grant agreement of an y subgrant agreement, contract, or subcontract, the Grantee, a subgrantee, a contractor,

a subcontractor, or any person acting on behalf of the Grantee shall not discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the *Pennsylvania Human Relations Act* (PHRA) and applicable federal laws, against any citizen of this Commonwealth who is qualified and available to perform the work to which the employment relates.

(b) The Grantee, any subgrantee, contractor or any subcontractor or any person on their behalf shall not in any manner discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, against or intimidate any of its employees.

(c) The Grantee, any subgrantee, contractor or any subcontractor shall establish and maintain a written nondiscrimination and sexual harassment policy and shall inform their employees in writing of the policy. The policy must contain a provision that sexual harassment will not be tolerated and employees who practice it will be disciplined. Posting this Nondiscrimination/Sexual Harassment Clause conspicuously in easily accessible and well-lighted placed customarily frequented by employees and at or near where the grant services are performed shall satisfy this requirement for employees with an established work site.

(d) The Grantee, any subgrantee, contractor or any subcontractor shall not discriminate by reason of race, gender, creed, color, sexual orientation, gender identity or expression, or in violation of the PHRA and applicable federal laws, against any subgrantee, contractor, subcontractor or supplier who is qualified to perform the work to which the grant relates.

(e) The Grantee and each subgrantee, contractor and subcontractor represent that it is presently in compliance with and will maintain compliance with all applicable federal, state, and local laws and regulations relating to nondiscrimination and sexual harassment. The Grantee and each subgrantee, contractor and subcontractor further represents that it has filed a Standard Form 100 Employer Information Report ("EEO-1") with the U.S. Equal Employment Opportunity Commission ("EEOC") and shall file an annual EEO-1 report with the EEOC as required for employers' subject to Title VSS of the Civil Rights Act of 1964, as amended, that have 100 or more employees and employers that have federal government contracts or first-tier subcontracts and have 50 or more employees. The Grantee, any subgrantee, any contractor or any subcontractor shall, upon request and within the time periods requested by the Commonwealth, furnish all necessary employment documents and records, including EEO-1 reports, and permit access to their books, records, and account by the granting agency and the Bureau of Diversity, Inclusion and Small Business Opportunities for the purpose of ascertaining compliance with the provisions of this Nondiscrimination/Sexual Harassment Clause.

(f) The Grantee, any subgrantee, contractor or any subcontractor shall include the provisions of the Nondiscrimination/Sexual Harassment Clause in every subgrant agreement, contract, or subcontract so that those provisions applicable to subgrantees, contractors or subcontractors will be binding upon each subgrantee, contractor or subcontractor.

(g) The Grantee's and each subgrantee's, contractor's and subcontractor's obligations pursuant to these provisions are ongoing from and after the effective date of the grant agreement through the termination date thereof. Accordingly, the Grantee

and each subgrantee, contractor and subcontractor shall have an obligation to inform the Commonwealth if, at any time during the term of the grant agreement, it becomes aware of any actions or occurrences that would result in violation of these provisions.

(h) The Commonwealth or County may cancel or terminate the grant agreement and all money due or to become due under the grant agreement may be forfeited for a violation of the terms and conditions of the Nondiscrimination/Sexual Clause. In addition, the granting agency may proceed with debarment or suspension and may place the Grantee, subgrantee, contractor, or subcontractor in the Contractor Responsibility File.

2.4 Compliance with the State Contractor Responsibility Program:

For the purpose of these provisions, the term Contractor includes and is defined as the Municipality, Contractor and any person, including, but not limited to, a bidder, offeror, loan recipient, grantee and sub grantee, who has furnished or seeks to furnish goods, supplies, services, or leased space, or who has performed or seeks to perform construction activity under contract, subcontract, grant, or subgrant with the COUNTY or Commonwealth, or with a person under contract, subcontract, grant or subgrant with the COUNTY or Commonwealth or its state-affiliated entities, and state-related institutions. The term Contractor may also include a permittee, licensee, or any agency, political subdivision, instrumentality, public authority, or other entity of the Commonwealth.

(a) The Municipality and Contractor hereby certify, in writing, to the COUNTY and Department, for themselves and all their subcontractors, that as of the date of its execution of the Contract, that neither the Municipality, Contractor, nor any subcontractors, nor any suppliers are under suspension, or debarment by the Commonwealth, any other state or the federal government or any governmental entity, instrumentality, or authority and, if the Municipality and/or Contractor cannot so certify, then they agree to submit, along with the bid and/or proposal, a written explanation of why such certification cannot be made.

