St. Joseph Stormwater Training for Developers and Contractors

September 18, 2018

Welcome

- Good Housekeeping
  - Phones
  - Weather related emergencies
  - Breaks and facilities
- Introductions

Overview

Goals and Objectives

Overview

1. Plan Review Process
2. Land Disturbance Permitting
3. Erosion and Sediment Controls
4. Inspections and Post-construction Inspections
5. Green Operator Program

Goals and Objectives

- Area contractors will become familiar with the City's Development Review, Permitting and Inspection Processes

- At the end of the session…
  - Engineers and Contractors will find out how plans are reviewed and approved, by the city.
  - Attendees will review the land disturbance permit process, including when permits are needed.
  - Contractors will learn about post-construction inspections and approvals
  - Over time, applicants will consistently supply needed information for plan submittal and permits to decrease review times.

Review Process

City requirements to approve the construction plans

Review Process

1. Concept Review
2. Preliminary Site Plan Review
3. Final Site Plan Review and approval

   Dirt work permits may be released
4. Structural and Building plans, including MEPs
5. Project Approval and release for building permits
6. Building inspections as needed
7. Final construction inspections
8. Certificate of Occupancy

Commercial Site Review Checklist

- Project information sheet

Project Information Sheet
Required for all Commercial, Subdivision and Building Plans

Development Review Coordinator
Building Development
City of St. Joseph, Missouri

Project Title: _____ **Date** _____

Project Location / Address: _____

Parcel Number / ID: _____

Project Scope (Details): _____

_____

_____

Nature of Project (*Circle One*): New building Addition Expansion Remodel Tenant

Phase of project: Concept Preliminary Final Site Plan Structural Plans Post Construction

Engineer/Designer/Architect (responsible for construction document(s)):

Name: _____ Phone #: _____

Address: _____

Email Address: _____

Contractor Name: (If known) _____ Phone#: _____

Address: _____

1. Estimated project value? $_____ Anticipated construction start date? _____
2. Existing use of property or building? _____
3. Proposed use group? _____ Is this facility a categorical industry? Yes* No
4. Existing zoning? _____ Proposed zoning? _____
5. Proposed Occupant Load _____ # Employees in largest shift? _____
6. Existing sidewalks on site? Yes No Proposed parking spaces? _____
7. Total site area? _____ (ft^2) Total disturbed area? _____ (ft^2)
8. Area of existing structure? _____ (ft^2) Total area for new construction _____ (ft^2)
9. Height of existing building? _____ (ft.) Height of proposed building? _____ (ft.)
10. Facility/Building material? _____
11. Food preparation or commercial kitchen? Yes No
12. Will non-domestic (not sanitary) wastewater be discharged to the sewer? Yes* No
13. Fire Sprinklers: Existing structure? Yes No New Addition/Structure? Yes No
14. Will any development occur within the 100-year floodplain? ___no_____ If yes, which zone? _____

Signature: _____ Title: _____ Date: _____

*Additional information will be required by Water Protection to determine pre-treatment requirements for city issued Wastewater Contribution Permits

Concept Review

All new development, redevelopment -zoning, platting, pre-treatment, stormwater, floodplain, or variance

Chance for the developer and design engineer to meet with city staff

Discuss project feasibility, before substantial resources are obligated.

Minimal information required

Establish expectations, permit requirements and approval timeline

Scheduling a Concept Review Meeting

- Submit documents 1 week in advance
- If all items are addressed, then Concept Review will be scheduled the following week.

- NOTE: The developer, owner, design professional should all attend the meeting.

- After the meeting, the notes will be sent to the participants and kept on file. These notes will be valid for 1 year, even if ordinances change.

Preliminary Construction Site Plan/Plat

Submittal of 60% complete site plans. Review could take up to 21 working days to complete

The team will review the notes from the concept review meeting, criteria for floodplain development, pretreatment, stormwater engineering and design to ensure local and federal requirements are met.

Once the review is complete, a list of required changes will be sent to the design professional.

Final Construction Site Plans

- Submittal of 100% complete site plans.
- The following reviews will also be completed at this time:
  - Land Disturbance Permit application
  - Stormwater Management Plan
  - Maintenance Agreements and Improvement Districts
  - Water Protection approval of pre-treatment equipment and design

- Once the plans are reviewed and approved, a land disturbance permit can be issued and "dirt work" may begin.

- Submittal of plans does not constitute approval nor give the developer or contractor authorization to proceed. This approval is for the site work only, and not for the building plans.

Building and MEP Plan Review

- Footings and Foundations
- Building plans and construction documents reviewed for code compliance, health and safety.
  - Structural and Non-structural plan
  - Mechanical Plan
  - Plumbing Plan
  - Electrical Plan
  - Fire sprinkler and Fire Alarm Plan
  - Environmental Health and Food Service Plan

- Review of these documents could take up to 10 working days.

Plan Review Process Summary

- Concept Review
- Preliminary Site Plan Review
- Final Site Plan Review and approval
  - Dirt work permits may be released
- Structural and Building Plan Review, including MEPs
- Project Approval and Release of permits
- Construction Inspections
  - Bond if needed
- Certificate of Occupancy

Land Disturbance Permitting

Contractor responsibilities

How do you know if you need a LD permit?

- **Land Disturbance** – A man-made change to the **land** surface that potentially changes its runoff characteristics including clearing, grading, or excavation; Any activity which disturbs the root zone and/or vegetation (i.e.: clearing, grubbing, cut/fill, grading, excavating for foundations, etc.).

- City of St. Joseph
  - LD that disturbs a surface area of 1000 square feet or more
  - LD that will disturb 500 square feet if the activity is located within 25 feet of a river wetland or stream
  - LD that is part of a larger common plan of development.

Why is a Land Disturbance Permit needed?

- Construction activity can impact our water resources in two main ways: through water quality impacts from excessive erosion and discharge of other pollutants and through water quantity impacts caused by increases in impervious surfaces.

Land Disturbance Application

St. Joseph Missouri

Building Development Division
1100 Fredrick Avenue,
Room 107
St. Joseph Missouri 64501
816-271-5315

For office use only
Permit number: _____
Date received: _____
Related permits: _____
Issue date: _____

LAND DISTURBANCE PERMIT APPLICATION

A land disturbance permit is required prior to land clearing activities greater than 1000 square feet within the city limits of St. Joseph. The applicant can request a Land Disturbance permit through the City of St. Joseph Building Permit Office. Please attach additional sheets as required to fulfill application requirements. NO BUILDING INSPECTIONS MAY TAKE PLACE UNTIL THE LAND DISTURBANCE PERMIT HAS BEEN ISSUED.

JOB/SITE INFORMATION

Owner: _____
Name Address Phone

_____
Email Address Cell phone

Project Name: _____

Project Address: _____

Total Site Area: _____ Total Disturbed Area: <1 Acre _____ ft^2, >1 Acre _____ ac > 5 Acres _____ ac

Project Description: _____

_____

Operator Name _____ Phone _____

TYPE OF CONSTRUCTION ACTIVITY (CHECK ALL THAT APPLY)

____ Clearing and Grading ____ Subdivision ____ Planned Development
____ Commercial ____ Hauling/Filling ____ Single Site
Wetlands on project site? Yes __ No__ Will work be in a flood zone? Yes__ No___

SUPPORTING DOCUMENTATION

_____ Wetlands or Floodplain documentation _____ Not required on this project
Less than one acre: _____ Erosion and Sediment Control Plan _____ $60 Land Disturbance Permit Fee
Greater than one acre: In addition to above, _____ SWPPP MoDNR Permit number: MORA _____

Owners Certification

The undersigned owner certifies that he/she is responsible for complying with the City of St. Joseph Stormwater and Land Disturbance Ordinance and will comply with the erosion and sediment control plan for this project. City of St. Joseph employees may enter the property for the purpose of inspecting erosion control and sediment control measures. I understand that a final inspection by the City of St. Joseph is required for final occupancy permits to be released.

_____
Signature of landowner Printed name of landowner Date

3/2018

Program Implementation

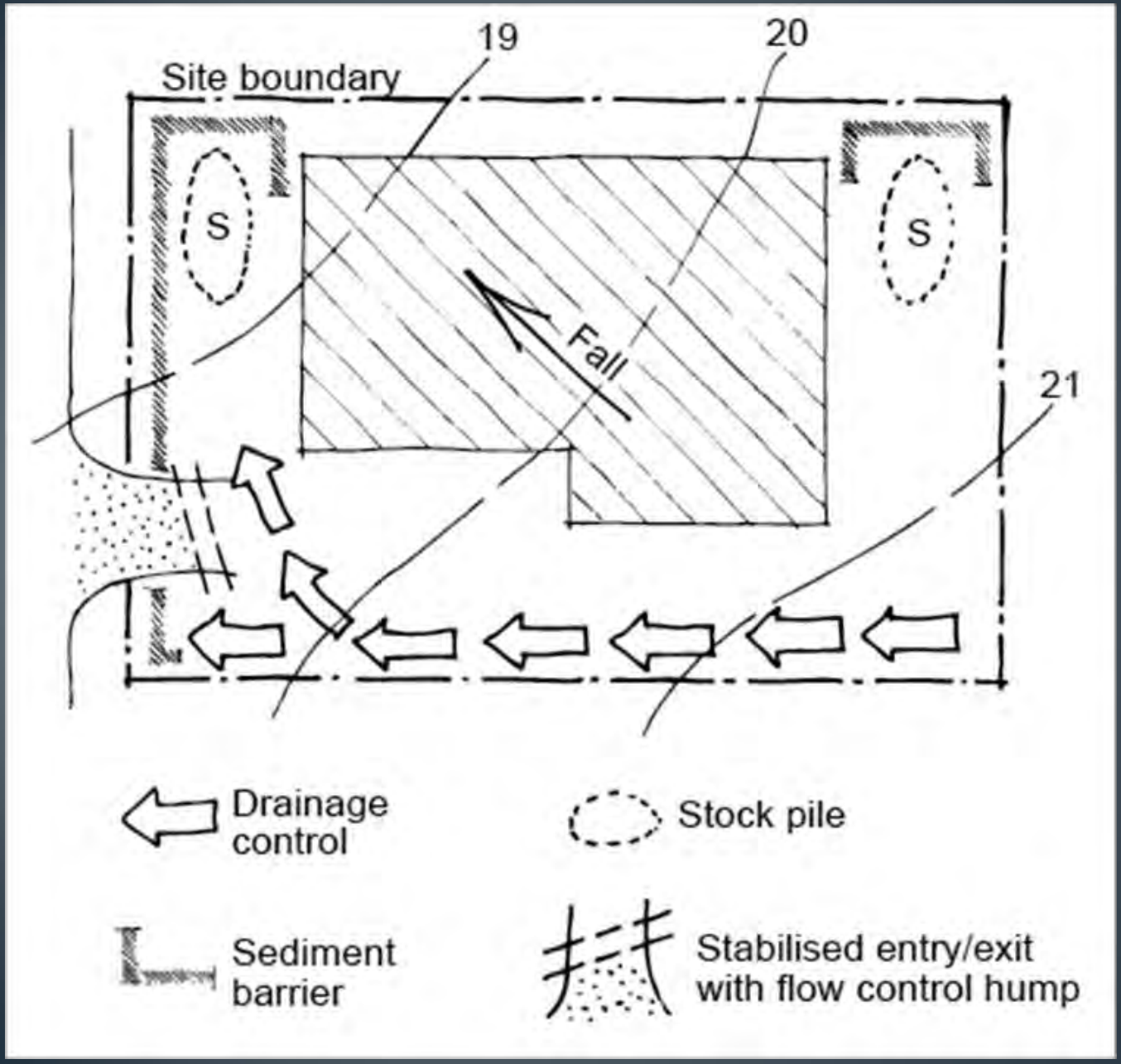
- One Size does not fit all
  - Sites between 1000 square feet and 1 acre
  - Sites 1 acre and more

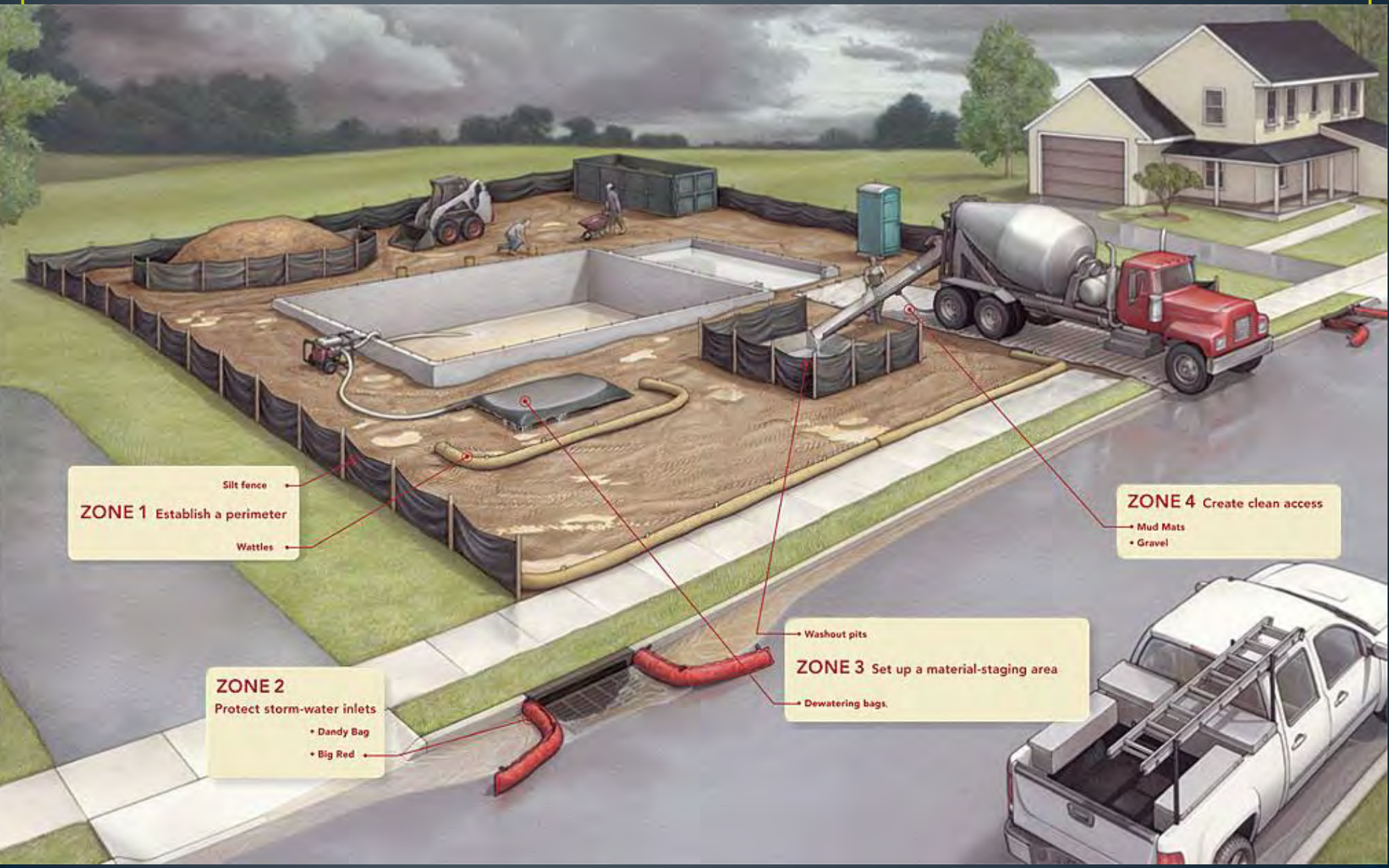
Small Sites (1000 sq feet to 1 acre)

- Application
- Fee
- Erosion and Sediment Control Drawing

Erosion and Sediment Control Drawing

- ✓ Property lines
- ✓ Direction of water flow
- ✓ Inlets and Inlet protection
- ✓ Location of stock piles
- ✓ Location of track out controls
- ✓ Location of perimeter controls


19
20
Site boundary
S
S
Fall
21
Drainage control
Stock pile
Sediment barrier
Stabilised entry/exit with flow control hump


Silt fence
ZONE 1 Establish a perimeter
Wattles
ZONE 4 Create clean access
• Mud Mats
• Gravel
Washout pits
ZONE 3 Set up a material-staging area
Dewatering bags
ZONE 2
Protect storm-water inlets
• Dandy Bag
• Big Red

Large Sites (1 acre and more)

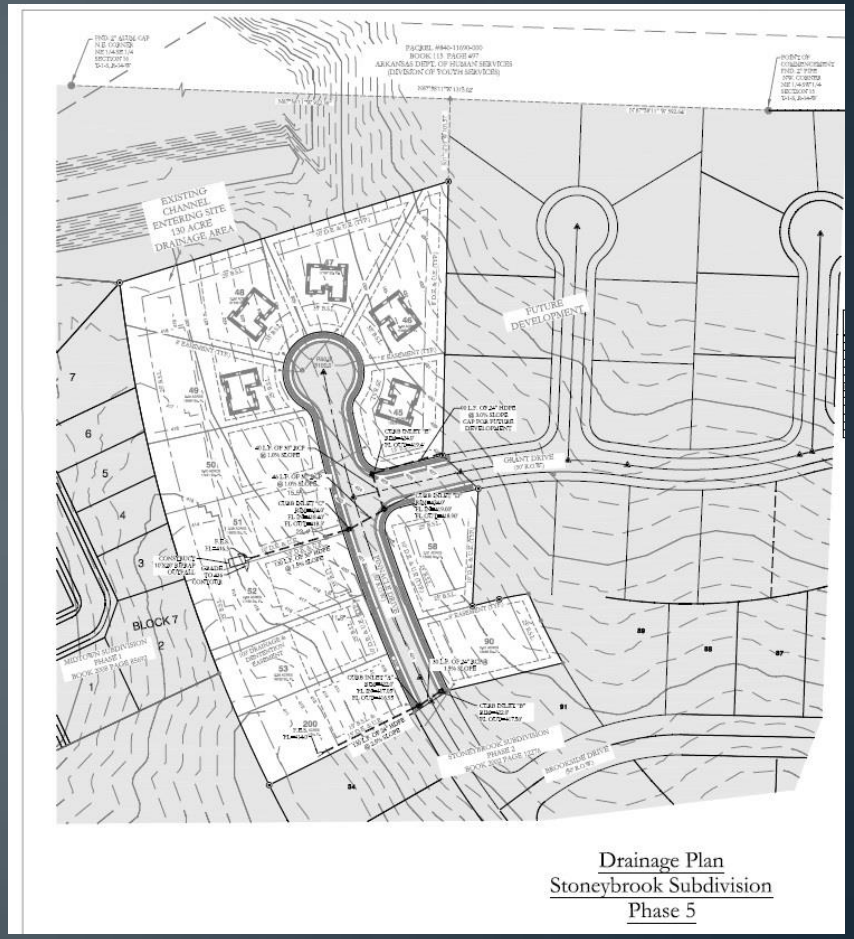
- ✓ Application
- ✓ Fee
- ✓ Erosion and Sediment Control Drawing
- ➢ Stormwater Pollution Prevention Plan
- ➢ MoDNR Permit Number

Common plan of Development

Development plans approved by planning commission, public works etc.

Stormwater basins and features approved for platted section

Each individual builder would get a land disturbance permit and provide an ESC drawing.



Land Disturbance

1. Once the application is completed, and fees paid…
2. Make sure you have the ***approved*** site plans
3. Prepare the site
   a) Call for locates
   b) Install perimeter controls and construction entrance
   c) Install job board or sign
   d) Display MDNR permit, determine SWPPP location
   e) Assign a ESC inspector for the site
   f) Install a rain gauge if needed
4. Call for Pre-construction Meeting (commercial and 1 ac or more)

Pre-construction checklist

Pre-construction Checklist

Paperwork review

1. DNR E-permitting certification signed and returned
2. NPDES Certification signed
    a. Owner
    b. Contractors with SWPPP modification authority
    c. Contractors without SWPPP modification authority
3. Construction timeframe and schedule
    a. Requirements for Stormwater Infrastructure Inspections
4. Erosion and Sediment Inspections
    a. Identify inspector – contact information
    b. Inspection schedule
    c. Rainfall events that trigger an inspection
    d. Location of rain-gauge or reporting mechanism
    e. Process to make changes to structural BMPs
    f. Process to update SWPPP

Site inspection

1. DNR Permit posted (photo)
2. Location of the SWPPP
3. Perimeter Controls (photos)
4. Receiving waters (photos)

ESC expectations

1. Track-out procedures and controls
2. Inlet controls
3. Stockpiles
4. Concrete washout
5. Seeding and mulching
6. Pollution prevention
7. Procedures for notice of violations and stop work orders

Required inspections and project closeout

1. Inspect Underdrain system at the basin
2. Inspect Roof tie ins
3. Inspect Raingarden soil mix and planting
4. Closeout (2 weeks prior to end of project)
    a. Submit as-builts of stormwater system prior to walkthrough
    b. Storm drainage structures clear of debris, pipes, and riprap installed
    c. Final seeding and mulching completed

Conduct Inspections

Inspections

- City is required by our permit to conduct inspections on open LD permitted sites
  - Ensure SWPPP is implemented
  - Ensure erosion and sediment controls are properly installed and functioning
- Permittee must also conduct inspections and ensure BMPs are installed correctly and functioning as designed.

Perimeter Controls

Track-out controls

Inlet Protection

Concrete Washout

Slope protection

Types of Water Induced Erosion

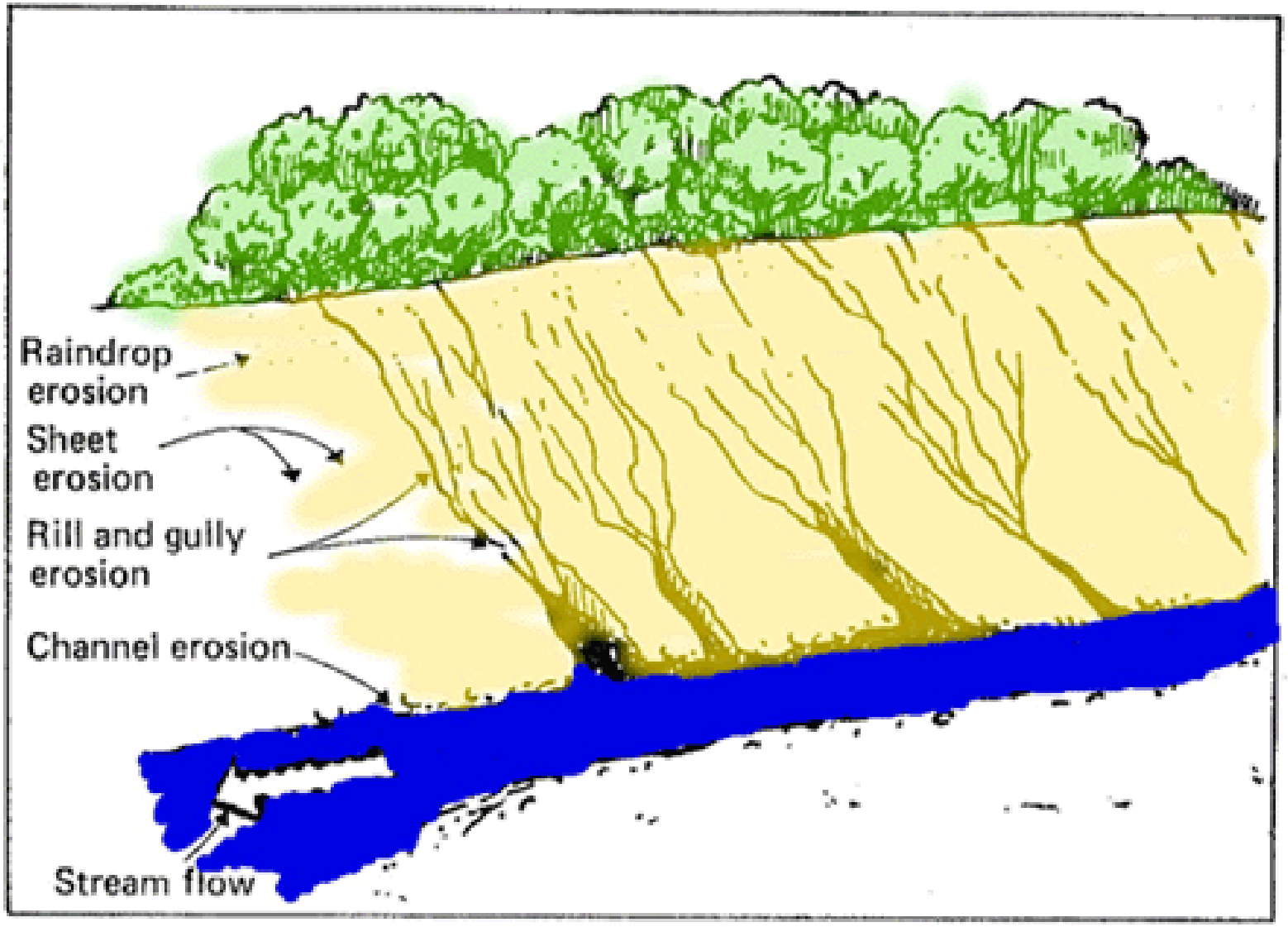


Fig. 1.3 Types of erosion. (Adapted from 1)

Gully Erosion

Develop Enforcement Procedures

Enforcement

- Notify the developer of the violation
  - 14 days to fix
  - Re-inspect, if not resolved
- Can issue a Stop Work Order
  - If not resolved with 30 days, permits are revoked, applicant has to re-apply
- Other options
  - Can also issue fines up to $500 per day.
  - Can hire contractor to fix the problem, and bill the applicant (prevailing wage rate)

Construction is nearing completion

Now what??

Construction Inspections

- **At least 2 weeks prior** to requesting a Certificate of Occupancy permit, the contractor must schedule the following inspections with Public Works:
  - Sidewalk inspection – Do sidewalks meet ADA slope requirements?
  - Final erosion and sediment control inspection – Sodding/seeding and mulching installed in all areas that are at final grade?
  - Stormwater facility inspection – pipes, basins, outfalls, installed at the correct elevation, with proper erosion protection, Etc.
  - Driveway/street inspection – driveways and streets meet city requirements for public infrastructure
  - Sewer and Pre-treatment facility inspection – sewer lines pass inspections and tests. Pre-treatment installed as designed.

Dirt Work and related permits

Hauling Permit

- Required if moving 3 or more loads
- Provide the route and dumping location
- Cost: $85
- Duration: 30 days

Demolition Permits

Documentation:

- Application
- Fees
  - One story: $63.00
  - Additional: $26.25
  - Other structures $26.25
- Land Disturbance Permit
- ESC plan
- Proper disposal of waste
- Duration: 30 days

Green Operator Program

Details and benefits

Green Operator Program

- The City's Green Operator program will work with construction site operators and Erosion and Sediment Control Inspectors to provide training to meet City and State stormwater requirements.
- The program will focus on Erosion and Sediment Control Inspection, proper SWPPP documentation and stormwater system design and maintenance.

Program Goals:

- The goal of the program is to promote the proper design, construction and maintenance of erosion and sediment controls during construction and to assure the proper long-term operation of maintenance of stormwater systems after construction is complete.

Program Requirements

- To participate in the program:
  - Complete an application
  - Attend 2 City sponsored Stormwater trainings per year
  - Maintain clean sites with minimal violations for 6 months
  - Build stormwater features according to plans

Program Benefits

- Each participants who attends two stormwater trainings per year will be listed as a ***Qualified Operator*** on the City website
- Once a project managed by that operator has been clean for 6 months, violations corrected within the required time and stormwater features build according to plans, the operator will become a ***Green Operator*** on the City website

Future Training Events

What's next

October

- Erosion and Sediment Controls
  - Proper installation
  - New and different products
  - Proper maintenance
  - SWPPP documentation and compliance

November

- Stormwater Post-construction requirements
  - Overview of City Stormwater Ordinance
  - Design considerations
  - New products and ideas
  - Long-term maintenance and operation
  - City required registration and fees