

SPANISH FORK SOUTH IRRIGATION COMPANY STANDARDS CHECKLIST

This checklist is intended to assist engineers in designing projects to Spanish Fork South Irrigation Company (SFSIC) standards. All projects seeking acceptance by SFSIC must be designed to these standards. When used correctly, this checklist will expedite the review and encroachment agreement process. Not all items on this checklist will be applicable to every project.

Neither SFSIC nor Franson Civil Engineers (Franson Civil) will have responsibility for design, construction, or maintenance of the Applicant's facilities. It is the responsibility of the Applicant and its engineer to design the project to SFSIC standards. No approval or acquiescence by SFSIC or Franson Civil will operate as a waiver or modification of SFSIC standards.

In most instances, the Applicant will install, operate, maintain, inspect, repair, and replace the facilities that are constructed through the application process with no interruption of SFSIC delivery of water or operation, maintenance, repair, or replacement of SFSIC facilities.

Note: This checklist is updated when standards are amended. Checking for the latest version of this checklist at www.fransonicivil.com/canal-applications will ensure the most up-to-date information. Standard drawings are also available on the website. SFSIC reserves the right to make exceptions to the standards or impose other requirements, depending on the Applicant's project.

GENERAL INFORMATION AND REQUIREMENTS

- Submit an “Application for Encroachment Agreement” and all application fees.
- SFSIC requests that the types of fencing installed adjacent to their property be fire-resistant. During maintenance of the canals, it is possible that open flames will border the canal easement.
- Fences disturbed during construction activities must be replaced and returned to pre-construction conditions, or better.
- Pipes, conduits, or other similar facilities are not allowed to be installed over the canal channel. Trees, or other utility facilities are not allowed to be installed in SFSIC corridors. Turnouts, overhead power lines, etc. can be exceptions.
- All drawings must be stamped, signed, and dated by a licensed professional engineer. This can be completed after the project meets SFSIC standards and is ready for the encroachment agreement.
- Before submitting drawings to Franson Civil for review, please verify that all notes, references, and labels are correct and accurate.
- Neither SFSIC nor Franson Civil can verify the locations of underground facilities. Blue Stakes should always be called before digging (1-800-662-4111).

ALL SUBMITTALS SHALL:

- Show the plan and profile view of the proposed facilities.
- Show all existing facilities in and around the project (i.e. canal O&M road, turnouts, pipes, box culverts, pipe outlets, etc.).
- Provide the location map, and if applicable, the plat map.
- Show the SFSIC canal corridor on the drawings, which is generally 20 feet centered over the canal (Standard Easement).
 - Applicant is responsible for checking surrounding property and labeling SFSIC corridor as owned by SFSIC or as an easement. If the land is owned, the actual ownership boundaries should be shown.
- Provide proposed dates for start and completion of construction. The start date should reflect adequate time to complete the application process and secure an encroachment agreement.

ADD THE FOLLOWING TO PLANS UNDER HEADING “SFSIC CANAL NOTES”

- Notification must be given at least 24 hours prior to the beginning of construction work and re-notification of re-commencement of work following any cessation of work for more than 4 (four) days. Call Kyle DeVaney and the canal water master. Failure to do so may result in a \$5,000 fine.
- Contact information for Franson Civil and SFSIC:
 - Kyle DeVaney, P.E., Franson Civil Engineers, 801-756-0309
 - John Ludlow, President, Spanish Fork South Irrigation Company, 801-836-8894
 - Bryan Ottesen, Water Master, SFSIC Canal, 801-369-6329
- Any changes in design drawings after the encroachment agreement has been executed must be reviewed and accepted by Franson Civil and SFSIC.
- Work cannot interfere with delivery of water. Construction within canal corridors that impacts the canal or operation & maintenance road (O&M road) must be completed between October 15 and April 1. Failure to comply may result in agreement termination and monetary fines.
- All construction within the canal corridor must be completed to SFSIC standards.
- If disturbed, the canal O&M road shall be reinstalled following construction. O&M road must be available for use by canal personnel no later than April 1.
 - The O&M road shall be graded at a 2% slope away from the canal.
 - After placing and compacting native material, place a minimum of two inches of compacted roadbase on road surface. Compaction shall be 92% modified Proctor density.
- Storm water runoff enters the canal during storm events or at other unexpected times. It is the responsibility of the Contractor to protect the work site. Any damage to the canal corridor caused by construction activities will be the responsibility of the Contractor.

PIPES

- SFSIC accepts only concrete or solid wall HDPE pipes to be installed in their easement.
- All pipes on all drawings must be specifically labeled for pipe type and size (e.g., 24-inch RCP). Any pipe replacing a ditch shall have a minimum inside diameter of 18 inches.
- Pipe placed under roadways must be RCP.
- Pipe placed in planting strips or areas where plants, other than grass, will be placed in the easement must be fused HDPE pipe. Specify inside diameter, pressure rating, etc. A DR

Rating of 32.5 is required for all HDPE pipe. HDPE shall be specified using the inside diameter.

- All pipe sizes must be designed to carry sufficient flow for irrigation and 25-year storm water events. Also, an additional 20% capacity must be available in the pipe for future expansion and storm drain capacities. Coordinate with Franson Civil for flow requirements before beginning design of irrigation facilities.
- Plan and profile view of each pipe is required.
- Trench detail is required showing bedding detail. SFSIC standards require bedding 6 inches below pipe up to the springline, using a minimum of 1-inch clean crushed rock unless specified otherwise by the manufacturer.
- Metallic warning tape (labeled, "Caution: Buried Irrigation Line Below") must be installed a minimum of 1 foot above the pipe. In some circumstances, a locating wire may be required.
- All backfill materials shall be compacted to a minimum of 92% modified Proctor density.
- All new pipes must be documented by video camera after installation and backfill. Any problems with joints, levels, slopes, etc. discovered by the video technicians must be repaired. A digital copy of the video must be submitted to Franson Civil.
- Pipes or other utilities running parallel to the irrigation pipe in a shared easement shall be placed a minimum of 5 feet horizontally distanced from the irrigation pipe.
- Pipes crossing perpendicularly over or under the irrigation pipe shall have a minimum 1-foot vertical clearance.
- Before backfilling the pipes, the contractor must notify Kyle DeVaney of Franson Civil Engineers so a GPS survey of the location and elevation of the installed pipelines can be performed.

BOX AND PIPE CULVERTS

- If extending an existing box culvert, SFSIC recommends that the Applicant perform a reasonable inspection of the existing culvert to make a determination of whether it should be replaced instead of extended.
- Applicant is responsible to verify that culvert design will not negatively impact the hydraulics of the canal, including other existing structures in the area.
- A plan view is required of the culvert showing the centerline of the canal, the top of banks, and the SFSIC corridor boundaries.

- Show the elevation and location of the top of the banks, bottom of the banks, and the canal prism, as well as new structures including box culvert and wing walls.
 - Silt collects at the bottom of the canal. The invert of the culvert is to match the bottom of the canal, not the top of the current silt layer.
- Trench detail is required showing bedding, backfill material, and compaction requirements.
 - The dimensions and type of culvert must be labeled.
 - Label the culvert with loading information and rebar details. Loading shall be determined by the Applicant.
 - The culvert wing walls should flare at a 30 to 45-degree angle then a 90-degree angle into the canal banks, a minimum of two feet perpendicular to the canal banks. Placement of the wing walls cannot interfere with the O&M road. The top of the wing walls shall be a minimum of 12 inches above the high-water mark in the canal.
 - Wing walls shall be tied into the canal banks in a manner that provides a smooth transition from the canal into the culvert and back out of the culvert on the outlet side.
 - The top of the wing wall on the outer end shall be at an elevation at or above the level of the ground.
 - If using a precast wing wall/end section, the wing walls, apron, and cutoff wall shall be one piece.
 - If cast-in-place concrete is placed next to pre-cast concrete, Waterstop RX, Swellstop, or an approved equivalent shall be placed to prevent seepage between the surfaces.
 - PVC water stop, or equivalent, is required in all joints of cast-in-place concrete.
 - If extending an existing box culvert, Waterstop RX, Swellstop, or an approved equivalent shall be placed between the old culvert and the new culvert to prevent seepage. Mastic is not acceptable.
 - A concrete apron shall be between the wing walls.
 - Concrete cut-off walls are required on the inlet and outlet, a minimum of two feet below the bottom of the concrete slab (apron). These cutoffs are required to extend into the banks to the ends of the wing walls.
 - The structure must be able to handle the maximum flow capacity of the canal. The Applicant is responsible for verifying maximum flows and designing appropriately. The culvert cannot cause water to backup further upstream. Neither SFSIC nor Franson Civil has flow data available for the canal. The minimum culvert size is 4 feet tall by 6 feet wide. However, site conditions may determine that this dimension be altered.

- State on the plans the backfill material and methods for filling and compacting around the box and wing walls. Backfill around the box culvert shall meet manufacturer's specifications for compaction and materials, or a minimum of 92% modified Proctor density.
- Place a minimum of 24 inches of clay material behind wing walls, compacted to a minimum of 92% modified Proctor density.
- All other backfill material around head walls and in open canal channel to be compacted to a minimum of 92% modified Proctor density.
- A 6-foot chain-link fence or 2-foot parapet wall is required on all box culverts that carry pedestrian traffic. Exceptions may occur where local ordinances note otherwise, and upon agreement by SFSIC and Franson Civil.
- Access to canal O&M road shall be installed with curb cuts at drive approaches and thickened concrete at sidewalks.
- Casings under the culvert must be shown on the plan and profile view. (See "Open Cut Details" standard drawing for additional information on standards for casing installation.)
- Identify existing conduits and utilities under the canal.
- Identify each new conduit being placed under the canal.
 - If the conduit owner/occupier is known, label as such.
 - If the conduit is to remain empty, label as such.
- See the "Box Culvert Details" standard drawing for additional requirements.

Add the following notes to plans under heading "SFSIC Canal Notes":

- All concrete used in the construction shall have a minimum compressive strength of 4,000 psi. The concrete mix shall include between 5% and 7% air entrainment.
- Canal floor and embankment material removed for excavation (between apron and undisturbed canal) shall be replaced with a 12-inch minimum thickness of 10^{-6} cm/sec permeability clay material in 6-inch maximum lifts.
- Compaction around the box culverts to meet manufacturer requirements or a minimum of 92% modified Proctor density.
- All other replaced materials placed in the canal corridor shall be compacted to 96% modified Proctor density.
- Canal embankment shall be shaped to match the existing canal prism.

- Compaction test results must be submitted to Franson Civil. All failed material shall be removed and compacted to specifications. Testing must be performed by a licensed soils lab.
- Open-cut trenches for the cutoff walls shall be cut at a minimum of 2 horizontal to 1 vertical so that backfill can be properly compacted.
- Conduits shown on these drawings do not give permission for the conduit to be occupied by an entity other than the original Applicant. Each entity crossing the canal must apply for, and receive, an encroachment agreement from SFSIC.
- Signs must be placed at each entrance to the canal O&M road that state:
 - No Trespassing. Warning: Canal Maintenance Road, Authorized Personnel Only.
No Swimming or Tubing.

TURNOUT/WEIR

The turnout/weir structure being proposed shall at all times be subject to rights reserved by SFSIC to reasonably use, operate, maintain, inspect, repair, replace, and improve the canal. The turnout/weir structure to be built by the Applicant pursuant to the encroachment agreement shall be the sole responsibility of the Applicant for purposes of ongoing maintenance and repair, but the canal shall continue to be used exclusively by SFSIC for its ongoing delivery of water to its shareholders. Any future repairs, excavation, removal, or other work on the turnout/weir structure shall be subject to advanced review and approval by SFSIC engineers. A Parshall flume can be used in place of a weir (A Parshall flume detail is included in the standard drawings for reference).

- Submit an “Application for Encroachment Agreement” and “Application for Turnout/Weir.”
- See “Weir Turnout Gate,” “Turnout,” and “3-foot Cipoletti Weir” standard drawings for additional requirements.
- If the turnout/weir is being built by another entity other than the shareholders that will use the turnout/weir, it is the responsibility of the Applicant to coordinate a meeting with the shareholders, canal water master, and Franson Civil to verify the required flows and any special conditions of the turnout/weir.
- Provide the cross-section showing the elevation and location of the turnout gate, weir, and any permanent structures in relation to the canal. Show the toe of the canal embankment and the elevation of the existing canal invert.
 - Silt collects at the bottom of the canal. The placement of the turnout structure shall match the bottom of the canal, not the top of the current silt layer.

- If vacating an old weir, it is the responsibility of the Applicant to remove the existing structure(s) and return the canal to proper functioning condition.
- Show compaction as appropriate for the design of weir boxes placed outside the canal corridor.
- If cast-in-place concrete is placed next to pre-cast concrete, Waterstop RX, Swellstop, or an approved equivalent shall be placed to prevent seepage between the surfaces.
- PVC water stop, or equivalent, is required in all joints of cast-in-place concrete.

Turnout Gate & Headwall

- Provide specifications for the turnout gate. A water-tight Waterman gate, or equivalent, is required.
- Canal banks shall be tied into the wingwalls in a manner that provides a smooth transition around the headwall.
- The headwall should be placed in a manner so that the structure does not extend into the canal or the O&M road.
- The inlet structure shall be placed on undisturbed soils.
- The bottom of the pipe opening should be a minimum of two inches off the bottom of the canal floor.
- Rebar details are required on the submitted drawings. The rebar design must be appropriate for the proposed site and conditions.

Pipe from Turnout to Weir

- Open-cut trenches shall be cut at a minimum of 2 horizontal to 1 vertical so that the backfill can be properly compacted. (See “Open-Cut Canal Crossing Cross-Section” standard drawing for additional requirements.)
- Bedding material, as appropriate for the design, must be shown.
- Specify the pipe type, size and class.

Weir (Measurement Structure)

- Provide specifications for the weir type.
 - The 3-foot Cipoletti Weir is shown as an example on the standard drawings. This exact weir type and/or size may not be optimal for your design.
- Show the details of the grate.

- Weir or transition boxes shall be placed in the canal corridor in a convenient location for the canal water master to easily access and verify and monitor the amount of water being taken by the shareholder(s).
- Box not to be placed in driveways, roads, or other traffic areas.
- All pipes into boxes shall be grouted and watertight.

Add the following notes to plans under heading “SFSIC Canal Notes”

- All concrete used in the construction shall have a minimum compressive strength of 4,000 psi. The concrete mix shall include between 5% and 7% air entrainment.
- Compaction of all replaced embankment material shall be impermeable material, meeting a modified Proctor density of 92%.
- Compaction test results must be submitted to Franson Civil. All failed material shall be removed and compacted to specifications. Testing must be performed by a licensed soils lab.
- A trench plug is required behind the head wall. Trench plug to be placed in location shown for width of trench, 12 inches above and below the pipe, and a thickness of 24 inches.
- Trench plugs shall be a 10% bentonite and 90% clay mixture. At least 40% of the backfill material must pass a No. 200 U.S. standard sieve prior to adding bentonite powder. The backfill material must then be amended by adding and thoroughly mixing commercial bentonite powder with the backfill material at a ratio of one-part bentonite to nine-parts backfill material. Impermeable flowable fill is an acceptable alternative.

OVERHEAD CROSSING

- Provide a cross section showing the elevation of the overhead crossing and the elevation of the canal invert and banks.
- Show the location of power poles and any permanent structures in relation to the canal and toe of the canal embankment.
- Structures shall be located outside the SFSIC corridor, which is generally 20 feet centered over the irrigation facility.

INLET AND OUTLET STRUCTURES

- Flared end sections are required (pre-fabricated or cast-in-place) where a pipe will connect to a soil-lined ditch. Where a pipe will connect to a concrete-lined ditch, cast-in-place

concrete shall be used and formed as a gradual transition from the pipe to the ditch. SFSIC standard is a concrete flared end section.

- On small turnouts that enter an open ditch for a single field, a flared end is not required. Instead, a 6-foot-long pipe shall be connected to the pipe, and native soil material can be used as a transition from the pipe to the ditch.
- Trash racks are needed for all inlets from open ditches showing:
 - Spacing details: 4-inch spacing for most inlets, 8-inch spacing for pipes over 36 inches in size
 - Slope 2:1 (H:V) or flatter
 - Mounting details
- If transitioning to or from a soil-lined ditch, the detail should show riprap appropriately designed to protect the structure:
 - Riprap sized for velocities, and
 - Appropriate length and location for riprap.

IRRIGATION/CLEANOUT BOXES

- Detail drawings are required for irrigation boxes.
- Irrigation cleanout boxes are required a minimum of every 500 feet, at all alignment changes, on each side of a road crossing, and where two pipes of a different type come together.
- All boxes must be labeled showing inside and outside dimensions. Boxes shall be a minimum of 3-feet by 3-feet inside.
- Boxes must show all pipes entering and exiting. There shall be a minimum of 6 inches on each side of the pipe to the edge of the box. Boxes must be labeled to show distance between pipe and bottom of box (typically 6 inches).
- Boxes must show all gates with gate detail or specifics as to gate type, size, flow direction, etc. Waterman C-10 canal gates are required.
- Lid/grate detail required:
 - Solid lids marked “IRRIGATION” are required when debris and soil can enter.
 - Grates should be used on diversion boxes with gates and where debris will not enter.
- Knock-out boxes are not allowed. All boxes shall be pre-cast with cored openings for the pipes or shall be cast-in-place.
- Pipes entering boxes should be concreted on the outside and grouted on the inside.

- Irrigation boxes shall not be buried. They shall extend to the surface of the final grade. Any existing boxes that will not extend to the final grade surface shall be extended to match the final grade.

OPEN CUT OF CANAL CHANNEL

- All facilities (utilities, pipes, etc.) installed under the canal must be encased in a steel, fusible HDPE solid wall, or fusible PVC casing. Minimum steel casing thickness can be found on the standard drawings. Minimum HDPE casing thickness shall be DR 32.5. Verification that the minimum thickness is sufficient is the responsibility of the Applicant.
- In locations where steel casing pipe is used, soil tests for resistivity shall be done and submitted to Franson Civil. Soils with a soil resistivity (ohm cm) of 2,500 or less shall have cathodic protection with a 25-year life or have cellular concrete placed in the annular space between the carrier pipe and casing pipe.
- Casings must have a minimum of two feet between the top of the casing and the bottom of the box culvert or concrete-lined canal, and four feet between the top of the casing and the earthen canal bottom. In areas with sand or cobbles, this distance may need to be increased. The actual safe depth is to be determined by the Applicant's engineer.
- The casing shall extend outside the canal corridor.
- Trench plugs are to be placed at each end of the casing.
- Trench plugs are to extend the width of trench, 12 inches above and below casing pipes, and with a thickness of 24 inches.
- Trench plugs shall be a 10% bentonite and 90% clay mixture. At least 40% of the backfill material must pass a No. 200 U.S. standard sieve prior to adding bentonite powder. The backfill material must then be amended by adding and thoroughly mixing commercial bentonite powder with the backfill material at a ratio of one-part bentonite to nine-parts backfill material. Impermeable flowable fill is an acceptable alternative.
- The carrier pipe must have adequate casing spacers.
- Waterline pipes inside the casings shall have restraining joints.
- Adequate thrust blocks are required on all bends for DIP, PVC, or PIP waterlines.
- Bedding material must be shown, as appropriate for the design.
- A concrete-liner on the floor and banks, extending ten feet on either side of casing, is required. See standard drawing "Concrete Liner Details" for more information.

- Silt collects at the bottom of the canal. The installation of the concrete liner shall match the bottom of the canal and not the current silt layer.
- See the “Open-Cut Trench Cross-Section” standard drawing for additional requirements.

Add the following notes to plans under heading “SFSIC Canal Notes” if canal is earthen:

- The canal floor and embankment material removed for excavation (excluding under concrete liner) shall be replaced with a 12-inch minimum thickness of 10^{-6} cm/sec permeability clay material, in 6-inch maximum lifts.
- All replaced materials shall be compacted to 92% modified Proctor density.
- Canal embankment shall be shaped to match the existing canal prism.
- Compaction test results must be submitted to Franson Civil Engineers. All failed material shall be removed and compacted to specifications. Testing must be performed by a licensed soils lab.
- The trench through the canal may be cut as little as $\frac{1}{4}$ horizontal to 1 vertical.
- Contractor to notify Kyle DeVaney, P.E., of Franson Civil Engineers when trench plugs are installed. Verification of trench plug completion must be performed by Franson Civil Engineers before backfilling. Kyle can be reached at 801-756-0309.

Add the following notes to plans under heading “SFSIC Canal Notes” if canal is concrete-lined:

- The existing concrete section must be sawcut to give a clean edge for the replacement section.
- The trench through the canal may be cut as little as $\frac{1}{4}$ horizontal to 1 vertical to minimize the amount of concrete liner that needs to be removed. It is the responsibility of the Contractor to verify that compaction will not be affected.
- Embankment material shall be compacted to a minimum of 92% modified Proctor density. Native material may be used.
- Compaction test results must be submitted to Franson Civil. All failed material shall be removed and compacted to specifications. Testing must be performed by a licensed soils lab.
- Canal embankment shall be shaped to match the existing canal prism.
- Rebar shall be a minimum of #4 bar at 12 inches on center.

- Contractor to notify Kyle DeVaney, P.E., of Franson Civil Engineers when trench plugs are installed. Verification of trench plug completion must be performed by Franson Civil Engineers before backfilling. Kyle can be reached at 801-756-0309.

BORING

For the purpose of this application packet, boring refers to the installation of a casing under the canal without excavating the canal itself. Also see the “Directional Drilling/Boring” section to see if your project qualifies for that section.

- All facilities (utilities, pipes, etc.) installed under the canal (even under box culverts) must be encased in a steel, fusible HDPE, or fusible PVC casing. Minimum steel casing thickness can be found on the standard drawings. Minimum HDPE casing thickness shall be DR 32.5. Verification that the minimum thickness is sufficient is the responsibility of the Applicant.
- In locations where steel casing pipe is used, soil tests for resistivity shall be completed by the Applicant and at the Applicant’s expense. Test results shall be submitted to Franson Civil. Soils with a soil resistivity (ohm cm) of 2,500 or less shall have cathodic protection with a 25-year life or have cellular concrete placed in the annular space between the carrier pipe and casing pipe.
- Casings must have a minimum of two feet between the top of the casing and the bottom of the box culvert or concrete-lined canal, and four feet between the top of the casing and the earthen canal bottom. In areas with sand or cobbles, this distance may need to be increased. The actual safe depth is to be determined by the Applicant’s engineer.
- The casing shall extend outside the canal corridor.
- A concrete-liner on the floor and banks, extending ten feet on either side of casing is required. See standard drawing “Concrete Liner Details” for more information.
- Silt collects at the bottom of the canal. The installation of the concrete liner shall match the bottom of the canal and not the current silt layer.
- Bore pits must be located outside the canal corridor.
- Bore pit compaction shall be 92% modified Proctor density.
- Trench plugs are to be placed at each end of the casing.
- Trench plugs are to extend the width of trench, 12 inches above and below casing pipes, and with a thickness of 24 inches.

- Trench plugs shall be 10% bentonite and 90% clay mixture. At least 40% of the backfill material must pass a No. 200 U.S. standard sieve prior to adding bentonite powder. The backfill material must then be amended by adding and thoroughly mixing commercial bentonite powder with the backfill material at a ratio of one-part bentonite to nine-parts backfill material. Impermeable flowable fill is an acceptable alternative.
- The carrier pipe shall have adequate casing spacers.
- Waterline pipes inside the casings shall have restraining joints.
- Adequate thrust blocks are required on all bends for DIP, PVC, or PIP waterlines.
- See the “Canal Boring Details” standard drawing for additional requirements.

Add the following notes to plans under heading “SFSIC Canal Notes”

- Contractor to notify Kyle DeVaney, P.E., of Franson Civil Engineers when trench plugs are installed. Verification of trench plug completion must be performed by Franson Civil before backfilling. Kyle can be reached at 801-756-0309.
- Rebar for the canal liner shall be a minimum of #4 bar at 12 inches on center.
- A two-foot-deep concrete cutoff wall is required on both ends of the concrete liner.

DIRECTIONAL DRILLING/BORING

For the purpose of this application packet, directional drilling refers to the installation of a smaller casing for a utility (usually under six inches in diameter) installed by directional drilling.

- Label the conduit material and thickness. Verification that the conduit specifications are sufficient is the responsibility of the Applicant.
- Conduit must have a minimum of two feet between the top of the conduit and the bottom of a box culvert or concrete-lined canal, and four feet between the top of the conduit and the earthen canal bottom. In areas with sand or cobbles, this distance may need to be increased. The actual safe depth is to be determined by the Applicant’s engineer.
- The conduit shall extend outside the canal corridor.
- Bore pits must be located outside the canal corridor.
- Fill bore pits with a mixture of native material and 10% bentonite powder to create a seal that will prevent water from following the new conduit.
- Bore pit compaction shall be 92% modified Proctor density.
- See the “Directional Drilling Details” standard drawing for additional requirements.

OCCUPYING EXISTING BLANK CONDUIT/CASING

This section is used when an existing blank conduit is in place under the canal and the Applicant wishes to occupy the conduit. It is common for conduits to be installed at the same time as a box culvert; however, the placement of these conduits does **not** give permission for the utility to be installed in the conduit. An application, drawings, and fee need to be submitted and an encroachment agreement signed before the conduit is occupied. Drawings from the original conduit placement can be used if the Applicant can provide them.

- Show the plan and profile view of the existing blank conduit.
- Specify the existing conduit material and thickness.
- Show or note the details of the utility to be installed in the blank conduit.
- Show where and how the conduit will be accessed to install the utility.
- Show the canal corridor.

EASEMENTS (Normally only required when relocating irrigation facilities)

- Prior to any easements being recorded that affect SFSIC, the legal description must be submitted to and reviewed by Franson Civil. Also, the entire document will be reviewed by SFSIC's attorney.
- Easements are required to be recorded with the Utah County Recorder for all SFSIC facilities.
 - Plat Maps are best to have these easements recorded.
 - If the plat has already been recorded, the owner can grant the easement with a legal description and have this recorded.
 - Proof of the record must be submitted to Franson Civil.
- Easements are 20 feet wide minimum, centered over the irrigation facility, unless otherwise noted. Any changes in the easement width will need to be reviewed by SFSIC. Easements should be in the name of Spanish Fork South Irrigation Company.
- Add a note to the drawings, stating: "No foliage, structures, or other unauthorized improvements are allowed in Spanish Fork South Irrigation Company corridors."
- If the Applicant does not provide proper easements in a timely manner, SFSIC may use the bond for any costs associated with procuring the easements necessary for their facilities.