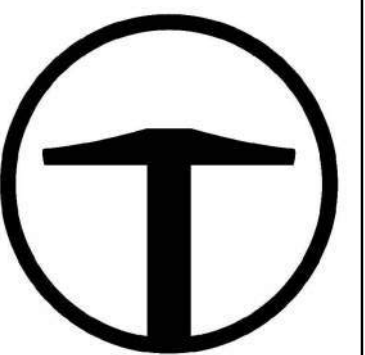


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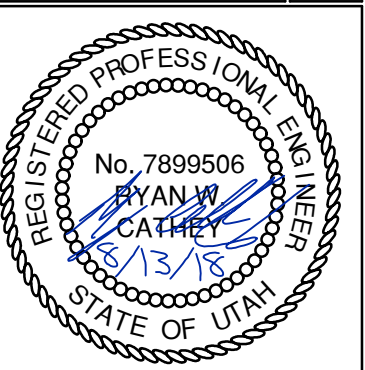
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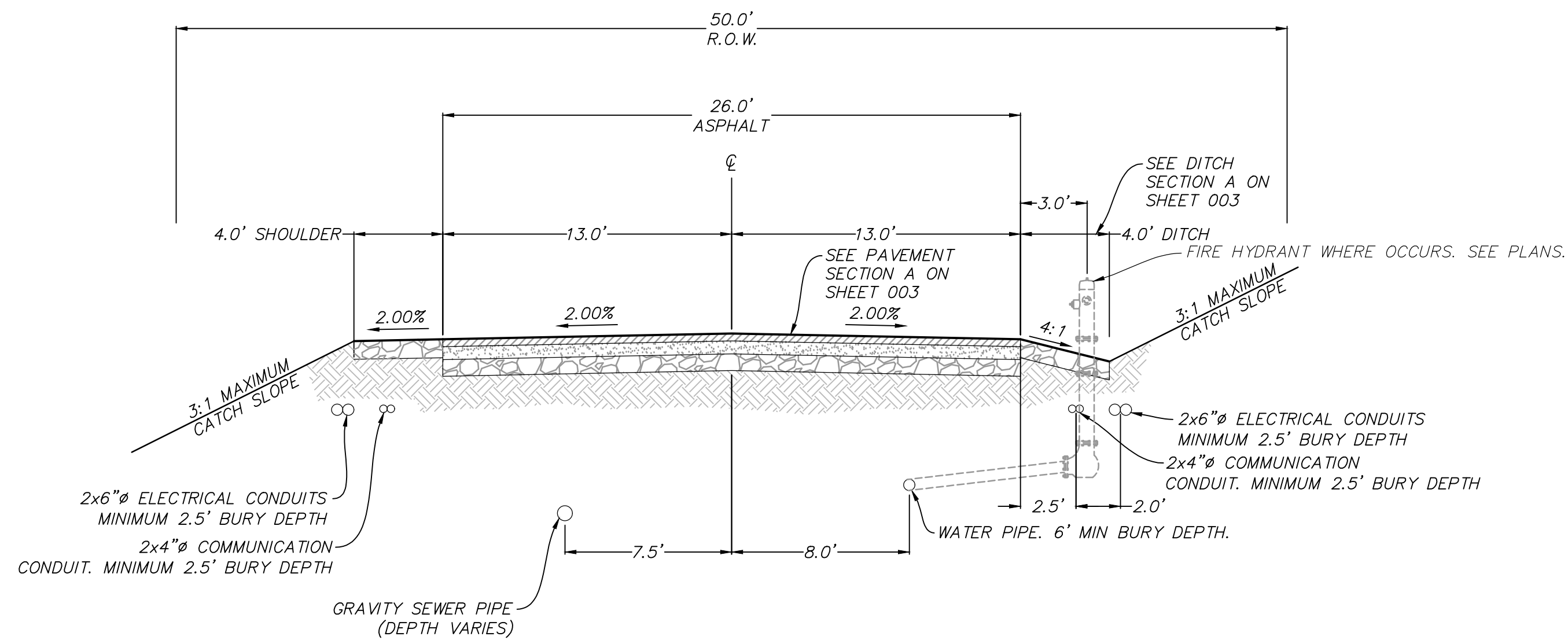
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BOBCAT RIDGE AT S.P.M. TYPICAL ROAD SECTIONS

TCC JOB NUMBER: 18-200-22

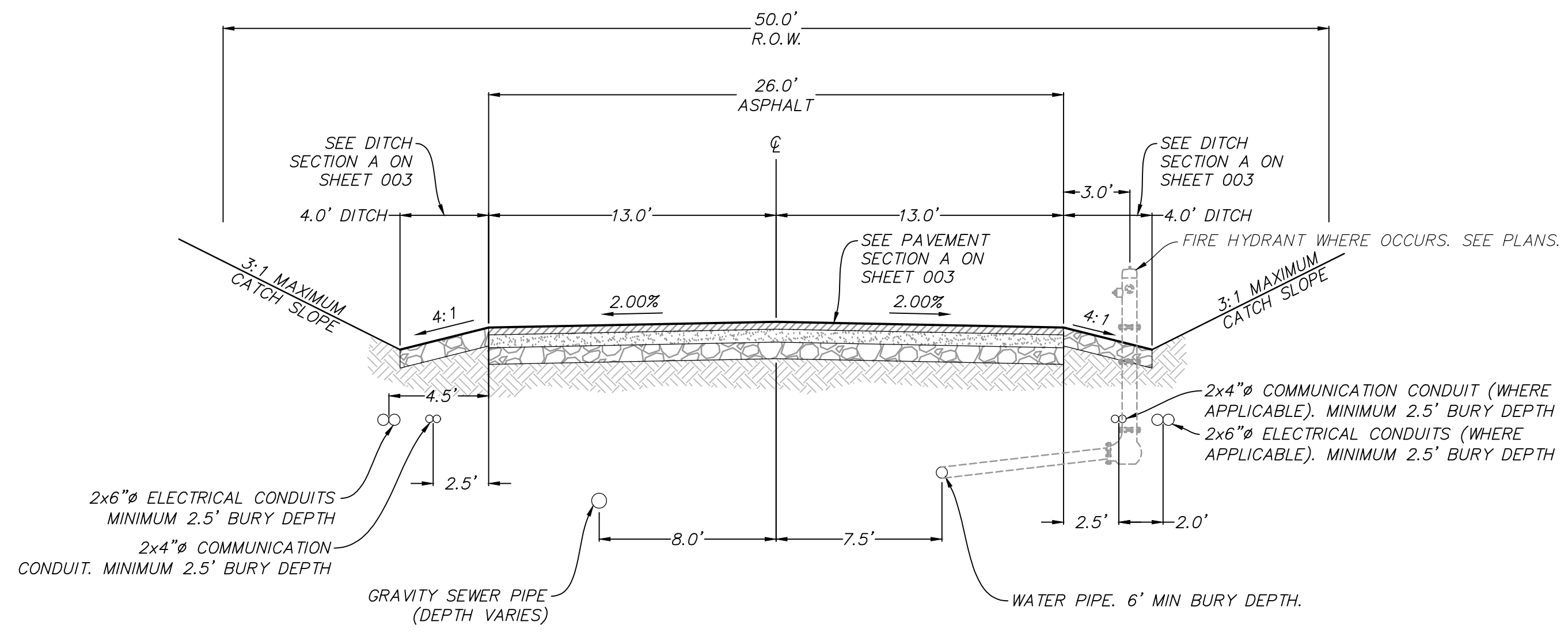


SHEET NUMBER
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4 OF 59



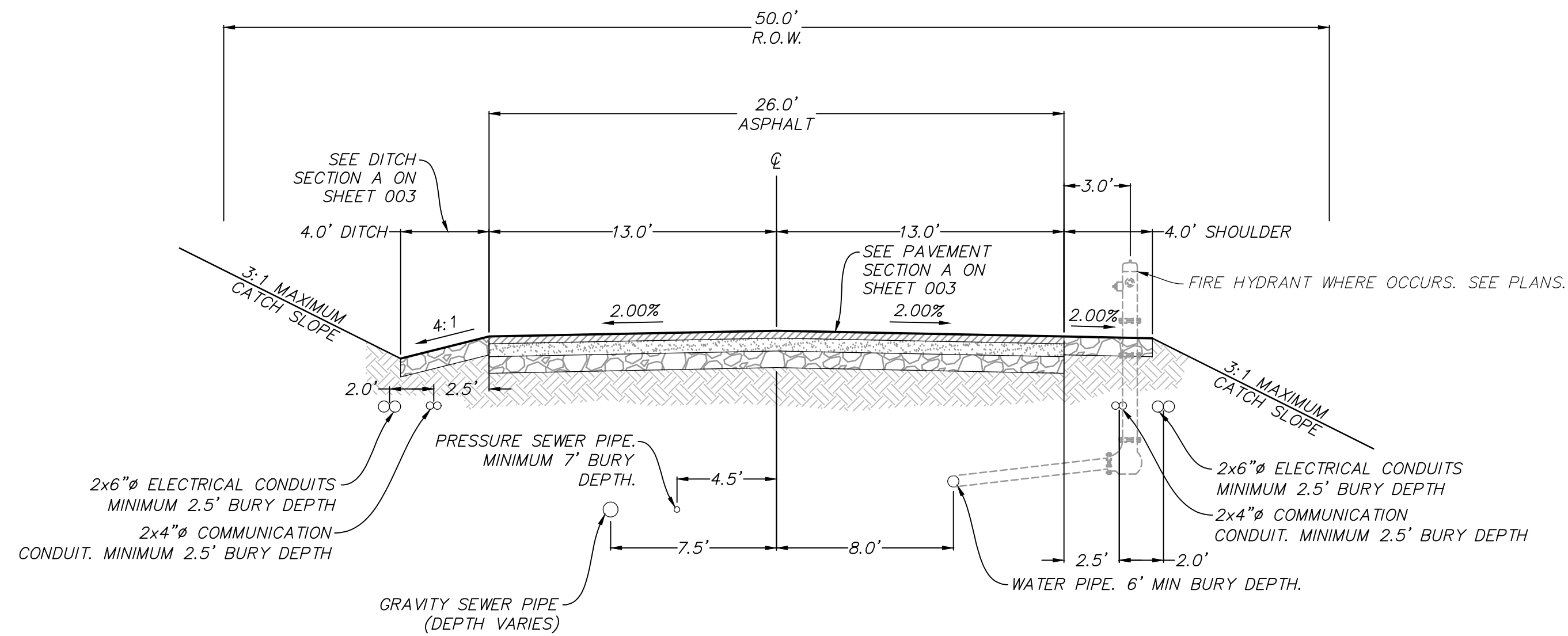
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FROM STA: 12+75 TO 13+25



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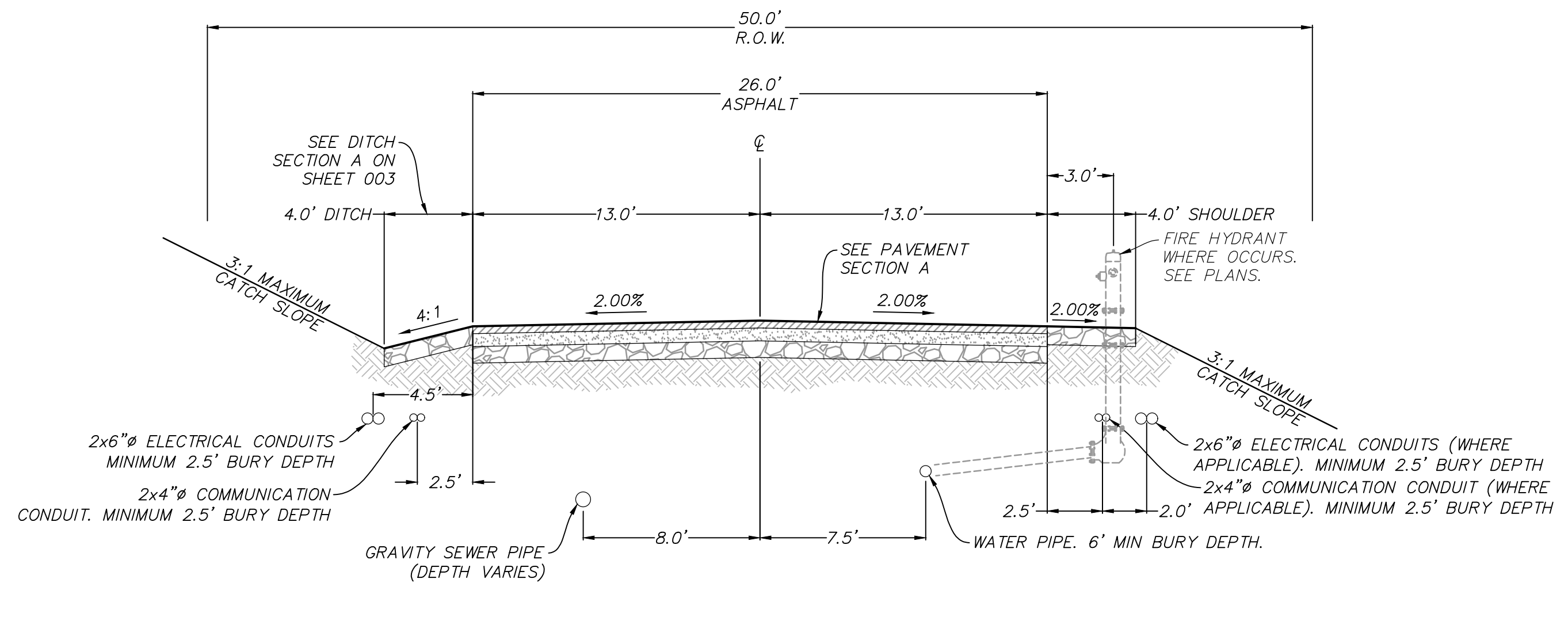
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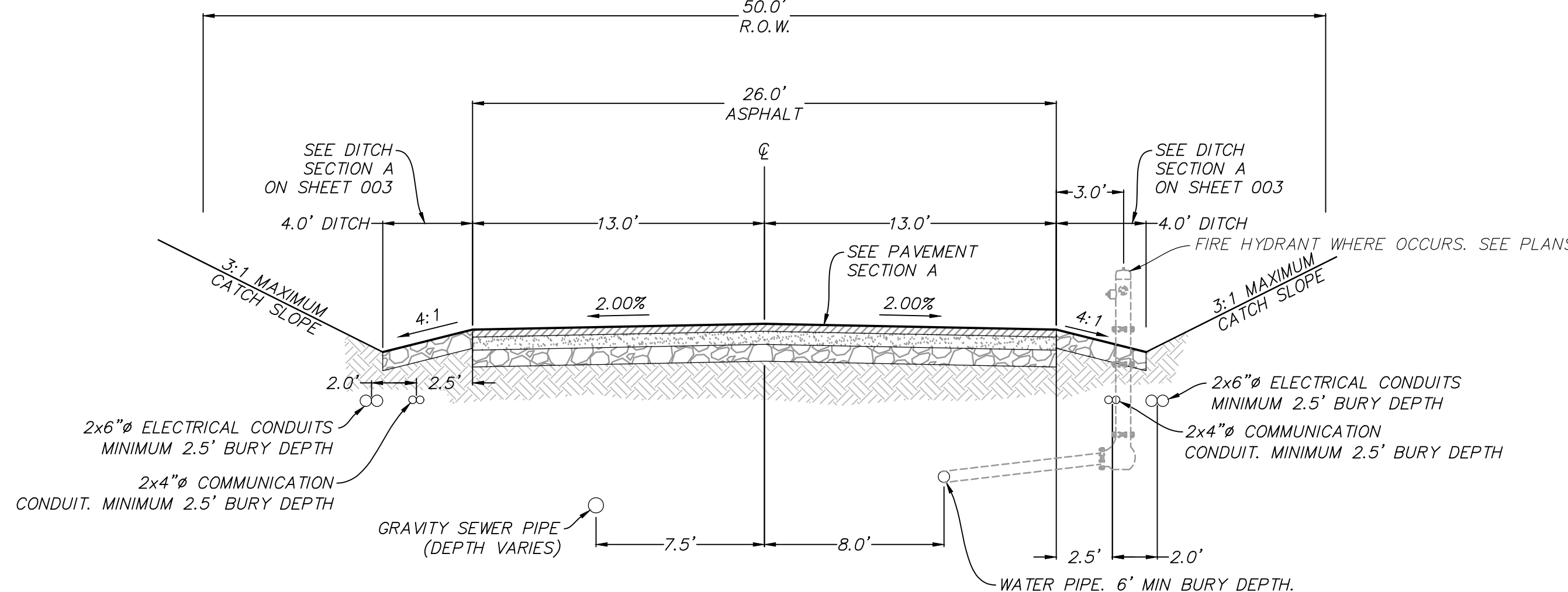
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STA: 18+45.00 - 23+31.60

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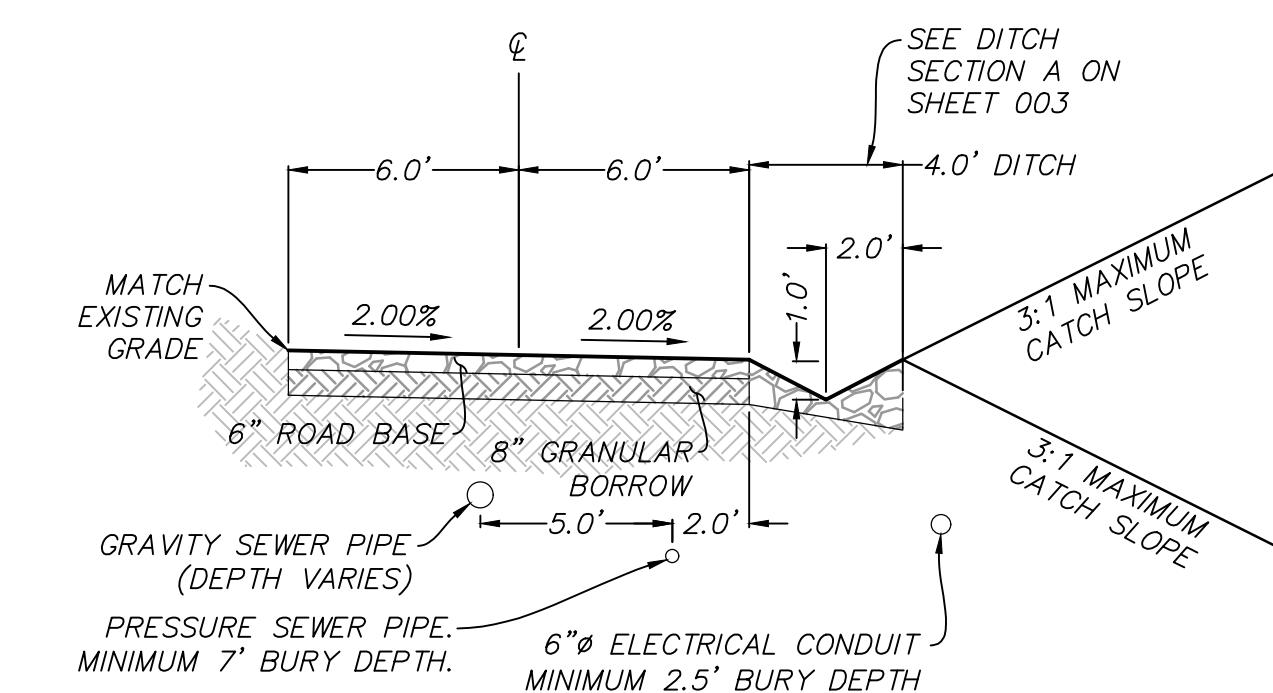
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PROVIDE TRANSITION ZONE
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TYPICAL SECTION: BOBCAT DRIVE
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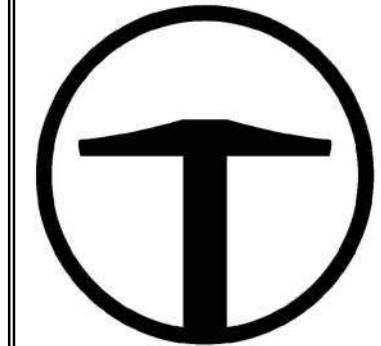
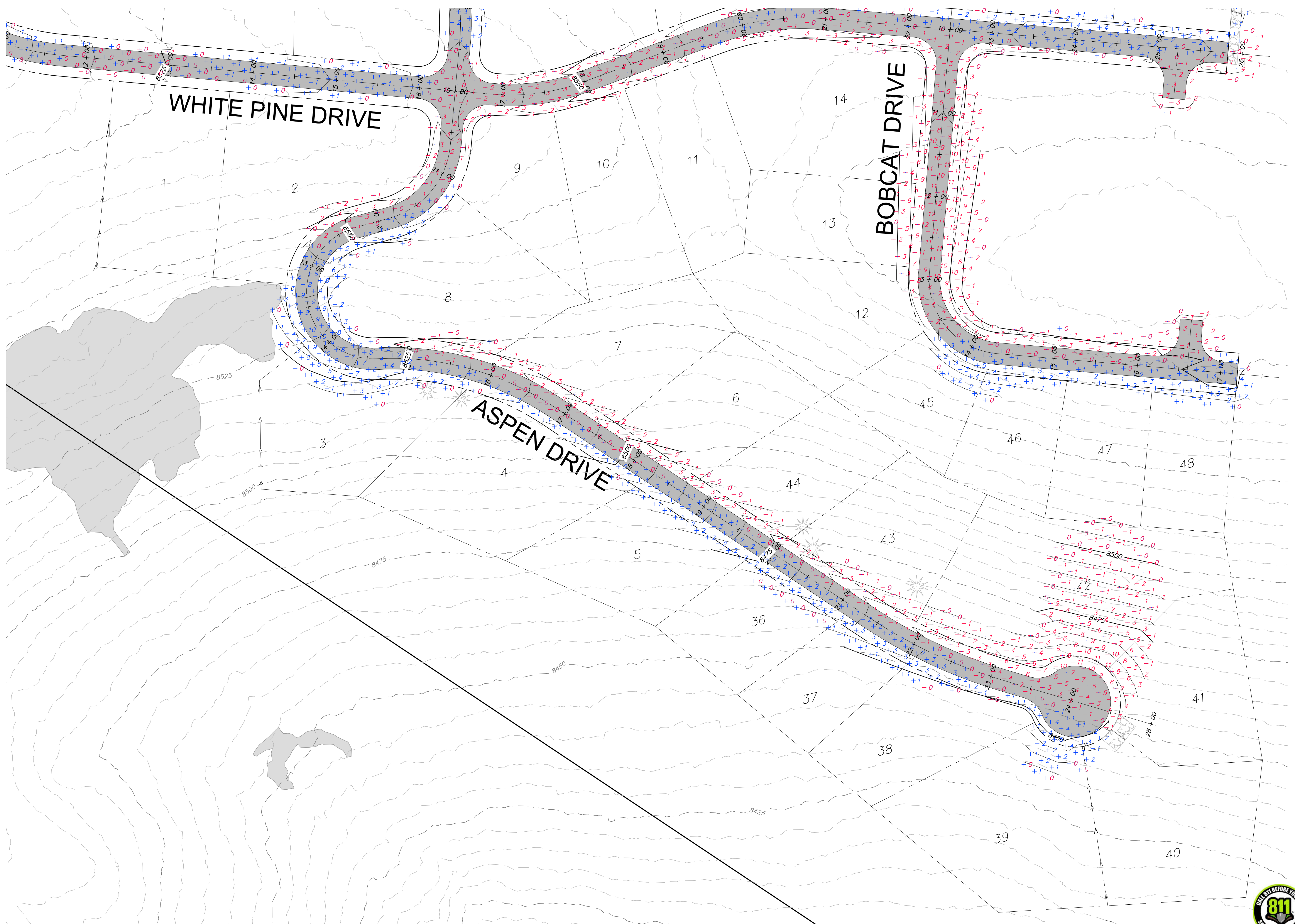


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DATE: 8/13/2018 11:02 AM

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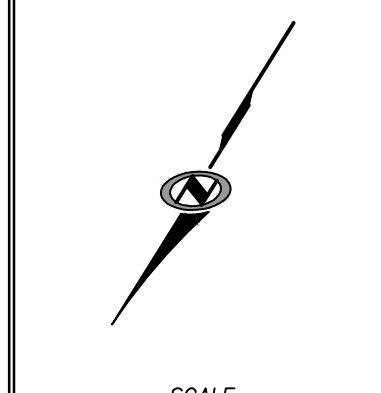
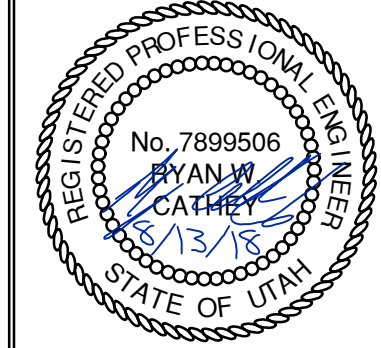
NO.	BY	DATE	REVISIONS

BOBCAT RIDGE AT S.P.M.

SITE CUT-FILL

DATE SUBMITTED: 08.13.2018

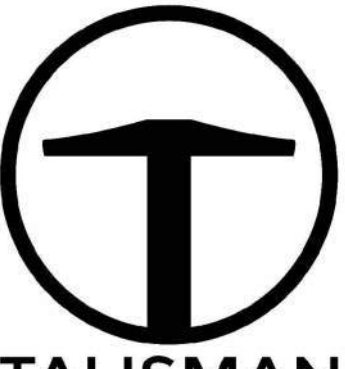
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SCALE
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SHEET NUMBER
203
 10 OF 59



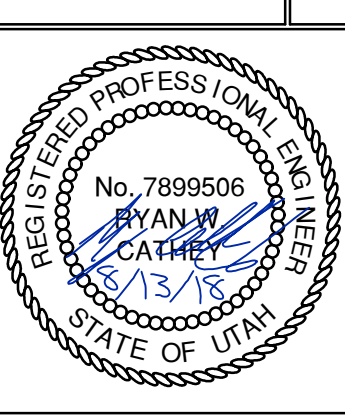


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BOBCAT RIDGE AT S.P.M.
ROADWAY SECTIONS

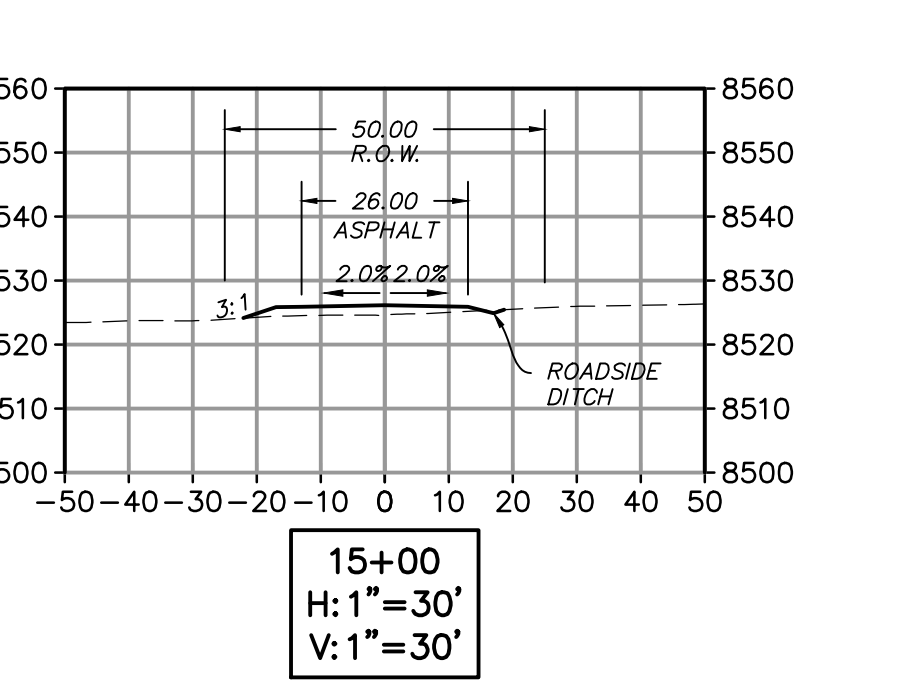
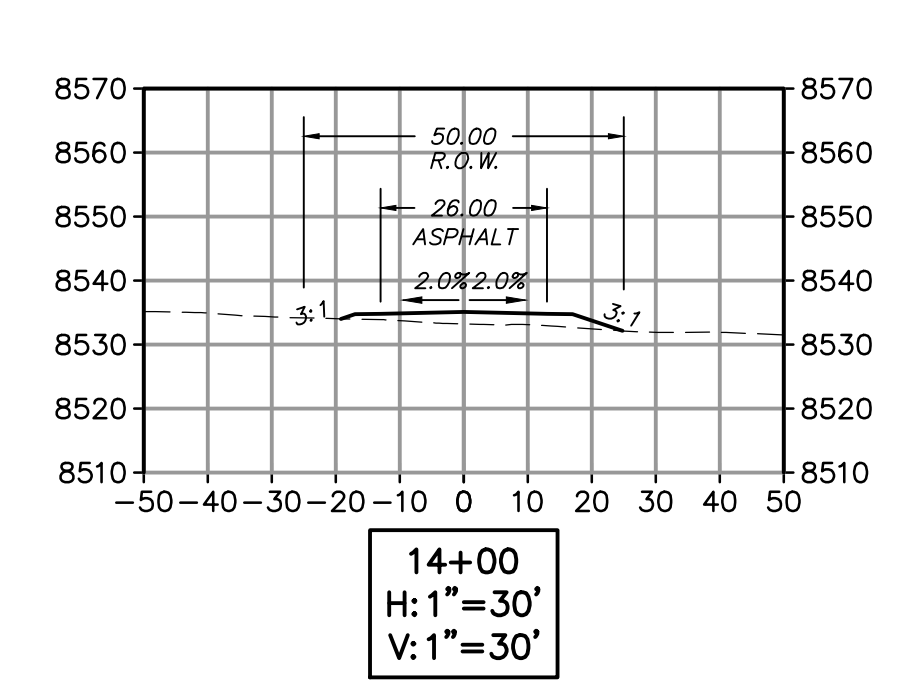
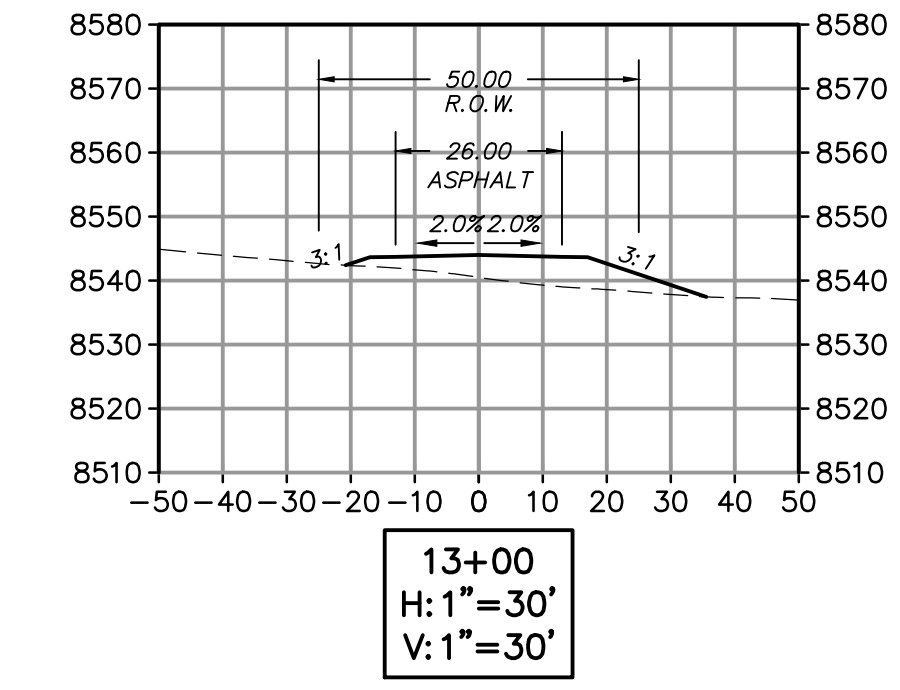
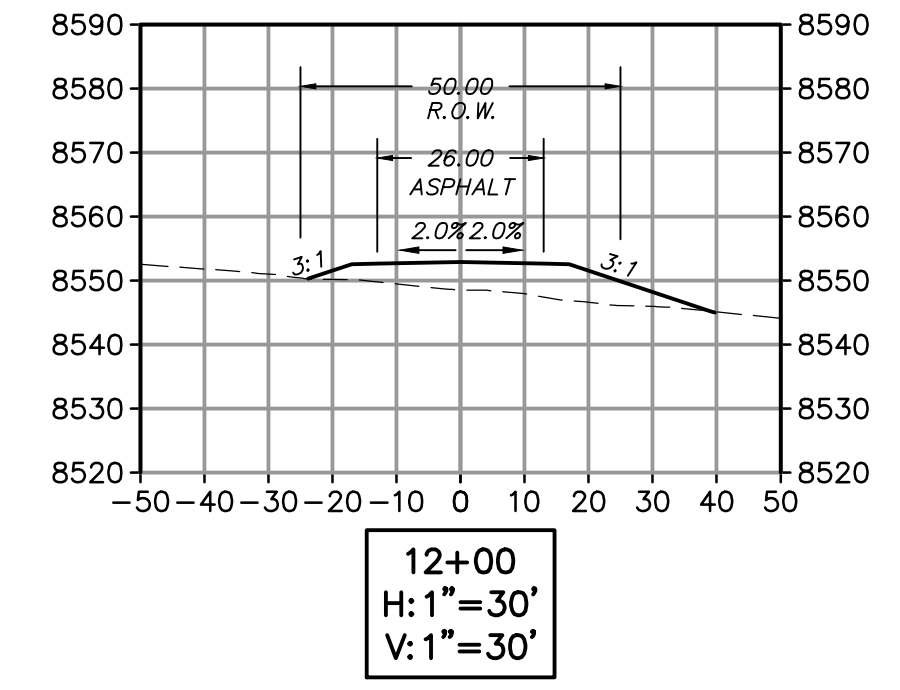
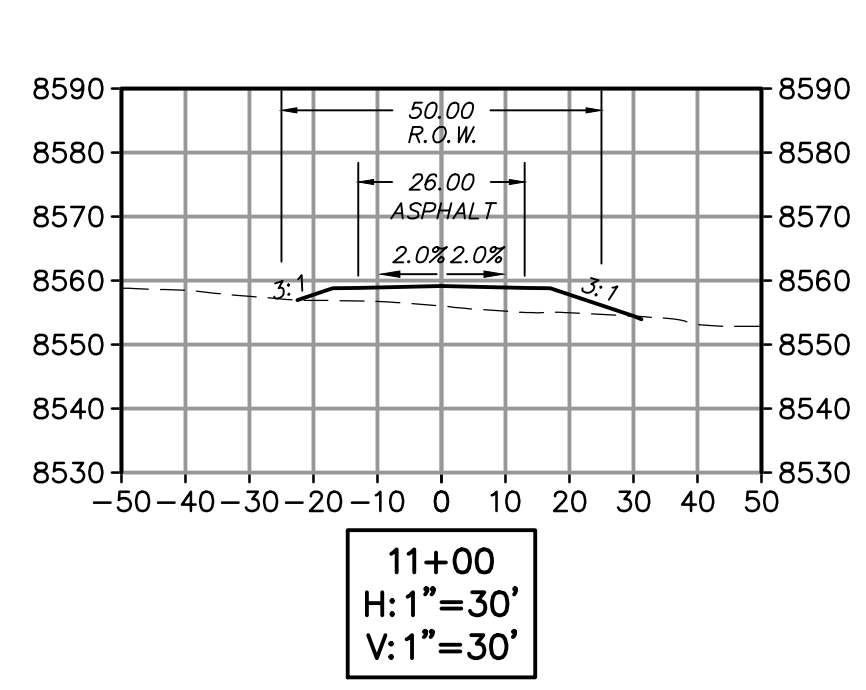
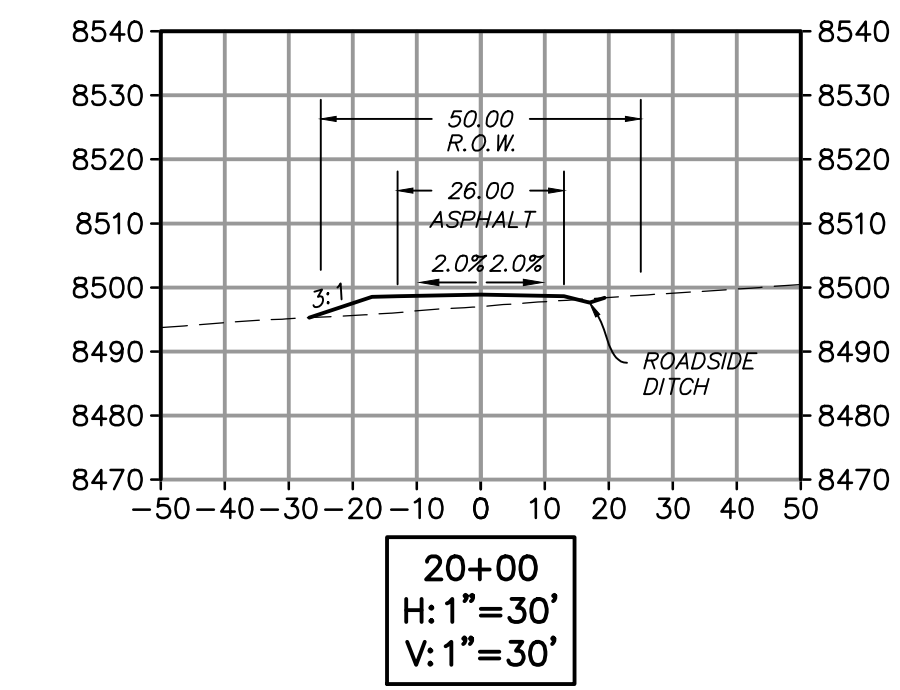
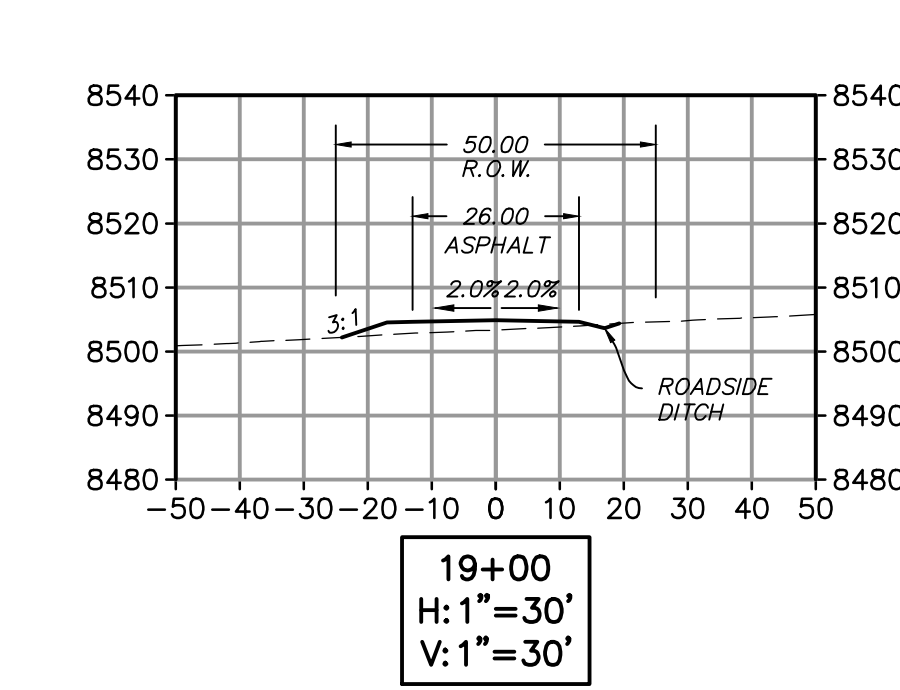
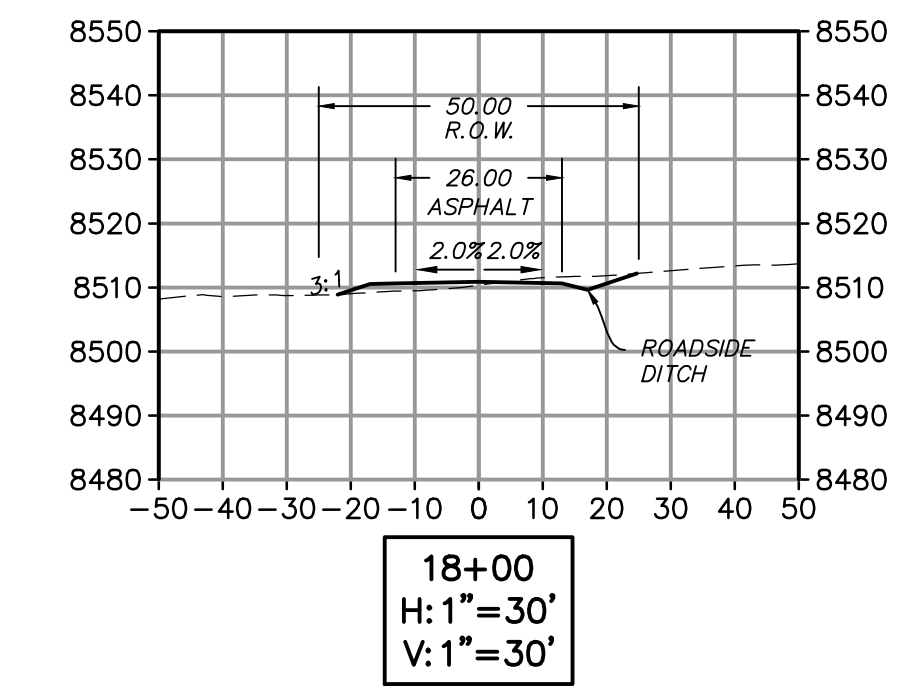
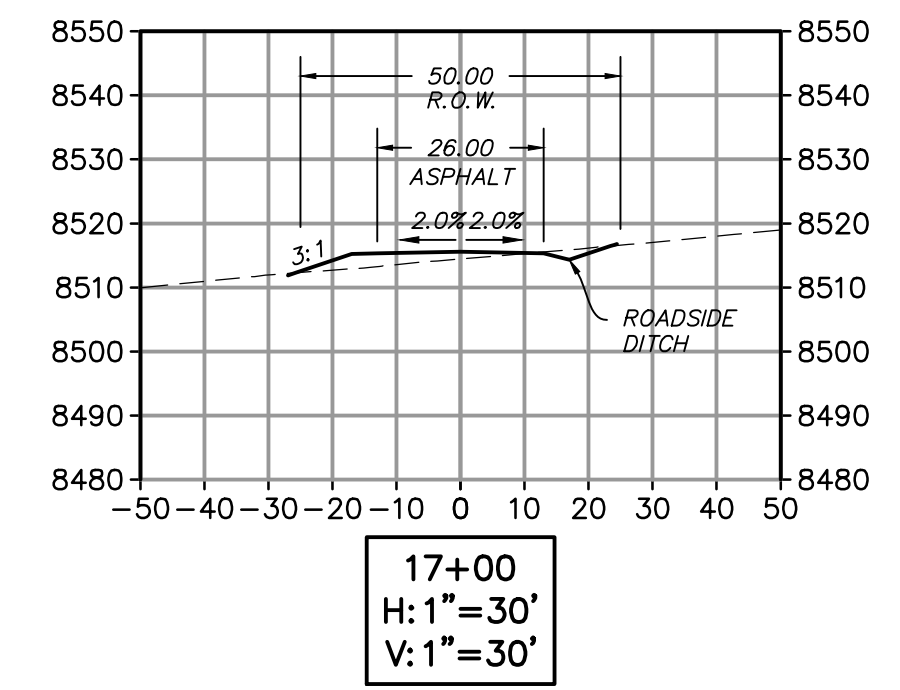
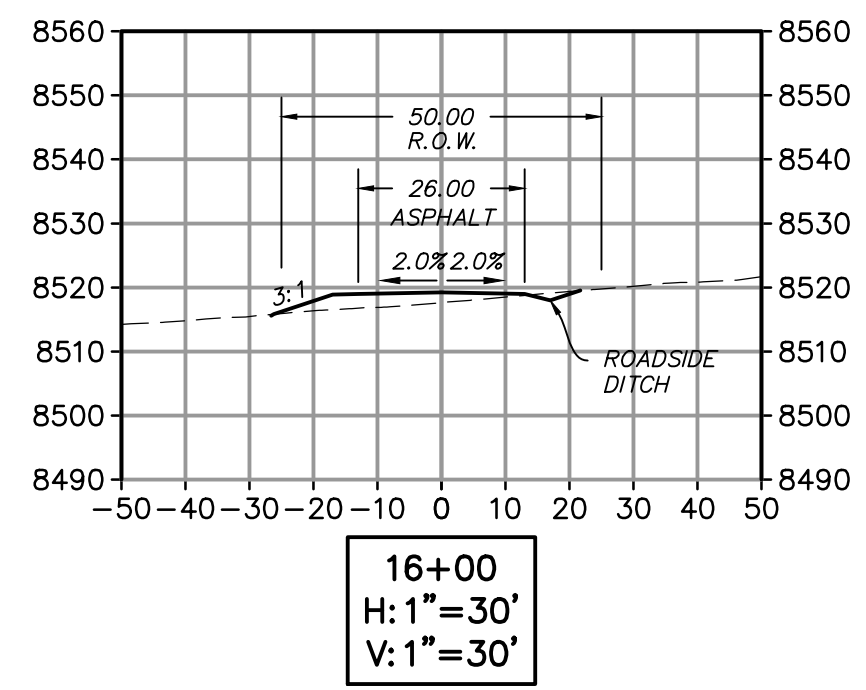
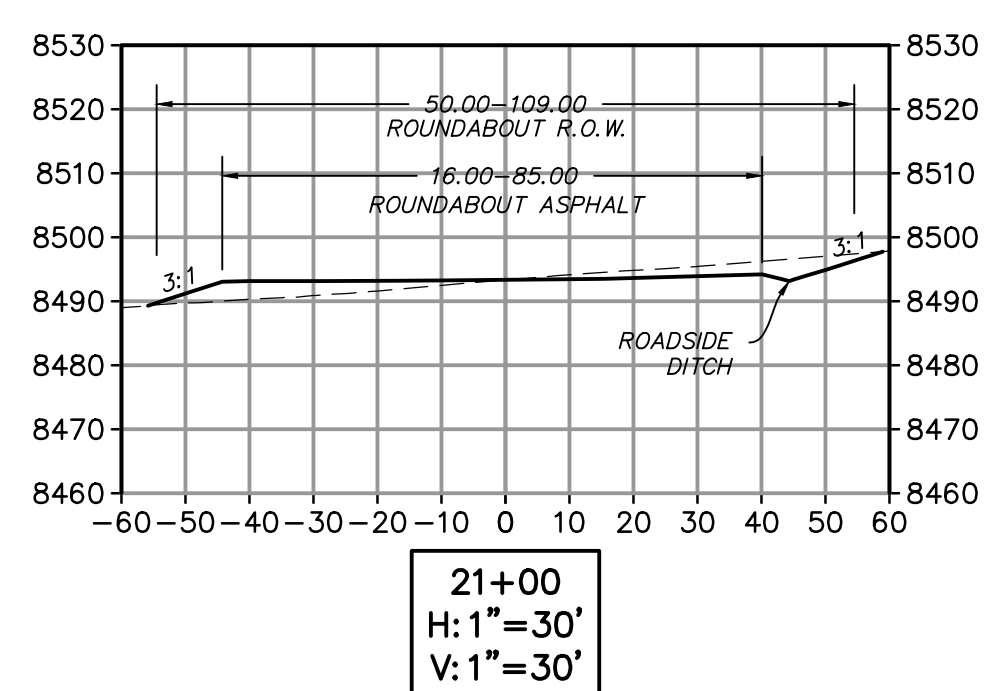
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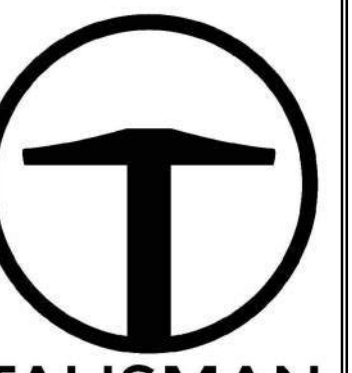
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SHEET NUMBER
206
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MEADOW DRIVE ROADWAY SECTIONS



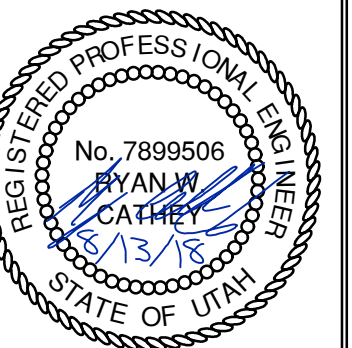


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BOBCAT RIDGE AT S.P.M.
PLAN AND PROFILE
CROSSING STORM DRAIN PROFILES

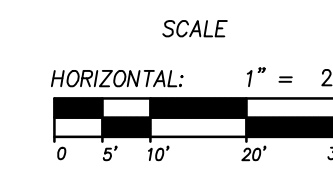
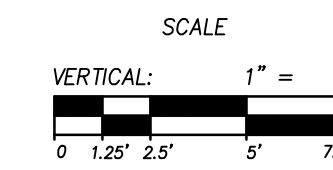
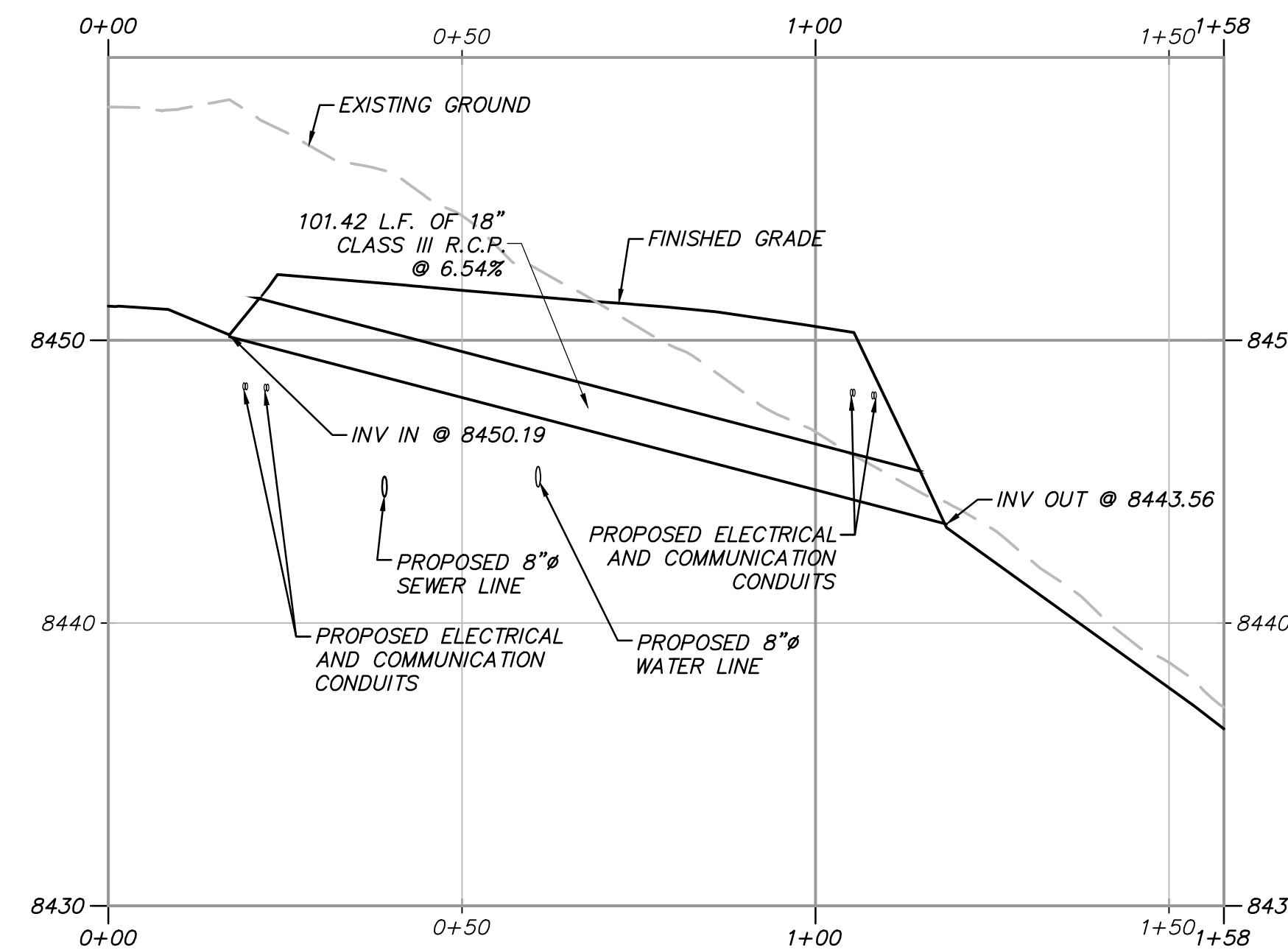
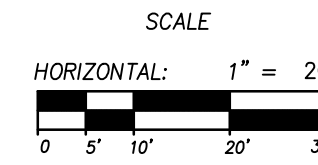
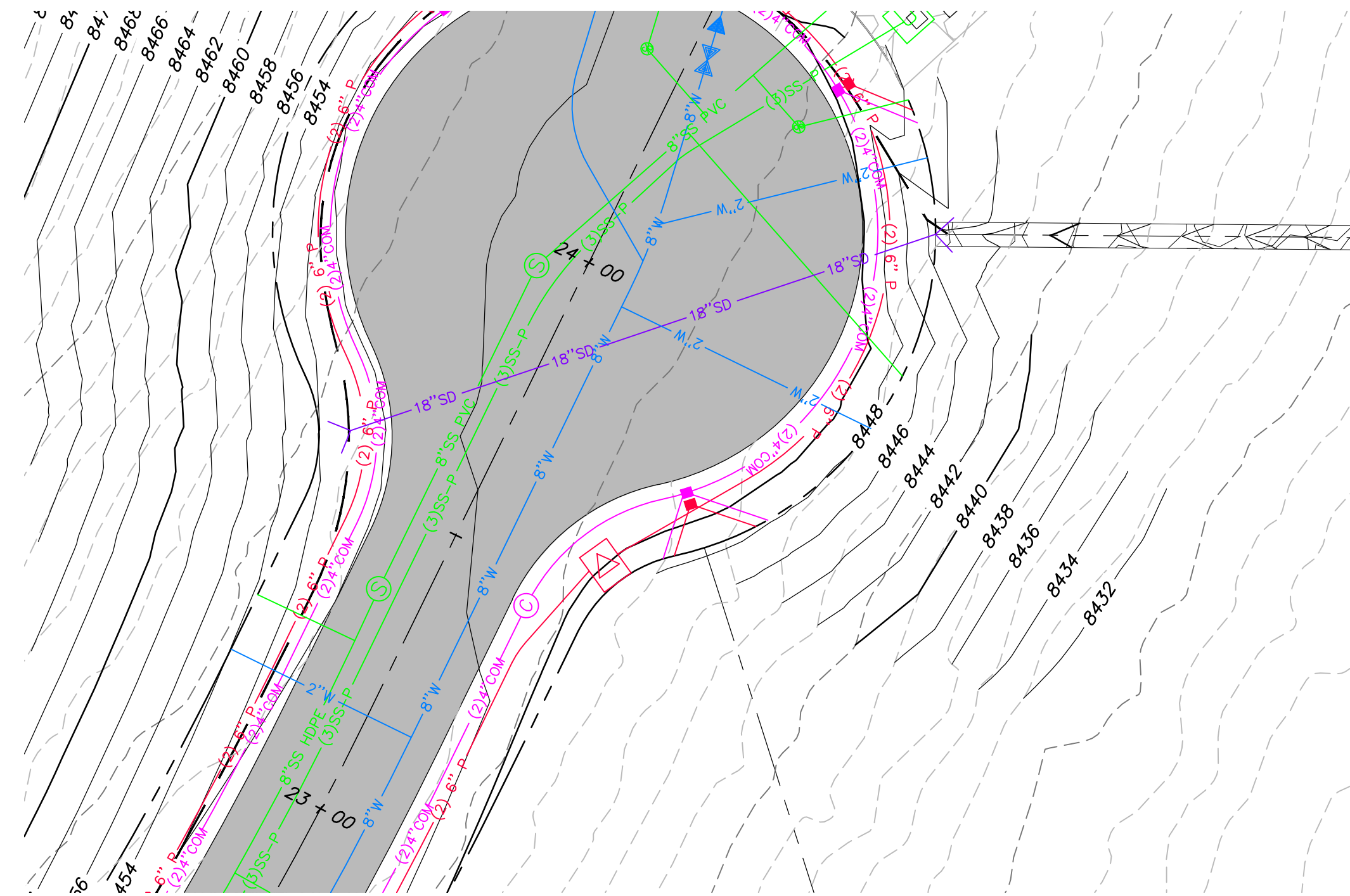
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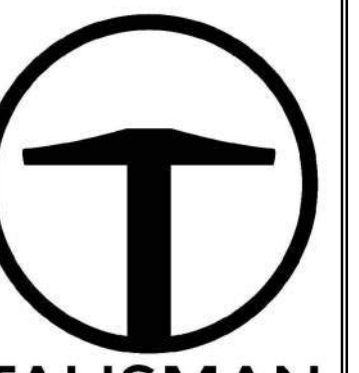
520

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STORM DRAIN PROFILE B-B





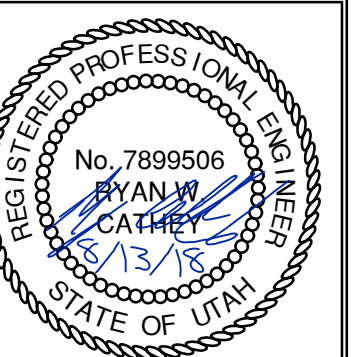
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BOBCAT RIDGE AT S.P.M.
PLAN AND PROFILE
CROSSING STORM DRAIN PROFILES

DATE SUBMITTED: 08.13.2018

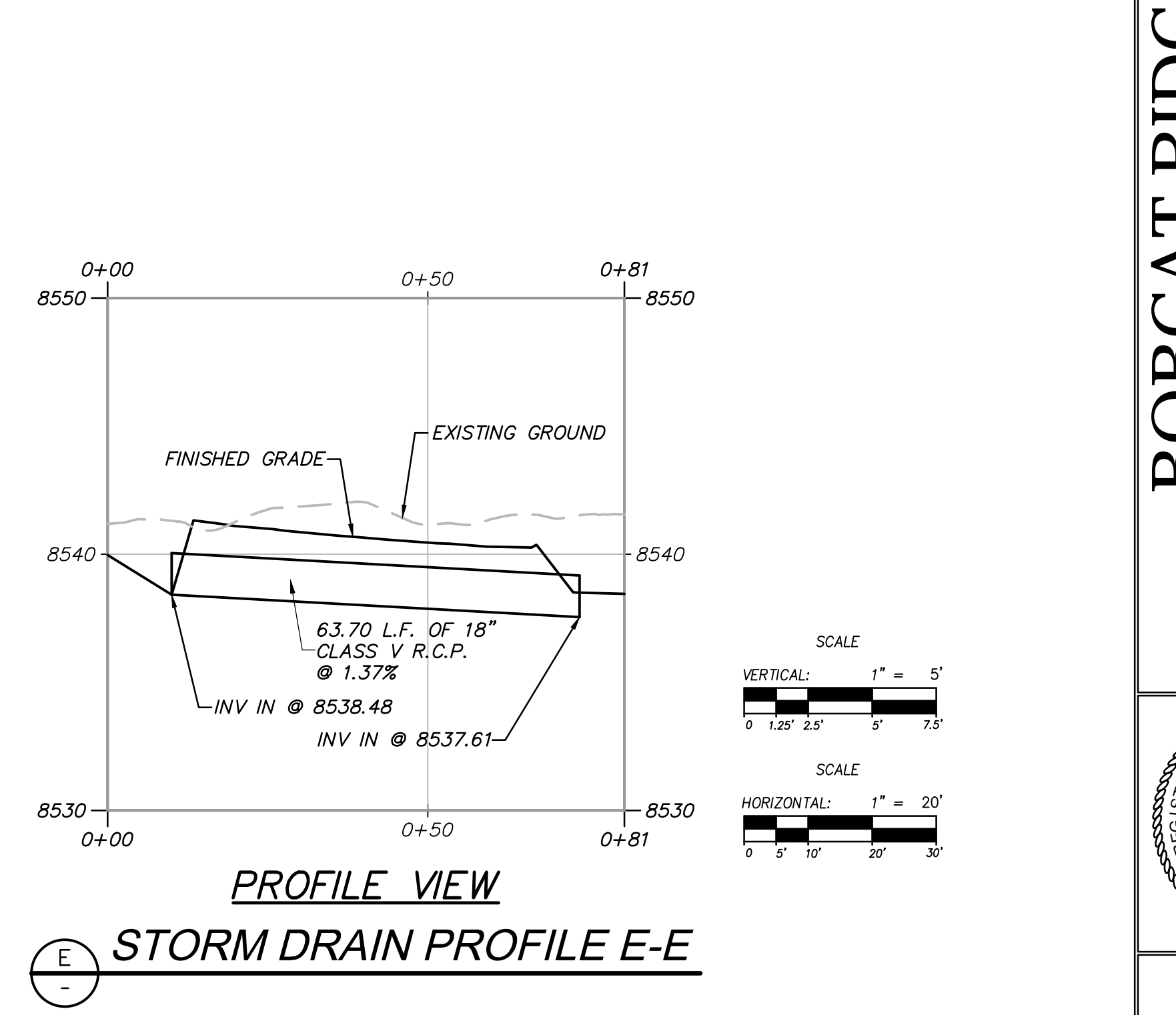
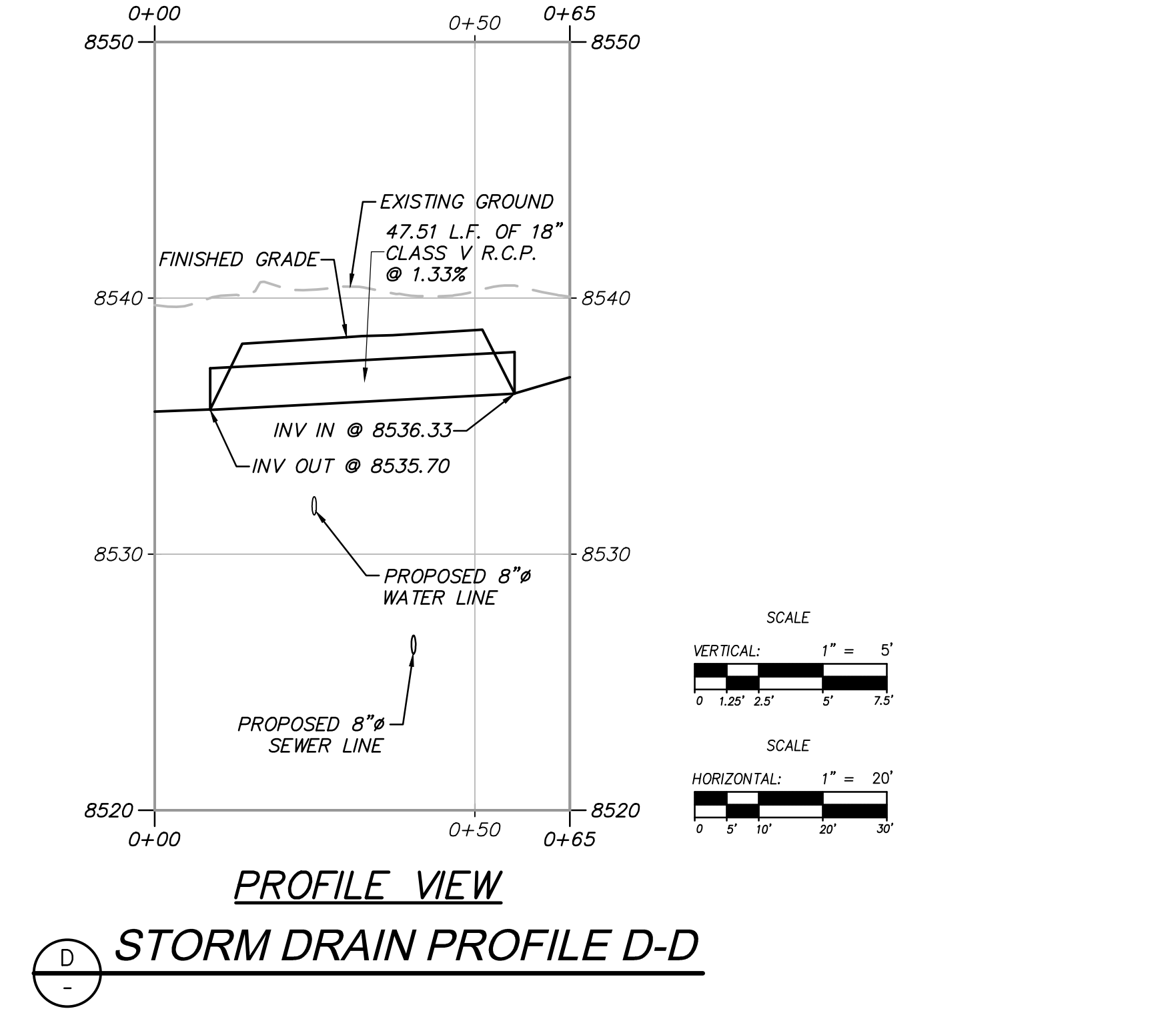
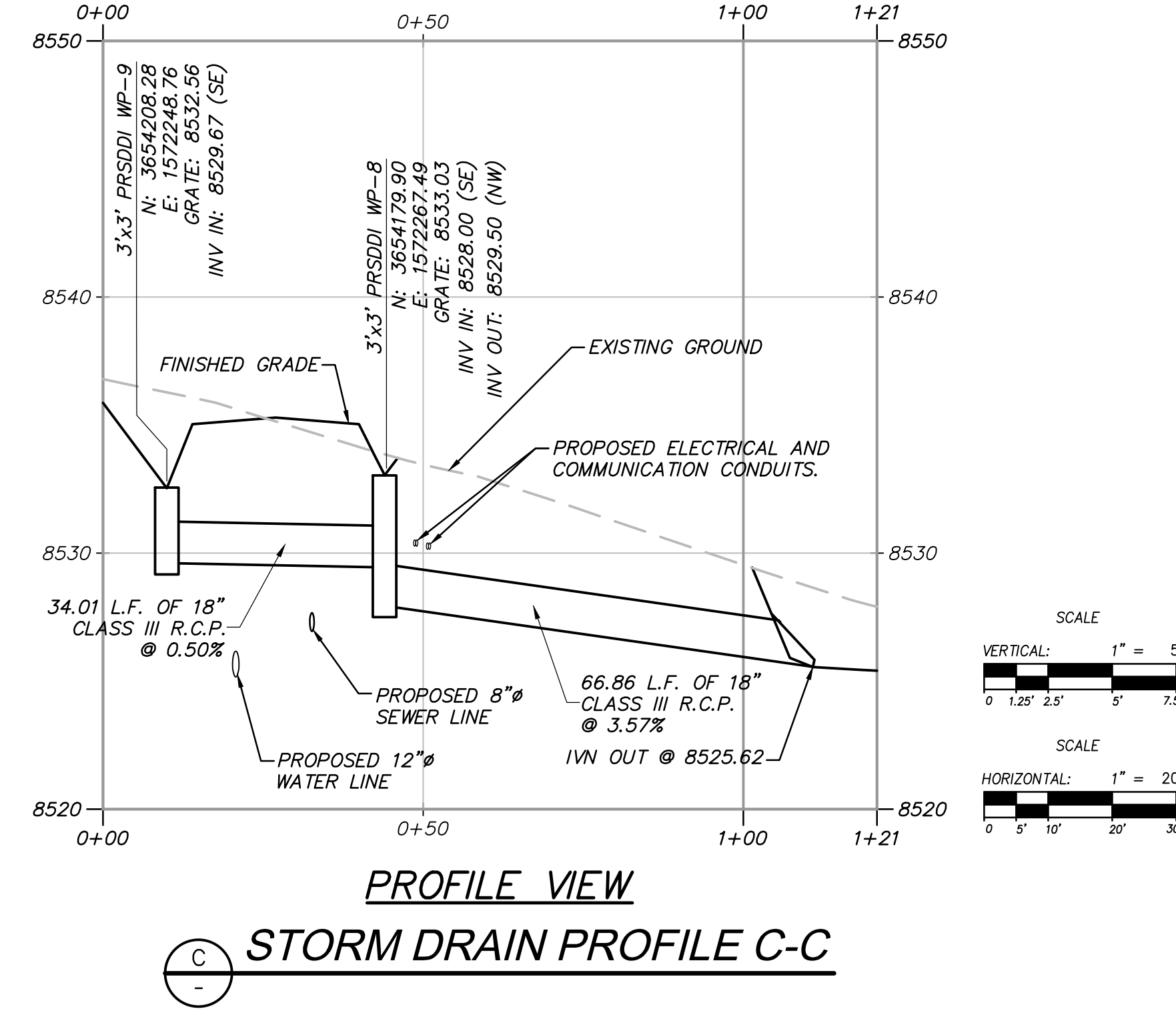
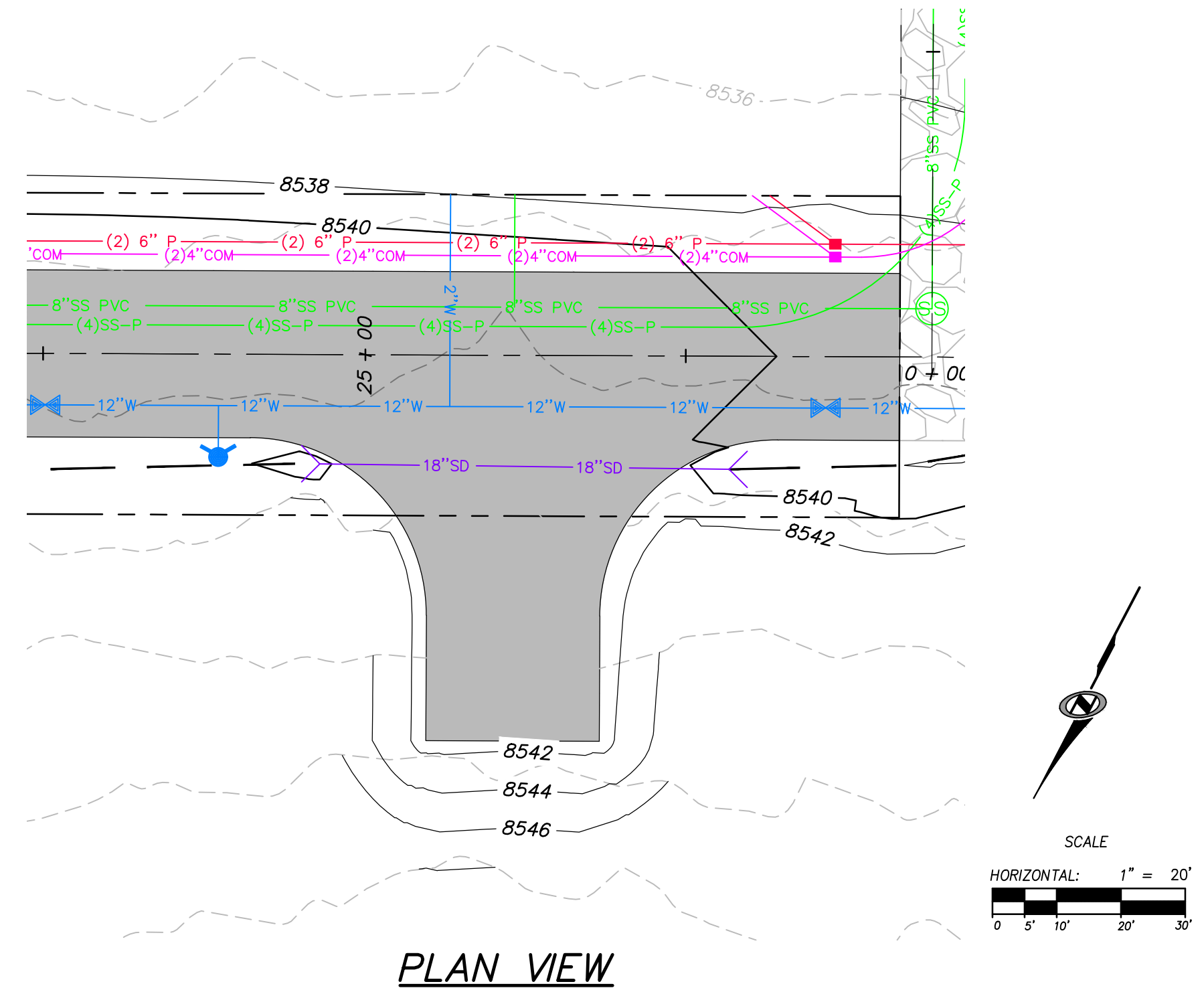
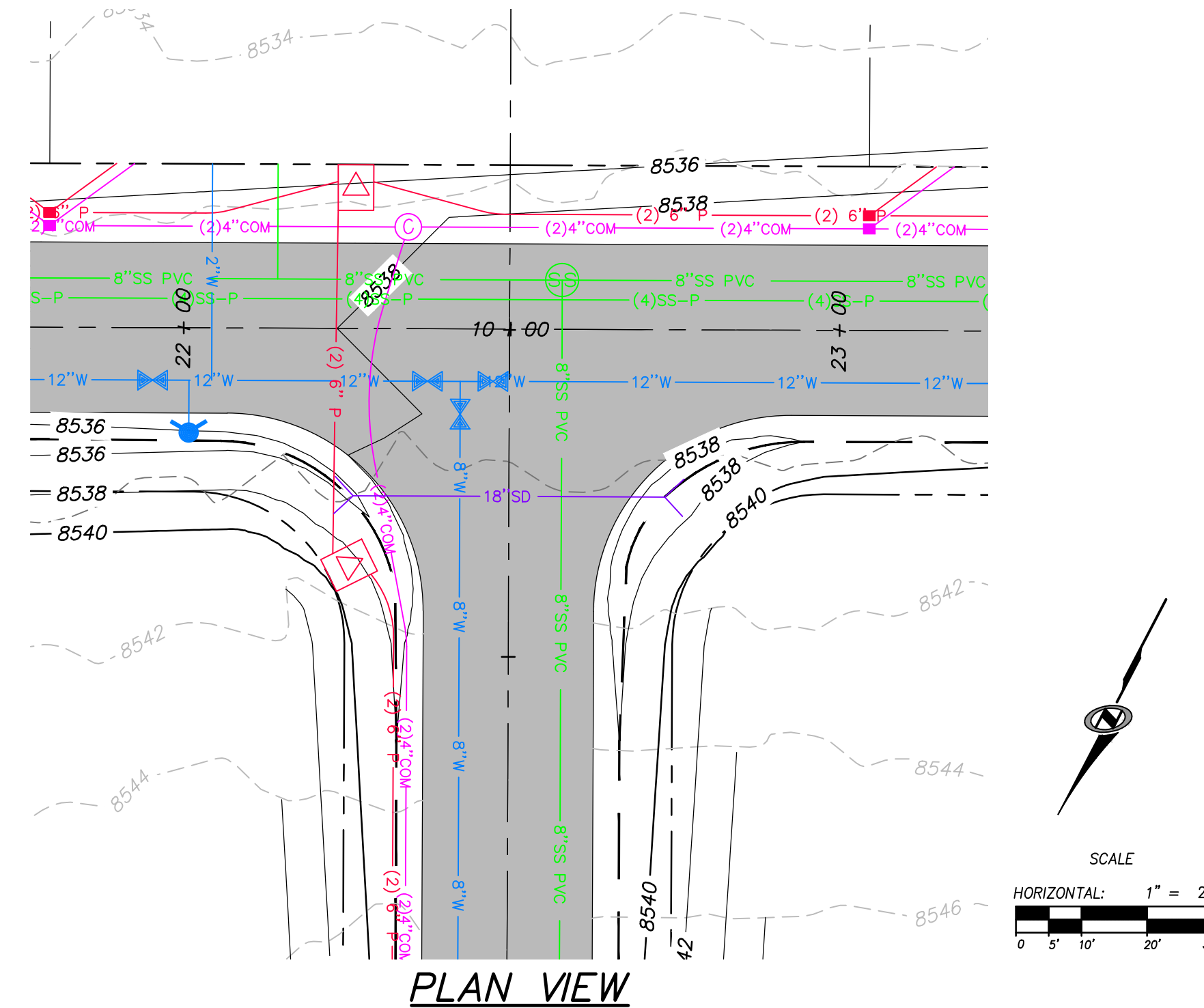
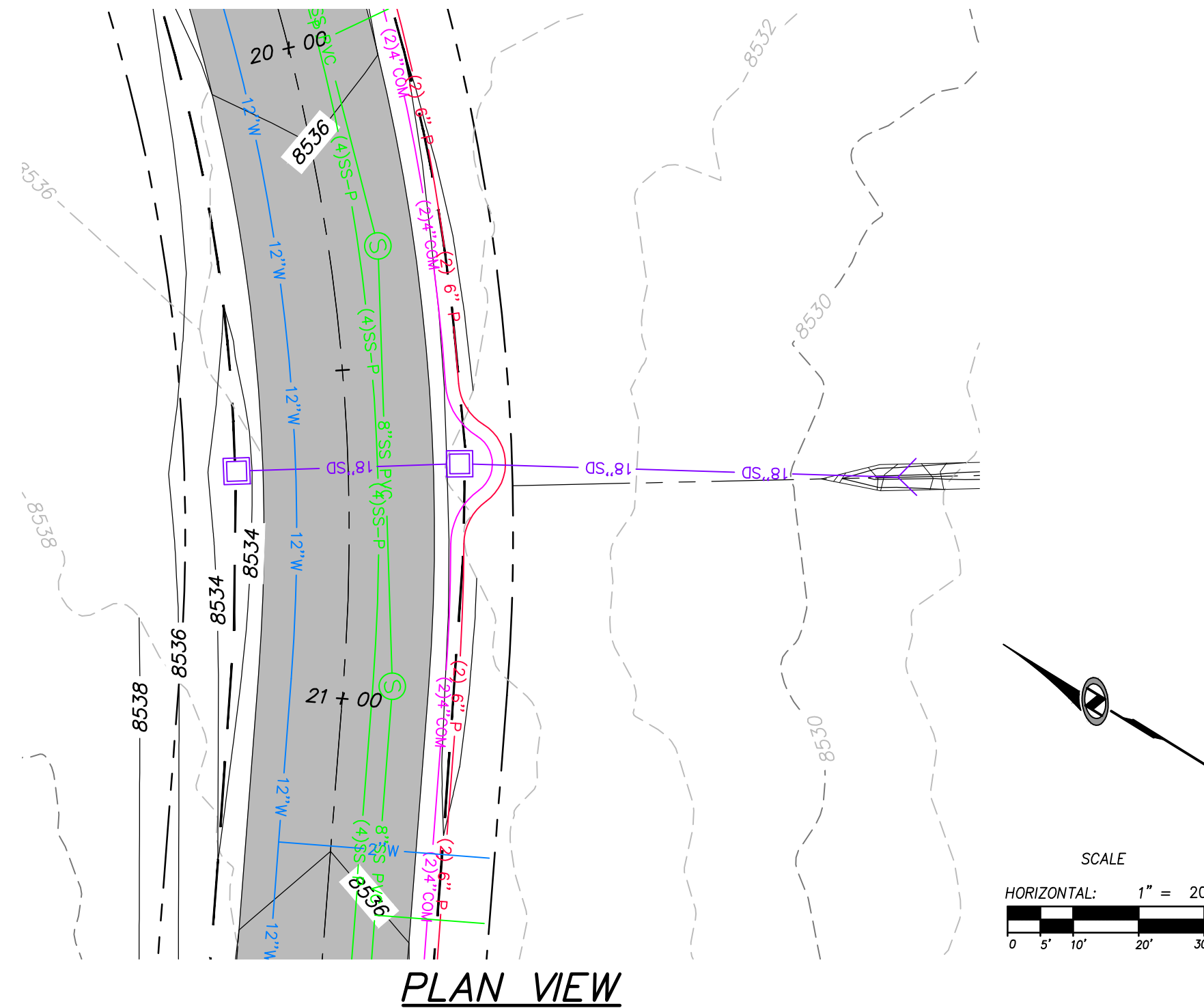
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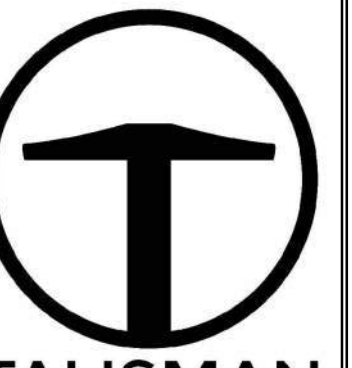
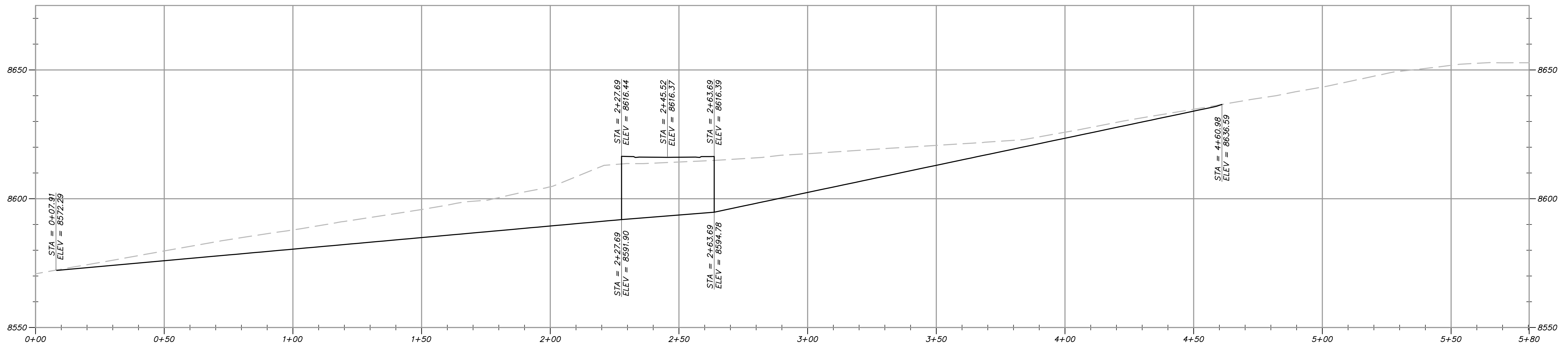
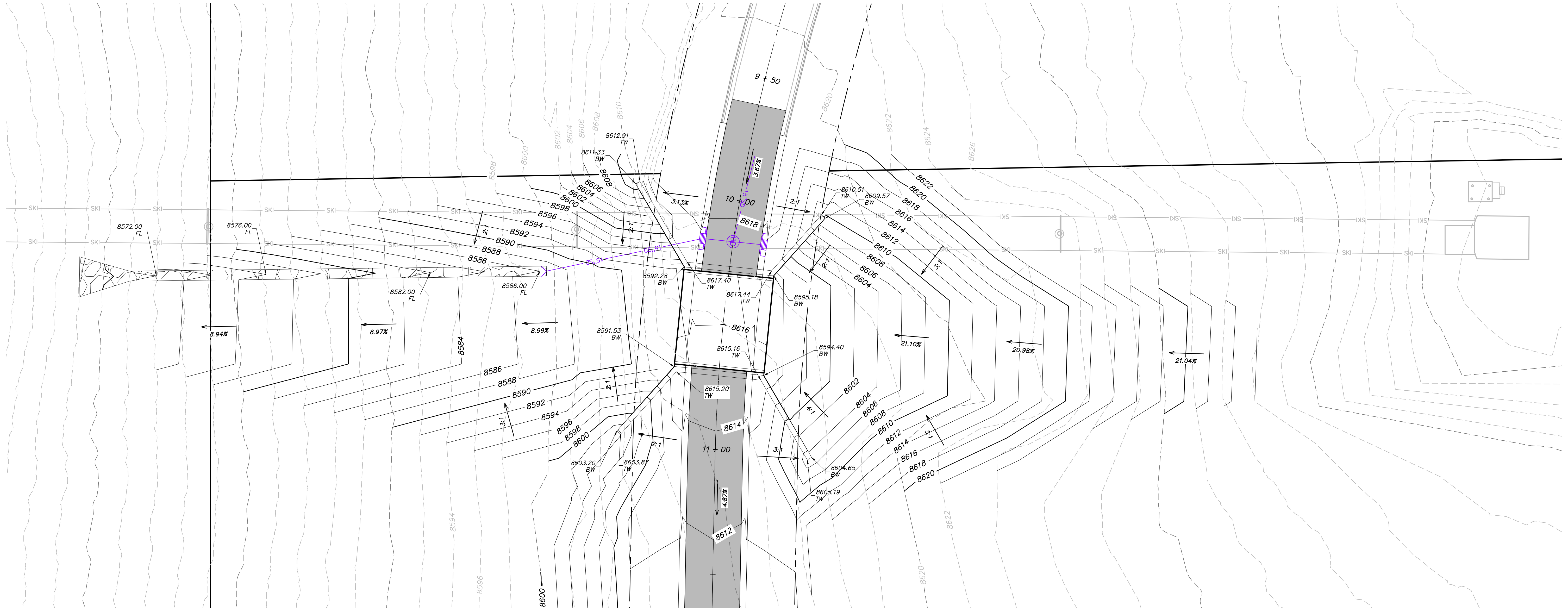
521

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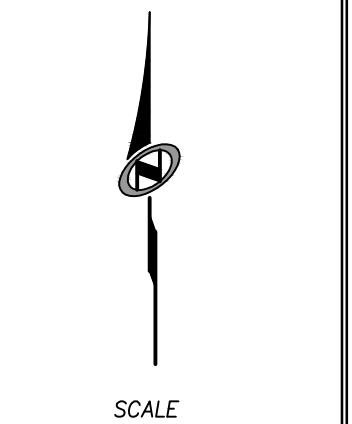
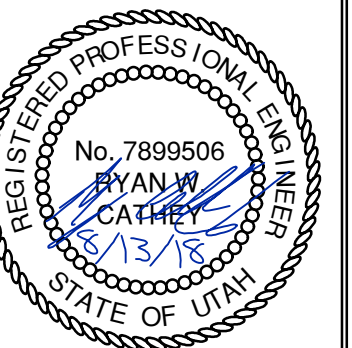
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BOBCAT RIDGE AT S.P.M.
 SKIER TRAIL GRADING

DATE SUBMITTED: 08.13.2018

TCC JOB NUMBER: 18-200-22



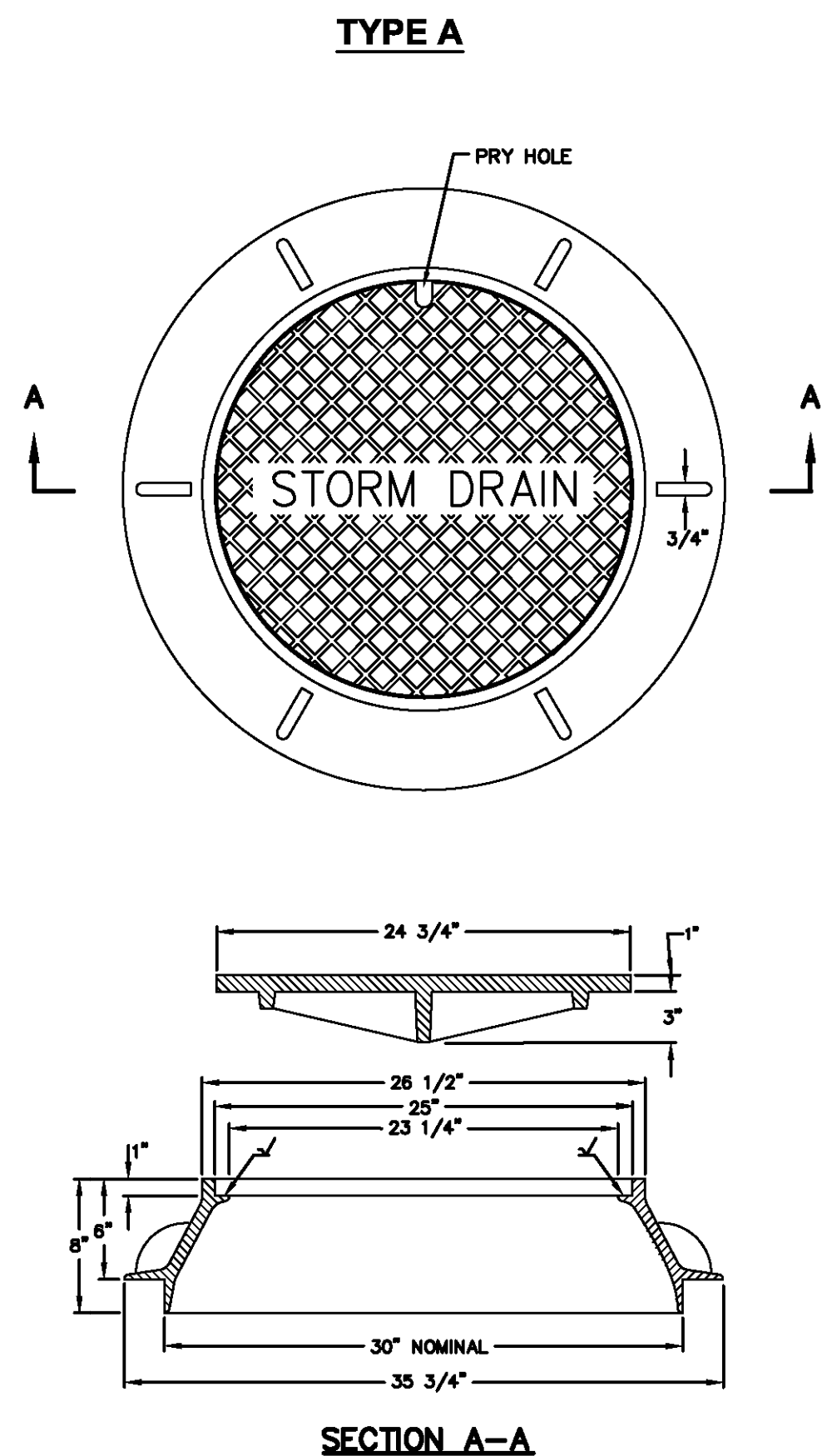
SCALE
 HORIZONTAL: 1" = 20'
 0 5 10 20 30

SHEET NUMBER
523
 39 OF 59



- GENERAL**
 - The frame and cover fits.
 - Cleanout box type B in Plan 331, and
 - Precast manhole in Plan 341.
- PRODUCTS**
 - Castings: Grey iron class 35 minimum, ASTM A 48.
 - Coated with asphalt based paint or better (except on machined surfaces).
 - Cast the heat number on the frame and cover.
 - Give the frame and cover a machine finish so the cover will not rock.
 - √ designates a machine finished surface.
 - Cast the words "STORM DRAIN" on the cover in upper case flush with the surface finish.
- EXECUTION**
 - Except in paved streets, provide locking manhole covers in easements, alleys, parking lots, and all other places. Drill and tap two holes to a depth of 1-inch at 90 degrees to pry hole and install 3/4 x 3/4-inch allen socket set screws.

132

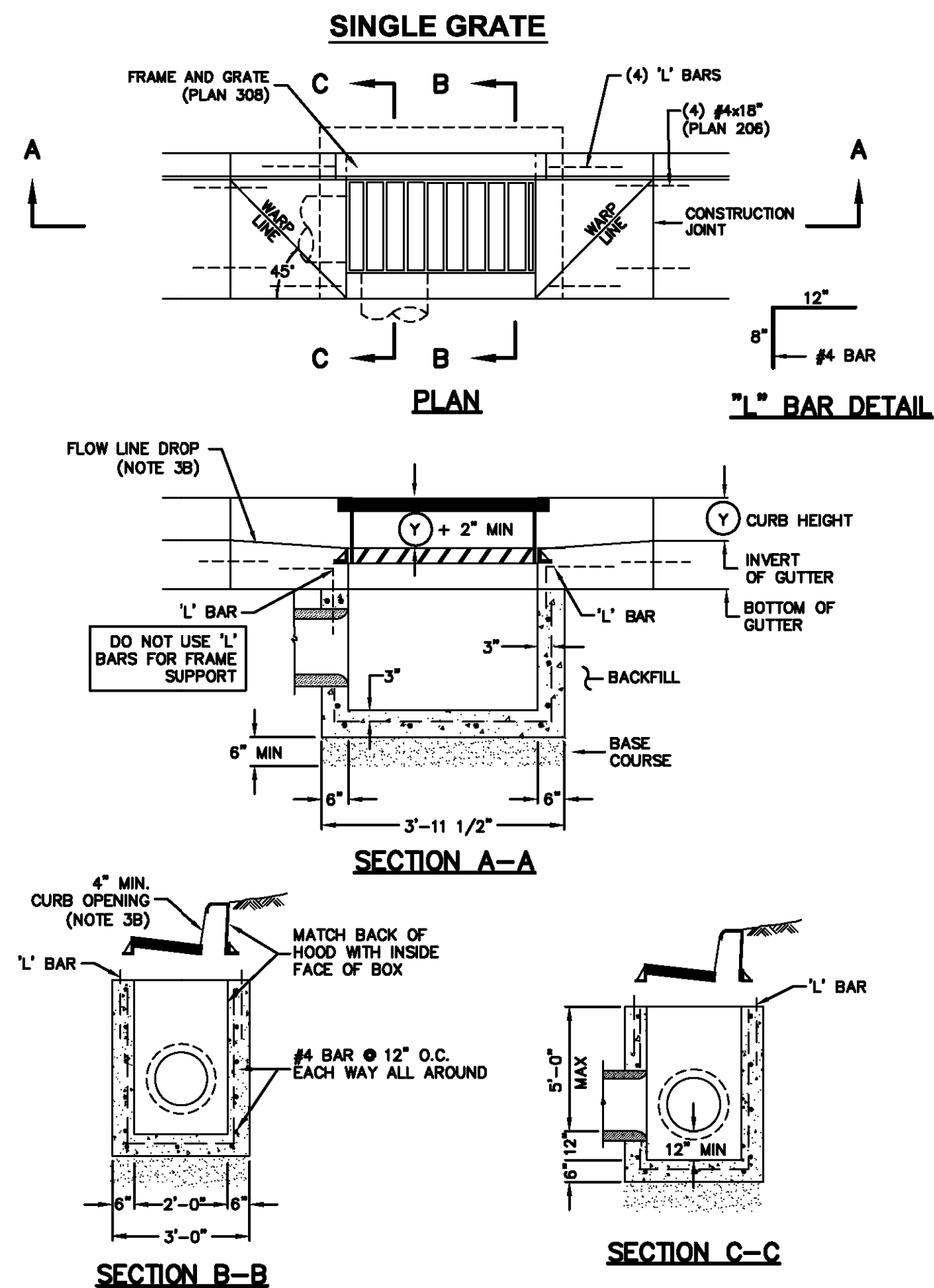


30" Frame and cover

133

- GENERAL**
 - The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.
- PRODUCTS**
 - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
 - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
 - Concrete: Class 4000, APWA Section 03 30 04.
 - Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A 615.
- EXECUTION**
 - Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
 - Curb Face Opening: Make opening at least 4-inches high. Provide at least a 2-inch drop between the "warp line" in the gutter flow-line and the top of the grate at the curb face opening.
 - Concrete Placement: APWA Section 03 30 10. Provide 1/2-inch radius edges. Apply a broom finish. Apply a curing agent.
 - Backfill: Place backfill against the basin wall. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

154

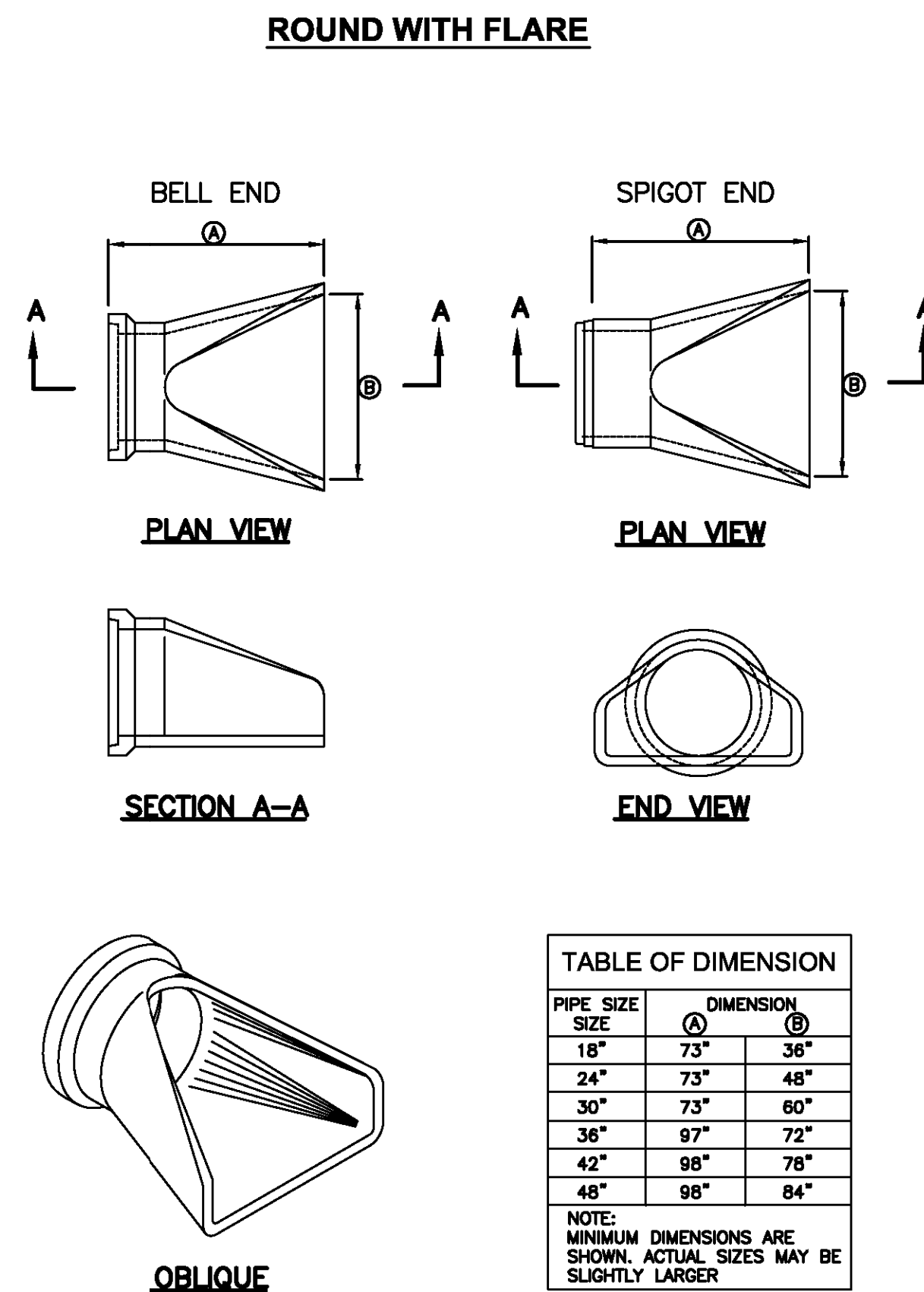


Catch basin

155

- GENERAL**
 - Round concrete pipe application.
 - Additional requirements are specified in APWA Section 33 05 02.
- PRODUCTS**
 - Use the same quality of precast end section as the pipe.
 - Use the joint material and connection that is the same as the joints in the pipeline.
- EXECUTION**
 - General dimensions and geometric shapes may vary from manufacturer to manufacturer.
 - Steel reinforcement is not required in the concrete end section shown.
 - Provide joint restraint connectors if required by ENGINEER.

170

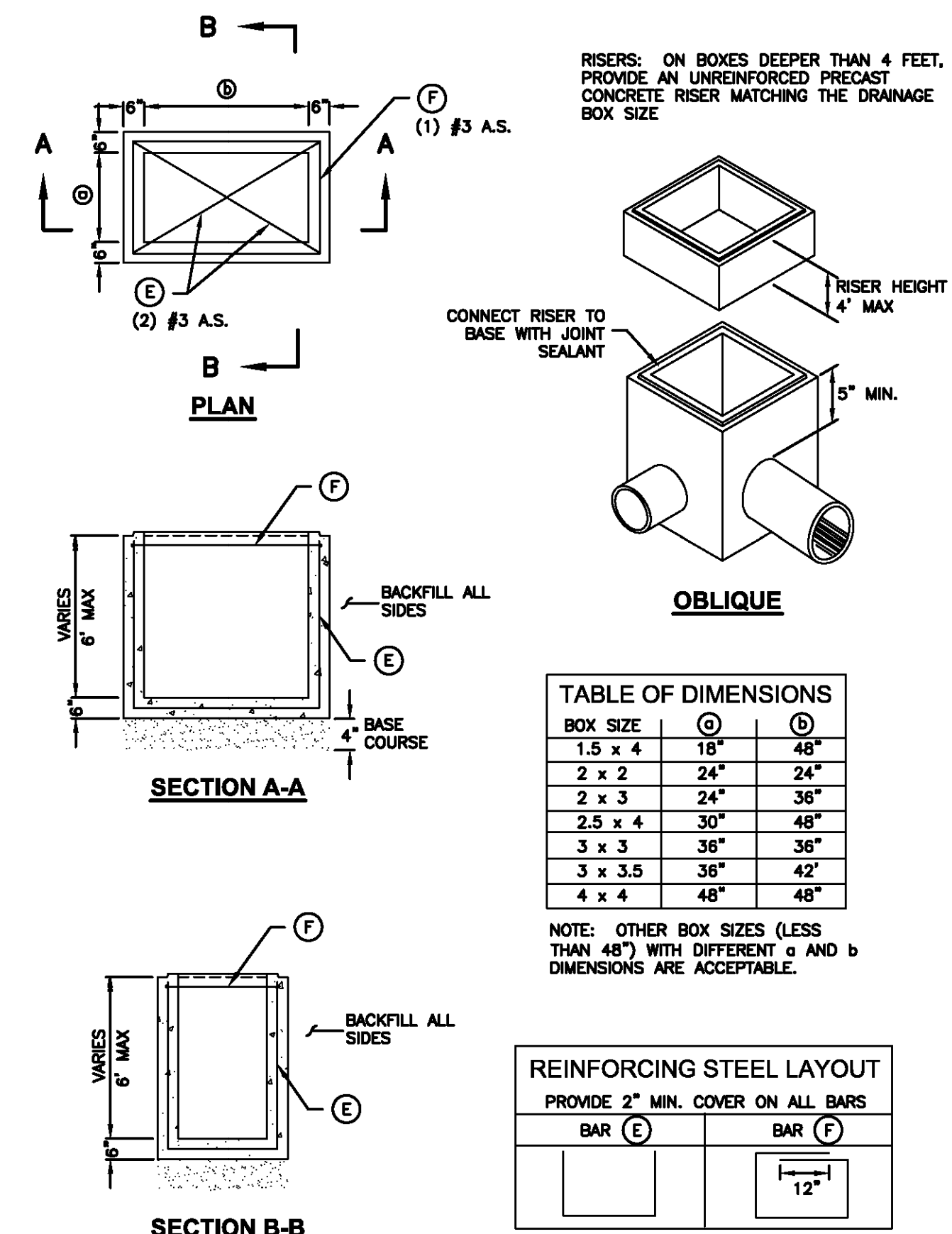


Pipe outfall

171

- GENERAL**
 - The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the box.
 - This drawing is acceptable where the water table elevation is less than 3 feet above the floor of the box. If elevation of water table is higher, engineering calculations and drawings must be submitted to and approved by the ENGINEER.
 - Submit bar design detail for ENGINEER's review.
- PRODUCTS**
 - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
 - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
 - Precast Concrete: Class 4000 precast, APWA Section 03 40 00.
 - Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A 615. Coated steel is not required for small drainage structures shown on this drawing.
 - Frame and Cover (or Grate): Use the appropriate unit indicated in the Contract Documents.
 - Joint Sealant: Rubber-based, compressible.
- EXECUTION**
 - Base Course Placement: Provide 2-inches of concrete cover over reinforcing steel.
 - Lifting Points: Provide at least 2 lifting points per section that avoid interference with the reinforcing steel and that are designed according to PCI (Prestressed Concrete Institute) design handbook. Lift only from the engineered lifting points.
 - Depth: Drainage boxes and riser combinations that exceed 8-feet from finished grade to the bottom of the box requires ENGINEER's approval. Submit design calculations and shop drawings.
 - Core Holes:
 - Provide core holes that are at least 4" larger than attaching outer pipe diameter. Cut core holes at the manufacturing plant unless ENGINEER permits field core holes.
 - Center core holes to leave 2" of concrete measured horizontally from inside wall of the box to core hole. Locate core hole vertically so bottom of core hole will be at or above floor elevation with at least 5-inches of concrete directly above the core hole to the top of the box.
 - Deviations from core hole tolerances require shop drawings. Shop drawings will identify lifting point number and location.
 - Precast Top: Design precast top for AASHTO HL-93 live loads and submit rebar detail and stamped design drawings to ENGINEER. Show connection detail for frame and grate or cover.

182

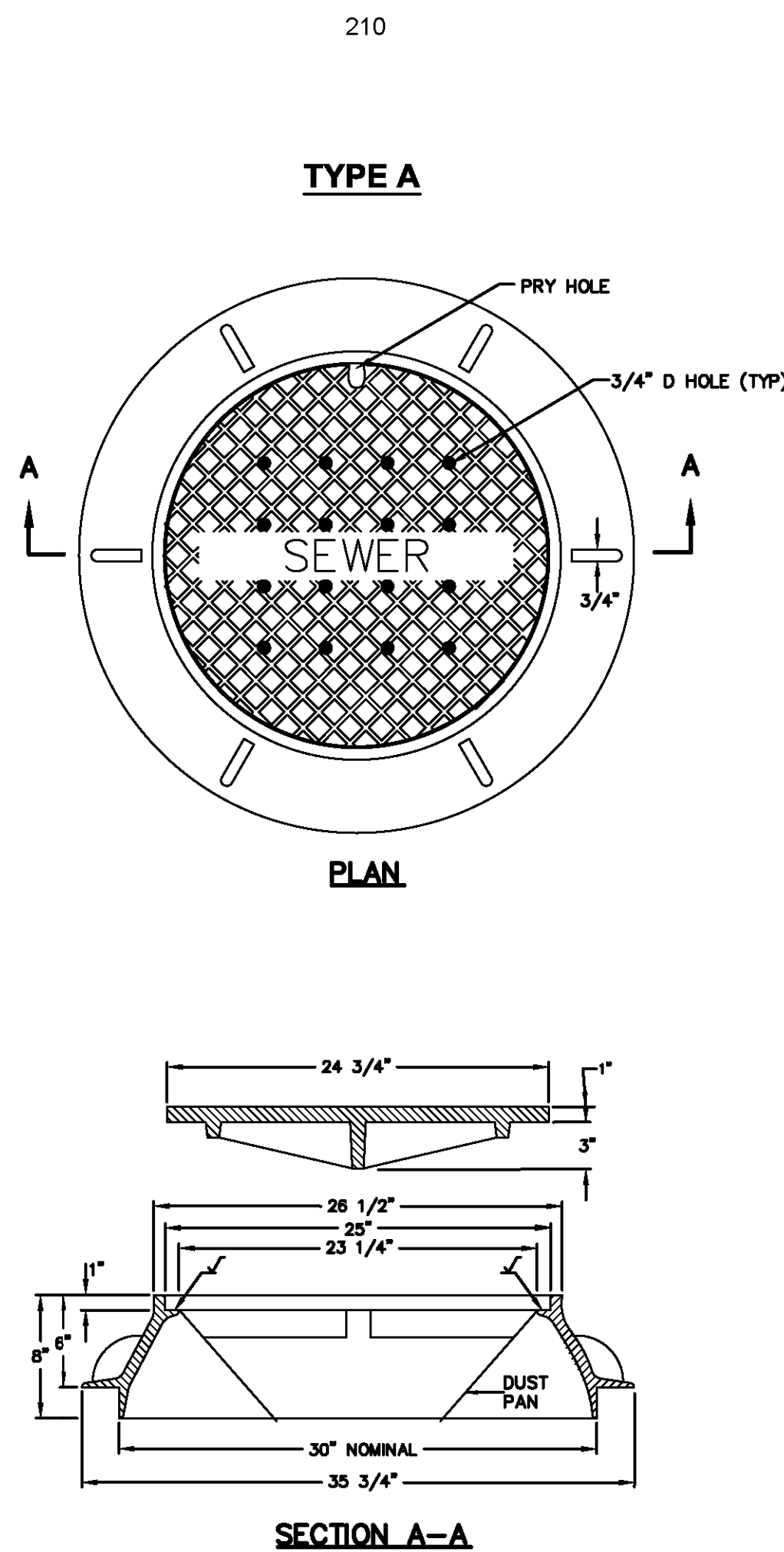


Precast box

183

30" Frame and cover

- GENERAL**
 - The frame and cover fits the manhole in Plan 411.
- PRODUCTS**
 - Castings: Grey iron class 35 minimum, ASTM A 48, coated with asphalt based paint or better (except on machined surfaces).
 - Cast the heat number on the frame and cover.
 - Give the frame and cover a machine finish so the cover will not rock.
 - √ designates machined surface.
 - Cast the words "SEWER" on the cover in upper case flush with the surface finish.
- EXECUTION**
 - Except in paved streets, provide locking manhole covers in easements, alleys, parking lots, and all other places. Drill and tap two holes to a depth of 1-inch at 90 degrees to pry hole and install 3/4 x 3/4-inch allen socket set screws.

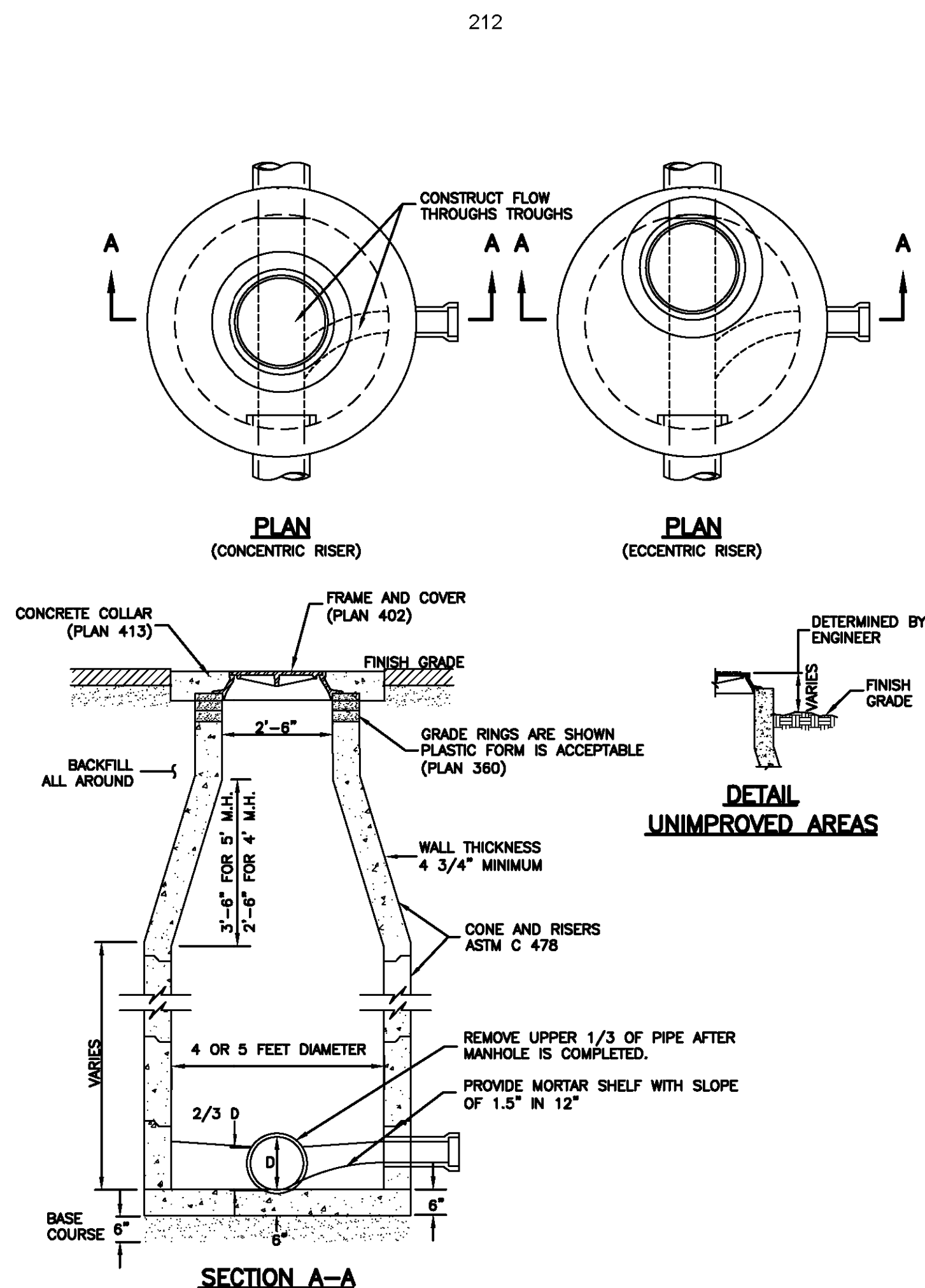


30" Frame and cover
211

April 1997

Sanitary sewer manhole

- GENERAL**
 - The drawing shows typical pipe connections. Refer to construction drawings for connection locations or refer to field location of existing piping when engineering pipe connection to the manhole.
 - Manhole size.
 - Diameter is 4 feet: For sewers under 12" diameter.
 - Diameter is 5 feet: For sewers 12" and larger, or when 3 or more pipes intersect the manhole.
- PRODUCTS**
 - Base Course: Untreated base course, APWA Section 32 11 23. Do not use gravel as a base course without ENGINEER's permission.
 - Backfill: Common fill, APWA Section 31 05 13. Maximum particle size 2-inches.
 - Concrete: Class 4000, APWA Section 03 30 04.
 - Riser and Reducing Riser: ASTM C 478.
 - Reinforcement: Deformed, 60 ksi yield grade steel, ASTM A 615.
 - Grout: 2 parts sand to 1 part cement mortar, ASTM C 1329.
 - Stabilization-Separation Geotextile: Moderate or high at CONTRACTOR's choice, APWA Section 31 05 19.
- EXECUTION**
 - Foundation Stabilization: Get ENGINEER's permission to use a sewer rock or a granular backfill borrow in a geotextile wrap to stabilize an unstable foundation.
 - Base Course Placement: APWA Section 32 11 23. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a modified proctor density, APWA Section 31 23 26.
 - Invert Cover: During construction, place invert covers over the top of pipe in manholes that currently convey sewerage. See Plan 412.
 - Pipe Connections: Grout around all pipe openings.
 - Pipe Seal: Install rubber-based pipe seals on all plastic pipes when connecting plastic pipes to manholes. Hold water-stop in place with stainless steel bands.
 - Joints: Place flexible gasket-type sealant in all riser joints. Finish with grout.
 - Adjustment: If the required manhole adjustment is more than 1'-0", remove the cone and grade rings and adjust the manhole elevation with the appropriate manhole section, the cone section, and the grade rings or plastic form to make frame and lid match finish grade.
 - Finish: Provide smooth and neat finishes on interior of cones, shafts, and rings. Imperfect moldings or honeycombs will not be accepted.
 - Backfill: Provide backfill against the manhole shaft. Pea gravel and recycled RAP aggregate is NOT ALLOWED. Water jetting is NOT allowed. Maximum lift thickness is 8-inches before compaction. Compaction is 95 percent or greater relative to a standard proctor density, APWA Section 31 23 26.

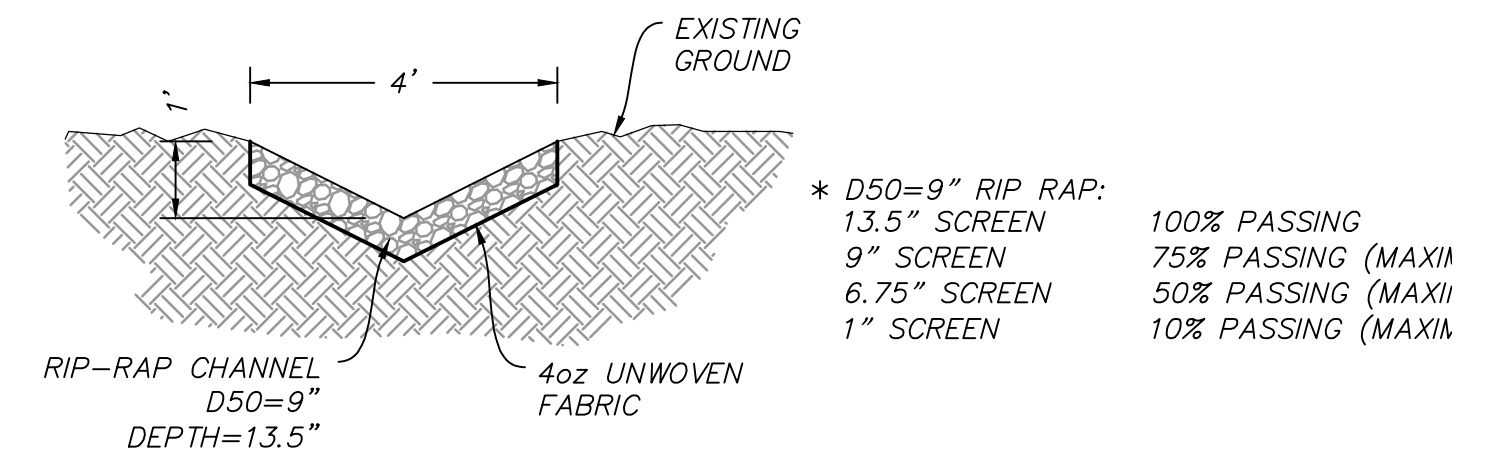


Sanitary sewer manhole
213

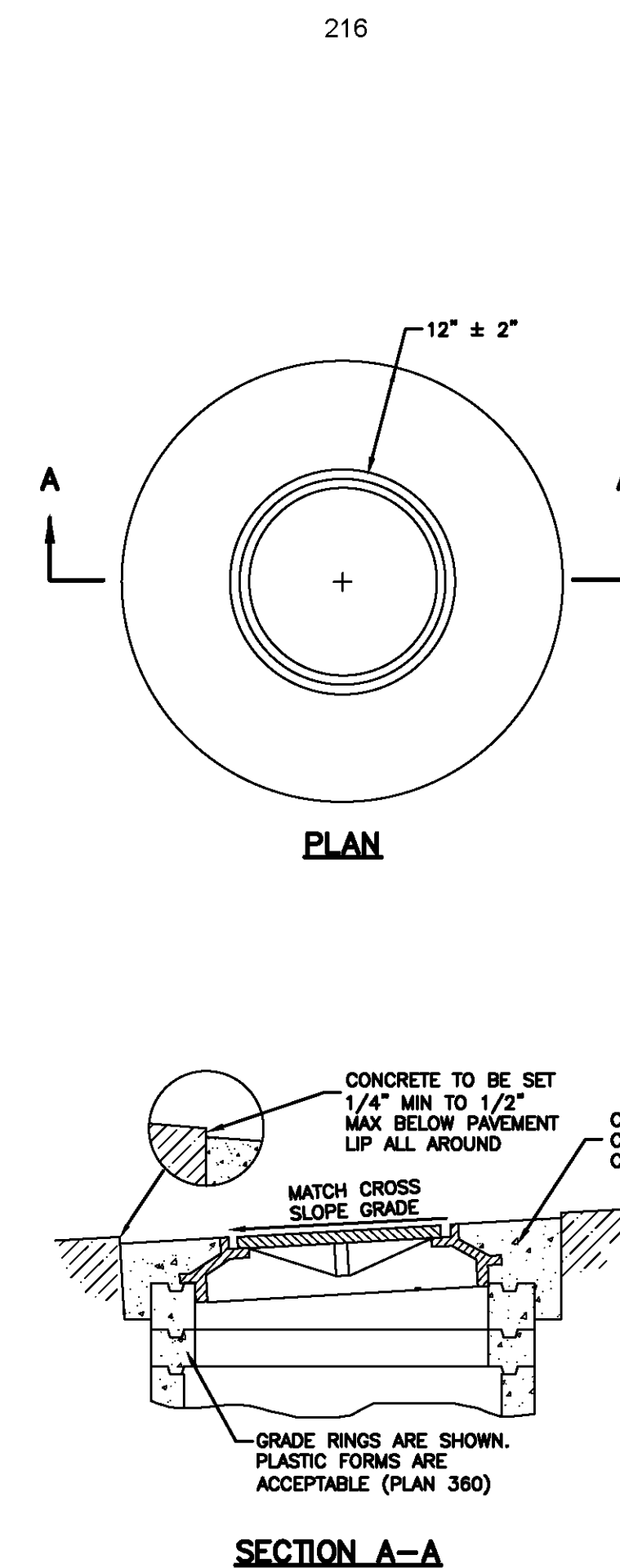
April 2011

Cover collar for sanitary sewer manhole

- GENERAL**
 - In a pavement surface, the concrete will support the frame under traffic loadings.
- PRODUCTS**
 - Concrete: Class 4000, APWA Section 03 30 04.
 - Concrete Curing Agent: Type ID Class A (clear with fugitive dye), membrane forming compound, APWA Section 03 39 00.
- EXECUTION**
 - Pavement Preparation: Provide a neat vertical and concentric joint between concrete and existing asphalt concrete surfaces. Clean edges of all dirt, oil, and loose debris.
 - Concrete Placement: Fill the annular space around the frame and cover casting with concrete. Apply a broom finish. Apply a curing agent.

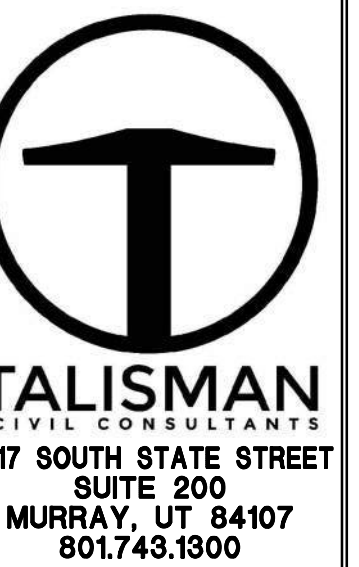


DRAINAGE SWALE DETAIL
SCALE: 1" = N.T.S.



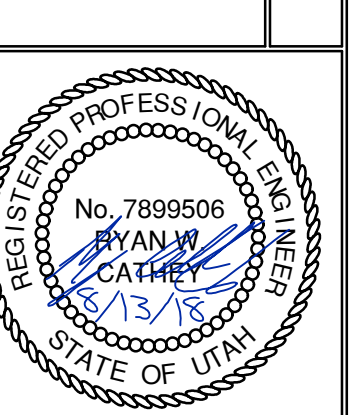
Cover collar for sanitary sewer manhole
217

September 2001



REV.	DATE	BY	NO.

BOBCAT RIDGE AT S.P.M.
DETAILS
DATE SUBMITTED: 08.13.2018
TCC JOB NUMBER: 18.200.22



SHEET NUMBER
703
44 OF 59



DATE: 8/13/2018 11:18 AM

PATH: m:\S\80793\Cadd\18-200-22-entire estate lots - bobcat ridge\1703 DETAILS.dwg

