



HCIS CHAIN LINK FENCE INSTALLATION MANUAL AND METHOD STATEMENT

IN ACCORDANCE TO HCIS /SAIS



HCIS

CHAIN LINK SECURITY FENCE

INSTALLATION MANUAL & METHOD STATEMENT

HCIS SEC-02 COMPLIANT | Auger / Cast-in-Situ / Precast Methods

Standards: ASTM F567 | F668 | F1083 | A121 | A392 | A641 | C94

DISCLAIMER

This document provides general installation guidance. Approved site-specific drawings and HCIS SEC-02 directives take precedence.

The installer/contractor is solely responsible for safe and correct implementation.





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1 SCOPE OF WORK

This document defines the complete method statement for the supply, installation, and handover of an HCIS Chain Link Security Fence in full compliance with HCIS SEC-02 and the referenced ASTM standards. It covers all phases from site preparation through final inspection.

- Marking of fence alignment, excavation of post foundations, setting of posts (Auger / Cast-in-Situ / Precast methods), and installation of all fence components per approved HCIS SEC-02 drawings.
- Ensuring proper alignment, post spacing (3000 mm c/c), embedment depth (≥ 750 mm), and foundation strength (C30 concrete 4350 psi).
- Installation of primary perimeter barrier (chain link fabric 2700 mm), 6-row barbed wire topping, concertina coil at three positions, and ground-level anti-dig concertina achieving a total fence height of approximately 3000–3600 mm above grade.
- Compliance with HCIS SEC-02, ASTM F567, ASTM F668, ASTM F1083, ASTM A121, and all applicable Saudi regulatory and HSE requirements.

2 OBJECTIVES

- Construct a new HCIS compliant chain link fence that is secure, functional, and durable, meeting all HCIS SEC-02 design and quality requirements.
- Ensure safe, efficient installation adhering to approved design specifications, minimizing site disruption.
- Achieve full compliance with HCIS standards, ASTM specifications, and applicable Saudi regulatory requirements.
- Provide complete documentation of materials, tests, inspections, and handover records for client and authority sign-off.



3 HCIS SYSTEM OVERVIEW

The High Commission for Industrial Security (HCIS), part of the Ministry of Interior of the Kingdom of Saudi Arabia, has established structured classification scheme SEC-02 for perimeter security fencing. is designed for facilities requiring a clearly defined, visible boundary with a moderate-to-high level of deterrence and anti-intrusion protection.

PARAMETER	SPECIFICATION
Fence Classification	HCIS / SEC-02
Fence Type	Chain Link PVC Coated / Hot-Dip Galvanized
Fabric Height	2700 mm above grade
Total Height (inc. topping)	Approx. 3000 – 3600 mm
Mesh Opening	50 × 50 mm
Fabric Wire Diameter	3.76 mm core / 4.20 mm with PVC coating
Fabric Standard	ASTM F668 Class 2B (PVC Fusion Bonded)
Line Post Size	Ø 88.9 mm, SCH-80, Length 3600 mm
Corner / End Post Size	Ø 114 mm, SCH-80, Length 3700 mm
Post Spacing	3000 mm center-to-center
Post Standard	ASTM F1083 (Hot-Dip Galvanized & PVC Coated)
Post Embedment	750 mm minimum below footing
Concrete Grade	C30 (4350 psi) Approved mix design
Barbed Wire Topping	6 rows, ASTM A121, Hot-Dip Galvanized
Concertina Wire	CBT-65, Ø 2.5 mm core, 600 mm coil dia., S/S blades
Tension Wire	4.5/4.9 mm PVC Fusion Bonded
Applicable Standards	ASTM F567, F668, F1083, A121, A392, A641, C94



4 ROLES AND RESPONSIBILITIES

ROLE	KEY RESPONSIBILITIES
Project Manager	Oversee overall project execution; ensure adherence to timelines, budget, and HCIS SEC-02 specifications; coordinate with clients, consultants, and suppliers; resolve escalations.
Site Engineer	Supervise day-to-day site operations; ensure compliance with approved drawings; conduct phase inspections; resolve technical issues; maintain activity records.
Site Supervisor	Manage installation workforce; enforce schedule and quality requirements; maintain site cleanliness and material storage; enforce safety protocols.
Safety Officer (HSE)	Develop and enforce HSE procedures; conduct regular safety inspections; provide PPE and safety training; investigate and report incidents.
QC Inspector	Perform quality checks at every installation phase; verify materials and workmanship against HCIS/ASTM standards; document and report deviations.
Surveyor	Conduct site surveys and determine exact fence alignment; provide accurate post-center markings; verify installation against approved design and site plan.

