SECTION 32 31 00

FENCES AND GATES - HIGH SECURITY

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\*\* NOTE TO SPECIFIER \*\* Perimeter Security Solutions; barrier systems.  
This section is based on the products of Perimeter Security Solutions, which is located at:  
1300 S. Kilbourn Ave.  
Chicago, IL 60623  
Phone: 773-521-9900  
Email: \_\_\_\_\_\_\_\_.  
Web: perimetersecuritysolutions.com  
[Click Here]   
Perimeter Security Solutions was formed in 2018 by CEO Mike Saltijeral. He got his start in perimeter security in the Marine Corps - by learning how to breach it. In Panama and the Persian Gulf War, Mike's job was to find ways in to high-security locations.  
It is that expertise that led him into the fencing business, and to the development of the IFI-12 and IFI-14 fully welded fencing systems, which were each able to hold off expert special forces operators much longer than any other system on the market. Now, he is taking perimeter security into the future with a single goal in mind: create a rapid-deploy, holistic perimeter security system that utilizes cutting edge physical and electronic components to address all manner of threats.  
PSS holds several design patents on its barrier system and holds innovation as a central core value.

1. GENERAL
   1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Barricade fencing. (IFI-12)
    2. Ornamental barricade fencing. (IFI-14)
    3. High-density chain link barricade fencing. (IFI-9)
    4. Heavy duty chain link barricade fencing. (IFI-6)
    5. Access Control Gates: (Astro-Slide)
  1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 30 00 - Cast-in-Place Concrete.
    2. Section 02 20 00 - Assessment.
  1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. American Architectural Manufacturers Association (AAMA):
       1. AAMA 2604 - High Performance Organic Coatings.
       2. AAMA 2605 - Superior Performing Coatings.
    2. ASTM International (ASTM):
       1. ASTM F2656 - Standard Test Method for Crash Testing of Vehicle Security Barriers.
       2. ASTM F2781 - Standard Practice for Testing Forced Entry, Ballistic and Low Impact Resistance of Security Fence Systems.
       3. ASTM B117 - Standard Practice for Operating Salt Spray (Fog) Apparatus.
    3. American Society of Civil Engineers (ASCE):
       1. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures.
    4. Underwriters Laboratories (UL):
       1. UL 325 - Standard for Safety: Door, Drapery, Gate, Louver, and Window Operators and Systems.
  1. SUBMITTALS
     1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
     2. Product Data:
        1. Manufacturer's data sheets on each product to be used.
        2. Preparation instructions and recommendations.
        3. Storage and handling requirements and recommendations.
        4. Typical installation methods.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern and color.
    2. Shop Drawings: Include details of materials, construction and finish. Include relationship with adjacent construction.
  1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.
     2. Installer Qualifications: Company specializing in performing Work of this section with minimum two years documented experience with projects of similar scope and complexity.
     3. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

\*\* NOTE TO SPECIFIER \*\* Include mock-up if the project size or quality warrant the expense. The following is one example of how a mock-up on might be specified. When deciding on the extent of the mock-up, consider all the major different types of work on the project.

* + 1. Mock-Up: Construct a mock-up with actual materials in sufficient time for Architect's review and to not delay construction progress. Locate mock-up as acceptable to Architect and provide temporary foundations and support.
       1. Intent of mock-up is to demonstrate quality of workmanship and visual appearance.
       2. If mock-up is not acceptable, rebuild mock-up until satisfactory results are achieved.
       3. Retain mock-up during construction as a standard for comparison with completed work.
       4. Do not alter or remove mock-up until work is completed or removal is authorized.
  1. PRE-INSTALLATION CONFERENCE
     1. Convene a conference approximately two weeks before scheduled commencement of the Work. Attendees shall include Architect, Contractor and trades involved. Agenda shall include schedule, responsibilities, critical path items and approvals.
  2. DELIVERY, STORAGE, AND HANDLING
     1. Store and handle in strict compliance with manufacturer's written instructions and recommendations.
     2. Protect from damage due to weather, excessive temperature, and construction operations.
  3. PROJECT CONDITIONS
     1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
  4. WARRANTY
     1. Manufacturer's standard limited warranty unless indicated otherwise.

