

TABLE OF CONTENTS

INTRODUCTION.....	2
SINGLE FAMILY RESIDENTIAL DEVELOPMENTS.....	3
TYPICAL RESIDENTIAL TRENCH DETAILS	5
SERVICE DROP TO HOME REQUIREMENTS.....	6
TYPICAL RESIDENTIAL DROP DETAILS.....	8-9
HOME WIRING RECOMMENDATIONS.....	10

Introduction:

This handbook provides developers, owners, builders, and subcontractors with information to plan for communication services in STRATA NETWORKS' territory. The requirements herein are in accordance with current tariffs on file with the Utah Public Service Commission. It is STRATA NETWORKS' goal to help owners and builders understand the requirements to provide the best voice, data, and video services available.

This handbook deals with the placement of communication lines to single-family homes and single family home developments.

STRATA NETWORKS charges \$100.00 per lot to provide communication services for any single-family residential development. This is with the understanding that open trench and crossings will be provided by the developer as per STRATA NETWORKS design. If open trench is not provided, the developer will be responsible for paying, in advance, STRATA NETWORKS' trenching costs to provide communication services. An AutoCad copy of the final plat shall be provided to STRATA NETWORKS.

The costs associated with relocating any facilities in conflict with the development will be borne by the developer. These costs are to be paid in advance of any relocation work being done. Please allow 60 days for facilities to be relocated.

For further questions regarding the information in this handbook, please contact a STRATA NETWORKS engineer at (435)622-5007.

SINGLE FAMILY HOME DEVELOPMENTS

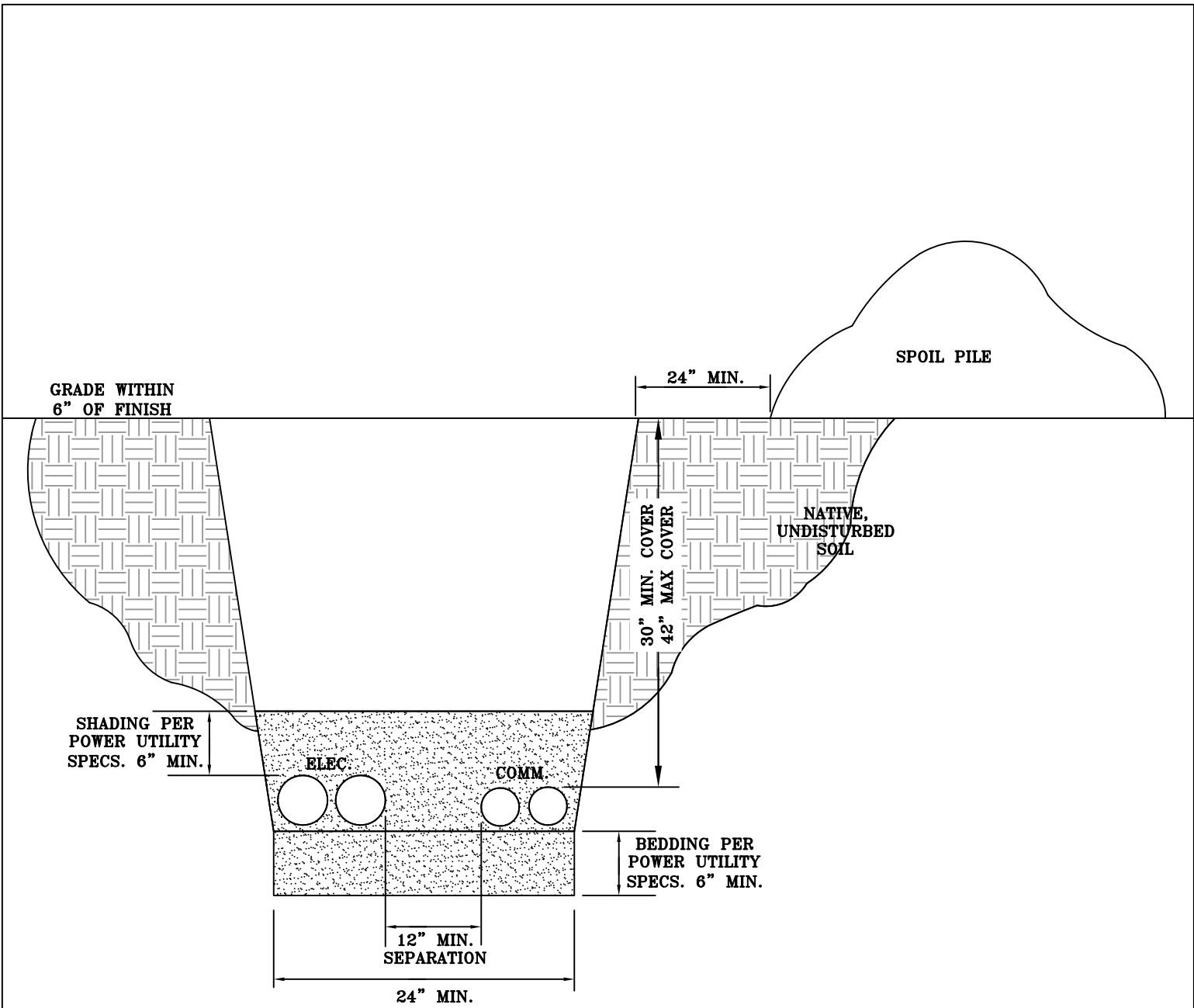
Requirements for Single-Family Residential Developments:

1. A recorded subdivision plat must be provided to the STRATA NETWORKS engineer sixty (60) days prior to open trench date. When notifying the engineer please include the name of the development, and the development company's legal name with the developer's contact information. STRATA NETWORKS will not sign a plat until the Land Development Agreement is signed and the \$100 per lot charges are paid.
2. Legal city, and/or county addresses must be included with the plat before communication services for the development can be finalized. This is required for the 911 emergency services and STRATA NETWORKS databases.
3. The Developer is responsible to provide all trenching. STRATA NETWORKS will provide and place facilities in open trenches. Joint trenching with power is preferred. If developer wishes to joint trench, a copy of the power company's plan needs to be submitted to the engineer a minimum of thirty-five (35) days prior to open trench. Notify STRATA NETWORKS engineers immediately if the power plans change during this time. Any changes to the power plan afterwards will cause delays in getting communications facilities designed and placed. STRATA NETWORKS will follow power trenches as much as possible but may need additional trenches provided.
4. Curb and gutter must be installed within the subdivision before communications facilities will be placed in open trench. If curb and gutter will not be installed in the subdivision, the road grade must be within 6" of finished grade before communication facilities will be placed.
5. Trench needs to allow for a minimum one foot separation between phone and power cables. Phone cable is to be buried at a minimum cover depth of thirty (30) inches and a maximum cover depth of forty-two (42) inches.
6. Coordination and a review of development plans needs to take place with engineer two months prior to anticipated open trench date.
7. All cost associated with opening and closing the trench will be borne by the developer.
8. Backfill material shall not include rocks or any foreign materials that might cause damage to cable and/or conduit. If damage does occur because of backfill material the developer will be held responsible for the cost of repair.
9. Although joint trench with other utilities is desired and encouraged—sharing conduits or sleeves is not permitted.
10. In the event that a trench for crossing a road needs to be backfilled before STRATA NETWORKS crews can place facilities, the developer will be responsible for providing and installing a minimum of one four inch (schedule 40 PVC or type C) sleeve at each street crossing as directed by the engineer's open trench and crossings detail/plan. More than one four inch crossing may be required at some locations as determined by STRATA NETWORKS' engineers. All crossings are to be perpendicular to the street.
11. Adequate work space is required for construction crews to place facilities within the development.
12. If the time intervals for installation need to be shorter at the developer's request there are two options:

- a. Trenches can be left open until Strata’s crews and material can be scheduled to install facilities.
 - b. The developer can pay expedite charges for engineering and construction. These charges are to be determined by engineer on a per job basis.
13. At the request of the engineer a 12’x20’ easement within the subdivision granted to STRATA NETWORKS Communications may be required to place cabinets and electronic equipment. This equipment will be placed to provide communication services for the development.
14. In FTTH (fiber to the home) developments, all necessary FTTH specs need to be insured and met by the developer and/ or individual home builders before services will be installed to the individual dwellings.

