

SPANISH FORK SOUTH IRRIGATION COMPANY

Application Packet

Guide to Obtaining an Encroachment Agreement with the
SPANISH FORK SOUTH IRRIGATION COMPANY (SFSIC)

Spanish Fork South Irrigation Company

This packet is intended to assist Applicants in working with Spanish Fork South Irrigation Company (SFSIC). All entities or persons proposing projects within the SFSIC corridor or affecting SFSIC facilities must obtain permission from SFSIC prior to performing work.

This permission is usually granted with an encroachment agreement. In an encroachment agreement, SFSIC grants permission for the Applicant to encroach on its real property interests. An encroachment agreement is (1) a license, (2) a conditioned right to encroach upon SFSIC lands, and (3) a collection of contractual rights and responsibilities. It is **not** an easement or other real property interest. An encroachment agreement, or other agreement, must be signed **before** the site preparation or construction begins.

Franson Civil Engineers (Franson Civil) is the engineer for SFSIC. Neither SFSIC nor Franson Civil are responsible for the design or construction of encroaching project facilities. SFSIC and Franson Civil review project designs and applications in a brief fashion for the purposes of protecting the operation and maintenance of the SFSIC facilities only. SFSIC duties regarding encroachment run only to its shareholders. Franson Civil's duties run only to SFSIC. Once an encroachment agreement is executed, limited field review may be provided by Franson Civil to observe that construction appears to be in accordance with the design drawings and the encroachment agreement. The person or entity constructing an encroaching project, and their project engineers and contractors, maintain all responsibility for design and construction. No review or approval waives or modifies any encroachment agreement terms or gives SFSIC or Franson Civil any responsibility for design or construction, workers on site, or the public. It is the responsibility of the Applicant to provide SFSIC and Franson Civil with accurate information so a reasonable determination can be made if the project will meet SFSIC standards and will not adversely affect SFSIC facilities.

This review process can be expedited by ensuring the first submittal to Franson Civil meets SFSIC standards following careful review of the checklist that is provided in this packet. The following is a guideline of the typical steps for the application, review, and encroachment agreement process, though projects may vary:

- Franson Civil receives the **application, application fees, and drawings**. The review process will **not** begin until these items have been received. The application must be submitted with sufficient time to review the drawings, write and execute the agreement, and construct the facilities before April 1st. Franson Civil reserves the right to decline applications or delay construction if they (or SFSIC) believe the construction may interfere with delivery of water.
- Franson Civil will **review** the drawings. A meeting will be held as needed with Franson Civil, SFSIC, and the Applicant to discuss the project. A redline comment letter will be sent to the Applicant with a checklist of items that must be addressed. The reviews will repeat as explained above until all items from the checklist have been addressed and plans are to SFSIC standards. This typically takes 2 – 3 rounds of reviewing.
- An **encroachment agreement** will be prepared between the Applicant and SFSIC once all of the above-mentioned items have been completed. An encroachment agreement is a legal document that details the responsibilities of the Applicant and SFSIC. An electronic copy of the agreement will be sent out for signature. Alternatively, three hard copies of the agreement can be sent to the Applicant or made available for pick up. In this case, the

Applicant is responsible for obtaining all required signatures and ensuring that the signed agreements are distributed to the SFSIC President, Franson Civil, and themselves.

- Once the agreement has been executed by all parties, permission has been granted to the Applicant to begin the construction phase of the project, in accordance with the agreement. All installation and construction activity must take place between October 31st and April 1st. Failure to comply may result in agreement termination and monetary fines.
- The Applicant is required to notify SFSIC and Franson Civil at least 24 hours before beginning construction on SFSIC facilities.
- Franson Civil and SFSIC may perform limited field reviews to observe that construction appears to be in accordance with the design drawings and the encroachment agreement. It is the responsibility of the Applicant to perform adequate construction review to ensure the facilities are constructed to SFSIC standards and in accordance to their design drawings attached to the encroachment agreement.
- After construction is complete, the Applicant is required to schedule a **final walkthrough** that will be attended by Franson Civil and SFSIC (at its option) to identify any final items that need to be completed before construction is accepted. A **punch list** will be prepared and sent to the Applicant listing items required.

The appropriate application can be obtained at www.fransoncivil.com/canal-applications.

