# National Register of Historic Places Continuation Sheet

Section number Page			
SUPPI	LEMENTARY LISTII	NG RECORD	
NRIS Reference Number:	90001131	Date Listed:	Ø8/Ø6/9Ø
Block Island South East Property Name	Light	Washington County	<u>RI</u> State
N/A Multiple Name			
This property is listed in the National Register of Historic Places in accordance with the attached nomination documentation subject to the following exceptions, exclusions, or amendments, notwithstanding the National Park Service certification included in the nomination documentation.			
Signature of the Keeper	<u>ge</u>	8/6/90 Date of Action	n
Amended Items in Nomina	======================================		

#### Section 3: Classification -- Number of Resources within Property

Two noncontributing buildings are described in the text of Section #7 which were inadvertently not indicated in Section #3.

In addition, the lighthouse is no longer manned by a keeper.

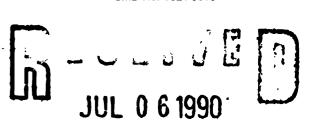
This information was confirmed with Pam Kennedy, RISHPO, by telephone.

#### **DISTRIBUTION:**

National Register property file Nominating Authority (without nomination attachment) United States Department of the Interior

National Park Service

#### National Register of Historic Places Registration Form



**NATIONAL REGISTER** 

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines* for Completing National Register Forms (National Register Bulletin 16). Complete each Item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property			
eletoric name Block Island	South East Light		
	ast Light		
And hamborate hamber south b	ase Ergne		
Lacation	·		
2. Location			
itreet & number South East L	ight Road		not for publication
olty, town New Shoreham			violnity
itate Rhode Island code	RI county Washing	gton code 009	zip oode 02807
3. Classification			
Ownership of Property	Category of Property	Number of Resource	ee within Property
· · · · · · · · · · · · · · · · · ·			• •
private	building(e)	Contributing	Noncontributing
public-local	dietrict		buildings
public-State			
X public-Federal	x structure	2	etructures
·	object		objects
		2.	Total
Name of related multiple property listing		Number of contribu	<u> </u>
Name of related multiple property listing $N/A$	<b>y</b> •		ting resources previously
N/A		listed in the Nation	al Hegister
I. State/Federal Agency Certifica	tion		
National Register of Historic Places In my epinion the property X meet	and meets the procedural and pro	fessional require <u>me</u> nts set	gistering properties in the forth in 36 CFR Part 60.
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6. Function or Use	· · · · · · · · · · · · · · · · · · ·
Historic Functions (enter categories from instructions) TRANSPORTATION/water related	Current Functions (enter categories from instructions) TRANSPORTATION/water related
	<del>-</del>
7. Description Architectural Classification	Materials (enter categories from instructions)
(enter categories from instructions)	
MID-19TH CENTURY/Gothic Reviva1	foundation <u>STONE/granite</u> walls <u>BRICK; STONE/granite;</u> METAL/iron
	roof ASPHALT
	other

Describe present and historic physical appearance.

The South East Light consists of a 5-story tower connected by a short 1-1/2-story hyphen to a 2-1/2-story duplex residence with twin 1-1/2-story kitchen wings on the rear. The tower shaft and residence are brick with granite ashlar foundations and granite trim; the tower susperstructure is cast-iron. The South East Light was built by the contractor T. H. Tynan of Staten Island in 1874, according to Gothic Revival designs produced by the Light House Board in 1873. The lighthouse was similar in general plan and configuration to a stone lighthouse built in Cleveland in 1871 (and since demolished), though it was trimmed in a different style. The tower's iron superstructure was of a standard design used on a number of other lighthouses built at the time, one of the first being the 1871 Body's Island Light in North Carolina. There have been almost no alterations to the tower and few in the rest of the structure.

The light tower is composed of an octagonal granite base, an octagonal pyramidal shaft, a circular cast-iron parapet surrounded by an open octagonal gallery and a 16-sided lantern surrounded by an open circular gallery and capped with a 16-sided pyramidal roof. Except for the substitution of galvanized steel railings for the original wrought-iron railings in the galleries, the tower structure is essentially unaltered.