5 LIST OF REQUIRED TOOLS & EQUIPMENT

TOOL / EQUIPMENT	PURPOSE	NOTES
Auger Machine	Post hole drilling Cast-in-Situ	For soft/sandy soil
JCB Backhoe	Excavation Cast-in-Situ & Precast	For rocky/hard soil
Concrete Mixer / Pump	Mixing and pouring C30 concrete	Approved mix design only
Electric Drill & Bits	Drilling pilot holes; fixing accessories	Use with safety guards
Chain Link Stretcher / Come-Along	Tensioning chain link fabric uniformly	Essential do not skip
Post Driver / Maul	Setting and aligning posts	Use with plumb bob
Steel Measuring Tape (25 m)	Marking post centers and fence alignment	Steel tape preferred
Plumb Bob / Spirit Level	Verifying vertical post alignment	Check during & after pour
Wire Cutters / Pliers	Cutting and tying wire fabric and ties	Heavy-duty type



TOOL / EQUIPMENT	PURPOSE	NOTES
Torque Wrench / Spanners	Tightening bolts and nuts to specified torque	Per drawing torque values
Hog Ring Pliers	Fixing concertina to panel and barbed wire	For concertina attachment
Wooden / Steel Rammer	Manual soil compaction at pit bottom	Before concrete pour
Safety Goggles	Eye protection	PPE MANDATORY
Hard Hat / Helmet	Head protection	PPE MANDATORY
Safety Shoes (Steel Toe)	Foot protection	PPE MANDATORY
Heavy-Duty Leather Gloves	Hand protection from wire	PPE MANDATORY for wire
Dust/Respiratory Mask	Respiratory protection during drilling	PPE MANDATORY
High-Vis Vest	Site visibility	PPE MANDATORY
First Aid Kit	Emergency medical response	Keep on-site at ALL times

6 MATERIALS & COMPONENT SPECIFICATIONS

6.1 Chain Link Fabric

PARAMETER	SPECIFICATION
Mesh Opening	50 × 50 mm
Wire Diameter	3.76 mm core / 4.20 mm PVC coated
Fabric Height	2700 mm
Standard	ASTM F668 Class 2B (PVC Fusion Bonded)
Core Material	Galvanized steel with green PVC coating for corrosion resistance

6.2 Line Posts (Intermediate)

PARAMETER	SPECIFICATION
Pipe Diameter	Ø 88.9 mm



PARAMETER	SPECIFICATION
Wall Thickness	7.62 mm (SCH-80)
Length	3600 mm
Weight	Approx. 15.27 kg/m
Standard	ASTM F1083
Min. Tensile Strength	330 MPa (48,000 psi)
Yield Strength	205 MPa (30,000 psi)
Finish	Hot-dip galvanized and PVC coated
Spacing	3000 mm center-to-center

6.3 Corner, End & Strainer Posts

PARAMETER	SPECIFICATION
Pipe Diameter	Ø 114 mm
Wall Thickness	8.56 mm (SCH-80)
Length	3700 mm
Weight	Approx. 22.32 kg/m
Standard	ASTM F1083
Placement	All corners, line ends, and every 60 m (strainer posts)

6.4 Top Rail, Tension Wire & Tie Wire

PARAMETER	SPECIFICATION
Top Rail Size	Ø 42.2 mm (1-5/8"), SCH-40 ASTM F1083
Top Rail Finish	Hot-dip galvanized and PVC coated
Tension Wire	4.5 mm core / 4.9 mm overall PVC Fusion Bonded
Tension Wire Function	Runs along bottom edge to prevent fabric sagging