(b) The Contractor also certifies that as of the date of its execution of the contract it has no tax liabilities or other Commonwealth obligations.

(c) The Municipality and Contractor's obligations pursuant to these provisions are ongoing from and after the effective date of the Contract through the termination date thereof. Accordingly, the Municipality and Contractor shall have an obligation to inform the Department and COUNTY if, at any time during the term of the contract, it becomes delinquent in the payment of taxes, or other Commonwealth obligations, or if they or any of their subcontractors are suspended or debarred by the Commonwealth, the federal government, or any other state or governmental entity. Such notification shall be made within 15 days of the date of suspension or debarment.

(d) The failure of the Municipality or Contractor to notify the Department and COUNTY of its suspension or debarment by the Commonwealth, any other state, or the federal government shall constitute an event of default under the Contract and the

Contract may be terminated and the Commonwealth and/or COUNTY may pursue any and all remedies available under the Contract, at law, equity or otherwise.

(e) The Municipality and Contractor agree to reimburse the Commonwealth and or COUNTY for the reasonable costs of investigation incurred by or on behalf of the COUNTY or Office of State Inspector General for Investigations of the Municipality or Contractor's compliance with the terms of the Contract or any other agreement between the Municipality or Contractor and the Commonwealth or COUNTY which results in the suspension of debarment of the Municipality or Contractor. Such costs shall include, but shall not be limited to, salaries of investigators, including overtime; travel and lodging expenses; and expert witness and documentary fees. The Municipality and Contractor shall not be responsible for investigative costs for investigations that do not result in the Municipality's or Contractor's suspension or debarment.

(f) The Municipality or Contractor may obtain a current list of suspended and debarred Commonwealth contractors by either searching the Internet at <http://www.dgs.state.pa.us/debarment.htm> or by contacting the Department of General Services, Office of Chief Counsel, 603 North Office Building, Harrisburg, PA 17125, Telephone No: (717) 783-6472, FAX No: (717) 787-9138.

2.5 Compliance with the Offset Provision for Commonwealth Contracts

The Municipality and Contractor agree that the Commonwealth or COUNTY may set off the amount of any state tax liability or other debt of the Municipality or Contractor that is owed to the Commonwealth and is not being contested on appeal, against any payments due the Municipality or Contractor under this or any other contract with the COUNTY.

2.6 Compliance with the Americans with Disabilities Act:

Pursuant to federal regulations promulgated under the authority of the Americans with Disabilities Act, 28 C.F.R., section 35.101 et. seq., the Municipality and Contractor understand and agree that no individual with a disability shall, on the basis of the disability, be excluded from participation in the Contract or from activities provided for under the Contract. As a condition of accepting and executing the Contract, the Municipality and Contractor agree to comply with the "General Prohibitions Against Discrimination", 28 C.F.R. Section 35.130, and all other regulations applicable to the benefits, services, programs and activities provided by the Commonwealth through contracts with outside contractors.

The Contractor shall be responsible for and agree to fully indemnify and hold harmless the Commonwealth and COUNTY from all losses, damages, actions, liabilities, penalties, fines, costs, expenses including, without limitation, attorneys' and experts' fees, claims and demands incurred or paid by or asserted against the Commonwealth, COUNTY and/or their respective agents, employees or representatives ("Indemnitees") as a direct or indirect result of or connected with any claims, demands, suits or actions asserted or brought by any person against the Indemnitees as a result of the Contractor's failure to

fully comply with any of the provisions of the above paragraph or the failure of the Contractor or Municipality to insert in any or all contracts with other contractors subcontractors or other persons, a similar requirement to fully comply with the provisions of this Appendix "A" or any other provisions required by the Guidelines or applicable Laws. All indemnifications by the Contractor and Municipality in the Contract, Appendix A or the Specifications shall survive any termination or expiration of the Contract regardless of the reason, therefore.

2.7 Compliance with Anti-Pollution Regulations:

The Municipality and Contractor agree and shall require all of their respective contractors and subcontractors to agree that in the performance of their obligations under this and their respective contracts and the Specifications they shall minimize pollution and shall strictly comply with all applicable Laws including environmental laws and regulations.

2.8 Contractor Integrity Provisions:

(a) Definitions: For the purposes of the following provisions in this section, the following terms shall have and include the meanings herein set forth:

Confidential Information means information that is not public knowledge or available to the public on request, disclosure of which would give an unfair, unethical, or illegal advantage to another desiring to contract with the COUNTY or Commonwealth.

Consent means written permission signed by a duly authorized officer or employee of the Commonwealth or COUNTY provided that where the material facts have been disclosed in writing by pre-qualification, bid, proposal or contractual terms, the Commonwealth and COUNTY shall be deemed to have consented by virtue of execution of the Contract.