The tower shaft consists of two brick shells connected by cross walls, with the outer shell forming the hollow frustrum of an octagonal pyramid and the inner one the hollow frustrum of a cone. It is entered through the connecting hyphen or entry on the first floor and it contains a circular iron stairway attached to the wall, with semi-circular landings on the second and third floors supported by wrought-iron beams and brick corbel tables. The open well is lit by six narrow double-hung sash windows in cast-iron frames set in segmental arched openings in the north, east, and south faces on the first and third floors. The first floor of the tower originally served as the oil room and the three cast-iron and brick shelves on which the 100-gallon oil butts were stored are still in place.

See continuation sheet

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At the fourth story level, the brick shaft terminates in the capital-like iron superstructure of the of the parapet and the lantern. On the exterior, a cast-iron cornice with a brick frieze provides the molding from which spring eight large iron brackets with ornamental spandrels and pendants that support the octagonal gallery surrounding the parapet. Access to the gallery and to the watchroom inside the parapet is through a small vestibule at the top of the circular stairs. The vestibule originally served to protect the oil-fired lamp from drafts from below. The watchroom, which has a cast-iron floor and is open to the lens room above, contains the peedestal for the revolving lens as well as the electric apparatus and boards.

On top of the parapet drum is the 11.5' lantern, which is glazed on all 16 sides with 10'foot windows with three fixed panes each. The low walls beneath the windows are fitted at regular intervals with sliding slotted ventilator panels. cast-iron galleries encircle both the outer and the inner circumferences of the lantern; set in the deck plates of the outer gallery there are sixteen circular skylights each containing fourteen hexagonal glass prisms for lighting the watchroom and veestibule below. The outer gallery is reached by ladder from the gallery below; the inner gallery, by a short circular stair flight from the watchroom. In the center of the lantern or lens room is the fixed 1000-watt electric lamp which is surrounded by the revolving lenticular apparatus--eight Fresnel lenses, each measuring 39-1/2" by 30-9/16", set in a brass frame with a mogul base. The frame bears the imprint of the makers, MM. Henry-Lepaute of Paris, and the date, 1880. The lenticular apparatus, which is six feet in diameter, provides the focal length (the distance between the lens and the lamp) of a first-order light. It is not a full-height lens and it has none of the upper and lower reflectors found on some first-order lenses. The height of the lights's focal plane is 52'6" above ground and 201' above sea level, making it the highest light on the New England coast.

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The original illuminating appparatus consisted of a fixed six-panel Fresnel lens manufactured by Barbier and Fenestre of Paris in 1873 and a four-wick oil lamp which produced a 12,188-candlepower light. Lard oil was burned at first, but was replaced by kerosene in the 1880s. In 1906, an incandescent oil vapor lamp was installed, which increased the light's intensity to 45,690 candlepower. The light was converted to electricity and the mercury float for a rotating lenticular apparatus was installed in 1929. The present 8-panel lens was in place at this time. The lighthouse presently exhibits a 237,000-candlepower flashing green light, the only first-order green light in New England.

The roof, which rests on the sixteen posts of the lantern's cast-iron frame, is composed of sixteen iron plates and rafters. It has an iron cove cornice and is crowned with a ball ventilator. The spider frame of wrought-iron tie rods and iron collar which supported the original fixed lenticular apparatus is still suspended from the rafters.

The dwelling is a sturdy example of Victorian Gothic, distinguished by its steep cross-gable roofs (60 degree pitch) with their metal-sheathed copings and skew corbels, the granite cornice moldings and the paired double-hung sash windows with brick segmental arches with granite skewbacks.

The main block of the residence is oriented with its long axis running northeast-southwest and it is joined to the light tower by a perpendicular 1-1/2-story connecting wing at the center of its southeast facade. The main entrance is located in this connector, which is flanked on both sides by single-story, flat-roofed porches that originally sheltered the entranceways. The doorway in the southwesterly side of the entry has been replaced by a window. The original porch railings with their heavy turned balusters have been replaced by simple rectilinear railings, as have all but a few of the original turned posts.

On each side of the connector, the fenestration consists of two 3/4-length, 9-over-9 pane windows on the first story and, on the second story, a 4-over-6 pane window in a central dormer with a segmental-arched head and cheeks of granite. There are identical dormers over the entry doors. These dormers interrupt the cornice, which has a plain granite architrave, a brick frieze, and cornice proper with an ogee bedmold, drip, fascia, and ogee crown molding of granite.

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The gable ends of the main block are two bays wide, with two pairs of 6-over-6 pane windows on the first story, two pairs of 6-over-6 pane windows on the second story and one pair of 4-over-4 pane windows in the garret. Above the garret windows in the north gable there is an 1873 granite datestone. The brick and granite window arches and the granite sills on all the windows are painted white. Attached to each main gable end are three-story platform fire escapes and associated stair assemblies.

The kitchen wings, which are attached to the northwest flank of the main block and set back from the planes of the main gable walls, are connected along the rear of the main block by a single-story shingled frame passageway, below which is the shed-roofed cellar entry. Each kitchen wing is lit by one pair of 4-over-6 pane windows and a single 2-over-2 window in its outer wall and a single 6-over-6 pane window in its inner wall. The kitchen garrets are each lit by a pair of 2-over-2 pane windows that flank the exterior chimneys in the gable ends. The cellars under the kitchens and the main block are lit on either side by three pairs of square single-pane windows.

The two internal chimneys near the gable ends of the main block and the two external gable-end kitchen chimneys were rebuilt in 1978. The design of the main chimneys was simplified and the stone caps were removed; the kitchen chimneys were reduced ten feet in height.

The plan of the residence originally included two mirrorimage apartments, the north one to be occupied by the keeper and
the south one to be shared by the first and second assistant
keepers. The keeper's apartment on the first floor contains a
sitting and a dining room sharing back-to-back fireplaces, a
stair hall on the inner side and the kitchen in the rear. On the
second floor, there are two bedrooms and a garret. The south
apartment contained the first assistant's bedroom, dining room,
and kitchen on the first floor; on the second floor were the
second keeper's bedroom and dining room and, in the rear garret,
his kitchen. The main garret above both aprtments is divided
into three storage rooms. In the second story of the entry wing
the former tool room, which can be reached from the second story
landing in the light tower, is now a bathroom.

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In the north apartment, which is still the keeper's residence, there have been few changes, though modern utilities, including indoor plumbing, have been added. In the south apartment, the second story has remained in use as a residence, while the first floor plan has been altered somewhat to convert living quarters into offices. The interior finish of the residence was simple, with 8-inch skirting in the main rooms and a wainscotting of one-inch boards, three feet high, in the kitchens and the entry. It has been modified throughout the residence over time, by the addition of dropped ceilings, new floor coverings, and new hollow-core doors.

The South East Light sits on the eastern edge of a nearly rectangular 10-acre reservation of rolling open land enclosed by stone walls on the north, south, and east, and by a chain link fence along the bluffs on the west. Thirty yards northeast of the lighthouse is the former fog signal building, a rectangular 1-story brick building built in 1908 to replace the original The building is three bays by two, with a gable frame structure. roof and a brick flue. There are double doors flanked by two 6over-6 douible-hung sash windows in the west flank and a pair of similar windows in the north gable, all with segmental arched openings. The building, which is now empty, housed a succession of fog signals and steam boilers, air compressors, and engines that powered them. In accordance with the Light-House Board and Coast Guard regulations, fog signal stations were equipped with two sets of equipment in case of mechanical failure. The first signal used here was a Brown steam siren which had a trumpet seventeen feet long that protruded out of the east wall. The water for the boilers came by underground pipe from the small pond on the northern side of the reservation. The steam boilers were replaced by kerosene engines in 1906. In 1934, a more powerful Typhon diaphragm horn replaced the siren. electronic fog signal now in use was installed on the main gallery of the light tower in 1974. No historic fog signal equipment remains on the site.

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There have been a number of outbuildings on the reservation from the outset, most of them in a cluster to the northweset of the light. In 1929, these buildings included a wagon shed, three henhouses, and a privy, as well as three coalhouses and a paintshop, all now gone. Presently, there are only two buildings other than the lighthouse and the fog signal building. One is a single-story gable-roofed brick garage, built in 1938, located 35 yards north of the light. Fifty yards west of the light is a single-story brick ranch house with an attached garage, which was built as a residence by the Coast Guard in 1961. The garage and the ranch house do not contribute to the historic significance of the site.

The rest of the reservation has traditionally been kept as open land. A historic photograph from c. 1900 shows the lighthouse and the nearby signal building and outbuildings enclosed by a picket fence, with sheep grazing on the outside of the fence. Sheep and other livestock were a traditional hazard for lighthouses, as their grazing tended to promote erosion. There are no longer any fences on the site, nor any sheep.

Portions of the face of Mohegan Bluff in the vicinity of the South East Light are unstable due to erosion. A 10-12' wide by 50-100' long section of the bluff has fallen away since In November, 1984, the face of the bluff was October, 1982. approximately eighty feet from the tower at its closest point. In addition, there is evidence of sink holes at the base of the light tower. The U.S. Coast Guard has been measuring and recording erosion in relation to the structures for approximately twenty years. The Coast Guard, the Block Island Historical Society, and the Rhode Island Historical Preservation Commission have begun to consider the severe erosion hazard as it relates to the light station. The Block Island Historical Society has received a grant from the National Trust for Historic Preservation to fund an engineering study to evaluate the erosion hazard and the feasibility of relocating the lighthouse. Further planning and decisions will be based on the recommnedations of this study as well as other Coast Guard soil and erosion surveys.

8. Statement of Significance		÷.	
Certifying official has considered the	· — · —	ty in relation to other properties: statewide locally	•
Applicable National Register Criteria	XA B XC	D	
Criteria Considerations (Exceptions)	□A □B □C [	D DE F G	
Areas of Significance (enter categorie ARCHITECTURE TRANSPORTATION	s from instructions)	Period of Significance 1874-1929	Significant Dates
		Cultural Affiliation NONE	
Significant Person N/A		Architect/Builder U.S. Light House B T.H. Tynan, contra	

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

South East Light is significant for its role in the history of transportation and for its ability to illustrate, in well preserved form, the architenctural quality of its type and South East Light was the second lighthouse to be established on Block Island and the first on the south side of First lit on February 1, 1875, the light and the fog the island. signal have proven an invaluable aid to navigation in the hazardous waters surrounding Block Island. The light, which marks the first island landfall for ships approaching the New England coast from the south and southeast, stands on Mohegan Bluff, 201' above the water, making it the highest lighthouse in The light tower and the attached Gothic Revival New England. residence are well preserved examples of the pictureque buildings designed by the U. S. Light-House Board in the second half of the nineteenth century. The light itself is notable for its firstorder rotating Fresnel lens which was manufactured in Paris in It is one of only a few of the once-standard lenses still in operation in the nation's lighthouses. The South East Light, which is still manned by a resident keeper, is located on a tenacre Coast Guard reservation on South East Light Road in the town of New Shoreham, Rhode Island.

	See continuation sheet
Previous documentation on file (NPS):  preliminary determination of individual listing (36 CFR 67)	Primary location of additional data:
has been requested  previously listed in the National Register	<ul><li>State historic preservation office</li><li>Other State agency</li></ul>
previously determined eligible by the National Register designated a National Historic Landmark	Federal agency Local government
recorded by Historic American Buildings Survey #	University Other
recorded by Historic American Engineering Record #	Specify repository: Rhode Island Historical
	Preservation Commission
10. Geographical Data  Acreage of property <u>c. 10 acres</u>	
UTM References	
	B 1.9 2 8.6 2.0.0 4.5 5.8 5.3.0 Zone Easting Northing
	D [1,9] [2  8  6   2,7,0] [4,5  5,8   9,0,0]
	See continuation sheet
Verbal Boundary Description	
The boundary of the South East Liboundary of the U.S. Coast Guard Reser Shoreham Assessor's map.	ight is coterminus with the present rvation as shown on the New
	See continuation sheet
Boundary Justification The proposed boundary for boundary which has existed for the U.S. construction of the lighthouse and, thus aries of the property. The open land of sided by stone walls and on the fourth store, provides essentially the same visuexisted when the property was constructed.	Coast Guard Reservation since the s, represents the historical bound-the the reservation is bounded on three side by the Mohegan Bluffs and, there all setting for the lighthouse that
11. Form Prepared By name/title Richard E. Greenwood. Consultant	
organization Block Island Historical Society	date 1984
street & number P.O. Box 79 city or town New Shoreham	telephone

9. Major Bibliographical References

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Throughout its history Block Island has been reknowned as a hazard to shipping, the so-called "Stumbling Block" for vessels traveling between the Long Island and Rhode Island Sounds. The first attempt to reduce the danger posed by the island and the treacherous shoals around it came in 1829 when Congress allocated \$5500 for the erection of a lighthouse on the north end of the island. The North or Sandy Point Light was a major improvement and it has been maintained up to the present, though rebuilding and modernization were necessary in 1837, 1857, 1867, and 1970. However, the North Light provided scant aid for ships approaching the island from the south and southeast and the south end of the island continued to be the scene of marine disasters.

In 1856, in response to a petition from the Collector of Customs at Newport, Congress appropriated \$9000 for a second lighthouse on Block Island. In the following year the Rhode Island General Assembly responded by ceding the land for a lighthouse reservation in the southeast part of the island to the federal government. However, at the discretion of the U.S. Light-House Board, which had been formed in 1852 to administer the country's aids to navigation, the funds were spent on rebuilding the existing light and plans for a southern light languished.

It was not until 1872 that the efforts to establish a southern light were renewed. In that year, Nicholas Ball, Block Island merchant and hotel proprietor, put a petition for the light into circulation among shipping firms and other interested businesses. The petition stated, in part, that the island was "passed by hundreds of vessels daily" and those vessels were "exposed to as much danger as at almost any other place on the entire coast of the United States" (Ball, p.4). Upon the recommendation of the Light-House Board, Congress approved an appropriation for \$75,000 for a first-order light and fog signal in the spring of 1872.

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Plans for the lighthouse were drawn up in the engineering department of the Third Light-House District under the direction of the District's chief engineer, Col. I. C. Woodruff, and they were approved in July, 1873. The site on Mohegan Bluff posed none of the special construction problems that the engineers had to confront when building on more exposed or submarine locations. According to the preferences of the Light-House Board, the construction job was let on contract to a private builder, T. H. Tynan of Staten Island, who erected the building in 1874. Another contractor supplied the cast-iron superstructure of the tower, which was assembled on the site. The light itself was maanufactured in France, a country that had long been in the forefront of lighthouse technology.

As a part of their initial efforts to modernize America's lighthouses in the 1850s, the U.S. Light-House Board chose to adopt the dioptric system of illumination used in French. lighthouses. At the heart of the dioptric system was the refractive Fresnel lens, developed by Augustin Fresnel in 1822 and first employed in the United States in 1841 at the Navesink Light in New Jersey. The Fresnel lens is a "built-up annular lens comprised of a central spherical lens surrounded by rings of glass prisms, the central portions which refract and the outer portions both reflect and refract in the desired direction the lilght from a single lamp placed at the central focus" (Putnam, p. 192). The rings of prisms in the Fresnel lens serve to capture light that would otherwise pass above or below the lens and to direct it out to sea as part of the main horizontal beam. The intensity of the light concentrated by the Fresnel lens far exceeded that produced by the parabolic reflectors that had previously been used. The Fresnel lenses used in lighthouse were cylindrical, with a number of individual panels held in a brass The magnitude of the light increased with the diameter of frame. the cylinder; the lens of a first order light averaged six feet in diameter while a second order lens was five feet across. lenses could be either fixed or rotating to provide a flashing light.

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The lamp that provided the light was also a French innovation. In 1782, Aime Argand developed a circular wick for an oil lamp, an idea that was subsequently improved upon by Fresnel. The circular wick allowed for increased air circulation around the flame and thereby improved combustion and reduced smoking. Fresnel expanded upon Argand's idea by devising concentric circular wicks which amplified the candlepower available from a single lamp. The number of wicks and their diameters varied as to the order of the light as well. The first order light installed at South East Light had four wicks, the largest of which was 8-1/2" and the smallest, 7/8". The oil for the lamp was delivered from a reservoir below by small pumps operated by clockwork. It was one of the lightkeeper's principal duties to wind the clockwork every three hours. The lamp at the South East Light consumed about a thousand gallons of oil each year.

French superiority in lighthouse technology extended into the manufacturing realm as well. Three firms, MM. Henry-Lepaute, MM. Sautter, Lemonniere et Cie., and MM. Barbier et Fenestre, were the principal manufacturers of lighthousse lenses and lamps in the world and they were the sole suppliers to the United States when the South East Light was erected (Elliot, p. 203).

An indispensable adjunct to the South East Light was its fog signal, which apparently was in operation in 1874. In contrast to the light mechanism, the fog signal was an American invention; the Brown steam siren was invented by a New York man and was first used in this country in 1867. The operation of the fog signal was major responsibility for the light keeper and his two assistants. Though not as fogbound as certain lighthouses in Maine and on the Pacific coast, the South East Light had to be supplemented by the fog siren 831 hours per year on average, making it one of the most active fog signal stations in the country. In August, 1875, T. Brown, inventor of the fog siren, and members of the Light-House Board used the South East Light fog signal and the light tower to conduct a series of investigations on the projection of sound.

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In full operation by February, 1875, the South East Light was one of a new generation of American lighthouses. With its first order light and its fog signal, it exemplified the considerable advances made by the LIght-House Board in the first twenty years of its existence. President Grant made a point of visiting the new lighthouse while vacationing on Block Island, and he pronounced it a worthwhile expenditure of public funds. The increased involvement of the federal government in reducing maritime hazards was also reflected in the new vitality of the U.S. Lifesaving Service, which had established two stations on Block Island by 1872.

A third aid to navigation, a Coast Signal Service station which displayed signal flags and transmitted messages by semphore, was maintained at South East Light in the 1890s. In 1899, the abandoned station was moved across the island to the Great Salt Pond breakwater. In the same year, telephone connections were established between Block Island lighthouses, lifesaving stations, and the U.S. Weather Bureau station.

Radio provided the next major advance in navigational aids at the South East Light. There was a radio station on the reservation by 1929 and two years later a radio beacon transmitting a directional signal was installed. The radio beacon presently in operation at the South East Light has a range of twenty miles. C. 1943, a radar station was built on the reservation as part of the nation's coastal defense network. The buildings associated with the station havae all been removed.

In 1939, jurisdiction over the nation's lighthouses was transferred from the Bureau of Lighthouses, which had replaced the Light-House Board in 1910, to the U. S. Coast Guard, where it remains today. The Coast Guard has continued to modernize its lighthouse technology, adopting new features such as lighter acrylic lenses, more powerful quartz halogen lights and automated lights, which all tend to improve service and reduce maintenance costs. In view of these recent trends, the illuminating apparatus at South East Light is becoming increasingly outdated. However, the Coast Guard has agreed to defer the automation of the Light Station and the possible installation of a modern lens. This will permit completion of an engineering study that is intended to evaluate the feasibility of moving the building.

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Period of Significance: The period of significance for the South East Light is defined as 1874 to 1929. The lighthouse was constructed in 1874. The illuminating system underwent a variety of changes in the late 19th and early 20th centuries, as lighthouse technology improved; the light was electrified in 1929. Significant dates include 1874 (the date of construction for the lighthouse), 1908 (the date of construction for the fog signal building), and 1929 (the date of electrification).

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