1. PRODUCTS
   1. MANUFACTURERS
      1. Acceptable Manufacturer: Perimeter Security Solutions, which is located at: 1300 S. Kilbourn Ave.; Chicago, IL 60623; Tel: 773-521-9900; Email: [request info (astines@perimetersecuritysolutions.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Perimeter+Security+Solutions&coid=53025&rep=&fax=&message=RE:%20Spec%20Question%20(02820psf):%20%20&mf=); Web: <https://perimetersecuritysolutions.com/>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
    2. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.
  1. BARRICADE FENCING

\*\* NOTE TO SPECIFIER \*\* Impenetrable. Unclimbable. Unstoppable. The IFI- 12 is the strongest security solution we offer. This entirely welded system is nearly invulnerable to standard forms of attack. Sledgehammers and non-powered cutting tools don't stand a chance. The expanded metal design makes it almost impossible to climb without assistance, and its modular nature allows for integration of chain link, mesh screens, lighting, anti-climb wire, breach detection systems, and more. This barrier solution is perfect for sites that require maximum security.

* + 1. Basis of Design: IFI-12 Mini Louver. Patent No. US D877,932 S. Completely welded system. No brackets. ThomGuard climb deterrence system. Choice of Panel types.
    2. Performance and Design Requirements:
       1. Forced Entry: Exceeds ASTM F2781.
       2. IKE Certified. Highest IKE Certification.
       3. Crash Barrier: Easily modifiable to meet ASTM F2656.
       4. Wind Load Resistance: 105 to 120-plus mph (169 to 193 km per hr).
          1. Designed for 115 mph (185 km per hr) wind load at a maximum 96 inch (2438 mm) center-to-center post spacing.
       5. Powder Coating: Meets AAMA 2604-2, AAMA 2605-98, and ASTM Standard Guidelines.
       6. Security System conduits and cables shall not exceed 50 lbs per ft (74.4 kg per m).
       7. All welding to be performed using E70XX electrodes.
       8. Exposure Category C, ASCE 7-10.
       9. Maximum Post Spacing 96 inches (2438 mm) center to center.
    3. Features:
       1. Anti-climb Thorn-guard system.
       2. Highest IKE Certification.
       3. Completely welded system
       4. Brackets: None exposed.
       5. Fasteners: None exposed.
       6. Visibility: 25 percent.

\*\* NOTE TO SPECIFIER \*\* Wire mesh is standard but panels can me supplied with expanded metal, chainlink. Contact manufacturer for more information.

* + - 1. Panels: Wire mesh.
      2. Color: As determined by the Architect.
    1. Characteristics:
       1. Fence Overall Height: 144 inches (3658 mm).
       2. Post and Rails: Grade 50 pipes. Fy equal to 30 ksi (207 MPa).
          1. Vertical Posts: HSS 4 x 4 x 0.25 inch (102 x 102 x 6 mm), grade 45.

Press on post caps.

* + - * 1. J-Channel Continuous Hanger Rails: 11 ga steel. 1 x 2.25 inch (25 x 57 mm) with 1/2 (13 mm) inch lip.

High Shear Anchors: \_\_\_\_\_\_\_\_.

Rivets: 1/4 inch (6 mm) stainless steel. For attachment to posts.

* + - 1. Miscellaneous Steel: Minimum Grade 30. Fy equal to 30 ksi. This includes but is not limited to tension bars, tension bands, brace bands, boulevard clamps, and bolts.
      2. Concrete Encasement Piers: Minimum Compressive Strength: 3000 psi (20684 kPa) at 14 days.
         1. Dimensions: Diameter: 24 inch (610 mm). Depth: 48 inches (1219 mm)
      3. Panels: All welded. No mechanical fasteners to be used.
         1. Panel Height: 132 inches (3353 mm).
         2. Panel Width: 48 inches (1219 mm).

\*\* NOTE TO SPECIFIER \*\* Delete The IFI Thorn Guards are standard. Delete anti-scale option not required.

* + - * 1. Anti-Scale: IFI Thorn Guards on top edge of panel.
        2. Anti-Scale: Palisade pickets.
        3. Anti-Pry: And anti-visibility provisions.
        4. C-Channels: Horizontal Panel Support. 14 ga steel. 1-5/8 x 3 inch (41 x 76 mm) with 3/4 x 7/16 inch (19 x 11 mm) lips. Allows protection for communications and electrical cabling.
        5. Security Mesh: 1/2 inch (12 mm) - 13 R (0.188)
      1. Gate hinges: Heavy duty rated for 3 x 7 ft (914 x 2134 mm) gate.
      2. Mid-Span Panel Splices: Not required at post locations.
         1. Channel Web Splice: 1/8 x 1 x 7-1/2 inch (3 x 25 x 178 mm).