SUMMARY CHECKLIST FOR COMMUNICATION UTILITIES

<u>Time to Open Trench</u>	<u>Item Due</u>
60 Days.....	Provide Final Plat in AutoCad format Provide Addresses for Each Lot Pay \$100 per Lot to STRATA NETWORKS
35 Days.....	Provide power plan to STRATA NETWORKS
14 Days.....	Pick up trenching plan from STRATA NETWORKS
1 Day	Roadway must be within 6” of final grade Open trenches



TYPICAL DETAIL FOR TRENCH WITHIN A SUBDIVISION

Service Drop to Home Requirements:

It is generally preferred that power and communications share the same trench from the phone pedestal to the home. This minimizes excavation work on the owner's property and is best for meeting NEC and NESC grounding requirements. While joint trenching is preferred, a minimum of 12" of separation must be maintained between the power and communications lines. This trench shall be a minimum of eighteen (18) inches deep. STRATA NETWORKS will provide facilities to be placed in the open trench. Please call the STRATA office to give notification that a trench will be open.

If an owner prefers to place conduit rather than leave a trench open, the owner shall place a one inch minimum conduit with long electrical sweeps from the pedestal to the home. The conduit shall terminate at the home 12" to 24" horizontally from the power meter location. The conduit shall be equipped with a 200 pound test pull string. This conduit shall be free of debris and foreign matter that would restrict the use of the conduit at a later date. (See "Single Family Home Requirements" Drawing).

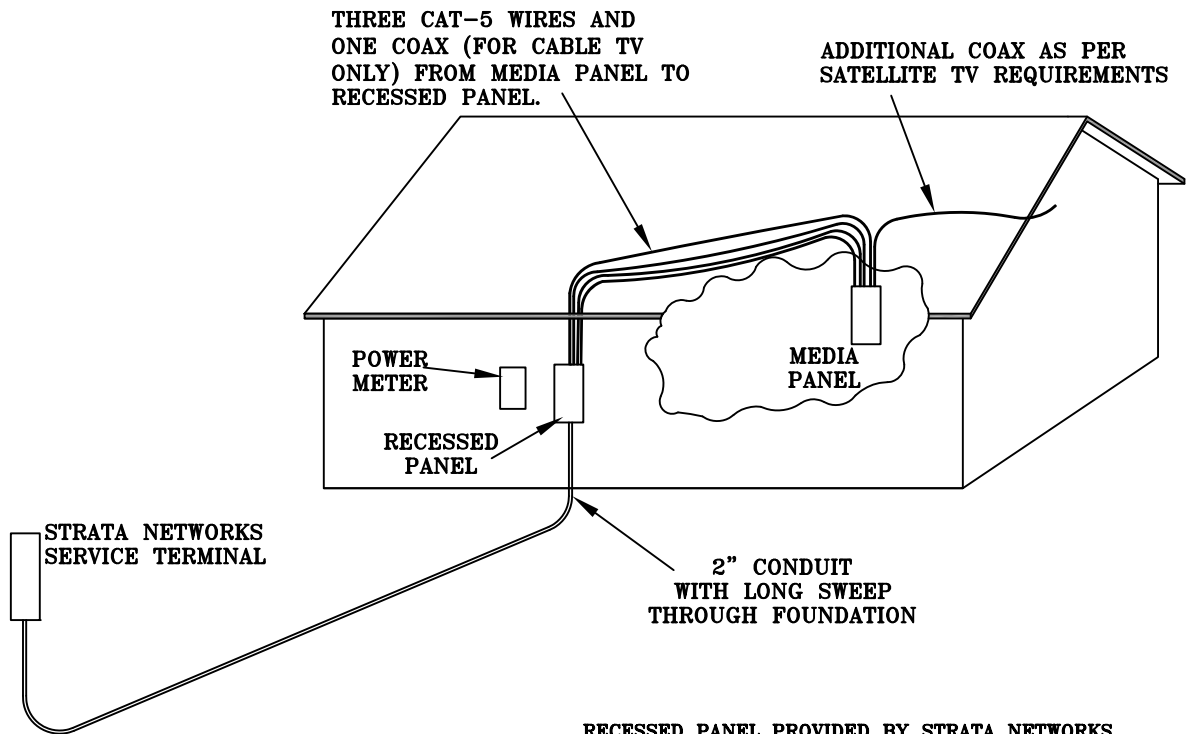
The trench must extend from the communications service terminal (pedestal) to the location of the home where the inside wiring and the #10 solid copper ground are stubbed out. The communications service terminal is usually at the corner of the property. If you have any questions about the exact location of this terminal, please contact a STRATA engineer at (435)622-5007 and tell them your question regarding your drop trench.