Enclosed in this packet are:

- Large Subdivisions – Application Type 1
- Small Subdivisions (2 Lots) – Application Type 2
- City or Utility Crossing (Bore, Overhead, Etc.) – Application Type 3
- Ditch Modifications (Homeowner, One Lot) – Application Type 4
- Turnout/Weir – Application Type 5
- Development Design Checklist (assist Applicant in designing plans to SFSIC standards)

The Design Checklist is updated periodically, so downloading the most recent version of the packet for each new application is recommended.

Any questions regarding the application process can be directed to Patricia Ayaa at Franson Civil. The office phone number is 801-756-0309.

SPANISH FORK SOUTH IRRIGATION COMPANY

LARGE SUBDIVISIONS – APPLICATION TYPE 1

Application for Agreement to Encroach and Construct within
Spanish Fork South Irrigation Company (SFSIC) Right-of-Way or Easement

1. Applicant for Encroachment Agreement (Applicant): _____

Mailing Address: _____
Contact Person: _____
Telephone Number: _____
Email: _____

2. Legal Name of Owner for Agreement: _____
Owner Mailing Address: _____
Signatory Name: _____
Telephone Number: _____
Email: _____

3. Contact Person (if different than #1): _____
Mailing Address: _____
Telephone Number: _____
Email: _____

4. Engineering Company: _____
Mailing Address: _____
Telephone Number: _____
Contact Person: _____
Email: _____

5. Brief Description of Proposed Construction and Encroachment on SFSIC Facilities (include location and subdivision name if applicable): _____

6. Proposed start date: _____ Proposed completion date: _____

7. Submit a digital PDF copy of the plans/design drawings to encroachment@fransoncivil.com. If preferred, two (2) 11x17 hard copies of the plans can be submitted to Franson Civil (see #9). Plans shall be drawn to SFSIC standards. A Design Checklist is included in this application packet to assist engineers in designing to SFSIC standards.

8. Attach a check for \$9,000 for the application and review fee. The application fee will be used by SFSIC for purposes of administration, coordination, engineer review, preparation of agreements, construction review, legal guidance, and any other expenses it incurs related to this application. If costs incurred by SFSIC are greater than the application fee, the Applicant will be responsible to reimburse SFSIC for the remainder of the expenses.

Please make all checks payable to: **Spanish Fork South Irrigation Company.**

9. Send application, plans, and application fee by mail or email to:

Franson Civil Engineers
Attn: Canal Reviews
1276 South 820 East, Suite 100
American Fork, UT 84003
Email: encroachment@fransonicivil.com

10. The following persons are available for consultation:

SFSIC Office	(801) 376-4295	
John Ludlow	(801) 836-8894	SFSIC President
Patricia Ayaa	(801) 756-0309	Franson Civil Engineers

NOTES:

1. The review process will not begin until the application fee is paid.
2. The SFSIC bonding requirements are as follows: Bonding will be 100% of the total estimated cost of the project. Upon completion of construction, approval by SFSIC, and successful delivery of water through the system, 60% of the bond will be released. One year after the project has been accepted and approved by SFSIC, and pending no problems with the facilities, the remaining 40% of the bond will be released. All bond releases are subject to approval by SFSIC.
3. Easements for SFSIC must be recorded with the Utah County Recorder. The recorded document, or a signed statement stating the easement will be recorded, must be provided to Franson Civil Engineers prior to the Encroachment Agreement being released for signatures.
4. Starting construction without prior written approval in the form of an Encroachment Agreement from SFSIC may result in an additional fee assessment of \$10,000 and a project cease and desist letter. This fee may be taken from the bond if the Applicant does not pay within 30 days upon receipt of a written invoice.
5. If costs incurred by SFSIC are greater than the application fee, the Applicant will be responsible to reimburse SFSIC for the remainder of the expenses. These additional costs may be taken from the bond if the Applicant does not pay within 30 days upon receipt of a written invoice.
6. This application is valid for 6 months from the date it is submitted. The Encroachment Agreement must be signed within this 6-month period. If the Encroachment Agreement is not signed within this period, the Applicant may be required to submit a new application. Once the Encroachment Agreement is signed, the Applicant has one year to complete work on irrigation facilities.
7. This application cannot be sold to other parties. If the Applicant chooses to sell the property associated with this application, the application is voided, and the new owner is required to begin the application process again.

I have read, understood, and agree to the terms of this application.