Contractor For the purpose of these provisions Contractor means and includes the Municipality, Contractor and individuals or entities that have entered into the Contract including directors, officers, partners, managers, key employees and owners of more than a 5% interest.

Financial Interest means:

Ownership of more than a 5% interest in any business; or holding a position as an officer, director, trustee, partner, employee, or the like, or holding any position of management.

Gratuity means any payment of more than nominal monetary value in the form of cash, travel, entertainment, gifts, meals, lodging, loans, subscriptions, advances, deposits of money, services, employment, or contracts of any kind.

(b) The Contractor shall maintain the highest standards of integrity and fair dealing and avoid conflict of interest situations in the performance of the Contract and shall take

no action in violation of applicable Laws or other requirements that govern contracting with the Commonwealth, Municipality, or COUNTY.

(c) The Contractor shall not disclose to others any confidential information gained by virtue of the Contract.

(d) The Contractor shall not, in connection with this or any other agreement with the COUNTY or the Commonwealth, directly or indirectly offer, confer, or agree to confer any pecuniary benefit on anyone as consideration for the decision, opinion, recommendation, vote, other exercise of discretion or violation of a known legal duty by any officer or employee of the COUNTY or Commonwealth.

(e) The Contractor shall not, in connection with this or any other agreement with the COUNTY or the Commonwealth, directly or indirectly offer, give, or agree or promise to give to anyone any gratuity for the benefit of, or at the direction or request of, any officer or employee of the COUNTY or Commonwealth.

(f) Except with the written consent of the Commonwealth or COUNTY, neither the Contractor nor anyone in privity with him shall accept or agree to accept from, or give or agree to give to, any person, any gratuity from any person in connection with the Project or performance of Work under the Contract except as provided therein.

(g) Except with the written consent of the Commonwealth or COUNTY, Contractor shall not have a financial interest in any other contractor, subcontractor or supplier providing services, labor or material on this Project or in connection with the Contract, Work or Specifications.

(h) The Contractor or Municipality, upon being informed or reasonably believing that any violation of these provisions has occurred or may occur, shall immediately notify the Commonwealth and COUNTY in writing of the violation.

(i) The Contractor, by execution of the Contract and by the submission of any bills or invoices for payment pursuant thereto, certifies and represents that he or it has not violated any of these provisions or any other provisions of the Contract.

(j) The Contractor, upon the inquiry or request of the Inspector General of the Commonwealth or any of that official's agents or representatives or the COUNTY shall provide, or if appropriate, make promptly available for inspection and copying, any information of any type or form deemed relevant by the Inspector General or COUNTY to the Contractor's integrity or responsibility, as those terms are defined by the Commonwealth's statutes, regulations, management directives or applicable Laws. Such information may include, but shall not be limited to, the Contractor's business and financial records, documents or files of any type or form which refer to or concern this contract. Such information shall be retained by the Contractor for a period of three (3) years beyond the termination of the Contract unless otherwise provided by the Guidelines or Laws.

(k) For violation of any of the above provisions, the Commonwealth or COUNTY may terminate the Contract and any other agreement with the Contractor, claim liquidated damages in an amount equal to the value of anything received in breach of these provisions, claim damages for all expenses incurred in obtaining another contractor to complete the Work or performance of the Contract and debar and suspend the Contractor from doing business with the Commonwealth or its grantees. These rights and remedies and all rights and remedies of the COUNTY and Commonwealth are cumulative, and the use or non-use of anyone shall not preclude the use of all or any other. These rights and

remedies are in addition to those the Commonwealth and COUNTY may have under the Specifications, Contract, or any other agreements, under applicable Laws, or otherwise.

ARTICLE 3 LIABILITY AND INSURANCE

3.1 Contractor Liability

The Contractor shall be fully liable and responsible for all injuries and damages to any person or property that occur as a direct or indirect result of any acts or conduct of Contractor or its subcontractors or any of their respective employees, agents, or representatives in connection with or related to the performance of the Work or Contract. Contractor shall be fully responsible for the proper care and protection of all Work until completion and final acceptance.

