

ORDINANCE NO. 09-99

ROLL CALL

VOTING	YES	NO
MAYOR DALE R. BARNEY <i>(votes only in case of tie)</i>		
SHERMAN E. HUFF <i>Councilmember</i>	X	
LILLIAN J. SHEPHERD <i>Councilmember</i>	X	
THORA L. SHAW <i>Councilmember</i>	X	
CLYDE A. SWENSON <i>Councilmember</i>	X	
EVERETT KELEPOLO <i>Councilmember</i>	<i>(absent)</i>	

I MOVE this ordinance be adopted: Councilmember Huff

I SECOND the foregoing motion: Councilmember Shaw

ORDINANCE 09-99

AN ORDINANCE AMENDING THE SUBDIVISION ORDINANCE AND DEVELOPMENT STANDARDS OF SPANISH FORK CITY

WHEREAS, Spanish Fork City has adopted a Subdivision Ordinance and Construction & Development Standards which establishes the requirements and standards for creating and developing subdivisions; and

WHEREAS, the subdivision ordinance and development standards should be amended from time to time in order to remain current with new technology and standards, in order to provide high quality subdivisions for the residents of the City; and

WHEREAS, the City Engineering Department and Planning Department have taken the best

ideas and assimilated them into a new ordinance with accompanying construction standards in order to provide high quality subdivisions, promote property values, and protect the health, safety, and welfare of the residents; and

WHEREAS, copies of the proposed changes have been distributed to a number of developers who frequently work within Spanish Fork City in order to receive their comments; and

WHEREAS, a public hearing was held before the Spanish Fork City Planning Commission on Wednesday the 7th day of April, 1999 to wherein public comment was received; and

WHEREAS, the Spanish Fork City Planning Commission also reviewed the proposed amendments at their meetings held May 5, 1999; June 2, 1999; and July 7, 1999; and

WHEREAS, a public hearing was held before the Spanish Fork City Council on Tuesday the 6th day of July, 1999 wherein additional public comment was received;

NOW THEREFORE, be it ordained and enacted by the Spanish Fork City Council as follows:

SECTION I.

Title 16. "Subdivisions" is hereby repealed and re-enacted as follows:

TITLE 16. SUBDIVISIONS.

Chapter 16.04. General Provisions.

Chapter 16.08. Definitions.

Chapter 16.12. Preliminary Plat.

Chapter 16.16. Final Plat.

Chapter 16.20. Improvements and Design Standards.

Chapter 16.24. Impact Fees.

Chapter 16.28. Enforcement.

Chapter 16.04. General Provisions.

16.04.010. Sale of Plats or Parcels Prior to Approval and Recordation Prohibited.

16.04.020. Approval Required.

16.04.030. Endangering Health or Property Prohibited.

16.04.040. Amended Plats.

16.04.050. Exceptions to Avoid Hardship.

16.04.010. Sale of Plats or Parcels Prior to Approval and Recordation Prohibited.

No person shall subdivide any tract of land which is located wholly or in part within the corporate limits of the city, nor shall any persons sell, exchange, offer for sale, purchase or offer to purchase any parcel of land which is any part of a subdivision of a larger tract of land as hereinafter described, nor shall any person offer for recording any deed conveying such parcel of land or any interest therein unless there is first recorded a plat of such land which has been prepared and recorded in compliance with the requirements of this title.

16.04.020. Approval Required.

A. Subdividing land. It shall be unlawful for any person to create a subdivision or subdivide for the purpose of transferring, selling, conveying, or assigning any tract or parcel of land which is located wholly or in part in the city except in compliance with this ordinance.

B. Subdivisions. It shall be unlawful for any person to sell or exchange or to offer to sell or exchange any parcel of land which is part of a subdivision of land, or recorded in the office of the Utah County Recorder as a subdivision unless the subdivision has been approved by the city and complies with the provisions of this title.

C. Building permit conditions. No building permit shall be issued until the final subdivision plat has been recorded by the city at the office of the Utah County Recorder.

16.04.030. Endangering Health or Property Prohibited.

No subdivision shall be developed in the city which, in the opinion of the city council, is incompatible to the health or well-being of the citizens of Spanish Fork and the future owners when the subdivision is completed.

16.04.040. Amended Plats.

In all subdivisions which have been recorded and in which changes have been made which changed the subdivision materially, an amended plat must be filed and recorded in accordance with the provisions of this title.

16.04.050. Exceptions to Avoid Hardship.

Whenever the tract to be subdivided is, in the opinion of the city council, of such unusual shape or size or is surrounded by such development or unusual conditions that the strict application of the requirements contained herein would result in real difficulties and substantial hardships or injustices, the city council may vary or modify such requirements so that the subdivider is allowed to develop his or her property in a reasonable manner but so, at the same time, the public welfare and interests of the city and surrounding area are protected and the general intent and spirit of this title is preserved.

Chapter 16.08. Definitions.

16.08.010. General Definitions.

16.08.010. General Definitions.

1. City. The City of Spanish Fork.
2. Civil Engineer. A person registered with the State of Utah to practice as a professional engineer.
3. Completion Date. The date the entire subdivision or development is completed and an approved final inspection statement is given.
4. Comprehensive General Plan. The comprehensive general plan document as approved by the city council.
5. Construction Plans and Profiles. Plans drawn by a registered civil engineer or land surveyor showing all required improvements including the location, size, grade and elevations.
6. Council or City Council. The governing body of the city.
7. Developer. Person, persons, partnership or corporation developing residential, commercial or industrial property.
8. Construction and Development Standards. The Construction and Development Standards as referred to in this title and adopted by the city council.
9. Engineer. The person appointed by the city to be the city engineer.
10. Final Approval. The final approval of the city council and signing of the plat by the mayor and council.
11. Final Plat. An original map or plat drawn on mylar or linen in a form as approved by the city, showing all lots, streets, utility easements, etc.
12. Flood Plain. That area designated on the most recent Flood Insurance Rate Map, for the City of Spanish Fork dated February 19, 1986, prepared by the Federal Emergency Management Agency, as a flood plain.
13. Improved Lot. A lot which has all the improvements required in this title.
14. Improvements. Includes roads, streets, curb, gutters, sidewalks, gradings, landscaping, water and sewer systems, irrigation systems, drainage systems, power system, fences, public facilities and trees required by this chapter.
15. Land Surveyor. A person registered with the State of Utah to practice as a licensed land surveyor.
16. Lot. A parcel or tract of land within a subdivision which is or may be occupied by a building or structure and the accessory buildings, structures or uses customarily incident thereto, including such open spaces as are arranged and designed to be used in connection with the building according to the zone within which the lot is located.
17. Offsite Facilities. Facilities outside of the boundaries of the subdivision or development site which are designated and located to serve the needs of the subdivision or development or adjacent property, usually lying between a development and existing facilities.
18. Onsite Facilities. Facilities installed within or on the perimeter of the subdivision or development site.
19. Parcel of Land. A contiguous area of land in the possession or ownership of one person with one tax identification number.

20. Planning Commission. The Planning Commission of Spanish Fork City.
21. Preliminary Plat. A map or plat of a proposed subdivision or development with accompanying supplementary documents.
22. Public Utility Easements. The easements required to place public utilities across any privately owned property.
23. Streets. A thoroughfare which has been dedicated and accepted by the city council, which the city has acquired by prescriptive right or which the city owns, or is offered for dedication on an approved recorded final plat. For further explanation see the streets section of the Construction and Development Standards.
24. Subdivision. Any parcel of land that is divided, re-subdivided or proposed to be divided into two or more lots, parcels, sites, units, plots, or other division of land for the purpose, whether immediate or future, for offer, sale, lease, or development either on the installment plan or upon any and all other plans, terms, and conditions.
- a. Subdivision includes (1) the division or development of land whether by deed, metes and bounds description, devise and testacy, lease, map, plat, or other recorded instrument; and (2) divisions of land for all land for all residential and nonresidential uses, including land used or to be used for commercial, agricultural, and industrial purposes.
25. Utilities. Includes culinary water lines; irrigation lines; sanitary and storm sewer lines; gas lines; electric power lines; cable television and telephone lines; underground conduits; and junction boxes and all appurtenances to the above.
26. Zoning Ordinance. The comprehensive zoning ordinance adopted by the city council as Title 17 of the Spanish Fork Municipal Code.

Chapter 16.12. Preliminary Plats.

- 16.12.010. Filing.**
- 16.12.020. Form and Contents.**
- 16.12.030. Approval or Disapproval - Procedure.**
- 16.12.040. Duration of Preliminary Approval.**
- 16.12.010. Filing.**

Whenever a subdivision is to be filed, the required number of copies of the preliminary or tentative plat shall be prepared and presented to the city engineer for approval. The city engineer shall determine the size and number of copies to be submitted.

16.12.020. Form and Contents.

The preliminary plat of a subdivision shall contain the information required by the Construction and Development Standards. Each preliminary plat shall be accompanied by a filing fee in the amount established by the City Council in the annual budget.

16.12.030. Approval or Disapproval - Procedure.

Each plat submitted to the city engineer shall be referred to the city development review committee, for review to insure conformity to the present ordinances and standards and for adequacy

and availability of public facilities.

A. Approval of a preliminary subdivision plat shall not be granted until such time as the applicant has provided information, to the satisfaction of the city engineer, to establish that adequate public facilities exist in the areas affected by the development to accommodate the development.

B. The public facilities to which the preceding paragraph applies shall include the following:

1. The city culinary water system, including quantity, quality, treatment, storage capacity, transmission capacity, and distribution capacity;
2. The city sanitary sewer system, including treatment, overall capacity, outfall lines, laterals, and collector lines;
3. The city electric power system, including generation, transformation, transmission, and distribution;
4. The storm water system, including drainage and flood control facilities;
5. Streets and road, including arterial and collector roads, sidewalks, curb and gutter, and related transportation facilities;
6. Recreational facilities, including ballparks, playgrounds and trails.
7. City secondary irrigation system, including transmission and distribution capacity.

C. The adequacy of public facilities shall be determined in accordance with the Spanish Fork City development standards, the various master plans and the comprehensive general plan of the city, and at the discretion of the city engineer.

In the event that the city engineer determines that adequate public facilities are not available and will not be available by the time of final plat approval, so as to assure that adequate public services are available at the time of occupancy, the following alternatives may be elected, at the discretion of the city council:

1. Allowing the developer to voluntarily construct those public facilities which are necessary to service the proposed development and provide adequate facilities as determined by the city engineer and by entering into an appropriate form of connector's or development agreement, which may include, as deemed appropriate by the city engineer, provisions for recoupment of any expenses incurred above and beyond those reasonably necessary for or related to the need created by or the benefit conferred upon the proposed development, and the method and conditions upon which recoupment is to be obtained. Any connectors agreement authorized by this paragraph must be executed within 30 days of the completion and acceptance by City of the improvements.
2. Requiring the timing, sequencing, and phasing of the proposed development consistent with the availability of adequate public facilities;
3. Deferring final plat approval and the issuance of building permits until all necessary public facilities are adequate and available; or
4. Denying plat approval and allowing the applicant to reapply when adequate public facilities are available.

D. If the plat is not in conformity with the Construction and Development Standards or this chapter, the committee shall refer it back to the subdivider or developer with a list of items necessary

to bring the plat into compliance. If the plat is in conformity, it will be submitted to the planning commission with suggestion and comments noted thereon.

The planning commission may table the matter to further study the issues presented. The planning commission may recommend approval, rejection, or approval with conditions to the city council. After considering the recommendation of the planning commission, the city council may approve, reject, or grant approval upon the conditions stated. If approved, the city council shall express its written approval with whatever conditions are attached. If any conditions are attached, the preliminary plat shall be amended to reflect such changes and an accurate preliminary plat shall be submitted to the city engineer.

Receipt of this accurate copy shall be authorization for the developer to proceed with the preparation of plans and specifications for the minimum improvements hereinafter required by this title and with the preparation of the final plat. Original preliminary plats are subject to the standards, policies, and regulations that are in effect at the time of approval for each of the final plats.

16.12.040. Duration of Preliminary Approval.

Approval of the preliminary plat by the city council shall be valid for a period of twelve months after approval unless, upon application by the developer, the city council grants an extension. An extension may not exceed six months. A preliminary plat remains active if a final plat is recorded at least every twelve months. If a final plat has not been recorded within the twelve-month period or an extension granted, the preliminary plat must again be submitted to the city council for re-approval.

Preliminary approval of a large tract shall not be voided if the final plat of the first section thereof is submitted for final approval within one year and no more than twelve (12) months have expired between the recording of each consecutive final plat or an extension of time is granted as to the remainder thereof.

Chapter 16.16. Final Plat.

16.16.010. Filing - When.

16.16.020. Form and Contents.

16.16.030. Review and Approval Procedure.

16.16.040. Recordation - Copy to be Supplied to City Engineer.

16.16.050. Engineer Approves Final Plans.

16.16.060. Amendments to Final Plat.

16.16.070. Appeals.

16.16.010. Filing - When.

Within one (1) year after approval of the preliminary plat or within the time for which an extension to make such filing has been granted, the original tracing and the required number of copies of a final plat along with complete construction drawings of such subdivision shall be submitted to the city engineer. The size and number of copies to be submitted shall be in accordance with the Construction and Development Standards. Each final plat shall be accompanied by a filing fee established by the City Council in its annual budget, together with any impact or other fees which

are due before recording.

16.16.020. Form and Contents.

The final plat of a subdivision shall be in form according to the format approved by the city and shall contain the information required by the Construction and Development Standards.

16.16.030. Review and Approval Procedure.

Each final plat and construction drawings shall be submitted to the city engineer for review to insure conformity to the present ordinances and standards and for the adequacy and availability of public facilities. If the final plat or construction drawings are not in conformity, the city engineer shall refer it back to the subdivider or developer with a list of items necessary to bring the final plat or construction drawings into compliance. If the final plat and construction drawings are in conformity, the plat or complete drawings will be submitted to the development review committee with suggestions and comments noted thereon.

After considering the recommendation of the city engineer, the development review committee may table the matter, approve, or grant approval upon conditions stated. If approved, the city manager and city engineer shall sign the final plat. If any conditions are attached, the final plat or construction drawings shall be amended to reflect such changes and an accurate final plat shall be submitted to the city engineer, prior to signing by the city manager and city engineer.

Original and preliminary plats are subject to the standards, policies, and regulations that are in effect at the time of approval for each of the final plats.

16.16.040. Recordation - Copy to be Supplied to City Engineer.

Following acceptance by the development review committee of the areas reserved for public use in a subdivision, the final plat bearing all official approvals shall be deposited in the office of the county recorder for recording by the city. The final plat must be recorded with Utah County within 120 days after approval by the development review committee. Approval expires and the plat must be resubmitted if the final plat is not recorded within 120 days.

No construction of buildings shall begin until after recording of the final plat, a copy of said recorded plat is filed with the office of the city engineer, and all improvements for the subdivision are completed and accepted by the City.

16.16.050. Engineer Approves Final Plans.

Prior to the construction of any improvements required by this title or the submission of any bond, the subdivider shall furnish to the city engineer all plans, information and data necessary for said improvements. These plans shall be examined by the city engineer to ensure compliance with the improvements and design standards of the City.

16.16.060. Amendments to Final Plat.

The city engineer may approve minor amendments to approved final plats before the final plat is recorded, if he/she finds that the proposed amendments do not jeopardize the interest of the city or adjoining property owners. The types of minor amendments contemplated by this section may include, but not be limited to, legal description mistakes, minor boundary changes, and items

that should have been included on the original final plats. Major amendments to unrecorded approved final plats shall go back through the approval process. Amendments to record the final plat shall be in accordance with state law and any policies or procedures adopted by the city.

16.16.070. Appeals.

Any decision of the development review committee may be appealed to the city council. Any appeal taken must be taken within thirty (30) days of the decision of the development review committee. Any decision by the City Council shall be final and non-appealable.

Chapter 16.20. Improvements and Design Standards.

16.20.010. Availability of Adequate Public Facilities.

16.20.020. Unavailability of Adequate Public Facilities.

16.20.030. Improvement Installations.

16.20.040. Fees.

16.20.050. Utility Connection.

16.20.060. Sewage Facilities.

16.20.070. Licensed Contractor.

16.20.080. Water Transfer.

16.20.090. Time Limitation for Completion.

16.20.100. Conflict of Interest.

16.20.110. Security for Improvements Required.

16.20.010. Availability of Adequate Public Facilities.

A. Approval of a development which requires design review as established by Spanish Fork City Municipal Code §17.12.050 (B) shall not be granted until such time as the applicant has provided information, to the satisfaction of the city engineer, to establish that adequate public facilities exist in the areas affected by the development to accommodate the development.

B. The public facilities to which the preceding paragraph applies shall include the following:

1. The city culinary water system, including quantity, quality, treatment, storage capacity, transmission capacity, and distribution capacity;
2. The city sanitary sewer system, including treatment, overall capacity, outfall lines, laterals, and collector lines;
3. The city electric power system, including generation, transformation, transmission, and distribution;
4. The storm water system, including drainage and flood control facilities;
5. Streets and roads, including arterial and collector roads, sidewalks, curb and gutter, and related transportation facilities;
6. Recreational facilities, including ballparks, playgrounds, and trails.
7. Secondary irrigation, including transmission and distribution capacity.

C. The adequacy of public facilities shall be determined in accordance with the Spanish Fork City Construction and Development standards, the various master plans and the comprehensive general plan of the city, and at the discretion of the city engineer.

16.20.020. Unavailability of Adequate Public Facilities.

In the event that the city engineer determines that adequate public facilities are not available and will not be available by the time of approval, so as to assure that adequate public services are available at the time of occupancy, the following alternatives may be elected, at the discretion of the city council:

- A. Allowing the developer to voluntarily construct those public facilities which are necessary to service the proposed development and provide adequate facilities as determined by the city engineer and by entering into an appropriate form of connector's, or developers agreement, which may include, as deemed appropriate by the city engineer, provisions for recoupment of any expenses incurred above and beyond those reasonably necessary for or related to the need created by or the benefit conferred upon the proposed development, and the method and conditions upon which recoupment is to be obtained. Any connectors agreement authorized by this paragraph must be executed within 30 days of the completion and acceptance by City of the improvements.
- B. Requiring the timing, sequencing, and phasing of the proposed development consistent with the availability of adequate public facilities;
- C. Deferring approval and the issuance of building permits until all necessary public facilities are adequate and available; or
- D. Denying approval and allowing the applicant to reapply when adequate public facilities are available.

16.20.030. Improvement Installations.

All improvements shall be installed in accordance with the Construction and Development Standards unless waived by the City engineer for unique conditions. A waiver is intended to be extremely difficult to obtain and is to be based on rare and unusual circumstances. The expense of all such improvements and installations, including but not limited to expenses for all of the foregoing items and for area-wide topographical drainage, engineering, ecological or other work or study, shall be borne by the owner or subdivider or developer subject to such terms and conditions as may be required by the city council by way of ordinance, resolution, contract or otherwise. The failure of any owner or subdivider to comply with the terms of this provision or his failure to complete the installation of all of the foregoing installations, fixtures or improvements or such others as may be required by the city council from time to time, shall result in the forfeiture pro tanto of the bond or other security posted. Any developer or subdivider forfeiting a bond may jeopardize his/her/its ability to do future projects in the City, following a hearing before the City Council. Any subdivision not in full compliance with this section shall not be connected to or receive any of its municipal services, including but not limited to water, sewer, irrigation, electricity or refuse removal services.

16.20.040. Fees.

Fees may be charged by the city council for the purpose of defraying expenses of all work performed by the city or its agents in connection with processing or approving the application for a subdivision, reviewing a preliminary plat and a final plat or for inspecting or installing a fixture

or apparatus in any subdivision. Such fees shall in no case be less than the fee charged for similar services provided by the city to persons who are not subdividers.

16.20.050. Utility Connection.

It shall be the responsibility of the developer to connect to all available utilities or improvements wherever they are located and extend those improvements to and through the development to obtain approval of said subdivision.

16.20.060. Sewage Facilities.

Subdivisions of five (5) acre lots or larger may be allowed with a septic system sanitary sewer, at the discretion of the council, when the following minimum requirements are met:

1. The owner signs a recordable instrument waiving the right to protest or otherwise object to the creation of a special improvement district to be created for the purpose of providing the city sanitary sewer system;
2. Including on the plat a requirement that the city sanitary sewer system be connected to each residence at the owner's expense at such time that the city sanitary sewer system is within five hundred (500) feet of the lot line.
3. The septic system sanitary sewer meets all requirements of Federal, State, County or municipal law or regulations at the time of installation.
4. No more than one building containing a septic system sanitary sewer may be constructed on each lot.

16.20.070. Licensed Contractor.

All work performed in accordance with this title shall be performed by a contractor licensed to perform such work by the State of Utah.

16.20.080. Water Transfer.

Each developer of a subdivision shall transfer to the City the quantity and type of water rights as determined and established from time to time by resolution of the City Council. The purpose of the section is to assure the City has an adequate water supply to provide water to the development, or to replace water which is provided to the development.

16.20.090. Time Limitation for Completion.

A. All improvements listed herein must be completed within one (1) year of the date of approval, unless the city engineer requires an earlier completion date. An extension for completion of improvements may be granted by the city council for up to one additional year. A request for an extension must be submitted to the city council in writing explaining the reasons for the requested extension.

B. The city engineer may require certain of the improvements to be completed prior to the one year period. The engineer shall have the discretion to designate what improvements shall be completed and within what time frame. Failure to complete the improvements within the allotted time, and after ten (10) days written notice of the failure is given, the city may proceed to have the improvements completed and may execute upon the bond or letter of credit in order to pay for the same.

16.20.100. Conflict of Interest.

No employee or agent of the city shall work for or be employed by any contractor or subdivider for the purpose of installing any plumbing or sewer fixture, pipes or connections, or for the purpose of installing or supervising the installation of any curb, gutter, street or sidewalk, or for the purpose of surveying any portion of the subdivision or proposed subdivision, or for the purpose of installing or supervising the installation of any electrical wiring, connections, apparatus or fixture, provided that this section shall not apply to independent engineering contractors employed by the city.

16.20.110. Security for Improvements Required.

In order to insure the proper installation of the improvements required by this chapter and in order to insure prompt payment of all persons supplying labor or materials to the subdividers or their contractors or subcontractors installing said improvements, the owners of property or the principal subdividers shall deposit security with the city in the form of a cash bond, an irrevocable letter of credit, or an escrow bond conditioned on the installation of all required improvements within such time and in accordance with the plans, specifications, time limitations and conditions relating thereto as meet with the approval of the city council or such personnel as the city council shall designate. The amount of the security shall be 125% of the city's estimate of the costs of the improvements.

Irrevocable letters of credit or escrow bonds shall be executed by financial institutions authorized to conduct business in the State of Utah, and must be in the form approved by the city. The bond or letter of credit as required by this section must be posted prior to the time that the final plat is placed on the Development Review Committee agenda for approval pursuant to section 16.16.030. Upon completion, inspection, approval and acceptance of the improvements the bond less ten percent (10%) shall be released to the developer. Ten percent (10%) of the bond amount shall be held for a period of one (1) year following final inspection and acceptance.

Chapter 16.24. Impact Fees.

16.24.010. Impact Fees, Ratification, Authorization.

16.24.020. Purpose of Impact Fees, Limitations.

16.24.030. Determination.

16.24.040. Method of Assessing.

16.24.050. Special Exceptions.

16.24.010. Impact Fees, Ratification, Authorization.

Spanish Fork City is hereby authorized to establish and collect impact fees as a condition of granting subdivision plat approval and/or as a condition of the issuance of a building permit. All prior impact fees assessed and collected by the city are hereby ratified.

16.24.020. Purpose of Impact Fees, Limitations.

The purpose of impact fees is to provide necessary funding for capital improvements to public facilities, and to offset other expenses related to public facilities incurred due to new development. Impact Fees may be assessed for water, sewer, pressurized irrigation, electric power,

storm drainage, streets and roads, and recreation.

16.24.030. Determination.

The city council may set impact fees based on studies and analyses of the anticipated costs to provide adequate public facilities to new developments. The amount of the impact fee shall not exceed the anticipated cost of providing adequate public facilities which become necessary as a result of the development. In setting the amount of the fee, the council shall take into consideration the following factors:

- A. The cost of existing capital facilities;
- B. The manner of financing existing facilities;
- C. The relative extent to which newly developed property and other properties within the city have already contributed to the costs of existing capital facilities;
- D. The relative extent to which newly developed properties and other properties within the city will contribute to the cost of existing capital facilities in the future;
- E. The relative extent to which newly developed properties are entitled to a credit because the city may be requiring owners or developers to provide common facilities that have historically been provided by the city and financed through general taxation or other charges in other parts of the city;
- F. The extraordinary costs, if any, in servicing newly developed properties;
- G. The time-price differential inherent in fair comparison of amounts paid at different times.

16.24.040. Method of Assessing.

The city council may establish and assess impact fees by an impact fee enactment and by complying with the notice and hearing provisions of Utah Code Ann. 11-36-202

16.24.050. Special Exceptions.

A. The City Council retains the authority to adjust any impact fee imposed in order to respond to unusual circumstances in specific cases and to insure that impact fees are fairly imposed. Economic hardship shall not be considered an unusual circumstance justifying an adjustment to the impact fee.

B. The City Council may, at its sole discretion, adjust any impact fee, on the basis of justice and equity, based upon studies and data submitted by the developer.

C. The City Council may, at its sole discretion, waive any impact fee for governmental development or other development activities with broad public purposes. Any development undertaken to gain a profit, whether or not a profit is realized, does not qualify as a broad public purpose.

D. The City Council may, at its sole discretion, allow a full or partial credit against impact fees for any system improvements provided by the developer that are required as a condition of approval of the development activity.

Chapter 16.28. Enforcement.

16.28.010. City Engineer Designated.

16.28.010. City Engineer Designated.

The city engineer is hereby designated and authorized as the officer charged with the enforcement of this title.

A. Permits. The building inspector shall not grant a building permit nor shall any city officer grant or authorize the issuance of any license or permit for the use of any land or the construction or alteration of any building or structure on a lot which would be in violation of any subdivision law, rule, or regulation of the State of Utah or of this title. Lots may not be sold, offers taken, nor reservations taken until the plat is recorded. Any license or permit issued in conflict with such provisions shall be null and void.

B. Inspections. The city engineer or his or her designee shall inspect all required improvements at appropriate stages of construction as designated in the Construction and Development Standards approved and adopted by the city council.

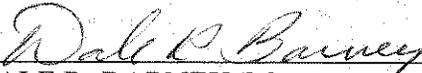
SECTION II.

The Construction and Development Standards of the City are hereby repealed in their entirety and reenacted as set forth in the attached document. The Construction and Development Standards are not a part of the Spanish Fork City Municipal Code, and may be amended by resolution.

SECTION III.

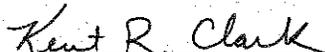
This Ordinance shall become effective 20 days after passage and publication.

PASSED AND ORDERED PUBLISHED BY THE CITY COUNCIL OF SPANISH FORK,
UTAH, this 6th day of July, 1999.

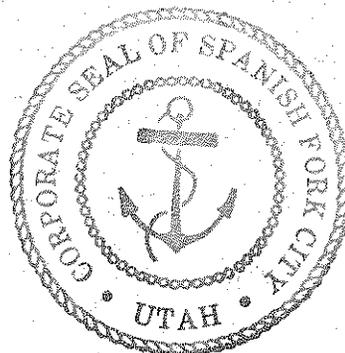


DALE R. BARNEY, Mayor

ATTEST:



KENT R. CLARK, City Recorder



POLICY 39. CONSTRUCTION & DEVELOPMENT STANDARDS

- Chapter 39.02. General Improvement Requirements.**
- Chapter 39.04. Preliminary Plat.**
- Chapter 39.06. Final Plat.**
- Chapter 39.08. Improvement and Design Standards.**
- Chapter 39.10. Inspection.**
- Chapter 39.12. Prerequisites of Contractors.**
- Chapter 39.14. Earthwork.**
- Chapter 39.16. Excavation and Backfill for Trenches.**
- Chapter 39.18. Water Lines.**
- Chapter 39.20. Pressurized Irrigation Systems.**
- Chapter 39.22. Sewer Lines.**
- Chapter 39.23. Storm Drains.**
- Chapter 39.24. Restoration of Surface Improvements.**
- Chapter 39.26. Street Surfacing.**
- Chapter 39.28. Concrete Curb, Gutter, and Sidewalks.**
- Chapter 39.30. General Specifications for Electrical Service.**
- Chapter 39.32. Hillside Site Development.**
- Chapter 39.34. Surface Irrigation Systems.**

Chapter 39.02. General Improvement Requirements.

39.02.010. General.

This section defines the general requirements for improvements to be built by the developer, subdivider, owner or contractor for all types of construction, (to include residential, commercial, industrial and professional office).

The improvements shall include all street improvements in front of all lots and along all dedicated streets to a connection with existing improvements of the same kind or to the boundary of the subdivision nearest existing improvements. Layout must provide for future extension to adjacent development and to be compatible with the contour of the ground for proper drainage. All water lines, sewer lines, and any other buried conduit shall be installed to the boundary lines of the subdivision or development.

Chapter 39.04. Preliminary Plat.**39.04.010. Filing.****39.04.020. Form and Contents.****39.04.010. Filing.**

A developer must review the conceptual plan for a development with the city planner before a preliminary plat may be submitted. The city planner then schedules the conceptual plan to be reviewed at a pre application meeting. At this meeting, the feasibility and the major requirements for the development are outlined by the various departments in the city. The developer should then draft a preliminary plat.

To apply for a preliminary plat, complete a Preliminary Plat Application form and submit to the engineering secretary with the following:

1. Ten (10) 24x36 copies of the plat drawings folded to a 9x12 size so the name of the subdivision is visible;
2. Two (2) 11x17 copies of the plat drawings;
3. A computer aided design (CAD) file of the plat must be submitted on a 3 1/2" disk, zip disk, CD or by e-mail in an autocad or dxf format. The CAD file of the subdivision must be in the 1927 North American Datum (NAD27) State Plane Coordinate System with a tie to a section corner;
4. Payment of all the fees for preliminary plats.

The city will review the submission and notify the developer of any changes that must be made. Once these changes are made, one (1) 24x36 copy, one (1) 11x17 copy and a CAD file of the plat and ten (10) bound subdivision packets must be submitted to the engineering secretary. The subdivision packet shall include a project overview, plat drawings, product elevations, landscape plan, description and design of amenities, CC&R's, and soil reports. The description and design of amenities shall include detailed drawings and pictures of proposed playgrounds, open space, trails, streetscapes, architectural variety, fencing, and any other items deemed necessary by the City Engineer. All drawings and packets must be updated with any changes made by the Development Review Committee, Planning Commission, and City Council after each meeting. If anything is submitted by e-mail the engineering secretary must be contacted for the proper e-mail address and for confirmation the e-mail was received.

39.04.020. Form and Contents.

The preliminary plat of a subdivision shall contain the following information.

- A. The proposed name of the subdivision;
- B. The location of the subdivision as a part of some larger subdivision or tract of land referred to in the records

of the county recorder. In such case, a sketch of the prospective street system of the unplatted parts of the subdivider's land shall be submitted and the street system of the part submitted shall be considered in light of existing master street plans or other planning commission street studies;

C. The names and addresses of the developer, the engineer or surveyor of the subdivision, or other persons to whom notice of the hearing to be held by the City Council should be sent;

D. Sufficient information to locate accurately the property shown on the plat and the location and principal dimensions of recorded section lines, streets, alleys, easements, watercourses, sewer, gas, fence lines and building within 200 feet of the subdivision, water mains and all other important features within and adjacent to the tract to be subdivided;

E. The location, areas and principal dimensions of all proposed streets, alleys, easements, lot lines and areas to be reserved for public use;

F. The date of preparation, a standard engineering scale (not more than one hundred (100) feet to the inch) and a north arrow;

G. A contour map with vertical intervals not to exceed five (5) feet, or where such information is not obtainable, a centerline profile for all proposed right-of-ways. All vertical data shall be based on the 1929 North American Vertical Datum (NAVD29).

H. The names of all adjacent subdivisions and property owners; and

I. A table including: 1) Total acreage of area proposed for development 2) Total acreage in lots 3) Total acreage in open space 4) Percent of open space 5) Total number of lots 6) Density in lots per acre.

J. Developer must provide a detailed soils report addressing the following issues: 1) Hill stabilization, 2) Road design, 3) Foundation design, 4) Groundwater impacts, and 5) General soil stability.

Chapter 39.06. Final Plat.**39.06.010. Filing.****39.06.020. Form and Contents.****39.06.030. Recordation****39.06.010. Filing.**

To apply for a final plat, complete a Final Plat Application form and submit to the engineering secretary with the following:

1. Ten (10) 24x36 copies of the plat folded to a 9x12 size so the name of the subdivision and plat is visible;
2. Two (2) 11x17 copies of the plat;
3. A computer aided design (CAD) of the plat must be submitted on a 3 ½" disk, zip disk, CD or by e-mail in an autocad or dxf format. The CAD file of the subdivision must be in the NAD27 State Plane Coordinate System with a tie to a section corner;
4. A copy of exhibit "A" for the Conditions, Covenants and Restrictions (CC&R's).

The city will review the submission and notify the developer of any changes that must be made. Once these changes are made and accepted by Spanish Fork City, one (1) 24x36 copy, one (1) 11x17 copy and a CAD file of the plat must be submitted to the engineering secretary. If anything is submitted by e-mail the engineering secretary must be contacted for the proper e-mail address and for confirmation the e-mail was received.

39.06.020. Form and Contents.

The final plat of a subdivision shall contain the following:

- A. Accurate dimensions for all lines, angles and curves used to describe boundaries, streets, alleys, easements, areas to be reserved for public use and other important features; the lines, angles, dimensions, State plane coordinates, bearings, areas and numbers of all lots, blocks and parts reserved for any reason within the subdivision. All dimensions shall be determined by an accurate field survey which shall balance and close within a limit of one in ten thousand;
- B. All lots and blocks are to be numbered and named in accordance with the street numbering and naming system assigned by the City on the preliminary plat, unless the planning commission and the City Council have given their prior approval for a different naming and numbering system;
- C. A statement that "all water lines up to and including the meter, all sewer mains, pressurized irrigation lines up to and including the stop and waste, and all power lines up to and including the meter are dedicated to Spanish Fork City."

D. All drawings and signatures shall be in waterproof ink with outer dimensions of twenty-four (24) inches by thirty-six (36) inches. There shall be an unencumbered margin of one and one-half inches on the left-hand side of the sheet and not less than a half inch margin around the outer three sides of the sheets. The scale shall be a standard engineering scale no more than one hundred (100) feet to the inch. Plats shall be submitted on Mylar.

E. When more than one sheet is required, an index sheet of the same size shall be filed showing the entire subdivision with the individual sheets blocked out thereon as a key; and

F. Four copies of the construction drawings, including all plan and profile drawings shall be submitted with the final plat for review. Two copies will be retained by the City, the other two copies will be signed and stamped by the City and returned to the developer. A copy of the signed and approved construction drawings shall be on site at all times.

G. As-built drawings (to scale) will be provided by the developer within 30 days of completion of underground utilities. As-builts need to include water, sewer, pressurized irrigation, storm drain, irrigation lines, water laterals, sewer laterals, and pressurized irrigation laterals, manholes, valves, fittings, appurtenances, fire hydrants, meters, power, electrical conduits, transformers, street lights, sectionalizers, junction boxes and any other underground facility. The as-builts must be submitted on 24x36 mylar sheets and a CAD file on a 3 ½" disk, zip disk, CD or e-mail in an autocad or dxf format. The CAD file of the subdivision must be drawn from an accurate field survey in the NAD27 State Plane Coordinate System with a tie to a section corner. If anything is submitted by e-mail the engineering secretary must be contacted for the proper e-mail address and for confirmation the e-mail was received.

39.06.030. Recordation

A copy of said final plat shall be kept on file in the office of the city engineer or his/her designee for use by the city.

Prior to the construction of any improvements required by this title or the submission of any bond, the subdivider shall furnish to the city engineer or his/her designee all plans, information and data necessary for said improvements. These plans shall be examined by the city engineer or his/her designee and shall be approved and determined to be in accordance with the improvements and design standards of the City. Following the approval of construction drawings, but prior to the recording of the plat, a Questar approved design of the gas lines shall be submitted to Spanish Fork City.

Chapter 39.08. Improvement and Design Standards.

- 39.08.010. Utility Connection.**
- 39.08.020. Water Supply.**
- 39.08.030. Pressurized Irrigation.**
- 39.08.040. Sewers and Sewage Facilities.**
- 39.08.050. Storm Drainage.**
- 39.08.060. Streets.**
- 39.08.070. Local Streets.**
- 39.08.080. Driveways.**
- 39.08.090. Cul-De-Sacs.**
- 39.08.100. Temporary Turn-Arounds.**
- 39.08.110. Reverse Frontage Lots.**
- 39.08.120. Off-Setting Intersections.**
- 39.08.130. Clear Vision Area.**
- 39.08.140. Curbs, Gutters, and Sidewalks.**
- 39.08.150. Parking Lots and Driveways.**
- 39.08.160. Ground Water.**
- 39.08.170. Underground Utilities.**
- 39.08.180. Licensed Contractor.**
- 39.08.190. Time Limitation for Completion.**
- 39.08.200. Building Permits.**
- 39.08.210. Security for Improvements Required.**
- 39.08.220. Standards for Construction Drawings.**
- 39.08.230. Testing.**
- 39.08.240. Half-Street Width.**
- 39.08.250. Traffic Control.**
- 39.08.260. Survey.**

39.08.010. Utility Connection.

It shall be the responsibility of the developer to connect to any utilities or improvements wherever they are located and extend those improvements to and through the development as shown on the final plat.

39.08.020. Water Supply.

The developer shall connect the subdivision with the city water system with all appurtenances and shall make such water available to each lot within the subdivided area. Adequacy of supply and sizes of water mains shall be established by the city engineer or his/her designee.

Workmanship and details of construction shall be in accordance with the city "Construction and Development Standards" and/or other codes adopted by the city. All work in connection with water services shall be done as directed and under the supervision of the city engineer or his/her designee.

39.08.030. Pressurized Irrigation.

The developer shall connect the subdivision with the city pressurized irrigation system with all appurtenances and shall make such pressurized irrigation available to each lot within the subdivided area. Adequacy of supply and sizes of pressurized irrigation mains shall be established by the city engineer or his/her designee.

Workmanship and details of construction shall be in accordance with the city "Construction and Development Standards" and/or other codes adopted by the city. All work in connection with pressurized irrigation services shall be done as directed and under the supervision of the city engineer or his/her designee.

39.08.040. Sewers and Sewage Facilities.

The developer shall provide each lot with a sanitary sewer system in accordance with the ordinances of the city and pursuant to the city "Construction and Development Standards" and/or other codes adopted by the city. All said work shall be done as directed and under the supervision of the city engineer or his/her designee.

39.08.050. Storm Drainage.

The developer shall provide on-site facilities for a 25 year storm event and piping and appurtenances to convey a 100 year storm event to a regional storm facility. These shall be constructed in accordance with the ordinances of the city and pursuant to the city "Construction and Development Standards" and/or other codes adopted by the city. All said work shall be done as directed and under the supervision of the city engineer or his/her designee.

39.08.060. Streets.

The developer shall construct all streets required by the subdivision as specified by the City Council in accordance with the city "Construction and Development Standards". All streets shall be constructed pursuant to standards recommended by the city engineer or his/her designee. The developer shall be responsible to construct all streets required in the final plat and as a condition of the final plat approval to the standard required by the city engineer or his/her designee. The developer shall be required to provide an engineered design for the street sub-grade construction.

39.08.070. Local Streets.

A local street cross-section is to serve a maximum of 50 dwelling units then attach to a collector street. The 60' cross-section will only be allowed in residential areas. The 66' cross-section is the minimum for commercial and industrial areas.

39.08.080. Driveways.

No driveways will be allowed within the following distances from the adjoining street right-of-way.

50'	Local Street
75'	Minor Collector
100'	Major Collector
150'	Arterial

The city engineer or his/her designee is hereby designated as the responsible official to grant approval. Once approval has been granted, a building permit may be obtained.

B. No certificate of occupancy may be granted until roadbase, curb, gutter, and graveled driveways, related to the premises are installed by the contractor or developer and approved by the City.

39.08.210. Security for Improvements Required.

In order to insure the proper installation of the improvements required by this chapter and in order to insure prompt payment of all persons supplying labor or materials to the subdividers or their contractors or subcontractors installing said improvements, the owners of property or the principal subdividers shall deposit with the city a cash bond, an irrevocable letter of credit, or an escrow bond conditioned for the installation of all improvements required within such time and in accordance with the plans, specifications, time limitations and conditions relating thereto.

The bond shall be in an amount to be determined by the city engineer or his/her designee, and shall be filed in the office of the city recorder and shall amount to the estimated cost of improvements plus 25%, or a \$1,000 whichever is greater. The developer shall sign a "Development Agreement" agreeing to install improvements required for approval.

39.08.220. Standards for Construction Drawings.

The following instructions are for the purpose of standardizing the preparation of drawings to obtain uniformity in appearance, clarity, size and style.

Following approval of the Planning Commission, four (4) copies of the construction plans with cut-sheets shall be submitted with two (2) copies to be retained by the city engineer or his/her designee and two copies returned to the subdivider with the approval mark and signature of the city engineer or his/her designee. One (1) approved copy shall be kept available at the construction site.

These plans and designs shall meet the standards defined in the specifications and drawings hereinafter outlined. The minimum information required on drawings for improvements are as follows:

All drawings and/or prints shall be clear and legible and conform to good engineering and drafting room practice. Size of drawings shall be 24" x 36" (trim line) with minimum borders of 1/2" on top, bottom and right sides, left side 1 1/2".

A. Include the following with the construction drawings:

1. A copy of the proposed final plat.
2. A plan view of the entire project.
3. Plan and profiles of all curb, gutter, storm drain, irrigation and sewer systems.

4. Detail drawings only for items not found in the Spanish Fork standard drawings. Detail drawings shall be to scale and completely dimensioned and described. All structures shall be designed in accordance with minimum requirements established by the Spanish Fork City "Construction and Development Standards".
 5. Complete plans for all off-site work to be done in conjunction with the project.
- B. Include the following on each drawing sheet:
1. North Arrow.
 2. Scale. Use a standard engineering scale between 1 inch equals 10 feet and 60 feet. Use a scale of 1 inch equals 100 feet on the plan view of the entire project if necessary to fit project on one sheet.
 3. Title block along right side of sheet with title of drawing in lower right corner. Include in title block:
 - a. Name of Subdivision and plat.
 - b. Name of city.
 - c. Specific type of drawing (construction drawings, plan view, plan and profiles, off-site construction, detail drawings).
 - d. Space provided for approval signature of city engineer or his/her designee and date.
 - e. Name of engineer, surveyor or firm preparing drawings.
 - f. Drawing number of total number of drawings.
 4. Also include the following with profile drawings:
 - a. Vertical scale of 1 inch equals 1, 2, 3 or 4 feet.
 - b. Reference to the vertical datum. The 1929 North American Vertical Datum (NAVD29) shall be used for all elevation data.
 - c. Benchmark location and elevation for checking construction.
 - d. Stationing aligned from plan view with the profile view.
 - e. Existing ground, ditch and utility lines.
- C. Include the following for curb, gutter, storm drains, drainage structures, sidewalks and street surfacing plans:
1. Plan and profile for top back of curb for each side of the street. Label profile line as top back of curb for both sides of street if it is the same.
 2. Stationing and top back of curb elevations with curve data for curb returns.
 3. Flow direction and type of cross drainage structures at intersections with adequate

License; (2) Certificate of Insurance; (3) Performance Bond of \$1,000.00; and (4) Detailed drawing of proposed work and traffic control (4 copies).

The contractor is given a copy of the signed permit and the signed / approved plan after the city engineer or his/her designee has approved and signed the application. Time limits may be set; and the permit can be suspended for non-compliance.

39.08.260. Survey.

All other property corners shall be marked with a 30 inch rebar and licensed land surveyor's cap before acceptance of subdivision improvements by Spanish Fork City. These rebars must be offset one foot by a steel tee post four feet out of the ground.

Chapter 39.10. Inspection.**39.10.010. All Work Subject to Inspection.****39.10.020. Inspection Fees.****39.10.025. Acceptance of Improvements.****39.10.030. Requests for Inspection.****39.10.040. Construction Completion Inspection.****39.10.050. Work Without Inspection.****39.10.055. As-Build Drawings.****39.10.010. All Work Subject to Inspection.**

All construction work involving the installation of improvements in subdivisions shall be subject to inspection by the city. The developer shall be responsible to ensure inspection and provide certified reports from a qualified testing lab or engineering firm for the following inspections:

- A. Compaction of all trenches;
- B. Pressure tests on water mains;
- C. Pressure tests, television inspection of sewer mains, and mandrel deflection tests;
- D. Slump tests and compression tests and air entrainment on all concrete work; and
- E. Compaction test on all sub-base, untreated base course, and bituminous surface course.

Certain types of construction shall have continuous inspection while others may have only periodic inspections. It is the responsibility of the developer/subdivider to insure that all contractors give the City appropriate notice to allow scheduling of said inspections.

F. Inspection shall be required on the following types of work:

1. Laying of street surfacing.
2. Placing of concrete for curb and gutter, sidewalks and other structures.
3. Laying of sewer pipe, drainage pipe, water pipe, valves, hydrants and testing.
4. Sub-grade.
5. Street grading and gravel base.
6. Excavations for curb and gutter and sidewalks.
7. Excavations for structures.
8. Trenches for laying pipe.
9. Forms for curb and gutter, sidewalks and structures. No work shall be started except in the presence of, or with the prior approval of the city engineer or his/her designee.
10. Electric Trenches.

G. See individual sections for specific inspection and testing requirements.

39.10.020. Inspection Fees.

Inspection fees and/or connection fees required by ordinance shall be paid and permits required shall be obtained prior to the recording of final plat.

39.10.025. Acceptance of Improvements.

Inspection made by the city to determine compliance with the specifications does not imply acceptance of the work. The city requires completion of all facilities before any are accepted for maintenance. Final acceptance of improvements will be made at an inspection by the city at the completion of all improvements. All improvements shall be free from defects or damage at the time of inspection. Specifically the following are required:

1. All sidewalks shall be free of cracks and construction damage and shall be true to line and grade.
2. All sewer manholes and water valve boxes shall be raised to pavement level.
3. All water valves and hydrants shall be operative.
4. All street lights shall be operable.
5. Grades. All grades and cut sheets shall be approved by and obtained from the city engineer or his/her designee.

6. Construction signs. The contractor shall furnish and maintain adequate construction signs and barricades to protect the public and shall meet the requirements of the Manual of Uniform Traffic Control Devices..

7. Clean-up. Where excavations are made in city streets, the rock, etc., shall be removed and gravel base placed in the excavation the same day as backfill is placed.

A final walk-through to inspect the improvements shall be arranged by the developer with the engineering secretary when said improvements are completed. The improvements will be accepted when the punch list from the final walk-through is completed.

39.10.030. Requests for Inspection.

Requests for inspection shall be made to the city by the person responsible for the construction. Requests for inspection on work requiring continuous inspection shall be made **three (3) days** prior to the commencing of the work. Notice shall also be given **one (1) day in advance** of the starting of work requiring periodic inspection.

39.10.040. Construction Completion Inspection.

An inspection shall be made by the city engineer or his/her designee after all construction work is completed. Any faulty or defective work shall be corrected by the persons responsible for the work within a period of thirty (30) days of the date of city engineer's or his/her designee inspection report defining the faulty or defective work.

It is further agreed and understood that the determination for necessity of repairs and maintenance of the work rests with the city engineer or his/her designee. His/Her decision upon the matter shall be final and binding upon the developer, and the guarantee hereby stipulated shall extend to and include, but shall not be limited to the entire street base, and all pipes, joints, valves, backfill and compaction as well as the working surface, curbs, gutters, sidewalks, and other accessories that are, or may be

Chapter 39.12. Prerequisites of Contractors.**39.12.010. Prequalification.****39.12.020. Bonding.****39.12.030. Street Excavation Permits.****39.12.010. Prequalification.****Insurance.**

The contractor shall not commence work in city property, streets, easements, or right-of-ways until he has obtained, as a minimum, the insurance required hereunder and evidence of such insurance has been submitted to and approved by the City. The submittal of said evidence to the City shall not relieve or decrease the liability of the contractor hereunder.

Workers' Compensation & Employers' Liability Insurance.**I. As required by State law.**

II. Commercial General Liability Insurance - ISO Form CG 00 01 (11/85) or equivalent, occurrence policy, with the following information:

a. Limits of not less than -

- | | |
|--------------------------------------|-------------|
| i. General Aggregate | \$1,000,000 |
| ii. Products - Comp/OPS Aggregate | \$1,000,000 |
| iii. Personal and Advertising Injury | \$ 500,000 |
| iv. Each Occurrence | \$ 500,000 |
| v. Fire Damage (any one fire) | \$ 50,000 |
| vi. Medical Expense (any one person) | \$ 5,000 |

b. Endorsements attached thereto including the following or their equivalent:

- i. ISO Form CG 25 03 (11/85), Amendment Of Limits Of Insurance (Designated Project or Premises), describing the subject contract and specifying limits as shown above.
- ii. ISO Form CG 20 10 (11/85), Additional Insured -- Spanish Fork City, Lessees, or Contractors (Form B), naming the City as additional insured and containing the following statement, "This Endorsement Also Constitutes Primary Coverage in the Event of any Occurrence, Claim, or Suit".

III. Automobile Liability Insurance, with**a. Limits of not less than \$500,000 Combined Single Limit per accident.****b. Coverage applying to any auto.**

Spanish Fork City requires all contractors doing work in or on any city property, street, easement, or right-of-way to pre-qualify. A current contractor's license, insurance information, and an information sheet must be on file with the engineer's office, prior to any construction in present or proposed city streets.

A bond will be required with each project. Prior to any construction being completed in or on city property, streets, easements, or right-of-ways, a permit must be picked up and approved. The permit must be completed forty-eight (48) hours prior to construction. A notice must

be given to the city engineer or his/her designee 24 hours prior to inspections. Failure to obtain a permit or proceeding without notification shall constitute grounds for legal action. The city will inspect all work. The contractor must make arrangements with the city for inspections. If work is performed without proper inspections or without pre-qualifying, the city may hold that portion of the bond for five (5) years after completion of improvements, or require reinstallation.

Prior to starting construction, the developer shall schedule with the city engineer or his/her designee a pre-construction meeting with all contractors and sub-contractors. Contractors are required to meet with the city engineer or his/her designee prior to commencing construction.

39.12.020. Bonding.

The developer or contractor shall post a bond as required by the City to insure the completion of all required improvements. Said bond shall be posted before recording a final plat or obtaining a building permit. The bond shall be in the amount of one hundred and twenty-five percent (125%) of the estimated cost of all required improvements. Bonds shall be calculated using the average of the most recent city bids for equivalent work. A portion of this bond may be released at four intervals: the completion of all 1) underground construction; 2) concrete work; 3) paving of the streets; and 4) electrical facilities. Bond releases for off-site improvements may be given at reasonable intervals as determined by Spanish Fork City.

Twenty-five percent (25%) of the bond will be retained for one year after final inspection and acceptance from Spanish Fork City. After one year, the bond will be reduced to ten percent (10%) and held for one additional year. Should any difficulties or problems arise during the two (2) year warranty period, the developer shall correct said problem within thirty (30) days of notification of the problem. The city will have authority to use the remaining bond to correct the problem in such manner as it sees appropriate.

39.12.030. Street Excavation Permits.

All work in any public right-of-way will require an approved excavation permit. The following information is required to obtain an excavation permit to work on public utilities or streets: (1) Copy of Contractors License; (2) Certificate of Insurance; (3) Cash bond of \$10,000.00; and (4) Detailed drawing of proposed work and traffic control (4 copies). The following information is required of an individual property owner doing his/her own work for drive approaches and other similar minor cement work in order to obtain an excavation permit: (1) Proof of homeowners or similar insurance; (2) Cash or escrow bond in the amount of \$1,000.00 (3) Detailed drawings of the proposed work, including safety, barricades, and traffic and/or

Chapter 39.14. Earthwork.

- 39.14.010. General.**
- 39.14.020. Subgrade Soil Under Structures.**
- 39.14.030. Backfill Around Structures**
- 39.14.040. Construction of Embankments and Fills.**
- 39.14.050. Compacting Earth Materials.**
- 39.14.060. Road Subgrade Preparation.**
- 39.14.070. Slope Safety.**
- 39.14.080. Water Settling.**
- 39.14.090. Removal and Replacement of Defective Fill.**

39.14.010. General.

This section defines the requirements for excavation and backfill for structures, construction requirements for embankments and fills and subgrade preparation for pavements and other surface improvements.

39.14.020. Subgrade Soil Under Structures.

Subgrade soil for all concrete structures, regardless of type or location, shall be firm, dense, thoroughly compacted and consolidated; shall be free from mud and muck; and shall be sufficiently stable to remain firm and intact under the feet of the workmen engaged in subgrade surfacing, laying reinforcing steel, and depositing concrete. Coarse gravel or crushed stone may be used for subsoil reinforcement if results are satisfactory to the city engineer or his/her designee. Such material shall be applied in layers, not exceeding 6 (six) inches in thickness, each layer being embedded in the subsoil by thorough tamping. All excess soil shall be removed to compensate for the displacement of the gravel or crushed stone and the finished elevation of any subsoil reinforced in this manner and shall not be above the specified subgrade. The City Engineer may require a soil analysis and design for any area.

39.14.030. Backfill Around Structures.

Backfill around structures shall be placed to the lines shown on the approved drawings, or as directed by the city engineer or his/her designee. After completion of foundation, footings and walls and other construction below the elevation of the final grades, and prior to backfilling, all forms shall be removed and the excavation shall be cleaned of all trash and debris. Material for backfilling shall consist of excavated material or borrow of sand, gravel, or other suitable material, and shall be placed in layers not exceeding eight (8) inches in uncompacted thickness. Each layer shall be compacted by hand or machine tampers or by other suitable equipment to a density equal to ninety-five (95) percent of maximum dry density as measured by AASHTO T180 method C.

39.14.040. Construction of Embankments and Fills.

Unsuitable materials that occur in the foundation for embankments and fills shall be removed by clearing, stripping and/or grubbing. Where suitable materials occur, after stripping, the foundation shall be scarified to a depth of not less than six (6) inches, and the loosened material shall be moistened and compacted as hereinafter specified for each layer. All materials in embankments and fills shall be placed, moistened, and compacted as provided in the following paragraphs.

When the embankment or fill exceeds the amount of excavation, sufficient additional material shall be obtained from borrow pits provided by the contractor. All material proposed to be imported shall be subject to the review and approval of the city engineer or his/her designee prior to starting of hauling operations.

The materials used for embankment and fill construction shall be free from sod, grass, trash, rocks larger than six (6) inches in diameter and all other material unsuitable for construction of compacted fills. Grading of completed embankments and fills shall bring the surfaces to a smooth, uniform condition with final grades being within 0.1 foot of the design grade.

39.14.050. Compacting Earth Materials.

The material shall be deposited in horizontal layers having a thickness of not more than 6 (six) inches after being compacted as hereinafter specified; provided, that when mechanical equipment is used for placing and compacting the material on a sloping foundation, the layers may be placed parallel to the foundations. The distribution of materials shall be such that the compacted material will be homogeneous and free from lenses, pockets, or other imperfections. Prior to and during compaction operations the material shall have the optimum moisture content required for the purpose of compaction and the moisture content shall be uniform throughout the layers, insofar as practical. Moistening of the material shall be performed at the site of excavation, but such moistening shall be supplemented, as required by sprinkling at the site of construction. If the moisture content is more than optimum for compaction the compaction operations shall be delayed until such time as the material has dried to the optimum moisture content. When the material has been conditioned as hereinbefore specified, the backfill or embankment shall be compacted as follows:

A. Under roadways and extending one foot beyond the proposed curb line the fill or embankment material shall be compacted to a density equal to not less than 95% of maximum dry density as measured by AASHTO T-180, method C or the modified proctor test ASTM D-1557.

B. Under sidewalks and driveways the fill or embankment material (to at least one foot each side of the edge of the slab) shall be compacted to a density equal to not less than 95% of maximum dry density as measured by

Chapter 39.16. Excavation and Backfill for Trenches.

- 39.16.010. General.**
- 39.16.020. Trench Safety.**
- 39.16.030. Dewatering Excavation Area.**
- 39.16.040. Gravel Foundation for Pipe.**
- 39.16.050. Disposal of Materials.**
- 39.16.060. Trench Backfill.**
- 39.16.070. Backfill for Pipe on Hard Foundations.**
- 39.16.080. Backfilling Above Pipe Zone and Consolidation of Backfill.**
- 39.16.090. Compaction and Consolidation of Backfill.**
- 39.16.100. Cutting of Asphalt.**
- 39.16.110. Sidewalk, Curb, and Gutter.**
- 39.16.120. Testing.**
- 39.16.130. Blasting.**

39.16.010. General.

These specifications cover excavation and backfill of trenches for the installation of storm sewer, sanitary sewer, irrigation, water lines, and electrical lines in streets and subdivisions.

39.16.020. Trench Safety.

All construction shall be done in accordance with the provisions of the Utah State Industrial Commission and OSHA regulations. No trenches shall be left open at any time unless guarded with adequate barricades, warning lamps and signs.

When required, excavation shall be braced and shored to support the walls of the excavation to eliminate sliding and settling and as may be required to protect the workers, the work in progress, and existing utilities and improvements. All such sheeting, bracing and shoring shall comply with the requirements of the Utah State Industrial Commission and OSHA.

Any injury or damage resulting from lack of adequate bracing and shoring shall be the responsibility of the developer/contractor and the developer/contractor shall, at his/her own expense, effect all necessary repairs or reconstruction resulting from such damage. No inspections will be done in unsafe trenches and will be the cause for immediate shutdown at the project.

39.16.030. Dewatering Excavation Area.

All seepage or storm water that may occur or accumulate in the excavation during the progress of the work shall be removed. In areas where the nature of the soil and the hydrostatic pressures are of such a character as to develop a quick condition in the earth mass of the trench, the DEWATERING operation shall be conducted so that the hydrostatic pressure will be reduced to or near zero in the immediate vicinity of the trench. All excavations shall be kept entirely free of water at all times

during the construction of the work or until otherwise directed by the city engineer or his/her designee. If this water is pumped into the gutter, the contractor is responsible for all downstream clean-up to the satisfaction of the Public Utilities Superintendent. No water may be pumped into the sanitary sewer system.

39.16.040. Gravel Foundation for Pipe.

When the subgrade material does not afford a sufficiently solid foundation to support the pipe and superimposed load; where water must be drained to maintain a dry bottom for pipe installation and at other locations as previously defined, the subgrade shall be excavated to the specified depth and replaced with crushed rock or gravel conforming to the following gradation:

<u>SCREEN</u>	<u>% PASSING</u>
1"	100
½"	5

The gravel material shall be deposited over the entire trench width in six (6) inch maximum layers, each layer shall be compacted by tamping, rolling, vibrating, spading, slicing, rodding or by a combination of one or more of these methods. In addition the material shall be graded to produce a uniform and continuous support for the installed pipe.

39.16.050. Disposal of Materials.

All excavation material, which is not required for or is unsuitable for backfill, shall be immediately removed from the area and not obstruct streets, sidewalks and driveways.

Gutters and irrigation ditches shall be kept clean of excavated material.

39.16.060. Trench Backfill.

General. The term backfill as hereafter used has reference to the filling of the trench to the natural ground level or to the grade line.

A. Backfill Around Concrete.

1. Granular material containing no rocks larger than two (2) inches for pipe sizes of eight (8) inches to twenty-four (24) inches in diameter.

2. Maximum rock size of three (3) inches for bedding of pipe over twenty-four (24) inches in diameter

3. Granular material shall be well graded as to particle size and distribution.

4. Granular materials shall be placed under and around the pipe in horizontal layers not to exceed 6 inches and tamped by hand or pneumatic tampers up to the lower one-sixth (1/6) of the outside diameter of the pipe and with a minimum of three (3) inches below the pipe. The pipe shall be covered to at least six (6) inches above the top of the pipe using the same

vegetation and other organic or deleterious materials.

D. Disposal of Excess Materials. All excess materials shall be hauled away from the construction site and disposed of by the contractor.

E. Compaction tests on trenches shall be conducted at a minimum of each 150 linear feet of trench, around manholes, valve boxes, and each lateral per lift.

39.16.100. Cutting of Asphalt.

Where the excavation is made in a paved street, the asphalt surface shall be cut on each side of the trench prior to excavation to provide a vertical joint in the surface. Cutting of the asphalt will be made with an asphalt saw.

39.16.110. Sidewalk, Curb, and Gutter.

A. Sidewalk, Curb, and Gutter. Where sidewalk, curb, and gutter exists, excavation may be made by tunneling provided the following requirements are met. Excavation shall be vertical and as near to the curb or sidewalk as possible. The length of the tunnel shall not exceed the width of the sidewalk, curb and gutter. Where a separate sidewalk and curb exist, an excavation shall be made between the sidewalk and the curb. At least three feet of undisturbed earth shall be left under the sidewalk. Where the excavation does not meet these requirements, a section of sidewalk from joint to joint shall be removed and replaced.

B. Gas Lines and Water Lines may be jacked, augured or jettted under sidewalk, curb and gutter provided the resulting hole diameter does not exceed one (1) inch plus the outside diameter of the pipe installed.

C. Backfill of Sidewalk Tunnels. Where the sidewalk has been tunneled, the hole shall be filled from each end with earth compacted with mechanical tampers to 90% of AASHTO T-180, Method C. A 3'-0" section of trench on each side of the tunnel and any space between the sidewalk and curb shall be backfilled with mechanically compacted earth as specified.

39.16.120. Testing.

Tests to determine acceptability of backfill placed will be done by a firm hired by Spanish Fork City. The testing company/developer will use standard procedures of the American Society of Testing Materials (ASTM) and/or American Association of State Highway Transportation Officials (AASHTO). Compaction tests will be required at least every 300 feet per lift per trench. Each lift shall be six (6) to twelve (12) inches as determined by Spanish Fork City and Spanish Fork Cities' testing firm. Lift height will depend on the equipment and material used and the contractor's ability to property compact the material. If the backfill so tested does not meet the requirements of these specifications, the trench shall be re-excavated and the backfill replaced in accordance with these specifications.

39.16.130. Blasting.

Blasting will not be allowed except by permission from the city engineer or his/her designee. The contractor shall comply with all laws, ordinances, and applicable safety code requirements and regulations relative to the handling, storage, and use of explosives and protection of life and property. He/she shall be fully responsible for all damage attributable to his/her blasting operations.

Excessive blasting or overshooting will not be permitted and any material outside the authorized cross section which may be shattered or loosened by blasting shall be removed by the contractor.

Chapter 39.18. Water Lines.

- 39.18.010. General.**
- 39.18.030. Ductile Iron Pipe.**
- 39.18.040. Pipe Installation.**
- 39.18.050. Valves and Couplings.**
- 39.18.060. Fire Hydrants.**
- 39.18.070. Water Main Locations.**
- 39.18.080. Water Meters and Service Lines.**
- 39.18.090. Water Meter Standards.**
- 39.18.100. Tapping of Water Lines.**
- 39.18.120. Testing and Flushing.**
- 39.18.130. Disinfection of Water Lines.**

39.18.010. General.

These specifications cover the installation of culinary water lines. Special and unusual piping and plumbing for equipment or structures are treated as separate items and are not included in this item.

A. Inspection. All pipe used shall be carefully inspected prior to installation. Any or all defective pipe shall be rejected.

B. Care and Handling of Pipe. Adequate precautions shall be taken to prevent damage to piping and protective coatings. Proper implements, tools, and facilities shall be provided and used for safe and convenient prosecution of the work. Pipe placed in trenches shall be lowered in place piece by piece by means of ropes, booms, or any type of power equipment sufficient to handle each piece separately. In no case shall pipe be allowed to fall freely from the top to the bottom of the trench.

C. Pipe Cleanliness. All foreign matter or dirt shall be removed from the inside of the pipe before it is placed and it shall be kept clean during and after laying.

D. Minimum Cover. All water mains and service laterals shall have a minimum cover of 4 feet to the top of the pipe.

39.18.030. Ductile Iron Pipe.

A. Materials. Ductile iron pipe shall conform to all requirements of ANSI/AWWA C151/A21.51, "American National Standard for Ductile Iron Pipe, Centrifugally Cast in Metal Molds or Sand-Lined molds, for Water or Other Liquids." Minimum pressure Class will be 250 for pipes larger than 12-inch diameter. Pipes of 12-inch diameter and smaller shall be pressure Class 350.

All pipe shall be made of good quality Ductile Cast Iron and of such chemical composition and structure as is required to meet the physical and mechanical property requirements of the standard and wrapped with polywrap as per AWWA C105.

B. Joints.

1. Mechanical Joints. All mechanical joints shall meet requirements of ANSI/AWWA C111/A21.11. All gasket surfaces shall be smooth and free from

imperfections. Gaskets shall conform to tests in accordance with specifications and shall be less than one year old.

2. Push-on Joints. All push-on joints shall meet the requirements of ANSI/AWWA C111/A21.11. Gaskets shall be free from defects and not over one year old.

Lubricants shall be non-toxic and have no deteriorating effects on gasket materials. It shall not impart taste to water in a pipe. It shall conform in every way to ANSI 21.11.

3. Flanged Joints. Flanges shall meet the requirements of ANSI/AWWA C110/A21.10, "American National Standard for Ductile Iron and Gray Iron Fittings, 3-inch Through 48-inch for Water and Other Liquids." Flanged joints shall be bolted firmly with machine, stud or cap bolts of proper size. Flange maybe cast integrally with the pipe or may be screwed on threaded pipe. Flanges shall be faced and drilled and of proper dimensions for size and pressure required. Bolts and nuts, unless otherwise specified, shall be made of the best quality refined iron or metal steel and have clean, well-fitting threads. Bolts will be provided with standard hexagonal nuts and standard hexagonal heads. Bolts shall be of the diameter required for each flange and when installed shall be of length so that no more than 3/8-inch nor less than 1/8-inch extends past face of nut. [All buried fittings having steel bolts shall be coated with a non-oxide wax and wrapped with polyethylene].

Gaskets shall be rubber, either ring or full face, and are 1/8th-inch thick. A gasket for each flanged joint of proper size as shown on the drawings.

C. Coatings and Linings for Ductile Iron Pipe. All exterior surfaces of pipe and fittings shall be coated with hot coal tar approximately 1 mil thick. All interior surfaces shall be cement mortar lined with a standard thickness according to ANSI/AWWA C104/A21.4-80.

D. Flanges. Flanges when required shall conform to ANSI/AWWA C115/A21.15-83.

E. Fittings. Fittings for Ductile Iron Pipe shall conform to the provisions of ANSI/AWWA C110/A21.10-82 or C153/A21.53-58.

39.18.040. Pipe Installation.

A. Materials. Pipe for the transmission and distribution of water shall be manufactured in accordance with AWWA C900-81, "AWWA Standard for Polyvinyl Chloride (PVC) Pressure Pipe, 8-inch through 12-inch, for Water". The PVC pipe shall have a cast-iron-pipe-equivalent outside diameter. PVC pipe 14-inches and larger shall be manufactured in accordance with AWWA C905-88, "AWWA Standard for Polyvinyl Chloride (PVC) Water Transmission Pipe, Nominal Diameters 14-inch through 36-inch" All PVC pipe 4-inch

4. Bronze valve stems shall be interchangeable with stems of the double disc valves of the same size, direction of opening and manufacture.

5. All internal ferrous surfaces shall be coated, holiday free, to a minimum thickness of 4 mils with a two part thermo setting epoxy coating. Said coating shall be non-toxic, impart no taste to the water, formulated from materials deemed acceptable in the Food and Drug Administration Document Title 21 of the Federal Regulations on food additives, Section 121.2514 entitled Resins and Polymeric Coatings. It shall protect all seating and adjacent surfaces from corrosion and prevent build-up of scale or tuberculation.

6. The sealing element shall be secured to the disc with self locking stainless steel screws, and it shall be field replaceable, and shall be such that it cannot be installed improperly.

7. Stem failure from over torquing in either the open or closing position shall occur externally at such a point as to enable the stem to be safely turned by use of a readily available tool after exposure of the valve through excavation.

8. Valve design shall incorporate a positive metal to metal stop to prevent over-compression of the sealing element.

9. A full faced composition gasket placed between machined body and bonnet flanges is required to eliminate cold flow or creep action present with "O" ring gasketed bodies.

10. The exterior of the valves shall be Asphalt Varnish, JAN-P-450. If exterior epoxy is used, all bolts and nuts shall be made of Stainless Steel to prevent galvanic corrosion of said nuts and bolts due to insulation from the ferrous valve and line.

B. Butterfly Valve. Unless otherwise noted, all valves 12" and larger shall be butterfly valves conforming to the latest revision of AWWA Standard C-504, Class 150-B, and shall comply with the following:

1. Valve bodies shall be cast iron, ASTM A-126 Class B. Body ends shall be flanged with facing and drilling in accordance with ANSI B16.1, Class 125; or mechanical joint in accordance with AWWA C-111. All mechanical joint end valves shall be furnished complete with joint accessories (bolts, nuts, gaskets, and glands). All valves shall conform with AWWA Standard C-504, Table 3, Laying Lengths for Flanged Valves and Minimum Body Shell Thickness for all Body Types.

2. Valve disc shall be ductile iron ASTM A-536, grade 65-45-12. Valve disc shall be of the offset design providing 360 degree uninterrupted seating.

3. The resilient seat shall be natural rubber bonded to an 18-8, Type 304 stainless steel retaining ring secured to the disc by 18-8, Type 304 stainless

steel screws. The seat shall be capable of mechanical adjustment in the field and field replaceable without the need for special tools. Valve body seat shall be 18-8, Type 304 Stainless Steel.

4. Valve shafts shall be 18-8, Type 304 stainless steel. Shafts shall be of the two piece stub design and attached to the disc by means of "O" ring sealed taper pins with lock nuts.

5. The valve assembly shall be furnished with a non-adjustable factory set thrust bearing designed to center the valve disc at all times.

6. Shaft bearings shall be contained in the integral hubs of the valve body and shall be self-lubricated sleeve type.

7. Valve shaft seal shall consist of "O" Rings. Where the valve shaft projects through the valve body for actuator connection, the "O" Ring packing seal shall be field replaceable as a part of a removable bronze cartridge.

8. When manual actuators are required they shall be of the traveling nut design capable of withstanding 450 foot pounds of input torque against the open and closed stops. All actuators shall have adjustable mechanical stop limits. The closed position stop shall be externally adjustable. Valves shall be installed with the shaft horizontal unless otherwise directed by the Engineer and shall be provided with a 2-inch square operating nut for manually operating the valve with a "T" handle wrench.

9. All valves shall be coated with epoxy in conformance to AWWA Standard C-550, latest revision. Interior wetted ferrous surfaces shall be coated a nominal 10 mils thick for long life; and body exterior shall have a minimum of 3 to 4 mils coating thickness in order to provide superior base for field-applied finish coats.

C. Valve Boxes. All buried valves shall be installed complete with two-piece, cast iron, slip type, 5-1/4-inch shaft valve box with drop lid. The lid shall have the word "Water" cast in the metal. The lids for valves on fire lines shall have the work "FIRE" cast in the metal.

Valves and valve boxes shall be installed where shown on the drawings. Valves and valve boxes shall be set plumb. Valve boxes shall be centered directly over the valve. Valves shall be aligned with property lines where possible. Earth fill shall be carefully tamped around the valve box to a distance of four (4) feet on all sides of the box, or to the undisturbed trench face if less than four (4) feet. Valves shall have the interiors cleaned of all foreign matter before installation.

All valve boxes located in streets shall be installed as nearly to grade as possible. After the pavement is in place, the valve boxes shall be raised to grade, the surrounding asphalt shall be neatly cut to form a 30 inch round opening with the valve box centered, and a concrete collar shall be

39.18.120. Testing and Flushing.

A minimum pressure 50% in excess of the maximum line operation pressure shall be maintained on the portion being tested for a minimum period of two (2) hours, using either pneumatic or hydraulic means to maintain the pressure.

After pressure testing, all pipelines shall be flushed. Flushing shall be accomplished through hydrants or, if a hydrant does not exist at the end of the line, the contractor shall install a tap sufficient in size to provide for 2.5 foot-per-second flushing velocity in the line.

A leakage test shall be conducted concurrently with the pressure test.

1. Leakage defined. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water.

2. Allowable leakage. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{SD(P)^{0.5}}{133,200}$$

in which L is the allowable leakage, in gallons per hour; S is the length of pipeline tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test, in pounds per square inch gage.

a. Allowable leakage at various pressures is shown in Table I.

b. When testing against closed metal-seated valves, an additional leakage per closed valve of 0.0078 gal/hr/in. of nominal valve size shall be allowed.

c. When hydrants are in the test section, the test shall be made against the closed hydrant.

3. Acceptance of Installation. Acceptance shall be determined on the basis of allowable leakage. If any test of pipe laid discloses leakage greater than specified, the Contractor shall, at its own expense, locate and repair the defective material until the leakage is within the specified allowance.

All visible leaks are to be repaired regardless of the amount of leakage.

All new water systems or extensions to existing systems shall be thoroughly flushed before being placed in service. Flushing shall be accomplished through hydrants, or end of line blowoff assemblies at a minimum flushing velocity of 2.5-feet per second.

The following is the flow quantity required to provide a 2.5 foot-per-second flushing velocity.

PIPE SIZE (IN)	FLOW (G.P.M.)
4	100
6	220
8	390
10	610
12	880
16	1567
18	1980
20	2450
24	3525
30	5507

39.18.130. Disinfection of Water Lines.

Disinfection of water mains shall be done in accordance with the latest edition of AWWA C651.j

The pipe shall be clean prior to disinfection. If in the opinion of the City, contamination is such that it cannot be removed by flushing, the pipe shall be cleaned by mechanical means and then swabbed with a one percent (1%) hypochlorite disinfection solution.

The pipeline shall be disinfected as outlined in AWWA C651. The tablet method shall consist of placing calcium hypochlorite tablets at the specified rate in the main during construction at the upstream end of each section of pipe. The tablet shall be attached with an adhesive, such as Permatex No. 1 or equal. The line shall then be filled slowly (velocities less than 1 ft/sec), expelling all air pockets and maintaining the disinfection solution in the line for at least twenty-four (24) hours, forty-eight (48) hours if the water temperature is less than forty-one degrees (41°) F. The disinfection solution shall have a concentration of at least twenty-five (25) mg/l of available chlorine. The continuous feed shall be done exactly as outlined in AWWA C651 and shall have a twenty-five mg/l available Chlorine after twenty-four (24) hours. Under both methods the contractor shall not be allowed to flush the line until the chlorine residual test has been passed by the City.

After the chlorination, the line shall be thoroughly flushed with velocities greater than 2.5 ft/sec with clean water and if necessary re-chlorinated until satisfactory bacteriological testing is obtained. If any of the tests fail the contractor shall be responsible for the fees of additional tests. All new lines shall be isolated from existing lines when tested.

Following the approval of the testing and installation of a water main, the entire water line will be flushed through the end of the main via an approved outlet.

The developer shall take bacteria samples at the sites designated by the city engineer or his/her designee for each job, based on the following formula:

Chapter 39.20. Pressurized Irrigation Systems.**39.20.010. General.****39.20.020. Valves and Couplings.****39.20.030. Pipe Installation.****39.20.040. Testing and Flushing.****39.20.010. General.**

This section covers furnishing and installing pressurized irrigation pipe to the lines and grades shown on the drawings and/or established in the field, and all flushing, testing and repairing, required to ensure adequate and safe operation of the pressurized irrigation system. All pressurized irrigation lines will have a 2 foot minimum cover and will slope toward drains.

39.20.020. Valves and Couplings.

A. Resilient Seated Gate Valve. Valves in sizes 4" through 10" shall be of the iron body, non rising bronze stem, resilient seated type, manufactured to equal or exceed all applicable AWWA standards of C-509 latest revision and all specific requirements outlined in these specifications.

1. Valves shall open left and be provided with 2" square operating wrench nuts unless otherwise specified.

2. When valves are Mechanical Joint, they shall be furnished with all necessary glands, followers, and bolts and nuts to complete installation.

3. The disc shall have integrally cast ASTM B-62 bronze stem nut to prevent twisting, binding or angling of the stem. Designs with loose stem nuts are not acceptable.

4. Bronze valve stems shall be interchangeable with stems of the double disc valves of the same size, direction of opening and manufacture.

5. All internal ferrous surfaces shall be coated, holiday free, to a minimum thickness of 4 mils with a two part thermo setting epoxy coating. Said coating shall be non-toxic, impart no taste to the water, formulated from materials deemed acceptable in the Food and Drug Administration Document Title 21 of the Federal Regulations on food additives, Section 121.2514 entitled Resins and Polymeric Coatings. It shall protect all seating and adjacent surfaces from corrosion and prevent build-up of scale or tuberculation.

6. The sealing element shall be secured to the disc with self locking stainless steel screws, and it shall be field replaceable, and shall be such that it cannot be installed improperly.

7. Stem failure from over torquing in either the open or closing position shall occur externally at such a point as to enable the stem to be safely turned by use of a readily available tool after exposure of the valve

through excavation.

8. Valve design shall incorporate a positive metal to metal stop to prevent over-compression of the sealing element.

9. A full faced composition gasket placed between machined body and bonnet flanges is required to eliminate cold flow or creep action present with "O" ring gasketed bodies.

10. The exterior of the valves shall be Asphalt Varnish, JAN-P-450. If exterior epoxy is used, all bolts and nuts shall be made of Stainless Steel to prevent galvanic corrosion of said nuts and bolts due to insulation from the ferrous valve and line.

B. Butterfly Valve. Unless otherwise noted, all valves 12" and larger shall be butterfly valves conforming to the latest revision of AWWA Standard C-504, Class 150-B, and shall comply with the following:

1. Valve bodies shall be cast iron, ASTM A-126 Class B. Body ends shall be flanged with facing and drilling in accordance with ANSI B16.1, Class 125; or mechanical joint in accordance with AWWA C-111. All mechanical joint end valves shall be furnished complete with joint accessories (bolts, nuts, gaskets, and glands). All valves shall conform with AWWA Standard C-504, Table 3, Laying Lengths for Flanged Valves and Minimum Body Shell Thickness for all Body Types.

2. Valve disc shall be ductile iron ASTM A-536, grade 65-45-12. Valve disc shall be of the offset design providing 360 degree uninterrupted seating.

3. The resilient seat shall be natural rubber bonded to an 18-8, Type 304 stainless steel retaining ring secured to the disc by 18-8, Type 304 stainless steel screws. The seat shall be capable of mechanical adjustment in the field and field replaceable without the need for special tools. Valve body seat shall be 18-8, Type 304 Stainless Steel.

4. Valve shafts shall be 18-8, Type 304 stainless steel. Shafts shall be of the two piece stub design and attached to the disc by means of "O" ring sealed taper pins with lock nuts.

5. The valve assembly shall be furnished with a non-adjustable factory set thrust bearing designed to center the valve disc at all times.

6. Shaft bearings shall be contained in the integral hubs of the valve body and shall be self-lubricated sleeve type.

7. Valve shaft seal shall consist of "O" Rings. Where the valve shaft projects through the valve body for actuator connection, the "O" Ring packing seal shall be field replaceable as a part of a removable bronze cartridge.

8. When manual actuators are required they shall be of the traveling nut design capable of withstanding 450 foot pounds of input torque against the open and

The Contractor shall take the necessary precautions such that foreign materials do not enter into the pipe. No debris, tools, or other materials shall be placed in the pipe during laying operations. When laying of pipe is not in progress, the pipe shall be closed by a water-tight plug.

Maximum deflections at pipe joints shall not exceed the joint specifications of AWWA C600 of latest revision, or the recommendations of the pipe manufacturer.

Deflections in PVC pipe shall be made by longitudinal bending of the barrel of the pipe rather than deflecting the pipe joints. Longitudinal bending shall be limited to eighty percent (80%) of the manufacturer's recommended minimum bending radius.

J. Pipe Bedding. All pipes shall be protected from lateral displacement and possible damage resulting from impact or unbalanced loading during backfilling operations by being adequately bedded.

In the event trench materials are not, in the judgement of the city engineer or his/her designee, satisfactory for pipe bedding, imported granular bedding will be required. See Section 39.16 of these specifications.

K. Thrust Blocking. Thrust blocking shall be applied at all tees, valves, plugs, caps and at bends deflecting 22½ degrees or more. The fitting shall be encased in a protective plastic wrap before the thrust block is poured. Reaction blocking shall be concrete having a compressive strength of not less than 3000 pounds per square inch at 28 days. Blocking shall be placed between undisturbed soil and the fitting to be anchored. The area of bearing on the pipe and on the ground shall be as shown in the Drawings. The blocking shall be so placed that the pipe and the fittings will be accessible for repair.

L. Connections to Existing Pressurized Irrigation Lines. Information on the drawings regarding existing pressurized irrigation lines is taken from "as-constructed" drawings from the city or utility company files and may or may not be accurate as to size, type of material or location. The Contractor will be responsible to determine the proper fittings and materials required, obtain the city engineer or his/her designee's approval of the planned connection, and perform the construction in a suitable fashion.

Where fitting sizes, such as Tees and Crosses, are shown on the plans, those sizes will be used. However, no attempt has been made to show all needed fittings or materials.

39.20.040. Testing and Flushing.

A minimum pressure 50% in excess of the maximum line operation pressure shall be maintained on the portion being tested for a minimum period of two (2) hours, using either pneumatic or hydraulic means to maintain the pressure.

After pressure testing, all pipelines shall be flushed. Flushing shall be accomplished through hydrants or, if a hydrant does not exist at the end of the line, the contractor

shall install a tap sufficient in size to provide for 2.5 foot-per-second flushing velocity in the line.

A leakage test shall be conducted concurrently with the pressure test.

1. Leakage defined. Leakage shall be defined as the quantity of water that must be supplied into the newly laid pipe, or any valved section thereof, to maintain pressure within 5 psi of the specified test pressure after the air in the pipeline has been expelled and the pipe has been filled with water.

2. Allowable leakage. No pipe installation will be accepted if the leakage is greater than that determined by the following formula:

$$L = \frac{SD(P)^{0.5}}{133,200}$$

in which L is the allowable leakage, in gallons per hour; S is the length of pipeline tested in feet; D is the nominal diameter of the pipe, in inches; and P is the average test pressure during the leakage test, in pounds per square inch gage.

a. Allowable leakage at various pressures is shown in Table 1.

b. When testing against closed metal-seated valves, an additional leakage per closed valve of 0.0078 gal/hr/in. of nominal valve size shall be allowed.

c. When hydrants are in the test section, the test shall be made against the closed hydrant.

3. Acceptance of Installation. Acceptance shall be determined on the basis of allowable leakage. If any test of pipe laid discloses leakage greater than specified, the Contractor shall, at its own expense, locate and repair the defective material until the leakage is within the specified allowance.

All visible leaks are to be repaired regardless of the amount of leakage.

All new water systems or extensions to existing systems shall be thoroughly flushed before being placed in service. Flushing shall be accomplished through hydrants, or end of line blowoff assemblies at a minimum flushing velocity of 2.5-foot per second.

The following is the flow quantity required to provide a 2.5 foot-per-second flushing velocity.

PIPE SIZE (IN)	FLOW (G.P.M.)
4	100
6	220
8	390
10	610
12	880
16	1567
18	1980
20	2450
24	3525
30	5507

Chapter 39.22. Sewer Lines.

- 39.22.010. General.**
- 39.22.020. Pipe.**
- 39.22.030. Laying.**
- 39.22.040. Manholes and Appurtenances.**
- 39.22.050. Manhole Bases.**
- 39.22.060. Connecting to Existing Sewers.**
- 39.22.070. Sewer Laterals.**
- 39.22.080. Minimum Slopes.**
- 39.22.090. Cleaning.**
- 39.22.100. Sewer Lift Stations.**

39.22.010. General.

These specifications cover the installation of sewer lines. Excavation and backfill of trenches are specified in Section 39.16.

39.22.020. Pipe.

A. Concrete Sewer Pipe. All sewer pipe 18" inch and larger shall be concrete unless otherwise approved by city engineer or his/her designee. All pipe to be used shall be new and shall be of the type described as rubber gasket concrete sewer pipe, and shall conform to the following requirements:

18-Inch and larger diameters. Pipe with these diameters shall be reinforced concrete pipe conforming to the class as shown on the plans of ASTM Specification designated C76 or ASTM C655 as applicable. Pipe with these diameters shall be supplied in lengths of not less than seven and one-half (7 ½) feet.

Cement used in the pipe shall be Type II, as described in ASTM C15C.

Pipe Joints shall conform to ASTM Specification C443 and shall be of the bell and spigot type, and shall be so designated as to provide for self-centering and, when assembled, to compress the gasket to form a watertight seal.

Rubber Ring Gaskets for use on concrete pipe with rubber gasket joints shall be molded or extruded and cured in such a manner that any cross section will be dense, homogeneous, and free from porosity and other imperfections. The gaskets shall be extruded or molded to the specified size within a tolerance of plus or minus 1/32 of an inch for any diameter measured at any cross section. The gaskets shall be fabricated from a high-grade tread-type compound. The basic polymer shall be natural rubber, or a copolymer of butadiene styrene synthetic. The gaskets shall meet the physical tests requirements in ASTM Designation C443.

B. PVC Sewer Pipe. All sewer pipe 8-Inch to 15-Inch pipe shall conform to ASTM 3034 and polyethylene pipe shall conform to ASTM F 405 and ASTM F 667. PVC shall have a minimum wall thickness of SDR 35; however the city engineer or his/her designee may require a heavier wall thickness when needed. The pipe shall be

bedded in one (1) inch minimum granular material with the pipe haunches compacted to 90% of optimum density by the AASHTO T-99 test. The pipe must have a minimum of twelve (12) inches of bedding gravel over the top of the pipe. Pipe buried more than twelve (12) feet deep shall require manufacturing and engineering specifications to be submitted to the city engineer or his/her designee for written approval. Joints shall be water tight unless otherwise approved by the city engineer or his/her designee. In no case shall pipe be accepted that has a deflection of more than 5% after it has been backfilled. A pipe deflection test shall be required of the Developer/Contractor after backfilling and compaction of the trench.

39.22.030. Laying.

Under no circumstances shall any pipe be laid until inspection is complete adequately passed the requirements indicated above. All pipe shall be laid true to line and grade with the bell end up grade. All pipe shall be laid up grade with a suitable excavation for the bell. Special care shall be taken that pipe is well bedded on a solid foundation throughout the length of the barrel. The bedding of all pipe shall conform at least to the characteristics of Class C bedding except as herein designated by the engineer. No length of pipe shall be laid until the preceding length has been thoroughly embedded and secured in place, so as to prevent any movement and selected samples have or disturbance of the finished joint. For the purpose of maintaining grades, grade stakes may be required. Each section of pipe shall be checked for alignment and grade before each joint is made. If a laser beam is used, a grade stake shall be established at each manhole and a maximum of 200 feet apart.

Jointing. All rubber gasket joints shall be completed in accordance with installation instructions supplied by the manufacturers of the pipe, taking particular care to avoid twisting of the pipe or other damage to the gasket. After jointing, approved backfill material shall be placed along the lower half of the pipe section and tamped thoroughly so as to maintain the section firmly in position. Any subsequent adjustment or damage to jointing shall require the pipe section to be removed and rejoined as for new pipe.

39.22.040. Manholes and Appurtenances.

A. Manholes shall be precast reinforced Portland Cement Concrete. Excavation and concrete shall conform to applicable specifications meeting ASTM C478. Concrete shall be low alkali Type II.

B. Manhole Frames and Covers. All castings shall be of ASTM A-48, Class 35 iron free from blowholes and shrinkage defects. Castings shall be free from fins and burrs and shall be shot-blasted to remove sand and other foreign matter. Freedom from cracks and defects shall be

extension. Such cleaning shall be done by private crews at the expense of the owner.

A. Displacement Test. The displacement test shall be conducted by the developer and inspector in the presence of the engineer and shall consist of the following: all sewer mains shall be washed and inspected using a television inspection unit.. The televised inspection of any mains which reveal broken, misaligned or displaced pipe, or other defects, as designated by the city engineer or his/her designee shall be remedied by the contractor. The televised inspection shall have the slope of pipe shown on tape throughout the inspection. After cleaning and inspection have been completed, the line shall be tested for leakage by the following method:

B. Leakage Tests. The Low Pressure Air Test shall be conducted by the following method under the direction of the city engineer or his/her designee with equipment equal to Cherne Industrial, Inc.

All wyes, tees, or ends of lateral stubs shall be suitably capped and braced to withstand the internal test pressures. Caps shall be easily removable for future lateral connections or extensions. After a manhole to manhole section of line has been backfilled and cleaned, it shall be plugged at each manhole with pneumatic plugs.

Low pressure air shall be introduced into the sealed line until the internal air pressure reaches 4 PSIG greater than the average back pressure of any ground water that may be over the pipe. At least two (2) minutes shall be allowed for the air pressure to stabilize.

The portion of line being tested shall be accepted if the portion under test does not lose air at a rate greater than 0.003 cubic feet per minute per square foot of internal pipe surface of 2.0 cubic feet per minute minimum when tested at an average 3.0 PSIG greater than any back pressure exerted by ground water that may be over the pipe at the time of the test.

The pipe and joints shall also be considered acceptable when the time required in minutes for pressure to decrease from 3.5 To 2.5 PSIG (greater than the average back pressure of any ground water that may be over the pipe) shall not be less than the time shown for the given diameters in the following table:

Pipe Diameter in Inches	Minutes
4	2.0
6	3.0
8	4.0
10	5.0
12	5.5
15	7.5
18	8.5
21	10.0
24	11.5

If the installation fails to meet this requirement, the contractor shall determine at his/her own expense the source of leakage. He shall repair or replace all defective materials and/or workmanship. All sewer mains shall be tested, cleaned and accepted by Spanish Fork City before laying the street surface.

39.22.100. Sewer Lift Stations.

Sewer lift stations which are required in a development shall be designed by the developers engineer and the design shall be submitted to the city engineer or his/her designee for review prior to starting construction. Lift stations will be the wet well / dry well type, will have standby power, telemetry, and will be designed for large areas, not individual subdivisions.

Chapter 39.23. Storm Drains.

- 39.23.010. General.**
- 39.23.020. Pipe.**
- 39.23.030. Laying.**
- 39.23.040. Manholes.**
- 39.23.050. Manhole Base.**
- 39.23.060. Minimum Slopes.**
- 39.23.070. Cleaning.**
- 39.23.080. Sumps.**
- 39.23.090. Inlet Structures.**
- 39.23.100. Retention/Detention Basins.**

39.23.010. General.

These specifications will cover the installation of storm drains. Excavation and backfill of trenches is covered in Section 39.16. All residential developments will be responsible to provide a storm drain system on-site in the development that will contain a 25-year storm event. The maximum allowable storm water discharge from any commercial and industrial development will be limited to .2 cfs/acre of development. All storm drain pipes shall have a minimum cover of three (3) feet for construction loading. Minimum size of storm drains is 12" diameter.

39.23.020. Pipe.

- A. Non-Reinforced Concrete Pipe.
 - I. Pipe shall be Class III pipe manufactured to comply with the requirements of ASTM Designation C-14 Class 3.
 - II. Joints shall be of the bell and spigot rubber gasket design with joints and gaskets conforming to the requirements of ASTM Designation C-443.
 - III. Pipe joints shall be so designed as to provide for self-centering, and when assembled, to compress the gasket to form a water-tight seal.
 - IV. The gasket shall be confined in a groove on the spigot, so that pipe movement of hydrostatic pressure cannot displace the gasket.
- B. Reinforced Concrete Pipe.
 - I. Reinforced concrete pipe shall be used for all storm drains of size larger than 36-inches and for all drains of smaller size where installation does not provide a cover of at least 2 feet over the top of the pipe.
 - II. Reinforced concrete pipe shall comply with the requirements of ASTM C-76 (Class III) with bell and spigot rubber gasket type joints for sanitary sewers and the alternate option of tongue and groove mortar joints for storm drain lines.
 - III. Pipe joints shall be so designed as to provide for self-centering, and when assembled, to compress the gasket to form a water-tight seal.
 - IV. The gasket shall be confined in a groove on the spigot, so that pipe movement of hydrostatic

- pressure cannot displace the gasket.
- C. High Density Polyethylene Pipe (HDPE).
 - I. Smooth Pipe Systems.
 - a. Material: Polyethylene code designation PE 3408 as rated in ASTM D 2239 with a minimum ASTM D 3350 cell classification of 345434C, and an SDR or pressure class rating as indicated.
 - b. Fittings: Manufactured of same resin as the pipe.
 - c. Joints:
 - i. Thermally welded butt fusion in accordance with ASTM D 3261.
 - ii. Flanged in accordance with ASTM D 2657.
 - iii. Ultra high molecular weight electrofusion tape with a polyethylene coupler meeting ASTM F1055 requirements.
 - d. Nuts and Bolts: Carbon steel machined heavy hex heads, Class 2 fit in accordance with ASTM A 307; Grade B, threads in accordance with ASME B1.1. Tape wrap steel materials for protection against corrosion after piping installation.
 - II. Corrugated Pipe Systems.
 - a. Material: "High density polyethylene pipe shall be smooth lined and meet the requirements of AASHTO M294 Type S."
 - b. Material: Polyethylene, in accordance with ASTM F 405 or ASTM F 667, Type III, Category 4 or 5, Grade P33, Class C, or Grade P34, Class C as defined by ASTM D 1248.
 - c. Fittings: Manufactured of same resin as the pipe.
 - d. Joints: Joints shall be a bell/spigot type joint, meeting modified ASTM D-3212 and ASTM F-477 (Elastomeric gasket).
 - III. Pipe Markings.
 - a. Mark pipes continuously to identify:
 - i. Manufacturer's name (or trademark) and code.
 - ii. Nominal size.
 - iii. Polyethylene code designation.
 - iv. SDR rating. (Not applicable to corrugated polyethylene.)
 - v. Date of manufacture.
 - vi. Pressure class. (Not applicable to corrugated polyethylene.)
 - vii. ASTM or AWWA designation number.

39.23.030. Laying.

Under no circumstances shall any pipe be laid until

39.23.070. Cleaning.

After the storm drain lines have been laid and the trench back-filled, they shall be thoroughly cleaned and tested for leakage and alignment in the presence of the city engineer or his/her designee before acceptance by the owner. Cleaning shall be done using a high pressure jet cleaning machine, producing a min. of 800 psi. Waste water and debris shall not be permitted to enter storm drain lines in service, but shall be removed at the lowest manhole of the extension. Such cleaning shall be done by private crews at the expense of the owner.

39.23.080. Sumps.

Sumps shall be located as staked in the field and indicated on the plans. They shall be to the grade indicated by the cutsheets and as staked in the field. Excavation and backfill shall conform to Chapter 39.16 of these specifications. If the sump is located in an area where the earth is stratified with gravel layers, care shall be taken during backfill to be sure that these layers are not sealed off from the sump beginning three (3) feet below the bottom of the sump up to the top of the subgrade. One to three inch diameter drain rock shall be used. The original material shall be removed and the total backfill done with imported drain rock. After backfilling is completed, the entire excavation shall be thoroughly flooded to insure that settlement is complete. Grates shall be set in place and adjusted for final elevation and alignment. The City requires a fabric barrier between the drain rock and road base (or other backfill).

Sumps may only be constructed of reinforced concrete, precast sections and shall meet the requirements of ASTM C478-73 in accordance with standard detail drawing S-15, S-16, and S-17. Sumps shall have eccentric lids to ensure adjustments in alignment.

39.23.090. Inlet Structures.

A. All inlet structures shall be reinforced concrete boxes (precast or cast-in-place) with a gravel bottom.

B. Inlet Grates and Frames.

I. Material. All castings shall be of ASTM A-48, Class 35 iron free from blowholes and shrinkage defects. Castings shall be free from fins and burrs and shall be shot-blasted to remove sand and other foreign matter. Freedom from cracks and defects shall be ascertained by the engineer prior to installation.

The type of grate and frame shall be D&L 1-3516 or approval equivalent.

C. Each inlet structure shall have a minimum 12" drain pipe extending to the storm drain main line.

39.23.100. Retention/Detention Basins.

A. Retention Basins. All retention basins shall be constructed with a maximum water depth of 12 inches.

All retention basins shall have a series of interconnected sumps connected to curb inlet boxes or storm drain main lines. All retention basins shall be landscaped in accordance with City Standards.

All retention basins shall be constructed for drainage areas designated in the general plan. Basins for smaller areas may be allowed only with prior written approval of the city engineer or his/her designee.

B. Detention Basins. All detention basins shall be constructed with a maximum water depth of 18 inches; with that depth remaining for no longer than a 6 hour period. Detention basins may be constructed in landscape or parking areas. Each detention basin shall have an outlet to a storm drain main line.

Chapter 39.24. Restoration of Surface Improvements.

- 39.24.010. General.**
- 39.24.020. Road Base.**
- 39.24.030. Bituminous Surface.**
- 39.24.040. Cold Weather Patching.**
- 39.24.050. Concrete Surfaces.**

39.24.010. General.

The contractor shall be responsible for the protection and the restoration or replacement of any improvements existing on public or private property at the start of work or placed there during the progress of the work.

Existing improvements shall include but are not limited to permanent surfacing, curbs, ditches, driveways, culverts, fences, walls and landscaping. All improvements including landscaping shall be reconstructed to equal or better, in all respects in a timely manner. The contractor shall be responsible for maintaining a road surface suitable for travel by the public. He/She shall be responsible for all dust and mud control and all claims and damages resulting from his/her failure to maintain the construction area.

All road cuts shall be repaired within two (2) working days.

39.24.020. Road Base.

Where trenches are excavated through gravel surfaced areas such as roads and driveways, etc., the gravel surface shall be restored and maintained as follows:

- A. The gravel shall be placed deep enough to provide a minimum of 6 inches of material.
- B. The gravel shall be placed in the trench at the time it is backfilled. The surface shall be maintained by blading, sprinkling, rolling, adding gravel, etc., to maintain a safe uniform surface satisfactory to the engineer. Excess material shall be removed from the premises immediately.
- C. Material for use on gravel surfaces shall be obtained from sound tough durable gravel or rock meeting AASHTO T-27 requirements. The following requirements for grading shall be met:

Passing 1-inch sieve	100%
Passing 3/4 inch sieve	85%-100%
Passing No. 4 Sieve	45%- 65%
Passing No. 10 Sieve	30%- 30%
Passing No. 200 Sieve	5%- 10%

39.24.030. Bituminous Surface.

Where trenches are excavated through bituminous surfaced roads, driveways or parking areas, the surface shall be restored and maintained as follows:

- A. A temporary gravel surface shall be placed and maintained as required in Section 39.24.020 after the required backfill and compaction of the trench has been accomplished.
- B. The gravel shall be placed to such depth as to

provide a minimum of six (6) inches below the pavement and shall be brought flush with the paved surface.

C. The area over trenches to be resurfaced shall be graded and rolled with a roller weighing not less than twelve tons, or with the rear wheels of a five-yard truck loaded to capacity, until the subgrade is firm and unyielding. Mud or other soft or spongy material shall be removed and the space filled with gravel and rolled and tamped thoroughly in layers not exceeding 6 inches in thickness. The edges of trenches which are broken down during the making of subgrade shall be removed and trimmed neatly before resurfacing.

D. Before any permanent resurfacing is placed, the contractor shall cut the existing paving to clean, straight lines as nearly parallel to the center line of the trench as practicable and 6" wider on each side of trench than initial excavation. Said straight lines have no deviations from such lines except as specifically permitted by the engineer.

E. Existing bituminous paving shall be cut back a minimum of six inches beyond the limits of any excavation or cave-in along the trench so that the edges of the new paving will rest on at least six (6) inches of undisturbed soil.

F. Within two (2) working days and weather permitting, the bituminous surface shall be restored by standard paving practices to a minimum thickness of 2-1/2 inches for local streets and three (3) inches for collector, industrial, and commercial streets to match existing pavement height.

G. Pavement restoration shall include priming of pavement edges and sub-base with an asphalt tack coat and placing and rolling plant mix bituminous material to the level of the adjacent pavement surfaces.

H. All pavement restoration shall conform to Section 39.26 of these specifications.

39.24.040. Cold Weather Patching.

Trenches cut during winter months or when asphalt plants are not operating, shall be patched the same day of the cut with a good quality cold mix and maintained until asphalt plants open. When asphalt plants open, the cold patch shall be removed and a new patch of hot mix asphalt shall be placed within twenty (20) days of plant opening.

39.24.050. Concrete Surfaces.

All concrete curbs, gutters, sidewalks and driveways shall be removed and replaced to the next joint or scoring lines beyond the damaged or broken sections; or in the event that joints or scoring lines do not exist or are three or more feet from the removed or damaged section, the damaged portions shall be removed and reconstructed to neat, plane faces. On all new concrete improvements lamp-black or other pigments shall be added to the new concrete to obtain the desired results.

Chapter 39.26. Street Surfacing.

- 39.26.010. General.**
- 39.26.020. Excavation and Fill.**
- 39.26.030. Subgrade Preparation.**
- 39.26.040. Gravel Base**
- 39.26.050. Bituminous Surface Course.**
- 39.26.052. Slurry Seal.**
- 39.26.060. Manholes and Valve Boxes.**
- 39.26.070. Cross Gutters.**

39.26.010. General.

A soils investigation shall be performed for all new roads and those roads for which work will be performed. The results of this investigation and a design of the road cross section shall be submitted to and accepted by the City Engineer or his/her designee. These specifications cover the preparation of subgrade, the placing of base gravel, and the placing of asphalt surface on any city street.

39.26.020. Excavation and Fill.

A. General. This item shall consist of the removal of all earth, stone, loose rock, roots, brush and all other materials that may be encountered in shaping the sub-base to the lines indicated on the plans or designated by the engineer.

B. Fill. Where fill is required, it shall be placed in twelve (12) inch layers at or near optimum moisture content and compacted to ninety-five (95) percent of laboratory density as determined by AASHTO T-180, Method C. Materials may be cuts or excavations on the project or imported from off site. Imported materials shall be granular, well graded, with the maximum size not to exceed three (3) inches unless approved by the city engineer. On that portion of the aggregate passing the No. 40 sieve, the liquid limit shall not exceed 30, nor shall the plasticity index exceed 15 when tested in accordance with AASHTO T89 and T90. Imported material under city streets shall have a minimum CBR of twenty-five (25).

C. Surplus Material. The surplus materials that result from the grading will be at the disposal of the contractor and shall be removed from the site.

39.26.030. Subgrade Preparation.

The subgrade shall be shaped and compacted in reasonably close conformity with lines, grades and typical cross section as established by the city engineer or his/her designee. All grading shall be based on an engineered red-head and accepted by Spanish Fork City.

The subgrade shall be compacted to ninety-five (95) percent of laboratory density as determined by ASTM D1557.

Soft and yielding spots which do not compact to the specified density shall be removed and replaced with suitable material.

39.26.040. Gravel Base.

A. General. Gravel base course shall consist of natural gravel, crushed gravel, crushed rock or crushed slag conforming to one of the gradations hereinafter specified, placed on a prepared subgrade as specified herein.

B. Materials. The mineral aggregate shall conform to the following requirements:

1. On that portion of the aggregate passing the No. 40 sieve, the liquid limit shall not exceed 25, nor shall the plasticity index exceed 6 when tested in accordance with AASHTO T89 and T90.

2. The dry mineral aggregate shall be uniformly graded within one of the gradations listed below when tested in accordance with AASHTO T-27. The size of aggregate shall be 3/4 inch minus unless otherwise specifically designated.

Sieve Size	Percent Passing	
	1" MAX	3/4" MAX
1 1/2 "		
1 "	100	
3/4 "	---	100
1/2 "	70-100	---
3/8 "	---	69-100
No. 4	41-68	46-75
No. 16	21-41	22-44
No. 50	10-27	10-28
No. 200	4-13	4-13

Total amount of material passing the No. 200 Sieve shall be determined by washing with water in accordance with AASHTO T-11.

3. Aggregate shall have a percentage of wear not exceeding 50 when tested in accordance with AASHTO T-96. This requirement shall be used only in determining the suitability of the aggregate source and shall not be used for routine control testing.

4. Crushed slag, if used, shall be uniform in density and quality and have a rodded weight of not less than 75 pounds per cubic foot when tested in accordance with AASHTO T-19. Open hearth slag shall not be allowed.

C. Construction Methods. The mineral aggregate shall be placed on a compacted sub-base, water added, and mixed to provide a moisture content at or near the optimum. The material shall be compacted until the average density of tests performed in accordance with AASHTO T-180, Method is ninety-six (96) percent of the laboratory density and not less than ninety-five (95) percent.

The total thickness shall be reasonably close to that shown on the typical section. Depth analysis shall be made on at least four holes for each section. Base thickness shall be accepted if 75 percent of the test holes are less than 1/4"

final slurry seal is layed.

39.26.060. Manholes and Valve Boxes.

All manhole covers and valve boxes shall be raised to the proper grade after the placement of pavement. The cover shall be removed and raised to the proper elevation with concrete setting the frame 1/4" below the pavement grade. Concrete rings need to be around valve boxes and manholes.

39.26.070. Cross Gutters.

Bituminous surface course shall be three (3) inches thick within thirty (30) feet of a cross gutter.

Chapter 39.28. Concrete Curb, Gutter, and Sidewalks.

- 39.28.010. **General.**
- 39.28.020. **Concrete Materials.**
- 39.28.030. **ADA Requirements.**
- 39.28.040. **Base Material.**
- 39.28.050. **Testing and Inspection.**
- 39.28.060. **Concrete Mixes.**
- 39.28.070. **Mixing, Conveying, and Placing.**
- 39.28.080. **Excavation and Backfill.**
- 39.28.090. **Forms.**
- 39.28.100. **Slip Forming.**
- 39.28.110. **Combination Curb, Gutter, and Sidewalk.**
- 39.28.120. **Finishing.**
- 39.28.130. **Curing.**
- 39.28.140. **Cold Weather Concrete.**
- 39.28.150. **Clean Gutter.**
- 38.28.160 **Drive Approaches.**

39.28.010. General.

The work shall consist of curb and gutter, sidewalk, combination curb, gutter and sidewalk, cross gutter's, and curb return constructed where indicated on the plans or as directed by the engineer and conforming in all respects to the specified lines, grades, and dimensions. A minimum slope along any curb and gutter shall be .4% and on cross-gutter shall be .5%. Maximum grades on curb and gutter and streets shall be 8.0%.

39.28.020. Concrete Materials.

A. Coarse Aggregate. A coarse aggregate shall consist of hard durable particles of a mixture of crushed and natural gravel possessing at least fifty percent (50%) of broken surface area. The coarse aggregate shall be free from substances which are chemically active relative to hydrated cement and shall be subject to particularly the following:

1. Deleterious substances shall not exceed:
PERCENT BY WEIGHT
 - a. Soft fragments 3.0
 - b. Coal lumps 1.0
 - c. Clay lumps 0.5
 - d. Material passing 39 100 Sieve 1.5
 - e. Organic material 0.1
 - f. Total for any or all of above 3.0

2. Loss on abrasion by Los Angeles Abrasion Test not more than forty percent (40%) by weight.

3. Loss on exposure to five (5) cycles of sodium sulfate soundness test, not more than eight (8) percent by weight.

The maximum size of aggregate to be used shall not exceed one and one-half (1 1/2) inches in terms of this size definition contained in ASTM Standards except that the maximum size shall not exceed one-fourth (1/4) of the least dimension of the finished concrete in which the aggregate

is to be used. Coarse aggregate shall be uniformly graded within the following range:

	Minimum %	Maximum %
Retained on 1 1/2" sieve	0	10
Retained on 3/4" sieve	30	70
Retained on 1/4" sieve	75	100
Retained on No. 4 sieve	95	100

B. Fine Aggregate.

1. Fine aggregate shall consist of clean, hard durable particles of natural sands, subject to the following limitations:

PERCENT BY WEIGHT

- a. Soft fragments 3.0
- b. Coal 1.0
- c. Material passing 39 200 Sieve 3.0
- e. Micaceous or flaky particles 3.0
- f. Total for any or all of above 5.0

2. Organic Calorimetric Test using sodium hydroxide shall result in a color not darker than Number 2 in the acceptance range.

3. Loss on exposure to five (5) cycles of the sodium sulfate soundness tests shall not exceed eight percent (8%) by weight.

Fine aggregate shall be uniformly graded within the following range:

	Minimum %	Maximum %
Retained on No. 4 sieve	0	5
Retained on No. 8 sieve	0	20
Retained on No. 16 sieve	20	50
Retained on No. 30 sieve	50	75
Retained on No. 50 sieve	75	90
Retained on No.100	95	100

C. Cement. All cement used shall be Type II. All cement and dry additives shall be stored in damp-proof conditions. Shipments of cement shall be marked and stored in such a manner as to provide positive identification. The supplier shall keep and have available for inspection at all times an accurate record of supplies and use of cement of the various types and shipments. No cement shall be used which has been subject to dampness or exposure.

D. Water. Water used for concrete shall be potable and free from excess salts, organic material, or other deleterious substances. Addition of water to the mixed concrete after specified workability has been obtained will not be allowed, nor shall any concrete be retempered or remixed.

39.28.070. Mixing, Conveying, and Placing.

A. **Mixing Time.** Concrete transported in a truck mixer, agitator, or other transportation device shall be discharged at the job and placed in its final position in the forms within one (1) hour after the introduction of the mixing water to the cement and the aggregate, or the cement to the aggregate, except that in hot weather or under other conditions contributing to quick stiffening of the concrete, the maximum allowable time may be reduced by the engineer. The maximum volume of mixed concrete transported in an agitator shall be in accordance with the specified rating.

B. **Supervision of Placing.** Concrete shall not be poured except under the direct supervision of the city engineer or his/her designee.

39.28.080. Excavation and Backfill.

The contractor shall excavate to the line and grade approved by the city engineer or his/her designee. All boulders, organic materials, soft clay or other unsuitable materials shall be removed and replaced with approved materials. The subgrade shall be properly shaped to conform with the specified cross section and grade.

All materials excavated in connection with the work not needed for backfill shall be removed from the site.

Where backfill is required the material shall be placed at or compacted to ninety-five (95) percent of the laboratory density as determined by AASHTO T-180. Compaction tests will be taken at least once every 100 lineal feet of compacted material.

39.28.090. Forms.

All forms shall be of steel, free from warps, bends or other deformations. They shall be of a size to match the sections shown on the plans. Forms shall be held firmly in place with stakes and shall be true to line and grade. Contraction joints shall be constructed every ten (10) feet by using steel templates one-eighth (1/8) inch in thickness. Expansion joints shall be constructed every 50 feet in sidewalks. The templates shall be removed as soon as the concrete has set sufficiently to hold its shape.

39.28.100. Slip Forming.

Slip forming of curb and gutter will be allowed only in areas where a planter strip is planned. In each drive approach and at each ADA ramp, twelve (12) inch #4 rebars shall be placed at twenty-four (24) inch O.C. with four (4) inches extending into the curb, two and one-half (2½) inches below the top back of the curb. Combination curb, gutter, and sidewalk may be slip formed as a single unit.

39.28.110. Combination Curb, Gutter, and Sidewalk.

Combination curb, gutter, and sidewalk will only be allowed in monolithic form. Placing combination curb,

gutter, and sidewalk as separate units, doweled with rebar, will not be allowed.

39.28.120. Finishing.

As soon as the concrete has set sufficiently to retain its shape without support of the face form, the clamps, spreaders and face forms shall be removed. While the concrete is still green, the surface shall be thoroughly floated with a moist wooden float to provide an even smooth surface, then broomed lightly.

39.28.130. Curing.

As soon as possible after final finishing the finished surface shall be coated with a curing compound. The compound shall be a chlorinated rubber type meeting ASTM C-309K, Type 1, clear. The compound shall be applied in accordance with the manufacturer's recommendations. The compound shall be Intermountain Hard-n-seal or equal. During the months of October through February, no curing compound shall be applied to exposed concrete; instead, exposed concrete shall be covered with plastic for three (3) days to allow for curing.

39.28.140. Cold Weather Concrete.

Concrete shall not be placed when a descending air temperature in the shade and away from artificial heat falls below 35°F. Concrete shall not be poured on frozen ground. Where high temperatures are likely to descend below 32°F, concrete shall be covered or otherwise protected against freezing; add mixtures that are allowed.

39.28.150. Clean Gutter.

Once curb and gutter and surface course is in place they shall be kept as clean as possible. When equipment is required to cross over sidewalk, bridging will be provided to protect concrete. Dirt and gravel will not be placed in gutter or on street. Gutter will flow freely at all times.

39.38.160. Drive Approaches.

All concrete for a drive approach shall be six (6) inches thick in the public right-of-way.

Chapter 39.30. General Specifications for Electrical Service.

- 39.30.010. General.**
- 39.30.020. Service and Service Conditions.**
- 39.30.030. Type of Services and Voltages Available.**
- 39.30.040. Use of Service by Consumer and Limitations.**
- 39.30.050. Utilities Installation.**
- 39.30.060. Consumer's Installation and Equipment.**
- 39.30.070. Temporary and Seasonal Service.**
- 39.30.080. Unusual Service Extension.**
- 39.30.090. Overhead Distribution for New Subdivisions.**
- 39.30.100. Underground Distribution for New Subdivisions.**
- 39.30.110. Right-of-Way.**
- 39.30.120. Access to Premises.**

39.30.010. General.

This section defines the general requirements for electrical service to be built by the developer, subdivider, owner, or contractor for all types of construction (to include residential, commercial, industrial, and professional office).

39.30.020. Service and Service Conditions.

A. Utility to Specify the Location. Utility shall specify the location of Consumer's service entrance and Utility's meter, which shall be installed as specified in the Spanish Fork City Construction and Development Standards.

B. Permits Required. Service will not be established until all necessary permits have been obtained and not until Consumer's wiring installation has been inspected and approved by the City. The entire wiring installation shall be installed in accordance with the latest adopted edition of the National Electrical Code and the specifications and regulations of Utility.

However, Utility reserves the right to inspect same and to refuse service to any installation that is, in the opinion of Utility, unsafe or if the operation of same may be detrimental to the service furnished other Consumers.

C. Extension Requirement. Where the furnishing of service requires an extension of Utility's distribution, or transmission lines, or other facilities, they shall be installed at the owner or developer's expense.

D. Normal Service. Service shall normally be single-phase, 120/240 volt, 3 wire. As to availability of other voltages and 3-phase service, the developer must contact the utility.

E. Utility Maintenance Responsibilities. Utility shall, own, operate and maintain its service wires, sometimes referred to as "Service Drop", up to the point of contact with service entrance conductors on Consumer's building,

most pipe, or other service drop terminating structure approved by Utility. Installation of overhead service drops will be completed by the Utility.

F. Meter Socket. Meter socket to be furnished by the contractor and shall be installed at the contractor's own expense in the manner specified by Utility. The meter socket or cabinet (if used) location shall be specified by Utility and, at all times shall be kept sealed, and under control of, and maintained by Utility.

G. Service Drop Installations. For all service drop installations, whether Residential, Non-Residential, single-phase or 3-phase: the delivery point shall be where Utility's service drop conductors first contact Consumer's service entrance terminating structure. Utility's responsibility and liability shall not extend beyond said delivery point.

39.30.030. Type of Services and Voltages Available.

A. Voltage Options. The Utility's standard service voltage is single-phase, 120/240 volts, 3 wire, 60 hertz and is available to all Consumers. Following is a list of all nominal voltage levels both single-phase and 3-phase that the Utility may elect to offer and/or require.

1. 120 volts, 2 wire, single-phase service.
(Available only at Utility's option).
2. 120/240 volts, 3 wire, single-phase service.
3. 240 Volt 3 Wire Delta 3 Phase
4. 120/240 volts, 4 wire, 3-phase service.
5. 120/208 volts, 4-wire, Y-connected, 3-phase service.
6. 480 volts, 3-wire, delta 3-phase.
7. 277/480 volts, Y-connected, 4-wire, 3-phase service.
8. At Utility's available primary voltage.
9. At Utility's available transmission voltage.

B. Other Voltages. Where Consumer desires service under voltage or phase conditions different than those Utility elects to furnish, any additional transformers, conversion or accessory equipment required shall be supplied by the Consumer at Consumer's expense, including backup facilities.

Utility reserves the right to meter service at either primary or secondary voltage. In such an event, billing Kwh shall be determined as is specified in the applicable rate schedule.

C. 3-Phase Service. Normally only single-phase service is available. However, 3-phase service may, at Utility's option, be furnished where 3-phase facilities of adequate capacity are already installed immediately adjacent to the point where service is to be delivered to Consumer, or where, as determined by Utility, it is economically feasible to extend such 3-phase facilities.

Utility reserves the right to refuse to extend or install 3-phase facilities to serve motors individually rated at 20 HP or less and to furnish only single-phase service for such motors. In such an event, Consumer may elect to install

be furnished and installed by Consumer's electric contractor at consumer's expense and at the location specified by Utility. Utility will furnish, install, and maintain its meter.

The utility will connect its service drop conductors to consumer's service entrance wires that extend down to the consumer's meter base.

E. Utility to Own and Maintain Metering Equipment. All meters, including instrument transformers, shall be furnished, installed, owned and maintained at the expense of the Utility. If instrument transformers are required, Utility reserves the right to require Consumer to furnish and install, at Consumer's expense, a suitable steel cabinet to house Utility's instrument transformers and accessories. Said suitable steel cabinet shall contain only Utility's metering equipment and shall be equipped so that it can be sealed by Utility, who shall have sole access to same.

F. Underground Service Requirements. Upon request by Consumer, an underground service installation will be made, subject to the conditions that follow.

1. Consumer shall, at Consumer's expense, excavate the trench in conformance to Utility's specifications and install such conduit as may be specified by Utility to extend between Consumer's service entrance location on Consumer's building to the top of Utility's pole. Upon completion of the installation, Consumer shall back-fill the trench at his/her expense. **Trenching must be compacted in accordance to Section 39.16.** Wire shall be installed in the conduit, and shall meet load and installation requirements. As indicated in the NEC, no smaller than 100 A will be accepted other than by utility approval.

2. Utility reserves the right to install the meter at the service entrance location as determined by the Utility.

3. Underground service installations will be supplied from Utility's underground distribution system.

G. Relocation of Service Entrance Wiring. Where it is necessary for any reason other than Utility's convenience to relocate the Consumer's service entrance wiring, all expense incident to such relocation shall be borne by Consumer and Consumer shall consult Utility, who will specify the new point of delivery and meter location.

H. Moving of Equipment to Be at Consumer's Expense. In the event a consumer or property owner requests Utility to move or relocate any poles, anchors, or other appurtenances of Utility, the Utility reserves the right to charge such Consumer or property owner for the costs incurred.

I. Mobile Homes and Trailer Courts. For mobile homes and trailer courts, where the trailers are to be individually metered and billed, Utility will install the necessary main service loop and its centrally located

termination pole and provide the meters. Utility reserves the right to master meter mobile home parks.

All other facilities located beyond the service loop termination pole, including a main safety switch, service drop, secondaries, meter sockets, and all other facilities required to serve the individual trailers, shall be furnished and installed by the mobile home or trailer court owner at his/her expense. It is the responsibility of the owner to maintain all facilities after the main service drop.

J. Central Metering Pole. If, in the opinion of Utility, Consumer's load requirements justify the installation of a centrally located meter and transformer pole (to be located as determined by Utility), Utility reserves the right to elect to install, at its expense, such a centrally located service pole. This election by Utility only applies at the time when service is to be initially established on the premises.

In the event that a centrally located meter pole is installed after service has been initially established, or if any extra poles or additional facilities are installed at Consumer's request after service has been initially established, the complete cost of such additional installation shall be paid for by the Consumer.

When, as provided above, Utility elects to install such a centrally located service pole, there will be included as part of the installation to be furnished by the Utility, the necessary service wires and attachments to the metering pole, including any guying necessary to protect Utility's facilities from strains and possible conflict with Consumer's wiring facilities, shall be installed at Consumer's expense.

The Consumer shall install, own, and maintain at Consumer's expense, the meter loop and the approved service entrance cable or conduit, commencing at Utility's service wires at the top of the pole and extending down to the meter socket and then back up the pole to the point where Consumer's service wires are to be connected. Consumer shall also install, at his/her expense, such protective devices as may be required by Utility.

K. Other Service Delivery Points. Where energy is to be delivered at a point other than that specified by Utility, Consumer shall pay the additional cost involved.

39.30.060. Consumer's Installation and Equipment.

A. Meter Location and Facilities to be Furnished by Consumer. The Consumer shall furnish and maintain, without charge, a suitable meter location as specified by Utility. No meter shall be installed in any location where it may be unnecessarily exposed to heat, cold, dampness or other cause of damage, or in any unduly dirty or inaccessible location.

Outdoor socket mounted type meters will normally be used by Utility whenever practical. The meter socket shall be furnished by Consumer's electrical contractor to be installed by him/her, subject to Utility's approval, at consumer's expense.

The meter socket shall be mounted at a height of not

ampere capacity, the minimum size shall be 1/0 copper or 2/0 aluminum. For 200 amperes, 2/0 copper or 4/0 aluminum.

The entrance safety switch capacity shall be not less than the rated capacity of the service conductors. Other specifications, including conductors, shall conform to the latest edition of the National Electrical Code.

Upon special application, Utility may permit two (2) or three (3) wire service entrance installations of less than 100 ampere capacity for signs, etc., where the load requirements, as determined by Utility, justify the same. In no event will two wire service be furnished except at Utility's option.

J. Temporary Service Drops. For temporary service furnished to individual small single phase loads, such as house trailers, small construction projects (such as house and small buildings, portable tools, etc.) Utility will install a standard temporary service drop, at Consumer's expense. Utility's General Service Rate shall apply.

Where the temporary service installation requires additional facilities in excess of the aforesaid standard service drop (such as an extension of Utility's primary line).

K. Service to Mobile Homes and Trailer Courts Through One Meter. For service to trailer courts where more than one (1) dwelling unit, mobile home, or trailer is supplied through one (1) meter, the furnishing of such service shall be subject to the provisions set forth General Rules and Regulations.

L. Location of Multiple Meters. Where more than one meter is required for a building, such as an apartment house, all of the meter sockets shall be located side by side at an outside location as determined by the Utility.

M. Meter Location Regarding Remodeling. In remodeling, where two (2) or more houses or dwelling units are combined to form one building, the meter socket shall be moved to a single location. In all remodeling where the meter is changed or moved, or wiring changes made, outdoor meter sockets and an approved new service entrance shall be installed by Consumer at Consumer's expense.

N. Meter Accessibility. In the event a structural change is made by the owner that results, in the opinion of Utility, to be an undesirable meter location, the meter socket, meter cabinet, and/or service entrance installation shall be moved by the Consumer at his/her expense to an accessible location as determined by Utility.

Whenever the construction of a building on an adjacent lot prevents proper access to any meter, or access to the point of attachment of service drop conductors, or results in inadequate service drop clearance, the Consumer shall move, at Consumer's expense, the meter socket and service entrance to a location that is acceptable to Utility.

O. Outdoor Meters for Non-Residential General Service. All single phase meters installed for Non-residential use shall be socket type. The meter socket

shall be furnished and installed by Consumer at Consumer's expense.

P. Instrument Transformers for Metering. In all outdoor installations requiring current transformers, whether single-phase or 3-phase, the Consumer shall provide an approved meter loop for meter connections. The Utility shall furnish any instrument transformers or other devices required, to properly meter Consumer's requirements. Such instrument transformers and devices shall be installed by Utility.

Q. Any cabinets required to house said instrument transformers and accessory equipment shall be furnished and installed by Consumer at Consumer's expense. This requirement applies to all installations.

Such metering or instrument cabinets are for the exclusive use of Utility, and shall, at all times, be under the control of, and kept sealed by Utility.

R. Additional Capacity Requirements. In the event a Consumer makes application for additional capacity, subject to provisions of the applicable rate schedule, Consumer shall install the necessary transformer capacity, service wires and other equipment required to adequately serve Consumer's requirements.

All applications for service involving the furnishing of additional capacity or equipment by the Utility may be required of the Consumer. The application shall state that any service entrance wiring and main switches required for the utilization of such additional capacity to be furnished by Utility, shall be considered as permanent fixtures belonging to the property being served and property except for replacement or enlargement if necessary.

S. Substation May Be Required of Consumer. The Utility reserves the right, where unusual substation capacity or voltage is involved, to require the Consumer to install the necessary complete substation as provided for in Utility's rate schedule. In such an event, the Consumer will receive the substation ownership discount specified in the applicable rate schedule.

Where the Consumer furnished the necessary complete substation equipment to take service at primary service voltage, such equipment shall be owned and maintained by the Consumer and shall include the necessary transformers, structure, controls, and protective equipment, and shall be of such quality and construction as meets Utility approval.

T. Attachments on Utility's Facilities Prohibited. Consumer shall install no wiring or attachments on poles or other equipment of Utility (other than on a Utility approved metering pole), as referred to General Rules and Regulations, unless specifically authorized, in writing, by the Utility.

U. Electric Building Heating Standards. Residential water heating installations shall conform to Utility's standards and specification which, among other things, specify that the heating elements shall be interconnected so

concurrently with, each and every subsequent deed transfer that involves any parcel of land located within the subdivision. Said covenant shall grant to Utility whichever of the following provisions Utility deems as being appropriate and necessary.

a. A suitable perpetual right-of-way easement that will permit the installation, operation, maintenance and replacement of all Utility's distribution facilities and appurtenances required to serve every lot or tract of land in the subdivisions, including the right of ingress and egress by Utility and the right to trim trees and shrubbery.

b. Street lighting will be installed throughout the development using the following criteria:

1. Street lights will be installed at all intersections with the only exception being where a four way intersection has an offset of less than 100 feet.
2. Street lights will be installed with a minimum of 300 feet and a maximum of 600 feet between. They will be installed at the closest property line to the mid point between the lights on either side.
3. Street lights placed between corners will be shown on the electrical construction drawing, and will indicate the direction that the street light will be aimed. Street lights at intersections may aim to the center of the intersection or may be set at a 90 degree angle along collector and larger roads.
4. Any street that extends more than 600 feet without an intersection will have a street light at approximately the mid point.
5. Each street light will be installed so that the street light pole is between 18" and 24" from its closest point to the property side of the curb.
6. A ground wire shall be connected to the street light pole using N.E.C. approved methods and a separate ground wire will be ran from the pole base to the closest secondary pedestal or transformer. If the street light is fed from a secondary pedestal, an 8' X 5/8"

copper clad ground rod must be installed at the pedestal, and street light ground will be attached using and N.E.C. approved connector.

7. A 25' steel galvanized street light pole with a 6' arm and a 100 watt H.P.S. will be used on all standard roads. The same pole will be used for a collector road, but the fixture will be increased to a 200 watt H.P.S. All street light poles on Main Street will be 45' steel galvanized pole with a 10' arm, and a 200 watt H.P.S. fixture. All fixture types will be of the luminaire type with 90 degree cutoff lens.

c. A conduit system will be installed according to signed and initialed drawings provided by the electrical utility for future city communications system. The conduit system will be installed in such a manner as to keep the number and amounts of conduits and communications boxes to a minimum. Communication boxes shall be installed behind transformers and secondary pedestals as indicated on drawings provided by the electrical division. See drawing E-5, E-6, and E-7 for more information.

d. Development Specifications. If you don't have a copy of the City's Construction and Development Standards, a packet that is specific to either residential or commercial development shall be provided. Below are details on how to use the packet.

The specification drawings show details of various underground service and distribution installations for a typical development. The circled numbers on the specification drawings, refer to footnotes (drawing E-25). These sheets are notes that give specific details for each installation.

e. Electrical Plan Drawings. Also in this packet is a copy of the electrical lines and equipment drawn in on your site plan or plat drawing. If you would like to request any changes to these drawings, please contact the electrical superintendent with your proposal.

Approved electrical drawings **must be** initialed by an approved electrical division supervisor, and signed by the electrical superintendent in order to be valid for construction of the electrical system improvements. Photo-copies of approved drawings will not be considered valid.

3. Street light pole, arm, fixture (including bulb, photocell, and fusing) shall be included in the hook-up fee and shall be picked up at the Utility shops for installation by developer's electrical contractor.
4. A copy of the utility's hook-up fee shall be included in the packet that will be provided to the developer after the development has been approved. This hook-up fee shall be paid in full before the development will be approved for final hook-up.

When the project is completed and the electrical facilities have been accepted by the utility, they shall be maintained at the utility's expense as long as service requirements remain the same.

39.30.110. Right-of-Way.

A. Construction Within Right-of-Way. To the extent feasible, Utility's distribution and transmission lines and appurtenances will be constructed within the right-of-way boundaries of streets, roads and alleys. Whenever, in the opinion of Utility, it is not practical to construct and install its facilities within the limits of streets, alleys, and other public thorough fares, Utility will construct and install such facilities on private rights-of-way.

B. Furnishing of Right-of-Way. Whenever it is necessary for Utility to occupy private rights-of-way, property owner shall furnish or assist in acquiring, without charge to Utility, such right-of-way as is necessary and will assist Utility in securing such other right-of-way as may be necessary to provide service to Consumer.

39.30.120. Access to Premises.

A. Utility Access to Premises. Any properly identified representative of the Utility shall, at all reasonable hours, have free access to and from the premises of the Consumer for the purpose of inspecting Consumer's installations and electric equipment and for the purpose of reading, repairing, testing, or removing the Utility's meter or its other property. When, in the opinion of Utility, emergency conditions exist with respect to Utility's service, Utility's representative shall have immediate and free access to Consumer's premises.

Chapter 39.32. Hillside Site Development.

- 39.32.010. Average Slope-Definition.**
- 39.32.020. Certified Report Required.**
- 39.32.030 Certified Report Specifications.**
- 39.32.040. Liability.**

39.32.010. Average Slope-Definition.

For the purpose of this chapter, the definition of "average" slope shall be as follows: The average slope of the parcel of land or any portion thereof shall be computed by applying the formula,

$$S = \frac{0.00229 \quad I L}{A}$$

to the natural slope of the land before any grading is commenced, as determined from a topographic map having a scale of not less than one inch equals 100 feet and a contour interval of not less than 5 feet, where:

- 0.00229 = A conversion factor of square feet to acres
- S = Average percent slope
- I = Contour interval, in feet
- L = Summation of the length of contour lines, in feet within the subject parcel
- A = Areas in acre of the parcel being considered.

39.32.020. Certified Report Required.

It shall be unlawful for the owner, developer, or any contractor or other person to excavate, grade, level, or build upon any lot or property within the city when the average slope of the lot exceeds ten (10) percent or if such a slope is within 200 feet of the building lot. Nor shall any person grade, level, or improve in any manner any parcel of land which is crossed by a natural or manmade water course or existing utility, before such person has submitted to the chief building official a certified report from a qualified civil engineer licensed in the State of Utah containing the information set forth in the following section.

39.32.030. Certified Report Specifications.

The certified report required in the previous section shall contain at least the following information:

- A. A plat of the property showing the following:
 1. Contour lines at five (5) foot intervals. Existing contours shall be indicated by dashed lines and proposed contours by solid lines;
 2. Elevations at the corners of foundations and at the corners of driveways; and
 3. Show or reference any existing or potential groundwater flows which may cause unstable conditions such as debris flow or slides.

B. Assessment of the civil engineer as to the seriousness of any development problems such as erosion, drainage, flood and geologic hazards or unstable soil conditions and their potential effect on adjoining properties and on any proposed improvements to be built on the property.

C. The proposed method for handling the problems noted in "B" above.

39.32.040. Liability.

The purpose of this chapter is to point out to the owner and/or developer of any property that the liability and responsibility of such persons to protect the integrity of their own and adjoining properties, existing water courses and utilities lies upon the person doing the development and upon the owner of the property being developed and not upon the city or any other person. The City may require additional information on any development or building which may have potential hazards.

Chapter 39.34. Surface Irrigation Systems.

39.34.010. General.

39.34.020. Adopted Policy.

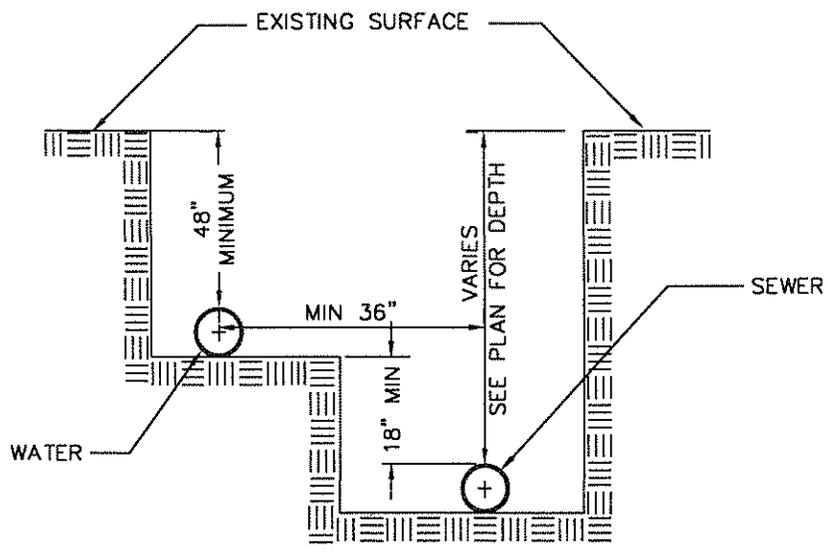
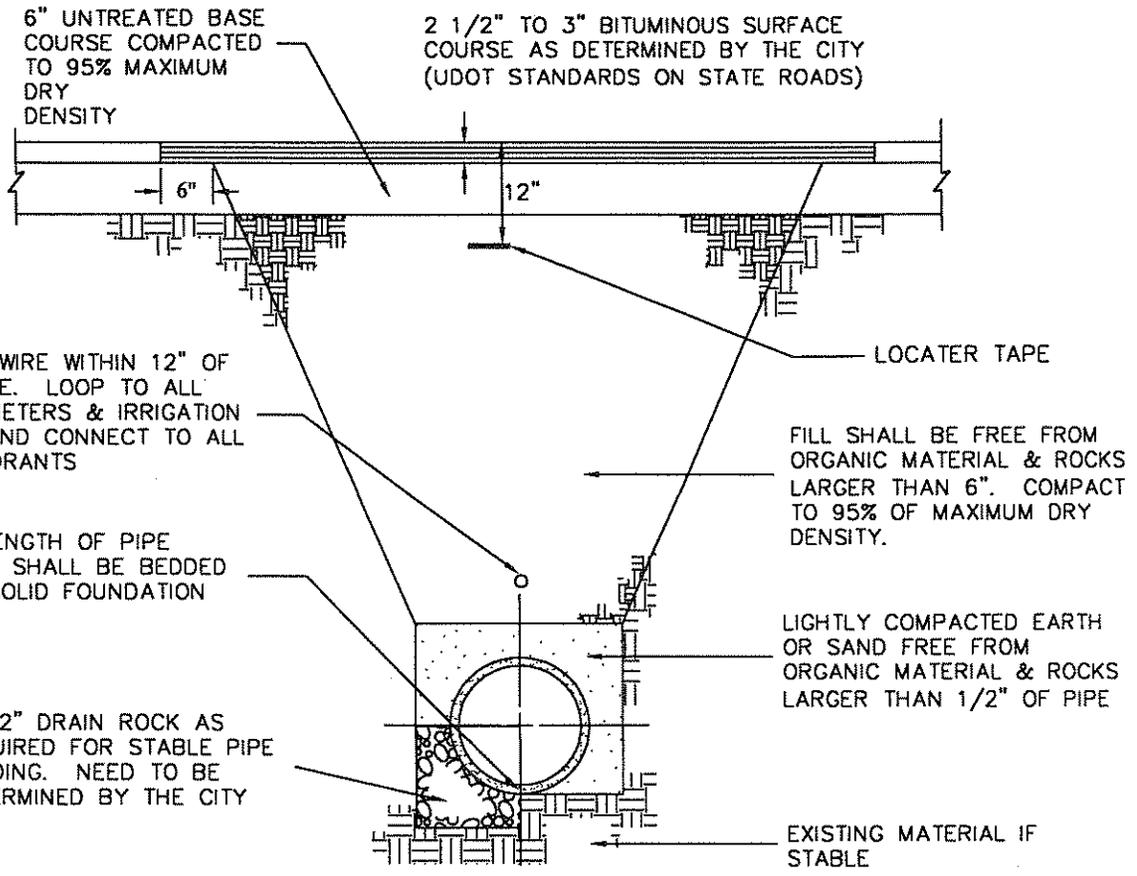
39.34.010. General.

These specifications cover the installation of irrigation systems. The City has no direct control over irrigation works and will require written approval from the irrigation company involved. All irrigation system plans shall be prepared by a professional engineer and approval by the City and the irrigation company.

39.34.020. Adopted Policy.

The irrigation ditch policy requires a developer to pipe an irrigation ditch if it is on the development or adjacent to the development. If the ditch carries 50 cubic feet per second (5 streams) average flow the City Council has the discretion to allow piping or fencing and landscape.

Any ditch carrying less than 50 cubic feet per second (5 streams) will be required to be piped.

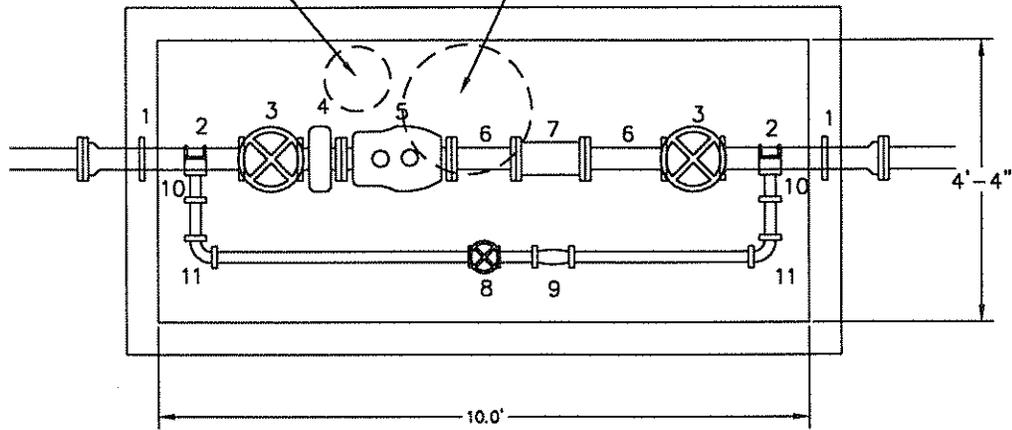


DUAL PIPELINE

DRAWN RJN REVISED CMT DATE MAY 1999 SCALE 1"=2'	 SPANISH FORK CITY 40 SOUTH MAIN STREET SPANISH FORK, UTAH 84660 PHONE (801) 798-5000	STANDARD DETAILS FOR TRENCHES G:\gis\Engineering\Standards\dwg\01 Trenches.dwg	STANDARD 1
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LID WITH 1 3/4" HOLE SEE WATER METER DETAIL

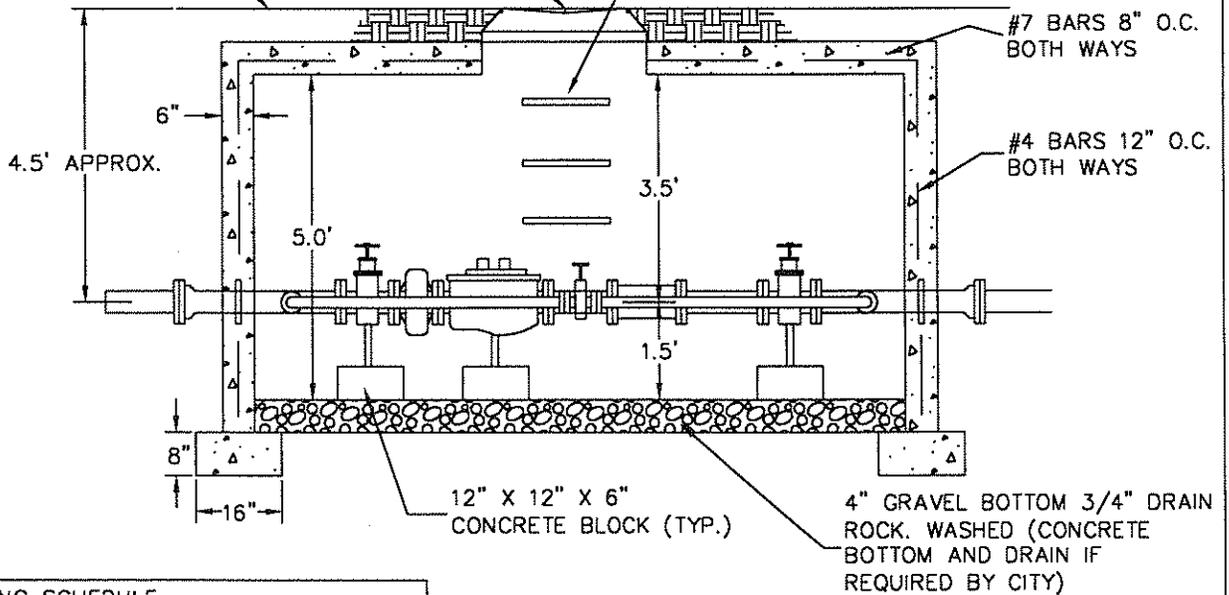
MANHOLE RING AND LID



A D&L 1180 OR EQUIVALENT MANHOLE FRAME AND LID RECESSED 1/4" BELOW FINISHED GRADE, LID MUST BE LABELED "WATER"

STEEL REINFORCED PLASTIC MANHOLE STEPS @ 12" O.C. IN LINE WITH OPENING

GROUND SURFACE



FITTING SCHEDULE

FITTING SCHEDULE	
1	4"X30" WALL PIPE MJ X FLG
2	4"X2" DBLE STRAP SADDLE OR FLGD TEE
3	4" GATE VALVE FLG. WITH HANDWHEEL
4	4" STRAINER WHEN REQUIRED
5	4" COMPOUND METER
6	4" SPOOL FLG X PE - LENGTH TO BE DETERMINED IN THE FIELD
7	4" SOLID SLEEVE MJ
8	2" GATE VALVE WITH HANDWHEEL
9	2" DRESSER COUPLING
10	2" CORPORATION STOP
11	2" ELBOW

- NOTE :
1. THIS DRAWING SHOWS A 4" METER. OTHER SIZES WILL BE SIMILAR BYPASS REQUIRED ON ALL METERS 2" AND LARGER
 2. ALL METERS WILL HAVE DUAL CHECK VALVE UPSTREAM FROM THE METER
 3. PLACE LARGE METER OUTSIDE TRAVEL LANE IF POSSIBLE.
 4. NO GALVANIZED PIPING OR FITTINGS SHALL BE USED
 5. ALL 4" PIPE & FITTINGS SHALL BE DUCTILE IRON
 6. ALL 2" PIPE & FITTINGS SHALL BE BRASS OR COPPER

DRAWN R.J.N.
 REVISED CMT
 DATE MAY 1999
 SCALE VARIES



SPANISH FORK CITY
 40 SOUTH MAIN STREET
 SPANISH FORK, UTAH 84660
 PHONE (801) 798-5000

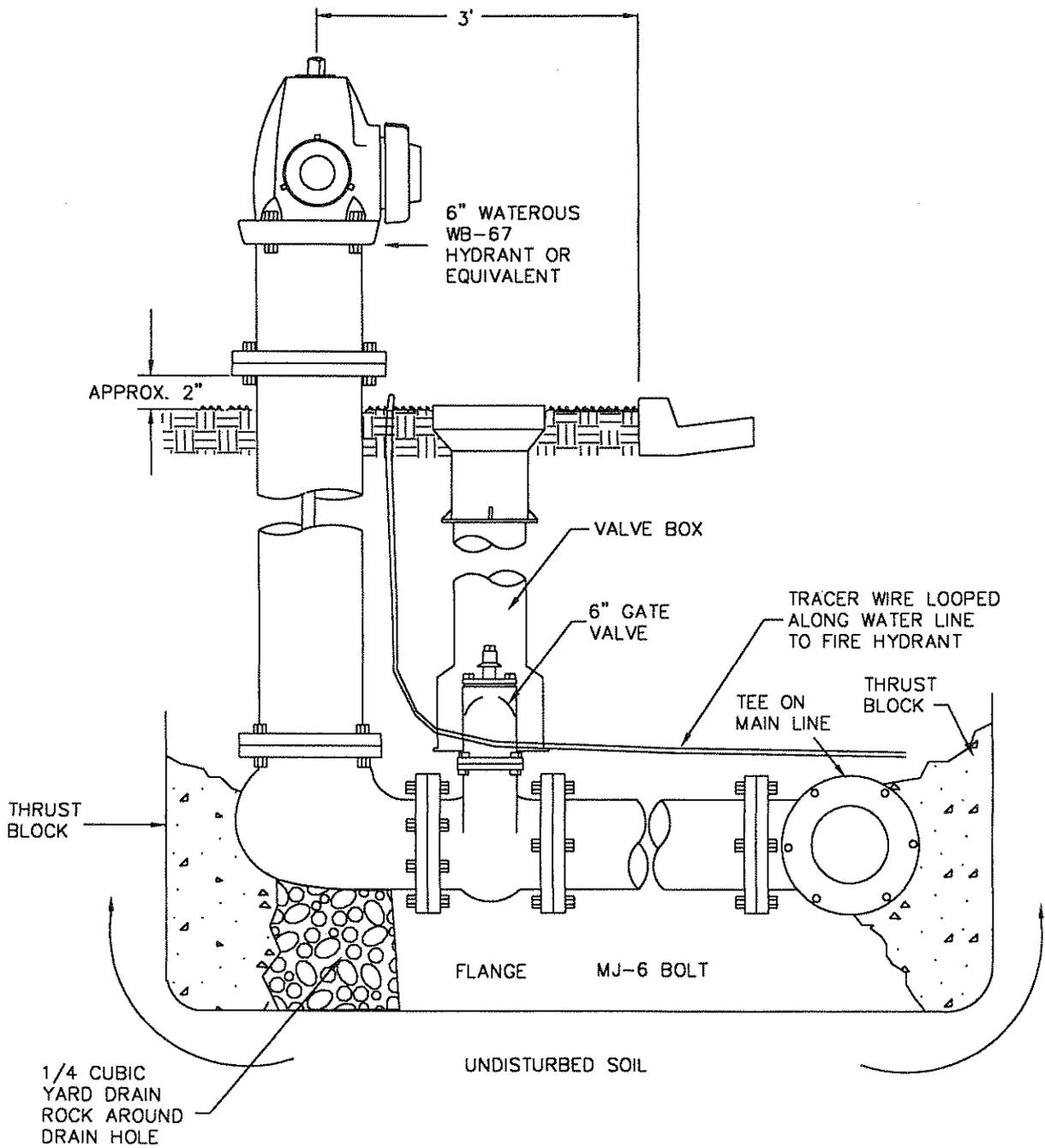
STANDARD DETAILS FOR

LARGE WATER METER

STANDARD

3

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- NOTES:
1. VALVE TO BE PLACE AT HYDRANT
 2. TRACER WIRE TO BE ATTACHED TO HYDRANT VALVE
 3. FIRE HYDRANTS SHALL BE PAINTED RED
 4. ALL BOLTS SHALL BE FREE FROM CONCRETE AND FULLY ACCESSIBLE

DRAWN	RJN
REVISED	CMT
DATE	MAY 1999
SCALE	VARIES



SPANISH FORK CITY
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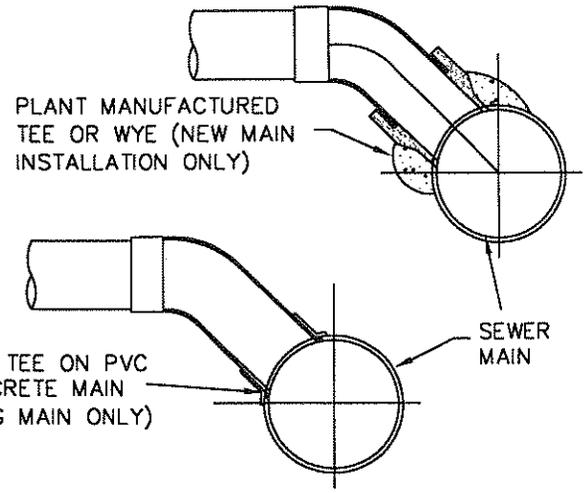
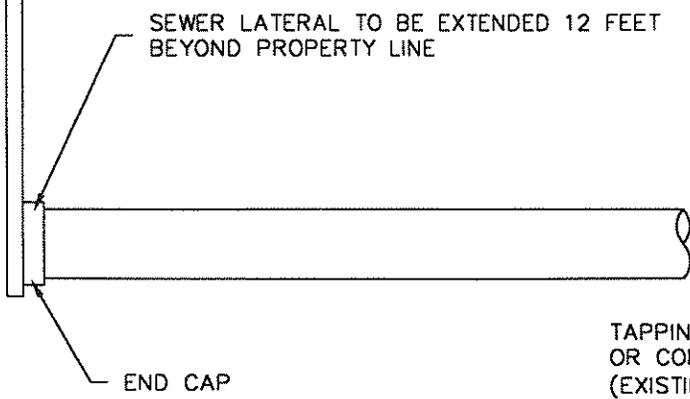
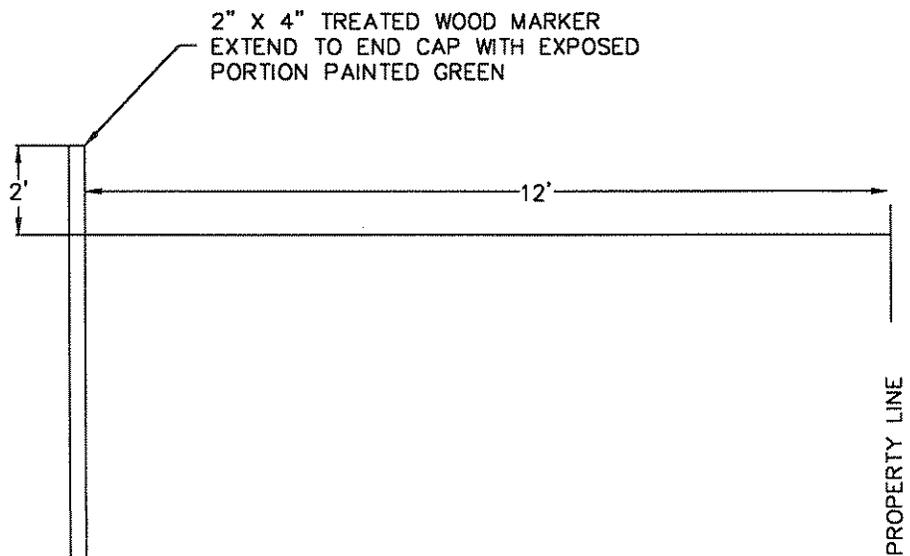
STANDARD DETAILS FOR

FIRE HYDRANT

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STANDARD

5



- NOTE:
1. ANY BEND GREATER THAN 22 1/2 SHALL HAVE A CLEAN-OUT
 2. MINIMUM SLOPE FOR A 4 INCH LATERAL IS 2%
 3. MINIMUM SLOPE FOR A 6 INCH LATERAL IS 1%

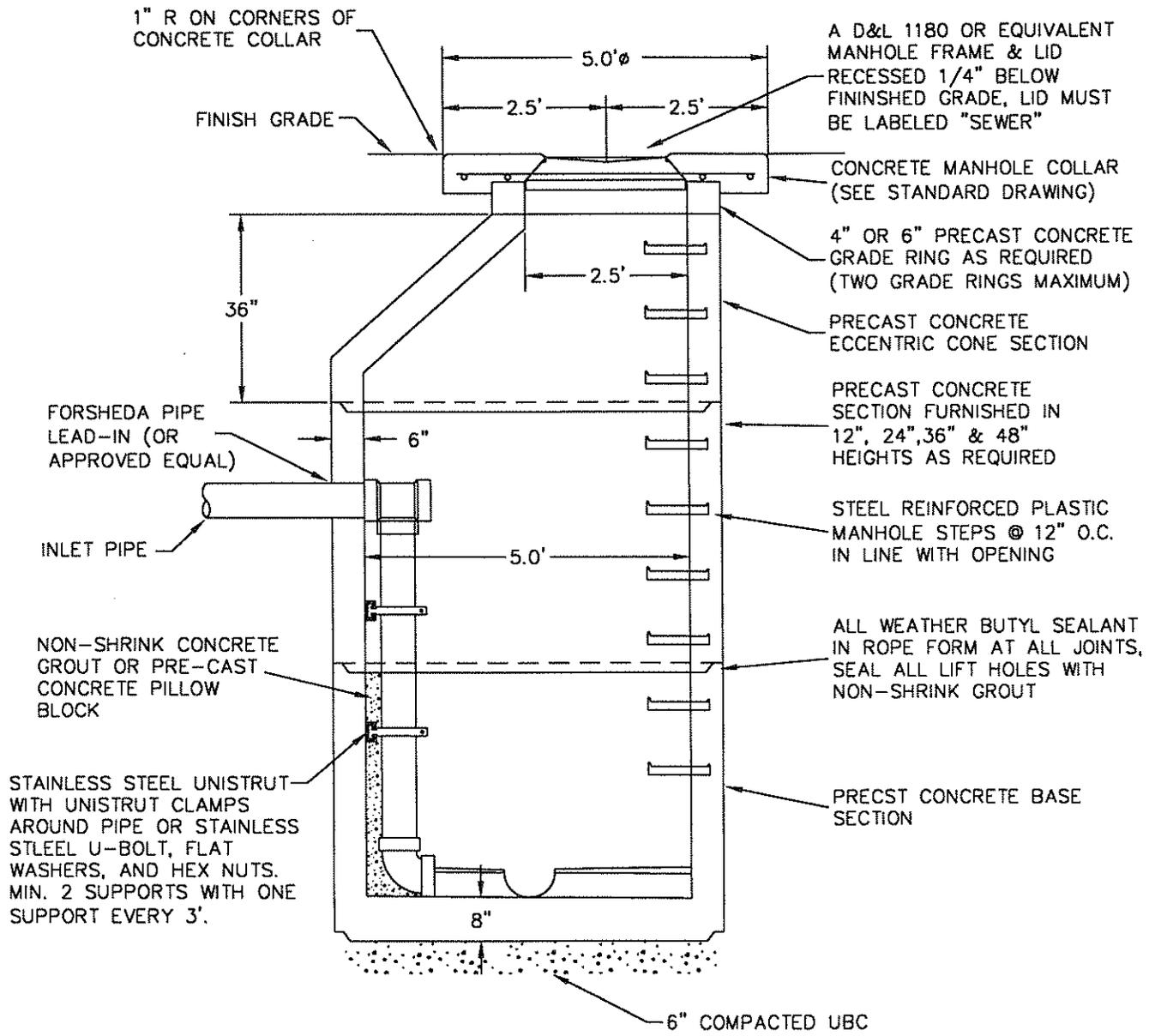
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DATE	MAY 1999
SCALE	VARIES



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STANDARD DETAILS FOR
SEWER SERVICE LINE
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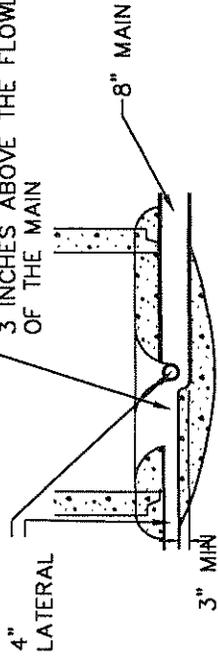
STANDARD
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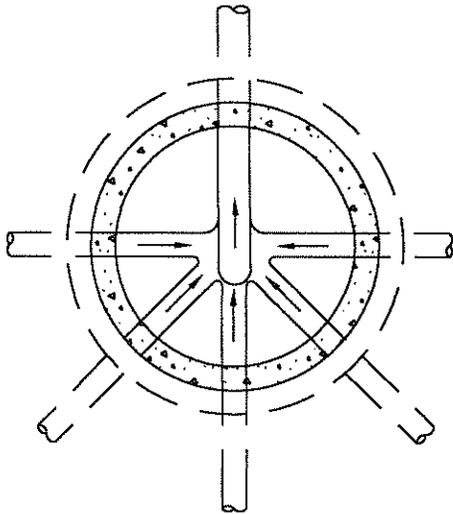
- NOTE: 1. DROP MANHOLES WITH LARGER THAN 12" LINES NEED TO HAVE OUTSIDE DROPS
2. FLAT LIDS MAY BE USED IN LUE OF ECCENTRIC CONES WHERE NECESSARY. FLAT LIDS SHALL BE OF ECCENTRIC DESIGN AND MEET H2O LIVE LOADING. NO FLAT RING AND COVERS WILL BE ALLOWED UNLESS APPROVED BY PUBLIC WORKS.
3. MANHOLE RIMS PLACED IN FIELDS SHALL HAVE SOLID LIDS AND BURIED 2 FEET DEEP.
4. MANHOLE RIMS OUT OF STREETS SHALL BE PLACED 4 INCHES ABOVE GRADE.

DRAWN CMT	 <p>SPANISH FORK CITY 40 SOUTH MAIN STREET SPANISH FORK, UTAH 84660 PHONE (801) 798-5000</p>	STANDARD DETAILS FOR	STANDARD	
REVISED CMT		DROP MANHOLE CROSS SECTION	9	
DATE MAY 1999				
SCALE VARIES			G:\gis\Engineering\Standards\dwg\09 Drop Manhole Cross Seciton.dwg	

FLOWLINE OF LATERALS SHOULD BE A MINIMUM OF 3 INCHES ABOVE THE FLOWLINE OF THE MAIN

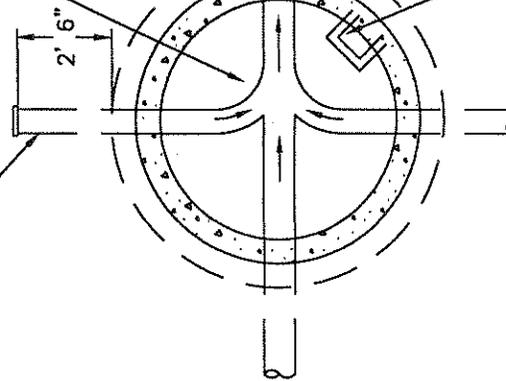
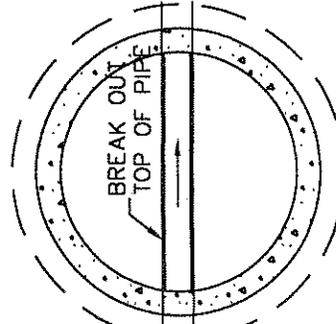
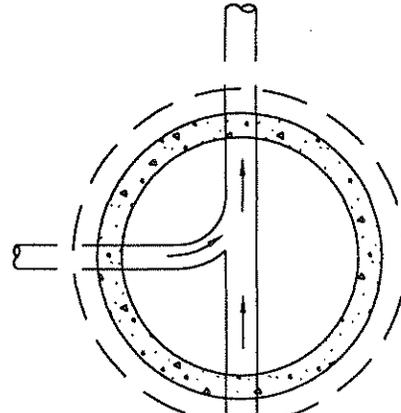


CROSS SECTION



PLAN VIEW

SEWER LINE STUB WITH WATER TIGHT CAP



STEEL REINFORCED PLASTIC MANHOLE STEPS @ 12" O.C.

PLAN VIEWS

DRAWN	RJN
REVISED	
DATE	FEB 1995
SCALE	VARIES



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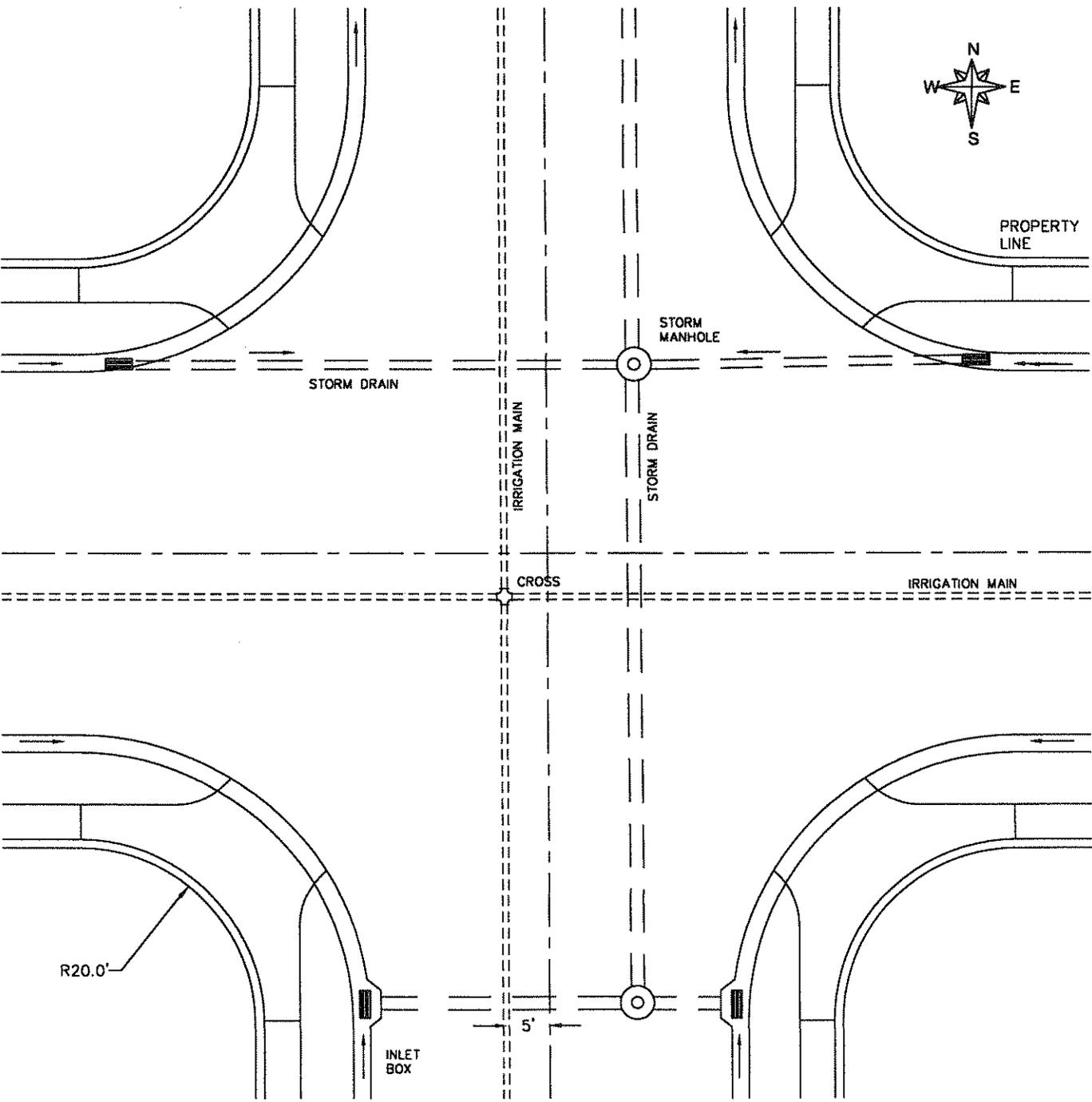
STANDARD DETAILS FOR

SEWER MAHOLE FLOWS

STANDARD

11

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- NOTE:
1. IRRIGATION VALVES TO BE PLACE AT MIDBLOCK LOCATIONS
 2. STORM DRAIN TO BE LOCATED ON NORTH AND EAST SIDES OF STREET
 3. IRRIGATION MAINS TO BE LOCATED ON THE SOUTH AND WEST SIDES OF STREET

DRAWN	RJN
REVISED	CMT
DATE	MAY 1999
SCALE	VARIES

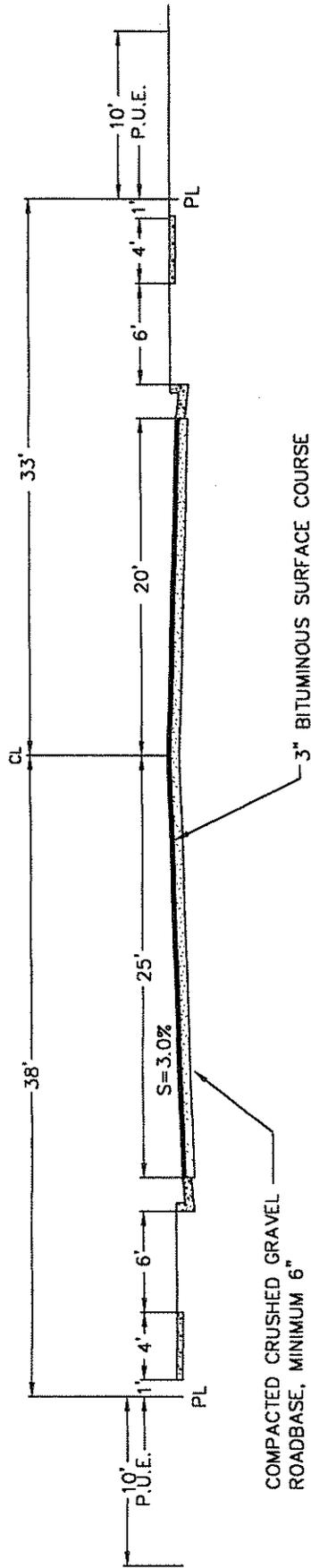


SPANISH FORK CITY
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STANDARD DETAILS FOR
 INTERSECTION AND UTILITY
 LOCATIONS WITH PLANTER
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MINOR COLLECTOR - 66' R.O.W.

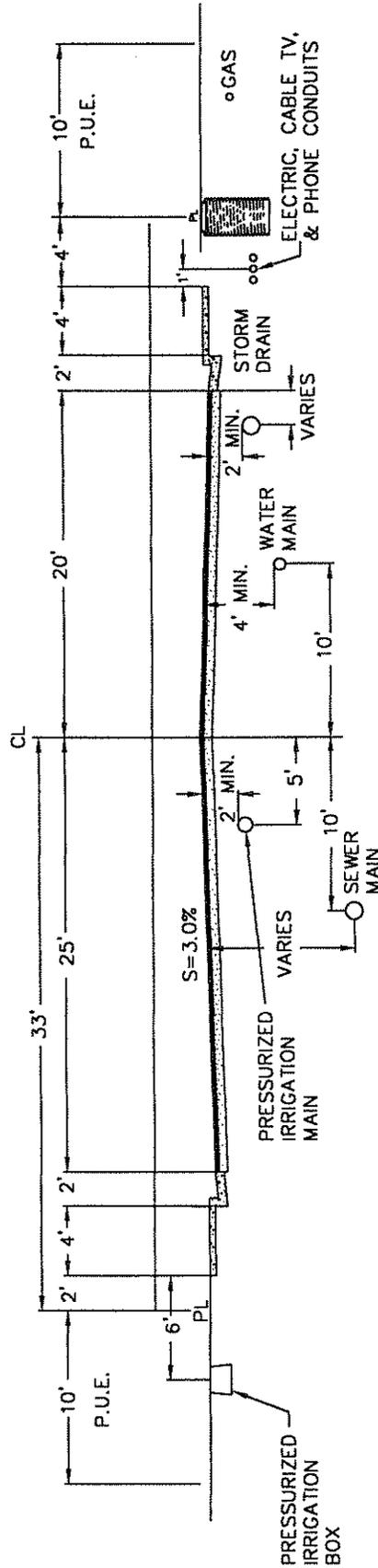
MAJOR COLLECTOR - 76' R.O.W.



COMPACTED CRUSHED GRAVEL ROADBASE, MINIMUM 6" 3" BITUMINOUS SURFACE COURSE

MINOR COLLECTOR - 56' R.O.W.

MAJOR COLLECTOR - 66' R.O.W.



NOTES:

1. TACK SHALL BE APPLIED TO LIP OF CURB AND EXTEND 1' ONTO GRAVEL ROAD BASE
2. ASPHALT SHALL BE LAID 1/4" ABOVE LIP OF GUTTER
3. SEWER LATERALS SHALL HAVE A MINIMUM COVER OF 42" AT PROPERTY
4. STREET CROSS SECTION WITH PLANTER STRIP WILL BE USED UNLESS AUTHORIZED BY THE CITY ENGINEER
5. 66' MINOR COLLECTOR IS THE SMALLEST CROSS SECTION ALLOWED IN COMMERCIAL & INDUSTRIAL AREAS

DRAWN	RJN
REVISED	CMT
DATE	MAY 1999
SCALE	VARIES

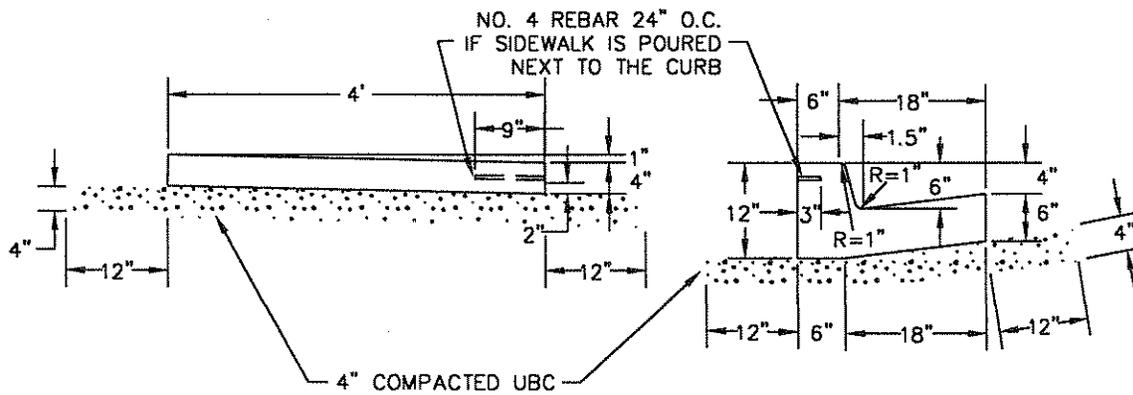
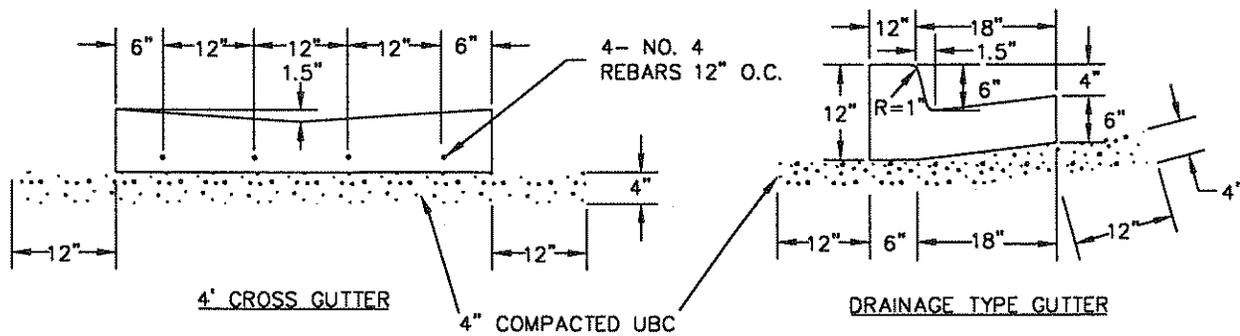


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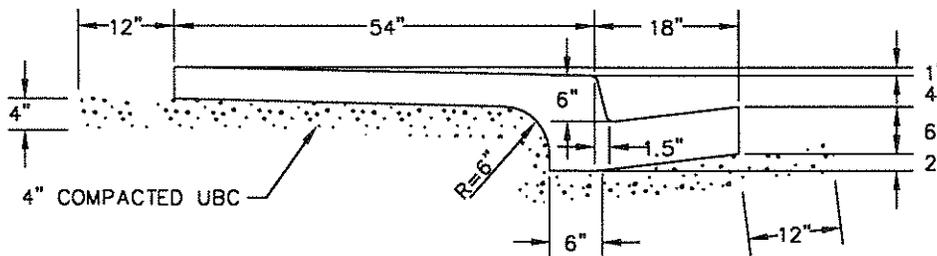
STANDARD DETAILS FOR
 COLLECTOR STREET CROSS-SECTIONS
 AND UTILITY LOCATIONS

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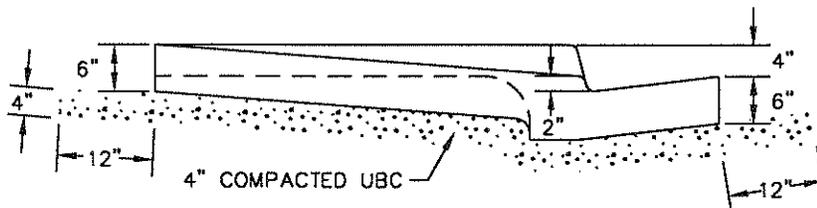
STANDARD
 15



CURB, GUTTER, & SIDEWALK - POURED SEPERATELY



COMBINATION CURB, GUTTER, & SIDEWALK



COMBINATION CURB, GUTTER, & SIDEWALK WITH DRIVE APPROACH

NOTE: 4" COMPACTED UNTREATED BASE COURSE IS TO BE PLACED UNDER ALL CONCRRETE WORK UNLESS OTHERWISE SPECIFIED

DRAWN R.JN
REVISED CMT
DATE MAY 1999
SCALE VARIES



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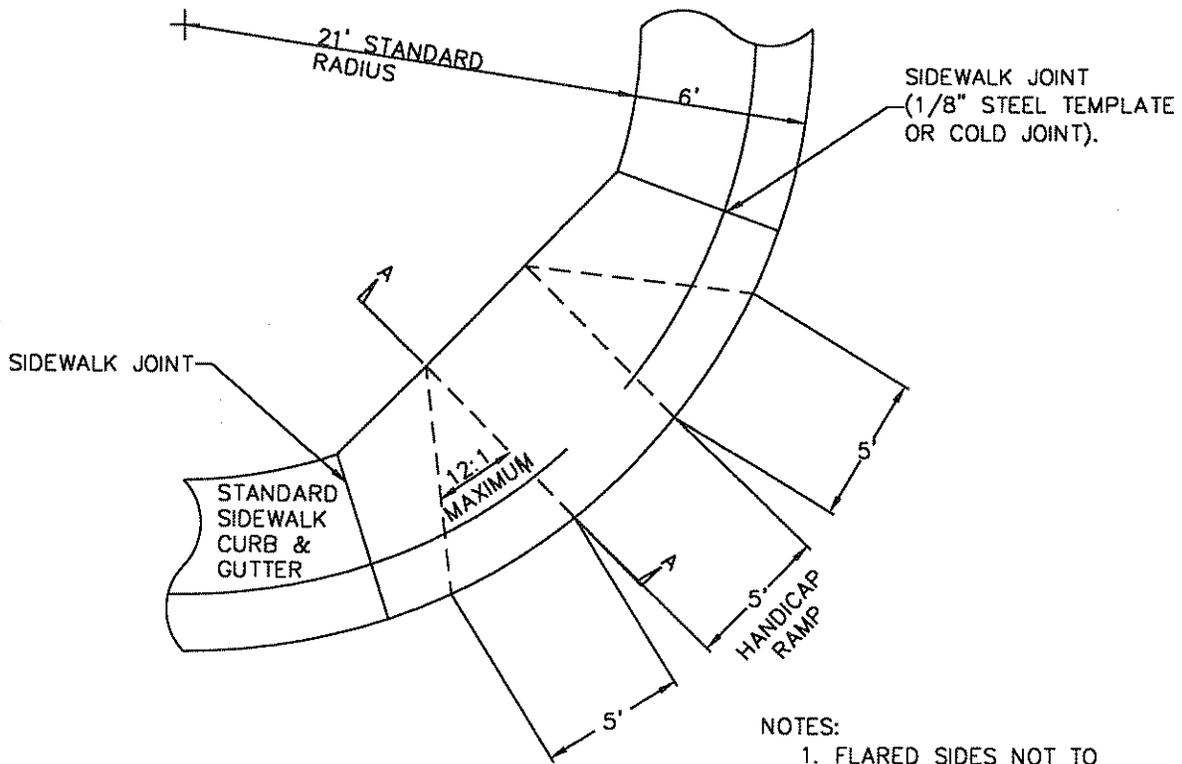
STANDARD DETAILS FOR

CURB, GUTTER, SIDEWALK &
CROSS GUTTER

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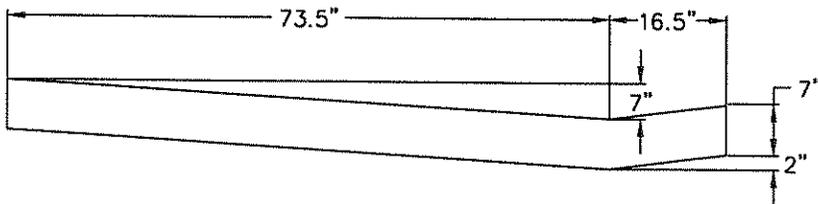
STANDARD

17



NOTES:

1. FLARED SIDES NOT TO EXCEED 12:1 SLOPE.
2. MINIMUM DISTANCE FROM B.O.W. TO FLOWLINE OF GUTTER SHALL BE 6'2" THROUGH THE HANDICAP RAMP.
3. MODIFICATIONS TO THIS STANDARD WILL BE APPROVED BY THE ENGINEER.
4. SURFACE OF CONCRETE ON THE RAMP AND FLARED SIDES SHALL BE BROOMED ROUGH.
5. RAMP & FLARED SIDES SHALL BE VISUALLY CONTRASTING.
5. WARP SIDEWALK INTO RAMP.



SECTION A--A
THROUGH WHEELCHAIR RAMP

NOTE: 7" THICKNESS REQUIRED ON RADIUS
4" THICKNESS IN WALKWAY OUT OF RADIUS

DRAWN	RJN
REVISED	CMT
DATE	MAR 1999
SCALE	VARIES



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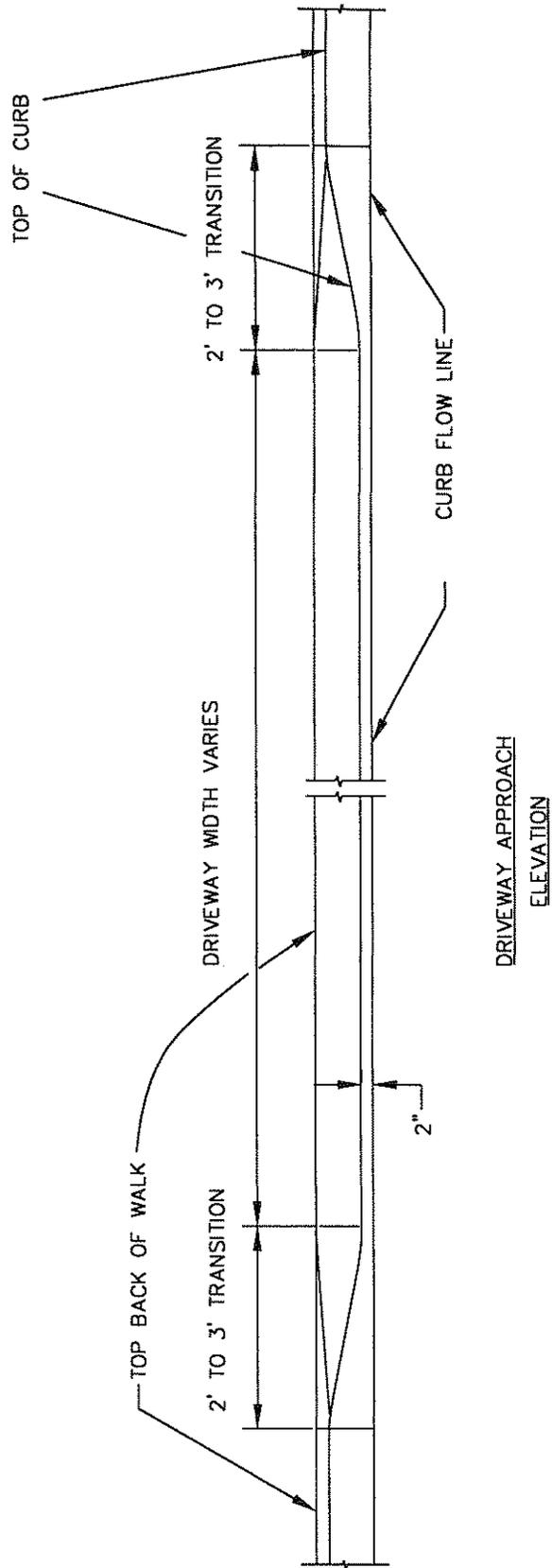
STANDARD DETAILS FOR

COMBINATION HANDICAP RAMP

STANDARD

19

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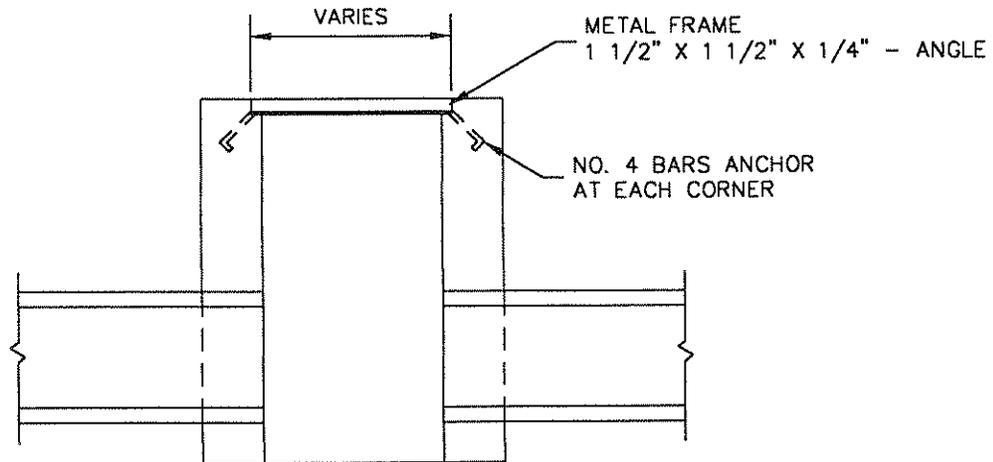
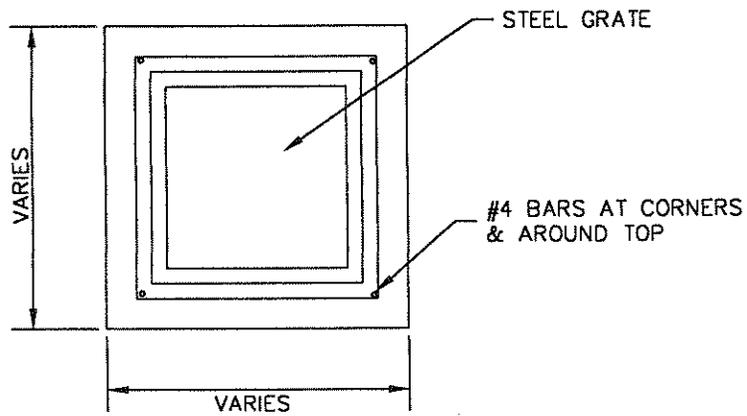
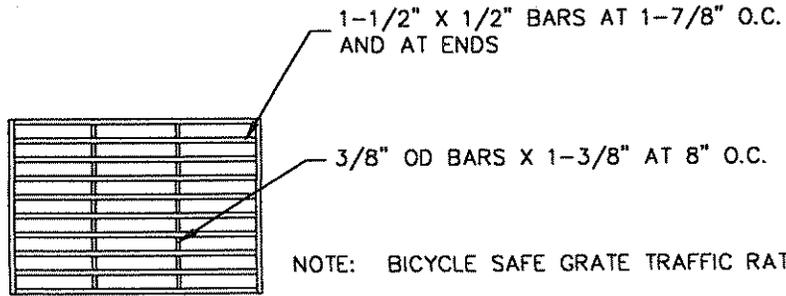


DRAWN	RJN
REVISED	RJN
DATE	OCT 1996
SCALE	VARIES

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 40 SOUTH MAIN STREET
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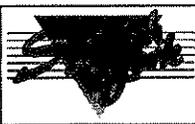
STANDARD DETAILS FOR
 DRIVE APPROACH
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STANDARD
 21



STANDARD CLEANOUT BOX

DRAWN	R.JN
REVISED	CMT
DATE	OCT 1996
SCALE	VARIES



SPANISH FORK CITY
40 SOUTH MAIN STREET
SPANISH FORK, UTAH 84660
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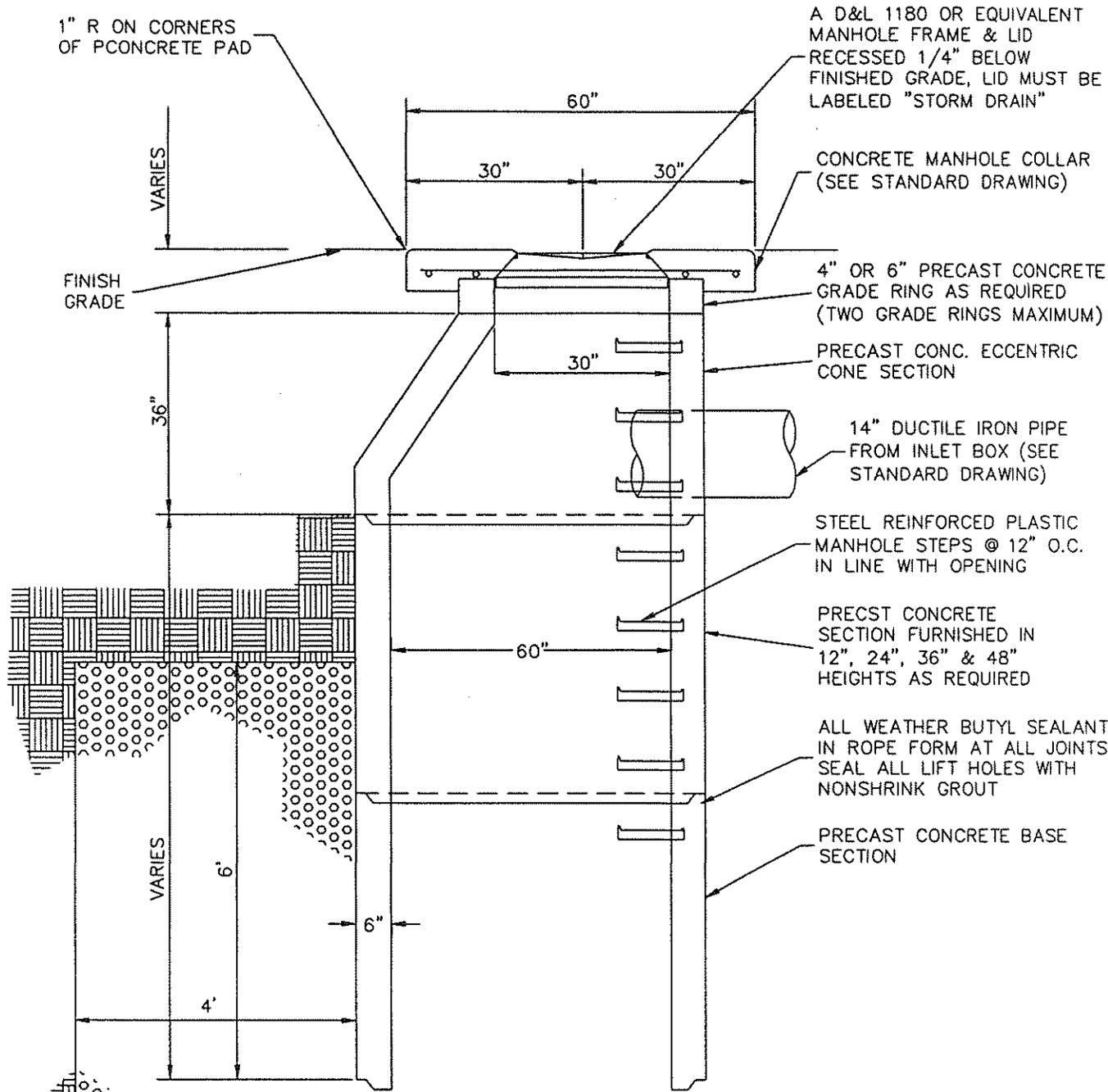
STANDARD DETAILS FOR

CLEANOUT BOX

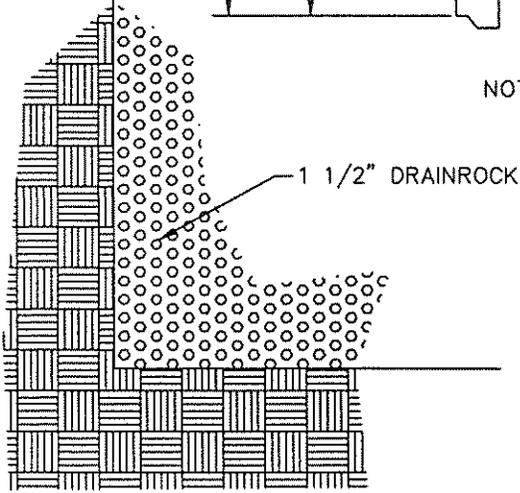
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STANDARD

23



- NOTES: 1. FLAT LIDS MAY BE USED IN LUE OF ECCENTRIC CONES WHERE NECESSARY. FLAT LIDS SHALL BE OF ECCENTRIC DESIGN AND MEET H2O LIVE LOADING. NO FLAT FING AND COVERS WILL BE ALLOWED UNLESS APPROVED BY PUBLIC WORKS.
2. MANHOLE RING PLACED IN FIELDS SHALL HAVE SOLID LIDS AND BE BURIED 2 FEET DEEP.
3. MANHOLE RIMS OUT OF STREETS SHALL BE PLACED 4 INCHES ABOVE GRADE.
4. THERE SHALL BE NO DIRECT INLET INTO SUMPS. WATER MUST FIRST BE COLLECTED IN IN A CURB FACE DROP INLET BOX WITH OIL AND DEBRIS SEPERATION (SEE STANDARD DRAWING).
5. ALL SUMPS SHALL BE MADE OF CONCRETE
6. THERE SHALL BE A 4' - 1 1/2" MINUS GRAVEL ENVELOPE AROUND THE BOTTOM 6' OF THE SUMP
7. THE BOTTOM SECTION SHALL HAVE 1" TO 1.5" HOLES 12" O.C.



DRAWN	CMT
REVISED	CMT
DATE	MAY 1999
SCALE	VARIES



SPANISH FORK CITY
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STANDARD DETAILS FOR	STANDARD
CONCRETE MANHOLE SUMP	25
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SYSTEM DRAIN TO DITCH

OPEN CHANNEL TO BE LINED WITH 6" TO 12" DIA RIPRAP 5 FEET EACH SIDE OF THE DRAIN LINE.

EXTEND DRAIN LINE TO OPEN CHANNEL AT LOCATIONS SHOWN ON PLANS

STEEL BODIED RODENT SCREEN. INSTALL WHERE DRAIN EMPTIES INTO OPEN CHANNEL.

C900 DRAIN LINE SIZE AS SHOWN ON PLAN SHEETS

SEE PLAN SHEETS FOR PIPELINE SIZE.

MAIN IRRIGATION LINE

SYSTEM DRAIN TO STORM DRAIN

4" 45-MJxPE BEND

SEE PLAN SHEETS FOR PIPELINE SIZE.

4" FLGxMJ GATE VALVE AND BOX WITH LID THAT READS "DRAIN"

MJxFLG TEE SEPARATE BID ITEM

C900 DRAIN LINE SIZE AS SHOWN ON PLAN SHEETS CONSTRUCT DRAIN INTO STORMDRAIN & GROUT AROUND OPENING.

MAIN IRRIGATION LINE

EXISTING 18" STORMDRAIN

SYSTEM DRAIN TO INLET BOX

CURB FACE INLET BOX

MJxFLG TEE SEPARATE BID ITEM

C900 DRAIN LINE SIZE AS SHOWN ON PLAN SHEETS

MAIN IRRIGATION LINE

CONSTRUCT DRAIN INTO BOX & GROUT AROUND OPENING

FINISHED GROUND LINE

STD. 24" MANHOLE RING WITH SOLID COVER

30" CONCRETE PIPE

DEPTH VARIES

6" TYP

2" BALL VALVE

2" PVC MIPT ADAPTER

1 REQ'D EACH SIDE OF VALVE

NOTCH BOTTOM OF 30" CP

FOR 2" PIPE.

MJ TAPPED TEE W/ 2" NPT TAP - SEPARATE BID ITEM

2' PVC MIPT ADAPTER

2" 45 ELBOW

2" SCHD 40 PVC PIPE

SLOPE TO DRAIN

3/4" DRAIN ROCK

2'-0" MIN

NOTE: ALL VALVE LIDS ON PRESSURIZED IRRIGATION DRAINS SHALL READ "DRAIN"

DRAWN CMT
 REWSED CMT
 DATE MAY 1999
 SCALE VARIES



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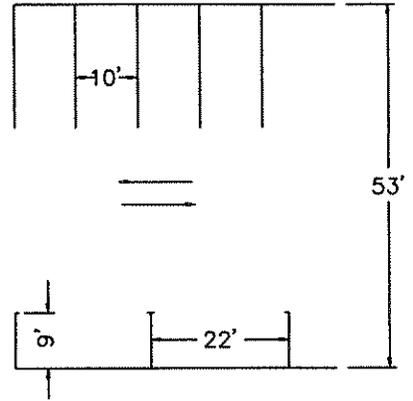
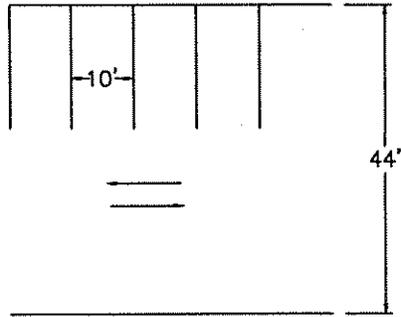
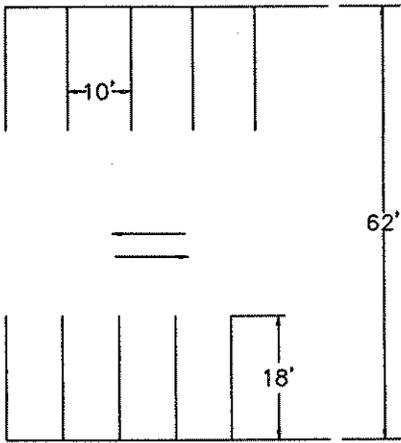
STANDARD DETAILS FOR

PRESSURIZED IRRIGATION DRAINS

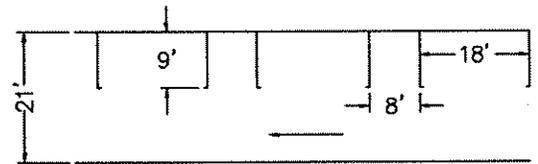
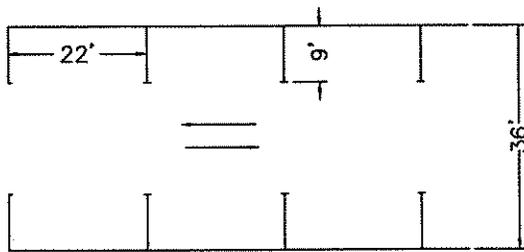
STANDARD

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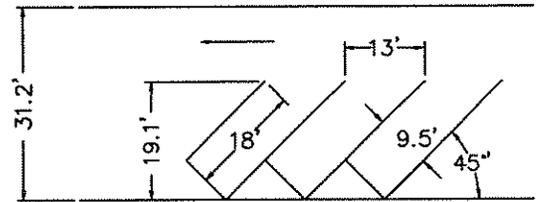
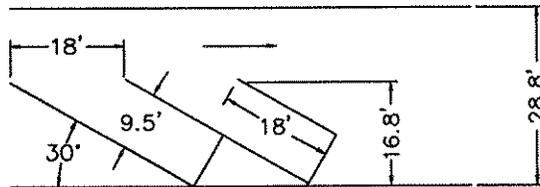
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RIGHT ANGLE PARKING



PARALLEL PARKING

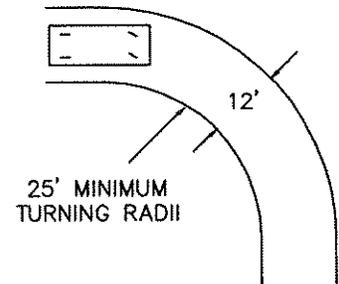
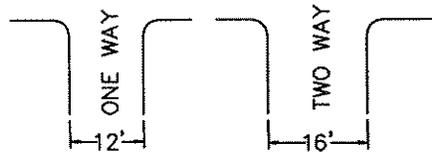
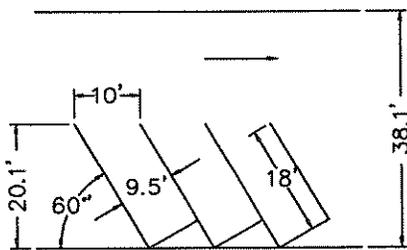


30 DEGREE ANGLE PARKING

MUST HAVE 20' TRAVEL LANE FOR 2 WAY TRAFFIC

45 DEGREE ANGLE PARKING

MUST HAVE 22' TRAVEL LANE FOR 2 WAY TRAFFIC



60 DEGREE ANGLE PARKING

MUST HAVE 24' TRAVEL LANE FOR 2 WAY TRAFFIC

DRIVEWAY WIDTHS

MINIMUM TURNING RADIUS

DRAWN	CMT
REVISED	CMT
DATE	JUL 1999
SCALE	VARIABLES



SPANISH FORK CITY
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STANDARD DETAILS FOR

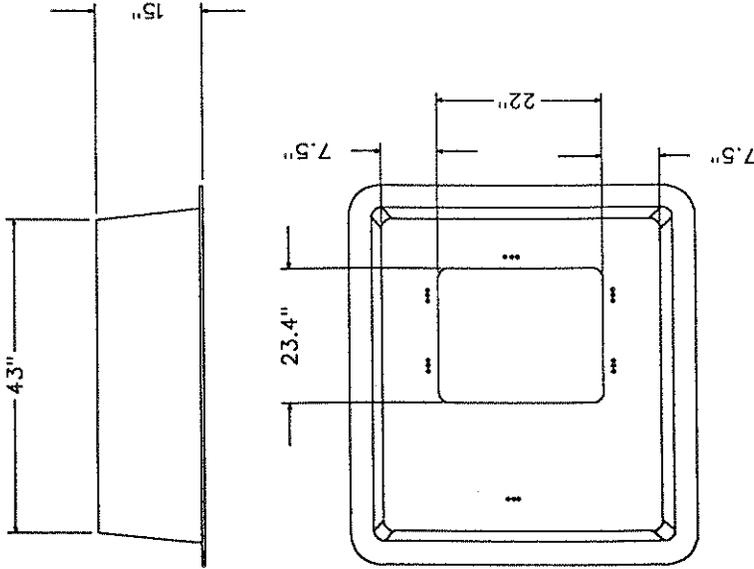
PARKING STANDARDS

STANDARD

29

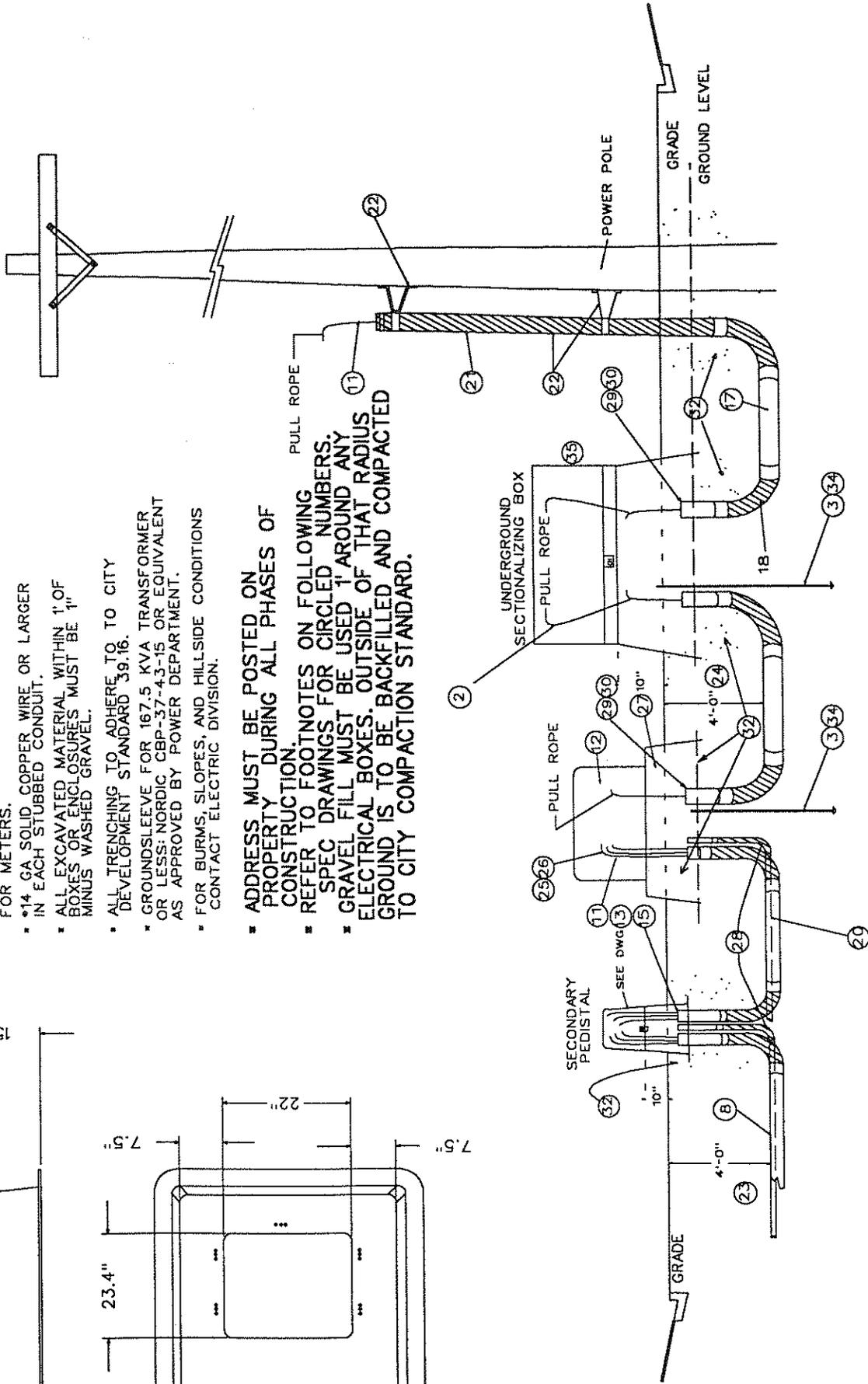
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ACCEPTABLE GROUNDSLEEVE DIMENSIONS



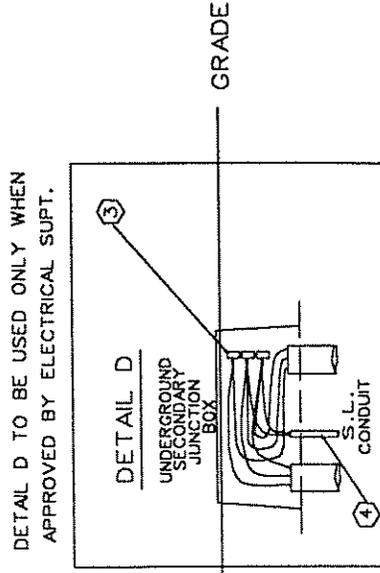
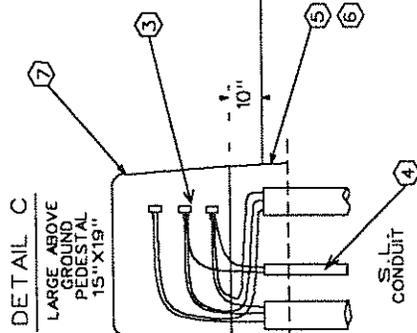
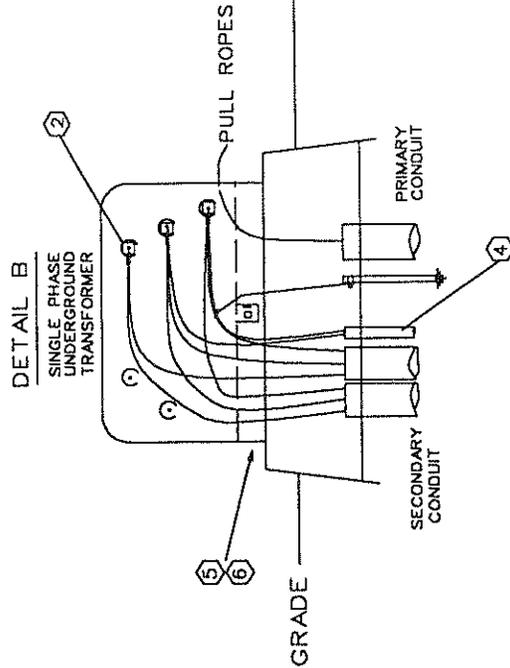
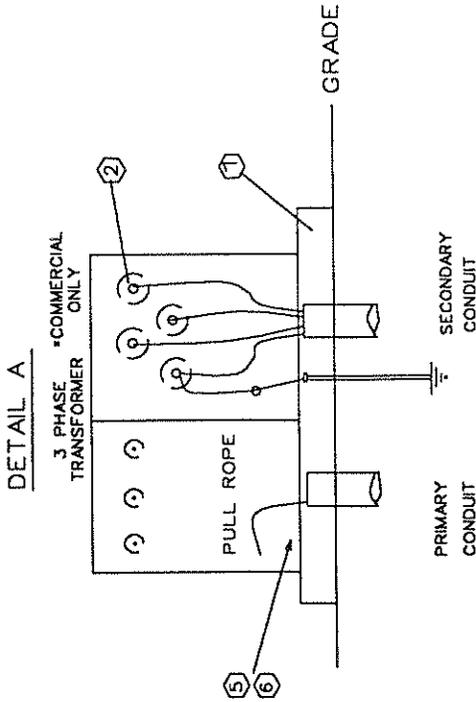
NOTES:

- ALL ADDRESS AND UNIT NUMBERS MUST BE PERMANENTLY ATTACHED TO HOUSE DURING CONSTRUCTION.
- ALL CROSS HATCHED CONDUIT SHALL BE RIGID METALLIC.
- ALL MATERIALS TO BE FURNISHED AND INSTALLED BY CUSTOMER EXCEPT FOR METERS.
- *14 GA SOLID COPPER WIRE OR LARGER IN EACH STUBBED CONDUIT.
- ALL EXCAVATED MATERIAL WITHIN 1' OF BOXES OR ENCLOSURES MUST BE 1" MINUS WASHED GRAVEL.
- ALL TRENCHING TO ADHERE TO TO CITY DEVELOPMENT STANDARD 39.16.
- GROUNDSLEEVE FOR 167.5 KVA TRANSFORMER OR LESS: NORDIC CBP-37-43-15 OR EQUIVALENT AS APPROVED BY POWER DEPARTMENT.
- FOR BURMS, SLOPES, AND HILLSIDE CONDITIONS CONTACT ELECTRIC DIVISION.
- ADDRESS MUST BE POSTED ON PROPERTY DURING ALL PHASES OF CONSTRUCTION.
- REFER TO FOOTNOTES ON FOLLOWING SPEC DRAWINGS FOR CIRCLED NUMBERS.
- GRAVEL FILL MUST BE USED 1' AROUND ANY ELECTRICAL BOXES. OUTSIDE OF THAT RADIUS GROUND IS TO BE BACKFILLED AND COMPACTED TO CITY COMPACTION STANDARD.



DRAWN MCL		STANDARD DETAILS FOR	DRAWING NO.
REVISED CAC			
DATE 03/18/99		SPANISH FORK CITY	
SCALE NONE		ELECTRICAL DIVISION	
		2160 N. 175 E. - PHONE (801) 798-5030	
		SPANISH FORK, UTAH 84660	
		UNDERGROUND SPECIFICATIONS	
		E1	

TYPICAL DRAWINGS



NOTE:

- ① TRANS. GROUNDSLEEVE TO BE SPECIFIED BY UTILITY ACCORDING TO TRANSFORMER SIZE (KVA). SEE DRAWING E1
- ② TRANSFORMER CONNECTORS A) FOR THE 2 HOT CONNECTIONS. AN INSULATED SET SCREW TYPE CONNECTOR IS REQUIRED. EXAMPLE: UTILCO FTF6-350-CJUP OR EQUIVALENT.
- ③ NEUTRAL CONNECTORS SHALL BE THE SAME TYPE OF CONNECTORS EXCEPT UNINSULATED. EXAMPLE: UTILCO PTF6-350P OR EQUIVALENT.
- ④ SECONDARY PEDISTALS - ALL 3 CONNECTORS SHALL BE INSULATED SET SCREW TYPE CONNECTORS. EXAMPLE: UTILCO PED6-350-SSP OR EQUIVALENT.
- ⑤ STREET LIGHTS - THERE SHALL BE 3 CONDUCTORS ON ALL WHICH WILL BOND THE METAL POLE TO A GROUND ROD DRIVEN AT THE NEAREST SECONDARY PEDestal OR TRANSFORMER.
- ⑥ CONDUIT COMING INTO ANY JUNCTION BOX MUST HAVE A PVC NIPPLE OR AN INSULATION BUSHING.
- ⑦ ALL CONDUIT ENDS MUST HAVE A MINIMUM OF 2 INCHES AND A MAXIMUM OF 4 INCHES ABOVE THE GROUND LEVEL IN THE SEC. BOX OR TRANSFORMER GROUNDSLEEVE.
- ⑧ ABOVE GROUND PEDestal TO BE 15"X19" PENCELL CAT. AG-20-XHD-XCL-GREEN-ELECTRIC OR EQUIVALENT USE OF ANY OTHER BOX BY SUPT. APPROVAL ONLY.

-- THE NUMBER OF POSITIONS IN THE CONNECTORS MAY BE REDUCED TO COVER THE NUMBER OF CONNECTIONS POSSIBLE IN EACH TRANSFORMER OR PEDestal.

DETAIL D TO BE USED ONLY WHEN APPROVED BY ELECTRICAL SUPT.

STANDARD DETAILS FOR

SPANISH FORK CITY

ELECTRICAL DIVISION

2160 N. 175 E. - PHONE (801) 798-5030

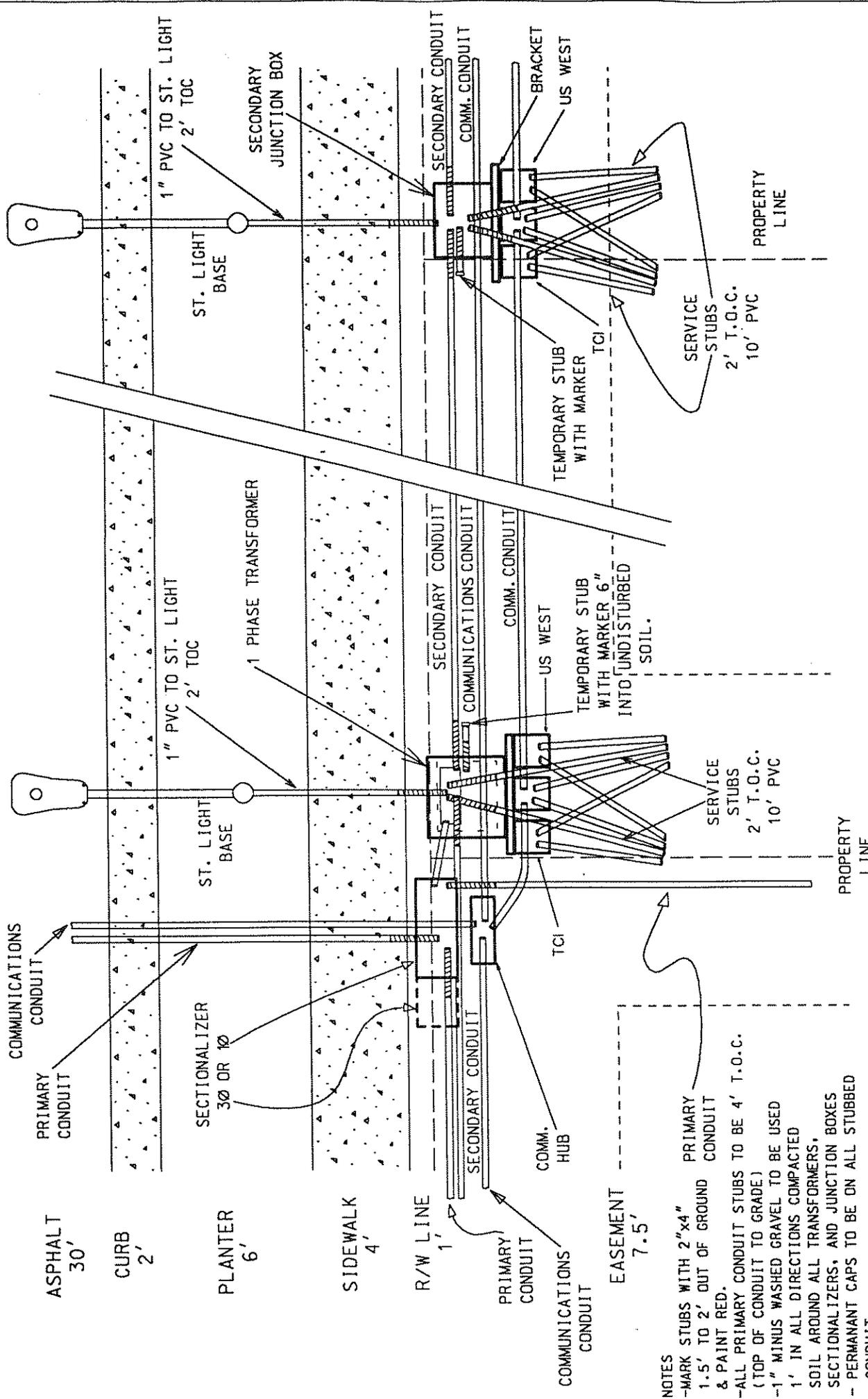
SPANISH FORK, UTAH 84660

DRAWING NO.

EXAMPLE OF TRANSFORMER AND SECONDARY BOX HOOK-UP

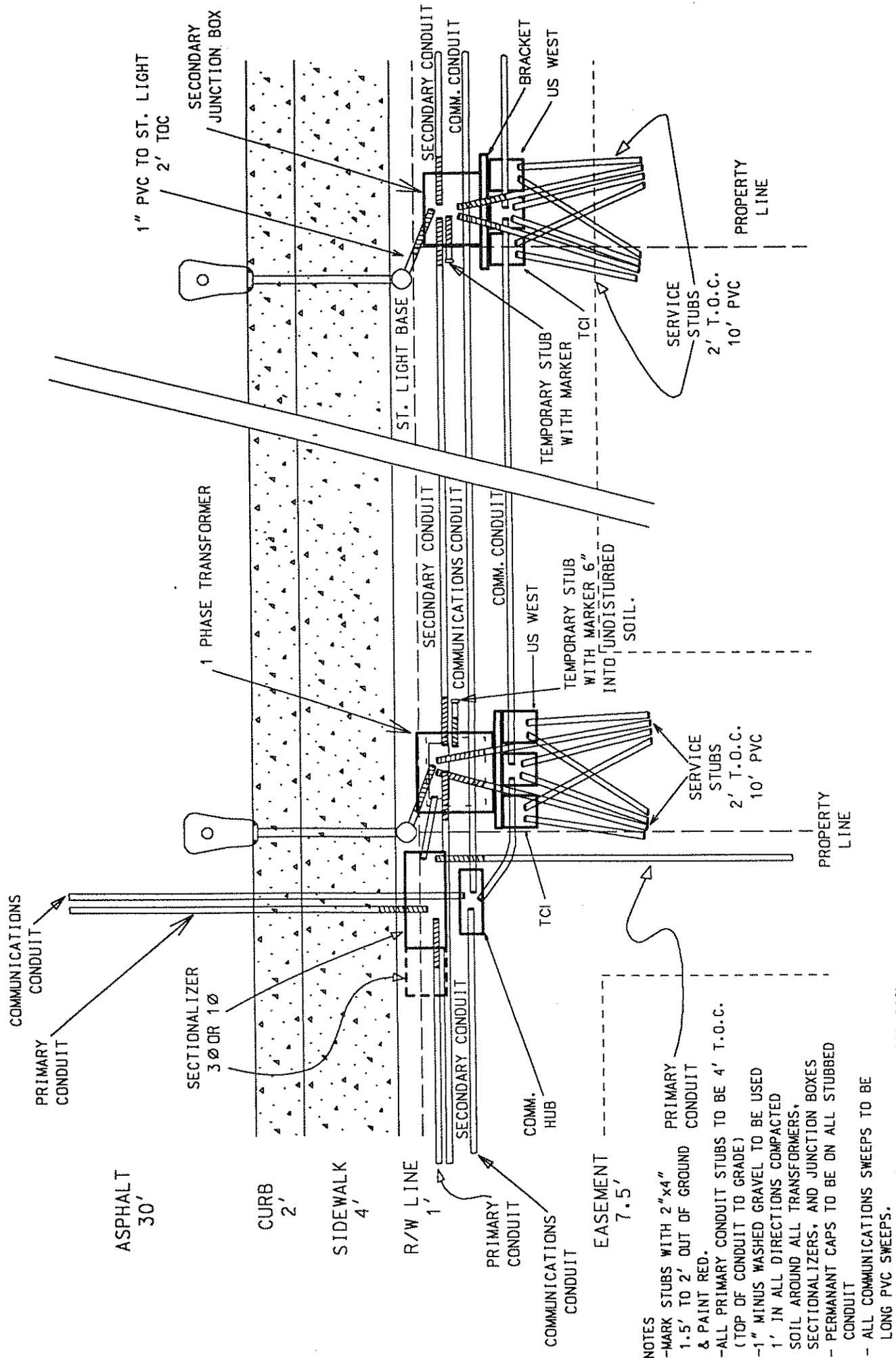
E3

DRAWN	MCL
REVISED	CAC
DATE	03/18/99
SCALE	NONE



- NOTES
- MARK STUBS WITH 2"x4" 1.5' TO 2' OUT OF GROUND & PAINT RED.
 - ALL PRIMARY CONDUIT STUBS TO BE 4' T.O.C. (TOP OF CONDUIT TO GRADE)
 - 1" MINUS WASHED GRAVEL TO BE USED 1' IN ALL DIRECTIONS COMPACTED SOIL AROUND ALL TRANSFORMERS, SECTIONALIZERS, AND JUNCTION BOXES
 - PERMANENT CAPS TO BE ON ALL STUBBED CONDUIT
 - ALL COMMUNICATIONS SWEEPS TO BE LONG PVC SWEEPS.
 - STUBS MUST EXTEND 6" INTO UNDISTURBED SOIL.

DRAWING NO. E5	
TYPICAL CONDUIT ROUTING WITH 6' PLANTER AND SIDEWALK	
STANDARD DETAILS FOR	
SPANISH FORK CITY	
ELECTRICAL DIVISION	
2160 N. 175 E. - PHONE (801) 798-5030	
SPANISH FORK, UTAH 84660	
DATE	03/18/99
SCALE	NONE
DRAWN	MCL
REVISED	CAC

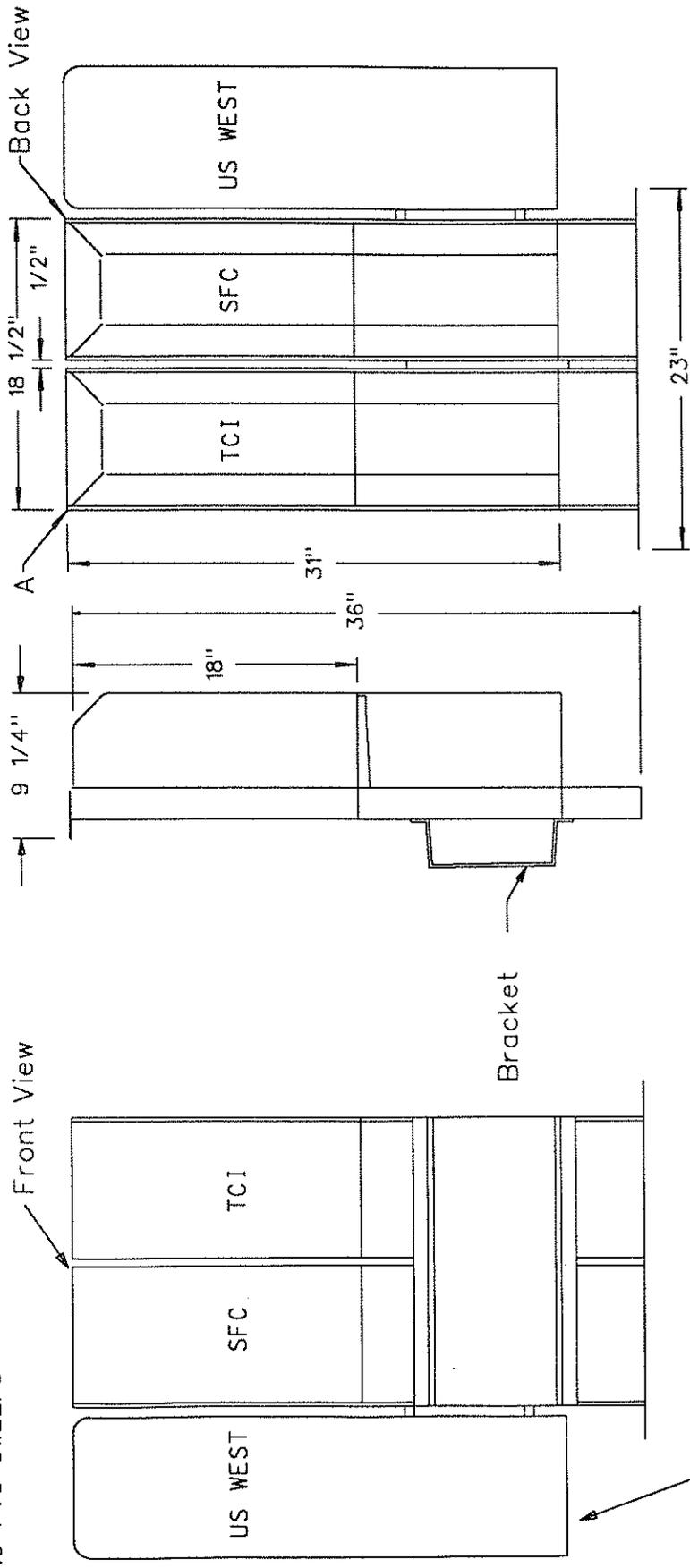


- NOTES
- MARK STUBS WITH 2"x4" 1.5' TO 2' OUT OF GROUND & PAINT RED.
 - ALL PRIMARY CONDUIT STUBS TO BE 4' T.O.C. (TOP OF CONDUIT TO GRADE)
 - 1" MINUS WASHED GRAVEL TO BE USED 1' IN ALL DIRECTIONS COMPACTED SOIL AROUND ALL TRANSFORMERS, SECTIONALIZERS, AND JUNCTION BOXES
 - PERMANENT CAPS TO BE ON ALL STUBBED CONDUIT
 - ALL COMMUNICATIONS SWEEPS TO BE LONG PVC SWEEPS.
 - STUBS MUST EXTEND 6" INTO UNDISTURBED SOIL.

DRAWING NO. E7	
TYPICAL CONDUIT ROUTING WITH SIDEWALK AND NO PLANTER	
STANDARD DETAILS FOR	
SPANISH FORK CITY	
ELECTRICAL DIVISION	
2160 N. 175 E. - PHONE (801) 798-5030	
SPANISH FORK, UTAH 84660	
DATE	03/18/99
SCALE	NONE
DRAWN	MCL
REVISED	CAC

NOTES

- CITY AND TCI COMM. BOXES TO BE MOUNTED BY BRACKET TO TRANSFORMER OR JUNCTION BOX GROUNDSLEEVES
- US WEST COMM. BOX TO ATTACH TO SFC BOX ON ITS EXPOSED SIDE
- 1" MINUS WASHED GRAVEL TO BE USED 1' IN ALL DIRECTIONS COMPACTED SOIL AROUND ALL TRANSFORMERS, SECTIONALIZERS, AND JUNCTION BOXES
- PERMANANT CAPS TO BE ON ALL STUBBED CONDUIT
- ALL COMMUNICATIONS SWEEPS TO BE LONG PVC SWEEPS.



US West box mounted to SFC box

DRAWN	CAC
REVISION	
DATE	4/13/99
SCALE	N. S.

SPANISH FORK CITY
 ELECTRICAL DIVISION
 2160 N. 175 E. - PHONE (801) 798-5030
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STANDARD DETAILS FOR
 COMMUNICATIONS BOXES MOUNTED TO TRANSFORMERS
 AND SECONDARY GROUNDSLEEVES

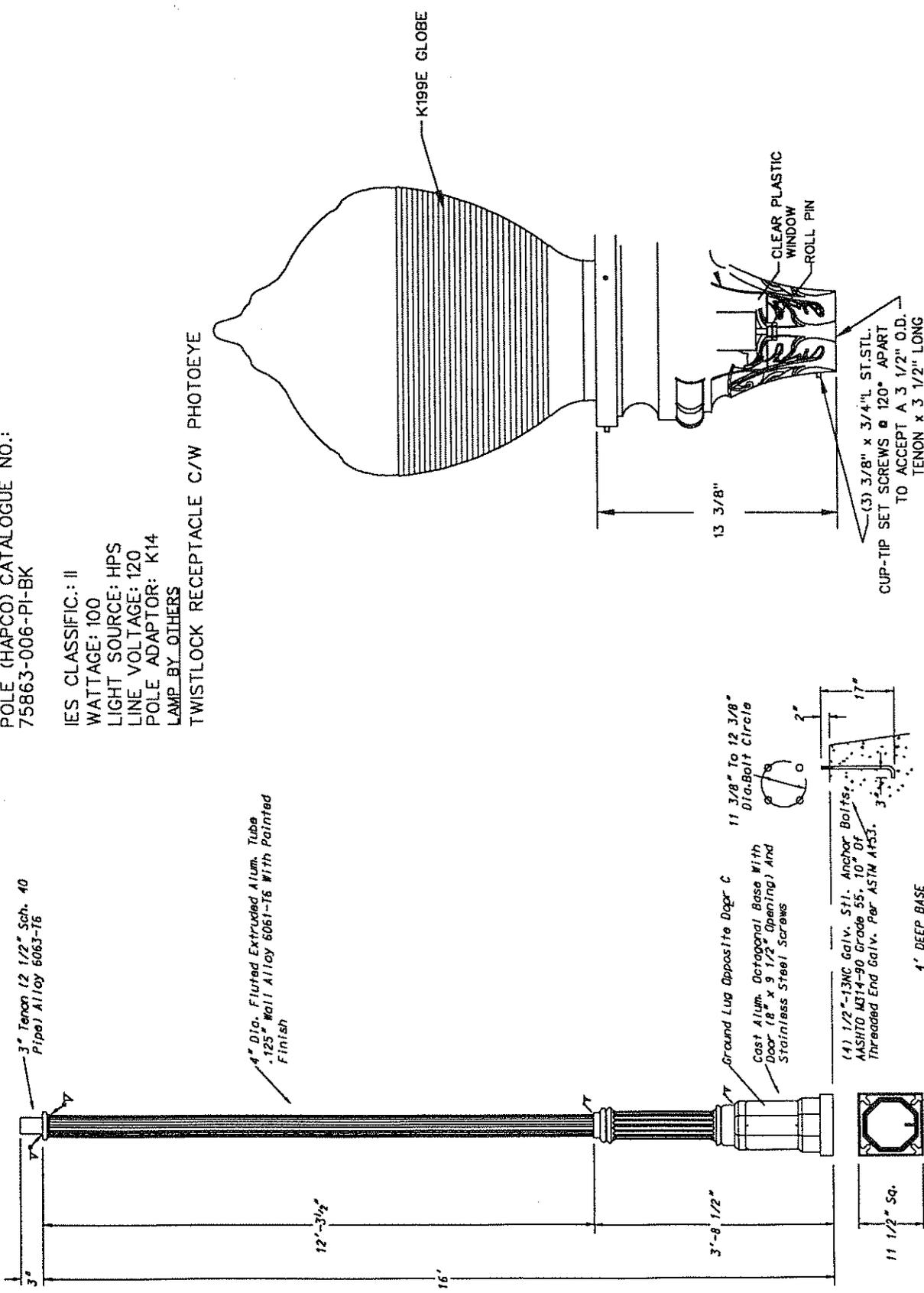
DRAWING NO.
E9

SPECIFICATIONS

FIXTURE (KING) CATALOGUE NO.:
 K199-EAR-II-100-MOG-HPS-120-K14-PE-HSS-BK-FUSING
 POLE (HAPCO) CATALOGUE NO.:
 75863-006-PI-BK

IES CLASSIFIC.: II
 WATTAGE: 100
 LIGHT SOURCE: HPS
 LINE VOLTAGE: 120
 POLE ADAPTOR: K14
 LAMP BY OTHERS

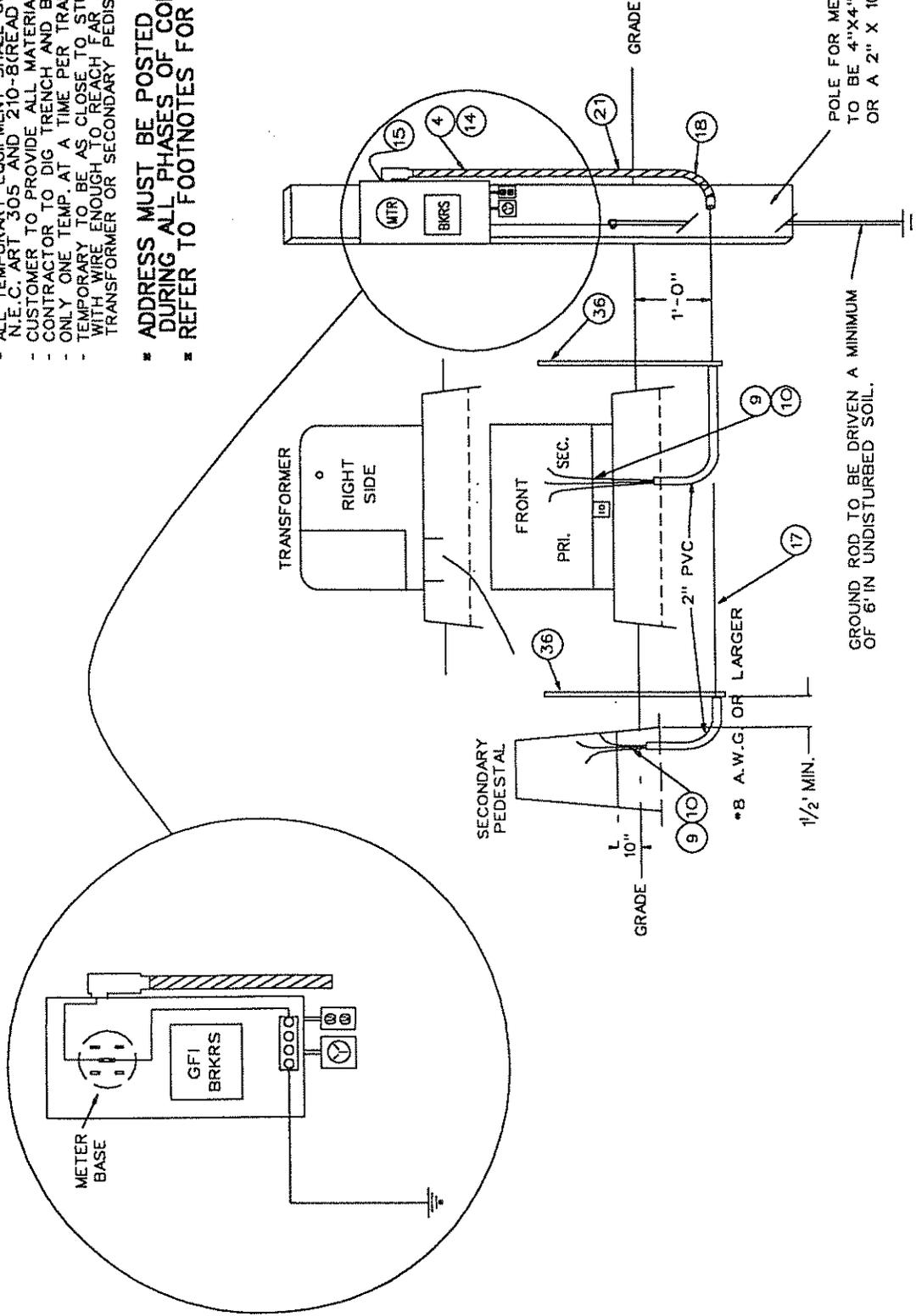
TWISTLOCK RECEPTACLE C/W PHOTOEYE



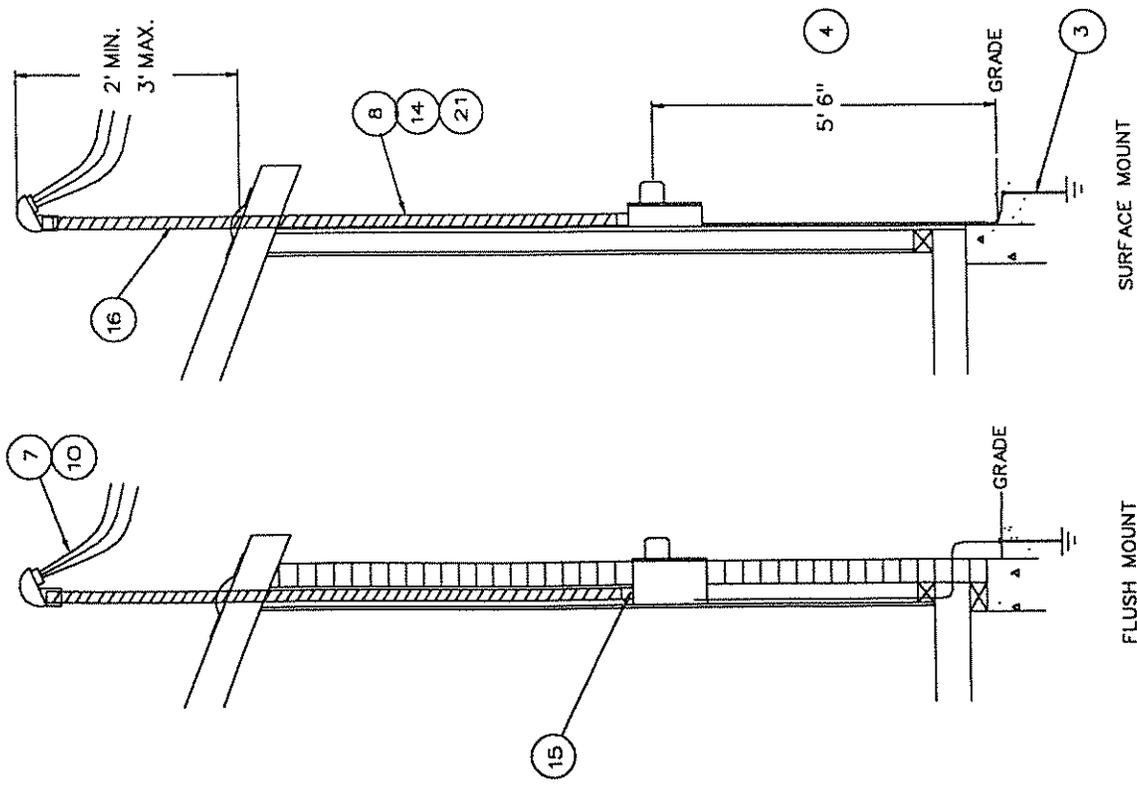
DRAWN CAC		SPANISH FORK CITY ELECTRICAL DIVISION	STANDARD DETAILS FOR DECORATIVE STREETLIGHT SPECIFICATION	DRAWING NO. E11
REVISD				
DATE	03/20/99	2160 N. 175 E. - PHONE (801) 798-5030		
SCALE	NS	SPANISH FORK, UTAH 84660		

NOTE:

- SPANISH FORK CITY POWER DIVISION WILL CONNECT AT TRANSFORMER OR PEDESTAL AND SET METER.
 - ALL TEMPORARY EQUIPMENT SHALL COMPLY WITH N.E.C. ART. 305 AND 210-8(READ IT).
 - CUSTOMER TO PROVIDE ALL MATERIALS.
 - CONTRACTOR TO DIG TRENCH AND BACK-FILL.
 - ONLY ONE TEMP. AT A TIME PER TRANS. OR SEC. PEDISTAL.
 - TEMPORARY TO BE AS CLOSE TO STUB AS POSSIBLE WITH WIRE ENOUGH TO REACH FAR SIDE OF TOP OF TRANSFORMER OR SECONDARY PEDISTAL.
- ADDRESS MUST BE POSTED ON PROPERTY DURING ALL PHASES OF CONSTRUCTION.
 - REFER TO FOOTNOTES FOR CIRCLED NUMBERS.



DRAWING NO.	E13
STANDARD DETAILS FOR	TEMPORARY SERVICE FOR UNDERGROUND
SPANISH FORK CITY	
ELECTRICAL DIVISION	
2160 N. 175 E. - PHONE (801) 798-5030	
SPANISH FORK, UTAH 84660	
DRAWN	MCL
REVISED	CAC
DATE	02/21/99
SCALE	NONE



NOTES:

- ALL CROSS HATCHED CONDUIT WILL BE RIGID METALLIC.
 - ALL ADDRESS AND UNIT NUMBERS MUST BE PERMANENTLY ATTACHED TO HOUSE UPON FINAL INSPECTIONS.
 - ALL MATERIALS TO BE FURNISHED AND INSTALLED BY CUSTOMER EXCEPT METER AND INSTALLMENT OF TRANSFORMERS.
 - ALL COMMERCIAL SELF CONTAINED METER BASES REQUIRE A METER BYPASS WHICH PERMITS CHANGING OR TESTING OF THE METER WITHOUT SERVICE INTERRUPTION.
- * ADDRESS MUST BE POSTED ON PROPERTY DURING ALL PHASES OF CONSTRUCTION.
 - * REFER TO FOOTNOTES FOR CIRCLED NUMBERS.

DRAWING NO. E15

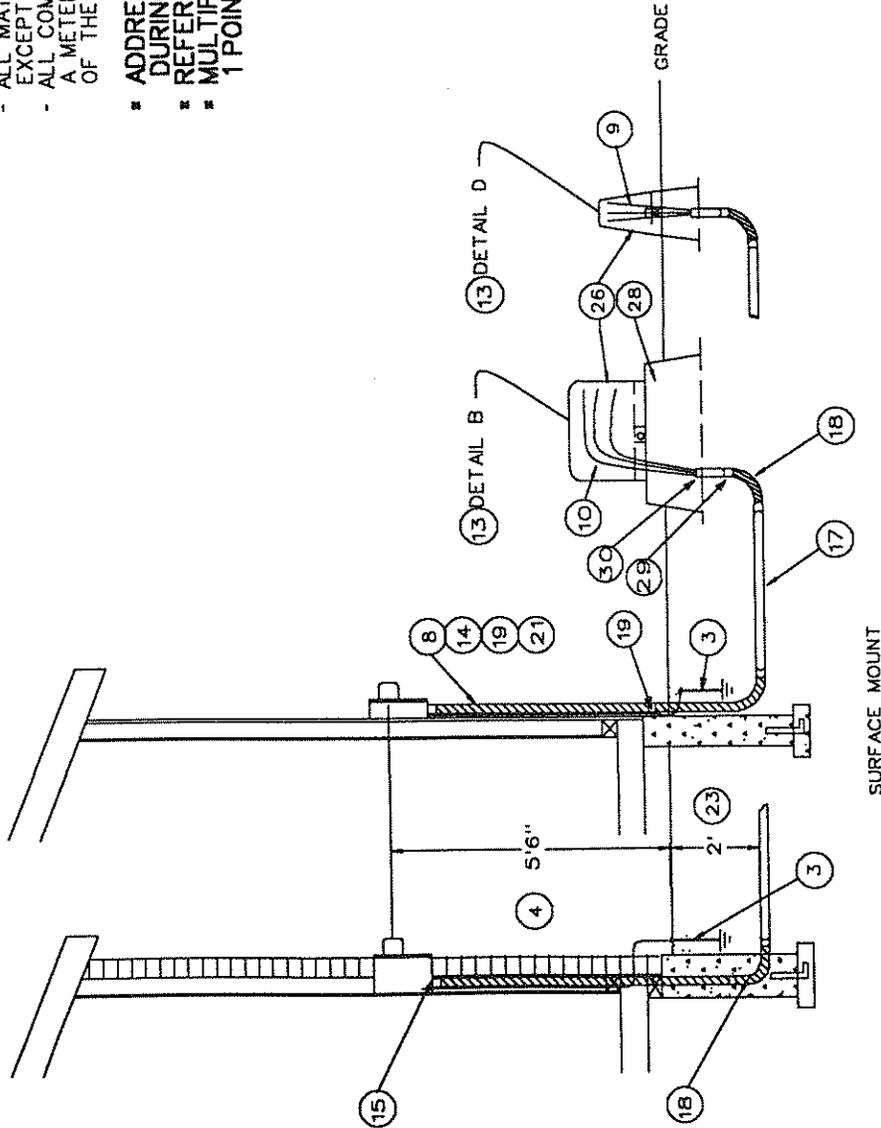
STANDARD DETAILS FOR SPECIFICATIONS FOR OVERHEAD SERVICE

SPANISH FORK CITY
ELECTRICAL DIVISION
2160 N. 175 E. - PHONE (801) 798-5030
SPANISH FORK, UTAH 84660

DRAWN	MCL
REVISED	BTC
DATE	11/22/96
SCALE	NONE

NOTES:

- ALL CROSS HATCHED CONDUIT WILL BE RIGID METALLIC.
- ALL ADDRESS AND UNIT NUMBERS MUST BE PERMANENTLY ATTACHED TO HOUSE UPON FINAL INSPECTIONS.
- ALL MATERIALS TO BE FURNISHED AND INSTALLED BY CUSTOMER EXCEPT METER AND INSTALLMENT OF TRANSFORMERS.
- ALL COMMERCIAL SELF CONTAINED METER BASES REQUIRE A METER BYPASS WHICH PERMITS CHANGING OR TESTING OF THE METER WITHOUT SERVICE INTERRUPTION.
- * ADDRESS MUST BE POSTED ON PROPERTY DURING ALL PHASES OF CONSTRUCTION.
- * REFER TO FOOTNOTES FOR CIRCLED NUMBERS.
- * MULTIPLE OCCUPANCY BUILDINGS SHALL HAVE 1 POINT OF SERVICE ENTRY AND METERING.



SURFACE MOUNT

DRAWING NO. E17

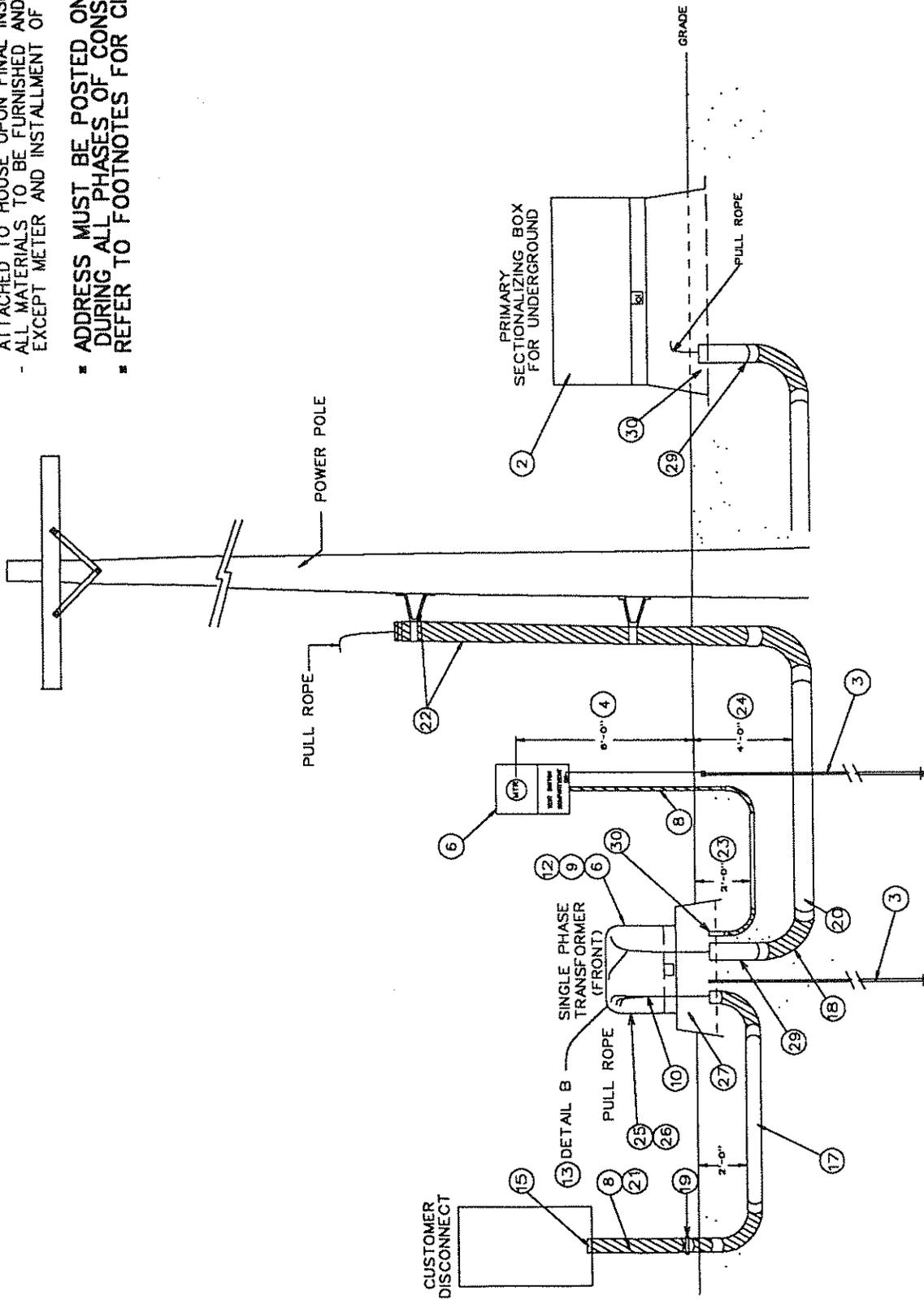
STANDARD DETAILS FOR
 UNDERGROUND SERVICE IN UNDERGROUND
 DISTRIBUTION AREA 200 AMP OR SMALLER

SPANISH FORK CITY
 ELECTRICAL DIVISION
 2160 N. 175 E. - PHONE (801) 798-5030
 SPANISH FORK, UTAH 84660

DRAWN	MCL
REVISED	CAC
DATE	3/18/99
SCALE	NONE

NOTES:

- ALL CROSS HATCHED CONDUIT WILL BE RIGID METALLIC.
- ALL ADDRESS AND UNIT NUMBERS MUST BE PERMANENTLY ATTACHED TO HOUSE UPON FINAL INSPECTIONS.
- ALL MATERIALS TO BE FURNISHED AND INSTALLED BY CUSTOMER EXCEPT METER AND INSTALLMENT OF TRANSFORMERS.
- ADDRESS MUST BE POSTED ON PROPERTY DURING ALL PHASES OF CONSTRUCTION.
- REFER TO FOOTNOTES FOR CIRCLED NUMBERS.



DRAWING NO.
E21

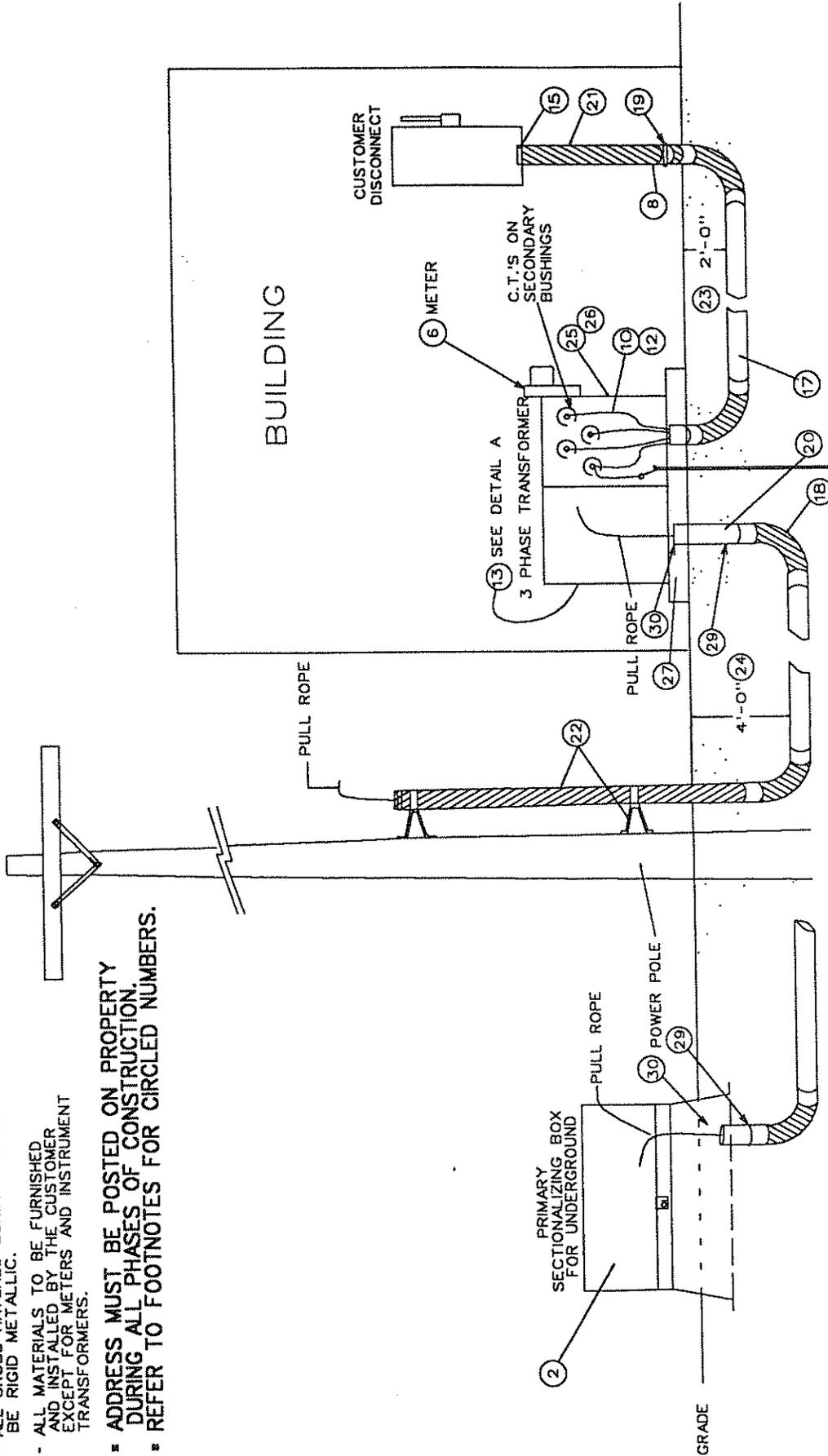
STANDARD DETAILS FOR
PRIMARY UNDERGROUND SERVICE LARGER THAN 200 AMPS
SPECIFICATIONS FOR SINGLE-METERED UNITS. CT'S IN
TRANSFORMER. SINGLE PHASE SERVICE ONLY.

SPANISH FORK CITY
ELECTRICAL DIVISION
2160 N. 175 E. - PHONE (801) 798-5030
SPANISH FORK, UTAH 84660

DRAWN	MCL
REVISED	CAC
DATE	03/18/99
SCALE	NONE

NOTES:

- ALL ADDRESS AND UNIT NUMBERS MUST BE PERMANENTLY ATTACHED TO HOUSE UPON FINAL INSPECTION.
- ALL CROSS HATCHED CONDUIT SHALL BE RIGID METALLIC.
- ALL MATERIALS TO BE FURNISHED AND INSTALLED BY THE CUSTOMER EXCEPT FOR METERS AND INSTRUMENT TRANSFORMERS.
- ADDRESS MUST BE POSTED ON PROPERTY DURING ALL PHASES OF CONSTRUCTION.
- REFER TO FOOTNOTES FOR CIRCLED NUMBERS.



DRAWING NO. E23	STANDARD DETAILS FOR PRIMARY UNDERGROUND SERVICE LARGER THAN 200 AMPS SPECIFICATIONS FOR PRIMARY FEED WITH C.T. CABINET 3 PHASE SERVICE ONLY	DRAWN MCL REVISED CAC DATE 03/18/99 SCALE NONE
SPANISH FORK CITY ELECTRICAL DIVISION 2160 N. 175 E. - PHONE (801) 798-5030 SPANISH FORK, UTAH 84660		

FOOTNOTES - For Electrical Specifications Drawings

DEFINITIONS: Grade is the top back of curb, as shown on electrical drawings. Ground level is the bottom of transformer pad, ground sleeve, or secondary junction box (inside).

- ① All materials shall be furnished and installed by the customer except meter and instrument transformers.
- ② Above ground primary sectionalizer box and ground sleeves shall be supplied and installed by customer's electrical contractor. See drawing E8 for specifications.
- ③ $5\frac{1}{8}$ " X 8' long copper clad ground rod shall be installed by customer at the meter base. A copper ground wire meeting N.E.C. requirements shall be run to the street side of the main cold water valve. A similar ground rod shall be driven for all new transformers and sectionalizers. Services larger than 200 amp shall meet N.E.C. requirements, which may require additional grounding.
- ④ Height at center of uppermost meter shall not exceed 6 feet and not be lower than 5 feet.
- ⑤ C.T. cabinet specifications shall be determined by the Power Division meter shop supervisor.
- ⑥ Meter base and instrument transformer location shall be determined by the Power Division meter shop. All commercial type applications shall use bypass type meter bases.
- ⑦ Conductors shall extend a minimum of 24" out of the weather head on an overhead service.
- ⑧ All service conduit and conductors shall be furnished and installed by customer.
- ⑨ Conductors shall extend a minimum of 36" past the opening of a transformer or secondary pedestal. See drawing E3.
- ⑩ Wire shall be sized as stated in the National Electrical Code, the minimum service size shall be 100 Amp. Exceptions may be made for service to signs, lighting, time clocks, temporary power hookups, etc.
- ⑪ Wire for risers shall be long enough to attach to conductors at the top of the pole, and for drip loop. (600 volts or less) Utility shall install primary cable and terminations and bill the customer.
- ⑫ Connectors on secondary side of transformers and in secondary pedestals shall be furnished and installed by customer's electrical contractor on all new installations and service upgrades.
- ⑬ See construction specifications drawing E3 for connection details.
- ⑭ Service entrance conduit shall be a minimum of 2" rigid metallic. Exceptions may be made for certain applications such as signs, lighting, time clocks, temp etc.
- ⑮ All metal conduit terminations shall include insulated grounding bushings or a grounding strap.
- ⑯ No joints in conduit above roof line. If a joint is necessary, it shall be as close to the meter base as possible.
- ⑰ All conduit ran underground shall be a minimum of 120 DB, Schedule 40 under lightly traveled roads, and rigid metallic conduit is required under main roads. All conduit shall be electrical grade conduit as specified in the National Electrical Code. Metal conduit installed in soil shall be coated with 2" corrosion protective tape.
- ⑱ All exposed service entrance conduit below 10', as well as all conduit sweeps greater than 45 degrees shall be rigid metallic conduit. Metal conduit installed in soil shall be coated with 2" corrosion protective tape.
- ⑲ Exterior mounted service entrance conduits shall be solidly attached to the foundation above ground line.
- ⑳ Single phase primary conduit shall be a minimum of 3" conduit. Three phase primary conduit shall be a minimum of 4" conduit.
- ㉑ All cross hatched conduit shall be rigid metallic. Customer shall mount first 10' up riser pole with 2 standoff brackets. The first 2' above grade, and the second 1' below top of rigid conduit. All Metal conduit installed in soil shall be coated with 2" corrosion protective tape.
- ㉒ Utility shall extend riser up pole from the first 10' of rigid conduit to where it will attach to the conductors. Customer shall supply stand-off brackets, unistrut, unistrut clamps, $\frac{1}{2}$ " lags and conduit. 6" stand-off brackets shall be used, no more than 10' apart. UNISTRUT AND UNISTRUT CLAMPS ONLY!
- ㉓ All electrical service drop conduits containing voltage of 600 volts or less shall be buried 24" to the top of the conduit.
- ㉔ All distribution conduits both "Primary" & "Secondary" shall be buried 48" to the top of the conduit.
- ㉕ Consumer shall purchase transformers through Spanish Fork Electric Utility, or meet Spanish Fork transformer specifications.
- ㉖ Primary sectionalizers, transformer pad, and secondary pedestals, shall be furnished and installed by the customer's electrical contractor. See electrical specification drawings E1, E3, E8 for standard requirements.
- ㉗ Groundsleeve for 167.5 Kva transformer or less: Nordic CBP-34-43-15 or equivalent as approved by power department. Pads for 3 phase transformers are specified on drawing E2.
- ㉘ See drawings E3-7, E10-12 for street light wiring and details.
- ㉙ Conduit coming into any junction box shall have a PVC nipple or an insulating bushing.
- ㉚ All conduit ends shall have a minimum of 2" and a maximum of 4" exposed above the ground level in the box or pad. Ground level is at the bottom of the ground sleeve or pad.
- ㉛ A red "CAUTION POWER CABLE" tape minimum 4" wide shall be installed 1' below grade directly above electrical conduits.
- ㉜ 1" minus washed gravel shall be used in all areas around and under ground sleeves, pads etc. down to undisturbed soil, or an engineer's test certifying a minimum of 95 % compaction shall be required at contractor's expense.
- ㉝ Final grade shall be met with the proper combination of compacted dirt and top soil 1' on each side and behind, and 1' in front of sectionalizers, transformers, and switchgear, and 1' around all sides of secondary and/or communications pedestals. Compaction shall adhere to Spanish Fork city standards.
- ㉞ All ground rods will be driven to within 4"-6" above ground level and even with top edge of transformer pads.
- ㉟ All conduits and ground rods to be a minimum of 4" away from the inside of the ground sleeve base.
- ㊱ Conduit will be stubbed 1' out from pad or box with 2"x4" red stub marker 1'-2' out of ground.

Proof of Publication

J. Lane Henderson being first duly sworn according to law, disposes and says that he is the Publisher of **THE SPANISH FORK PRESS**, a weekly newspaper printed and published at Spanish Fork, Utah County, Utah and of general circulation therein; that the Notice, a copy of which is hereto attached, was printed and published in said paper.

ORDINANCE 09-99

AMENDING THE SUBDIVISION ORDINANCE AND DEVELOPMENT STANDARDS OF SPANISH FORK CITY

The Subdivision Ordinance of Spanish Fork City has been repealed and reenacted in its entirety. A summary containing the headings of the ordinance follows:

Chapter 16.04. General Provisions.

Chapter 16.08. Definitions.

Chapter 16.12. Preliminary Plat.

Chapter 16.16. Final Plat.

Chapter 16.20.

Improvements and Design Standards.

Chapter 16.24. Impact Fees.

Chapter 16.28.

Enforcement.

The Construction and Development Standards of the City are hereby repealed in their entirety and reenacted.

A full copy of the ordinance is available for inspection at the Spanish Fork City Office, 40 South Main, Spanish Fork.

PASSED AND ORDERED PUBLISHED BY THE CITY COUNCIL OF SPANISH FORK, UTAH, this 6th day of July, 1999.

Published in the Spanish Fork Press January 20, 2000.

for consecutive One weeks,

the first publication on the 20th day

of January 2000

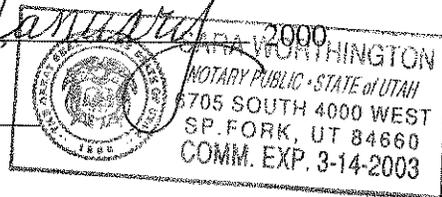
and the last on the 20th day of

January 2000

J. Lane Henderson

Subscribed and sworn to before me this 20th day of January 2000

Jara Worthington
Notary Public



Proof of Publication

J. Lane Henderson being first duly sworn according to law, disposes and says that he is the Publisher of **THE SPANISH FORK PRESS**, a weekly newspaper printed and published at Spanish Fork, Utah County, Utah and of general circulation therein; that the Notice, a copy of which is hereto attached, was printed and published in said paper.

ORDINANCE Z09-99
The J. Ross Nielsen
Zone Change

NOW, THEREFORE, be it ordained by the City Council of Spanish Fork City as follows:

The following described property is hereby zoned to Neighborhood Commercial (C-1):

Commencing 379.50 feet South of the North Quarter Corner of Section 29, Township 8 South, Range 3 East, Salt Lake Base & Meridian; thence South 241.50 feet; thence South 71° East 508.20 feet; thence North 241.50 feet; thence North 71° West 508.20 feet to the point of beginning.

An area containing 2.50 acres.

PASSED AND ORDERED PUBLISHED BY THE SPANISH FORK CITY COUNCIL OF SPANISH

FORK, UTAH, this 2nd day of November, 1999.

Published in the Spanish Fork Press November 18, 1999.

for consecutive One weeks,

the first publication on the 18th day

of November 1999

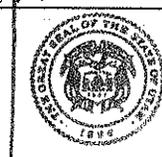
and the last on the 18th day of

November 1999

J. Lane Henderson

Subscribed and sworn to before me this 24th day of November 1999

Sara Worthington
Notary Public



SARA WORTHINGTON
NOTARY PUBLIC - STATE of UTAH
6705 SOUTH 4000 WEST
SP. FORK, UT 84660
COMM. EXP. 3-14-2003