5/16 inch (8 mm) dia TEK Screws.

* + - * 1. Panel Splice:

Angles: 1/8 x 1 x 2 inch (3 x 25 x 51 mm).

Plates: 1/8 x 3 inch (3 x 76 mm.

5/16 inch (8 mm) dia TEK Screws.

* + - 1. Cantilever Gate:
         1. Gate to Ground: 6 inches (152 mm).
         2. Support Rollers: Hi Motions 301.8XL mounted on MC 10x25 channel welded between support post.
         3. XL Track: mounted to underside of the gate.
         4. Guide Rollers; Lower and Upper: Hi Motion 225.12 Rubber NBR SHBO Guide Rollers.
         5. Gate Hanger Assembly: Super 8 Truck roller assembly. Heavy duty hangar bracket.
         6. Bottom Guide: Box frame. UL 325 complaint wheel covers. Universal mounting bracket assembly.
         7. Concrete Gate Operator Pad: Minimum Compressive Strength: 3000 psi (20684 kPa) at 14 days.

Dimensions: As detailed on the drawings.

* 1. ORNAMENTAL BARRICADE FENCING

\*\* NOTE TO SPECIFIER \*\* Eye-catching. And unforgiving. The IFI-14 combines the strength of the IFI-12 with the elegance of ornamental fencing to provide a high-security solution that also fulfills aesthetic needs. Like the IFI-12, it can be integrated with a variety of peripherals to enhance its already impressive strength. Featuring a welded design with zero exposed bolts or brackets, the IFI-14 is the perfect security solution for environments that require the highest levels of both security and class.

* + 1. Basis of Design: IFI-14 Palisade. Patent No. US D828,579 S. Completely welded system. No exposed brackets. Integrated climb deterrence system.
    2. Performance and Design Requirements:
       1. Forced Entry: Exceeds ASTM F2781
       2. IKE Certified. Highest IKE Certification.
       3. Crash Barrier: Easily modifiable to meet ASTM F2656
       4. Prevents passing of contraband.
       5. Wind Load Resistance: 105 to 120 plus mph (169 to 193 km per hr).
          1. Designed for 115 mph (185 km per hr) wind load at a maximum 96 inch (2438 mm) center-to-center post spacing.
       6. Powder Coating: Meets AAMA 2604-2, AAMA 2605-98, and ASTM Standard Guidelines.
       7. All welding to be performed using E70XX electrodes.
       8. Exposure Category C, ASCE 7-10.
    3. Features:
       1. Anti-climb.
       2. Brackets: None exposed.
       3. Fasteners: None exposed.
       4. Visibility: 25 percent.
       5. Fence Overall Height Including Pickets: 144 inches (3658 mm).
       6. Color: As determined by the Architect.
    4. Characteristics:
       1. Post and Rails:
          1. Super (Corner) Posts: 8-5/8 inch (219 mm) diameter Schedule 40 Super Post.

Press on post caps.

* + - * 1. Line Posts: 4 inch (102 mm) TS x 8 ga. Post ship with pre-welded brackets to support panels. Spacing: 8 to 10 ft (2438 x 3048 mm),

Prewelded Brackets: L2 x 2 x 1/4 inch (51 x 51 x 6 mm) angle.

* + - * 1. J-Channel Continuous Hanger Rails: 11 ga steel. 1 x 2.25 inch (25 x 57 mm) with 1/2 (13 mm) inch lip.

High Shear Anchors: \_\_\_\_\_\_\_\_.

Rivets: 1/4 inch (6 mm) stainless steel. For attachment to posts.