3.2 Hold Harmless

To the fullest extent permitted by applicable Laws, the Contractor agrees to and shall fully indemnify, defend and hold harmless the COUNTY and Commonwealth and their respective officers, employees, agents and representatives (individually and collectively herein referred to as the "Indemnitees") from and against any and all losses, damages, liabilities, awards, claims, suits, judgments, fines, penalties, actions, costs, expenses direct, indirect or consequential (including without limitation attorneys' and experts' fees or charges, court or other dispute resolution costs) incurred by Indemnitees and all demands and claims of any kind whatsoever including, without limitation, claims for damages for sickness, disease, personal or bodily injury, including death to any person whatsoever and for damage to property of any person whatsoever including, without limitation, loss or destruction thereof or loss of use and all consequential and incidental losses and damages asserted or brought and in any manner connected with or arising or alleged to arise, directly or indirectly, out of or resulting from, in whole or in part, the performance of the Work or any incident, accident or occurrence, however caused, relating to (1) the performance of any or all of the Work, duties or activities or services required or contemplated by the Contract or performed by or on behalf of Contractor under the Contract; (2) the assertion or filing of any Liens; or (3) Contractor's breach or violation of the Contract or any part thereof; (4) any acts, omissions, negligence, conduct or activities performed by or on behalf of the Contractor, its agents, employees, subcontractors or any person directly or indirectly employed by any of them to perform or furnish any of the Work under or related to the Contract, the Specifications or the Project or any person for whose acts any of them may be liable, regardless of whether or not caused in part by any Indemnitee and regardless of the conduct or negligence of any Indemnitee; or (5) in any manner connected with, arising, directly or indirectly, out of or resulting from the performance of any of the Work, duties or obligations of Contractor in the Contract; or (6) any and all actions or claims brought by any person or entity by or on behalf of Contractor, Contractor's employees, agents or representatives for any alleged conduct, negligence, defect or condition caused by or created in whole or in part by or on behalf of any Indemnitee. With respect to any and all claims or demands brought against Indemnitees by Contractor or an employee, agent or representative of Contractor or other

person, the Contractor hereby expressly and unconditionally waives any provisions of the Worker's Compensation Act whereby Contractor could otherwise preclude Contractor's joinder as an additional defendant, or avoid liability in any action at law, equity or otherwise, where Contractor or Contractor's employees, agents or representatives, their heirs or assigns or anyone otherwise entitled to receive damages by reason of injury or death brings any action or claims whatsoever against Indemnitees. All indemnifications by Contractor in this Contract: (1) shall not be limited in any way by any limitation on the amount or type of benefits payable by or for Contractor under any workers' compensation laws or other employee benefit laws; and (2) shall be unlimited, unconditional and also undertaken pursuant to applicable Laws and shall survive the expiration or any termination of the Contract.

3.3 Insurance.

Contractor shall obtain and always maintain, at Contractor's sole expense, such contractual liability and comprehensive broad form insurance policies as will fully insure and protect Contractor, the COUNTY and Commonwealth from all claims or actions connected with the performance of the Work or Contract by or on behalf of Contractor or any person directly or indirectly employed by Contractor. Such policies shall be appropriate for the Work and operations being performed and shall include, without limitation, broad form commercial and general public liability insurance policies, written on an occurrence-based form, and in such form and amount (but not less than \$1,000,000.00 per occurrence for bodily injury or death and \$1,000,000.00 per occurrence for property damage) and issued by such insurance company as shall be satisfactory to the COUNTY. The minimum coverage amount specified herein may be increased for certain programs, contracts or activities administered by them as required by the Municipality. The policy shall include therein, without limitation, coverage for contractual liability assumed by Contractor under the Contract, broad form and all risk coverage for sickness, disease, bodily injuries, including death and personal injuries and property damages. The liability insurance shall cover and insure all operations and activities directly or indirectly connected with the performance of the Project, the Work, duties or services required, indicated or contemplated by the Contract or Project. The liability insurance policy shall be endorsed: (1) to protect the Indemnitees as additional insured from all claims and demands and contain a waiver of subrogation rights including the aforesaid claims or demands; and (2) require at least thirty (30) days prior notice to Indemnitees of any intended material or adverse change or cancellation of the policy. No act or omission of the COUNTY or Commonwealth in relation to any of the provisions in the Contract shall in any way limit, modify or affect the obligations of the Contractor under any term or provision of the Contract. In no event shall the COUNTY, Commonwealth or Department be liable for any injury, loss or damage to any person or property whatsoever which is or could have been insured by Contractor under any available insurance policy. Such policies shall not limit and shall not include any provision limiting the existing sovereign immunity of the Commonwealth, or COUNTY or their respective officers, agents, employees, or representatives.