PARAMETER	SPECIFICATION
Tie Wire	1.4 mm core / 2.0 mm PVC Fusion Bonded max 300 mm c/c

6.5 Barbed Wire Topping

PARAMETER	SPECIFICATION
Rows	6 rows on barbed wire arms at each post
Standard	ASTM A121 Hot-Dip Galvanized
Wire Diameter	Minimum 2.5 mm core
Orientation	Arms angled outward $\approx 45^\circ$ toward external/attacking side

6.6 Concertina Wire (Razor Coil)

PARAMETER	SPECIFICATION
Type / Designation	CBT-65
Core Wire	\varnothing 2.5 mm galvanized steel core
Blades	Stainless steel Series 430
Coil Diameter	600 mm
Loops per Coil	55 loops
Stretched Length	9 m per coil
Installation Locations	① Top of fence on extension arms ② Front face of fabric ③ Ground level (anti-intrusion)

6.7 Foundation Materials

PARAMETER	SPECIFICATION
Concrete Grade	C30 (4350 psi) ASTM C94 (Ready-Mixed)
Rebar (where specified)	Epoxy Coated ASTM A775/A775M
Vapor Barrier	250 Micron (1000 gauge) Polyethylene Auger method only



PARAMETER	SPECIFICATION
Bitumen Emulsion Paint	Two coats on all beam / soil-contact concrete surfaces

7 SAFETY PRECAUTIONS

× DANGER: Handle concertina and barbed wire with **EXTREME CARE** at all times.
Always use two-person teams. Never stretch coil against the body.
Heavy-duty leather gloves and full-sleeve protection are **MANDATORY**.

⚠ WARNING: Secure all open post holes immediately after auguring. Cover holes when not in use to prevent falls.

I NOTE: Confirm NOC approval and underground utility clearance **BEFORE** commencing any mechanical excavation.

General Safety Requirements:

- Wear appropriate PPE at all times: heavy-duty leather gloves, safety goggles, hard hat, steel-toe boots, and high-visibility vest. All PPE is mandatory on site.
- Conduct a site risk assessment before commencing work identify underground utilities, unstable ground, nearby traffic, and any site-specific hazards.
- Inspect all tools and equipment before each use. Operate machinery only with trained and authorized personnel.
- Barricade the work zone using soft barrier method, or as specified by client/consultant, to prevent unauthorized entry.
- Postpone work during high winds, sandstorms, or severe weather conditions that impact safe working.
- Secure posts correctly during concrete pours brace against shifting; periodically check plumb during pour.
- Use appropriate lifting equipment for heavy posts and fabric rolls. Do not manually lift items exceeding safe weight limits.
- Maintain a stocked first aid kit on-site at all times. Post emergency contact numbers in a visible location.
- Ensure all personnel attend the Toolbox Meeting prior to commencing work each day.
- Follow all applicable HCIS SEC-02 regulations, Saudi Labor Law safety requirements, and site-specific HSE plans.



8 TRAINING / TOOLBOX MEETING

A Toolbox Meeting shall be conducted before commencement of each workday. The following topics must be covered:

TOPIC	CONTENT SUMMARY
Safety Procedures	PPE requirements, safe handling of tools and materials (especially concertina and barbed wire), and emergency protocols.
Site Hazard Assessment	Identification and mitigation of site hazards: underground utility risks, unstable ground, traffic proximity.
Equipment Operation	Correct operation, maintenance, and safety measures for auger machines, JCB backhoes, chain link stretchers, and hand tools.
Foundation Preparation	Soil compaction techniques, vapor barrier placement, concrete mixing, placement, curing, and quality standards.
Chain Link Installation	Step-by-step fabric unrolling, stretching procedure, uniform tension, and attachment to posts and rails.
Concertina & Barbed Wire Safety	Mandatory two-person teams; never stretch against body; approved heavy-duty leather gloves required at all times.
Post Alignment	Maintaining plumb alignment (plumb bob) and correct c/c spacing (measuring tape) throughout and after concrete pour.
Material Handling	Safe transport, storage, and handling of fence materials to prevent damage and maintain coating integrity.
HCIS & ASTM Compliance	Understanding of HCIS SEC-02 requirements, applicable ASTM standards, and site regulatory requirements.
Emergency Response	Responding to accidents, injuries, wire punctures, and other emergencies, including first-aid procedures.
Housekeeping	Maintaining a clean, organized work environment clear debris, cover holes, store materials safely.