* + - 1. Miscellaneous Steel: Minimum Grade 30. Fy equal to 30 ksi (207 MPa). This includes but is not limited to tension bars, tension bands, brace bands, boulevard clamps, and bolts.
      2. Concrete Encasement Piers: Minimum Compressive Strength: 3000 psi (20684 kPa) at 14 days.
         1. Super Post Pier Dimensions: Diameter: 36 inch (914 mm). Depth: 78 inches (1981 mm).
         2. Line Post Pier Dimensions: Diameter: 24 inch (610 mm). Depth: 54 inches (1372 mm).
      3. Panels: Anti -scale, anti-pry, and anti-visibility provisions.
         1. Security Mesh: SentryGuard 34-9 mesh.
         2. Alternating Palisade Pickets: 15 ga. roll formed steel.
         3. Horizontal Support Rail: C3 x 4.12 steel.
         4. Carriage Bolts: 3/8 inch (9 mm) diameter with breakaway nut.
      4. Service Gate:

Frame (W xH): 36 x 84 inches ( mm). 1-7/8 diameter tubing.

Fulcrum Latch: Secure with padlock.

* 1. HIGH DENSITY CHAINLINK BARRICADE FENCING

\*\* NOTE TO SPECIFIER \*\* This isn't your daddy's chain link fence. The IFI-9 Severe Cut offers substantially more security than standard chainlink. Boasting a 9-gauge, 3/8 inch (9 mm) mini weave face and terminal pole wraparound, this security solution eliminates all exposed bracing and makes it extremely difficult to climb and/or cut. The IFI-9 is an elite chain link system for sites that require the highest levels of perimeter security.

* + 1. Basis of Design: IFI-9 Severe Cut. Chainlink is wrapped around the terminal and corner posts. The weave is then tensioned and secured to terminal posts and horizontal rails.
    2. Performance Requirements:
       1. Category C, ASCE 7-10.
       2. IKE Certified.
       3. Wind Load: \_\_\_\_\_\_\_\_.
    3. Features:
       1. Anti-climb.
       2. No bracket system.
       3. Customizable to any terrain.
       4. Zero exposed mechanical fasteners.
       5. Ground to Bottom Rail: 2 inches (51 mm).
    4. Characteristics:

\*\* NOTE TO SPECIFIER \*\* Delete delete mesh option not required.

* + - 1. Chain Link Wire Mesh: 3/8-9 gauge Mini Mesh.
         1. Tie Wire: 9-gauge steel for attachment to line posts.
      2. Chain Link Wire Mesh: 1/2-9 gauge Mini Mesh.
         1. Tie Wire: 9-gauge steel for attachment to line posts.
      3. Rails: Top: 2 inch (51 mm) diameter. Middle: 2 inch (51 mm) diameter. Bottom: 1-5/8 inch (41 mm) diameter.
      4. Tension Grab Bars:
         1. Affixed my welding or high-shear aircraft rivets to inside of Terminal or end post perimeter.
         2. The grab bars have hooks that secure the chain link fence. The hooks are bent using a hammer to secure the fencing without the use of hardware.
      5. Barbed Wire: 6 rows above chain link with extension arms attached to top of line posts. Spacing: 2 inches (51 mm) to 1 ft (305 mm) high.
      6. Post and Rail Connections: Boulevard Clamps.
      7. Fence: 11 ft (3353 mm) plus 1 ft (305 mm) Barbed Wire:
         1. Corner Post: 8 inch (203 mm) diameter x 21 ft (6401 mm) long. 5 ft (1524 mm) embedded into encasement piers.

Concrete Encasement Piers: 3000 psi concrete. 36 inch (914 mm) diameter x 78 inches (1981 mm).

Post Caps.

* + - * 1. Line Post: 4 inch (102 mm) diameter x 15 ft (4572 mm) long. 4 ft (1219 mm) embedded into encasement piers.

Concrete Encasement Piers: 3000 psi concrete. 24 inch (610 mm) diameter x 54 inches (1372 mm).

* + - * 1. Post Spacing: 7 ft (2134 mm) maximum center-to-center.
        2. Service Gate:

Frame (W xH): 36 x 84 inches (914 x 2134 mm). 1-7/8 inch (48 mm) diameter tubing.

Fulcrum Latch: Secure with padlock.

* + - 1. Fence: 7 ft (2134 mm) plus 1 ft (305 mm) Barbed Wire:
         1. Corner Post: 8 inch (203 mm) diameter x 21 ft (6401 mm) long. 5 ft (1524 mm) embedded into encasement piers.

Concrete Encasement Piers: 3000 psi concrete. 36 inch (914 mm) diameter x 78 inches (1981 mm).

Post Caps.

* + - * 1. Line Post: 3 inch (102 mm) diameter x 11 ft (3353 mm) long. 4 ft (1219 mm) embedded into encasement piers.