3.4 Other Liability and Waiver Requirements

The Municipality and Contractor shall provide and shall require all persons directly or indirectly employed by the Municipality and Contractor to perform any Work or services or provide any materials, equipment or supplies under the Contract or relating to the Project to deliver to the COUNTY and Municipality: (1) written waivers and releases of all Liens and all rights to have, assert, claim or file any Liens all in form and substance acceptable to the Municipality and COUNTY; and (2) written certificates or satisfactory proof of full compliance with all workers and unemployment compensation and other employee benefits laws all in accordance with applicable Laws. Contractor and each person employed, directly or indirectly, by Contractor shall be fully and solely responsible for the payment of all costs, expenses and premiums for workers' compensation, unemployment compensation, social security and all other taxes or payroll deductions required by applicable Laws for their respective employees or agents who are performing any Work or activities or supplying any materials or equipment to or for the Project, the Specifications and/or the Contract. The Contractor and Municipality agree that the COUNTY and Commonwealth shall have no liability or responsibility whatsoever for any conduct of the Contractor or Municipality or any losses, damages or injuries to any persons or property resulting, directly or indirectly, from or caused, in whole or in part, by the acts or conduct of the Contractor or Municipality.

3.5 No Waiver

The Contractor covenants and agrees that nothing contained in the insurance policies required or contemplated by the Contract, Specifications and/or Work is intended to or shall be construed in any manner as a waiver, release of or limitation upon the existing sovereign immunity of the Commonwealth or COUNTY or their respective officers, employees, agents, or representatives.

Delivery of Certificates

Before commencement of any operations, activities or Work related to the Project or the Contract, Contractor and all subcontractors shall deliver to the COUNTY written certificates or satisfactory proof of all insurance as required or contemplated by this Article or the Contract all in form and substance acceptable to the Indemnitees. However, Contractor's or any subcontractor's failure to provide such proof of insurance shall not negate, impair or affect the Contractor's liability, duties, indemnification or obligations required, indicated or contemplated under or in connection with the Contract or Specifications.

ARTICLE 4 INDEPENDENT CONTRACTOR

4.1 The Contractor acknowledges and agrees that in performing the Contract, it is an independent contractor. It is specifically intended and agreed that neither the Contractor nor any of Contractor's employees, subcontractors or representatives are or shall be considered as an employee, agent or representative of the COUNTY, Department and/or

Commonwealth. Notwithstanding anything contained in the Contract or related agreements or documents to the contrary, all parties agree that in the performance of the Work and services contemplated by the Contract, the Specifications or related to the Project, all of the rights and the duties hereby granted to and assumed by the Contractor are those of an independent contractor only. Nothing contained herein or the Contract is intended to or shall be so construed as to create an employment, agency, joint venture, partnership or any other relationship other than independent contractor between the Contractor and the COUNTY, Department and/or Commonwealth.

ARTICLE 5 RECORDS

5.1 The Municipality and Contractor using accepted procedures, shall maintain at their principal office or place of business complete and accurate records and accounts including all documents, writings, correspondence, and other evidence pertaining to costs and expenses of the Contract or Project amounts received and disbursed, and reflecting all Work, services, matters, and activities related to the Project, Specifications or required by the Contract.

5.2 At any time during normal business hours and as often as may be reasonably necessary, the Municipality and Contractor shall make available and shall require all contractors and subcontractors to make available for inspection and copying by the COUNTY, Commonwealth, Department, federal government or their authorized representatives, all of their information, records, books, contracts, papers, writings and documents with respect to the Project and all matters covered by the Contract and will permit the COUNTY, Commonwealth, Department or their representatives to audit, examine and make copies of all such information, records, books, contracts, papers, writings and documents.

5.3 The Municipality and Contractor and all subcontractors shall fully cooperate with the municipality and their representatives in providing, promptly, all requested or necessary records, documents, reports, books, contracts, papers, information and writings so that the Municipality or their representatives may prepare, complete and submit the necessary or advisable reports, audits and information and comply with the "Contract, Audit and Closeout Requirements" in the contract between the COUNTY and Commonwealth in a timely, efficient and effective manner.

5.4 All such information, documents, writings and records shall be maintained by the Municipality, Contractor, subcontractors and all persons performing or providing any Work for a period of three (3) years from the date of final audit and official close out of the COUNTY's contracts with the Commonwealth, and/or Department except in those cases where the applicable Laws require a longer period or where unresolved audit questions may require maintaining some or all records or documents for a longer period. In such an event, records and documents shall be maintained for the period required or until all pending matters are resolved.

5.5 The Contractor and Municipality shall insert in any and all contracts with other contractors, subcontractors or other persons relating to the Work, Project, Specifications, or the Contract the duty and obligation to fully comply with the provisions of Article V and Article VI.