Signature of Applicant	Printed	Date
------------------------	---------	------

SPANISH FORK SOUTH IRRIGATION COMPANY

SMALL SUBDIVISIONS (2 LOTS) – APPLICATION TYPE 2

Application for Agreement to Encroach and Construct within
Spanish Fork South Irrigation Company (SFSIC) Right-of-Way or Easement

1. Applicant for Encroachment Agreement (Applicant): _____
Mailing Address: _____
Contact Person: _____
Telephone Number: _____
Email: _____

2. Legal Name of Owner for Agreement: _____
Owner Mailing Address: _____
Signatory Name: _____
Telephone Number: _____
Email: _____

3. Contact Person (if different than #1): _____
Mailing Address: _____
Telephone Number: _____
Email: _____

4. Engineering Company: _____
Mailing Address: _____
Telephone Number: _____
Contact Person: _____
Email: _____

5. Brief Description of Proposed Construction and Encroachment on SFSIC Facilities (include location and subdivision name if applicable): _____

6. Proposed start date: _____ Proposed completion date: _____

7. Submit a digital PDF copy of the plans/design drawings to encroachment@fransoncivil.com. If preferred, two (2) 11x17 hard copies of the plans can be sent to Franson Civil (see #9). Plans shall be drawn to SFSIC standards. A Design Checklist is included in this application packet to assist engineers in designing to SFSIC standards.

8. Attach a check for \$8,500 for the application and review fee. The application fee will be used by SFSIC for purposes of administration, coordination, engineer review, preparation of agreements, construction review, legal guidance, and any other expenses it incurs related to this application. If costs incurred by SFSIC are greater than the application fee, the Applicant will be responsible to reimburse SFSIC for the remainder of the expenses.

Please make all checks payable to: **Spanish Fork South Irrigation Company.**

9. Send application, plans, and application fee by mail or email to:

Franson Civil Engineers
Attn: Canal Reviews
1276 South 820 East, Suite 100
American Fork, UT 84003
Email: encroachment@fransonicivil.com

10. The following persons are available for consultation:

SFSIC Office	(801) 376-4295	
John Ludlow	(801) 836-8894	SFSIC President
Patricia Ayaa	(801) 756-0309	Franson Civil Engineers

NOTES:

1. The review process will not begin until the application fee is paid.
2. The SFSIC bonding requirements are as follows: Bonding will be 100% of the total cost of irrigation facilities. Upon completion of construction, approval by SFSIC, and successful delivery of water through the system, 60% of the bond will be released. One year after the project has been accepted and approved by SFSIC, and pending no problems with the facilities, the remaining 40% of the bond will be released. All bond releases are subject to approval by SFSIC.
3. Easements for SFSIC must be recorded with the Utah County Recorder. The recorded document, or a signed statement stating the easement will be recorded, must be provided to Franson Civil Engineers prior to the Encroachment Agreement being released for signatures.
4. Starting construction without prior written approval in the form of an Encroachment Agreement from SFSIC may result in an additional fee assessment of \$10,000 and a project cease and desist letter. This fee may be taken from the bond if the Applicant does not pay within 30 days upon receipt of a written invoice.
5. If costs incurred by SFSIC are greater than the application fee, the Applicant will be responsible to reimburse SFSIC for the remainder of the expenses. These additional costs may be taken from the bond if the Applicant does not pay within 30 days upon receipt of a written invoice.
6. This application is valid for 6 months from the date it is submitted. The Encroachment Agreement must be signed within this 6-month period. If the Encroachment Agreement is not signed within this period, the Applicant may be required to submit a new application. Once the Encroachment Agreement is signed, the Applicant has one year to complete work on irrigation facilities.
7. This application cannot be sold to other parties. If the Applicant chooses to sell the property associated with this application, the application is voided, and the new owner is required to begin the application process again.

I have read, understood, and agree to the terms of this application.

Signature of Applicant

Printed

Date

SPANISH FORK SOUTH IRRIGATION COMPANY

CITY OR UTILITY CROSSING (BORE, OVERHEAD, ETC) – APPLICATION TYPE 3

Application for Agreement to Encroach and Construct within
Spanish Fork South Irrigation Company (SFSIC) Right-of-Way or Easement

1. Applicant for Encroachment Agreement (Applicant): _____
Mailing Address: _____
Contact Person: _____
Telephone Number: _____
Email: _____

2. Legal Name of Owner for Agreement: _____
Owner Mailing Address: _____
Signatory Name: _____
Telephone Number: _____
Email: _____

3. Contact Person (if different than #1): _____
Mailing Address: _____
Telephone Number: _____
Email: _____

4. Engineering Company: _____
Mailing Address: _____
Telephone Number: _____
Contact Person: _____
Email: _____

5. Brief Description of Proposed Construction and Encroachment on SFSIC Facilities (include location and subdivision name if applicable): _____

6. Proposed start date: _____ Proposed completion date: _____

7. Submit a digital PDF copy of the plans/design drawings to encroachment@fransoncivil.com. If preferred, two (2) 11x17 hard copies of the plans can be sent to Franson Civil (see #9). Plans shall be drawn to SFSIC standards. A Design Checklist is included in this application packet to assist engineers in designing to SFSIC standards.

8. Attach a check for \$4,500 for the application and review fee. The application fee will be used by SFSIC for purposes of administration, coordination, engineer review, preparation of agreements, construction review, legal guidance, and any other expenses it incurs related to this application. If costs incurred by SFSIC are greater than the application fee, the Applicant will be responsible to reimburse SFSIC for the remainder of the expenses.

Please make all checks payable to: **Spanish Fork South Irrigation Company.**

9. Send application, plans, and application fee by mail or email to:

Franson Civil Engineers
Attn: Canal Reviews
1276 South 820 East, Suite 100
American Fork, UT 84003
Email: encroachment@fransonicivil.com

10. The following persons are available for consultation:

SFSIC Office	(801) 376-4295	
John Ludlow	(801) 836-8894	SFSIC President
Patricia Ayaa	(801) 756-0309	Franson Civil Engineers

NOTES:

1. The review process will not begin until the application fee is paid.
2. Starting construction without prior written approval in the form of an Encroachment Agreement from SFSIC may result in an additional fee assessment of \$10,000 and a project cease and desist letter. This fee may be taken from the bond if the Applicant does not pay within 30 days upon receipt of a written invoice.
3. If costs incurred by SFSIC are greater than the application fee, the Applicant will be responsible to reimburse SFSIC for the remainder of the expenses. These additional costs may be taken from the bond if the Applicant does not pay within 30 days upon receipt of a written invoice.
4. This application is valid for 6 months from the date it is submitted. The Encroachment Agreement must be signed within this 6-month period. If the Encroachment Agreement is not signed within this period, the Applicant may be required to submit a new application. Once the Encroachment Agreement is signed, the Applicant has one year to complete work on irrigation facilities.
5. This application cannot be sold to other parties. If the Applicant chooses to sell the property associated with this application, the application is voided, and the new owner is required to begin the application process again.

I have read, understood, and agree to the terms of this application.

Signature of Applicant

Printed

Date

SPANISH FORK SOUTH IRRIGATION COMPANY

DITCH MODIFICATIONS (HOMEOWNER, ONE LOT) – APPLICATION TYPE 4

Application for Agreement to Encroach and Construct within
Spanish Fork South Irrigation Company (SFSIC) Right-of-Way or Easement

1. Applicant for Encroachment Agreement (Applicant): _____
Mailing Address: _____
Contact Person: _____
Telephone Number: _____
Email: _____

2. Legal Name of Owner for Agreement: _____
Owner Mailing Address: _____
Signatory Name: _____
Telephone Number: _____
Email: _____

3. Contact Person (if different than #1): _____
Mailing Address: _____
Telephone Number: _____
Email: _____

4. Engineering Company: _____
Mailing Address: _____
Telephone Number: _____
Contact Person: _____
Email: _____

5. Brief Description of Proposed Construction and Encroachment on SFSIC Facilities (include location, and subdivision name if applicable): _____

6. Proposed start date: _____ Proposed completion date: _____

7. Submit a digital PDF copy of the plans/design drawings to encroachment@fransoncivil.com. If preferred, two (2) 11x17 hard copies of the plans can be sent to Franson Civil (see #9). Plans shall be drawn to SFSIC standards. A Design Checklist is included in this application packet to assist engineers in designing to SFSIC standards.

8. Attach a check for \$4,500 for the application and review fee. The application fee will be used by SFSIC for purposes of administration, coordination, engineer review, preparation of agreements, construction review, legal guidance, and any other expenses it incurs related to this application. If costs incurred by SFSIC are greater than the application fee, the Applicant will be responsible to reimburse SFSIC for the remainder of the expenses.

Please make all checks payable to: **Spanish Fork South Irrigation Company.**

9. Send application, plans, and application fee by mail or email to:

Franson Civil Engineers
Attn: Canal Reviews
1276 South 820 East, Suite 100
American Fork, UT 84003
Email: encroachment@fransonicivil.com

10. The following persons are available for consultation:

SFSIC Office	(801) 376-4295	
John Ludlow	(801) 836-8894	SFSIC President
Patricia Ayaa	(801) 756-0309	Franson Civil Engineers

NOTES:

1. The review process will not begin until the application fee is paid.
2. The SFSIC bonding requirements are as follows: Bonding will be 100% of the total cost of irrigation facilities. Upon completion of construction, approval by SFSIC, and successful delivery of water through the system, 60% of the bond will be released. One year after the project has been accepted and approved by SFSIC, and pending no problems with the facilities, the remaining 40% of the bond will be released. All bond releases are subject to approval by SFSIC.
3. Easements for SFSIC must be recorded with the Utah County Recorder. The recorded document, or a signed statement stating the easement will be recorded, must be provided to Franson Civil Engineers prior to the Encroachment Agreement being released for signatures.
4. Starting construction without prior written approval in the form of an Encroachment Agreement from SFSIC may result in an additional fee assessment of \$10,000 and a project cease and desist letter. This fee may be taken from the bond if the Applicant does not pay within 30 days upon receipt of a written invoice.
5. If costs incurred by SFSIC are greater than the application fee, the Applicant will be responsible to reimburse SFSIC for the remainder of the expenses. These additional costs may be taken from the bond if the Applicant does not pay within 30 days upon receipt of a written invoice.
6. This application is valid for 6 months from the date it is submitted. The Encroachment Agreement must be signed within this 6-month period. If the Encroachment Agreement is not signed within this period, the Applicant may be required to submit a new application. Once the Encroachment Agreement is signed, the Applicant has one year to complete work on irrigation facilities.
7. This application cannot be sold to other parties. If the Applicant chooses to sell the property associated with this application, the application is voided, and the new owner is required to begin the application process again.

I have read, understood, and agree to the terms of this application.

Signature of Applicant

Printed

Date

SPANISH FORK SOUTH IRRIGATION COMPANY

TURNOUT/WEIR – APPLICATION TYPE 5

Application for Agreement to Encroach and Construct within
Spanish Fork South Irrigation Company (SFSIC) Right-of-Way or Easement

This document must be completed in conjunction with the Application for Encroachment Agreement when modifying or constructing a turnout and/or weir within the SFSIC Corridor.

NEW TURNOUT/WEIR

1. Number of Shares Being Moved to Proposed Turnout/Weir: _____

Owner(s) of Shares: _____

Certificate Number(s): _____

MODIFYING EXISTING TURNOUT/WEIR

Number of Shares Remaining in Existing Turnout/Weir: _____

Owner(s) with Remaining Shares in Existing Turnout/Weir: _____

Certificate Number(s): _____

SIGNATURE REQUIRED

The Applicant(s) acknowledge that no refund will be given if the work is not completed to the satisfaction of SFSIC. Also, irrigation share(s) listed above are subject to additional assessments if the work is not completed to the satisfaction of SFSIC.

(Signature)

(Title)

(Date)

SPANISH FORK SOUTH IRRIGATION COMPANY

DEVELOPMENT DESIGN 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 the 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.
- 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.
- Bonding is required on all SFSIC facility improvements. After drawings have been deemed acceptable by Franson Civil, please submit a detailed cost estimate of construction (materials and labor) of SFSIC facilities. Once this has been checked, the bond amount will be set.

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 \$10,000 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 31st and April 1st. 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 95% standard 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 and Applicant.
- All backfill materials shall be compacted to a minimum of 95% standard Proctor density.
- Applicant is required to perform compaction testing at Applicant’s cost. If requested, compaction test results shall 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.

- All concrete used in construction shall have a minimum compressive strength of 4,000 psi. The concrete mix shall include between 5% and 7% air entrainment.
- Apply Swellstop, Waterstop RX, or WFIC Engineer approved equivalent to all concrete cold joints to prevent water seepage.
- PVC, Waterstop, or equivalent is required in all joints of cast-in-place concrete to prevent seepage between the surfaces.
- 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.
- Fences disturbed during construction activities must be replaced and returned to pre-construction condition, or better.
- If any SFSIC facilities are located during construction that are not identified on the drawings, Applicant shall work with SFSIC through drawing reviews and then shall perform what work is required to cause the SFSIC facilities to remain functional for use by SFSIC. All work shall be to SFSIC standards. All costs are the responsibility of the Applicant.
- Neither SFSIC nor Franson Civil can verify the locations of underground facilities. Blue Stakes should always be called before digging (1-800-662-4111).

PIPES

- Plan and profile view of each pipe is required.
- SFSIC accepts only reinforced concrete pipe (RCP) 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.
- When HDPE pipe is used, the pipe will need to be restrained entering the cleanout boxes. A commonly used restraint is electro-fusing flex restraints onto the HDPE pipe and encasing it in concrete. Please add thrust restraint details to the drawings.
- Trench detail is required showing bedding detail. SFSIC standards require bedding 6 inches below pipe and 1-inch above pipe 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.

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

- 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.
- Pipes entering boxes shall be concreted on the outside and grouted on the inside.

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.

- 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 95% standard Proctor density.
- Place a minimum of 24 inches of clay material behind wing walls, compacted to a minimum of 95% standard Proctor density.
- All other backfill material around head walls and in open canal channel to be compacted to a minimum of 95% standard 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":

- 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 95% standard Proctor density.
- Canal embankment shall be shaped to match the existing canal prism.
- 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.
- 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.

- 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:
 - o 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.
 - o 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.

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”

- Compaction of all replaced embankment material shall be impermeable material, meeting a standard Proctor density of 95%.
- 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.

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

- 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.
- Canal embankment shall be shaped to match the existing canal prism.

IRRIGATION/CLEANOUT BOXES AND MANHOLES

- Detail drawings are required for irrigation boxes and manholes.
- Irrigation boxes or manholes are required every 500 feet (maximum spacing), at all alignment changes, on each side of a road crossing, and where two pipes of a different type come together.
- All boxes and manholes must be labeled showing inside and outside dimensions. Boxes shall be a minimum of 3-feet by 3-feet inside, and manholes shall have a minimum inside diameter of 5 feet.
- Boxes and manholes 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. Manholes with pipes greater than 36 inches shall have a diameter at least 24 inches wider than the pipe diameter.
- Boxes and manholes must be labeled to show the distance between the pipe and the bottom of the box or manhole (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.
- Pipes entering boxes should be concreted on the outside and grouted on the inside.

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

- Knock-out boxes are not allowed. All boxes shall be pre-cast with cored openings for the pipes or shall be cast-in-place.
- 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 the 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.
- 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.
- Canal embankment shall be shaped to match the existing canal prism.
- 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.
- Rebar 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.

Add the following notes to plans under the heading “SFSIC Canal Notes” if the 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 95% standard Proctor density.
- The trench through the canal may be cut as little as $\frac{1}{4}$ horizontal to 1 vertical.

Add the following notes to plans under the heading “SFSIC Canal Notes” if the 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 95% standard Proctor density. Native material may be used.

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 Boring/Drilling and Microtrenching” 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.
- Bore pits must be located outside the canal corridor.
- Casings under the canal must be shown in plan and profile.
- The casing shall extend outside the canal corridor.
- 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 carrier pipe shall have adequate casing spacers.
- The carrier pipe must have adequate steel-banded skids.
- Waterline pipes inside the casings shall have restraining joints.
- Adequate thrust blocks are required on all bends for DIP, PVC, or PIP waterlines.
- 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.
- See the "Canal Boring Details" standard drawing for additional requirements.

Add the following notes to plans under the 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.
- 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.
- Bore pit compaction shall be 95% standard Proctor density.
- 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.
- 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.
- 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 AND MICROTRENCHING

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. Microtrenching involves the excavation of narrow, shallow trenches, typically 1 to 2 inches wide and up to 12-16 inches deep into existing roadways and sidewalks to install fiber optic cables and other utilities.

- 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.
- For directional bore or microtrench above the box or pipe culvert, there should be a minimum of one foot between the bottom of the conduit and the top of the box or pipe culvert.
- The conduit shall extend outside the canal corridor.
- See the "Directional Drilling and Microtrenching Details" in the SFSIC Standard Drawing Set for additional requirements.

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

- Work cannot interfere with delivery of irrigation water. Installation activities can take place at any time provided SFSIC's access to operation, maintenance, and replacement of irrigation facilities is not impacted.
- Bore pits must be located outside the canal right-of-way.
- 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 a minimum of 95% standard Proctor density.

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

- 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.
- 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 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/Plat, stating: "No foliage, structures, or other unauthorized improvements are allowed in Spanish Fork South Irrigation Company easement."
- 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.