9 QUALITY CONTROL

- Standards Compliance: Verify all materials and workmanship against HCIS SEC-02, ASTM F567, F668, F1083, A121, A392, A641, and C94 at every stage.
- Material Inspection: Inspect all materials on delivery check PVC coating integrity, galvanizing quality, post dimensions, and concrete delivery dockets before use.
- Compaction Testing: Conduct soil compaction tests (ASTM D698). Achieve at least 95% maximum dry density at footing level. Record all test results.
- Concrete Quality: Verify mix design, slump, placement, and curing. Retain delivery dockets and cast test cubes per contract requirements.
- Post Alignment: After each concrete pour, re-check vertical plumb and c/c spacing. Correct shifted posts before concrete reaches initial set.

- Fabric Tension: Ensure uniform tension no sags, bulges, or loose points. Use stretcher bar prior to tying. Tie wires at maximum 300 mm c/c on posts, top rail, and tension wire.
- Barbed Wire & Concertina: Confirm 6 rows of barbed wire on arms; concertina stretched to 9 m per coil; hog rings at 500 mm c/c throughout.
- Continuous Monitoring: Inspect and document each installation phase record deviations and corrective actions.
- Final Inspection: Comprehensive final walk of the entire fence line against all HCIS criteria before handover.
- Documentation: Maintain complete records material test certificates, concrete dockets, compaction test reports, survey reports, and QC inspection records.



10 METHOD STATEMENT - EXCAVATION & POST INSTALLATION

10.1 Pre-Works - All Methods

1. Obtain all required permits, NOC approvals, and underground utility clearance before commencing any excavation.
2. Mark fence post centers as per the approved fence layout using survey equipment. Confirm fence alignment with the appointed Surveyor.
3. Barricade the work area using the soft barricade method, or as directed by client/consultant.
4. Identify and clearly mark all underground services on the ground prior to any mechanical excavation.

10.2 Method 1 Auger (Cast-in-Situ, No Formwork)

Recommended for: Soft or sandy soil conditions.

5. Drill post holes using an authorized auger machine to the required depth and diameter per approved drawings. Proceed to next pit after reaching depth.
6. Manually compact the bottom of each pit with a wooden or steel hand rammer.
7. If loose soil is encountered, inject water into the pit to stabilize before proceeding.
8. Line the circumference and bottom of the pit with a 250-Micron (1000-gauge) Polyethylene vapor barrier sheet.
9. Place a 200–300 mm diameter round mold at the footing top to ensure a neat surface finish.
10. Position the line post (Ø 88.9 mm SCH-80) vertically in the center of the hole with a minimum of 750 mm below the footing top.
11. Periodically check vertical alignment (plumb) and center-to-center distance during concrete pouring. Note: the weight of concrete can shift posts.
12. Pour C30 (4350 psi) concrete per the approved mix design. Rod or vibrate to eliminate voids. Allow a minimum 7-day cure before attaching fabric under tension.

NOTE: Cure period: minimum 7 days before applying any tensioned fabric or load to posts.

10.3 Method 2 JCB Backhoe (Cast-in-Situ with Formwork)

Recommended for: Rocky or hard soil conditions.

13. Excavate to the required depth using a JCB Backhoe. Compact the bottom of the excavation manually.
14. Install a 250-micron vapor barrier/polythene sheet on the compacted base.
15. Apply a 100 mm layer of lean concrete on the vapor barrier as a blinding layer.
16. Install formwork / mold to the foundation dimensions shown in approved drawings.
17. Fix a 60 × 60 mm wooden runner along the fence mesh line before pouring (to form the groove for fence fabric insertion to 50 mm depth). Remove once concrete reaches initial set.
18. Position the post (Ø 88.9 mm) with 750 mm below the footing. The front face must face the attacking/external direction.
19. Place posts at 3 m c/c. Check plumb periodically during concrete pour. Apply two coats of Bitumen Emulsion Paint on beam-side concrete surfaces up to the soil-contact area.