ARTICLE 6 PROGRESS REPORTS

6.1 The Contractor and Municipality and all their subcontractors shall furnish to the Department and Municipality such progress reports in such form and quantity as the Department or the Municipality may from time to time require including but not limited to status reports of the Project, Project account statements, certificates, approvals, proposed budgets, invoices, copies of all contracts executed and proposed, employment placements, follow-up reports and all other information relative to the Project or the Contract as may be necessary or advisable in the opinion of the COUNTY to audit or monitor the Project and the Contract or to enable the COUNTY to submit their reports or audits to the Commonwealth or as may be requested by the COUNTY. The COUNTY and or Department or their duly authorized representatives shall have the right, at any time or times, to visit and examine the Project Site and make inspections of the Work or Project or monitor the performance of the Contractor and all its contractors and subcontractors under or related to the Project, Contract, or the Specifications.

6.2 In the event that the COUNTY or Department determines that the Contractor or their subcontractors have not furnished such reports as required by their respective contracts, the COUNTY or Department, by giving written notice to the Contractor or subcontractors, as the case may be, may suspend payments under the Contract until such time as the required information and reports are properly submitted.

ARTICLE 7 TEMPORARY SUSPENSION OF CONTRACT

7.1 Upon written notice and at any time during the period covered under the Contract, the COUNTY or Department may suspend payments and/or request suspension of all or any part of the Work, Project or activities under the Contract. The COUNTY or Department may give such notice to suspend for the following reasons:

(a) Violations of regulations, audit exceptions, misuse of funds, refusal to submit reasonably required reports or information or when responsible public officials or private citizens make allegations of mismanagement, malfeasance or criminal activity by the Municipality or Contractor.

(b) When, in the reasonable opinion of the Department, the Work or Project activities cannot be continued in such manner as to adequately fulfill the intent of the statute or regulations due to act of God, strike or disaster.

7.2 During the term of suspension, the Municipality, Department and Contractor shall retain and hold available any and all funds previously approved for application to the Work or Project activities. During this period all such funds held by the COUNTY or Contractor shall be placed in an interest-bearing program expenditures account. The Municipality and Contractor may not expend any such funds during the period that the Contract is

suspended except pursuant to an order of court of competent jurisdiction. The Municipality and Contractor shall have the right to cure any default or other circumstance that is the basis for suspension of the Contract within a reasonable period of time.

7.3 The Contract is also conditioned upon complete performance by the Municipality and Contractor of past agreements or contracts between the Municipality or Contractor and the Department or Municipality. If the Department determines that there has been incomplete performance of past agreements or contracts by the Municipality or Contractor, then the Department or COUNTY by giving written notice to the Municipality or Contractor, will suspend payments under the Contract until such time as the Municipality or Contractor has fulfilled its obligations under past agreements or contracts to the satisfaction of the Department and COUNTY. When the Municipality or Contractor has fulfilled its obligations under past agreements or contracts to the Department's and COUNTY's satisfaction, the COUNTY will resume payments under the Contract.

ARTICLE 8 TERMINATION OF CONTRACT BY THE DEPARTMENT

8.1 The Department (or the COUNTY at the request of the Department) may terminate the Contract at any time for the Department's convenience or for any other reason if the Department determines that termination is in its best interests or is otherwise appropriate by giving written notice to the County and Contractor of such termination and specifying the effective date thereof. Termination pursuant to this section shall not be applicable to funds that the COUNTY, or Contractor are legally or contractually obligated to pay as a result of the Work, Project or contract activities entered into prior to the date that the Municipality or Contractor receives written notice of termination. All grant monies or funds not legally or contractually obligated, plus accrued interest, shall be returned to the Department on or before the effective date of termination and all reports and records relating to the Contract or Project shall be made available to the Department and COUNTY.

8.2 The Contract is funded in whole or in part by Commonwealth and/or federal funds. If the Commonwealth and/or federal funds are not provided to the COUNTY for the Project or the Contract, the COUNTY may terminate the Contract upon written notice to the Municipality and Contractor that such funds have not been or will not be received by the COUNTY. Any such termination shall be effective and applicable only to the extent that the Commonwealth funds and/or federal funds are not so provided to the COUNTY.