Concrete Encasement Piers: 3000 psi concrete. 18 inch (457 mm) diameter x 54 inches (1372 mm).

* + - * 1. Post Spacing: 7 ft (2134 mm) maximum center-to-center.
  1. HEAVY-DUTY CHAINLINK BARRICADE FENCING

\*\* NOTE TO SPECIFIER \*\* A cut above. The IFI-6 Extreme Cut is the strongest chain link fence solution on the market. Period. With its 6-gauge 5/8" weave face and terminal pole wrap around; this security solution eliminates all exposed bracing and makes it extremely difficult to climb and/or cut. The IFI-6 is a flexible, high-quality, cost effective security solution to traditional chain link security.

* + 1. Basis of Design: IFI-6 Extreme Cut. Chainlink is wrapped around the terminal and corner poles. The weave is then tensioned and secured toe terminal posts and horizontal rails.
    2. Performance Requirements:
       1. Category C, ASCE 7-10.
       2. IKE Certified.
       3. Wind Load: \_\_\_\_\_\_\_\_.
    3. Features:
       1. Anti-climb.
       2. No bracket system.
       3. Customizable to any terrain.
       4. Zero exposed mechanical fasteners.
       5. Ground to Bottom Rail: 2 inches (51 mm).
       6. Catch assembly.
    4. Characteristics:
       1. Chain Link Wire Mesh: 5/8-6 gauge Mini Mesh.
          1. Tie Wire: 9-gauge steel for attachment to line posts.
       2. Rails: Top: 2 inch (51 mm) diameter. Middle: 2 inch (51 mm) diameter. Bottom: 1-5/8 inch (41 mm) diameter.
       3. Tension Grab Bars:
          1. Affixed my welding or high-shear aircraft rivets to inside of Terminal or end post perimeter.
          2. The grab bars have hooks that secure the chainlink fence. The hooks are bent using a hammer to secure the fencing without the use of hardware.
       4. Barbed Wire: 6 rows above chain link with extension arms attached to top of line posts. Spacing: 2 inches (51 mm) to 1 ft (305 mm) high.
       5. Post and Rail Connections: Boulevard Clamps.
       6. Fence: 11 ft (3353 mm) plus 1 ft (305 mm) Barbed Wire:
          1. Corner Post: 8 inch (203 mm) diameter x 21 ft (6401 mm) long. 5 ft (1524 mm) embedded into encasement piers.

Concrete Encasement Piers: 3000 psi concrete. 36 inch (914 mm) diameter x 78 inches (1981 mm).

Post Caps.

* + - * 1. Line Post: 4 inch (102 mm) diameter x 15 ft (4572 mm) long. 4 ft (1219 mm) embedded into encasement piers.

Concrete Encasement Piers: 3000 psi concrete. 24 inch (610 mm) diameter x 54 inches (1372 mm).

* + - * 1. Post Spacing: 7 ft (2134 mm) maximum center-to-center.
        2. Service Gate:

Frame (W xH): 36 x 84 inches ( 914 x 2134 mm). 1-7/8 inch (48 mm) diameter tubing.

Fulcrum Latch: Secure with padlock.

* + - 1. Fence: 7 ft (2134 mm) plus 1 ft (305 mm) Barbed Wire:
         1. Corner Post: 8 inch (203 mm) diameter x 21 ft (6401 mm) long. 5 ft (1524 mm) embedded into encasement piers.

Concrete Encasement Piers: 3000 psi concrete. 36 inch (914 mm) diameter x 78 inches (1981 mm).

Post Caps.

* + - * 1. Line Post: 3 inch (102 mm) diameter x 11 ft (3353 mm) long. 4 ft (1219 mm) embedded into encasement piers.

Concrete Encasement Piers: 3000 psi concrete. 18 inch (457 mm) diameter x 54 inches (1372 mm).