10.4 Method 3 JCB Backhoe (Precast Foundations)

Recommended for: All soil types where precast units are specified.

20. Excavate to the required depth using a JCB Backhoe. Compact the bottom of the excavation.
21. Prepare precast foundation units with correct post alignment holes. Ensure a minimum 28-day curing period for all precast units before installation.
22. Fix 60 × 60 mm wooden runner along mesh line to form groove. Remove at initial set.
23. Position the post (Ø 88.9 mm) with 750 mm below the footing, with 60 mm face on the external/attacking direction.
24. Place posts at 3 m c/c. Backfill around precast foundations with suitable material and compact in layers.

10.5 Remaining Steps, All Methods

25. Set corner/end posts at the required angle per site conditions. Install strainer posts every 60 m along the fence line.
26. Excavate mechanically for anti-dig (grade) beams between post footings per approved drawing. Compact trench bottom manually.
27. Pour grade beam concrete (C30) with approved mix using formwork/shutters. Apply two coats of Bitumen Emulsion Paint on all soil-contact concrete surfaces.
28. Backfill on the attacking side to top of beam; backfill on the asset side to 100 mm below top of beam.
29. Conduct intermediate beam soil compaction FDD test at every 1 km to achieve 85–90% compaction.
30. Cure top surface concrete for a minimum of 7 days.

11 FIXING CHAIN LINK FABRIC

NOTE: Chain link fabric installation shall NOT commence until all posts are set and concrete has cured for a minimum of 7 days.

11.1 Top Rail Installation

31. Thread the top rail (Ø 42.2 mm SCH-40) through the top loops of the chain link fabric and secure to posts using rail end caps and brace bands.
32. Ensure the top rail is level and continuous along the entire fence run. Connect rail sections with rail couplings/sleeves.
33. Fix top rail to each line post using brace bands and rail bands.

11.2 Tension Wire Installation

34. Run the bottom tension wire (4.5/4.9 mm PVC Fusion Bonded) through the bottom loops of the fabric.
35. Tension the wire between end/corner posts to prevent fabric sagging.
36. Attach tension wire to each line post using tie wires.

11.3 Fabric Unrolling and Stretching

37. Attach one end of the chain link fabric to the terminal/corner post using a stretcher bar and tension bands.



38. Unroll the fabric along the fence line, keeping it upright and in contact with the ground.
39. At the opposite terminal/strainer post, insert a stretcher bar through the last link column and connect to a come-along (chain tensioner) fixed to the post.
40. Tension the fabric uniformly until mesh openings are diamond-shaped and the fabric does not sag. Do NOT over-tension this damages the PVC coating.
41. Attach fabric to line posts using tie wires at a maximum of 300 mm spacing on both the top rail and tension wire. Tie wires must be wrapped and twisted on themselves no loose ends.
42. Where fabric rolls join, overlap by at least one full diamond. Tie the join with a continuous spiral of tie wire.
43. Verify that the bottom of fabric is within 25 mm of the ground surface or the top of the anti-dig grade beam.

⚠ WARNING: Do not over-tension the chain link fabric. Over-tensioning permanently damages the PVC coating, compromises the galvanizing, and reduces the structural service life of the fence.

12 INSTALLATIONS OF BARBED WIRE TOPPING

The fence requires 6 rows of galvanized barbed wire (ASTM A121) mounted on barbed wire arms at the top of each post, angled outward toward the attacking/external side at approximately 45°.

44. Install barbed wire arms on each post using M8 mushroom-head (anti-tamper) bolts, security nuts, and washers. Orient arms outward at 45° per approved drawing.
45. Thread the first row of barbed wire through the outermost slot of each arm, starting from a terminal post.
46. Stretch the barbed wire firmly and tie off at each terminal/strainer post using a straining screw or wire clamp.
47. Install all 6 rows of barbed wire, one per arm slot, from outermost to innermost. Tie barbed wire to each intermediate arm slot using approved tie wire.
48. Do not leave loose ends. Maintain consistent, uniform tension throughout no sags between posts.

× DANGER: All workers handling barbed wire MUST wear heavy-duty leather gloves and full-sleeve protection at all times.



13 INSTALLATIONS OF CONCERTINA COIL, EXTENSION ARMS (TOP)

49. Install extension arms on each post using M8 × 90 mm mushroom-head bolts. Insert post caps at the top of each post.
50. Install eye bolts at every 21 posts and at all start, end, and corner posts. Slide the stud through the extension arm slot and fix with hex nut and washer. Tighten two loop nuts against the extension arm.
51. Pass barbed wire through the eye bolt loops and stretch it through the remaining extension arm slots to create a wire guideline for the concertina.
52. Open the concertina coil carefully at ground level always use two workers wearing heavy-duty gloves.
53. Lift the opened coil and place it on top of the barbed wire guideline on the extension arms.
54. Stretch one coil (55 loops / CBT-65) to 9 m along the fence line.
55. Tie the concertina coil to 2 rows of barbed wire on each side using hog rings at every 500 mm c/c.
56. Repeat for the full fence length. Clip adjacent coil ends together securely.

NOTE: Eye bolts must be installed at every 21st post and at all start, end, and corner posts.

14 CONCERTINAS ON FRONT FACE (PANEL SIDE)

57. Place concertina coil rolls on the front (external/attacking) side of the panel at the upper section.
58. Hold the coil steadily with two workers and place it along the length of the fence line.
59. Stretch one coil (55 loops) to 9 m.
60. Fix the concertina coil to the bottom row of barbed wire on the attacking side and to the chain link panel using hog rings at 500 mm c/c.
61. Ensure the coil sits at the top of the panel, resting against the fabric on the attacking side.

15 ANTI-INTRUSION GROUND CONCERTINA

A layer of concertina wire is installed at ground level on the external/attacking side of the fence to deter crawl-under intrusion attempts.

62. Hold the coil steadily with two workers wearing heavy-duty leather gloves. Place along the fence base on the external side.
63. Stretch one coil (55 loops / CBT-65) to 9 m.
64. Hammer J-type steel hooks into the ground (soil) at 500 mm c/c to pin the concertina coil in place.
65. Clip the concertina to the chain link mesh panel using hog rings at every 500 mm c/c.
66. Repeat for the full fence length.
67. Where the fence passes over hard surfaces (concrete or asphalt), use anchor bolts or an equivalent approved fixing method in place of J-hooks.



16 ANTI-DIG BEAM (GRADE BEAM)

68. Excavate mechanically between post footings to the beam profile dimensions shown on approved drawings. Compact the trench bottom manually.
69. Install formwork/shuttering to the required beam dimensions.
70. Pour C30 concrete to fill the beam vibrate to eliminate voids and ensure consolidation.
71. Apply two coats of Bitumen Emulsion Paint on all beam-side concrete surfaces that are in contact with soil.
72. Backfill on the attacking side up to the top of the beam; backfill on the asset side to 100 mm below the top of the beam.
73. Conduct soil compaction FDD test at every 1 km of beam installation (target: 85–90% compaction).
74. Cure the top concrete surface for a minimum of 7 days.

17 GATE INSTALLATION

- Install gates at designated access points per the approved layout drawings.
- Fabricate gate frames from heavy-section steel pipe (SCH-80, ASTM F1083) matching the fence post standard.
- Fill gate leaves with matching chain link fabric, topped with barbed wire and concertina to maintain fence continuity.
- Set hinge posts and latch posts in reinforced concrete foundations sized to the gate load requirements.
- Ensure gates open inward (asset side). Fit all gates with approved high-security padlocks and hasps.
- All gate fittings, hinges, and closures shall be hot-dip galvanized or stainless-steel grade.
- Gate gap at ground level shall not exceed 50 mm. If larger, install a kick plate or additional fabric infill.
- Sliding or cantilever gates for vehicle access shall be designed by the structural engineer and installed per manufacturer instructions.

18 FINAL INSPECTION & HANDOVER

18.1 Fence Line Walk-Through Checklist

- All posts are plumb, correctly spaced at 3 m c/c, and fully grouted/set in concrete.
- Chain link fabric is uniformly tensioned, properly tied to all posts and rails, and bottom within 25 mm of grade.
- All 6 rows of barbed wire are installed, correctly tensioned, and tied at all post arms.
- Concertina coil installed at all three positions: top on extension arms, front panel face, and ground level.
- All hog ring connections at 500 mm c/c throughout concertina runs.
- Eye bolts installed at every 21 posts and at all start, end, and corner posts.
- Post caps installed on top of every post.
- All bolt fasteners tightened to specified torque mushroom-head anti-tamper bolts with security nuts throughout.



- Anti-dig grade beam properly poured, cured, and bitumen-coated on all soil-contact surfaces.
- Gate alignment, operation, and security hardware verified.
- All concrete surfaces cured for the required period.

18.2 Documentation Package for Handover

- Material test certificates (mill certs, PVC coating certs, galvanizing reports).
- Concrete delivery dockets and cube test results.
- Soil compaction test records.
- Survey reports confirming fence alignment.
- QC inspection records for each installation phase.
- Signed Inspection Checklist (Section 19).
- Client/Consultant sign-off and handover certificate.

NOTE: Submit the complete documentation package before de-mobilization. Raise a formal final inspection request for client/consultant sign-off.

19 INSPECTION CHECKLIST HCIS CHAIN LINK FENCE

Abbreviations: H = Hold Point | S = Surveillance | W = Witness | R = Review

NO.	INSPECTION ACTIVITY	REFERENCE / STD.	ACCEPTANCE CRITERIA	Cont.	SB.	Con.
A. PRE-WORKS						
A1	Toolbox Talk / Briefing on Method Statement	<i>Method Statement</i>	Toolbox conducted & documented prior to each work period	H	H	S
A2	Survey Equipment Calibration	<i>As Required</i>	Third Party Calibration Certificate valid	H	H	S
A3	Underground Utility Clearance / NOC Approval	<i>HCIS / Client</i>	NOC obtained; utilities marked on ground	H	H	S
A4	Fence Alignment Setting Out	<i>Approved Drawing</i>	Confirmed by Surveyor against approved layout	H	H	S
B. EXCAVATION & FOUNDATIONS						
B1	Auger / Excavation Depth & Diameter	<i>Approved Drawing / MS</i>	Depth & diameter as per approved drawing	H	H	S
B2	Vapor Barrier Placement & Base Compaction	<i>Approved Drawing / MS</i>	250µ sheet laid; base compacted	H	H	S
B3	Concrete Pour C30	<i>ASTM C94 / Approved Mix</i>	Delivery docket, slump test, cubes retained	H	H	S