At the Residence a No. 10 solid copper ground must be stubbed out of the dwelling within two feet of the power meter and attached to the UFER ground. Inside wiring (IW) must also be stubbed out (at a different location than the ground) between 12" and 24" horizontally from the power meter and between 4' to 6' from finished grade. The inside wiring should have a 36" tail. For optimum services it is recommended that three cat 5s (IW) be installed from a media panel inside the home to the outside wall. One Cat 5 will be designated for voice, one for data, and the third for video. Cat 5 and coax cables shall not be stubbed out of the same hole on the outside wall of the dwelling. There shall be a twelve (12) inch separation between coax and Cat 5 stub-outs.

If the development is a Fiber to the Home (FTTH) development, all the above requirements shall be met. In addition, a recessed box provided by STRATA NETWORKS and installed by the owner must be placed

12" to 24" from the power meter. A dedicated 110 volt power receptacle must be run to this box. (See "Single Family Home Requirements" Drawing)

The builder must provide a minimum of two (2) working days notice of the open trench date to allow STRATA NETWORKS time to schedule the placement of the service wire in the open trench by a technician. If prior arrangements have been made, STRATA NETWORKS may provide the service wire to the Builder so that self-placement of the service wire may be done. The service wire should be coiled and secured above ground at the living unit and at the telephone service terminal or corner of the individual lot. There must be enough service wire secured on each end to easily reach the point where it will be connected to the inside wire (approx. 15') and the telecommunications network at the service terminal. Once placed, the Builder will need to contact STRATA NETWORKS in order to splice and connect the service wire.



RECESSED PANEL PROVIDED BY STRATA NETWORKS, INSTALLED BY OWNER.

IF THE OWNER PREFERS THE CONDUIT BETWEEN THE SERVICE TERMINAL AND THE RECESSED PANEL TO BE HIDDEN INSIDE THE WALL, THE OWNER MUST PLACE A 2" CONDUIT IN THE FOUNDATION. OTHERWISE STRATA NETWORKS WILL PLACE A CONDUIT ALONG THE OUTSIDE OF THE WALL INTO THE RECESSED PANEL.

THE CONDUIT MUST EITHER BE PLACED WITHIN THE WALL, OR THE RECESSED PANEL MUST BE FIRRED OUT AND PROTRUDE OUT 2" FROM THE HOME'S EXTERIOR FINISH IN ORDER FOR STRATA'S CONDUIT TO ENTER THE RECESSED PANEL FROM OUTSIDE THE WALL.

A DEDICATED 110 VOLT POWER RECEPTACLE MUST BE PROVIDED INSIDE THE RECESSED PANEL.

THE RECESSED PANEL SHOULD BE LOCATED NEXT TO THE POWER METER WITH 1 FT TO 2 FT OF SEPARATION.

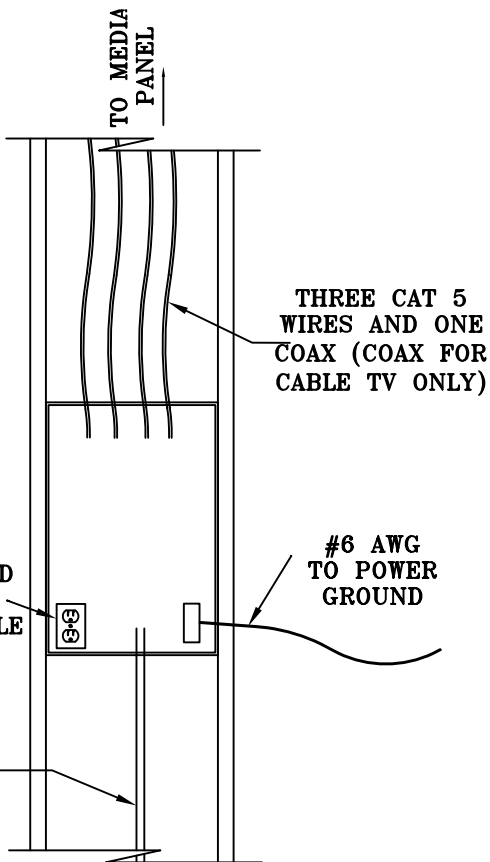
MEDIA PANEL

THE MEDIA PANEL IS IDEAL IN PROVIDING A CENTRAL POINT TO PROVIDE THE BEST VOICE, DATA, AND VIDEO SERVICES.

MEDIA PANEL REQUIREMENTS:

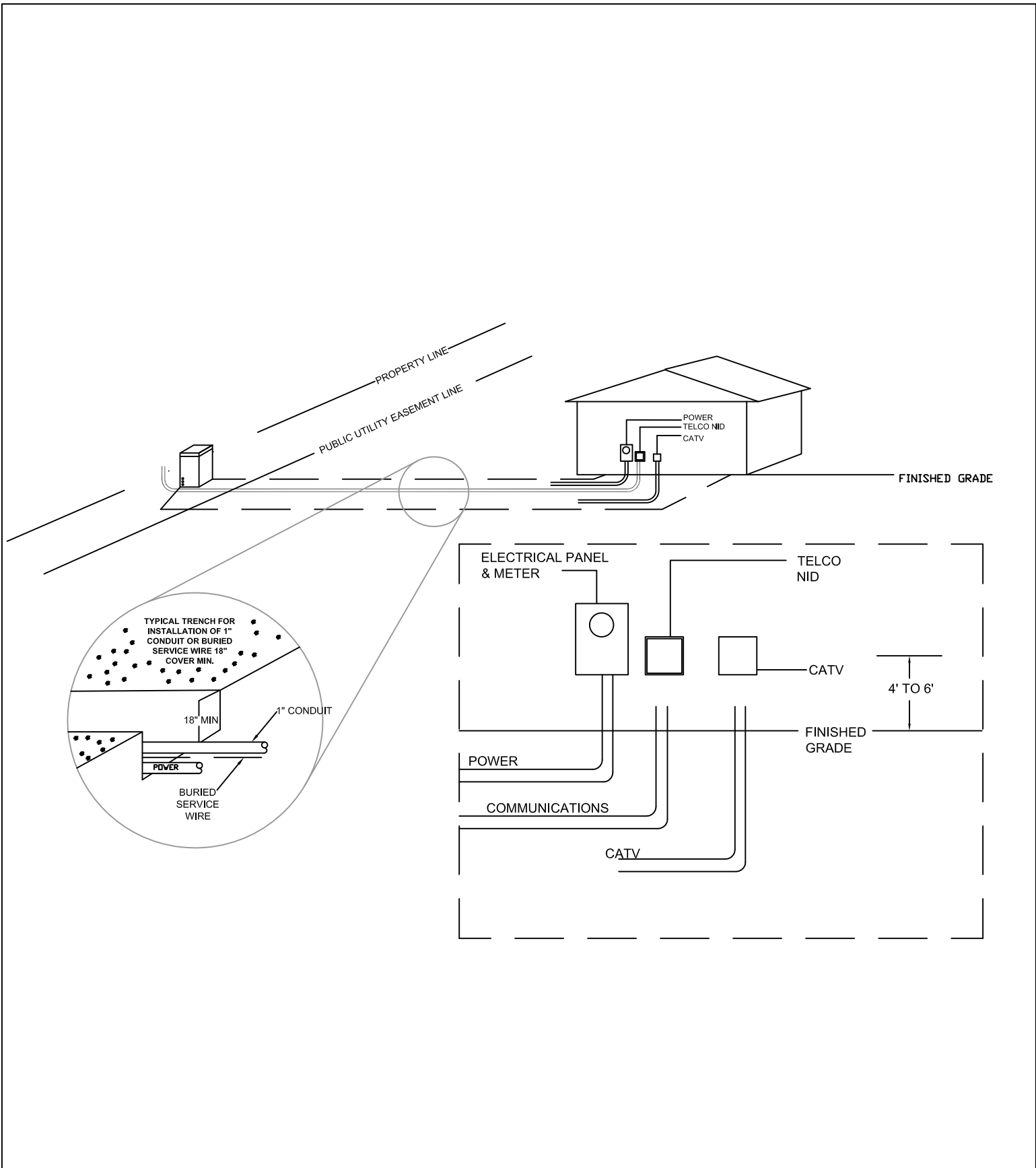
- PROVIDE A POWER RECEPTACLE IN THE PANEL
- PROVIDE A #6 GROUND TO THE POWER GROUND
- PROVIDE THREE CAT 5 WIRES AND ONE COAX CABLE (FOR CABLE TV) BETWEEN THE MEDIA PANEL AND RECESSED PANEL.

