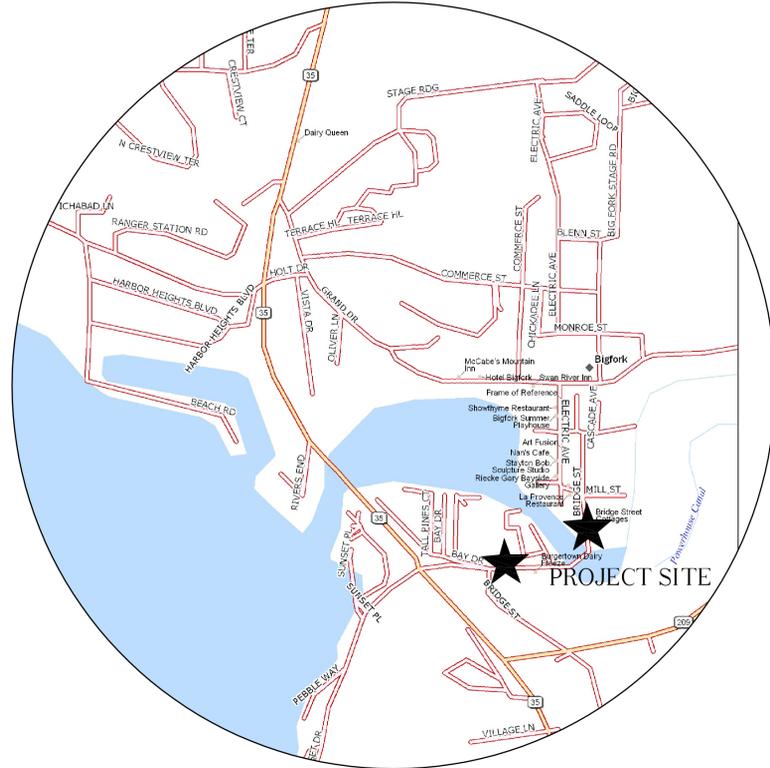


BIGFORK STORMWATER PROJECT

BRIDGE STREET NORTH AND BRIDGE STREET SOUTH



DESIGNED FOR
 FLATHEAD COUNTY COMMISSIONERS
 AND
 BIGFORK STORMWATER ADVISORY COMMITTEE



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21. DETAILS I
22. DETAILS II

DESIGNED BY



Civil Engineering Services

151 BUSINESS CENTER LOOP, STE A

KALISPELL, MT 59901

406-756-4848



| DATUM | SUBMITTAL | ENGINEER CONTACT | | UTILITY LOCATES | PROJECT STATUS | | APPROVED FOR CONSTRUCTION | |
|--|---|---|---------------------------------|--|----------------|----------|---------------------------|-------|
| NAD83 HORIZONTAL NAVD88 VERTICAL CITY: BIGFORK COUNTY: FLATHEAD STATE: MONTANA SECTION: 36 TOWNSHIP: 27 N RANGE: 20 W | SUBMITTED TO: FLATHEAD COUNTY 800 SOUTH MAIN KALISPELL, MONTANA 59901 406-758-5503 | BRETT WALCHECK, P.E. 48 NORTH P.C. 151 BUSINESS CENTER LOOP SUITE A KALISPELL, MONTANA 59901 406-756-4848 | SIGNATURE: DATE: | 811 406-755-UDIG (8344) 1-800-424-5555 PROVIDE FOLLOWING INFORMATION COUNTY: FLATHEAD CITY: BIGFORK ADDRESS: BRIDGE STREET AND BAY DRIVE | STATUS | DATE | BY: | DATE: |
| | | | | | PRELIMINARY | 03/09/12 | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | PUBLIC WORKS DIRECTOR | |
| | | | | | | | COMMISSIONER CHAIRMAN | |

PRELIMINARY NOT FOR CONSTRUCTION

EROSION CONTROL REQUIREMENTS

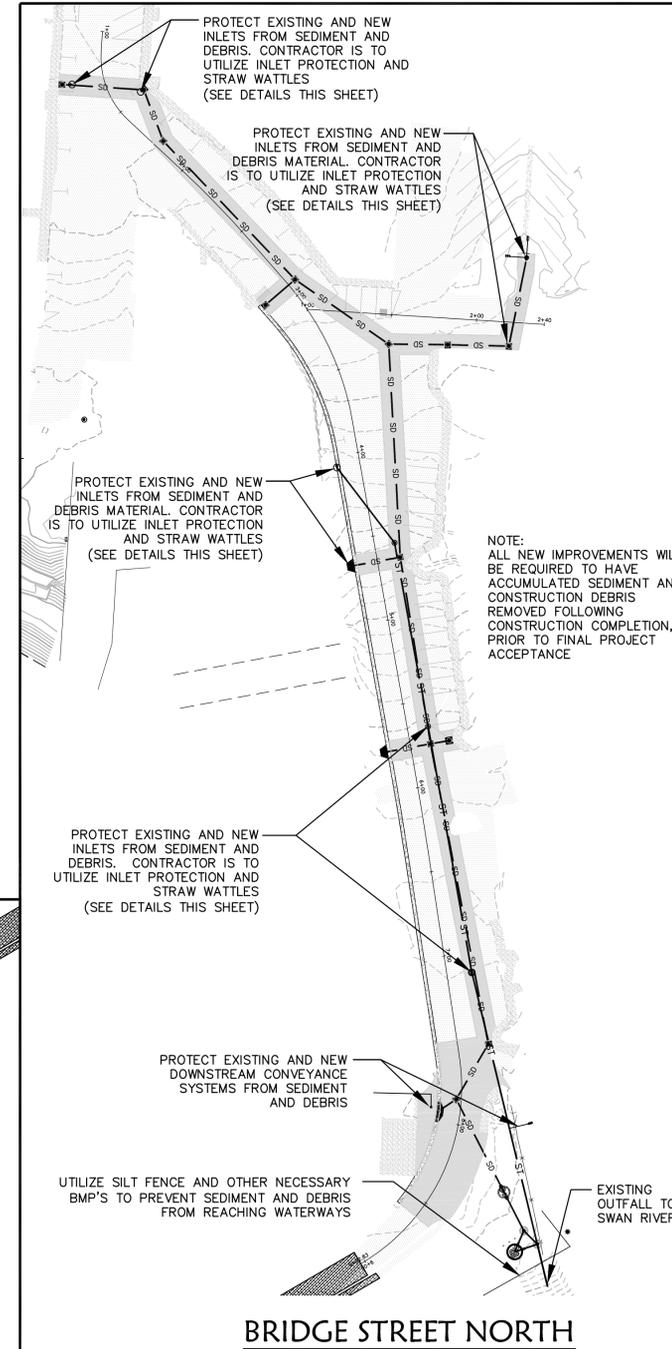
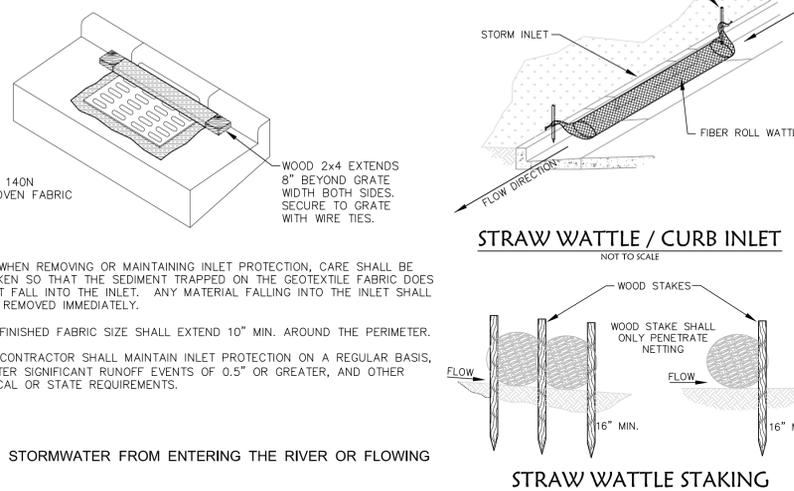
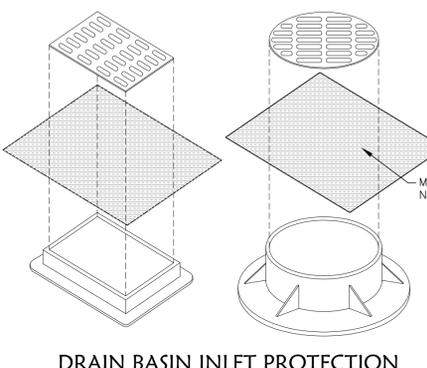
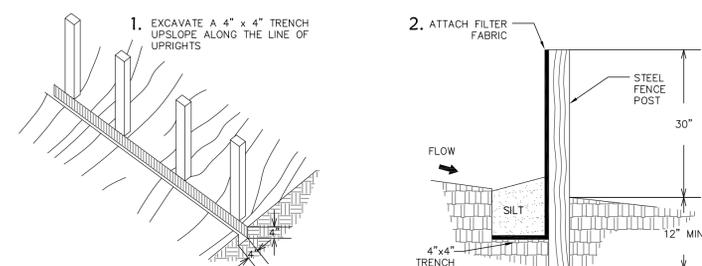
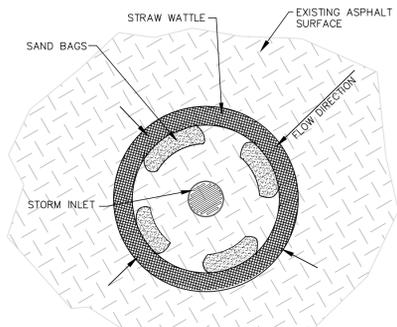
- 1) THE CONTRACTOR SHALL REMOVE ALL SEDIMENT, MUD, AND CONSTRUCTION DEBRIS THAT MAY ACCUMULATE IN THE FLOW LINES AND PUBLIC RIGHTS OF WAY AS A RESULT OF THIS DEVELOPMENT. SAID REMOVAL SHALL BE CONDUCTED IN A TIMELY MANNER OR PER ENGINEER OR COUNTY'S REQUEST.
- 2) THE CONTRACTOR SHALL PREVENT SEDIMENT, DEBRIS AND ALL OTHER POLLUTANTS FROM ENTERING THE STORM SEWER SYSTEM DURING ALL DEMOLITION OR CONSTRUCTION OPERATIONS THAT ARE PART OF THIS PROJECT.
- 3) THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR PROTECTION AND REMEDIATION OF ANY ADVERSE IMPACTS TO ADJACENT WATERWAYS, WETLANDS, ETC., RESULTING FROM WORK DONE AS PART OF THIS PROJECT.
- 4) THE GENERAL CONTRACTOR, GRADING CONTRACTOR AND/OR THEIR AUTHORIZED AGENTS SHALL ENSURE THAT ALL LOADS OF CUT AND FILL MATERIAL IMPORTED TO OR EXPORTED FROM THIS SITE SHALL BE PROPERLY COVERED TO PREVENT LOSS OF THE MATERIAL DURING TRANSPORT ON PUBLIC RIGHT OF WAYS.
- 5) ANY STOCKPILING OF MATERIAL FOR ANY LENGTH OF TIME ON EXISTING ASPHALT SURFACES SHALL HAVE STRAW WATTLE AND SAND BAG BARRIERS PLACED AROUND ITS EXTERIOR AND SHALL BE REMOVED AS SOON AS POSSIBLE FROM THE ROADWAY.
- 6) THE CLEANING OF CONCRETE TRUCK DELIVERY CHUTES IS PROHIBITED AT THE JOB SITE. THE DISCHARGE OF WATER CONTAINING WASTE CONCRETE TO THE STORM SEWER IS PROHIBITED.
- 7) THE CONTRACTOR SHALL PROTECT ALL STORM SEWER FACILITIES ADJACENT TO ANY LOCATION WHERE PAVEMENT CUTTING OPERATIONS INVOLVING WHEEL CUTTING, SAW CUTTING OR ABRASIVE WATER JET CUTTING ARE TO TAKE PLACE. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ALL WASTE PRODUCTS GENERATED BY SAID CUTTING OPERATIONS ON A DAILY BASIS. THE DISCHARGE OF ANY WATER CONTAMINATED BY WASTE PRODUCTS FROM CUTTING OPERATIONS TO THE STORM SEWER SYSTEM IS PROHIBITED.
- 8) THE CONTRACTOR SHALL OBTAIN OR CONFIRM APPROVAL OF ALL REQUIRED PERMITS PRIOR TO CONDUCTING CONTROLLED CONSTRUCTION ACTIVITIES. THE CONTRACTOR SHALL MAINTAIN THE PROJECT SITE IN ACCORDANCE WITH ALL PERMIT REQUIREMENTS. EROSION CONTROL PERMITS MAY INCLUDE, BUT ARE NOT LIMITED TO:
 - * MT DEQ GENERAL PERMIT FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY.
 - * FLATHEAD COUNTY LAKE AND LAKESHORE PROTECTION REGULATIONS
 - * FLATHEAD COUNTY FLOODPLAIN DEVELOPMENT PERMIT
 - * FLATHEAD CONSERVATION DISTRICT 310 STREAM PERMIT
 - * MONTANA FISH, WILDLIFE & PARKS SPA 124 PERMIT
 - * ARMY CORP OF ENGINEERS SECTION 404 PERMIT
 - * MONTANA DEQ 318 AUTHORIZATION / 401 CERTIFICATION
- 9) EROSION TREATMENT OF DISTURBED GROUND SHALL CONFORM TO GUIDELINES IN MDT'S MANUAL OF EROSION AND SEDIMENT CONTROL BEST MANAGEMENT PRACTICES. THE CONTRACTOR SHALL MAINTAIN BMPs AFTER RAIN EVENTS AND EVERY 14 DAYS. MAINTENANCE SHALL BE DOCUMENTED IN WRITING AND KEPT ON-SITE.

**BIGFORK STORMWATER PROJECT
BRIDGE STREET NORTH AND BRIDGE STREET SOUTH
EROSION CONTROL**

LEGEND

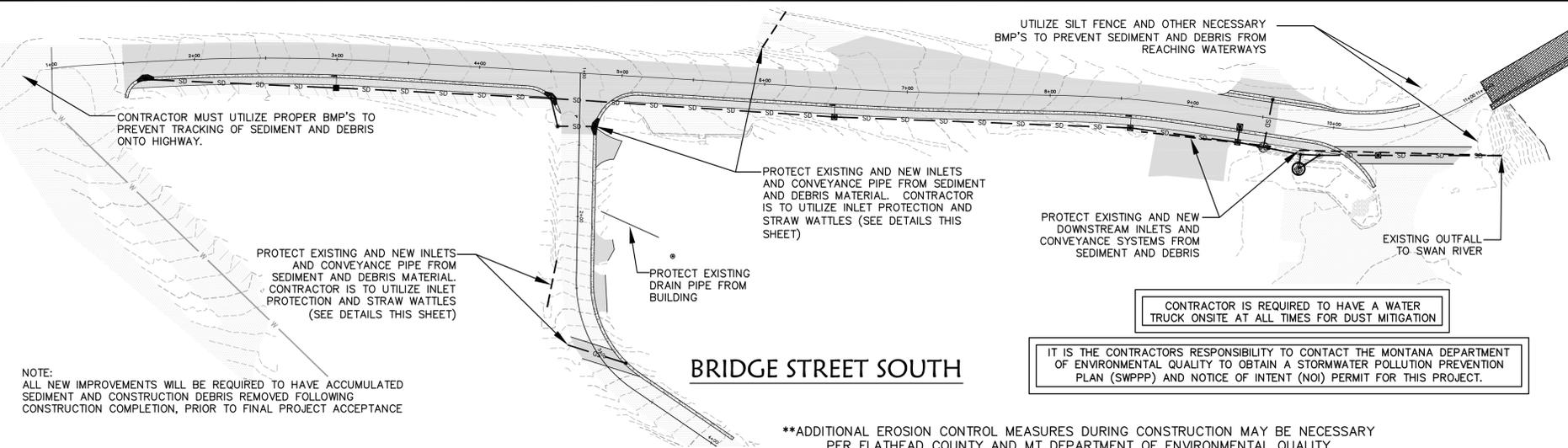
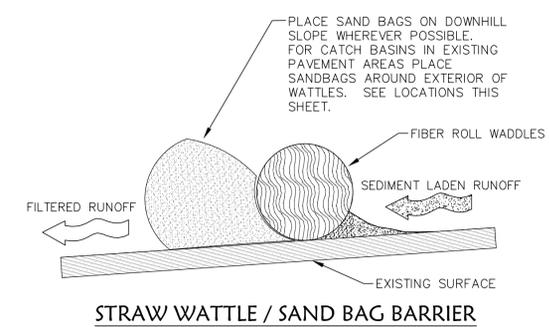
- EX-RIGHT OF WAY
- EX-SURVEY MONUMENT
- EX-SURFACE CONTOUR
- EX-PAVEMENT
- EX-CONCRETE
- EX-WATER MAIN
- EX-WATER SERVICE
- EX-GATE VALVE
- EX-CURB STOP
- EX-WATER METER
- EX-SEWER MAIN
- EX-SEWER SERVICE
- EX-SEWER MANHOLE
- EX-STORM PIPE
- EX-CATCH BASIN
- EX-UG POWER
- EX-UG TELEPHONE
- EX-UG GAS
- EX-OVERHEAD LINE
- EX-TREES
- EX-SIGN
- P-SURFACE CONTOUR
- P-ALIGNMENT
- P-PAVEMENT
- P-CURB
- P-SIDEWALK
- P-STORM PIPE
- P-CATCH BASIN

GRAPHIC SCALE
1 inch = 50 ft.



EROSION CONTROL NOTES

1. THE CONTRACTOR SHALL PREVENT ANY SEDIMENT LADEN STORMWATER FROM ENTERING THE RIVER OR FLOWING ONTO ADJACENT PROPERTIES.
2. THE LUMP SUM BID QUANTITY FOR "EROSION CONTROL" INCLUDES ALL CONTROL MEASURES IDENTIFIED IN THESE PLANS AND ADDITIONAL MEASURES THAT MAY BE REQUIRED BY THE COUNTY OR STATE. IT ALSO INCLUDES THE INSPECTION, MAINTENANCE, ADDITION, AND REPLACEMENT OF CONTROL MEASURES. EROSION CONTROL TIMELINE IS FROM PROJECT START UNTIL FINAL STABILIZATION HAS BEEN ACHIEVED.
3. THESE PLANS AND DETAILS REPRESENT MINIMUM MEASURES TO CONTROL EROSION AND SEDIMENT DURING THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE NECESSARY MEASURES ACCORDING TO CONTRACTOR'S ONSITE ACTIVITIES.
4. CONTRACTOR SHALL PROVIDE WEEKLY UPDATES TO THE ENGINEER DETAILING THE CURRENT PLANS FOR EROSION AND SEDIMENT CONTROL.
5. ALL TREES ARE TO BE PROTECTED EXCEPT FOR WHERE DELINEATED WITHIN THE IMPROVEMENT AREAS. ANY TREES REMOVED OUTSIDE OF THE DESIGNATED AREAS OR WITHOUT PERMISSION FROM THE OWNER/ENGINEER, WILL BE THE RESPONSIBILITY OF THE CONTRACTOR FOR EQUIVALENT REIMBURSEMENT COST.
6. WATER QUALITY UNITS (NEW OR EXISTING) SHALL BE PROTECTED AND CLEANED PER THE MANUFACTURER'S REQUIREMENTS AND GUIDELINES.
7. ADDITIONAL CONTRACTOR RESPONSIBILITIES AND EROSION CONTROL NOTES APPEAR ON SHEET 1.



PRELIMINARY NOT FOR CONSTRUCTION

BIGFORK STORMWATER PROJECT BRIDGE STREET NORTH AND BRIDGE STREET SOUTH TRAFFIC CONTROL

TRAFFIC & PEDESTRIAN CONTROL NOTES:

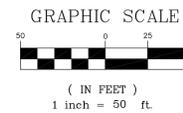
- CONTRACTOR SHALL MAINTAIN ACCESS TO BUSINESSES AND INDIVIDUAL PROPERTIES AT ALL TIMES.
- CONTRACTOR SHALL PROMOTE REGULAR COMMERCIAL ACTIVITY BY PRESERVING ACCESS TO BUSINESSES AND THE PLACEMENT OF ADEQUATE SIGNAGE INDICATING OPEN STREETS, AVAILABLE PARKING, SIDEWALK ACCESS, AND THAT BUSINESSES ARE OPEN DURING CONSTRUCTION.
- CONTRACTOR SHALL ENSURE THE SAFETY OF THE GENERAL PUBLIC AND WORKERS IN THE CONSTRUCTION AREA AT ALL TIMES. IF IN PLACE TRAFFIC CONTROL MEASURES ARE NOT SUITABLY ADDRESSING PUBLIC SAFETY OR ARE GENERATING PUBLIC CONCERNS, THEN ADDITIONAL MEASURES WILL BE REQUIRED TO BE IMPLEMENTED. THESE ADDITIONAL TRAFFIC CONTROL MEASURES WILL BE DEFINED BY THE COUNTY AND MUST BE IMPLEMENTED PRIOR TO FURTHER CONSTRUCTION ACTIVITY.
- IT IS NECESSARY FOR THE CONTRACTOR AND THE CONTRACTOR'S EMPLOYEES TO UNDERSTAND THAT THEY ARE WORKING ON A PROJECT THAT IS TEMPORARILY IMPACTING ACCESS TO OTHER EXISTING BUSINESSES AND RESIDENCES. IMPLEMENTING PROPER PLANNING, TRAFFIC CONTROL, AND NOTIFICATIONS FOR THESE BUSINESSES IS REQUIRED.

GENERAL NOTES:

- THE CONTRACTOR SHALL MAINTAIN ACCESS TO INDIVIDUAL PROPERTIES AT ALL TIMES AND PROMOTE REGULAR COMMERCIAL ACTIVITY TO THE GREATER BIGFORK DOWNTOWN AREA.
- THE LUMP SUM BID QUANTITY FOR "TRAFFIC CONTROL" INCLUDES ALL CONTROL MEASURES IDENTIFIED IN THESE PLANS AND ADDITIONAL MEASURES THAT MAY BE REQUIRED BY THE COUNTY, STATE, OR ENGINEER. IT ALSO INCLUDES THE INSPECTION, MAINTENANCE, ADDITION, AND REPLACEMENT OF CONTROL MEASURES. TRAFFIC CONTROL TIMELINE IS FROM PROJECT START UNTIL CONSTRUCTION ACTIVITIES HAVE CEASED.
- THESE PLANS AND DETAILS REPRESENT MINIMUM MEASURES TO CONTROL TRAFFIC, ENSURE PUBLIC SAFETY, AND MAINTAIN ACCESS DURING THE PROJECT. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING THE NECESSARY MEASURES ACCORDING TO CONTRACTOR'S ONSITE ACTIVITIES AND THE NEEDS OF ADJACENT PROPERTY OWNERS.
- CONTRACTOR SHALL PROVIDE WEEKLY UPDATES TO THE ENGINEER DETAILING THE CURRENT PLANS FOR TRAFFIC CONTROL.
- CONTRACTOR IS RESPONSIBLE FOR DAILY COMMUNICATION WITH EMERGENCY SERVICES AS NECESSARY IN COORDINATION WITH THE CONSTRUCTION PLAN AND PROGRESS.
- CONTRACTOR IS RESPONSIBLE FOR DAILY COMMUNICATION WITH LOCAL BUSINESS OWNERS AND RESIDENTS THROUGH THEIR DESIGNATED REPRESENTATIVE. CONTRACTOR SHALL PROVIDE CURRENT UPDATES, ADVANCED NOTICE, AND TIMELY RESPONSES TO THE RESIDENTIAL AND BUSINESS COMMUNITY.
- CONTRACTOR SHALL PROMOTE REGULAR COMMERCIAL ACTIVITY BY PRESERVING ACCESS TO BUSINESSES AND THE PLACEMENT OF ADEQUATE SIGNAGE INDICATING OPEN STREETS, AVAILABLE PARKING, SIDEWALK ACCESS, AND THAT BUSINESSES ARE OPEN. SIGNS AND BANNERS SHALL BE PLACED WITHIN THE LIMITS OF CURRENT CONSTRUCTION ACTIVITY AND ON THE PERIMETER.
- CONTRACTOR IS REQUIRED TO IDENTIFY AND RECEIVE APPROVAL FOR LOCATION OF WHERE EQUIPMENT AND MATERIAL STORAGE WILL OCCUR.
- ADDITIONAL CONTRACTOR RESPONSIBILITIES APPEAR ON SHEET 1.

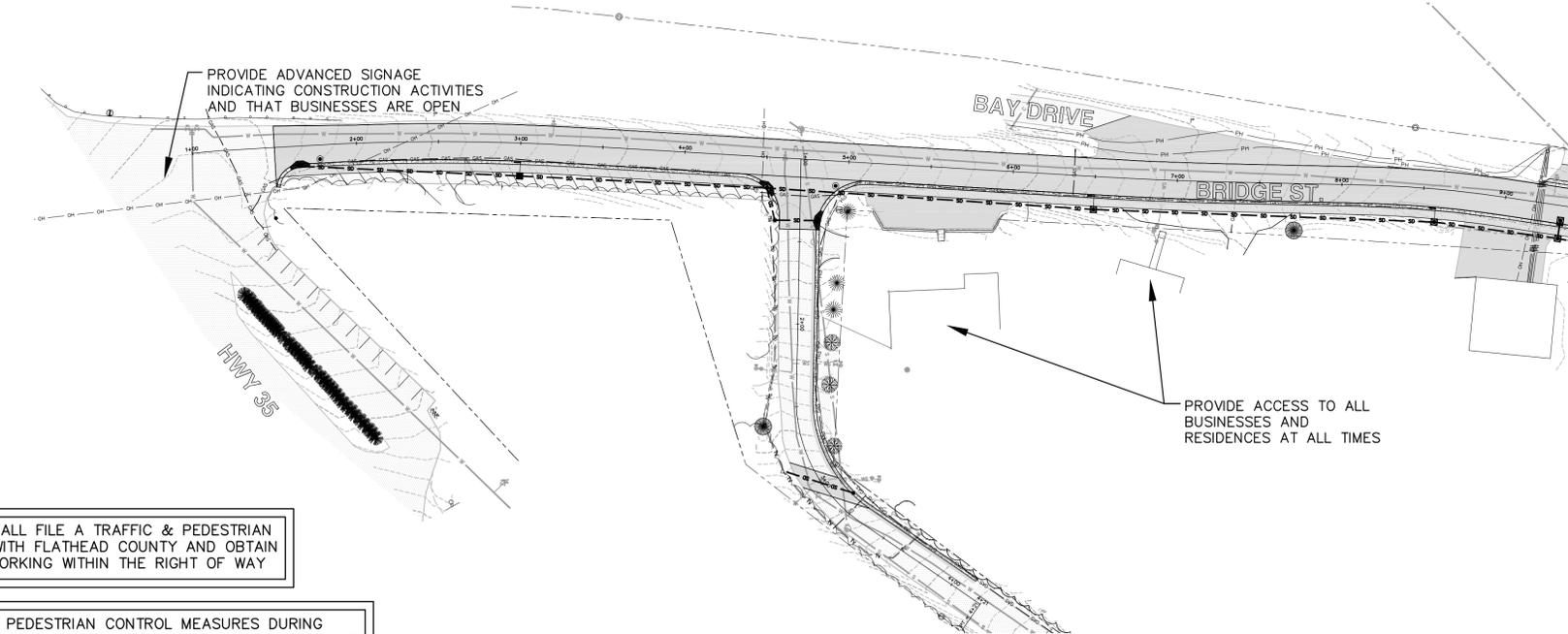
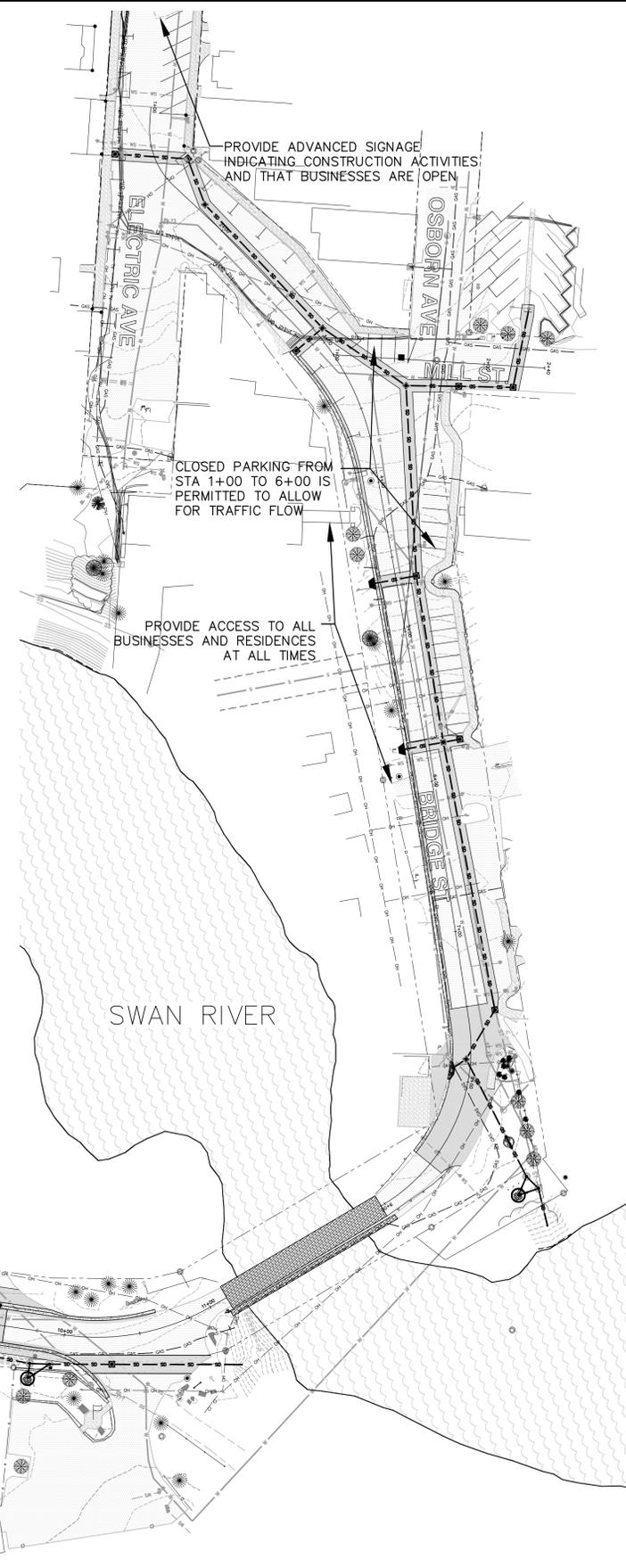
TRAFFIC & PEDESTRIAN CONTROL REQUIREMENTS:

- TRAFFIC AND PEDESTRIAN CONTROL SHALL BE DESIGNED AND IMPLEMENTED WITH RESPECT TO THE CONSTRUCTION SCHEDULING REQUIREMENTS AS SPECIFIED IN THE CONTRACT DOCUMENTS. THIS IS CRUCIAL TO THE SUCCESS OF BUSINESSES, RESIDENTS, COMMUNITY ORGANIZATIONS, AND PLANNED COMMUNITY FESTIVITIES. CONTRACTOR SHALL COORDINATE WITH ALL AFFECTED PARTIES AND ALTER THEIR TRAFFIC AND PEDESTRIAN CONTROL TO MEET LOCAL NEEDS AS THEY ARISE.
- MAINTAINING **TWO-LANE TRAFFIC** AT ALL TIMES IS THE PREFERRED OPTION. THIS CAN BE ACCOMPLISHED BY PROPERLY DELINEATING A TWO-WAY ROUTE THROUGH THE DISTURBANCE AREA.
- DURING CONSTRUCTION ON BRIDGE STREET, PARKING (ONLY THE PARKING ADJACENT TO THE AREAS OF DISTURBANCE) IS PERMITTED TO BE TEMPORARILY CLOSED. THIS SHALL OCCUR THROUGH PROPER SIGNAGE AND NOTIFICATION.
- DURING ACTIVITIES THAT REQUIRE IMPLEMENTING ONE-WAY TRAFFIC, IT WILL BE REQUIRED THAT THE ACCESSIBLE TRAVEL ROUTE IS A MAXIMUM OF 12 FEET IN WIDTH. THIS IS INTENDED TO PROMOTE ONLY ONE-WAY TRAFFIC WITHIN THE SINGLE LANE.
- DURING ACTIVITIES THAT REQUIRE IMPLEMENTING ONE-WAY TRAFFIC, IT WILL BE REQUIRED THAT EITHER SIGNAGE AND/OR FLAGGERS AND/OR TRAFFIC LIGHTS ARE UTILIZED TO DIRECT THE TRAFFIC.
- WHEN ONE-WAY TRAFFIC IS REQUIRED DURING NON-CONSTRUCTION HOURS, THE MAXIMUM OPEN TRENCH SHALL NOT EXCEED 30 FEET. ALL BARRICADES AND OBSTRUCTIONS SHALL BE PROTECTED AT NIGHT BY SUITABLE LIGHTS, WHICH SHALL BE KEPT ILLUMINATED FROM SUNSET TO SUNRISE. BARRICADES SHALL BE OF SUBSTANTIAL CONSTRUCTION AND SHALL BE CONSTRUCTED TO INCREASE THEIR VISIBILITY AT NIGHT. SUITABLE WARNING SHALL BE PLACED AND ILLUMINATED AT NIGHT TO SHOW IN ADVANCE WHERE CONSTRUCTION, BARRICADES AND LANE CLOSURES EXIST. IT WILL BE REQUIRED THAT EITHER FLAGGERS OR TRAFFIC LIGHTS ARE UTILIZED TO DIRECT THE TRAFFIC.
- IF APPROVED, TOTAL LANE CLOSURES ARE NOT PERMITTED FOR A PERIOD GREATER THAN 2 HOURS.
- IF A TOTAL LANE CLOSURE IS REQUIRED, THE FOLLOWING MINIMUM REQUIREMENTS MUST BE MET:
 - CONTRACTOR MUST INFORM THE EMERGENCY SERVICES THAT ACCESS TO AN AREA IS BLOCKED AND PROVIDE THEM WITH AN ALTERNATE ROUTE.
 - TRAFFIC CONTROL SIGNAGE MUST BE INSTALLED STARTING AT THE INTERSECTION OF HWY 35 & GRAND DRIVE AND HWY 35 & BRIDGE STREET INFORMING THE DRIVERS OF THE ROAD CLOSURE. PROPER DETOURING SIGNAGE FROM BOTH THE NORTH AND SOUTH MUST BE PROVIDED.
 - TRAFFIC CONTROL MUST BE APPROVED AND IN PLACE BEFORE THE ROAD CLOSURE OCCURS.
 - TRAFFIC CONTROL REGARDING THE ROAD CLOSURE MUST BE IMMEDIATELY REMOVED AFTER THE ROAD CLOSURE.
- TRAFFIC CONTROL SIGNAGE IS REQUIRED ON GRAND DRIVE, ELECTRIC AVENUE, AND BRIDGE STREET AND SHALL ADHERE TO THE REQUIREMENTS OF THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- TRAFFIC CONTROL INCLUDES SIGNAGE IDENTIFYING THAT BUSINESSES ARE OPEN AND EXPLAINING HOW THEY MAY BE ACCESSED.



LEGEND

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| --- | EX-RIGHT OF WAY |
| ⊙ | EX-SURVEY MONUMENT |
| --- | EX-SURFACE CONTOUR |
| --- | EX-PAVEMENT |
| --- | EX-CONCRETE |
| W | EX-WATER MAIN |
| WS | EX-WATER SERVICE |
| ⊗ | EX-GATE VALVE |
| ⊕ | EX-CURB STOP |
| ⊖ | EX-WATER METER |
| S | EX-SEWER MAIN |
| SS | EX-SEWER SERVICE |
| ⊙ | EX-SEWER MANHOLE |
| ST | EX-STORM PIPE |
| ⊙ | EX-CATCH BASIN |
| PWR | EX-UG POWER |
| PH | EX-UG TELEPHONE |
| GAS | EX-UG GAS |
| OH | EX-OVERHEAD LINE |
| ⊙ | EX-TREES |
| → | EX-SIGN |
| --- | P-SURFACE CONTOUR |
| --- | P-ALIGNMENT |
| --- | P-PAVEMENT |
| --- | P-CURB |
| --- | P-SIDEWALK |
| --- | P-STORM PIPE |
| --- | P-CATCH BASIN |



CONTRACTOR SHALL FILE A TRAFFIC & PEDESTRIAN CONTROL PLAN WITH FLATHEAD COUNTY AND OBTAIN PERMITS FOR WORKING WITHIN THE RIGHT OF WAY

ADDITIONAL TRAFFIC & PEDESTRIAN CONTROL MEASURES DURING CONSTRUCTION MAY BE REQUIRED PER FLATHEAD COUNTY PUBLIC WORKS

- ### UTILITY LOCATION NOTES:
- CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UTILITIES AND STRUCTURES ABOVE AND BELOW GROUND PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES, WHETHER OR NOT THEY ARE INDICATED IN THE PLANS.
 - CONTRACTOR IS RESPONSIBLE FOR THE REPAIR OF ALL UTILITIES OR STRUCTURES THAT MAY BE DAMAGED BY CONTRACTOR'S ACTIVITIES.
 - ADDITIONAL CONTRACTOR RESPONSIBILITIES APPEAR ON SHEET 1.



48 NORTH
p.c.
Civil Engineering Services
151 BUSINESS CENTER LOOP, SUITE A
KALISPELL, MT 59901 406.756.4848

SEAL

SUBCONSULTANT

BIGFORK STORMWATER PROJECT
BRIDGE ST N & S - TRAFFIC CONTROL
FLATHEAD COUNTY, MONTANA

PRELIMINARY NOT FOR CONSTRUCTION

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BIGFORK STORMWATER PROJECT

BRIDGE STREET NORTH-STA: 4+00 TO 7+00

ALL STORM SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH UNIBELL RECOMMENDED PRACTICE UNI-B-6-90.

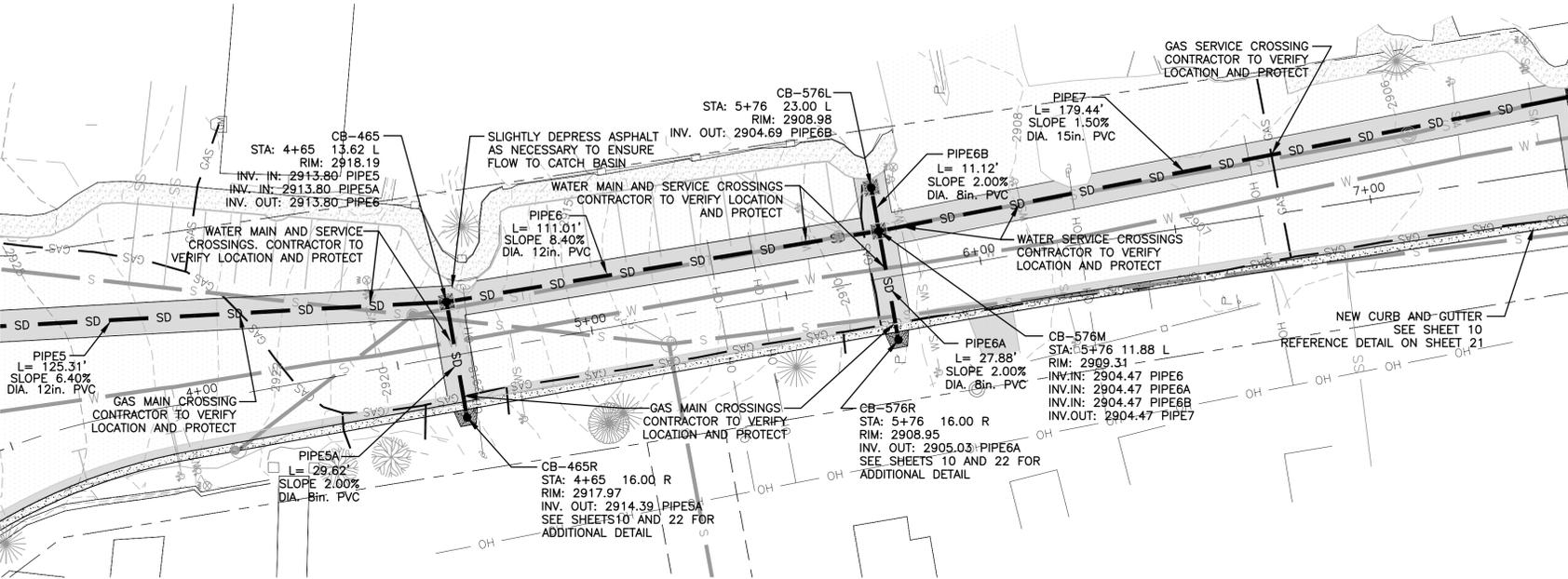
R.O.W. EXCAVATION

- CONTRACTOR IS REQUIRED TO LOCATE ALL UTILITIES AND ENCROACHMENTS CURRENTLY BURIED ON RIGHT OF WAY THAT MAY INTERFERE WITH CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL MOVE OR PROTECT AFFECTED UTILITIES.
- TRENCHES IN THE ASPHALT SHALL BE FILLED WITH APPROVED TRENCH BACKFILL MATERIAL TO WITHIN SIX INCHES BELOW TOP OF EXISTING PAVEMENT. THE REMAINING SIX INCHES WILL BE FILLED WITH 3" OF 3/4" CRUSHED GRAVEL AND 3" OF GRADE B ASPHALT WITH 95% MINIMUM COMPACTION. REFER TO SHEET 22 FOR UTILITY TRENCH DETAILS
- ASPHALT AROUND TRENCH MUST BE SQUARE CUT A MINIMUM OF ONE FOOT BEYOND THE EXCAVATED TRENCH WALL.
- THE OPEN TRENCH SHALL BE FILLED, COMPACTED AND TRAVERSABLE BY TRAFFIC BEFORE THE END OF THE WORK SHIFT. COMPLETE LANE CLOSURES SHALL BE AVOIDED IF POSSIBLE.
- ALL DISTURBED AREAS OUTSIDE OF THE PAVEMENT AREAS SHALL BE RESTORED TO FINAL GRADE WITH 4" OF TOP SOIL AND SEEDING.
- TRENCH-CUT UTILITY CONSTRUCTION WITHIN THE ROADWAYS SHALL BE SCHEDULED ON THE SAME DAY.

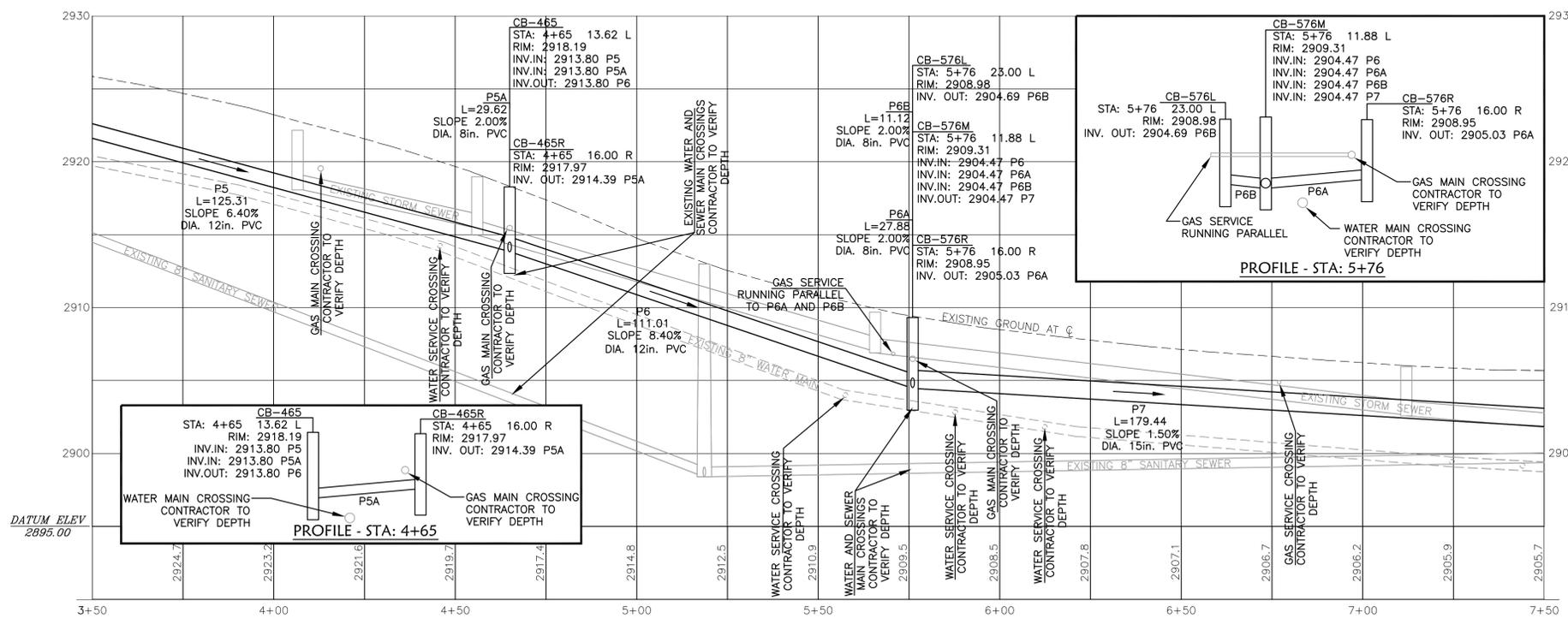
STORM UTILITIES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARDS FOR DESIGN AND CONSTRUCTION FOR FLATHEAD COUNTY, MONTANA AND THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS. THE CONSTRUCTION PLANS ARE INTENDED TO WORK IN CONJUNCTION WITH THE ABOVE STANDARDS.



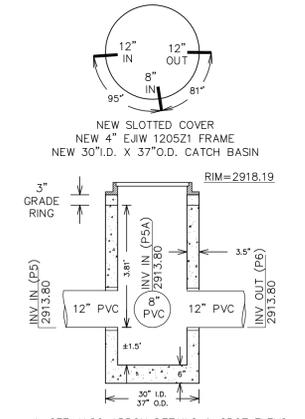
Know what's below.
Call before you dig.



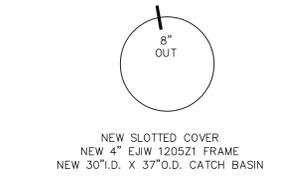
PLAN VIEW - IMPROVEMENTS



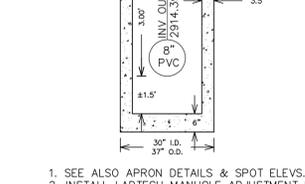
PROFILE - BRIDGE STREET NORTH



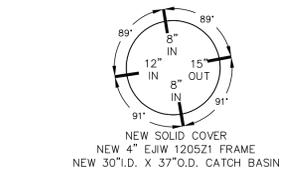
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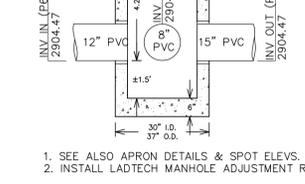
CB-465R
STA: 4+65 16.0'R
NOT TO SCALE



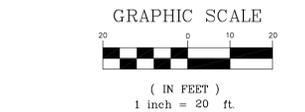
CB-465L
STA: 5+76 23.00'L
NOT TO SCALE



CB-465R
STA: 4+65 16.0'R
NOT TO SCALE



CB-465L
STA: 5+76 23.00'L
NOT TO SCALE



LEGEND

- EX - RIGHT OF WAY
- EX - SURVEY MONUMENT
- EX - SURFACE CONTOUR
- EX - PAVEMENT
- EX - CONCRETE
- EX - WATER MAIN
- EX - WATER SERVICE
- EX - GATE VALVE
- EX - CURB STOP
- EX - WATER METER
- EX - SEWER MAIN
- EX - SEWER SERVICE
- EX - SEWER MANHOLE
- EX - STORM PIPE
- EX - CATCH BASIN
- EX - UG POWER
- EX - UG TELEPHONE
- EX - UG GAS
- EX - OVERHEAD LINE
- EX - TREES
- EX - SIGN
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BIGFORK STORMWATER PROJECT
BRIDGE ST NORTH STA: 4+00 TO 7+00
FLATHEAD COUNTY, MONTANA

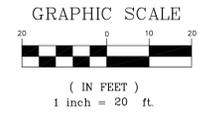
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PRELIMINARY 03/09/12

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SHEET No. **6** OF 22

PRELIMINARY NOT FOR CONSTRUCTION

BIGFORK STORMWATER PROJECT BRIDGE STREET NORTH-STA: 7+00 TO 8+49.94



LEGEND

- EX-RIGHT OF WAY
- EX-SURVEY MONUMENT
- EX-SURFACE CONTOUR
- EX-PAVEMENT
- EX-CONCRETE
- EX-WATER MAIN
- EX-WATER SERVICE
- EX-GATE VALVE
- EX-CURB STOP
- EX-WATER METER
- EX-SEWER MAIN
- EX-SEWER SERVICE
- EX-SEWER MANHOLE
- EX-STORM PIPE
- EX-CATCH BASIN
- EX-UG POWER
- EX-UG TELEPHONE
- EX-UG GAS
- EX-OVERHEAD LINE
- EX-TREES
- EX-SIGN
- P-SURFACE CONTOUR
- P-ALIGNMENT
- P-PAVEMENT
- P-CURB
- P-SIDEWALK
- P-STORM PIPE
- P-CATCH BASIN

48 NORTH
p.c.
Civil Engineering Services
151 BUSINESS CENTER LOOP, SUITE A
KALISPELL, MT 59901 406.756.4848

SEAL

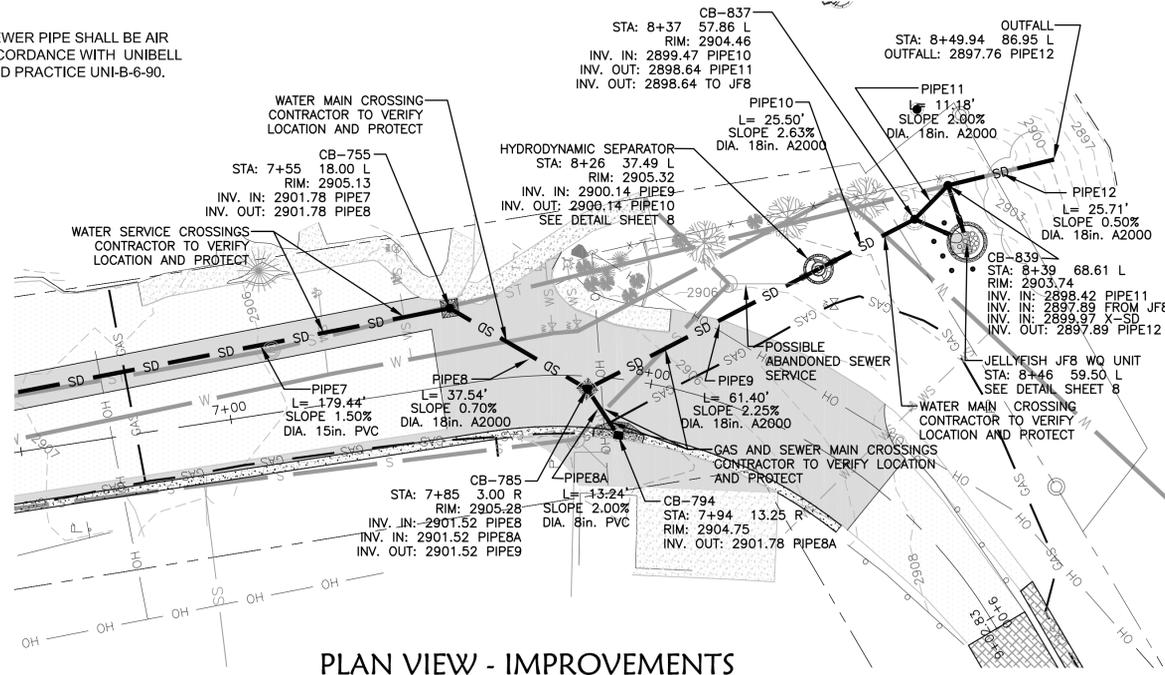
SUBCONSULTANT

BIGFORK STORMWATER PROJECT
BRIDGE ST NORTH STA: 7+00 TO 8+49.94
FLATHEAD COUNTY, MONTANA

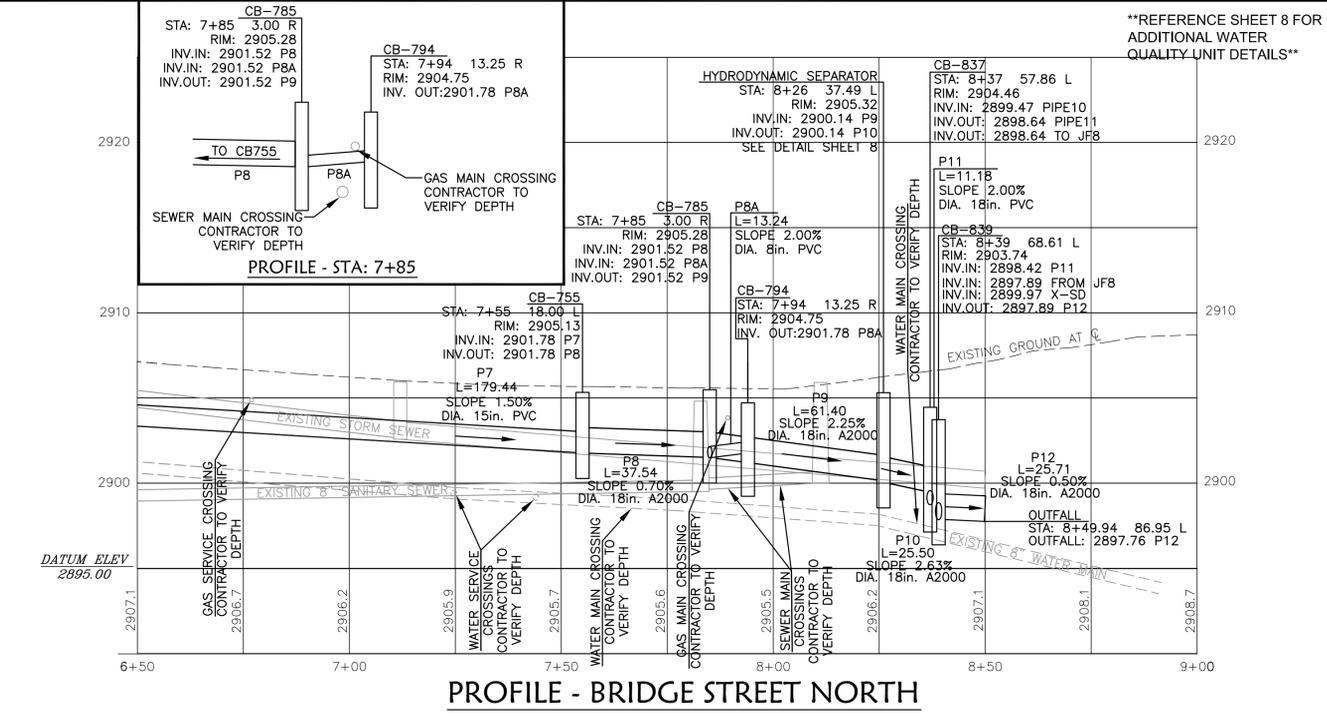
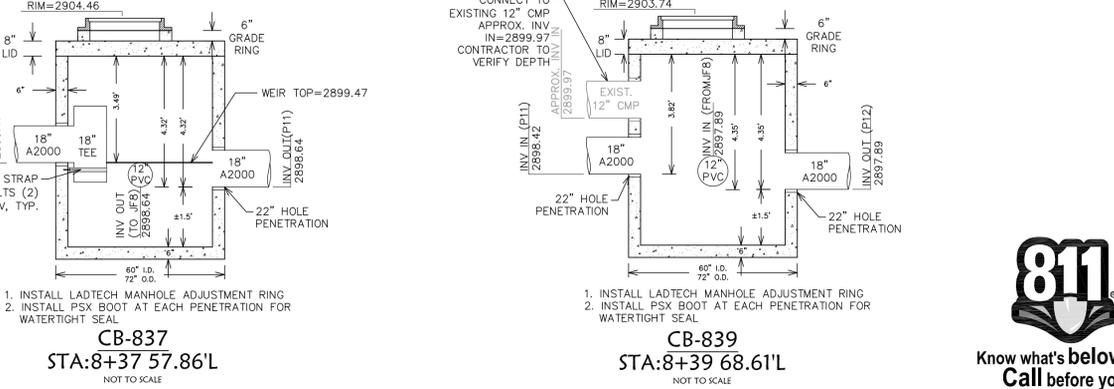
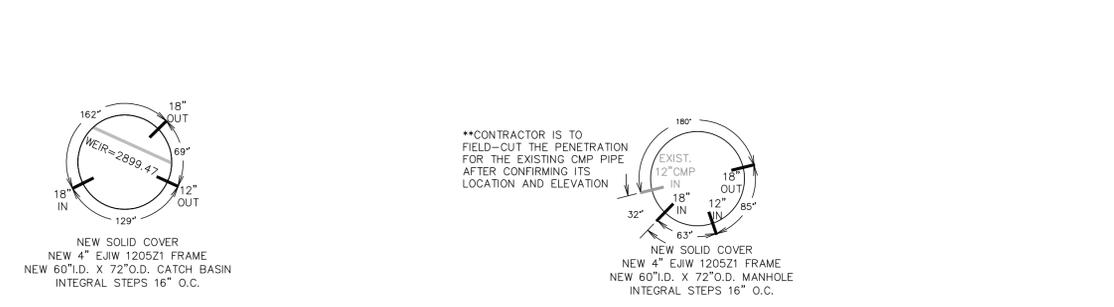
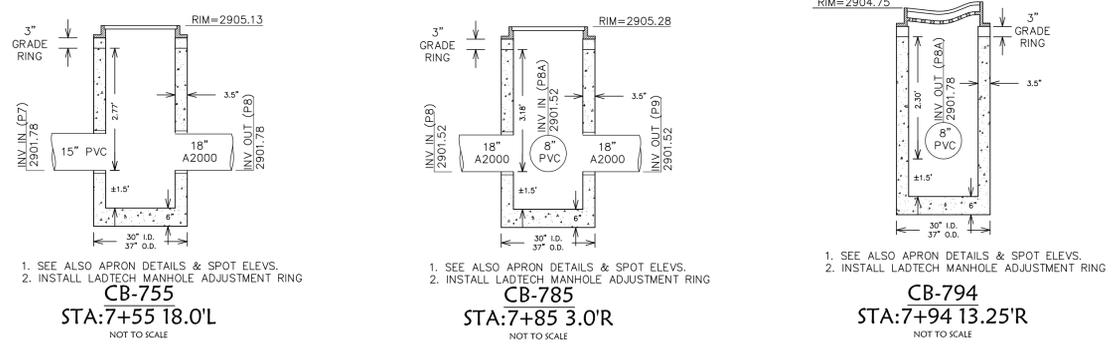
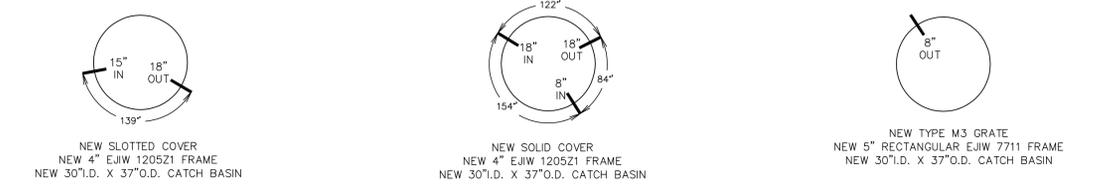
PRELIMINARY NOT FOR CONSTRUCTION

ALL STORM SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH UNIBELL RECOMMENDED PRACTICE UNI-B-6-90.

STORM UTILITIES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARDS FOR DESIGN AND CONSTRUCTION FOR FLATHEAD COUNTY, MONTANA AND THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS. THE CONSTRUCTION PLANS ARE INTENDED TO WORK IN CONJUNCTION WITH THE ABOVE STANDARDS.



PLAN VIEW - IMPROVEMENTS



PROFILE - BRIDGE STREET NORTH

R.O.W. EXCAVATION

- CONTRACTOR IS REQUIRED TO LOCATE ALL UTILITIES AND ENCROACHMENTS CURRENTLY BURIED ON RIGHT OF WAY THAT MAY INTERFERE WITH CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL MOVE OR PROTECT AFFECTED UTILITIES.
- TRENCHES IN THE ASPHALT SHALL BE FILLED WITH APPROVED TRENCH BACKFILL MATERIAL TO WITHIN SIX INCHES BELOW TOP OF EXISTING PAVEMENT. THE REMAINING SIX INCHES WILL BE FILLED WITH 3\"/>

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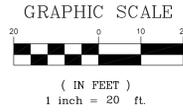
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SHEET No. **7** OF 22



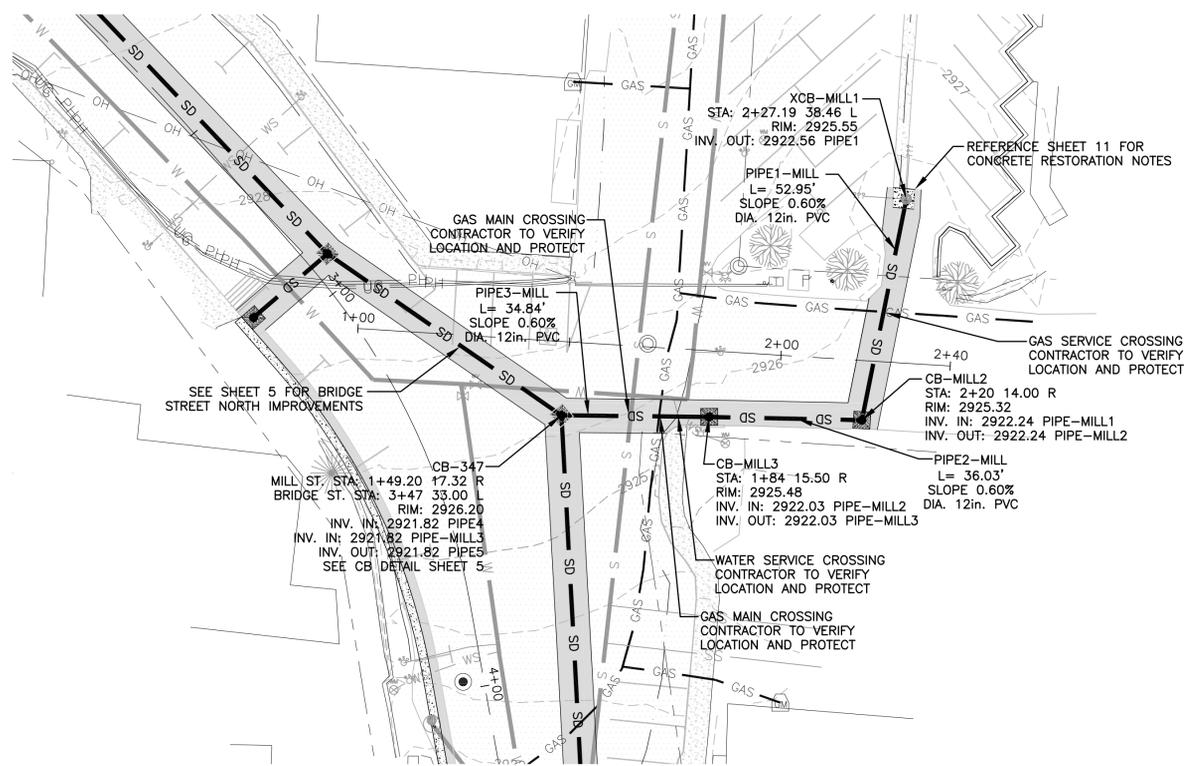
BIGFORK STORMWATER PROJECT

MILL STREET-STA: 1+00 TO 2+27.19

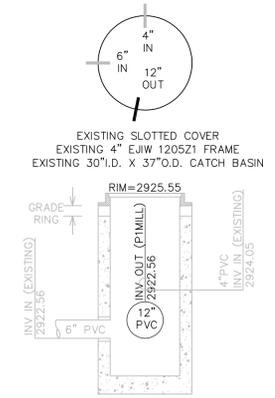


LEGEND

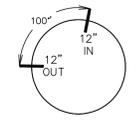
- EX-RIGHT OF WAY
- EX-SURVEY MONUMENT
- EX-SURFACE CONTOUR
- EX-PAVEMENT
- EX-CONCRETE
- W EX-WATER MAIN
- WS EX-WATER SERVICE
- SV EX-VALVE
- CS EX-CURB STOP
- SM EX-WATER METER
- SS EX-SEWER MAIN
- SS EX-SEWER SERVICE
- SM EX-SEWER MANHOLE
- ST EX-STORM PIPE
- PWR EX-CATCH BASIN
- PH EX-UG POWER
- PH EX-UG TELEPHONE
- GAS EX-UG GAS
- OH EX-OVERHEAD LINE
- EX-TREES
- EX-SIGN
- 3001 P-SURFACE CONTOUR
- P-ALIGNMENT
- P-PAVEMENT
- P-CURB
- P-SIDE WALK
- P-STORM PIPE
- P-CATCH BASIN



PLAN VIEW - IMPROVEMENTS



1. CONTRACTOR SHALL VERIFY ALL DIMENSIONS & ELEVATIONS IN THE FIELD.
 2. SEE ALSO APRON DETAILS & SPOT ELEV.
- XCB-MILL-1**
STA: 2+27.19 38.46'L
NOT TO SCALE

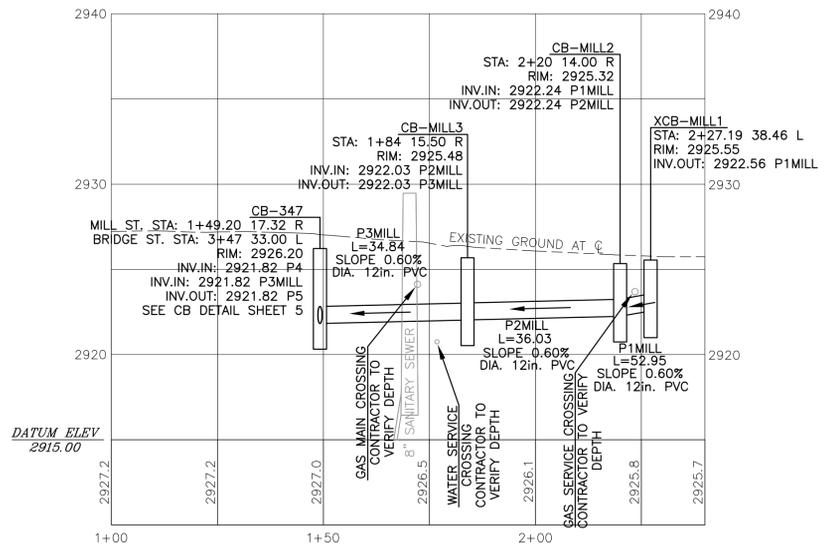


1. SEE ALSO APRON DETAILS & SPOT ELEV.
 2. INSTALL LADTECH MANHOLE ADJUSTMENT RING
- CB-MILL-2**
STA: 2+20 14.0'R
NOT TO SCALE



1. SEE ALSO APRON DETAILS & SPOT ELEV.
 2. INSTALL LADTECH MANHOLE ADJUSTMENT RING
- CB-MILL-3**
STA: 1+84 15.5'R
NOT TO SCALE

ALL STORM SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH UNIBELL RECOMMENDED PRACTICE UNI-B-6-90.



PROFILE - MILL STREET

STORM UTILITIES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARDS FOR DESIGN AND CONSTRUCTION FOR FLATHEAD COUNTY, MONTANA AND THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS. THE CONSTRUCTION PLANS ARE INTENDED TO WORK IN CONJUNCTION WITH THE ABOVE STANDARDS.

R.O.W. EXCAVATION

- 1) CONTRACTOR IS REQUIRED TO LOCATE ALL UTILITIES AND ENCROACHMENTS CURRENTLY BURIED ON RIGHT OF WAY THAT MAY INTERFERE WITH CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL MOVE OR PROTECT AFFECTED UTILITIES.
- 2) TRENCHES IN THE ASPHALT SHALL BE FILLED WITH APPROVED TRENCH BACKFILL MATERIAL TO WITHIN SIX INCHES BELOW TOP OF EXISTING PAVEMENT. THE REMAINING SIX INCHES WILL BE FILLED WITH 3" OF 3/4" CRUSHED GRAVEL AND 3" OF GRADE B ASPHALT WITH 95% MINIMUM COMPACTION. REFER TO SHEET 22 FOR UTILITY TRENCH DETAILS
- 3) ASPHALT AROUND TRENCH MUST BE SQUARE CUT A MINIMUM OF ONE FOOT BEYOND THE EXCAVATED TRENCH WALL.
- 4) THE OPEN TRENCH SHALL BE FILLED, COMPACTED AND TRAVERSABLE BY TRAFFIC BEFORE THE END OF THE WORK SHIFT. COMPLETE LANE CLOSURES SHALL BE AVOIDED IF POSSIBLE.
- 5) ALL DISTURBED AREAS OUTSIDE OF THE PAVEMENT AREAS SHALL BE RESTORED TO FINAL GRADE WITH 4" OF TOP SOIL AND SEEDING.
- 6) TRENCH-CUT UTILITY CONSTRUCTION WITHIN THE ROADWAYS SHALL BE SCHEDULED ON THE SAME DAY.



BIGFORK STORMWATER PROJECT

MILL ST STA: 1+00 TO 2+27.19
FLATHEAD COUNTY, MONTANA

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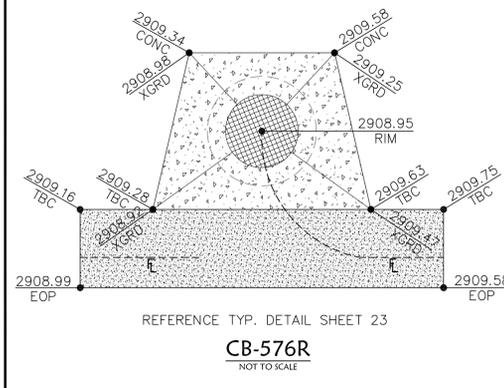
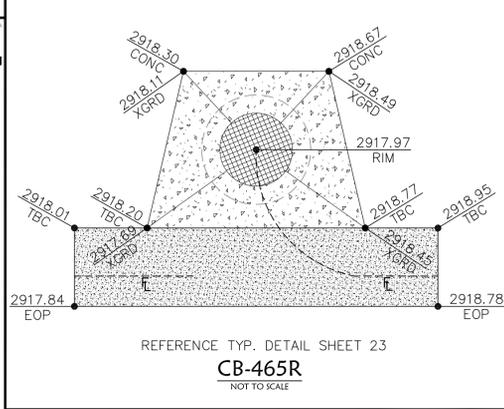
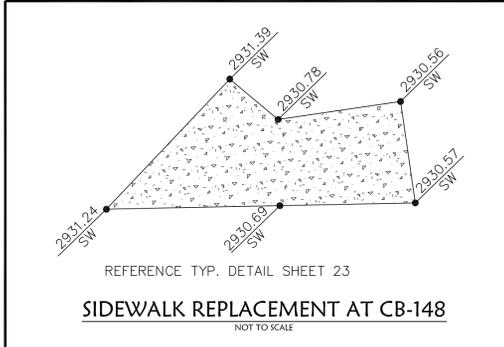
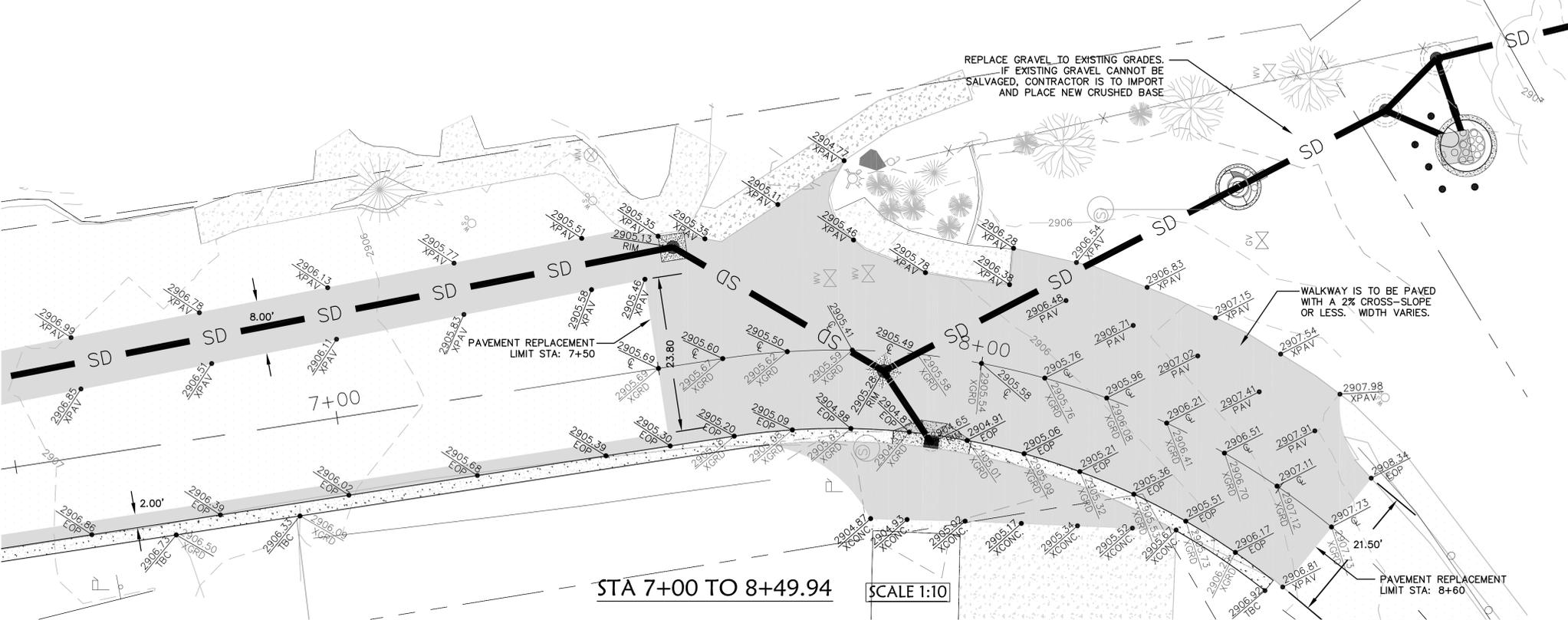
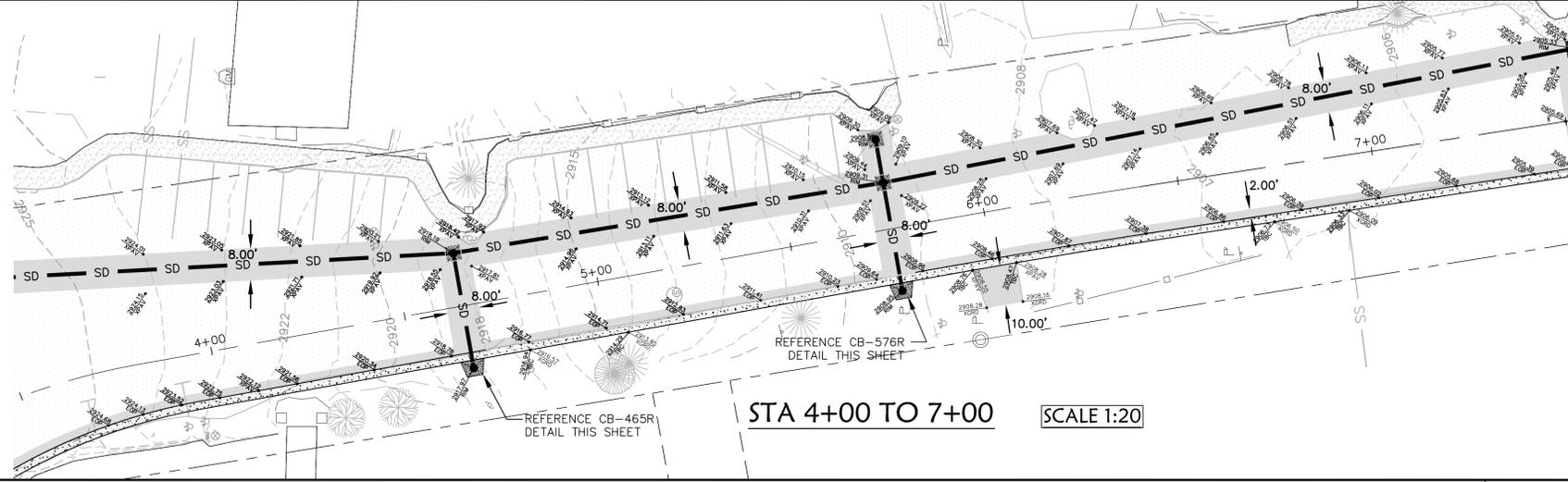
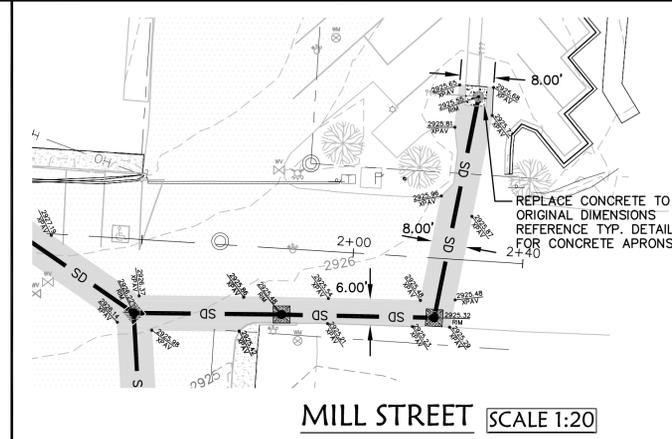
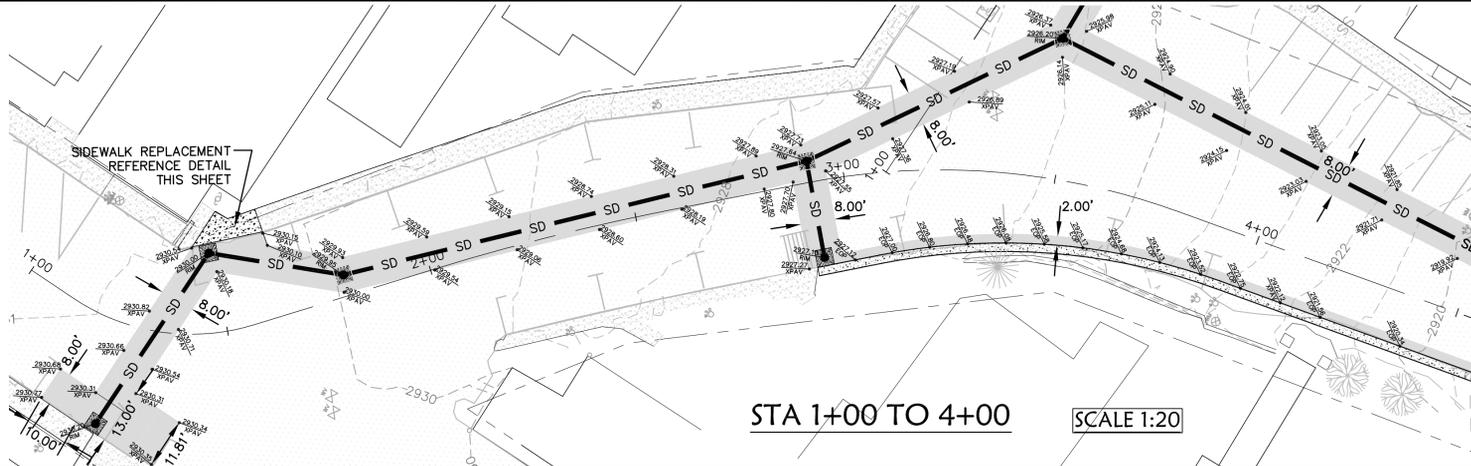
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| BOOK | PAGE |
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BIGFORK STORMWATER PROJECT BRIDGE STREET NORTH-GRADING

LEGEND

- EX—RIGHT OF WAY
- EX—SURVEY MONUMENT
- EX—SURFACE CONTOUR
- EX—PAVEMENT
- EX—CONCRETE
- EX—WATER MAIN
- EX—WATER SERVICE
- EX—GATE VALVE
- EX—CURB STOP
- EX—WATER METER
- EX—SEWER MAIN
- EX—SEWER SERVICE
- EX—SEWER MANHOLE
- EX—STORM PIPE
- EX—CATCH BASIN
- EX—UG POWER
- EX—UG TELEPHONE
- EX—UG GAS
- EX—OVERHEAD LINE
- EX—TREES
- EX—SIGN
- P—SURFACE CONTOUR
- P—ALIGNMENT
- P—PAVEMENT
- P—CURB
- P—SIDEWALK
- P—STORM PIPE
- P—CATCH BASIN

- NOTE:
1) TOP OF PAVEMENT SURFACE MUST BE ABOVE THE BOTTOM OF THE SIDEWALK SECTION.
2) THE PAVEMENT REPLACEMENT AREAS ARE REQUIRED TO SUFFICIENTLY DRAIN TOWARDS THE INLETS OF THE CATCH BASINS.
3) PAVEMENT REPLACEMENT AREAS THAT HAVE EITHER HIGH SPOTS, LOW SPOTS, OR CAUSE THE SURFACE FLOWS TO BE IMPEDED WILL BE REQUIRED TO BE REINSTALLED



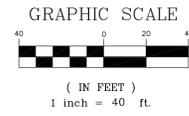
BIGFORK STORMWATER PROJECT
BRIDGE ST NORTH - GRADING
FLATHEAD COUNTY, MONTANA

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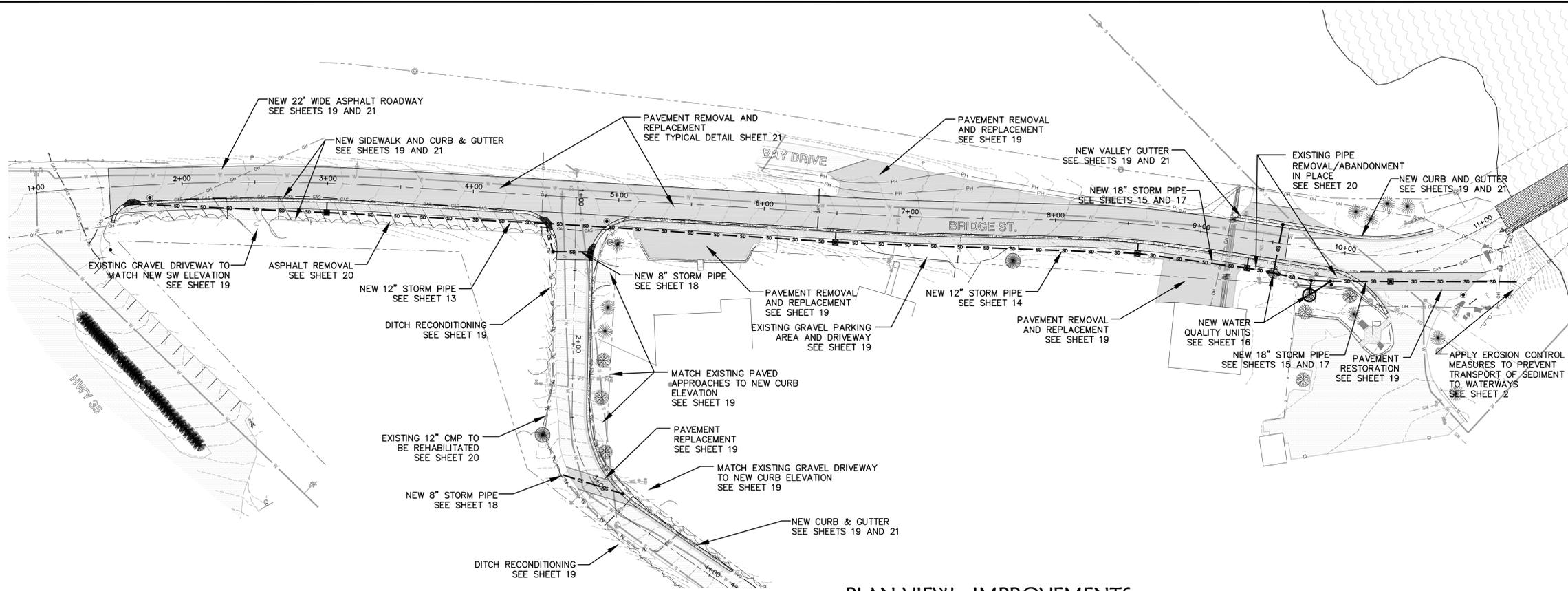
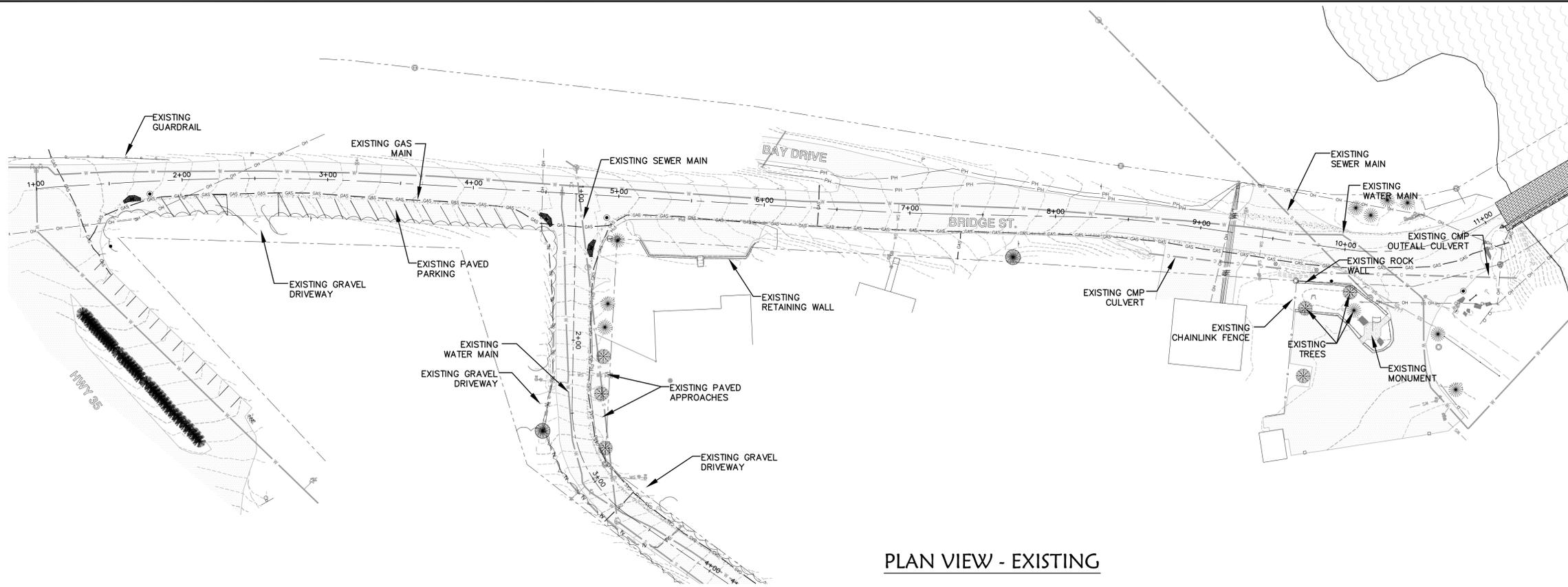
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BIGFORK STORMWATER PROJECT BRIDGE STREET SOUTH-SITE LAYOUT



LEGEND

- EX - RIGHT OF WAY
- EX - SURVEY MONUMENT
- EX - SURFACE CONTOUR
- EX - PAVEMENT
- EX - CONCRETE
- EX - WATER MAIN
- EX - WATER SERVICE
- EX - GATE VALVE
- EX - CURB STOP
- EX - WATER METER
- EX - SEWER MAIN
- EX - SEWER SERVICE
- EX - SEWER MANHOLE
- EX - STORM PIPE
- EX - CATCH BASIN
- EX - UG POWER
- EX - UG TELEPHONE
- EX - UG GAS
- EX - OVERHEAD LINE
- EX - TREES
- EX - SIGN
- P - SURFACE CONTOUR
- P - ALIGNMENT
- P - PAVEMENT
- P - CURB
- P - SIDEWALK
- P - STORM PIPE
- P - CATCH BASIN



SEAL

SUBCONSULTANT

BIGFORK STORMWATER PROJECT
BRIDGE ST SOUTH - SITE LAYOUT
FLATHEAD COUNTY, MONTANA

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PRELIMINARY NOT FOR CONSTRUCTION

BIGFORK STORMWATER PROJECT BRIDGE STREET SOUTH-STA: 8+00 TO 10+99.66



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Call before you dig.

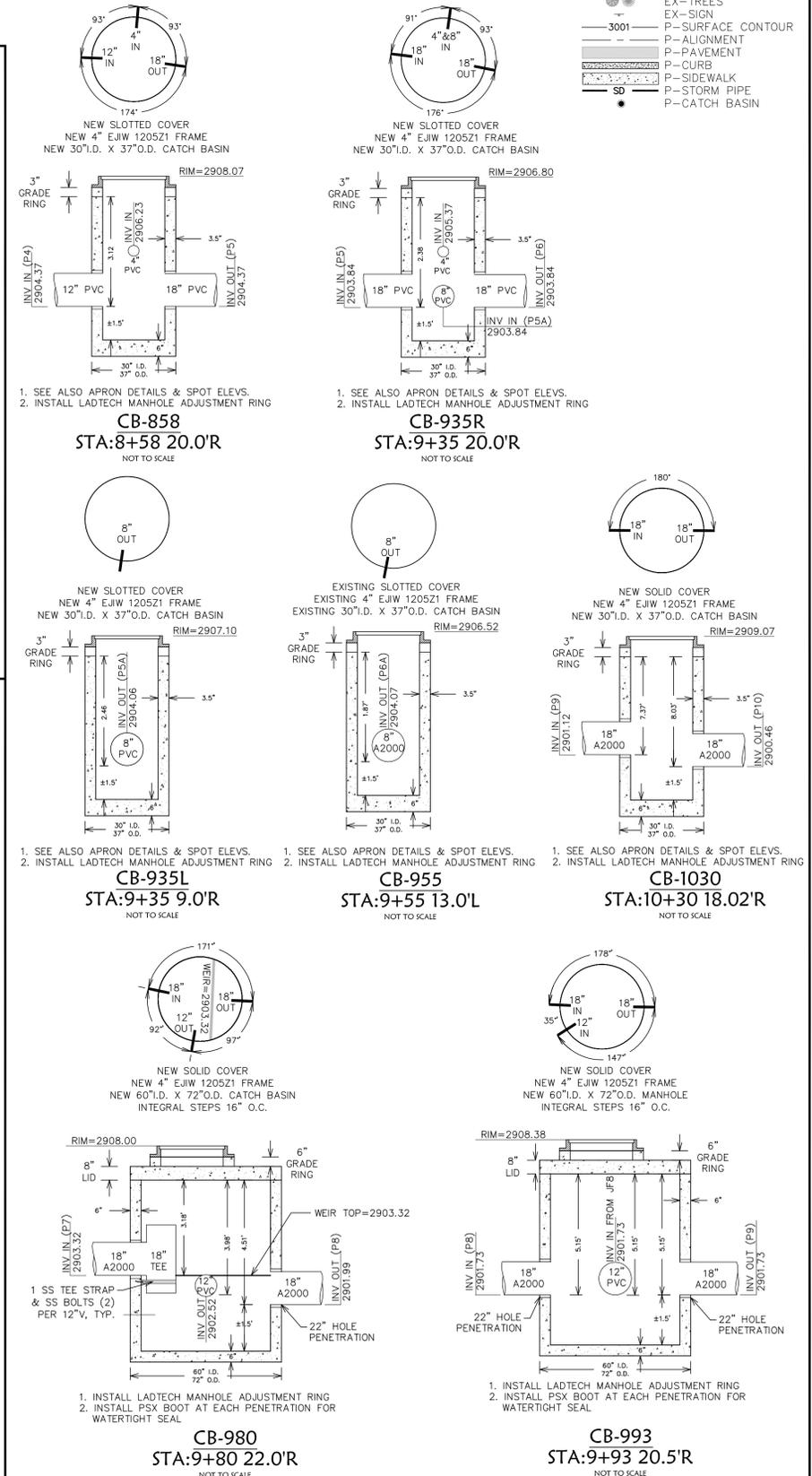
LEGEND

- EX-RIGHT OF WAY
- EX-SURVEY MONUMENT
- EX-SURFACE CONTOUR
- EX-PAVEMENT
- EX-CONCRETE
- EX-WATER MAIN
- EX-WATER SERVICE
- EX-GATE VALVE
- EX-CURB STOP
- EX-WATER METER
- EX-SEWER MAIN
- EX-SEWER SERVICE
- EX-SEWER MANHOLE
- EX-STORM PIPE
- EX-CATCH BASIN
- EX-UG POWER
- EX-UG TELEPHONE
- EX-UG GAS
- EX-OVERHEAD LINE
- EX-TREES
- EX-SIGN
- P-SURFACE CONTOUR
- P-ALIGNMENT
- P-PAVEMENT
- P-CURB
- P-SIDEWALK
- P-STORM PIPE
- P-CATCH BASIN

GRAPHIC SCALE



(IN FEET)
1 inch = 20 ft.



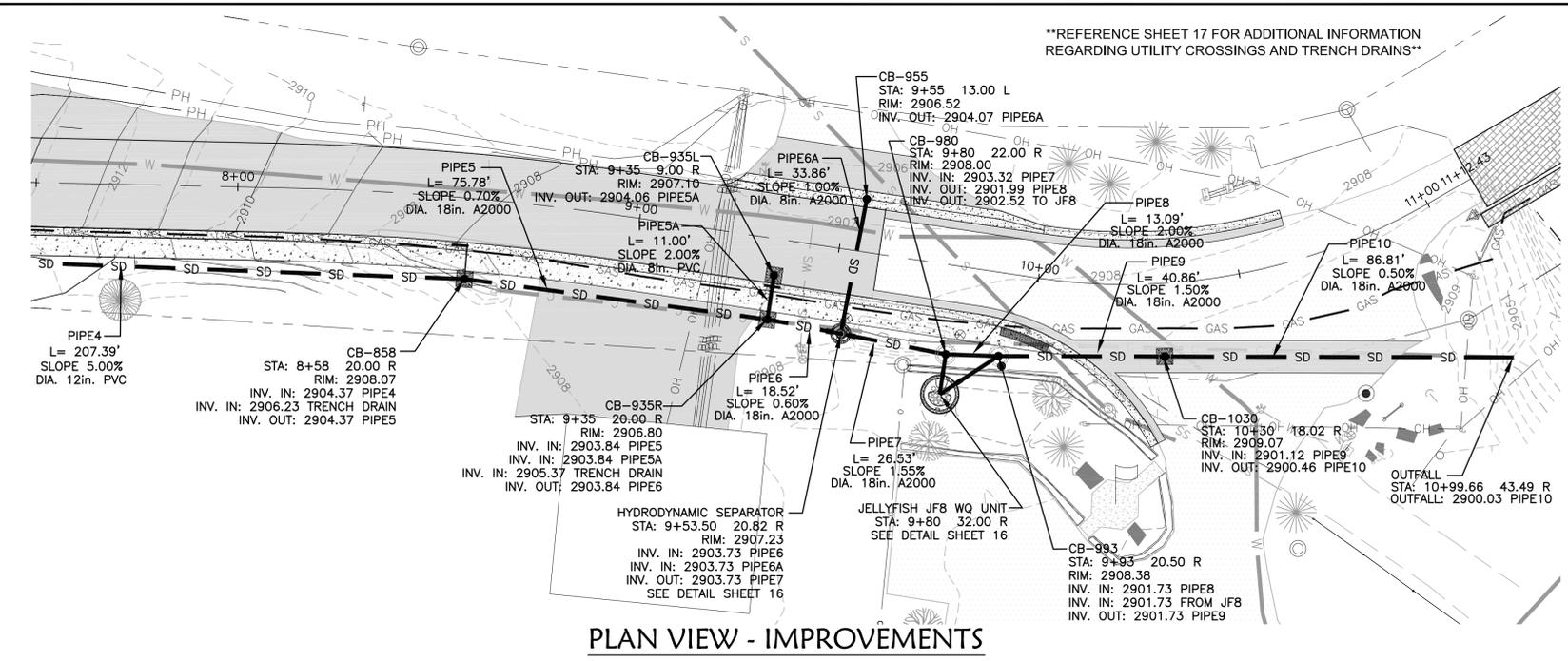
- SEE ALSO APRON DETAILS & SPOT ELVES.
- INSTALL LADTECH MANHOLE ADJUSTMENT RING

- SEE ALSO APRON DETAILS & SPOT ELVES.
- INSTALL LADTECH MANHOLE ADJUSTMENT RING

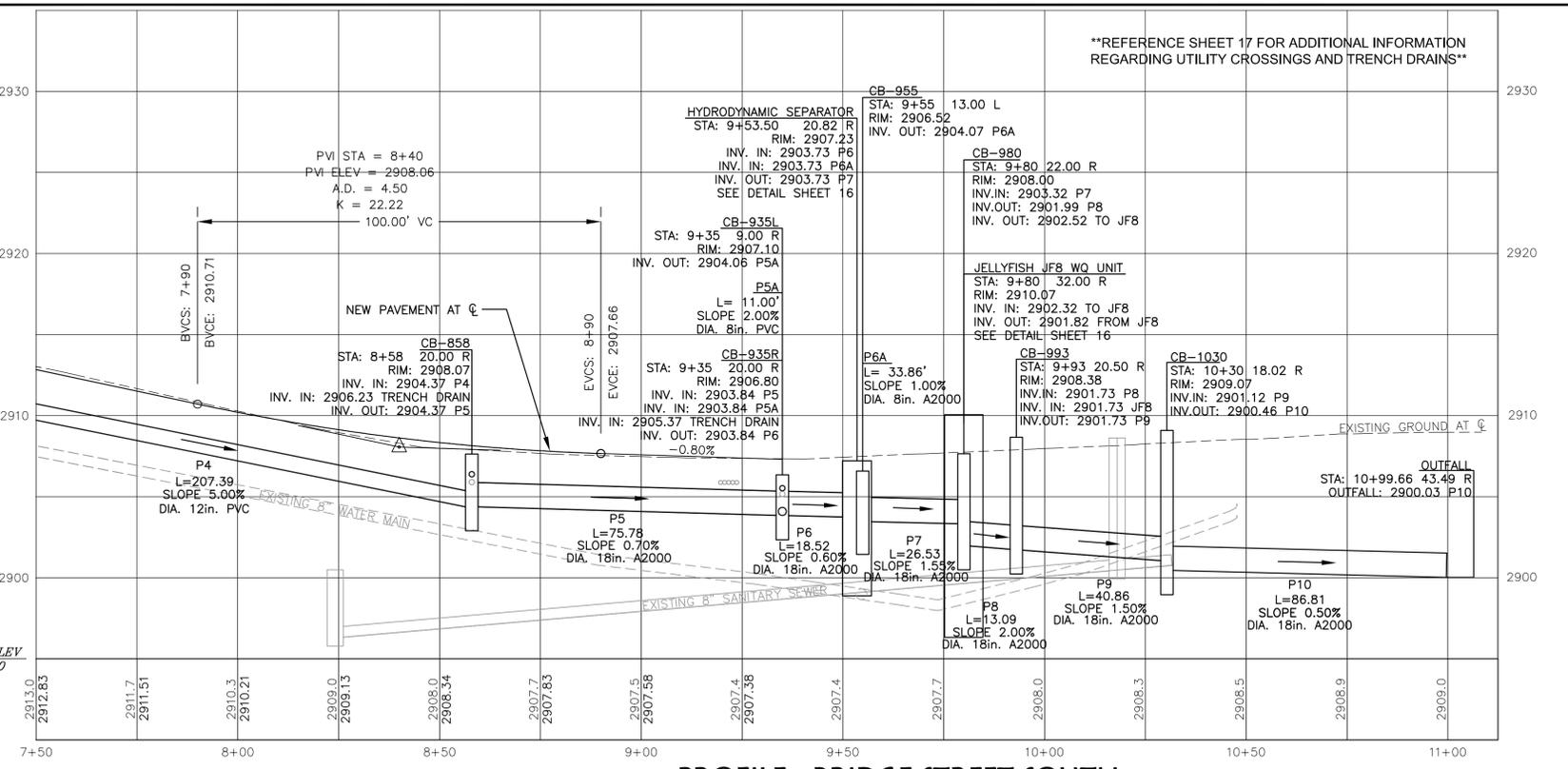
- INSTALL LADTECH MANHOLE ADJUSTMENT RING
- INSTALL PSX BOOT AT EACH PENETRATION FOR WATERTIGHT SEAL

CB-980
STA: 9+80 22.0'R
NOT TO SCALE

CB-993
STA: 9+93 20.5'R
NOT TO SCALE



PLAN VIEW - IMPROVEMENTS



PROFILE - BRIDGE STREET SOUTH

STORM UTILITIES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARDS FOR DESIGN AND CONSTRUCTION FOR FLATHEAD COUNTY, MONTANA AND THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS. THE CONSTRUCTION PLANS ARE INTENDED TO WORK IN CONJUNCTION WITH THE ABOVE STANDARDS.

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48 NORTH
p.c.
Civil Engineering Services

151 BUSINESS CENTER LOOP, SUITE A
KALISPELL, MT 59901 406.756.4848

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SUBCONSULTANT

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BRIDGE ST SOUTH STA: 8+00 TO 10+99.66
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PRELIMINARY NOT FOR CONSTRUCTION

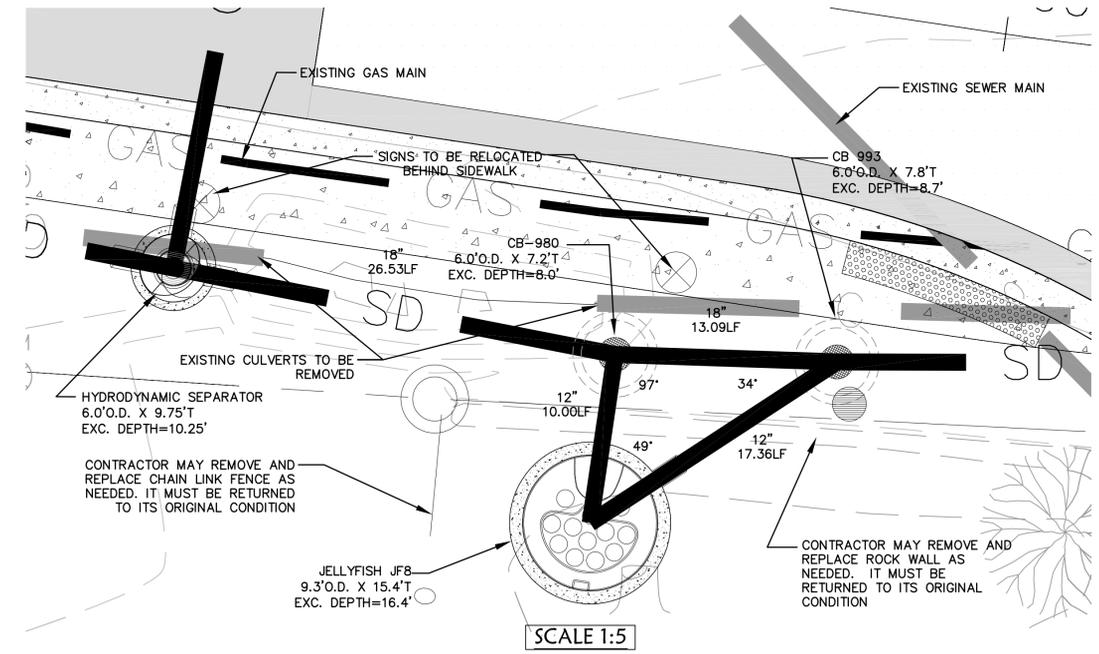
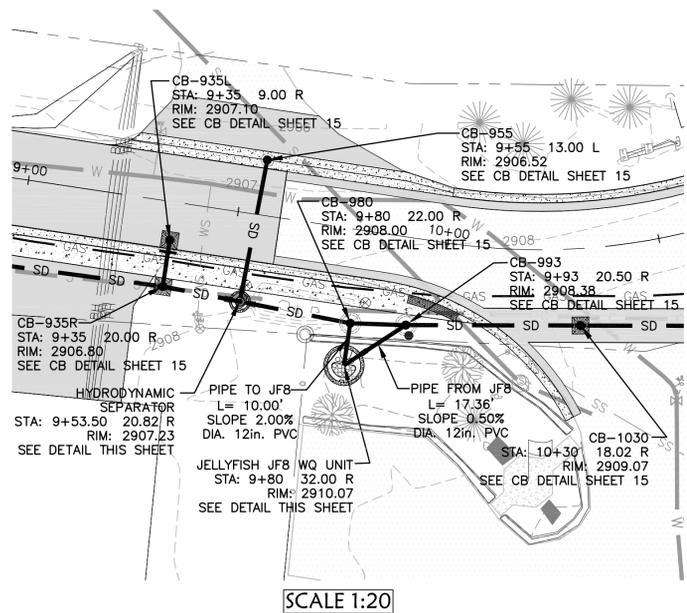
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PROJECT NUMBER
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SHEET No. 15 OF 22

BIGFORK STORMWATER PROJECT BRIDGE STREET SOUTH-WATER QUALITY UNITS



ALL STORM SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH UNIBELL RECOMMENDED PRACTICE UNI-B-6-90.

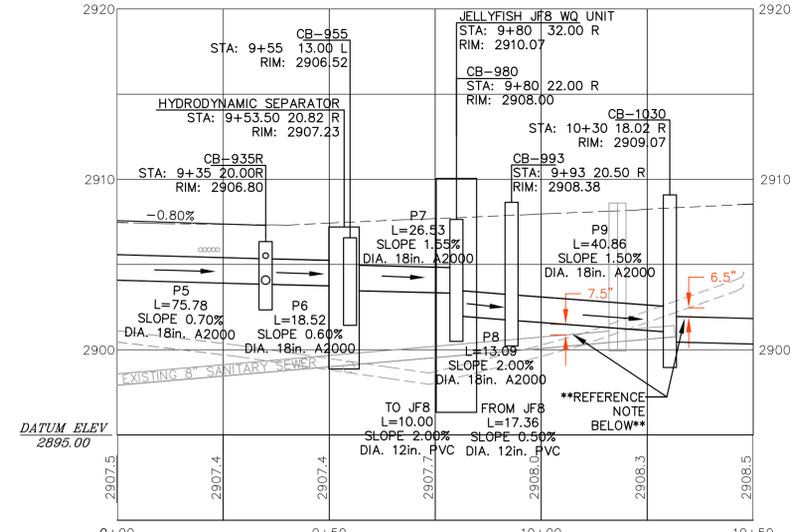
STORM UTILITIES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARDS FOR DESIGN AND CONSTRUCTION FOR FLATHEAD COUNTY, MONTANA AND THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS. THE CONSTRUCTION PLANS ARE INTENDED TO WORK IN CONJUNCTION WITH THE ABOVE STANDARDS.

LEGEND

- EX - RIGHT OF WAY
- EX - SURVEY MONUMENT
- EX - PAVEMENT
- EX - CONCRETE
- EX - WATER MAIN
- EX - GATE VALVE
- EX - CURB STOP
- EX - WATER METER
- EX - SEWER MAIN
- EX - SEWER SERVICE
- EX - SEWER MANHOLE
- EX - STORM PIPE
- EX - CATCH BASIN
- EX - UG POWER
- EX - UG TELEPHONE
- EX - UG GAS
- EX - OVERHEAD LINE
- EX - TREES
- EX - SIGN
- P - SURFACE CONTOUR
- P - ALIGNMENT
- P - PAVEMENT
- P - CURB
- P - SIDEWALK
- P - STORM PIPE
- P - CATCH BASIN



Know what's below.
Call before you dig.

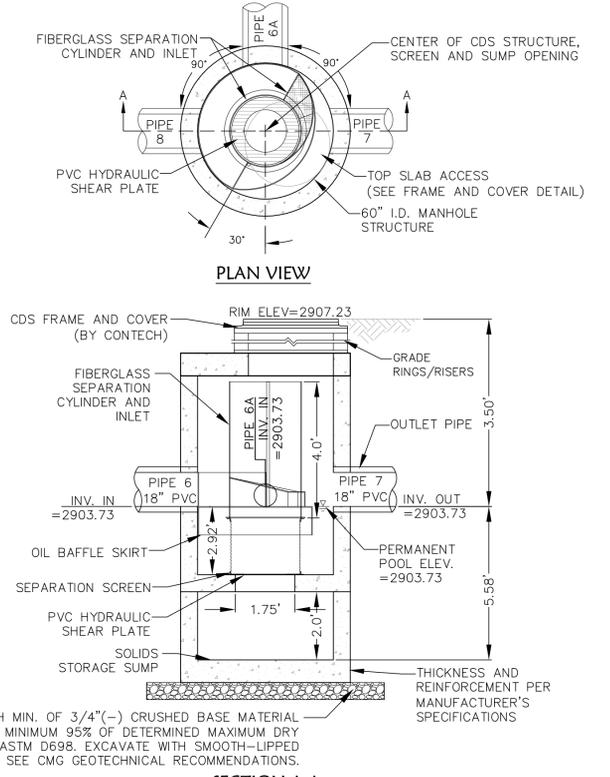


PROFILE - BRIDGE STREET SOUTH

NOTE: PRIOR TO INSTALLATION OF THE WATER QUALITY UNITS, THE CONTRACTOR IS TO VERIFY THAT NO CONFLICTS EXIST BETWEEN PIPE 9 AND EXISTING WATER AND SEWER UTILITIES AT CROSSINGS. THE FUNCTION OF THE WQ UNITS IS DEPENDENT UPON THE LOCATIONS AND ELEVATIONS SHOWN. IF A CONFLICT EXISTS AND PIPE 9 MUST BE RAISED OR LOWERED, THE WQ UNITS WILL BE REQUIRED TO BE RAISED OR LOWERED TO MAINTAIN FUNCTIONALITY. IF THE CONTRACTOR CHOOSES NOT FOLLOW THIS DIRECTION AND DISCOVERS A CONFLICT AFTER INSTALLATION OF THE WQ UNITS, THE CONTRACTOR WILL BE RESPONSIBLE TO ADJUST THE WQ UNITS TO NEWLY DESIGNED GRADES AT NO COST TO THE OWNER. ALL WATER AND STORM SEWER CROSSINGS WITH LESS THAN 18" OF VERTICAL SEPARATION SHALL BE REQUIRED TO BE SEALED BY CONCRETE ENCASE OR OTHER METHOD AS REQUIRED BY THE MT DEPARTMENT OF ENVIRONMENTAL QUALITY. THE CONTRACTOR IS RESPONSIBLE FOR BEING FAMILIAR WITH THE REQUIREMENTS AND IMPLEMENT ALL METHODS TO MEET THOSE REQUIREMENTS.

R.O.W. EXCAVATION

- 1) CONTRACTOR IS REQUIRED TO LOCATE ALL UTILITIES AND ENCROACHMENTS CURRENTLY BURIED ON RIGHT OF WAY THAT MAY INTERFERE WITH CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL MOVE OR PROTECT AFFECTED UTILITIES.
- 2) TRENCHES IN THE ASPHALT SHALL BE FILLED WITH APPROVED TRENCH BACKFILL MATERIAL TO WITHIN SIX INCHES BELOW TOP OF EXISTING PAVEMENT. THE REMAINING SIX INCHES WILL BE FILLED WITH 3" OF 3/4" CRUSHED GRAVEL AND 3" OF GRADE B ASPHALT WITH 95% MINIMUM COMPACTION. REFER TO SHEET 22 FOR UTILITY TRENCH DETAILS
- 3) ASPHALT AROUND TRENCH MUST BE SQUARE CUT A MINIMUM OF ONE FOOT BEYOND THE EXCAVATED TRENCH WALL.
- 4) THE OPEN TRENCH SHALL BE FILLED, COMPACTED AND TRAVERSABLE BY TRAFFIC BEFORE THE END OF THE WORK SHIFT. COMPLETE LANE CLOSURES SHALL BE AVOIDED IF POSSIBLE.
- 5) ALL DISTURBED AREAS OUTSIDE OF THE PAVEMENT AREAS SHALL BE RESTORED TO FINAL GRADE WITH 4" OF TOP SOIL AND SEEDING.
- 6) TRENCH-CUT UTILITY CONSTRUCTION WITHIN THE ROADWAYS SHALL BE SCHEDULED ON THE SAME DAY.

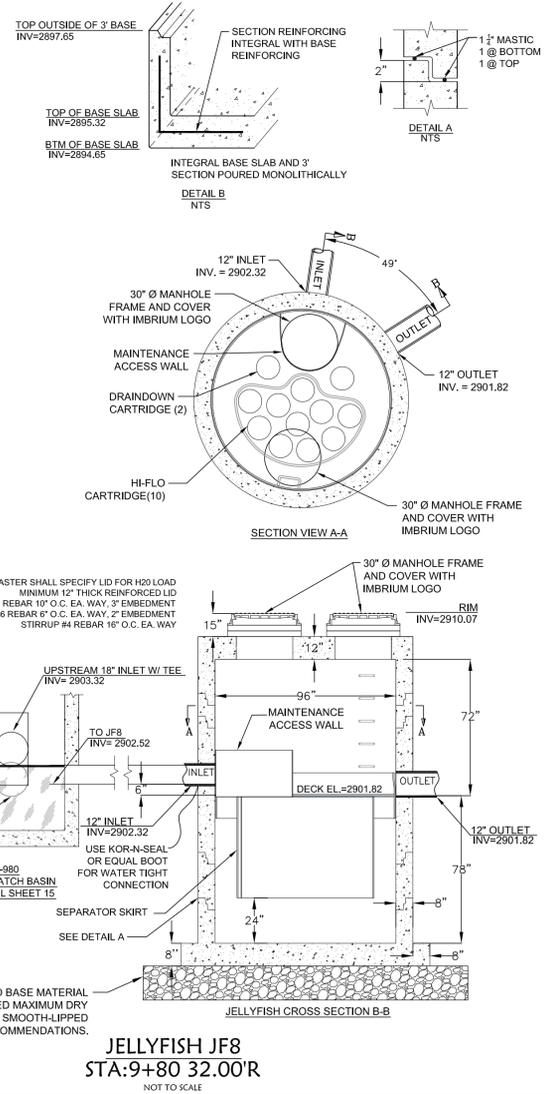


HYDRODYNAMIC SEPARATOR NOTES:

1. THE HYDRODYNAMIC SEPARATOR UNIT SPECIFIED IS THE MODEL CDS2025-5-C AS MANUFACTURED BY CONTECH ENGINEERED SOLUTIONS.
2. CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING ALL OF MANUFACTURER'S GUIDELINES AT A MINIMUM.
3. CONTRACTOR SHALL IMPLEMENT RECOMMENDATIONS FROM CONTECH ENGINEERED SOLUTIONS AND FOLLOW MPWSS AND OSHA REGULATIONS FOR SHORING, EXCAVATION, FILL, AND ALL EARTHWORK AS APPLICABLE.
4. CONTRACTOR SHALL PROVIDE EQUIPMENT, LABOR, MATERIALS, AND INCIDENTALS TO RIG, UNLOAD, AND SET STRUCTURES.
5. CONTRACTOR SHALL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY, EXIT POINTS, AND ALL LIFE POINTS TO MAKE STRUCTURE WATERTIGHT. USE PSX FLEXIBLE CONNECTION SEALS, OR APPROVED EQUAL, AT THE INLETS AND OUTLETS. SUBMIT SPECIFICATIONS TO ENGINEER FOR APPROVAL.
6. THE FRAME AND COVER SHALL BE POSITIONED AS SHOWN WITH MANHOLE ACCESS STEPS MEETING MPWSS.
7. FINAL MAINTENANCE AND CLEANING SHALL BE PERFORMED AFTER THE SITE HAS BEEN STABILIZED AND THE PROJECT IS READY FOR CLOSEOUT.
8. WHERE SPECIFIED, CONTECH ENGINEERED SOLUTIONS WATER QUALITY UNITS HAVE BEEN SELECTED FOR THIS PROJECT AS BEING REPRESENTATIVE OF THE TYPE, FUNCTION, PERFORMANCE, AND QUALITY REQUIRED. NO EQUAL MODELS WILL BE APPROVED.

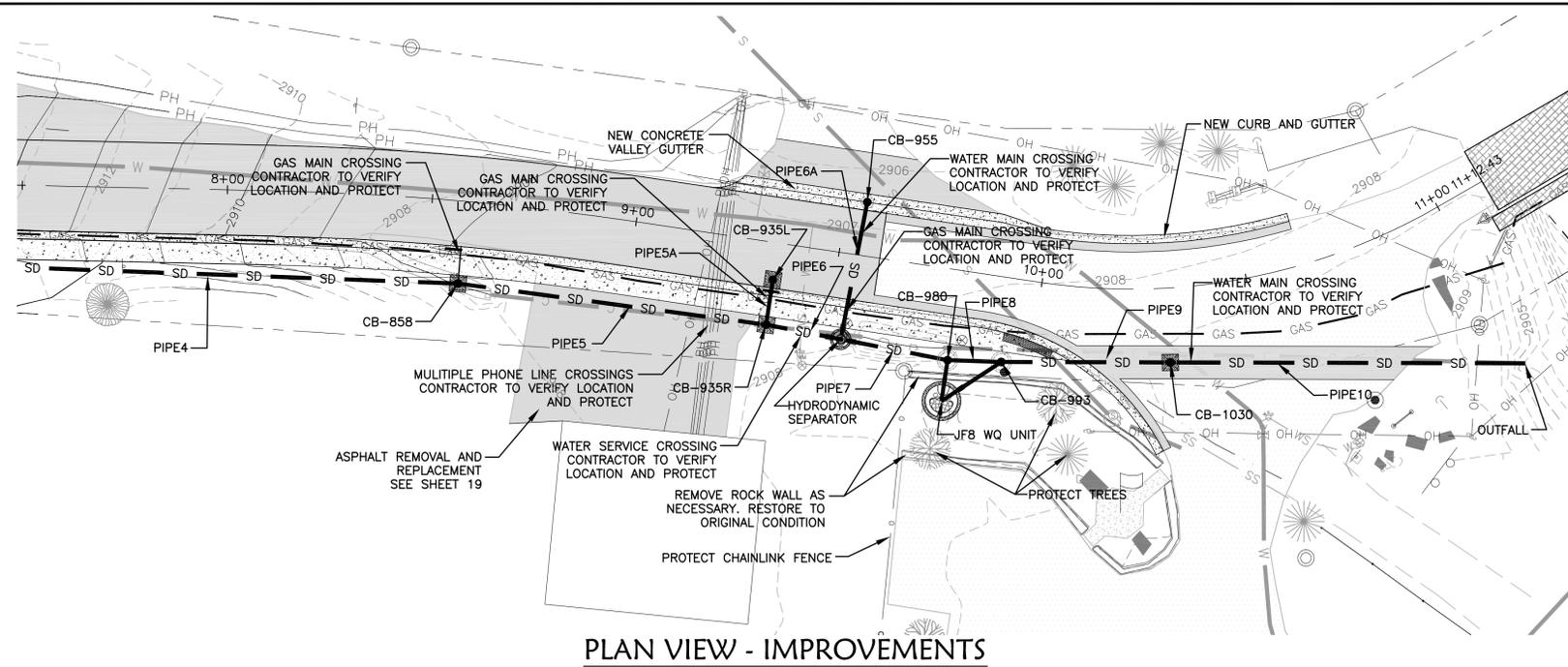
CDS HYDRODYNAMIC SEPARATOR
STA: 9+53.50 20.82'R
NOT TO SCALE

- INSTALLATION NOTES:**
1. ADJACENT PROPERTIES SHALL BE PROTECTED AND PROPERTY LINE ENCROACHMENT SHALL BE AVOIDED.
 2. CONTRACTOR SHALL IMPLEMENT THE MINIMUM RECOMMENDATIONS FROM CMG ENGINEERING FOR SHORING, EXCAVATION, FILL, AND ALL EARTHWORK. INCLUDE ALL COSTS IN BID. SEE GEOTECHNICAL ENGINEERING REPORT & RECOMMENDATIONS.
 3. CONTRACTOR SHALL DESIGN AND IMPLEMENT INTERMEDIATE SAFETY GRATES OR OTHER STRUCTURAL ELEMENTS AS NECESSARY. INCLUDE ALL COSTS IN BID.
 4. CONTRACTOR SHALL PROVIDE EQUIPMENT, LABOR, MATERIALS, AND INCIDENTALS TO RIG, UNLOAD, AND SET STRUCTURES.
 5. CONTRACTOR SHALL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOTS), AND ALL LIFE POINTS TO MAKE STRUCTURE WATERTIGHT.
 6. CONTRACTOR SHALL TAKE APPROPRIATE MEASURES TO PREVENT UNTREATED CONSTRUCTION SITE EROSION AND SEDIMENT RUNOFF FROM ENTERING THE JELLYFISH.
 7. CARTRIDGE INSTALLATION SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE JELLYFISH UNIT IS CLEAN AND FREE OF DEBRIS. CARTRIDGES SHALL BE FURNISHED NEW, AT TIME OF FINAL ACCEPTANCE.
 8. CASTINGS OR DOORS OF THE JELLYFISH MANHOLE STRUCTURE TO EXTEND TO DESIGN FINISH GRADE. 30" MAINTENANCE ACCESS WALL TO BE USED FOR CLEANOUT AND ACCESS BELOW CARTRIDGE DECK.
 9. CASTINGS AND GRADE RINGS SHALL BE GROUTED FOR WATERTIGHTNESS.
 10. CONCRETE RISER SECTIONS FROM BOTTOM TO TOP WILL TYPICALLY BE 3 FT, 2 FT, 6 FT, AND 1 FT, WITH OTHER SECTIONS ADDED AS REQUIRED INCLUDING TRANSITION PIECES TO SMALLER DIAMETER RISERS FOR SURFACE ACCESSES WHERE WARRANTED BY SERVING DEPTH.
 11. INTEGRAL MANHOLE STEPS TO BE APPROXIMATELY 16" APART AND DIMENSIONS MUST MEET MPWSS AND LOCAL STANDARDS. STEPS MUST BE INSTALLED AFTER CARTRIDGE DECK IS IN PLACE.
 12. ALL SECTIONS AND PARTS TO MEET OR EXCEED ASTM C-478, ASTM C-443, AND ASTM D-4097 CORRESPONDING TO AASHTO SPECIFICATIONS, AND ANY OTHER SITE OR LOCAL STANDARDS.
 13. THESE PLANS ARE INTENDED TO WORK IN CONJUNCTION WITH THE STANDARD JELLYFISH SPECIFICATION, AND STORMWATER QUALITY FILTER TREATMENT JELLYFISH DOCUMENTS.
 14. WHERE SPECIFIED, JELLYFISH WATER QUALITY UNITS HAVE BEEN SELECTED FOR THIS PROJECT AS REPRESENTATIVE OF THE TYPE, FUNCTION, PERFORMANCE, AND QUALITY EXPECTED. THE ENGINEER HAS SOLE DISCRETION IN APPROVING EQUALS.

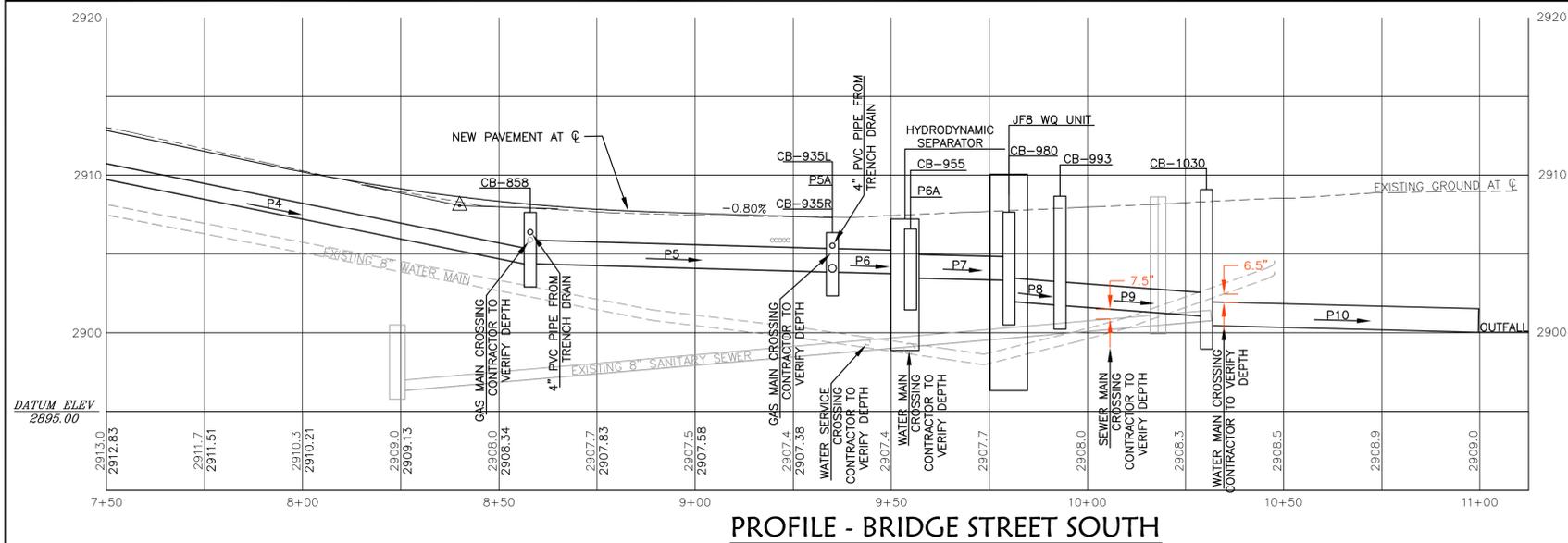


PRELIMINARY NOT FOR CONSTRUCTION

BIGFORK STORMWATER PROJECT BRIDGE STREET SOUTH-ADDITIONAL INFORMATION



PLAN VIEW - IMPROVEMENTS



PROFILE - BRIDGE STREET SOUTH

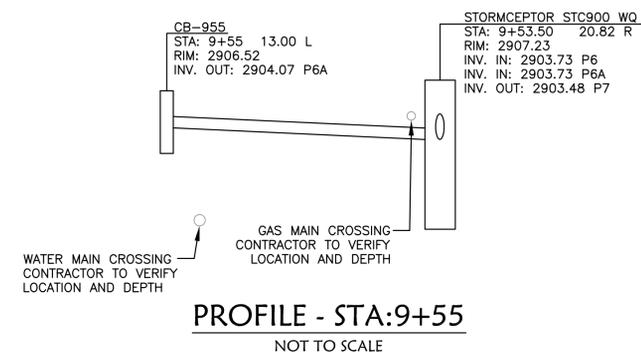
LEGEND

- EX - RIGHT OF WAY
- EX - SURVEY MONUMENT
- EX - SURFACE CONTOUR
- EX - PAVEMENT
- EX - CONCRETE
- EX - WATER MAIN
- EX - WATER SERVICE
- EX - GATE VALVE
- EX - CURB STOP
- EX - WATER METER
- EX - SEWER MAIN
- EX - SEWER SERVICE
- EX - SEWER MANHOLE
- EX - STORM PIPE
- EX - CATCH BASIN
- EX - UG POWER
- EX - UG TELEPHONE
- EX - UG GAS
- EX - OVERHEAD LINE
- EX - TREES
- EX - SIGN
- 3001 - SURFACE CONTOUR
- P - ALIGNMENT
- P - PAVEMENT
- P - CURB
- P - SIDEWALK
- P - STORM PIPE
- P - CATCH BASIN

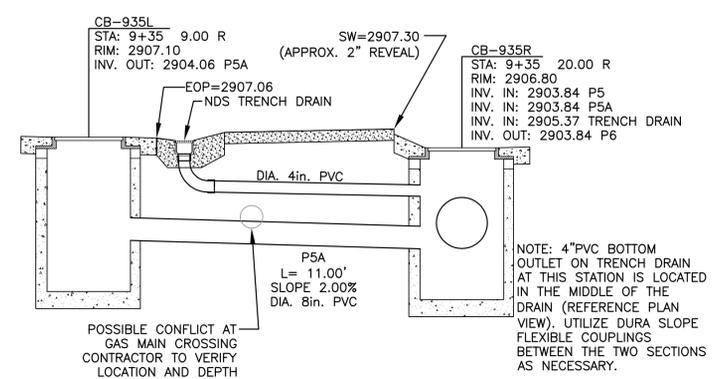
GRAPHIC SCALE
1 inch = 20 ft

ALL STORM SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH UNIBELL RECOMMENDED PRACTICE UNI-B-6-90.

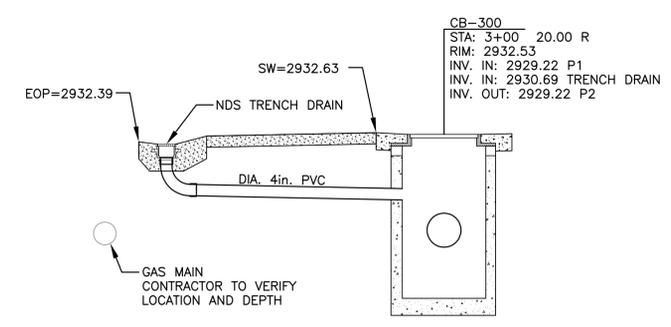
STORM UTILITIES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARDS FOR DESIGN AND CONSTRUCTION FOR FLATHEAD COUNTY, MONTANA AND THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS. THE CONSTRUCTION PLANS ARE INTENDED TO WORK IN CONJUNCTION WITH THE ABOVE STANDARDS.



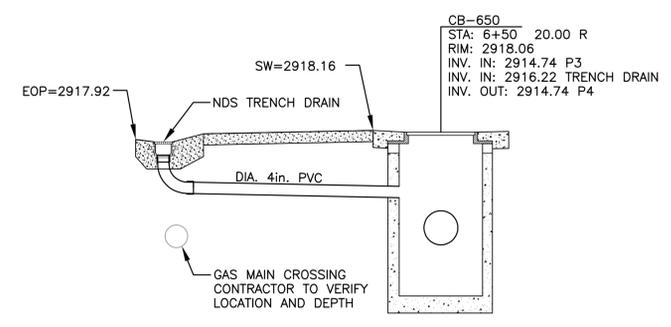
PROFILE - STA:9+55
NOT TO SCALE



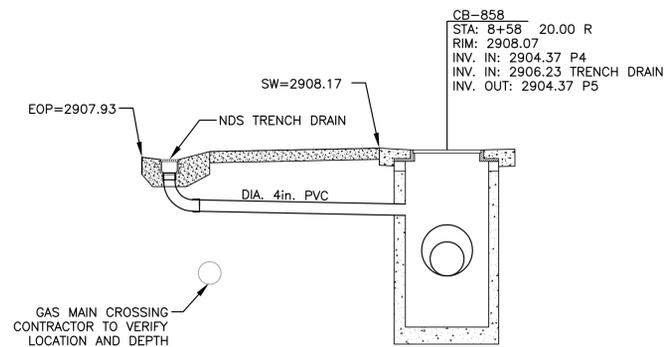
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NOT TO SCALE



PROFILE - STA:3+00
NOT TO SCALE



PROFILE - STA:6+50
NOT TO SCALE



PROFILE - STA:8+58
NOT TO SCALE

SEAL

SUBCONSULTANT

BIGFORK STORMWATER PROJECT
BRIDGE ST SOUTH ADDITIONAL INFORMATION
FLATHEAD COUNTY, MONTANA

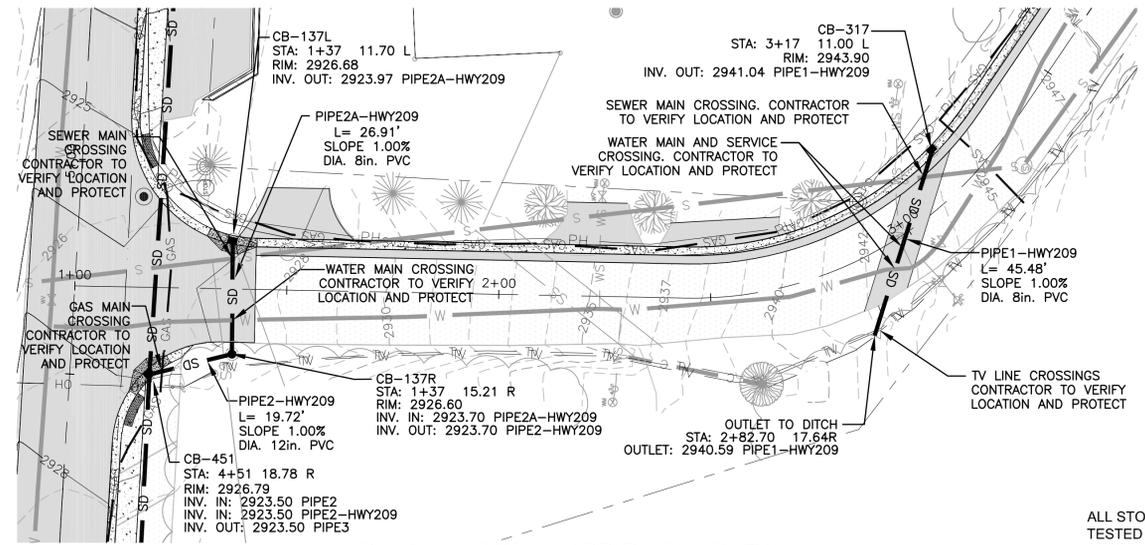
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| ISSUES \ REVISIONS | 1 = ISSUE |
| | △ = REVISION |
| No. Date Purpose By Check | |
| PRELIMINARY 03/09/12 | |

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| SHEET TITLE | |
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BIGFORK STORMWATER PROJECT

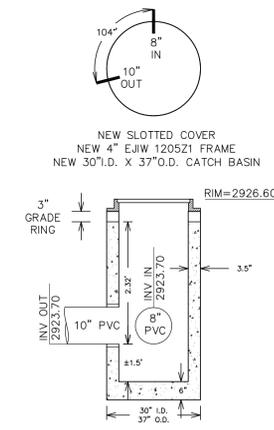
BRIDGE STREET SOUTH TO HWY 209-STA: 1+00 TO 3+17



PLAN VIEW - IMPROVEMENTS

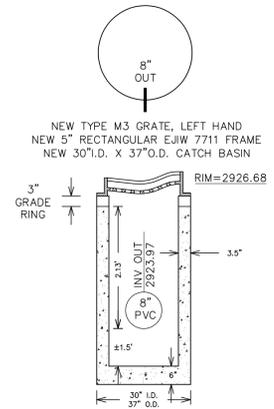
ALL STORM SEWER PIPE SHALL BE AIR TESTED IN ACCORDANCE WITH UNIBELL RECOMMENDED PRACTICE UNI-B-6-90.

STORM UTILITIES SHALL BE CONSTRUCTED AND TESTED IN ACCORDANCE WITH THE LATEST EDITION OF STANDARDS FOR DESIGN AND CONSTRUCTION FOR FLATHEAD COUNTY, MONTANA AND THE MONTANA PUBLIC WORKS STANDARD SPECIFICATIONS. THE CONSTRUCTION PLANS ARE INTENDED TO WORK IN CONJUNCTION WITH THE ABOVE STANDARDS.



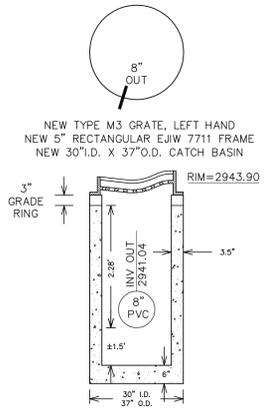
1. CONTRACTOR TO GRADE LOCAL AREA TO FUNNEL FLOWS TO THE GRATE.

CB-137R
STA: 1+37 15.21'R
NOT TO SCALE



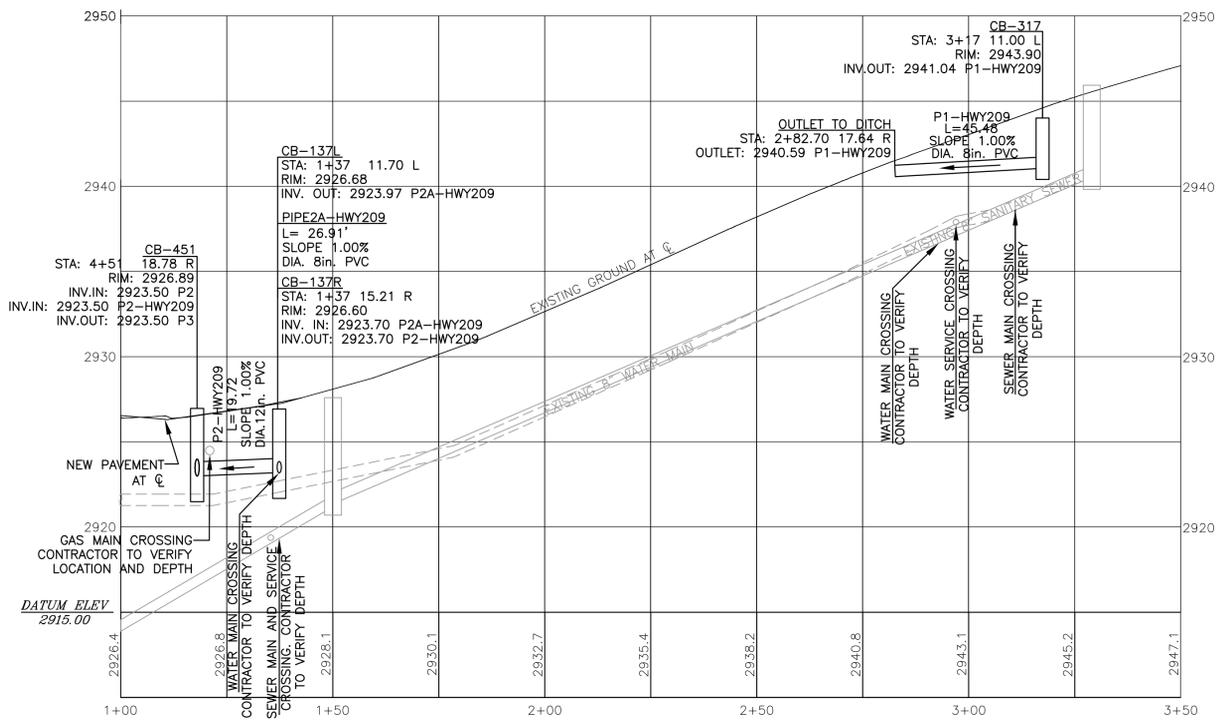
1. SEE ALSO APRON DETAILS & SPOT ELVES.
2. INSTALL LADTECH MANHOLE ADJUSTMENT RING

CB-137L
STA: 1+37 11.70'L
NOT TO SCALE

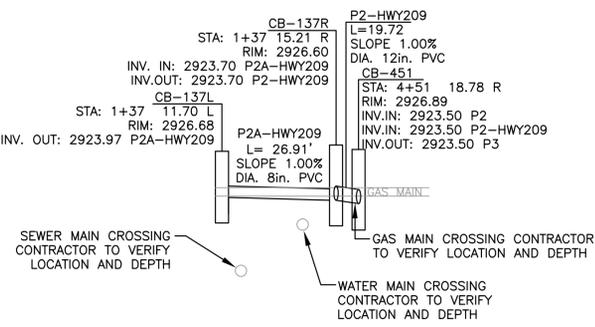


1. SEE ALSO APRON DETAILS & SPOT ELVES.
2. INSTALL LADTECH MANHOLE ADJUSTMENT RING

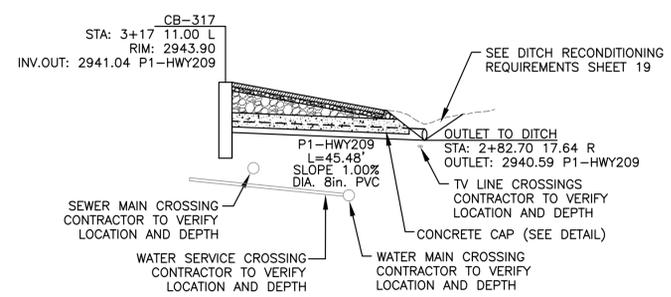
CB-317
STA: 3+17 11.00'L
NOT TO SCALE



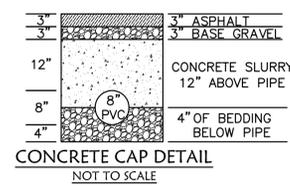
PROFILE - BRIDGE ST. SOUTH TO HWY 209



PROFILE - PIPE2-HWY209

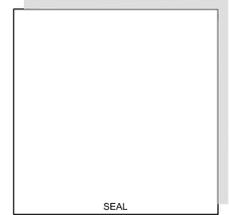


PROFILE - PIPE1-HWY209



R.O.W. EXCAVATION

- 1) CONTRACTOR IS REQUIRED TO LOCATE ALL UTILITIES AND ENCROACHMENTS CURRENTLY BURIED ON RIGHT OF WAY THAT MAY INTERFERE WITH CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL MOVE OR PROTECT AFFECTED UTILITIES.
- 2) TRENCHES IN THE ASPHALT SHALL BE FILLED WITH APPROVED TRENCH BACKFILL MATERIAL TO WITHIN SIX INCHES BELOW TOP OF EXISTING PAVEMENT. THE REMAINING SIX INCHES WILL BE FILLED WITH 3" OF 3/4" CRUSHED GRAVEL AND 3" OF GRADE B ASPHALT WITH 95% MINIMUM COMPACTION. REFER TO SHEET 22 FOR UTILITY TRENCH DETAILS
- 3) ASPHALT AROUND TRENCH MUST BE SQUARE CUT A MINIMUM OF ONE FOOT BEYOND THE EXCAVATED TRENCH WALL.
- 4) THE OPEN TRENCH SHALL BE FILLED, COMPACTED AND TRAVERSABLE BY TRAFFIC BEFORE THE END OF THE WORK SHIFT. COMPLETE LANE CLOSURES SHALL BE AVOIDED IF POSSIBLE.
- 5) ALL DISTURBED AREAS OUTSIDE OF THE PAVEMENT AREAS SHALL BE RESTORED TO FINAL GRADE WITH 4" OF TOP SOIL AND SEEDING.
- 6) TRENCH-CUT UTILITY CONSTRUCTION WITHIN THE ROADWAYS SHALL BE SCHEDULED ON THE SAME DAY.



GRAPHIC SCALE

LEGEND

| | |
|------------------------|----------------------|
| EX - RIGHT OF WAY | EX - SURVEY MONUMENT |
| EX - SURFACE CONTOUR | EX - SURFACE CONTOUR |
| EX - PAVEMENT | EX - PAVEMENT |
| EX - CONCRETE | EX - CONCRETE |
| W - WATER MAIN | EX - WATER MAIN |
| WS - WATER SERVICE | EX - GATE VALVE |
| WV - WATER VALVE | EX - CURB STOP |
| WV - WATER METER | EX - WATER MAIN |
| SS - SEWER MAIN | EX - SEWER SERVICE |
| SS - SEWER MANHOLE | EX - SEWER MANHOLE |
| ST - STORM PIPE | EX - CATCH BASIN |
| PWR - UG POWER | EX - UG POWER |
| PH - UG TELEPHONE | EX - UG TELEPHONE |
| GAS - UG GAS | EX - OVERHEAD LINE |
| OH - OVERHEAD LINE | EX - TREES |
| T - TREES | EX - SIGN |
| 3001 - SURFACE CONTOUR | P - SURFACE CONTOUR |
| - - - - - | P - ALIGNMENT |
| --- | P - PAVEMENT |
| --- | P - CURB |
| --- | P - SIDEWALK |
| --- | P - STORM PIPE |
| --- | P - CATCH BASIN |

BIGFORK STORMWATER PROJECT
BRIDGE ST S. TO HWY 209 STA: 1+00 TO 3+17
FLATHEAD COUNTY, MONTANA

PRELIMINARY NOT FOR CONSTRUCTION

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