NO.	INSPECTION ACTIVITY	REFERENCE / STD.	ACCEPTANCE CRITERIA	Cont.	SB.	Con.
B4	Post Plumb & Centre-to-Centre Spacing	<i>ASTM F1083 / Drawing</i>	Plumb within tolerance; 3000 mm c/c \pm 20 mm	H	H	S
B5	Post Embedment Depth	<i>Approved Drawing</i>	Minimum 750 mm below footing	H	H	S
C. CHAIN LINK FABRIC						
C1	Top Rail Installation	<i>ASTM F1083 / Drawing</i>	Level, secure, continuous, PVC coated	H	H	S
C2	Fabric Tension & Tie Wire Spacing	<i>ASTM F567</i>	No sags/bulges; tie wire max 300 mm c/c	H	H	S
C3	Fabric Bottom Clearance	<i>ASTM F567</i>	Maximum 25 mm above grade or beam top	H	H	S
C4	Fabric Roll Joints / Overlap	<i>ASTM F567 / MS</i>	Min. 1 full diamond overlap; continuous spiral tie	H	H	S
D. BARBED WIRE & CONCERTINA						
D1	6-Row Barbed Wire on Arms (45° angle)	<i>ASTM A121 / Drawing</i>	6 rows; tensioned; tied; arms at correct angle	H	H	S
D2	Concertina on Extension Arms	<i>Drawing / MS</i>	9 m/coil stretch; hog rings at 500 mm c/c	H	H	S
D3	Front Panel Concertina	<i>Drawing / MS</i>	Positioned at top of fabric; hog rings 500 mm c/c	H	H	S
D4	Ground Concertina (Anti-Intrusion)	<i>Drawing / MS</i>	J-hooks 500 mm c/c; clipped to panel	H	H	S
D5	Eye Bolt Installation	<i>Drawing / MS</i>	At every 21st post; all start, end, corner posts	H	H	S
D6	Post Caps	<i>Drawing</i>	Installed on top of every post	H	H	S
D7	Anti-Tamper Bolt Torque	<i>Drawing / MS</i>	All mushroom-head bolts + security nuts tightened	H	H	S
E. ANTI-DIG GRADE BEAM						
E1	Grade Beam Concrete C30	<i>ASTM C94 / Drawing</i>	Delivery docket, cubes, correct dimensions	H	H	S
E2	Bitumen Emulsion Coating	<i>Drawing / MS</i>	2 coats on all soil-contact beam surfaces	H	H	S



NO.	INSPECTION ACTIVITY	REFERENCE / STD.	ACCEPTANCE CRITERIA	Cont.	SB.	Con.
E3	Compaction FDD Test (every 1 km)	ASTMD698	85-90% compaction on attack side backfill	H	H	S
F. FINAL INSPECTION & HANDOVER						
F1	Full Fence Line Walk-Through	Drawing / MS	All items complete; client/consultant sign-off	H	H	S
F2	Documentation Package Submitted	Contract Requirements	All certificates, records, QC docs submitted	H	H	S
F3	Gate Operation & Security Hardware	Drawing / MS	Correct swing direction; hardware operational	H	H	S

20 MATERIAL & COMPONENT SCHEDULE

NOTE: Indicative quantities for planning purposes only. Confirm from approved drawings. Include minimum 5% wastage allowance.

ITEM	DESCRIPTION	UNIT	QTY / 100m	STANDARD
1	Chain Link Fabric 2700mm H, 50x50mm, PVC	m	105	ASTM F668 Cl.2B
2	Line Post Ø88.9mm SCH-80, L=3600mm	No.	35	ASTM F1083
3	Corner/End/Strainer Post Ø114mm SCH-80	No.	Per layout	ASTM F1083
4	Top Rail Ø42.2mm (1-5/8") SCH-40	m	105	ASTM F1083
5	Tension Wire 4.5/4.9mm PVC Fusion Bonded	m	210	ASTM A641/F668
6	Tie Wire 1.4/2.0mm PVC	kg	As req.	Per 300mm spacing
7	Barbed Wire 6 rows on arms	m	630	ASTM A121
8	Barbed Wire Arms	No.	35	Per drawing
9	Concertina CBT-65 Ø600mm Top Arms	Coil	12	Per 9m stretch
10	Concertina CBT-65 Ø600mm Front Panel	Coil	12	Per 9m stretch
11	Concertina CBT-65 Ø600mm Ground	Coil	12	Per 9m stretch
12	Eye Bolts with Loop Nuts	No.	Every 21 posts	Per drawing



ITEM	DESCRIPTION	UNIT	QTY / 100m	STANDARD
13	Post Caps	No.	35	Per post
14	Hog Rings (500mm c/c)	Box	As req.	Per concertina
15	Concrete C30 (4350 psi) Ready-Mixed	m ³	Per footing calc.	ASTM C94
16	Epoxy Coated Rebar (where specified)	kg	Per drawing	ASTM A775
17	Vapor Barrier 250 Micron	m ²	Per auger count	Auger method only
18	Bitumen Emulsion Paint	L	Per beam surface	2 coats required
19	J-Type Ground Hooks (500mm c/c)	No.	200	Ground concertina
20	Mushroom Head Bolts M8 + Security Nuts	Bag	As req.	Anti-tamper