NOTE: THE COAX CABLE REQUIRED TO RUN BETWEEN THE MEDIA PANEL AND THE RECESSED PANEL IS FOR CABLE TV ONLY, SATELLITE TV PROVIDERS WILL NOT BE ALLOWED ACCESS INTO THE RECESSED PANEL. ADDITIONAL COAX CABLES MAY NEED PLACED IF THE OWNER INTENDS TO PROVIDE FOR SATELLITE TV. SATELLITE COMPANIES MAY REQUIRE UP TO 4 COAX CABLES IN THE MEDIA PANEL.



RECESSED PANEL DETAIL

SINGLE FAMILY HOME FTTH REQUIREMENTS



TYPICAL COPPER AND COAX SERVICE TO HOME

Home Wiring Recommendations:

For many years the methods of low voltage wiring have served well to provide telephone service within a home. However, communication wires are now used for much more than telephones, they carry large amounts of data. Traditional low voltage wiring methods are not suitable for today's communications demands. Provided below are strongly recommended tips to help you get the best results from your low voltage wiring. These tips help reduce the potential for influence from other communications lines and electrical wiring (which is one of the worst culprits of poor communications performance in a home). Strata Networks strongly recommends that homeowners and subcontractors follow these methods.

- When communication lines run parallel to electrical wires, maintain a minimum separation of 12 inches.
- If a communications line ever needs to cross an electrical wire, cross at a perpendicular angle.
- When running lines through wall studs and floor joists, never run a communications line through the same drill hole that an electrical wire passes through.
- Every jack should have a line that is a "home run" to the media panel. Splicing the communications wire in order to add additional jacks introduces potential for interference and will result in less than optimal performance.
- Do not kink or put excessive tension or strain on communications line.

Strata Networks recommends that homes be wired according to Structured Media Wiring methods. Because each communications line requires a home run, a media panel is the best method to protect and organize the home wiring. This media panel will be the central location for all wiring including telephone, data, video, and coax wiring. Be sure to install a large enough panel to easily hold and organize all the wiring. It may often be necessary to install two panels.

For more information on home wiring and Structured Media Wiring, please visit the How To's section at stratanetworks.com