ARTICLE 9 NONWAIVER OF REMEDIES AND RIGHTS

9.1 No custom, course of dealing, delay or failure on the part of the Municipality or Department in exercising any right, power, privilege or remedy hereunder shall affect such right, power, privilege or remedy; nor shall any single or partial exercise thereof or any abandonment, waiver, or discontinuance of steps to enforce such a right, power, privilege or remedy preclude any other or further exercise thereof, or the exercise of any other right, power, privilege or remedy. All rights and remedies of the COUNTY, Municipality and Department hereunder are cumulative and concurrent and not exclusive of any rights

or remedies which they might otherwise have. The Municipality and/or Department shall have the right at all times to enforce the provisions of the Contract, Specifications and Appendix "A" in accordance with their terms notwithstanding any conduct or custom on the part of the Municipality or Department in refraining from so doing at any time or times. The failure of the Municipality or Department at any time or times to enforce their rights under such provisions, in accordance with the same, shall not be construed as having created a custom or course of dealing in any way or manner contrary to specific provisions of the Contract or Specifications or as having in any way or manner modified or waived the same. A Waiver shall not be effective unless it is made in a writing signed by the party or person to be charged with the Waiver.

ARTICLE 10 INTEREST OF PARTIES AND OTHERS

10.1 No officer, member, employee, independent contractor or elected official of the Commonwealth, Municipality and no member of their governing body who exercises any functions or responsibilities in the review or approval of activities being performed under the Contract shall participate in any decision relating to the Contract which affects his/her personal interest or the interest of any corporation, partnership or association in which he/she is directly or indirectly interested. Nor shall any such officer, member, elected official or employee of the Commonwealth, Municipality or any member of their respective governing body have any interest direct or indirect in the Contract or the proceeds thereof.

10.2 The Municipality and Contractor covenant that the Municipality and Contractor (including directors, officers, members and employees of the Municipality and Contractor) presently have no interest and shall not acquire any interest, directly or indirectly, which would conflict in any manner or degree with the performance of activities required to be performed relating to the Project or under the Contract and the Specifications. The Municipality and Contractor further covenant that no person having any such interest shall be employed in the performance of activities or Work for or relating to the Contract, the Specifications or Project.

ARTICLE 11 CONTRACTOR'S REPRESENTATIONS

11.1 All representations and warranties of Contractor in the Contract are made with the intent to induce the Municipality to enter into the Contract and with the expectation and knowledge that the same are material to the COUNTY and will be relied upon by each of them. Further, Contractor makes the following additional representations and warranties:

a) All materials and Work furnished in connection with the Project or the Contract, shall be of first-class quality, free from any faults or defects and properly installed and constructed. Contractor shall deliver to the Municipality all manufacturers and suppliers' warranties, guarantees and instructions relating to all materials, equipment, or the Work. The Contractor shall properly demonstrate and instruct the Municipality on the proper use of the equipment and materials installed or constructed in connection with the Project or Contract.

b) Contractor acknowledges and agrees that Contractor has read, understands, and fully reviewed the Contract, the Specifications, the scope, and other elements of or relating to the Work and Contract. Contractor acknowledges that Contractor has consulted or had the opportunity to consult with independent counsel or other advisors relating to the Contract, the Project, and the Work.

c) Contractor, all subcontractors and all their respective employees, agents and representatives involved in performing the Work or any part thereof are and shall be, at all times, competent and duly qualified and licensed, if applicable, to perform the Work and all Work shall be performed in strict accordance with all applicable Laws, the Contract and Specifications.

ARTICLE 12 INTERPRETATION OF CONTRACT AND APPENDIX A

12.1 The Contract, Specifications and this Appendix A shall be interpreted and construed in accordance with the laws of the Commonwealth and with federal law, if applicable. If any or more of the terms or provisions contained in this Appendix, the Specifications or the Contract shall be held to be invalid or unenforceable in any respect as to any person or circumstance, such findings shall not render that provision invalid or unenforceable as to any other persons or circumstances. If feasible, it is the intent of the parties that any such offending provision or term shall be deemed to be modified to be within the maximum limits of enforceability or validity while most nearly preserving its original intent and purpose; however, if the offending provision cannot be so modified, it shall be stricken and all other terms and provisions of the Contract, Specifications and this Appendix in all respects shall remain valid and enforceable. In the event of any irreconcilable conflict between the terms and provisions of this Appendix, the Specifications and/or the Contract, the terms and provisions of Appendix A shall govern and be controlling and supersede the terms and provisions of the Specifications and/or Contract. Each article, paragraph, provision and part of the Contract, Specifications and this Appendix constitutes a separate and distinct covenant, condition, and agreement. Article, paragraph, and section headings are inserted for convenience of reference only and do not necessarily indicate all items contained within the article, paragraph or section and shall not affect or be used in the interpretation of this Appendix, the Specifications or the Contract. The parties agree that the Contract, Specifications and Appendix A shall be construed in a neutral manner. In interpreting the Contract, Specifications and Appendix A, there shall be no inference, by operation of law or otherwise, that any term, part or provision of the Contract, Specifications or Appendix A shall be more strictly construed against any party or person for any reason. The term "person" whenever used in this Appendix and the Contract shall mean and include any individual, corporation, partnership, association, Limited Liability Company, trust, estate, governmental entity, or any other type of entity. Whenever used in the Contract and the Appendix, the singular shall include the plural, the plural the singular and any gender shall include all genders. Appendix A and the Contract is intended to and shall be a sealed instrument.

IN WITNESS WHEREOF, the Municipality and Contractor, intending to be legally bound, have signed and sealed this Agreement to be effective as of the day and year first above written.

ATTEST/WITNESS:

MUNICIPALITY:

ATTEST/WITNESS:

CONTRACTOR:



**Public Works Employment
Verification Act
(Act 127 of 2012)
Commonwealth of Pennsylvania
Department of General Services**





COMMONWEALTH OF PENNSYLVANIA

PUBLIC WORKS EMPLOYMENT VERIFICATION FORM

Date _____

Business or Organization Name (Employer) _____

Address _____

City _____ State _____ Zip Code _____

☐ Contractor ☐ Subcontractor (select one)

Contracting Public Body _____

Contract/Project No _____

Project Description _____

Project Location _____

As a contractor/subcontractor for the above referenced public works contract, I hereby affirm that as of the above date, our company is in compliance with the Public Works Employment Verification Act ('the Act') through utilization of the federal E-Verify Program (EVP) operated by the United States Department of Homeland Security. To the best of my/our knowledge, all employees hired post January 1, 2013 are authorized to work in the United States.

It is also agreed to that all public works contractors/subcontractors will utilize the federal EVP to verify the employment eligibility of each new hire within five (5) business days of the employee start date throughout the duration of the public works contract. Documentation confirming the use of the federal EVP upon each new hire shall be maintained in the event of an investigation or audit.

I, _____, authorized representative of the company above, attest that the information contained in this verification form is true and correct and understand that the submission of false or misleading information in connection with the above verification shall be subject to sanctions provided by law.

Authorized Representative Signature

Responsibilities - Contractors

- Submit a completed Public Works Employment Verification Form to the contracting public body with the initial bid.
 - The contractor may be required by the public body to submit the Form with its bid, or once it is determined to be the lowest bidder, but it **MUST** be submitted before the contract is awarded.
 - Look to the Bidding Documents for the public body's requirements on submission of the Form.
- Verify all new employees hired after January 1, 2013.
 - Verification must be completed within 5 business days of the employee's start date. The employee may work during this time.
 - Remember the definition of "employee" is very broad. All employees must be verified through EVP regardless of whether the employee will be working onsite or offsite of a public work or otherwise.



Responsibilities - Contractors

- Notify all subcontractors in their subcontracts of:
 - Applicability of the act; and
 - Information regarding the use of EVP; and
 - Reference to the web site where they can obtain a copy of the Form:
<http://www.dgs.state.pa.us>
- Maintain documentation of continued compliance with the act.
 - Quick Audit Report (Click [here](#) and [here](#) for more information)
 - Proof of enrollment in E-Verify® (Click [here](#) and [here](#) for more information)
- Cooperate during an investigation or audit by providing, upon request:
 - Documentation of date of hire for all employees; and
 - Documentation of use of EVP; and
 - Other information as required



E-Verify® Enrollment Proof

HOW TO PROVIDE PROOF OF ENROLLMENT IN E-VERIFY®

- For a company to provide proof of enrollment they should:
 - Log into E-Verify®; and
 - Access the Edit Company Profile link on the left navigation menu; and
 - Print the screen containing their company information.
 - This page contains proof of their company's enrollment in E-Verify®.



E-Verify® Enrollment Proof

HOW TO PROVIDE PROOF OF ENROLLMENT IN E-VERIFY

Below is an example of how Federal contractors that are subject to the Federal Acquisition Regulation (FAR) E-Verify clause may be asked to provide proof of enrollment in E-Verify, but can be used by anyone requesting confirmation of company enrollment. As shown below, to provide proof, access the "Add Company Profile" link on the left navigation menu and print the screen containing your company information. This page contains proof of your enrollment in E-Verify.

Employee Eligibility Verification

Company Information

Company Name: CH2M HILL

Company ID Number: 1033

Doing Business As (DBA) Name:

DUNS Number:

Physical Location:

Address 1: 1212 N. W.

Address 2:

City: West Nyack

State: NY

Zip Code: 10994

County: Rockland

Building Address:

Address 1:

Address 2:

City:

State:

Zip Code:

Additional Information:

Employer Identification Number: 1033

Total Number of Employees: 1033

Parent Organization: CH2M HILL

Administrator:

Organization Designation:

