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Chapter 1 : Service entrance electrical wiring for home construction

The fitting that is placed on the service drip end of the service entrance cable or service entrance raceway and is designed to minimize the amount of moisture that can enter the cable or raceway. The service head is commonly referred to as a "weatherhead".

These steps are; Preparation of drawings as per requirements of consumers. Approval of drawings from City Development Authority. It is most important because residential building drawings should meet the authority defined rules. Start of construction work either through contractor or labor hired on daily basis. Marking of plot boundaries. Preparation of site layout as per drawing. After the completion of documentation work, the actual construction on plot begins. Following are the steps; Earth Work Generally excavation is carried out for the construction of wall foundations. After excavation, layout the foundation and backfill the remaining excavated area around foundation with soil. Floor levels of residential buildings are higher than the natural ground level. Fill the area with soil up to floor levels and compact the soil. Now earth work of residential building is finished. Concrete Work in Foundation It is very necessary to check the levels of foundation before concrete work. There are patches where excavated depth slightly exceeds and vice versa. Level the foundation base to same level. Now pour the concrete as per drawing specs. Generally concrete of ratio 1: Sometimes it is even 1: Keep foundation width equals to its depth. Damp Proof Coarse D. C To protect walls from moisture, a layer of damp proof coarse material is laid down at floor level. Thickness of this concrete layer is 0f 1 inch. Material of damp proof coarse layer consists of concrete ratio 1: Masonry Work Masonry work is carried out with cement mortar. Ratio of cement mortar varies from 1: Dampen about 25 bricks with a hose pipe and clean away all loose dirt from the top of footing and moisten about a meter of surface at one end of the foundation with the hose pipe. Throw a mortar line just behind the threaded level line and lay bricks on the mortar bed. Make sure bricks exactly follow the threaded horizontal level line. Lintel Masonry work of buildings is carried out in one go till roof. Reinforced cement concrete beams are laid down on the top of openings. So, those loads of structure above openings not directly come on to the door frames. Roofing Roof slab of building is poured after completion of masonry works. Now a days, roofing is of reinforced cement concrete slab. Now plaster work begins. Mortar for plaster work is generally of 1: Thickness of plaster layer should not be more than 0. Cure the surface about 7 days. So that, plaster gain proper strength. Generally, internal walls of buildings are covered with plastered layer and external walls with pointing. It is better plaster the external walls rather than pointing. Panels are then fixed with hinges after plaster work. Steel and aluminum doors are fixed after completion of paint work. Services Services are very important for every single house. Different types of services are provided during construction. These are Electricity supply, gas supply, water supply, sanitary etc. Conduits for electric supply are fixed in walls before plastering. Similarly water supply and sanitary lines are also laid before pouring of building floor. Note that gas lines are not fixed in walls or slabs. Gas line remains open in air.

Chapter 2 : Steps In Construction of Residential Building |Construction | Engineering Intro

the fitting that is place on the service drop end of service entrance cable or service entrance raceway and is designed to minimize the amount of moisture that can enter the cable or raceway; the service head is commonly referred to as a "weatherhead".

Now this is where the fun really begins, but this is also where a lot of first time builders start to doubt themselves. If you lose your respect for these lines at any time, you stand a good chance of finalizing your life insurance policy. There is no reason at any time to be working on a live circuit, especially a volt line. There are detailed instructions available from the NEC National Electrical Code that can be used as a basic guideline for all basic-electrical-wiring, but local codes from the Building inspectors and Electrical Inspectors always take priority over national codes. Local Electrical Inspectors are a very good source of information because they are the ones holding up the hoops we all have to jump through. In all honesty, I am very glad I was forced to jump through a lot of hoops from my inspectors, although at the time I was really bent. The utility company providing to the electric supply will put up the meter and base. It is a good idea to decide where to put the service panel. The Electrical Inspector will have some advice on this matter. The service panel will be on the inside of the house and will hold all the fuses. All the circuit wires will be connected to it. The service panel needs to be close usually within a few feet to the service entrance or meter on the outside wall of the house. A smart electrical contractor will put the service panel in a convenient location. The service panel will have to be a specific height and distance from the floor. Also, the meter will need to be accessible for the power company. This means that wherever the service entrance is on the outside of the house, the service panel on the inside of the house will have to be just about on the other side of the wall. A garage or utility room would be a better option to house the service panel box. The Electrical Inspector will help you with the details of any basic wiring for the service panel placement. The illustration below shows a service entrance and meter with an overhead supply. This helps show the proximity between the service entrance outside and the service panel inside. The utility company will wire the service usually to the meter, then from the meter, you run heavy gauge cables through the wall into the service panel box and connect them to the hot terminal bus. The type of cable used from the meter to the service panel is something like Aluminum rated at about amps, and there are usually 3 of them providing enough current for a amp service. The illustration shows a typical type of a basic electrical wiring service cable used in residential dwellings. This will usually have a black covering. This is a service panel that is commonly used. When considering a service panel, the minimum requirement that I would recommend would be a amp, slot load center. The higher amperage rating is a code requirement in most parts, but the slots for breakers is often left up to the electrician. You can get the wire at an electric supply store. You will connect all the wiring and have to pass your first inspection before the Electrical Inspector will give the utility company permission to connect the power. The picture below illustrates how the 3-wire service leaves the meter and ends up inside the service panel box. The 2 black wires are then connected to the hot bus, and the white or neutral is connected to the neutral bus. There are special conduit fittings available at most electric supply stores that make the job look more professional and also help keep moisture out. You can use either a hole saw or a large spade bit to make the hole in the wall for the power cables. Once the power service from the meter and the service panel box are connected, then you will need to run a system ground wire to a grounding rod.

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Chapter 3 : An Introduction to a Residential Gas Service (3D Modeling) on Vimeo

5th edition residential electric service installation. a consumer's guide to having your home's electric service installed or revised.

Barrier arm gates are used to control vehicles, not pedestrians. As it is very easy for a person to walk beside or climb over or under the gate arm, barrier arm gates provide almost no security. Barrier arm gates are used primarily to control access in and out of parking facilities, or to control vehicular traffic at manned security entrances. Automatic Gate Accessories There are many accessories that may be used in conjunction with automatic gates. Some of these include: Automatic gates can be operated by a variety of access control devices, including card readers, vehicle tag readers, digital keypads, and portable wireless transmitters. In most commercial installations, automatic gates are controlled by the same access control system that is used to control the entrance doors to the buildings, allowing the same access card to be used in both places. Intercom stations are often provided at automatic gates to give visitors and delivery drivers a means to contact someone inside the facility when the gate is closed. Video cameras can be used to view and record activity at the gate. The video surveillance system can be used in conjunction with the intercom system. This allows the identity of visitors to be visually confirmed before opening the gate. In many cases, it is desirable to have the gate open automatically when a vehicle exits the property. Devices that can be used to provide free exit include loop detectors, photoelectric beams, and pressure switches. Post office and utility company access: The post office and many utility companies may require a means to enter through the gate. Most fire departments and many law enforcement agencies require a means to gain access to your property through your gate at all times. Gate Safety Devices Automatic gates can weigh as much as 20, pounds or more and can travel at speeds as high as 36 inches per second or faster. As a result, gates have the potential to cause serious property damage, injury or death. Therefore, it is extremely important that safety considerations be included when planning any type of automatic gate installation. This standard defines classes of automatic gate operators and the various techniques that should be used to prevent entrapment and reduce the potential for injury. Gate safety measures can include warning signage, audible warning devices, photoelectric sensors, contact pressure sensors, screening, safety cages, and other devices. Because some of the requirements of UL are difficult and costly to implement, many gate installers have chosen to downplay or ignore these requirements. It is often easy to get away with this because there is little enforcement of these standards in many parts of the country. However, the property owner who installs an automatic gate that is in violation of recognized standards does so at his own peril and may be held liable if someone is injured by the gate. Considerations When Choosing an Automatic Gate The following are some basic things that must be considered when choosing an automatic gate: The overall size of the opening will be a major determining factor in deciding what type of automatic gate to use. In general, the wider the gate opening, the more expensive it will be to install a gate. If the facility is located on a large rural site that has plenty of space, probably just about any type of automatic gate can be used. Facilities located in crowded urban or downtown areas where space is at a premium may be limited to only one or two options for automatic gates. The overall weight of the gate determines the type and grade of gate operator required. In general, the wider and taller the gate, the more it will weigh. Gates of the same size will weigh differently depending on whether they are constructed of steel, aluminum or wood. Allowance must also be made for any increase in weight that may be caused by accumulations of rain, snow, or ice on the gate surfaces. Opening and Closing Speed: Different applications require different opening and closing speeds. While slow opening speeds can be acceptable in residential and some commercial applications, they are totally unacceptable in high-volume industrial applications such as at a distribution center or airport. Opening speeds that are too slow can cause traffic backups and user frustration. Closing speeds that are too slow can encourage "tailgating" and other security violations. The number of times the gate will be opened and closed each day must be considered when selecting an automatic gate operator. Certain types of gate operators designed for

residential use may only be intended to be cycled a dozen times per day or less. These types of gate operators will fail quickly in an industrial environment where the gate is cycled hundreds of times per hour on a 24 per hour per day, day a year basis. Most gate operators are designed to operate gates that are on a level, flat grade. Gates that must open or close going up or down an incline can cause excessive wear on the gate operator and lead to premature failure. Simply adding a gate operator to a gate that was originally designed for manual operation can be a real mistake. Gates need to be specifically designed for automatic operation. Special types of rollers, bearings and other hardware are often needed to make a gate work reliably with an automatic gate operator. These items add relatively little cost to the overall installation, but make a big difference in gate performance and reliability. Special precautions must be taken when installing gates in regions where there are extreme hot or cold temperatures, high winds, or heavy snow or ice. The type of neighborhood where the automatic gate is being installed must be considered when specifying a gate. In general, gates being installed near residential areas where children are likely to be present require more stringent safety measures than gates being installed in purely industrial environments. It can sometimes be difficult and costly to get this type of power to the place where the gate will be installed. Conclusion Deciding which type of automatic gate to use is a big decision. Automatic gates are expensive to install and require regular ongoing maintenance. Sometimes, purchasing a more expensive gate initially can actually save you money over the long-run due to reduced maintenance costs. Many architects and builders will specify the cheapest gate possible when the facility is being built. The property owner then has to live with the consequences, which can include frequent downtime and costly repairs. If you are not sure what type of gate or gate operator to use, it is recommended that you retain the services of a professional engineer or independent security consultant to help you assess your needs and to select the correct product. If you need help in selecting and specifying an automatic gate for your facility, or if you simply have questions, please contact us. Visit our Security Tips page for more than 70 additional articles on a variety of topics related to physical security Follow us on Twitter to be notified when new Security Tips are published Did You Know? Follow silvaconsultant Need Help? Silva Consultants can assist you in the design and planning of an effective security program and in the selection of security products and services.

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Chapter 4 : SonicWALL - Blocked by GeoIP Filter.

Guidelines for Residential Entrances to State Highways - INTRODUCTION INTRODUCTION The objective of this publication is to provide information on the State Highway Administration's (SHA) residential access regulations.

Our goal is to provide the maximum protection to the motoring public through the orderly control of traffic movement to and from the State Highway system. Permits are required for all driveways to assure that entrances to State Highways are made in a safe manner. This publication was prepared to explain the guidelines to be followed in obtaining a residential entrance permit. Anyone accessing a State Highway from a residential property is required to obtain a residential entrance permit from the SHA. The SHA must approve the location, design geometries, drainage requirements, and paving cross section of a residential entrance on a State Highway. The entrance design guidelines discussed in this publication are based on SHA approved standards, specifications and engineering manuals. Traffic control specifications for shoulder work and lane closures are based on federal guidelines. Application for a permit should be made to the local SHA office. The addresses of the local offices are listed later in this manual. Depending on the county, the application may be made to either the District Engineer, the Resident Maintenance Engineer or the Permit Inspector. The District Engineer is responsible for any construction, maintenance or other activity within his assigned counties. He is charged with ensuring the safety of the traveling public, in part, by allowing only the safest possible access points onto State highways. The Resident Maintenance Engineer is an agent of the District Engineer who, in addition to supervising the road maintenance activities in his area, accepts and processes applications for residential driveway access. The Resident Maintenance Engineer also performs periodic inspection of the driveway construction. In the metropolitan counties, a Permit Inspector may be assigned to handle requests for residential access. In this case, the Permit Inspector will accept, process and provide inspection for residential driveway access. In all cases, the District Engineer has final authority in the approval of the residential driveway permit. In general, the permit application procedure is as follows. After determining the best location for the driveway, the District Engineer will issue a residential driveway permit to the homeowner for construction of the driveway at that location. The permittee is responsible for all construction related to the driveway, including any utility relocations made necessary by the driveway construction. Forty-eight 48 hours prior to beginning work, the permittee must notify SHA of his intent to begin construction. This notification is necessary to allow for inspection scheduling. When construction is completed, to the satisfaction of the District Engineer or his representative, the permit will be released and the performance surety will be returned to the permittee. Performance sureties are described in detail in this manual including sample documents. When properly applied, these residential driveway guidelines will provide for safer roadways for all motorists. This is true for the traveling public as well as the homeowner using the entrance. These regulations apply only to residential entrances serving one to five homes. District Office contact information can be found at the top of our home page.

Chapter 5 : Introduction to Automatic Gates

Service entrance basic electrical wiring in home construction This is the service entrance part to basic electrical wiring for residential dwellings. Now this is where the fun really begins, but this is also where a lot of first time builders start to doubt themselves.

Chapter 6 : Residential Service Requirements | Irwin EMC

The service entrance neutral conductor shall be sized no smaller than two sizes less than the primary conductors. However, at no time shall the neutral conductor be less than #6.