* + - * 1. Post Spacing: 7 ft (2134 mm) maximum center-to-center.
  1. ACCESS CONTROL GATES
     1. Performance Requirements:
        1. Category C, ASCE 7-10.
        2. IKE Certified.
        3. Wind Load: \_\_\_\_\_\_\_\_.
     2. Cantilever Gate: Astro-Slide Gate.
        1. Overall Gate Length: 37 ft 6 inches (11,430 mm).
        2. Overall Gat Height: 12 ft (3658 mm).
        3. Gate Frame Height: 11 ft (3353).
        4. Clear Opening: 24 ft (7315).
        5. Ground to Gate Clearance: 6 inches (152 mm).
        6. Gate Perimeter Frame: HSS 4 x 4 x 3/16 inch (102 x 102 x 5 mm).
           1. Horizontal Rails: HSS 4 x 4 x 3/16 inch (102 x 102 x 5 mm).
           2. Gate Posts: HSS 2 x 2 x 1/8 inch (51 x 51 x 3 mm).
        7. Security Mesh: 1/2 inch - 13 R (.188).
        8. Track: 0.236 thick galvanized steel. Hi Motions XL U-track mounted to bottom of gate. The track will fit over top of roller assemblies.
        9. Roller Assemblies; Hi Motions 301.8XL series. 8 wheels.
        10. Roller Assembly Support Frame:
            1. Posts: HSS 4 x 4 x 1/4 inch (102 x 102 x 6 mm).

Concrete Encasement Piers: 3000 psi concrete. 36 x 36 inch (914 x 914 mm) x 66 inches (1676 mm).

Concrete Encasement Piers: 3000 psi concrete. 42 inch (914 mm) diameter x 66 inches (1676 mm).

Stirrups: No. 4 at 12 inches (305 mm).

Vertical Bars: No. 5. Quantity of 12 evenly spaced around perimeter.

* + - * 1. Roller Mounting Base: MC10X25. Weld flanges to posts.
      1. Guide Rollers: Hi Motion No. 225.12. Shim as required.
      2. Gate Driver: Slide Driver Model No. \_\_\_\_\_\_\_ as manufactured by HySecurity.
         1. Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories not required.

Base Extension: Raise SlideDriver up 12 inches for additional conduit accessibility and operator flexibility.

XtremeDrive System: Handle exceptionally difficult to move, large or heavy gates with the XtremeDrive rack and drive wheel system.

HY5A Detector: Trouble-free configuration allows extensive system diagnostics and recording of all loop fault conditions.

Heater Kit: Maintain the reliability of the SlideDriver even in icy and snowy conditions with a heater kit.

Snow Brush and Scraper Kit: Reduce snow and ice buildup. Allow the

wheels to make direct contact with the drive rail to reduce slippage.

Internal solenoid kit: As a standard specification on correctional sites, the internal solenoid lock provides the additional security that these sites demand.

Lock Box: Fire and emergency access lock box provides fast gate entry in case of emergency.

Photo Eye Kits: When safety is a priority, photo eyes are the solution. Detect pedestrians or cars before they become entrapped.

Edge Sensors: Rap-around square, round or channel mount with 10k ohm resistor.

Hy8Relay: Add 8 user relays to your HySecurity operator. Integrated with Smart Touch controller using S.T.A.R.T.

Drive Rail: Aluminum drive rail, standard, underside grooves for improved wet traction. (Non-grooved available also.)

HyNet Gateway: Integration Provides intelligent perimeter control with real time connection to a HySecurity operator that communicates breach and system malfunctions via built in web interface, Web Services API or SNMP.

Amber Strobe: Beacon, 24 VDC Add 360 degrees of visible warning during gate operation.

Push Button: Station, 2 or 3 Button Manually control gate operator through control station from a distance by pushing a button.

Clock Timer: Seven day, 24 hour timer.

1. EXECUTION
   1. EXAMINATION
      1. Do not begin installation until substrates have been properly constructed and prepared.
      2. If substrate preparation is the responsibility of another installer, notify Architect in writing of unsatisfactory preparation before proceeding.
   2. PREPARATION
      1. Clean surfaces thoroughly prior to installation.
      2. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
   3. INSTALLATION
      1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
   4. FIELD QUALITY CONTROL
      1. Field Inspection: Coordinate field inspection in accordance with appropriate sections in Division 01.

\*\* NOTE TO SPECIFIER \*\* Include if manufacturer provides field quality control with onsite personnel for instruction or supervision of product installation, application, erection or construction. Delete if not required.

* + 1. Manufacturer's Services: Coordinate manufacturer's services in accordance with appropriate sections in Division 01.
  1. CLEANING AND PROTECTION
     1. Clean products in accordance with the manufacturers recommendations.
     2. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION