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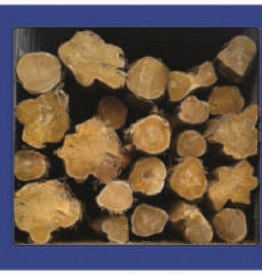




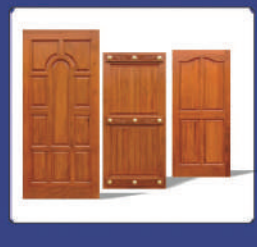

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CONTENTS

ஆசிரியர் மடல்

அன்புடையீர் வணக்கம்,

தமிழகத்தில் ஆட்சி மாற்றம் நிகழ்ந்த பின் கட்டுநர் வல்லுநர் சங்கத்தின் நீண்ட நாள் கோரிக்கைகள் நிறைவேறும் என்கிற நம்பிக்கை ஒளிக்கீற்று தோன்றியுள்ளது என மே மாத இதழில் குறிப்பிட்டிருந்தோம். நமது நம்பிக்கை வீண் போகாத வண்ணம் துறை சார்ந்த மாண்புமிகு அமைச்சர் அவர்கள் சங்க நிர்வாகிகள் மற்றும் ஒப்பந்ததாரர்களை அழைத்து கருத்துக்கேட்புக் கூட்டம் நடத்தி அதனை தொடர்ந்து நமது கோரிக்கைகளில் உள்ள நியாயத்தை கலந்தாய்வு செய்து அரசு நல் அறிவிப்புகளை வெளியிட்டு கட்டுநர்களை மகிழ்ச்சிக் கடலில் ஆழ்த்தியுள்ளது.

நமது கோரிக்கைகளை செவி மடுக்காத காலம் கடந்து போய் இருள் நீங்கி ஒளி வெள்ளம் பாய்ந்தது போல பதிவு செய்யப்பட்டு ஒப்பந்தங்களில் பங்கேற்கும் தகுதியுள்ள ஒப்பந்தக்காரர்கள் தங்கள் பகுதியில் உள்ள அரசு ஒப்பந்தங்களில் பங்கேற்க முடியாதபடி தடை செய்யப்பட்டிருந்த அவல நிலை நீக்கப்பட்டு Package Tender சிப்பந்த ஒப்பந்தமுறை என்பதை நீக்கி தகுதியுள்ள அனைத்து ஒப்பந்தக்காரர்களும் ஒப்பந்தத்தில் பங்கேற்கும் ஒரு நல்ல முடிவு மேற்கொள்ளப்பட்டு அரசால் அறிவிப்பு வெளியிடப்பட்டுள்ளது. தலைமைப்பொறியாளர், கண்காணிப்பு பொறியாளர் மற்றும் செயற் பொறியாளர்களுக்கான தொழில்நுட்ப மற்றும் ஒப்பந்தப்புள்ளிகளுக்கான ஒப்புதல் வழங்கும் அதிகார வரம்பினை உயர்த்தி அரசால் உத்தரவிடப்பட்டுள்ளது.

அதே போன்று ஒப்பந்தக்காரர்களின் பதிவு முறையை எளிமையாக்கி தகுதியுள்ள ஒப்பந்தக்காரர்கள் அவரவர் பகுதியில் உள்ள கோட்ட அலுவலகத்திலேயே பதிவு செய்யும்முறை அறிவிக்கப்பட்டுள்ளது. ஆண்டுதோறும் புதுப்பித்தல் செய்தலை ரத்து செய்து மூன்றாண்டுக்கு ஒரு முறை புதுப்பிக்க வகை செய்தது, ஒப்பந்த முன் தகுதிக்கு (Pre Qualification) ருபாய் 2.00 கோடி என்பதை 5.00 கோடியாக உயர்த்தி அறிவித்தது, குவாரி அமைவிடத்தை ஆராய்ந்து தூரத்தை கணக்கீடு செய்து வேலைக்கு உண்டான மதிப்பீடுகளை தயார் செய்ய உத்தரவிட்டது, குடியிருப்பு, வணிக வளாகம் மற்றும் கல்விக்கூடங்கள் கட்டுமானத்திற்கு 27,000 சதுர அடியும் தொழிற்சாலைகளுக்கு 1.00 இலட்சம் சதுர அடி வரை வரைபட அனுமதி வழங்குவதை (Plan Approval), மாவட்ட அளவிலான அதிகாரிகளே மேற்கொள்ள ஆணைவெளியிட்டது, நகரமைப்புத்துறையான DTCP பகுதிகளில் நில வகைப்பாடு மாற்றம் (Reclassification) தொடர்பாக உள்ளூர் திட்ட குழும அளவில் முடிவுகள் எடுக்க அதிகாரப் பகிர்வு செய்தது மேலும் அரசு சிமெண்ட் குறைந்த விலையில் வழங்க ஆவன செய்வதாக அறிவிப்புகள் வெளியிட்டது.

நமது பல கோரிக்கைகளை மிகக் குறுகிய காலத்தில் நிறைவேற்றி கட்டுநர்களின் வாழ்வாதாரத்தை வலுப்படுத்திய மாண்புமிகு தமிழக முதல்வர் மற்றும் துறை சார்ந்த மாண்புமிகு அமைச்சர் பெருமக்களுக்கு மகிழ்ச்சியுடன் மனமார்ந்த நன்றி. மக்கள் நலம் காக்கும் நல்லாட்சினை வாழ்த்தி வணங்கி நன்றியினை வெளிப்படுத்த கடமைப்பட்டுள்ளோம்.

குடிதழீஇக் கோலாச்சும் மாநில மன்னன்
அடிதழீஇ நிற்கும் உலகு

- திருக்குறள்

என்றும் அன்புடன்
S. அய்யநாதன்

அன்பார்ந்த வணக்கம்,

தமிழகத்தில் புதிதாக அமைந்துள்ள அரசு இவ்வாண்டிற்கான நிதி நிலை அறிக்கை தயாரிப்பது சம்மந்தமாக முன் ஆலோசனை நடத்துவதற்கு நமது சங்கத்தினை அழைத்திருந்தது. மாநிலத் தலைவர் திரு. R. சிவக்குமார், மய்யத்துணைத்தலைவர் திரு. R.R. ஸ்ரீதர் ஆகியோர் முன் ஆலோசனைக் கூட்டத்தில் மாண்புமிகு நிதி மற்றும் மனித வள மேம்பாட்டு அமைச்சர், வணிகவரி மற்றும் பதிவுத்துறை அமைச்சர் அவர்களிடம் நமது கட்டுநர் சங்க கருத்துருக்களை பதிவு செய்தனர். மாநிலத்தலைவர் திரு. R. சிவக்குமார் அவர்கள் மாண்புமிகு தொழில்துறை அமைச்சர் திரு. தங்கம் தென்னரசு அவர்களை சந்தித்து நமது சங்க உறுப்பினர்களுக்கு குறைந்த விலையில் அரசு சிமெண்ட்டினை வழங்கக்கோரி ஆலோசனை மேற்கொண்டு வந்தார். அமைச்சர் அவர்களின் அறிவுரையின்படி தமிழ்நாடு சிமெண்ட்ஸ் மேலாண் இயக்குரை மாநிலத்தலைவர் திரு. R. சிவக்குமார், உடனடி அகில இந்திய முன்னாள் தலைவர் திரு. Mu மோகன் அவர்களோடு நானும் சென்று சந்தித்து, நமது தேவைக்கு ஏற்ப சில தளர்வுகள் வழங்க கோரினோம்.

நமது தாயகத்தின் 75வது சுதந்திர தினத்தை 15.08.2021 அன்று நமது அலுவலக வளாகத்தில் காலை 8.30 மணிக்கு அகில இந்திய முன்னாள் தலைவர் பீஷ்மா R. இராதாகிருஷ்ணன் அவர்கள் தேசியக் கொடியேற்ற வெகு விமரிசையாக கொண்டாடினோம். 50 ஆண்டுகளுக்கும் மேலாக கட்டுநர் சமுதயாத்திற்காகவே தன்னை அற்பணித்துக்கொண்டு நம்மை என்றும் வழிநடத்தி சென்று கொண்டிருக்கும் பீஷ்மா திரு. R. இராதாகிருஷ்ணன் அவர்களுக்கு எனது மனமார்ந்த நன்றியினை உரித்தாக்குகிறேன். இந்நிகழ்ச்சியில் மய்ய நிர்வாகிகளோடு உடனடி அகில இந்திய முன்னாள் தலைவர் திரு. Mu. மோகன் அவர்கள் மாநிலத்தலைவர் திரு. R. சிவக்குமார் அவர்கள், தென் மண்டல செயலாளர் திரு. K. வெங்கடேசன் அவர்கள், மாநிலச் செயலாளர் திரு. S. ராமப்பிரபு அவர்கள், மாநிலப் பொருளாளர் திரு. T.V. சந்திரசேகர் அவர்கள், முன்னாள் காப்பாளர் திரு. J.R. சேதுராமலிங்கம் அவர்கள் உட்பட 50க்கும் மேற்பட்ட உறுப்பினர்கள் கலந்து கொண்டு சிறப்பித்தனர்.

கடந்த 23.08.2021 அன்று தென்னக மய்யத்தின் ஐந்தாவது செயற்குழு கூட்டத்தில் நமது சங்க நிரந்தர உறுப்பினரும், தாம்பரம் மய்ய சாசனத்தலைவருமாகிய திரு. ரூபி. R. மனோகரன் அவர்கள் சட்ட மன்ற உறுப்பினராக நாங்கிநேரி தொகுதியில் தேர்ந்தெடுக்கப்பட்டமைக்காக சபையில் கவுரவிக்கப்பட்டார். நமது தென்னக மய்யத்தோடு இணைந்து பல்வேறு கூட்டு நடவடிக்கைகள் மேற்கொள்ளும் முகமாக புரிந்துணர்வு ஒப்பந்தம் ஒன்று ஸ்ரீ சுப்பிரமணிய நாடார் பொறியியல் கல்லுரியுடன் மேற்கொள்ளப்பட்டது என்பதனை தெரிவித்துக் கொள்கிறேன்.

சென்ற இதழில் அகில இந்திய கட்டுநர் மாநாட்டினை நடத்துவதற்கான ஏற்பாடுகள் தொடங்கப்பட்டு விட்டதை தெரிவித்திருந்தேன். தற்போது வரும் பிப்ரவரி 11, 12 மற்றும் 13 தேதிகளில் மாமல்லபுரத்தில் உள்ள Radisson Blue Resort Temple Bay–ல் நடைபெற உள்ளது என்பதை மகிழ்ச்சியுடன் தெரிவித்துக் கொள்கிறேன். மாநாட்டிற்கான நுழைவுக் கட்டணமாக உறுப்பினர்களுக்கு ரூ.12,000/- ஆகவும், Spouse–ற்கு ரூ.10,000/- எனவும், உறுப்பினர் அல்லாத விருந்தினருக்கு ரூ.15,000/- எனவும் நிர்ணயிக்கப்பட்டுள்ளது. அக்டோபர் 31ந்தேதிக்குள் பதிவு செய்பவர்களுக்கு சலுகை கட்டணமாக உறுப்பினர்களுக்கு 10,000/-Spouse ரூ.8000/- எனவும் உறுப்பினர் அல்லாத விருந்தினர்களுக்கு 13,000/-எனவும் நிர்ணயிக்கப்பட்டுள்ளது. உறுப்பினர்கள் அனைவரும் இவ்வாய்ப்பினை பயன்படுத்தி அக்டோபர் 31க்குள் பதிவு செய்து கொள்ளுமாறு கேட்டுக் கொள்கிறேன்.

இதையே எனது நேரடி அழைப்பாக ஏற்று அனைவரும் தவறாது விரைந்து முன் பதிவு செய்து மாநாட்டில் கலந்து கொள்ள அன்போடு வேண்டுகிறேன்.

என்றும் அன்புடன்
L. சாந்தகுமார்

Developments in the design of Steel Concrete Composite Earthquake resisting systems for Tall buildings

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Former Emeritus Professor,
Department of Civil
Engineering IIT Madras

1 INTRODUCTION

Rigid frames connect the columns and girders via moment-resistant connections. The lateral stiffness of a rigid frame depends on the bending stiffness of the columns, girders and connections to the frame. A major advantage of the rigid frame is the open rectangular spaces which allow greater planning for windows and doors. Rigid frames typically span 7 m to 10 m bays. When used as the sole lateral load resisting system, rigid frames are economical up to 25 stories. Above that height, they are too flexible. Increasing the member sizes would call for uneconomical solutions. Rigid frames are used in both steel and reinforced concrete, because of the inherent rigidity of the joints. Composite Steel frames are costly and takes more effort to stiffen the moment-resistant connections. The size of the columns and girders at any level are directly proportional to the external shear at that level. Therefore, they increase in size towards the base. Floor designs are not repetitive as in the case of braced frames. Ceiling height also increases towards the base because of the larger girders at the base. Therefore the story heights may vary.

2 COMPOSITE COUPLED SHEAR WALL SYSTEM

Reinforced concrete planar solid or coupled shear walls have been one of the most popular systems used for high-rise construction to resist lateral forces caused by wind and earthquakes [Mir.M.Ali and Kyoung Sun Moon, 2007]. They are treated as vertical cantilevers fixed at the base. When two or more shear walls in the same plane are interconnected by beams or slabs, as is the case with shear walls with door or window openings, the total stiffness of the system exceeds the sum of the individual wall stiffness put together. This is so because the connecting beam forces the walls to act as a single unit by restraining their individual cantilever actions. These systems are known as coupled shear walls. Shear walls used in tall office buildings are generally located around service and elevator cores, and stairwells. In fact, in many tall buildings, the vertical solid core walls that enclose the building services can be used to stabilize and stiffen the building against lateral loads [Fintel M,1974]. Many possibilities exist with single or multiple cores in a tall building with regard to their location, shape, number, and arrangement. The core walls are essentially shear walls that can be analyzed as planar elements in each principal direction or as three-dimensional elements using computer programs. The ductility of the system can be enhanced by providing diagonally reinforced coupling beams. They pose construction difficulties. Composite coupling beams in the form of Link Elements in steel offer very good alternative and results in superior performance.

3 SHEAR TRUSS FRAME INTERACTION SYSTEMS

Rigid frames may be combined with vertical steel trusses or reinforced concrete shear walls to create shear wall (or shear truss)-frame interaction systems. Rigid frame systems are not efficient for buildings over 30 stories in height because the shear racking component of deflection caused by the bending of columns and girders causes the building to sway excessively. On the other hand, vertical steel shear trusses or Composite concrete shear walls alone may provide resistance for buildings up to about 10 or 35 stories depending on the height-to-width ratio of the system. When shear trusses or shear walls are combined with Moment Resisting Frames (MRF), a shear truss (or shear wall)-frame interaction system results. The approximately shear-type deflected profile of the MRF, when combined with the parabolic cantilever sway mode of the shear truss or shear walls, results in a common shape of the structure when the two systems are forced to deflect in the same way by the rigid floor diaphragm. The upper part of the truss is restrained by the frame, whereas at the lower part, the shear wall or truss restrains the frame (Figure.1). This effect produces increased lateral rigidity of the building. This type of system has wide applications for buildings up to about 40 to 70 stories in height. A “milestone” paper by [Khan and Sbarounis,1964] presented the mechanics of a shear wall-frame interaction system that led to the development of innovative structural systems that are cost-effective [Ali,M.M,2001].

3 OUTRIGGER SHEAR TRUSS FRAME SYSTEMS

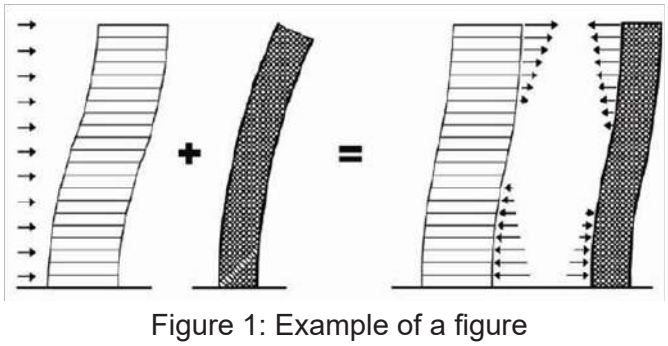


Figure 1: Example of a figure

During the last few decades several buildings have been built utilizing belt truss and outrigger system for the lateral loads transfer throughout the world. This system is very effective when used in conjunction with the composite structures especially in tall buildings (Figure 2). Outrigger systems have been historically used by sailing ships to help resist the wind forces in their sails, making the tall and slender masts stable and strong. The core in a tall building is analogous to the mast of the ship, with outriggers.

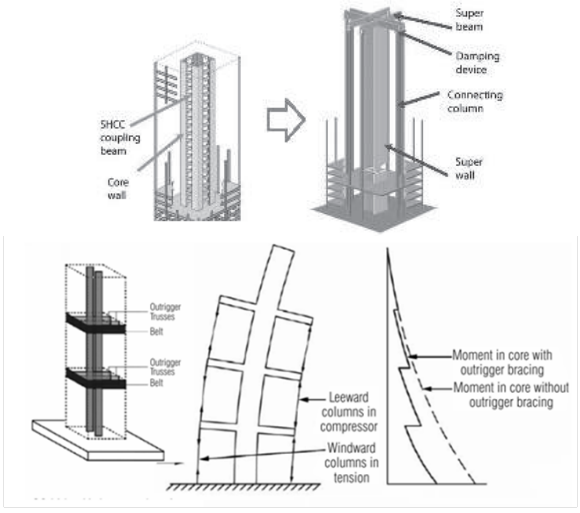


Figure.2 Shear wall – Core supported Outrigger System

These act as the spreaders and the exterior columns as the stays. As for the sailing ships, outriggers serve to reduce the overturning moment in the core that would otherwise act as pure cantilever, and to transfer the reduced moment to the outer columns through the outriggers connecting the core to these columns (Figure 2). The core may be centrally located with outriggers extending on both sides or in some cases it may be located on one side of the building with outriggers extending to the building columns on the other side [Taranath,B 1998].The outrigger systems may be formed in any combination of steel, concrete and composite construction. Because of the many functional benefits of outrigger systems and the advantages outlined above, this system has lately been very popular for super-tall buildings all over the world. A very early example of outrigger structure can be found in the Place Victoria Office Tower of 1965 in Montreal designed by Nervi and Moretti. It was also used by Fazlur Khan in the 42-story First Wisconsin Centre of 1973 in Milwaukee, Wisconsin. However, major application of this structural system can be seen on contemporary skyscrapers such as the Jin Mao Building in Shanghai and the Taipei 101 Tower in Taipei.

Whether it is frame shear wall/Shear truss system or outrigger system or the buttressed core system used in Burj Khilifa in Dhubai [William F. Baker,2011], the behaviour of the core under lateral loads is vital for good seismic performance. Therefore let us examine the failure modes of the shear wall systems and its seismic behavior.

4 DUCTILITY AND STRENGTH OF COMPOSITE WALLS

In shear walls with moderate heights, especially built in areas of medium seismicity like Chennai, vertical reinforcement is usually distributed over the whole section. Such arrangement does not efficiently utilize the reinforcement when developing ultimate moment. In this case, ultimate curvature and hence curvature ductility will be limited [Cardenas, AE and Magara DD,1973]. Figure. 3 shows the improvement in ductility Composite boundary elements are placed near the edges. Such arrangement will be able to resist alternate flexural compression which is inevitable during seismic loading. Since the shear wall carries large gravity load also, it is necessary to provide confinement reinforcement to improve ductility to adequate levels. Closely spaced transverse ties are provided around the vertical flexural steel which may suffer softening during cyclic loading due to Bauschinger effect and open cracks. Ties spacing confining composite boundary element in such cases should be even less than that recommended by the codes. A typical composite boundary element is also shown in Figure. 3

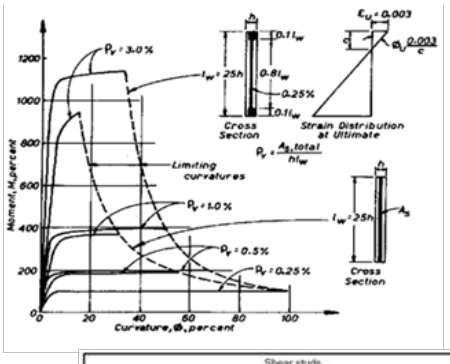
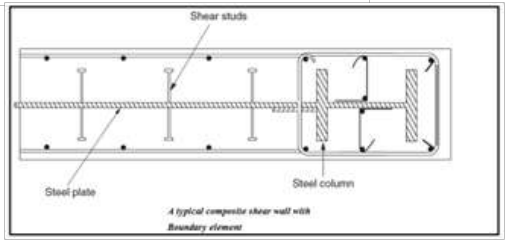


Figure. 3 Concentration of steel near the edges of the shear wall



5 BEHAVIOUR OF LINK- BEAM COUPLED WALLS

Many shear walls contain one or more rows of openings. Examples are shear cores, lift wells, stair wells etc.

The walls are connected by Link beams which are short and deep. A coupled shear wall structure

and its deformations due to lateral loading is shown in Figure 4.

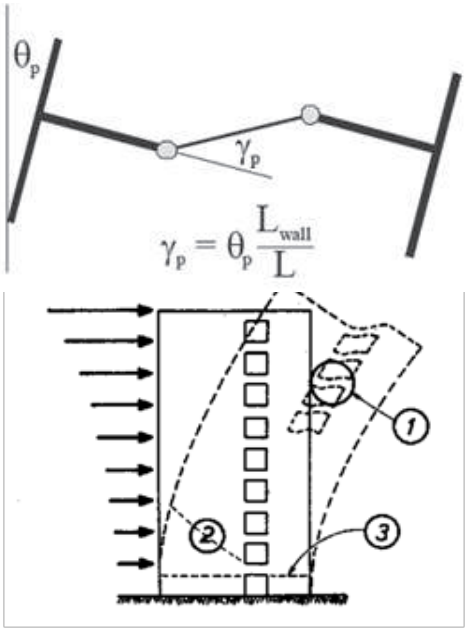


Figure 4 The Distortions in a Laterally Loaded Coupled Shear Wall

In a standard computer program with a few available modifications these can be incorporated. In a mathematical model proposed by Beck [Rosman,B,1964] the discrete beams are replaced by an equivalent lamina. This idealization enables the shear force in the beams to be expressed as a continuous function along the height. The solution is now well documented and is extensively used. The overturning moment Mo, is resisted by (see Figure. 5)

(a) a moment induced in wall 1, designated by M1

(b) a moment induced in wall 2 designated by M2 and

(c) equal and opposite axial forces T generated in both walls (one in compression and the other in tension).

The corresponding equilibrium equation is

$$M_o = M_1 + M_2 + IT \quad (1)$$

The axial force induced in the walls result from the accumulation of shear from beams. If shear transfer is efficient IT component will be large. This is desirable since large internal lever arm "I" will ensure that moment capacity is maintained. Efficient coupling provides for greater stiffness and minimizes deflection.

Figure 6 illustrates the influence of efficiency of coupling. An inefficient coupling throws more moment on walls. One may say that the coupling is efficient if more than 50% of Mo is resisted by 'IT'.

6 Elastic -Plastic Behaviour of Composite Coupled Shear Walls

The sequence of hinge formation during non-linear response of the structure to lateral load will depend on relative stiffness and strength of components of shear wall system. A preferred sequence should be for the beams to plastify before the walls. The designer must postulate a preferred sequence of failure of the components. The hinges which form earlier must be ductile enough so that collapse does not occur. After all or most of the beams reach their capacity walls may be permitted to attain ultimate load.

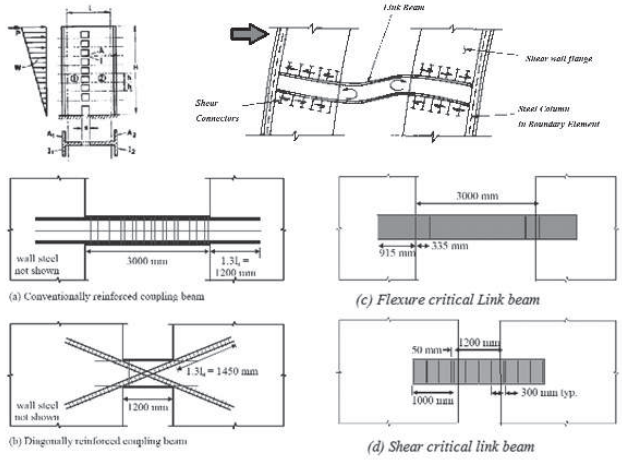


Figure. 5 Coupled Shear Wall Subjected to Lateral Loading with different options for Link beams

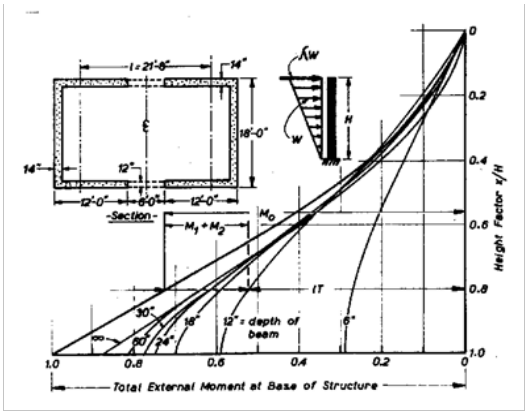


Figure 6 The Mode of Internal Moment of Resistance in Coupled Shear Wall Structures

The elastic analysis of Rosman, explained earlier, may be extended to deal with partial or full plastification of the beams. At this stage large ductility demands will be imposed on the coupling system. Figure.7 shows the results of an elastic plastic analysis for the structure illustrated in Figure.6. The ultimate load is attained in stages. At each stage ductility demands on the components have been computed and presented. By the Link beams plasifying before the walls, large energy can be dissipated by the coupling system so that there is higher degree of protection to the walls and foundation [13].

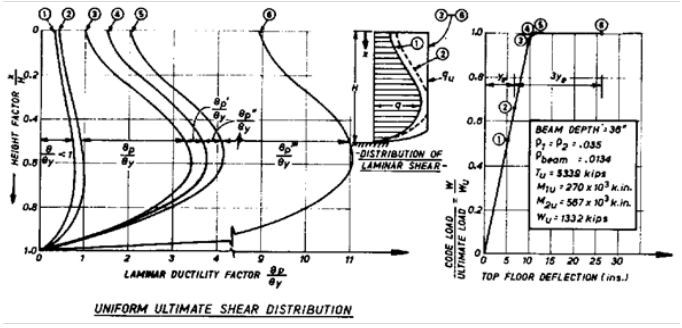


Figure. 7: Laminar Shear Force Distribution, Ductility Demand and Top Floor Deflections for a 20 Storey Coupled Shear Wall Structure with Coupling Beams of Uniform Strength

7 STRENGTH AND DUCTILITY OF LINK BEAMS

7.1 Concept

The link beams dissipates energy by controlled yielding in shear or moment. Hence it combines the advantage of both steel moment frame and a Shear wall. The critical beam segment called Link of designed length "e". Links in the system act as structural fuses. It dissipates seismic induced energy in a stable manner. Links are properly detailed to have designed adequate strength and stable energy dissipation. All other structural components of the composite shear wall system (walls and connections) are designed using capacity design concept to remain elastic while the Link beams yield and dissipate energy in a very ductile manner during major seismic events.

7.2 Elastic Stiffness

The variation of stiffness of a simple system with respect to Link parameter e/L is shown in Figure 8.[Hjelmstad and Popov,1994]. e/L=0 corresponds to a system without Link elements such as a braced frame and e/L = 1 to a regular moment resisting frame or coupled wall with coupling beam. From the figure, the advantage of using short and stiff Link is evident.

7.3 Link Deformation

On yielding, plastic mechanism shown in Figure 9 forms. It can be seen that plastic rotation

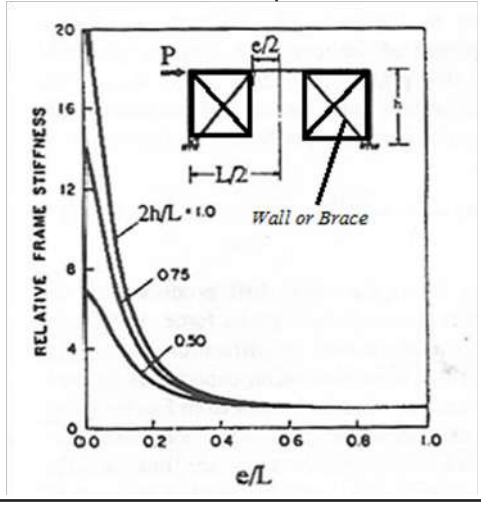


Figure 8 Variation of lateral stiffness with e/L. (Hjelmstad and Popov,1994) of the link beam can be expressed as:

$\gamma p = (L/e)\theta p$ (2)

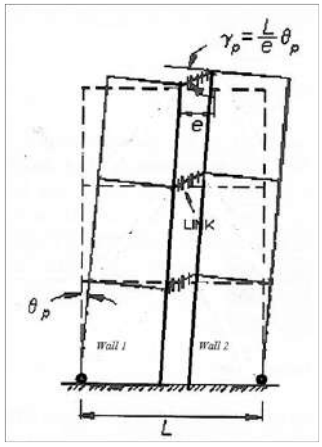


Figure 9. Kinematic Mechanism of Link plastic Hinge

Where θp is the plastic storey drift angle and γp is the plastic deformation of the Link. The plastic drift angle θp can be conservatively estimated as

$\theta p = (R x \theta e)/h$ (3)

Where R is the response reduction factor and θe storey drift produced by design earthquake. Note that the response reduction factor amplifies the storey deflection.

7.4 Ultimate strength

A short Link is used so that the link will primarily yield in shear. Assuming that the Link behaves in an elastic perfectly plastic bilinear manner, using simple plastic theory the ultimate load [Kasai, K and Popov, E.P. 1985] can be evaluated as

$P_u = (V_p L)/h$ (4)

Where Pu is the lateral strength of the frame and Vp is the shear strength of the Link. As long as the link yields in Shear the ultimate strength of the system is independent of the Link strength. Once the Link length exceeds the critical value, then flexure and shears both dominates the ultimate strength.

7.5 Link Behaviour

Figure 10 shows the free body of the link. Flexural hinges form at two ends of the Link when both M_A and M_B reach plastic moment M_p. A shear hinge is said to form when the shear reaches V_p. Plastic and shear capacities are respectively computed as:

$M_p = F_y Z$ and $V_p = 0.6 F_y (d-2t_f)tw$ (5)

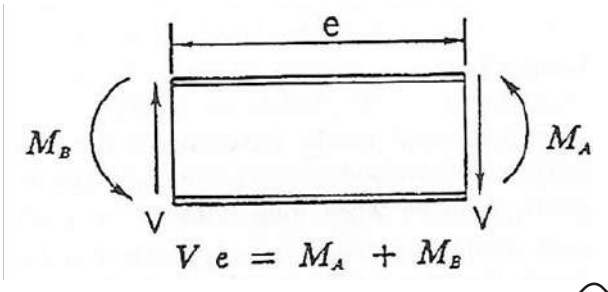


Figure 10 Free body forces on the Link element

A balanced yielding corresponds to the simultaneous formation of flexural and shear hinges. The corresponding Link length is

$$e_0=(2M_p)/V_P \quad (6)$$

In short Link (e< or= e_0) a shear hinge will form. When e>e0 a flexural hinge forms at both ends and the corresponding shear force is

$$V= (2M_p)/e \quad (7)$$

A properly stiffened short Link can strain harden and develop 1.5 Vp. The end moments of the link that has yielded in shear can continue to increase and therefore flexural hinge can develop. To avoid low cycle fatigue failures due to high strain the end moments are limited to 1,2 Mp and maximum length e0 for shear link is modified (Kasai and Popov,1986) as

$$e_0=(1.6M_p)/V_p \quad (8)$$

7.6 Effect of Concrete Slab

Research conducted on composite links showed that composite action can increase shear capacity during first few cycles. However composite action deteriorates due to damages in both ends of floor slab.For design purpose the shear strength of slab can be ignored but the over-strength effect should be considered while designing other members to be elastic.

7.7 Link Detailing

Full depth web stiffeners must be placed symmetrically on both sides of the Link web and at the ends. The end stiffeners should have a combined width of not less than (bf-2tw) and thickness not less than 0.75tw or 10 mm whichever is larger. The Link section should satisfy the plastic requirement as specified for special moment frames. The Link needs to be stiffened against web buckling as well as flange buckling.

7.8 Beam outside of Link

The Link end moment has to be borne by the beam outside of Link. The Link end moment should be calculated with a factor of 1.1 applied to RVy.The beam is likely to carry significant axial force. Hence the compression flange has to be protected against buckling. For this 2% of flange nominal strength can be considered. Typical beam –wall connection is shown in Figure 11.

7.9 Capacity design of other Structural Components

Links are designed as fuses and are sized to resist design seismic forces. All other elements of the system are then designed for forces generated by the actual capacity of the links. The Link has to plastify and other elements are designed to be elastic. The capacity design concept thus requires computation of link strength is not only based on expected yield strength of steel but also includes the consideration of strain hardening and over-strength due to the composite action of the slab.

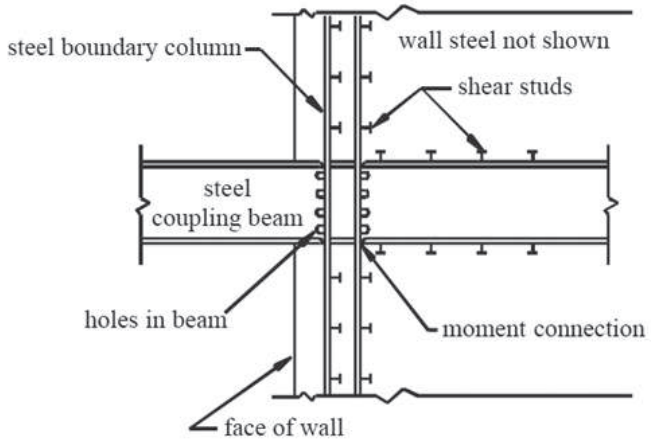


Figure 11 Typical beam wall connections

8 COMPARITIVE PERFORMANCE

The performance limitation of conventionally beams, the principal reinforcement were provided along the diagonals . Figure 5 showed the model of such a beam; such beams have shown excellent stable hysteresis loops under reversed cyclic loads for RCC structures. Typical arrangement of such reinforcement for an example coupling beam was also shown in Figure 5. The concept of Link Fuse beam was discussed in detail in section 7. Figure 12 presents the performance in terms of cumulative ductility and shows superior performance of Link beams

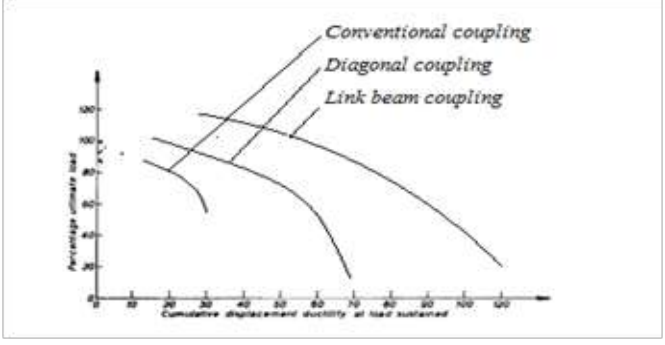


Figure 12 Superior performance of Link Beams

9 CONCLUSSION

The principles of design of seismic resistant systems for tall buildings were discussed. The behaviour of Link beams was analyzed. Finally, the principles for the design of tall coupled shear walls system using concept of composite Link beams has been explained. The superior performance of steel-concrete composite systems for seismic resistance using the link beam in the form of a structural fuse was presented. Such systems holds promise to be adopted in India.

திரு. S.D. கண்ணன்
Taxation Committee

File your Income-tax returns before due date if you have any losses...

The due date for filing your Income-tax returns is fast approaching.

Many think that only if you have Income you need to file your Income-tax returns on time. But the fact is even if you are facing losses, it becomes important to file your returns on time, on or before the statutory due date.

There might be instances your business would have suffered losses during the year or you might have incurred losses in your Shares, Securities & Mutual Fund Trading / Investments. Income-tax Act is giving you a benefit in the form of carry forward of losses to the subsequent year and adjust the same against your profits incurred in the forthcoming years. This way you can save taxes on the gains you are going to make in the years to come.

In order to avail this great benefit offered by the Income-tax Department, you need to file your Return of Income on or before the due date prescribed by the Income-tax Act, 1961. If you file your Income-tax returns belatedly, you will lose the benefit of carry forward of losses to next year.

Hence ensure you file your Income-tax returns on time & on or before the due dates.

The due dates (Extended) for filing your return of Income for the Financial year 2020-21is as follows:-

Sl. No	Nature of Tax filing	Due date for filing
1	For Salaried Employees, Pensioners, Businessmen who are not covered under mandatory Tax audit, Others having income only from Other sources	30th Sept 2021
2	For Companies, Business where Compulsory Tax audit is applicable	31th Oct 2021(Audit report) 30th Nov 2021 (Returns)

The losses can be carried forward as per details below :-

Sl No	Nature of Losses	No. of years it can be carried forward
1	House Property	8
2	Speculation Loss	4
3	Business Loss	8
4	Short Term / Long Term Capital Gains	8

Other Points to be noted:-

- Depreciation Loss (Unabsorbed Depreciation) can be set off without any time limits
- Business Loss can be set off against the profits of any business or professional income in a subsequent year
- Capital Loss can be set off against only Capital gains
- Long term capital loss can be set off only against Long term capital gains
- Short term capital loss can be set off against any capital gains (Short/Long Term)

Ensure you file your Income tax returns..

To check the tax evasion and also to improve the tax compliance, in Budget proposals 2019, a new Proviso to section 139 of the Income-tax Act has been introduced that assesses should mandatorily file income tax return irrespective of taxable limits as per the following conditions :-

- Deposits of an amount or aggregate amounts exceeding Rs. 1 crore in a Current account maintained with any bank (including co-operative bank accounts) including multiple current accounts.; or
- Expenditure on account of Electricity charges exceeding Rs. 1 lakh; or
- Travel expenditure to foreign country exceeding Rs 2 lakhs either for self or for others; or
- Any claim of deduction under various provisions of section 54 (Exemption from Capital gains under section 54, 54EC, 54F, 54B, 54D, etc.,) towards exemption from Long Term Capital Gains.

File your Income-tax returns correctly Ensure Peace of mind.

The last date for filing Income-tax filing is fast approaching and you must be busy in compiling the details for filing the Income-tax returns. This checklist will be handy for you for compiling the details for your Income-tax returns.

PAN Card

Your PAN Card is the most important document required for filing your Income-tax returns. Quoting your/correct PAN number is the most important first step in filing your Income-tax returns.

Form 16

This document is the Tax Deduction (TDS) Certificate to be issued by the employer. From this year onwards, this TDS certificate needs to be downloaded from TRACES (Income tax Website) and to be certified by the employer using his digital signature (or) Manual Certification. The Form 16 will have two parts. Part A is the Tax deduction Certificate to be downloaded from TRACES website and Part B will give the detailed Salary break up and the Computation of tax thereon. Also ensure that your PAN number is correctly incorporated in the Form 16.

Form 16A

If you have income from Interest on Fixed Deposits from banks, financial institutions and the bank/financial institution has deducted tax there on, they must have issued a Tax Deduction Certificate (TDS Certificate) in Form 16A. This form should also be mandatorily downloaded from the TRACES (Income-tax) Website. Also ensure that your PAN number is correctly mentioned in the Form 16A.

Bank Account Details

Till last year, the Bank account number and MICR code of the branch was required to be mentioned in the return of Income. From this year, instead of MICR code, we need to provide IFSC code of the bank along with the bank account number. An easy place to find the same is the Cheque Book. In most of the banks, in the cheque leaves, these information will be present and the same is required for e filing.

Details of other Income

Details of other income which are chargeable to tax such as Savings Bank Interest, Interest on Fixed Deposits, Capital Gains, Rental Income, etc..

Others

In case you have any income exempted from Income-tax, do not forget to declare the same in the exempted income field in the Income-tax returns. Also note if you have exempted income exceeding Rs. 5000/-, you cannot use ITR-1 form.

If you have paid any advance tax during the financial year, do not forget to claim the same by providing the Challan Identification Numbers in you return for claiming the same against your Income-tax Liability.

Ensure that you provide your current/correct address, email id & Phone number in your return.

Form 26AS – Last but not the least

Before filing your Income-tax, please ensure that you check the following in Form 26-AS :-

- Your Salary Income & TDS there on is appearing correctly and matching with the Form 16 available with you.
- Form 26AS will display the Interest on Fixed Deposit & other payments on which tax has been deducted at source. Ensure both the income & TDS there on has been included in your return of Income.
- Few banks and financial institutions follow the practice of filing details of Interest payments for which tax has not been deducted in view of submission of Form 15 G/15 H. Even-though tax is not deducted on the same do not forget that these income are chargeable to tax & include the same your return of income.
- If you have got an Income-tax refund last year along with interest, ensure that the Interest on Income-tax refund is declared in the "Income from other sources" as the Interest on Income-tax refund is chargeable to tax.
- Ensure that all the TDS, Advance tax payments are correctly matching as per the Form 16 / Form 16A / Advance Tax Challans available with you. If you find any missing figures in the Form 26AS, the tax credit will be given to you for the same and you may have to pay the tax not credited in your Form 26AS.

How to view the Form 26AS

1. Form 26AS can be viewed by logging in to the Income-tax e filing website using your login credentials.
2. Another easy way of viewing the Form 26AS is your online banking account. Most of the banks which are offering Online / Net Banking facility offer the facility to view your tax credits against your PAN. Log in to your net banking and click the Link "View Tax Credit/26AS" which will give you the complete details with regard to Form 26AS.

Transactions Tracked by Income Tax Department

Taxpayers need to keep in mind high-value transactions they made while filing their income tax returns.

The income tax department is using analytics to scrutinize data to find out people who have not filed income tax returns (ITR) or under-reported income despite doing a high-value transaction.

Let's understand what these high-value transactions are and how the income tax department gets information about them.

- **Cash Deposits in Banks** : Banks/Post offices will have to report cash deposits aggregating Rs 10 lakh or more in a financial year in one or more accounts *(other than Current Account / Time Deposit)* of a person.
- **Term Deposits in Banks** : Banks/Post offices will have to report cash deposits aggregating Rs 10 lakh or more in a financial year in one or more Time Deposit accounts of a person .
- **Deposits in Current Accounts** : Banks will have to report cash deposits or withdrawals aggregating to Rs 50 lakh or more in a financial year in one or more Current Account of a person.
- **Immovable Property** : The Registrar of properties will have to report purchase & sale of all immovable property exceeding Rs 30 Lakh to the Income Tax authorities.
- **Persons liable for audit u/s 44 AD** : The persons will be required to inform the tax department of receipt of cash payment exceeding Rs 2 lakh for sale of any goods or services.
- Banks will have to report any cash payment of Rs 10 lakh or more in a financial year for purchase of **bank drafts** or **pre-paid instrument** issued by RBI.
- **Credit Card Bill Payments**: Banks will have to report if you make Credit Card bill payments of more than Rs 1 Lakh per annum in cash mode (or) more than Rs 10 Lakh through Cheques / RTGS etc.
- **Investments in Financial Securities**: A company has to report receipt of Rs 10 lakh or more from a person/an investor in a financial year for acquiring bonds, debentures, shares or mutual funds.

Statement of Financial Transactions

Reporting Authorities like banks, post office, Registrars, companies are required to intimate about high value transactions to Director of Income-tax by filing Form 61A called Statement of Financial Transaction. Through this Income-tax Department comes to know about your high-value transactions and then it checks whether such person has filed return of income or not. If return is filed whether income disclosed is true and taxes have been paid correctly or not.

FOR DETAILS AND CLARIFICATION PLEASE MAIL US @ Sakthiservices2011@gmail.com
Mobile: 9884071956

QUALITY ASSURANCE For CEMENT PLASTERING

Plastering is a process of applying one or more coats of mortar to a concrete surface, brickwork, stone masonry or lathing. It must be durable such that it resists the penetration of moisture and should be able to weather uniformly. It should also be pleasing in appearance. These properties depend upon materials used, composition of mix, and degree of mechanical bond between the plaster and the backing surface and workmanship.

Surface preparation: The joint shall be raked to a depth of 15 mm for brickwork and 20 mm for stonework. For new work, where subsequantant plastering is to be done, the raking of joints shall be done during the progress of the work, when the mortar is still green. Dust or mortar powder (loose mortar) shall be washed out. The whole surface shall be thoroughly cleaned and brushing and scrapping shall remove efflorescence, if any. The surface thoroughly washed with water, cleaned and kept vet for the day previous and up to the time start the work is started, and shall be kept very damp during the progress of the plastering.

Bonding: Cement mortar has two types of bonds with its backing one being mechanical in which the mortar squeezes into the irregularities and gets interlocked when hardened and other due to the adhesive property of Portland cement on hardening. The degree of bond will therefore depend on the roughness of surface to be treated and the quality of cement and sand used in preparation of mortar.

Concrete surface: All monolithic concrete walls should be roughened by hacking at close intervals with bush hammers or with a chisel and hammer and then washed thoroughly with water to remove all dirt and loose particles. Monolithic concrete can be roughened with a heavy wire brush or a special scouring tool if forms are removed early.

Forms for concrete, that is to receive plaster, should not be given excessive mould oil coating. as it is likely to remain on the concrete, interfering with the bond. Special care must be taken to remove the mould oil coating before plaster is applied. Curing compound if used should also be removed completely before commencing the plaster work.

Brick and stone masonry: There are excellent bases for direct application of cement plaster. The surface should be hard, rough and clean. The joints should be racked. It may be desirable to roughen with a pick or a similar sharp tool if the surface of stone is too smooth.

Tools for plastering: Following tools are used for plastering, Gauging trowel, floats, floating rule, plumb bob, straight edge, bushes, set square, sprit level, scratcher, plumb rules etc.

Material: Sand cement mortar of specified mix shall be used.

Situation	Mix	Thickness
Ordinary buildings	1:6	13 mm
Important buildings	1:4	13 mm
Drain, skirting, dados, etc.	1:3	13 mm for drains,19mm for skirting and dados
Septic tanks, reservoirs etc.	1:2	19 mm

Mortar: Cement mixed with fine aggregate should produce smooth, plastic, cohesive, strong and workable mortar. Cement plaster shall unless other wise specified, to be the following proportion and thicknesses. The mortar of specified mix shall be used.

Cement: At present 33 grade and high grade cement such as 43 grade and 53 grade are being used. These are essentially recommended for use in concrete. It is also used in masonry and plastering work.

Fine aggregate: Sand must be clean, sharp, suitably graded, and free from all deleterious and impure matter. Deleterious materials beyond a certain limit adversely affect the hardening, strength, durability or the appearance of the plaster or causes corrosion of metal lathing or other metal in contact with plaster.

Grading of Sand: Most suitable particle size grading of sand plasterwork for internal and external walls and ceiling is given below:

IS Sieve	% passing
10.0 mm	100
4.75 mm	95-100
2.36 mm	95-100
1.18 mm	90-100
600 micron	80-100
300 micron	20-65
150 micron	00-50

Water: Water used in plasterwork should be of quality suitable for drinking purpose. It should be free from chlorides and organic impurities.

Water proofing compound: Generally, they are not required specially if correct type and quality of other materials of mortar are available. Where it is used, it should disperse uniformly and mixed properly in mortar.

Workability admixtures: Plasticizers can be used in warm or hot weather condition as desired with field requirements.

Scaffolding: It is always advisable to provide double scaffolding for plastering work. It is easier to fix and remove at various heights without damaging the masonry or plaster.

Mixing of ingredients of plaster: It is preferable to mix the ingredients in a mixer. Dry mortar is mixed initially and thereafter water is added to the dry mix to get the required consistency. It is observed that excess mortar is often prepared and not utilised in time. The workers even break for lunch leaving the wet mixed mortar to dry out. Water is again added resulting in lower strength and more shrinkage problem.

The quantity of the mortar made at a time should be such that it can be consumed within 30 minutes. Any mortar that falls to the ground in the process of application, it is thrown away and on no account re used. If excess mortar is prepared it dries up either due to evaporation of water or due to water absorption by sand and / or due to water consumed by cement hydration. Addition of water should be carefully monitored and should be added in such a quantity that it gives the required workability

Application of plaster: The walls shall be prepared as above and rendered with a mortar of cement and fine sand

in specified proportions. At suitable intervals, 15 cm x 15 cm mortar squares to full thickness of base coat shall be first laid to serve as a guide to ensure a plane, smooth layer of plaster over the entire surface of the wall.

The mortar shall be dashed against the surface to be plastered with considerable forced, and shall be thoroughly worked into all joints and other surface depressions, to ensure a permanent bond. The plaster surface will be roughened and not beaten.

Ceiling plaster shall be completed before commencement of the wall plastering. Plastering shall be started from the top and worked down, filling all putlog holes in advance of the plastering as the scaffolding is being taken down.

All corners arise, angles and junctions shall be truly vertical or horizontal as the case may be, and shall be carefully finished. Rounding or chamfering corners, arises, junctions, etc., where required, shall be carried out with proper templates to the required sizes.

At the end of the day suspending plastering work shall be left cut clean to line both horizontally and vertically. Horizontal joints in plasterwork shall not occur on parapet tops and copings.

Coats for plastering

Scratch coat: The thickness of this coat should approximately 10 mm to 12.5 mm and must be laid over the full length of the wall or the natural breaking points like doors and windows.

Base coat (In case of thick plaster): The surface of scratch coat should be dampened evenly before base coat is applied. This coat is about 10 mm thick depending upon the overall thickness and then roughened with a wooden float to provide bond for the finishing coat. The second coat must be damp- cured for at least seven days and then allowed to become dry.

Finishing coat: Before this coat is applied, the base cat is dampened evenly. Joints should be avoided and the finishing coat should be applied in one operation with thickness not exceeding 6 mm.

External Plaster: The external plaster is made in richer cement mortar proportion than the internal plaster. It is usually done in two layers. First layer is of 10 to 12.5 mm and final layer is of 6mm thickness. Waterproofing compound may be added in case the plaster is exposed to severe wet conditions. The finish can be of the type specified.

Internal Plaster: The internal plaster is usually done in single layers of 12.5 mm.

Finish: The plaster shall be finished to a true and plumb surface and to the required degree of smoothness. The work shall be tested frequently as it precedes with a true straight edge not less than 2.5 m long and with plumb bobs. All horizontal surfaces shall be tested with a level and all jambs and corners with plumb bob as the work proceeds.

Plaster finishes: There are four different types of finishes that can be obtained with cement plaster.

Smooth finish: When a smooth finish is desired, the minimum amount of working should be applied to the wetted surface and the wooden float, rather than a steel trowel is to be used.

Roughcast finish: This finish suitable for rural or coastal areas and the sever conditions of exposure. This is a finish, which is splashed on to the surface as a wet mix and left rough. The maximum sizes of sand, crushed stone or gravel vary from 12.5 mm to 6.3 mm.

Pebbledash finish: This is most durable of all finishes and is generally free from defects. This gives a rough texture and is obtained by means of small pebbles or crushed stone, graded from 12.5 mm to 6.3 mm being splashed on to a fresh coat of mortar and left exposed. This pebbles or stones are some times lightly pressed or tapped in to the mortar.

Textured finishes: Textured finishes are now becoming very popular and may be obtained in a variety of ways in many different designs. Special effects can be obtained by scraping the surface of the rendering with a straight edge hacksaw blade or with the edge of a steel trowel.

Curing: Curing shall be started 24 hours after finishing the plaster. The plaster shall be kept wet for 7 days during which period it shall be suitably protected from all damages at the contractor's expenses by such means as the Engineer may approve. The dates of plaster shall be legibly marked on the various sections of the wall so that curing for the specified period thereafter can be watched.

Defects in plastering

- **Cracks:** Appear on the plastered surface in the form of hair cracks or wider cracks. Its due to old surface is not properly dressed, bad workman ship, and due to expansion and shrinkage in plaster coat during drying.
- **Efflorescence:** Some time soluble salts are present in plaster making materials or bricks. They appear on the plastered surface in whitish patches and produced ugly appearance. It may remove by brushing and washing the surface several times.
- **Blistering of plastered surface**: Small patches swell out beyond the plastered surface like boils.
- **Falling out of plaster:** Due to excessive thermal variation in plaster, Inadequate bonding between coats of plaster, and due to imperfect adhesion of the plaster to the back ground.
- **Discoloration:** The usual causes of discoloration in plaster are to variation in the cement and water content of mortar from place to place, uneven suction of the backing and un-uniform curing and inadequate mixing of the material resulting in lack of uniformity.

The contents of this pamphlet are for guidance only and are not statutory. It also does not supersede any existing instructions from Railway Board, RDSO and Zonal Railways & the provisions of IRWM, BIS Code and reports on the subject.

If you have any suggestion & comments on contents of the pamphlet, please write to: Director (Civil), CAMTECH, Maharajpur, Gwalior (M.P) – 474 020

ABSTRACT

The Tamil Nadu Business Facilitation Act, 2018 (Tamil Nadu Act 7 of 2018) – Amendment to the Tamil Nadu Business Facilitation Rules, 2017- Notified.

Industries (MIB.1) Department

G.O.(Ms) No.197 **Dated:13.08.2021**
ஆடி 28, பிலவ வருடம், திருவள்ளுவர் ஆண்டு–2052

Read:

1. G.O.(Ms) No.135, Industries (MIB.1) Department, Dated 28.10.2017.
2. G.O.(Ms) No.23, Industries (MIB.1) Departmen,t dated 15.3.2018.
3. G.O.(Ms) No.124, Industries (MIB.1) Department, Dated 13.6.2019.
4. G.O.(Ms) No.131, Industries (MIB.1) Department, Dated 12.6.2020.
5. G.O.(Ms) No.17, Industries (MIB.1) Department, Dated 27.1.2021.
6. From the Guidance, E-mail dated:10.8.2021.
7. G.O.(Ms) No.196, Industries (MIB.1) Department Dated 13.8.2021.

*****

ORDER:

The Notification appended to this order will be published in the Tamil Nadu Government Gazette Extraordinary, dated the 13th August 2021.

2. The Works Manager, Government Central Press, Chennai – 79 is requested to publish the Notification in the Tamil Nadu Government Gazette Extraordinary, dated the 13th August 2021 and send 200 copies to Government in Industries Department.

(BY ORDER OF THE GOVERNOR)

N. MURUGANANDAM
PRINCIPAL SECRETARY TO GOVERNMENT

APPENDIX.

NOTIFICATION.

In exercise of the powers conferred by sub-section (1) of section 34 of the Tamil Nadu Business Facilitation Act, 2018 (Tamil Nadu Act 7 of 2018), the Governor of Tamil Nadu hereby makes the following amendments to the Tamil Nadu Business Facilitation Rules, 2017, namely:-

AMENDMENTS.

In the said Rules,-

in ANNEXURE 2,-

(i) under the heading "2.2 Pre-Operations State Clearances", in the tabular column, for the entries in S.Nos.2.2.2 and 2.2.9 in column (1), and the entries relating thereto in columns (2), (3) and (4), the following entries shall, respectively, be substituted, namely:-

(1)	(2)	(3)	(4)
"2.2.2	Registration of Principal Employer Establishments for Employing Contractual Workmen under rule 18 (1) of 'Tamil Nadu Contract Labour (Regulation and Abolition) Rules, 1975'	Labour Department and Directorate of Industrial Safety and Health (DISH)	7 days
2.2.9	Registration of Principal Employer Establishments for Employing Inter-State Migrant Workmen under Rule 4 of the Inter State Migrant Workmen (Regulation of Employment and conditions of services) (Tamil Nadu) Rules, 1983	Labour Department and Directorate of Industrial Safety and Health (DISH)	7 days".

(ii) under the heading "2.5 Other Clearances and Renewals", in the tabular column,-

(a) for the entries in S.Nos.2.5.8, 2.5.9, 2.5.51 and 2.5.52 in column (1), and the entries relating thereto in columns (2), (3) and (4), the following entries shall, respectively, be substituted, namely:-

(1)	(2)	(3)	(4)
2.5.8	Approval for Boiler Erector / Repairer from Directorate of Boilers under Rule 48 of 'Tamil Nadu Boilers Rules, 1972'	Directorate of Boilers	22 Days
2.5.9	Renewal of Approval for Boiler Erector / Repairer from Directorate of Boilers under Rule 48 of 'Tamil Nadu Boilers Rules, 1972'	Directorate of Boilers	7 Days

2.5.51	Permission for installation of over-ground telecom infrastructure	District Collector/ Commissioner of Greater Chennai Corporation	15 days
2.5.52	Renewal of Permission for installation of over-ground telecom infrastructure		

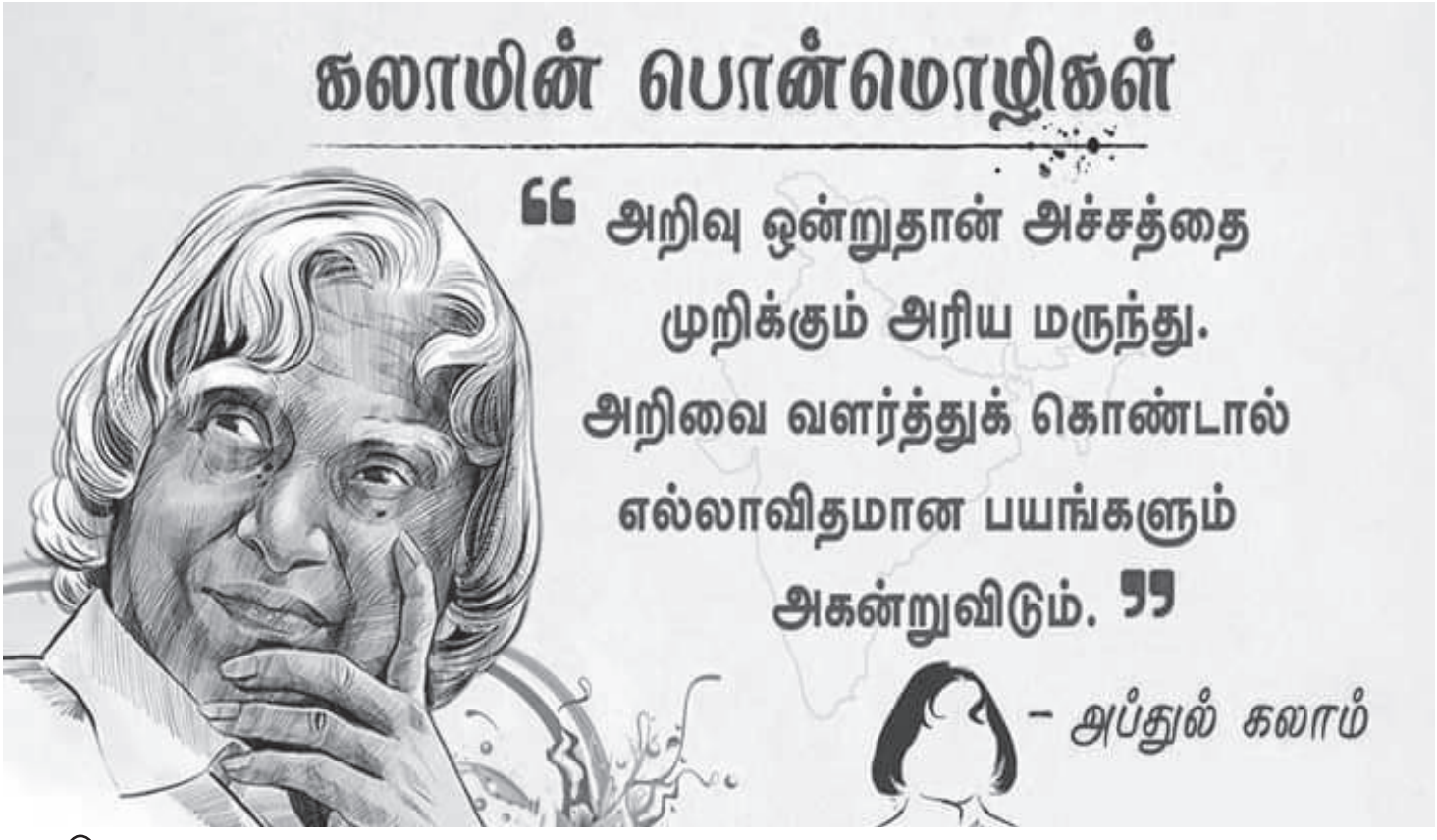
(b) after Serial Number 2.5.104 in column (1), and the entries relating thereto in columns (2), (3) and (4), the following entries shall, respectively, be added, namely:-

(1)	(2)	(3)	(4)
2.5.105	Sewer Connections for commercial establishments, under section 56 of the Chennai Metropolitan Water Supply and Sewerage Act, 1978	Chennai Metropolitan Water Supply and Sewerage Board	• For issue of Sanction order - 7 days. • For effecting connection - 21 days
2.5.106	Application for New Entrepreneur-cum-Enterprise Development Scheme (NEEDS)	Commissionerate of Industries and Commerce	• Sanction of individual based subsidy / Interest subvention - 30 days • Disbursement after the issue of valid sanction order / letter, subject to the availability of necessary funds – 15 days
2.5.107	Application for Unemployed Youth Employment Generation Programme (UYEGP)		• Sanction of individual based subsidy - 30 days • Disbursement after the issue of valid sanction order / letter, subject to the availability of necessary funds – 15 days
2.5.108	Approval for Promotion of Energy Audit and Conservation of Energy (PEACE)- Energy Audit and Incentive for Implementation		• Sanction of Incentive - 30 days • Disbursement after the issue of valid sanction order / letter, subject to the availability of necessary funds - 15 days
2.5.109	Issue of Assessment Number for Property Tax under section 100 of 'The Chennai City Municipal Corporation Act, 1919'	Greater Chennai Corporation	30 days
	Issue of Assessment Number for Property Tax under Section 81-A of 'The Tamil Nadu District Municipalities Act, 1920'	Urban Local Bodies	30 days
2.5.110	Name transfer of Property under section 106 of 'The Chennai City Municipal Corporation Act, 1919'	Greater Chennai Corporation	15 days
	Name transfer of Property under section 88 of 'The Tamil Nadu District Municipalities Act, 1920'	Urban Local Bodies	15 days

(1)	(2)	(3)	(4)
2.5.111	Registration of Company Tax under section 110 of 'The Chennai City Municipal Corporation Act, 1919'	Greater Chennai Corporation	1 day
2.5.112	No Objection Certificate pertaining to Sanitary for School	Urban Local Bodies	30 days
2.5.113	Sewer Connection for Commercial Establishments under section 139 of 'The Tamil Nadu District Municipalities Act, 1920'	Urban Local Bodies	30 days
2.5.114	Certified copy of property document	Registration Department	3 days
2.5.115	Permission to erect the Lift under Rule 3 of 'Tamil Nadu Lifts and Escalators Rules 1997'	Electrical Inspectorate - Government of Tamil Nadu	30 days
2.5.116	License for working of new lift under Rule 4 of 'Tamil Nadu Lifts and Escalators Rules 1997'		30 days
2.5.117	Permission for making additions / alterations to existing lift under Rule 3 of 'Tamil Nadu Lifts and Escalators Rules 1997'		30 days
2.5.118	Registration under Section 4 of The Tamil Nadu Catering Establishments Act, 1958'	Labour Department	7 Days
2.5.119	Registration under Rule 5 of The Tamil Nadu Motor Transport Workers' Rule, 1965'	Labour Department	15 Days
2.5.120	Renewal under Section 3-A of The Tamil Nadu Catering Establishments Act, 1958'	Labour Department	3 Days
2.5.121	Amendment under Section 5 of 'The Tamil Nadu Catering Establishment Act, 1958'	Labour Department	3 Days
2.5.122	Closure under Section 6 of 'The Tamil Nadu Catering Establishment Act, 1958'	Labour Department	30 Days
2.5.123	Dealer License Amendment under Rule 11 of 'The Tamil Nadu Legal Metrology (Enforcement) Rules, 2011'	Labour Department	7 Days
2.5.124	Issuance of Certificate not covered under the 'Drugs and Cosmetics Act,1940' – Without Product: Issue of Validity Certificate, Issue of Good Manufacturing Practice Certificate, Issue of Manufacturing and Market Standing Certificate, Issue of Non Conviction Certificate, Issue of Performance Certificate, Quality & Capacity Certificate, Good Laboratory Practice Certificate, Others	Food Safety and Drug Administration Department	• Where inspection is not required- 20 days • Where inspection is required- 30 days
2.5.125	Issuance of Certificate not covered under the 'Drugs and Cosmetics Act,1940'-With Product: Issue of Manufacturing and Market Standing Certificate, Issue of Non-	Food Safety and Drug Administration Department	• Where inspection is not required- 20 days • Where inspection is required- 30 days

(1)	(2)	(3)	(4)
	Cancellation Certificate, Issue of Performance Certificate, Quality & Capacity Certificate, Others		
2.5.126	Transfer of Vehicle Registration under Rule 114 of Tamil Nadu Motor Vehicle Rules, 1989	Commissionerate of Transport	3 days
2.5.127	Issue of Vehicle Fitness Certificate under Rule 116 of Tamil Nadu Motor Vehicles Rules, 1989	Commissionerate of Transport	1 day
2.5.128	Certificate of recognition to schools under Rule 12 of the Tamil Nadu Right of Children to Free and Compulsory Education Rules, 2011	Department of School Education	90 days"

N. MURUGANANDAM
PRINCIPAL SECRETARY TO GOVERNMENT



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நாங்கிநேரி தொகுதியிலிருந்து சட்டமன்ற உறுப்பினராக தேர்ந்தெடுக்கப்பட்ட திரு. ரூபி. மனோகரன் அவர்கள் தென்னக மய்யத்தின் ஐந்தாவது செயற்குழு கூட்டத்தில் கவுரவிக்கப்பட்டார்

UNDERSTANDING OF COCONUT TREE, FRUITS AND ITS USE FOR HUMAN LIFE

DR. Colonel.
P Nallathambi
Ph.D (Structural Engg),
ME, MBA, FIE, FIV)

Introduction

The name coconut is derived from the 16th century, Portuguese and Spanish word coco, meaning 'head' or 'skull' after the three indentations on the coconut shell that resemble facial features. It is also beloved that the coconut got its name from European explorers who called it "coco," which means hobgoblin (ghost) because the three dots on the shell looked like a spooky face. The three holes on a coconut are germination pores where the seedlings would eventually emerge. “Velocius quam asparagi coquantur,” coined by Roman emperor Augustus, means “faster than cooking asparagus!”. Coco and coconut apparently came from 1521 encounters by Portuguese and Spanish explorers with Pacific islanders, with the coconut shell reminding them of a ghost or witch in Portuguese folklore called coco. Coconut palms (Cocos nucifera) have an iconic tropical appearance, with tall, slender trunks topped with graceful green leaves. Few believe that Coconuts probably originated somewhere in Indo-Malaya. This palm tree is native to Malasia and found in Southeast Asia, India, Indonesia, and some pacific islands are one of the most important crops of the tropics. Coconut flesh is high in fat and can be dried or consumed fresh.

The usefulness of Coconut Tree to Human Life.

The coconut palm is known as the "tree of life" because it is one of the most useful trees in the world. It provides food, fuel, cosmetics, folk medicine and building materials, among many other uses. The inner flesh of the mature seed, as well as the coconut milk extracted from it, form a regular part of the diets of many people in the tropics and subtropics. Coconuts are distinct from other fruits because their endosperm contains a large quantity of clear liquid, called coconut water or coconut juice. They add visual impact to a landscape and also produce edible coconut fruits. In the right warm and temperate growing conditions, coconut palms grow relatively easily. Coir is the fibrous material found between the hard, internal shell and the outer coat of a coconut.

Coconut plant is a valuable source of commodities for human life, the water of tender coconut technically the liquid endosperm, is the most nutritious wholesome beverage that nature has provided for the people of the tropics to fight the sultry heat. The nut is the most marketable part, the inner part of the nut (endosperm) has two edible parts: a white kernel and a clear liquid called coconut water. The cavity within the kernel contains coconut water begins to form as a gel when the coconut is 5 to 6 months old, becomes harder and whiter as coconut matures, and the inside is filled with coconut water. An immature coconut between six to nine months contains about 750 ml of water that eventually becomes the flesh. The coconut fruit takes 11 to 12 months to reach maturity. During the fifth month, the kernel begins to form a thin layer of jelly around the inside of the endosperm or shell.

Various Parts of Coconut Tree.

One of the most useful plants is the coconut palm, Cocos nucifera, which is grown around the world in lowland tropical and subtropical habitats. From this species, one can get many natural products, including foods, drinks, fibers, building materials, and chemicals. The plant is a feather palm, which means that the leaves are pinnately compound (like a feather); these leaves are frequently used in thatching. The long trunk of the tree is used for building supports. Coconut palms are an excellent source of food for native peoples in the tropics. Fruits are rich in calories and essential vitamins. This fiber is called the coir and is used for making mats and rope. The shell is used for containers and is widely employed by artisans to make ornaments and decorations. The solid endosperm, copra, is harvested, dried, and then pressed to release the oil, widely used for chief ingredients of shampoo and hair conditioners.

Root The palm has adventitious roots continually produced from the base of the trunk, which is the swollen part or termed 'bole'. It has no taproot or root hairs but has lots of primary roots which bear large quantities of rootlets. The main roots grow out somewhat horizontally from the bole and are mostly found within the topsoil. The main branches grow deeper and may extend laterally to as much as 10m. The roots, having no cambium, are noticeably uniform, the main roots reaching a maximum diameter of about 1 cm. The root tip is the actively growing region and behind it is the absorbing area whose epidermis is a single layer of thin-walled cells that gradually thicken and become impervious with age. In old roots, the epidermis disintegrates and exposes the hard hypodermis which is generally red. The root centre has a stele surrounded by a single-celled pericycle sheath from which rootlets and parenchymatous (respiratory exchange) protuberances or pneumatophores arise. The respiratory exchange occurs more abundantly nearer the soil surface to allow easy diffusion of the root.

Stem. The stem is also called a trunk. It is unbranched, erect, stout and cylindrical. The leaf base encircles the stem as they have scars with pit mark on the trunk. The scars are helpful in determining the age of the tree. Based on these 12 to 14 scars, the age can be computed for a year. First few years there is increased growth in the thickness of the stem. The girth remains uniform for several years and finally tapers in growth when the tree grows very old. The trunk carries a big crown with large sized leaves and bunches of fruits. Coconut stem has a much more fibrous grain than mahogany (a dark red-brown wood).

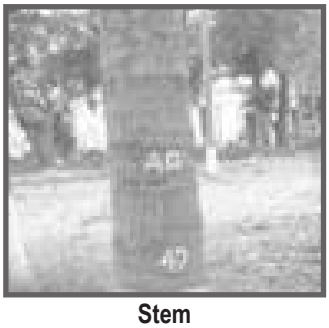
Leaf. The leaves are crowded together at the top of the trunk in the form of a crown. The young leaf appears in the centre of the crown as a pointed structure having all the leaves closely held together. It takes five months for the complete development of a leaf from the time of initiation to its complete emergence. The crown has 15 open leaves, 15 young leaves in different stages of development. The leaf consists of many leaflets arranged obliquely on the mid-rib or rachis. Each leaflet is long, linear, has a strong mid-rib with narrow lamina and

parallel venation. The petiole is flat, very thick, broad and sheathed with fibre at the base and encircles the stem.

Inflorescence. It takes 34 months for the inflorescence to develop from the initiation to the opening of the spathe. The spadix is stout and erect, enclosed by the tough spathe which splits when inflorescence is mature. The axis of the inflorescence is branched, with the branches bearing sessile flowers, both staminate and pistillate. The palm is monoecious with male and female flowers on the same plant. Staminate flowers are small, numerous and are arranged closely on the secondary branches of the inflorescence. They have six perianth lobes in two whorls and the outer perianth are small, the inner perianth is

Parts of Coconut Tree

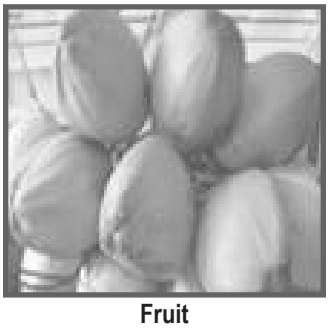
Root



Stem

Leaf

Inflorescence



Fruit

bigger. Stamens are six and plenty of pollen is produced. An abortive pistillate or rudimentary ovary is present in the staminate flower. The pollen grains are spherical in shape and are smooth Pistillate flowers are at about the base of the branches sustained by one or two staminate flowers. They are small spherical structure known as 'button'. Six perianth lobes in two whorls arranged imbricate and more or less of the same size and shape. The perianth is rounded, concave and whitish, the stigma is found at the base of the ovary.

Fruit. Once pollination and fertilization occur, fruits set and develop to maturity in about 12 months, or less than 1 year for some dwarf cultivars. A count of bunch and fruit set can give a reasonable estimate of yield. The fruit is a drupe, having three regions and one-seeded. On the outside is the husk, The fruit is developed from a tricarpellary ovary. The outer layers of pericarp are fibrous, called husk which is initially green but turns brown after being picked and dried. The endocarp is very hard and forms the shell. Within the endocarp, soft white endosperm enclosing inside a big cavity filled with an extracellular fluid called "coconut milk". The thin seed coat and then the white flesh or copra. Both the copra and the milk are the endosperm of this seed. Initially, the milk is fairly sweet and the copra is thin, but as the seed matures, the liquid is converted into solid endosperm rich in oils (triglycerides). The endosperm or the kernel has also contained sucrose, fructose, galactose, glucose and raffinose. The moisture content in the kernel diminishes as the maximum quantity of oil is formed when the nuts are 9-10 months old. The liquid endosperm contains large quantities of cytokine hormone which is useful to grow plants in test tubes from single cells and this develops into embryos.

Coconut Shell. It is the strongest part covered in a coconut fruit. Coconut shell is located in between the coconut flesh and coconut husk. This shell is naturally created to protect the inner part of the coconut. This shell is used to produce various handicraft applies and other applications. The chemical composition of coconut husks consists of cellulose, lignin, pyroligneous acid, gas, charcoal, tar, tannin, and potassium. Coconut is a one-seeded fruit of a tropical tree called Cocos Nucifera. It belongs to the Arecaceae family and grows in a humid and warm climate. The fruit consists of three layers: endocarp, exocarp, and mesocarp. Exocarp is the green and smooth, outermost layer. Mesocarp is the middle fleshy layer of the coconut; the endocarp is the hard and woody layer surrounding the seed.

How Does Water Get Inside the Coconut? (Amazing natures' creation to store water inside the coconut).

Water transport in plants, tall trees (coconut, redwoods etc) centers around osmosis, transpiration pull, adhesion and cohesion forces of water molecules in xylem vessels and tracheids. "Passive, hydraulic redistribution of water from moister to drier portions of the soil profile via plant root systems may have a substantial impact on vertical profiles of soil water distribution, partitioning of water within and among species, and on ecosystem water balance. The recent development of a technique for direct measurement of pressure in individual xylem elements of intact, transpiring plants elicited several challenges to the century-old cohesion–tension theory. The ongoing debate over mechanisms of long-distance water transport has stimulated an intense interest in the phenomenon and mechanisms of embolism repair. Rather than embolism being essentially irreversible, it now appears that there is a dynamic balance between embolism formation and repair throughout the day and that daily release of water from the xylem via cavitation may serve to stabilize leaf water balance by minimizing the temporal imbalance between water supply and demand".

As the coconut freshwater absorbed by the root system flows against gravity through the capillaries is conveyed right up to the crowns of the coconut palms and the nut through osmosis process. Any dissolved salts which exist in the subterranean water automatically get eliminated through this natural filtration. Freshwater that gets accumulated in coconut is actually 'endosperm' or

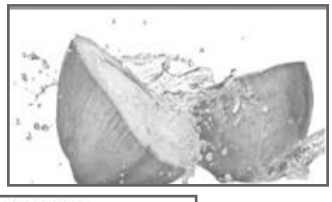
the food or nourishment for the coconut's growth. It is not that nature has provided the only coconut with endosperm. Nature has provided endosperm to seeds of all the fruits in the form of glucose and starch for nourishing the embryo existing in the seed. The nourishing endosperm (tissue that surrounds and nourishes the embryo in the seeds of flowering plants) is in the liquid form in the initial stage of the green coconut. After some weeks the liquid form starts transforming into the creamy tissue that starts depositing on the coconut's inner surface. By the time a soft creamy layer of tissue becomes the hard 'copra', the erstwhile endosperm would have become clean coconut water.

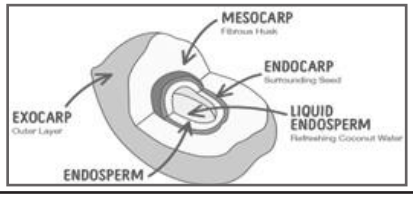
Endosperm part of the coconut plant called coconut water is the most common nutritive tissue for the development of embryos in Angiosperms and develops as post-fertilisation structure from the primary endosperm nucleus. Depending upon the mode of development, three types of endosperm have been recognised as Nuclear, Cellular, Helobial. When the coconut endosperm is a nuclear type, in very young coconut fruit (about 50mm long) the endosperm is found as a clear fluid in which float numerous nuclei of various sizes. This fluid is compactly filling the embryo sac in which the embryo is developing. At a later stage i.e. when the fruit is 100mm long, the suspension shows, in addition to free nuclei, several cells enclosing a variable number of nuclei. Gradually these cells and free nuclei start settling at the periphery of the cavity and layers of cellular endosperm start appearing to forms the coconut meat.

This meat is very tender enclosing the fluid content called coconut water. At this stage, the nut is called tender coconut. The quantity of the cellular endosperm increases further by the divisions of the cells. In mature coconut, the liquid endosperm becomes milky enclosed by the cellular part called kernel and it does not contain free nuclei or cells. The percentages of Arginine, Alanine, Cystine and Serine in the protein are higher than those in cow's milk. At the stage in which the coconut water is consumed, as a beverage, the concentration of sugar is at its maximum and total solids are less when compared with the water found in the nut with the kernel. The principal constituent is the Potash, the concentration of which is markedly influenced by potash manuring. The concentration of ascorbic acid ranges from 2.2 to 3.7 mg/100cc. The concentration is high in the water of green nut with soft pulp and gradually diminishes as the nut ripens.

The Speciality of Coconut Water.

Naturally refreshing, coconut water has a sweet, nutty taste and useful got digestion and metabolism. Calcium, potassium, phosphorus, magnesium, and sodium contribute to the high degree of hydration. It contains easily digested carbohydrates in the form of sugar and electrolytes. Not to be confused with high-fat coconut milk or oil, coconut water is a clear liquid in the fruit's center that is tapped from young, green coconuts. It has fewer calories, less sodium, and more potassium than a sports drink. Ounce per ounce, most unflavored coconut water contains 5.45 calories, 1.3 grams of sugar, 61 milligrams of potassium, and 5.45 milligrams of sodium. In comparison, Gatorade has 6.25 calories, 1.75 grams of sugar, 3.75 milligrams of potassium, and 13.75 milligrams of sodium.





Coconut water in its envelope is sterile and composed of both organic and inorganic compounds which play a vital role in aiding the human body antioxidant system. Inorganic ions are required for normal cellular function and are critical for enzyme activation, bone formation, haemoglobin function, gene expression, and the metabolism of amino acids, lipids and carbohydrates. Coconut water contains a variety of inorganic ions and these ions contribute to the therapeutic value inherent in coconut water. This basic ion composition of coconut can replenish the electrolyte of the human body excreted through sweat such as sodium, potassium, magnesium, and calcium. It can serve as a rehydration drink. The concentration of these electrolytes in coconut water generates an osmotic pressure similar to that observed in the body without disturbing homeostasis.

The shell encloses the tender water, a clear sweet liquid. At this time the water is under pressure. During the ripening process, the pressure is released and the water is partially replaced by the kernel. Little by little, the kernel grows and replaces the water with cells storing lipids. Its composition changes as the nut grow. At full maturity (12 months) coconut water represents between 15% and 30% of the weight of the nut. The amount of coconut water that can be harvested from each nut is about 300ml but depends to a great extent on the stage of maturity and on the variety of coconut. Tender Coconut Water (TCW) comprises 95.5% water, 4% sugars, 0.1% fat, 0.02% calcium, 0.01% phosphorous, 0.5% iron, considerable amounts of amino acids, mineral salts, vitamin B complex vitamin C and cytokines etc. Other components in TCW include sugars, sugar alcohols, lipids, amino acids, nitrogenous compounds, organic acids and enzymes.

Difference Between Coconut Water and Coconut Milk.

The coconut fruit consists of 38% shell, 10% water, and 52% coconut flesh, called coconut meat. Both coconut water and coconut milk come from the edible part of the fruit, called the endosperm tissue. However, they have differences in their products.

Coconut Water. It is a sweet, translucent fluid that one may drink straight from young green coconuts. It comes naturally within the fruit and is referred to as the liquid endosperm. Once young coconuts start to mature, coconut water starts to harden to form coconut meat, known as the solid endosperm. However, the maturation process doesn't fill the entire coconut cavity with the meat, still, find some coconut water in mature coconuts. Coconut water is a refreshing beverage popular for its health-promoting effects.

Coconut Milk. Unlike the water, coconut milk is a

processed coconut by-product. It is made by grating the flesh of mature, brown coconuts and simmering it in hot water. The mixture is then strained to remove any solid remnants. The amount of water used to make the milk determines its consistency, which may be either thick or thin. Thin coconut milk is mostly used as a cow's milk substitute. In contrast, thick coconut milk is usually used as a thickening agent for sauces or traditional recipes in many Indian and Southeast Asian dishes.

Coconuts Can Inspire to Make Stronger Buildings.

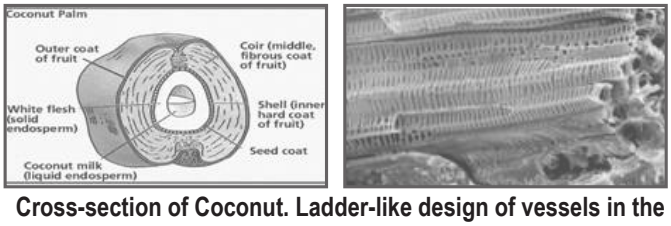
The hard shells of coconuts can hold the key to designing buildings able to withstand earthquakes and other natural disasters. Coconut palms can grow as high as 30m, and when the ripe fruits fall to the ground their walls must protect them from splitting open. Not only do coconuts survive falling from heights of 30m to the ground, but they often travel thousands of miles via ocean waves, still perfectly protected. To protect the internal seed, coconuts have a structure of three layers which allow them to withstand heavy impacts. The hard shells of coconuts could hold the key to designing buildings able to withstand earthquakes and other natural disasters. This specialised structure-property could be applied in architecture and has been working with civil engineers and material scientists to develop new material.

By analysing the fracture behaviour of the samples and combining this with knowledge about the coconut shell's anatomy gained from microscopy and computed tomography, aimed to identify mechanically relevant structures for energy absorption. Newly-developed cracks created by an impact do not run directly through the hard shell but are diverted and stop before the crack separates the fruit. The ladder-like design of vessels in the coconut's inner endocarp layer "dissipates energy via a crack deflection" a process which could inspire architects to create stronger structures / Plant Biomechanics Group Freiburg.

Plant Biomechanist, Stefanie Schmier, believes a similar arrangement of textile fibres within functionally graded concrete could create the same effect. "This combination of lightweight structuring with high energy dissipation capacity is of increasing interest to protect buildings against earthquakes, rockfall and other natural or manmade hazards,". Architects and constructors are increasingly looking at the natural world to create buildings that are stronger and more efficient.

The usefulness of Coconut Tree and Fruit Covers in Construction.

All the parts of coconut can be used in the construction industry. It has many applications as both a structural and interior design material. The harder, high-density timber is suitable for general structural purposes such as pillars, trusses, rafting, furniture, window and door frames, floors, decking and floor joists. Also be used as posts,



Cross-section of Coconut. Ladder-like design of vessels in the coconut

Coconut Shell

power and telecommunication poles, floor tiles (parquet), girts, balustrades, railings and other load-bearing structures. Medium-density coconut timber can be used for walls, ceiling joists and horizontal studs. Low-density coconut timber is used in non-load bearing applications like wood panelling, internal trim and ceilings, as well as homewares. Coconut leaves are used as a roof covering materials suitably. Stem also used as a pile of about 6 - 8m lengths for improving the soil capacity in loose silty-clay soil near beaches. Soil is bored and inserted the coconut tree truck and hammered to support the superstructure. Coconut shell can be crushed and partly replaced with the concrete ingredient. Coconut shell is a lightweight aggregate except for water absorption and there is no treatment is required. Coconut-fiber addition in the concrete increases the many properties of the concrete such as torsion, toughness and notably tensile strength which is the main properties of the concrete. Reinforcement throughout in the concrete which decreases the voids and makes the concrete tougher. As the roots of coconut trees have a fairly strong structure, the roots of coconut trees are often used as a chicken claw or building shield.

The Coconut - Nature's Best Food Packaging Design. The humble and tropically ubiquitous coconut, besides producing one of the tastiest cocktail starters out there, is one the best package design solutions for a perishable food item ever designed by nature. Exploring how to make packaging greener and cleaner, by examining natural models for packaging, innovations in packaging design, and ways in which we can improve how packaging is created and used.

Summary. Coconut tree and fruits are very useful to human life as it has food & medicine value, and useful for many other purposes including in construction. Architects, engineers and constructors are continuously looking from natural (Biomimicing) to create buildings that are more stronger and efficient. Coconut tree and its parts can inspire them. Coconut has been part of us in all routine human life activities. Hence, this paper may be interesting to understand about coconut tree.

ABSTRACT

Urban Development – Reclassification procedures Reducing time limit for reclassification streamlining of procedure - Delegation of powers to Local Planning Authorities – Order issued.

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Housing and Urban Development [UD4(L.Re-1)] Department

G.O.(Ms).No102 **Dated: 18.08.2021**
பிலவ, ஆவணி 2,
திருவள்ளுவர் ஆண்டு 2052

Read:

1. G.O.(Ms)No.94, Housing and Urban Development (UD4(1)) Department, dated 12.06.2009.
2. Government Letter No.8954/UD4-3/2020-1, Housing and Urban Development (UD4(1)) Department, dated 17.08.2020.

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ORDER:

In the Government order 1st read above, orders were issued that the Government will be examining the individual proposals received from the Commissioner of Town and Country Planning and issue an order granting reclassification with or without conditions and then the Local Planning Authorities were delegated with the powers of notifying the variations in the Tamil Nadu Government Gazette, will forthwith issue such variations based on the Government order. The Government with the view of expediting reclassification cases delegated the power of issue of variation notification based on Government orders granting reclassification, to all the Local Planning Authorities.

2. In the letter second read above, based on the request of Director of Town and Country Planning, in order to streamline the process, the Government have instructed the Director of Town and Country Planning to send the reclassification proposals along with draft variation/ reclassification notification to Government, so as to enable the Government itself to publish the same in the Government Gazette to avoid delay in the publication of notification.

3. The Government have however observed that due to certain administrative reasons, the process of notification at Government level to avoid delay is not achieved and it actually consumes more time.

4. The Government have carefully examined, the issue by revisiting the existing procedure for the process of issuing the variation notification relating to conversion of land use in master plan and accordingly hereby issue orders to revert back the power of issue of variation notification based on the Government orders granting reclassification, to all the Local planning Authorities Under section 91 of the Tamil Nadu Town and Country Planning Act, 1971.

5. The Director of Town and Country Planning is directed to issue instructions to all sub-ordinate offices to issue the Gazette notification within fifteen days from the date of issue of Government orders and to ensure that Gazette notifications are published without delay.

(BY ORDER OF THE GOVERNOR)

HITESH KUMAR S MAKWANA
PRINCIPAL SECRETARY TO GOVERNMENT
SECTION OFFICER.

பதிவுத்துறை தலைவர் அலுவலகம்,
சென்னை – 28.

சுற்றறிக்கை

எண்.24129/ C1 / 2021, நாள்.04.08.2021.

பொருள் : ஆவணப்பதிவு – போலி ஆவணப்பதிவினை தடுத்தல் – மாண்புமிகு வணிகவரி மற்றும் பதிவுத்துறை அமைச்சர் அவர்களின் அறிவுரை – ஆவணத்தை எழுதிய ஆவண எழுத்தர்/வழக்கறிஞரின் புகைப்படத்தின் நிழல் பிம்பம் ஆவணத்தின் அச்சுப்பிரதியில் வரும் வண்ணம் ஆவணம் அச்சுப்பிரதி எடுத்தல் – புதிய நடைமுறை கொண்டு வருதல் தொடர்பாக.

பார்வை : 1. பதிவுத்துறை தலைவர் சுற்றறிகைகள் எண். 22154/சி1/2006, நாள்.28.06.2006, 29.06.2006 மற்றும் பதிவுச் சட்டப் பிரிவு 32–A

2. பதிவுத்துறை தலைவர் சுற்றறிகை எண்.44377/சி1/2016, நாள்.08.12.2016.

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1. போலி ஆவணப் பதிவுகளை தடுக்கும் நோக்கில் பார்வை (1)–ல் காணும் ஆணை மூலம் கிரைய ஆவணங்களை பொருத்து எழுதி கொடுப்பவர் மற்றும் எழுதி பெறுபவர் புகைப்படம் மற்றும் இடது பெருவிரல் கைரேகையினை பெறுவது கட்டாயமாக்கப்பட்டதோடு,

இதர வகை ஆவணங்கள் (அடைமானம், குத்தகை, ஏற்பாடு, தானம், உயில், அதிகார ஆவணம் முதலியன) பொருத்து அவ்வாவணத்தை பதிவுக்கு தாக்கல் செய்பவரின் புகைப்படம் மற்றும் கைரேகை பெறுவதும் கட்டாயமாக்கப்பட்டது.

2. பார்வை 2-ல் காணும் ஆணையில் ஆவணத்தினை எழுதி கொடுத்தவரை அடையாளம் காட்டும் சாட்சிய நபரின் (Identifying witness) பெயர், தந்தை பெயர் மற்றும் முகவரி ஆகிய கூடுதல் விவரங்களை பதிவுச் சட்டம் பிரிவு 2(1) மற்றும் பதிவு விதி 82(ii) & (iii)

3. பதிவுச் சட்டத்தில் மேற்கண்டவாறு திருத்தம் செய்த பின்பும் ஆள் மாறாட்டம் மூலம் ஆவணப் பதிவு, ஒரே சொத்தினை இரு நபர்களுக்கு எழுதிக் கொடுத்தல், முதல்வர் பொது அதிகாரத்தை ரத்து செய்த பின் முகவரால் ஆவணம் எழுதி தரப்படுதல், போலியாக முன் ஆவணம், பட்டா, வாரிசுரிமைச் சான்று முதலியவற்றை தயாரித்து ஆவணம் எழுதி தருதல், ஒரு சொத்தானது வங்கியில் பெற்ற கடனை திருப்பி செலுத்தாத நிலையில் SARFAESI சட்டத்தின் கீழ் நடவடிக்கை உள்ள நிலையில் அதை மறைத்து சொத்தை எழுதி தருதல், சொத்தின் உரிமையாளருக்கு பாத்தியப்பட்ட பரப்பை விட அதிக பரப்பை எழுதி தருதல், உரிமையியல் நீதிமன்றத்தால் சொத்தானது வேறு ஒருவருக்கு பாத்தியப்பட்டது என தீர்ப்பு வழங்கப்பட்ட நிலையில் தவறான நபர் எழுதி தருதல், தனக்கு உரிய பங்கினை விட அதிகப்பங்கு விகிதத்தை எழுதி தருதல், உண்மையான மற்ற வாரிசுகளை மறைத்து விட்டு ஓரிரு வாரிசுகள் மட்டும் முழு சொத்தையும் எழுதி தருதல் போன்ற தவறுகள் இன்னும் நடக்கின்றன.

4. தமிழ்நாடு ஆவண எழுத்தர் உரிமம் விதிகள் 1982 விதி 2(d) -ல், ஆவண எழுத்தர் என்பவர் சொத்தின் உரிமை குறித்தும் விசாரித்து எழுத வேண்டும் என தெரிவிக்கப்பட்டுள்ளது. வழக்கறிஞர்களால் ஆவணம் தயாரிக்கப்படும் போதும் அவர்களால் சொத்தின் உரிமை குறித்தும் ஆவணங்கள் சரிபார்க்கப்பட்ட பின்பே ஒரு ஆவணம் ஆனது தயார் செய்யப்படுகிறது. மேற்குறிப்பிடும் உரிம விதி 31 இன் படி ஆவணத்தை தயாரித்த ஆவண எழுத்தரால் அவரின் பெயர், உரிமம் எண் ஆகியவற்றை ஆவணத்தின் இறுதிப்பக்கம் எழுதி அதன் அருகில் அவரால் கையொப்பம் செய்யப்படுகிறது. வழக்கறிஞர்களாளும் இம்முறையே பின்பற்றப்படுகிறது.

5. போலியான ஆவணங்களிலும் ஆவணத்தை தயாரித்தவர் என்ற இடத்தில் ஆவண எழுத்தர் அல்லது வழக்கறிஞர் கையொப்பம் இருந்தாலும் அவை போலியாக இடப்பட்டுள்ள விபரம் நிறைய விசாரணையில் தெரிய வருகின்றது. ஆவணத்தை எழுதியவர் யார் என்ற விபரம் இவ்வகையான ஆவணங்களில் அறிய இயலா நிலை உள்ளது. மாண்புமிகு வணிகவரி மற்றும் பதிவுத்துறை அமைச்சர் அவர்கள் பதிவுத்துறையின் செயல்பாடுகள் குறித்து சீராய்வு செய்த கூட்டங்களில் இவ்விவரம் குறித்து விவாதிக்கப்பட்டு இக் குறைபாட்டை சரிசெய்ய அவர்களால், ஆவணம் தயார் செய்யும் நபர்களின் புகைப்படத்தையும் அவரால் கையொப்பம் செய்யும் இடத்தில் ஒட்ட அறிவுரை வழங்கப்பட்டது இதனால் மாவட்ட பதிவாளர்கள் பதிவுத்துறை தலைவர் சுற்றறிக்கை எண். 41530/யு1/2017, நாள்.08.11.2017 -ல் தெரிவித்துள்ளபடி பதிவு சட்டம் பிரிவு 68 (2)-ன் கீழ் விசாரணை செய்து ஒரு ஆவணத்தை போலி ஆவணம் என முடிவு செய்யும் போது அதனை எழுதித் தந்தவர் யார் என்ற விவரத்தை சரியாக அறிய முடியும். மேலும் எழுதித்

தந்தவருக்கும் இந்த போலி ஆவணம் தயாரிப்பில் ஏதாவது தொடர்பு இருப்பின் அவர்கள் மீதும் உரிய குற்றவியல் நடவடிக்கை மேற்கொள்ள இயலும்.

6. ஆகவே இதனை செயல்படுத்தும் பொருட்டு கீழ்க்கண்டவாறு நடைமுறை வகுத்து உத்தரவிடப்படுகிறது.

(i)ஆவணத்தின் இறுதிப் பக்கத்தில் ஆவணத்தைத் தயார் செய்த ஆவண எழுத்தர் அல்லது வழக்கறிஞர் அவர்களின் பெயர், ஆவண எழுத்தர்/வழக்கறிஞர் உரிமம் எண் கட்டாயம் குறிப்பிடப்பட்டிருக்க வேண்டும். அதனருகில் அவரின் பாஸ்போர்ட் அளவிலான புகைப்படத்தின் ஸ்கேன் செய்யப்பட்ட பிம்பம் அதிலேயே அச்சுப்பிரதியில் வரும் வண்ணம் அச்சுப்பிரதி எடுத்து அதன் அருகில் அவர்களின் கையொப்பம் இடவேண்டும்.

(ii) ஆவணம் எழுதிக் கொடுப்பவரால் பதிவுத்துறையின் இணையதளத்தில் உள்ள வசதியை பயன்படுத்தியோ அல்லது இணையதளத்தில் உள்ள வரைவு ஆவணங்களை பயன்படுத்தியோ ஆவணம் தயாரிக்கும் நிலையில் அவர் அவரின் புகைப்படத்தையும் தயாரித்தவர் என்று கையொப்பம் செய்யுமிடத்தில் அச்சுப் பிரதியில் வரும் வகையில் அச்சுப்பிரதி எடுக்க வேண்டும். இணையதளத்தில் உள்ள வசதியை பயன் படுத்தாமல் சொந்தமாக வரைவு ஆவணம் தயாரிக்கப்பட்டால் அது கண்டிப்பாக ஆவண எழுத்தர் அல்லது வழக்கறிஞரால் மட்டுமே கையொப்பம் இடப்பட்டு இருக்கவேண்டும்.

(iii) ஆவண எழுத்தர் அல்லது வழக்கறிஞரால் அச்சுப்பிரதி எடுக்கப்பட்ட புகைப்படம் அவருடையது இல்லை என சந்தேகம் வரும் நிலையில் அந்த ஆவண எழுத்தரை அல்லது வழக்கறிஞரை அலுவலகத்திற்கு அழைத்து அவரை விசாரித்து அவருடைய புகைப்படம் தான் என உறுதி செய்து பின்பே ஆவணப் பதிவை மேற்கொள்ள சார்பதிவாளர்கள் கோரப்படுகின்றனர். இந்த நடைமுறை 9.8.2021 முதல் நடைமுறைக்கு வருகின்றது. இதனை தவறாது கடைப்பிடித்திட அனைத்து பதிவு அலுவலர்களும் கோரப்படுகின்றனர்.

7. சார்பதிவாளர்கள் இம்முறையை சரியாக பயன்படுத்துகிறார்களா என மாவட்ட பதிவாளர்களும் மற்றும் துணை பதிவுத்துறை தலைவர்களும் உறுதி செய்ய கோரப்படுகிறார்கள். மேலும் இந்தச் சுற்றறிக்கை பெற்றதற்கான ஒப்புதலை அனைத்து சார்பதிவாளர்களிடமிருந்தும் மாவட்ட பதிவாளர்களும் மாவட்ட பதிவாளர்களிடமிருந்து துணை பதிவுத்துறை தலைவர்களும் பெற்று கோர்வை செய்துகொள்ள அறிவுறுத்தப்படுகின்றனர்.

துணை பதிவுத்துறை தலைவர்கள் தங்களின் ஒப்புதலை பதிவுத்துறை தலைவருக்கு அனுப்ப கோரப்படுகின்றனர்.

ஒம்/–04.08.2021

பதிவுத்துறை தலைவர்

/ ஆணையின்படி /

கூடுதல் பதிவுத்துறை தலைவர்

(முத்திரை மற்றும் பதிவு)

பதிவுத்துறை

அனுப்புநர்
பதிவுத்துறை தலைவர்,
பதிவுத்துறை தலைவர் அலுவலகம்,
100, சாந்தோம் நெடுஞ்சாலை,
சென்னை -28.

பெறுநர்
அனைத்து சார்பதிவாளர்கள்

எண்:24221/சிஎஸ்1/18, நாள்:19.8.21

ஐயா,

பொருள்: வில்லங்கச்சான்று வழங்குதல் - விடுதல்கள் -
வரையறுக்கப்பட்ட காலக்கெடுவுக்குள் வழங்குதல் -
e-Sevai மையங்கள் வழி - விண்ணப்பங்கள் -
அறிவுரைகள் - தொடர்பாக.

பார்வை: 1. பதிவுத்துறை தலைவர் ந.க.எண்.54841/சி1/2018-2
நாள்:14.12.2018 மற்றும் 6.8.21

2. CEO,TNeGA Lr.No.K-14/18/2018-CeG/TNeGA, dated:16.821

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பார்வை 1-ல் கண்ட கடிதங்கள் வழி வில்லங்கச்சான்று வழங்கும் போது கடைபிடிக்க வேண்டிய வழிமுறைகள் தெளிவாக வரையறுத்து தரப்பட்டுள்ளன. அவற்றை தவறாது கடைபிடிக்க மீள அறிவுறுத்தப்படுகிறது.

மேலும், பார்வை 2-ல் கடிதவழி 19.8.21 முதல் அனைத்து இ-சேவை மையங்களிலும் வில்லங்கச்சான்று மற்றும் சான்றிட்ட ஆவண நகல் கோரி பொதுமக்கள் நேரடியாக விண்ணப்பிக்கும் வசதி ஏற்படுத்தப்பட்டுள்ளதாக ஆணையர், தமிழ்நாடு மின் ஆளுமை முகமை அவர்கள் தெரிவித்துள்ளார்கள்.

எனவே, பொதுமக்கள் இ-சேவை மையங்கள் வழி நேரடியாக விண்ணப்பிக்கும் விண்ணப்பங்களையும் பார்வை 1-ல் தெரிவிக்கப்பட்ட வழிமுறைகளின்படி மின்னொப்பம் இட்டு உடன் அனுப்பி வைக்க அறிவுறுத்தப்படுகிறது.

பதிவுத்துறைத்தலைவர்க்காக

Tamil Nadu Generation and Distribution Corporation Ltd

(Technical Branch)

144, Anna Salai,
Chennai-600 002.

Memo.No.CE/Coml/SE/EE3/AEE2/F.15mts.ht/FLM-CM/591/2021, dt.21-08-2021.

Sub:- Electricity – Provisions for supply and use of electricity in multi-storeyed building more than 15 metres in height as per the Regulation 36 of the Central Electricity Authority (Measures relating to safety and electric supply) Regulations, 2010 – Clarificatory instructions issued - Regarding.

Ref:- 1.Memo No.CE/Comml/SE/Comml/EE3/AEE2/F.CMDA/D-238/2016, dt.22-06-2016
2.Memo.No.CE/Comml/SE/EE3/AEE2/F.15 mts. ht./D. 58 /18, dt. 01-03-18

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Many complaints are being received that field officials are measuring the height of the building and delaying effecting of service connections on minor issues such as physical verification of the building height for electrical safety compliance as per the Regulation 36 of the Central Electricity Authority (Measures relating to safety and electric supply) Regulations, 2010.

2. In this connection, the following clarificatory instructions are issued to the field for better clarity:

1. If the height of the building as per the planning permission is 15 metres and below and there is no floor violation in the actual construction, the service connection may be effected to that building without any physical measurement of the building height.
2. If the height of the building is more than 15 metres as given in the planning permission / building plan approval, necessary approval from the Electrical Inspector in compliance with CEA (Measures relating to Safety and Electric Supply) Regulations 2010 as amended, shall be obtained from the applicant before effecting service connection.
3. On the other aspects, the provisions contained in the Tamil Nadu Electricity Distribution Code, 2004 and/or Tamil Nadu Electricity Supply Code, 2004 and the relevant instructions issued shall be followed scrupulously without any deviation.

Receipt of the memo shall be acknowledged.

(By the order of the DD/TANGEDCO)

Sd/- XXX XXXX 21/08/2021
CHIEF ENGINEER/COMMERCIAL

ABSTRACT

The Tamil Nadu Business Facilitation Act, 2018 (Tamil Nadu Act 7 of 2018) – Amendment to the Tamil Nadu Business Facilitation Rules, 2017-Notified.

Industries (MIB.1) Department

G.O.(Ms) No.197 **Dated:13.08.2021**
ஆடி 28, பிலவ வருடம்,
திருவள்ளுவர் ஆண்டு–2052

Read:

1. G.O.(Ms) No.135, Industries (MIB.1) Department, Dated 28.10.2017.
2. G.O.(Ms) No.23, Industries (MIB.1) Departmen,t dated 15.3.2018.
3. G.O.(Ms) No.124, Industries (MIB.1) Department, Dated 13.6.2019.
4. G.O.(Ms) No.131, Industries (MIB.1) Department, Dated 12.6.2020.
5. G.O.(Ms) No.17, Industries (MIB.1) Department, Dated 27.1.2021.
6. From the Guidance, E-mail dated:10.8.2021.
7. G.O.(Ms) No.196, Industries (MIB.1) Department Dated 13.8.2021.

*****

ORDER:

The Notification appended to this order will be published in the Tamil Nadu Government Gazette Extraordinary, dated the 13th August 2021.

2. The Works Manager, Government Central Press, Chennai – 79 is requested to publish the Notification in the Tamil Nadu Government Gazette Extraordinary, dated the 13th August 2021 and send 200 copies to Government in Industries Department.

(BY ORDER OF THE GOVERNOR)

N. MURUGANANDAM
PRINCIPAL SECRETARY TO GOVERNMENT

Office of the Director of
Town and Country Planning,
Koyambedu, Chennai-600 107.

Roc.No.4367/2019-TCP2 Dated: 14.8.2021.

CIRCULAR

Sub: Grant of planning permission - Power delegation to district officers of this Directorate – Modified orders issued – Regarding.

Ref

1	Tamil Nadu Combined Development and Building Rules, 2019
2	DTCP Office circular of even No. dated: 7.3.2019 and 14.3.2019.
3	DTCP Office circular of even No. dated: 6.11.2019.
4	Representation from the President, CREDAI, Coimbatore dated 3-8-2021.
5	Representation from the National President, Federation of All India Real Estate Association letter No.033/2021, dated: 25.06.2021.
6	Minutes of the 30th Empowered Committee meeting held on 27.11.2015 in subject no.19.

=====

As per rule, 5 (2) of Tamil Nadu Combined Development and Building Rules. 2019, the competent authority for issue of planning permission in rest of the state is appropriate planning authority delegated by the Director or a local authority or any other officer to whom the power is vested with to carry out certain activities like receiving applications and to issue permission as prescribed in various provisions of these rules.

2. In the circulars in the references 2nd and 3rd cited, the Commissioner of Town and Country Planning and Director of Town and Country Planning have delegated powers to the field officers, for grant of planning permission for buildings, approval of layouts and subdivision of land.

3. In the 4th reference cited, the CREDAI, Coimbatore has represented the Director of Town and Country Planning to consider approval upto 1,00,000 square feet for private buildings and 20 acres of converted residential layout by the Local Planning Authority.

4. In the reference 5th cited, National President, FAIRA has requested for delegation of powers to field officers.

5. Considering the requests of CREDAI, FAIRA and other representations from the General Public, it is felt to delegate more powers to the field level officers for issue of planning permissions for buildings, approval of layouts, subdivision of land, for the benefit of the general public. These increased powers should be exercised in due conformity with all provisions of Master Plan, Detailed Development Plan, Tamil Nadu Combined Development and Building Rules, 2019 and other rules and regulations in force. However, considering the ecological sensitiveness and need for conservation of the notified hill stations wherein Tamil Nadu District Municipalities Hill Station Building Rules, 1993 are in force this power delegation order will not apply.

Therefore, modified power delegations to the district officers of Town and Country Planning are as follows:

(a) Residential, commercial and institutional use non-high-rise category of buildings: One or more blocks when total FSI area of all the buildings put together does not exceed2500 sq.m.However, in any case height of each building should not exceed 18.3m. In respect of building proposals of Tamil Nadu Slum Clearance Board and Tamil Nadu Housing Board except for the proposal of high rise building exceeding 18.3m height all other category of buildings without any restriction of FSI area, permission can be granted by the field officer at his/her level itself by following the rules and regulations.

(b) **In case of Industrial buildings in plots of approved industrial layouts of SIPCOT/SIDCO:** Manufacturing factory shed/sheds having only ground floor upto 10,000 sq.m. of floor area along with additional buildings like office, canteen and any other structure which are for incidental use of the main factory shed/ sheds provided that if the total FSI area of the said additional incidental use buildings put together does not exceed 15% of the total FSI area of the main manufacturing factory shed/ sheds. Provided further that, in no case, height of each building does not exceed 18.3m. In case, if the proposal does not have any main factory shed limiting to only ground floorbut involves buildings having more than one floor, then the district officer can grant permission only when the total FSI area of all buildings put together does not exceed 2500 sq.m. However, in any case height of each building should not exceed 18.3m.

(c) **In case of industrial buildings in plots/ sites other than SIPCOT/SIDCO layouts:** One or more blocks of buildings when the total FSI area of all buildings put together does not exceed 2500 sq.m. and height of each building does not exceed 18.3m.

(d) Building proposals exceeding the limits as specified in items (a), (b) & (c) above shall be forwarded to Commissioner/Director of Town and Country Planning for concurrence.

(e) Annexure-XVIII – Zoning Regulations of the TNCDBR,2019 provides various accessory uses which can be permitted under each land use zone. The district officers are delegated with powers to grant permission for the said accessory uses, if the site complies with corresponding land use zone of the Master Plan/DD Plan subject to the floor area restrictions as pointed out in the items (a), (b) and (c) above.

(f) **Layouts/Sub-divisionof land** to an extent upto 5 acres in respect of urban areas (areas of corporations, municipalities and town panchayats) and upto 10 acres in respect of rural areas (areas of village panchayats). If the layout/sub-division proposal is more than the above limit, then it shall be forwarded to the CTCP/DTCP for approval. In any case, splitting of the site, owned by the same applicant or by an individual who is one of the members of the family of the same applicant, into portions within the above limits of extent for grant of approval in phased manner by the district officer himself is prohibited.

(g) Rule Nos.41(1) and 47(6) of the TNCDBR, 2019 provide that for the proposal of building or layout/sub-division, the applicant can exercise option to pay the amount in guideline value in lieu of allocation of 10% OSR for community recreational purposes, if the site extent is between 3000 sq.m and 10,000 sq.m. In such cases, power is delegated to the district officers to grant permission to pay the amount by the applicant.

(h) Rule No.47(6)(b) of the TNCDBR, 2019 provides for conversion of the use of non-residential use sites of an approved layout which can be considered and decided on its merits when it is proved by the developer that demand for the same does not exist. In this regard, decision of the Empowered Committee at its meeting held on 27.11.2015 vide resolution 6th cited is given as follows:

"The Committee discussed in detail and decided that the Director can issue orders for conversion of use from public purpose (saleable only) to other allowable uses like residential etc., if the following are fulfilled:

a) *The saleable plot / site earmarked for public purpose building has not been developed for the earmarked purpose and lying vacant for at least 5 years from the date of planning permission granted by the Planning Authority.*

b) *The same public purpose facility for which the plot is earmarked i.e., Kalyana Mandapam, Community hall, School, Dispensary etc., is available outside the approved layout within a vicinity of 2 to 3 Kms."*

It is informed that the district officers are delegated with powers to grant permission for such conversion of use proposal at their level itself strictly adhering to the norms prescribed in the above resolution of the Empowered Committee.

(i) Any subsequent additional development over and above the already approved plan, even if within delegated powers, should necessarily be sent to head office for scrutiny/approval.

(j) The above consolidated power delegation note has to be placed before each of the composite local planning authority/ new town development authority at its meeting to be conducted urgently for this purpose and a resolution should be passed immediately adopting the above power delegation. Action taken in this regard along with a copy of resolution should be sent to head office for record. This order comes into force with immediate effect. Receipt of this circular should be acknowledged by return of post.

Sd/- E.Saravanavelraj,
Director of Town and Country Planning

Joint Director

SOUTHERN CENTRE ACTIVITIES

07.08.2021

மாண்புமிகு நிதி மற்றும் மனிதவள மேம்பாட்டு அமைச்சர் அவர்களும், வணிகவரி மற்றும் பதிவுத்துறை அமைச்சர் அவர்களும் 2021-22ம் ஆண்டிற்கான தமிழக அரசின் நிதி நிலை அறிக்கை தயாரிப்பது தொடர்பாக முன் ஆலோசனை நடத்துவதற்கு பல்வேறு வணிக நிறுவனங்களைஅழைத்திருந்தனர். இந்த முன் ஆலோசனைக் கூட்டத்தில் மாநிலத்தலைவர் திரு. R. சிவக்குமார் அவர்களும், மய்ய துணைத்தலைவர் திரு. R.R. ஸ்ரீதர் அவர்களும் நமது அகில இந்திய கட்டுநர் சங்கத்தின் சார்பாக கலந்து கொண்டனர். அன்றே மாநிலத்தலைவர் திரு. R. சிவக்குமார் அவர்கள் தமிழக தொழில்துறை அமைச்சர் மாண்புமிகு திரு. தங்கம் தென்னரசு அவர்களை சந்தித்து நமது கட்டுநர் சங்க உறுப்பினர்களுக்கு குறைந்த விலையில் சிமெண்ட் வழங்க கேட்டுக்கொள்ளும் கோரிக்கை மனுவினை சமர்ப்பித்தார்கள்.

15.08.2021

நமது பாரதத்தின் 75வது சுதந்திரதினமான 15.08.2021 அன்று 8.30 மணிக்கு அகில இந்திய முன்னாள் தலைவரும் காப்பாளருமான பீஷ்மா திரு. R. இராதாகிருட்டிணன் அவர்கள் தேசியக்கொடி ஏற்றினார். மய்யத்தலைவர் மற்றும் மய்ய நிர்வாகிகளோடு உடனடி அகில இந்திய முன்னாள் தலைவர் திரு. Mu. மோகன் அவர்கள், மாநிலத்தலைவர் திரு. R. சிவக்குமார் அவர்கள், தென்மண்டல செயலாளர் திரு. K. வெங்கடேசன் அவர்கள், மாநிலச் செயலாளர் திரு. S. இராமப்பிரபு அவர்கள், மாநிலப் பொருளாளர் திரு. T. V. சந்திரசேகரன் அவர்கள், முன்னாள் காப்பாளர் திரு. J.R. சேதுராமலிங்கம் மற்றும் 50க்கும் மேற்பட்ட உறுப்பினர்கள் கலந்து கொண்டு சிறப்பித்தனர். அனைவருக்கும் காலை சிற்றுண்டி வழங்கப்பட்டது.

16.08.2021

ஸ்ரீ சிவசுப்பிரமணிய நாடார் பொறியியல் கல்லூரி (SSN College of Engineering) நமது சங்கத்துடன் இணைந்து பல்வேறு கூட்டு நடவடிக்கைகள் மேற்கொள்வதற்காக புரிந்துணர்வு ஒப்பந்தம் செய்து கொள்ளப்பட்டது.

23.08.2021

அன்று ஐந்தாவது செயற்குழு கூட்டம் The Accord Metro politan Hotel –ல் திரு. G. திலகர், திரு. K. கலையரசன், திரு. V.S. ராமகிருஷ்ணன், திரு. P. ராம்குமார், திரு. A. S. ராஜசேகர், திரு. R. ரமேஷ் ஆகியோரின் உபசரிப்பில் நடைபெற்றது.

26.08.2021

இரண்டாவது அகில இந்திய மேலாண்மை மற்றும் பொதுக்குழு உறுப்பினர்கள் கூட்டம் காலை 10.30 மணி அளவில் காணொலி வாயிலாக நடைபெற்றது. இதில் மய்யத்தலைவர் மற்றும் மய்ய நிர்வாகிகள் உட்பட அனைத்து பொதுக்குழு மற்றும் மேலாண்மை குழு உறுப்பினர்கள் கலந்து கொண்டனர்.

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