

STATE OF SOUTH DAKOTA  
DEPARTMENT OF TRANSPORTATION

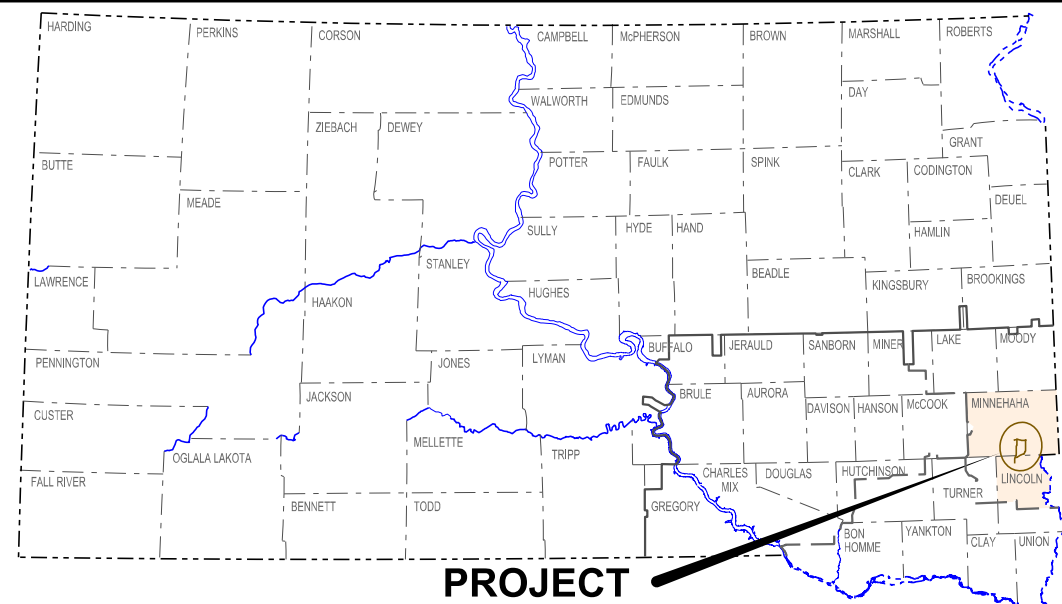
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	0001-271	1	43

Plotting Date: 07/18/2019

INDEX OF SHEETS

Sheet 1	Layout Map & Index of Sheets
Sheet 2	Estimate of Quantities & Environmental Commitments
Sheets 3 & 4	Plan Notes
Sheets 5 - 7	Tables for Drop Inlet Work
Sheets 8 - 25	I29 Work Locations
Sheets 26 - 31	I229 Work Locations
Sheets 32 - 41	I90 Work Locations
Sheets 42 & 43	Standard Plates for Traffic Control

PLANS FOR PROPOSED  
**PROJECT 0001-271**  
**INTERSTATES 29, 90 & 229**  
**LINCOLN & MINNEHAHA COUNTIES**  
PIPE & DROP INLET CLEANOUT  
PCN I5FN

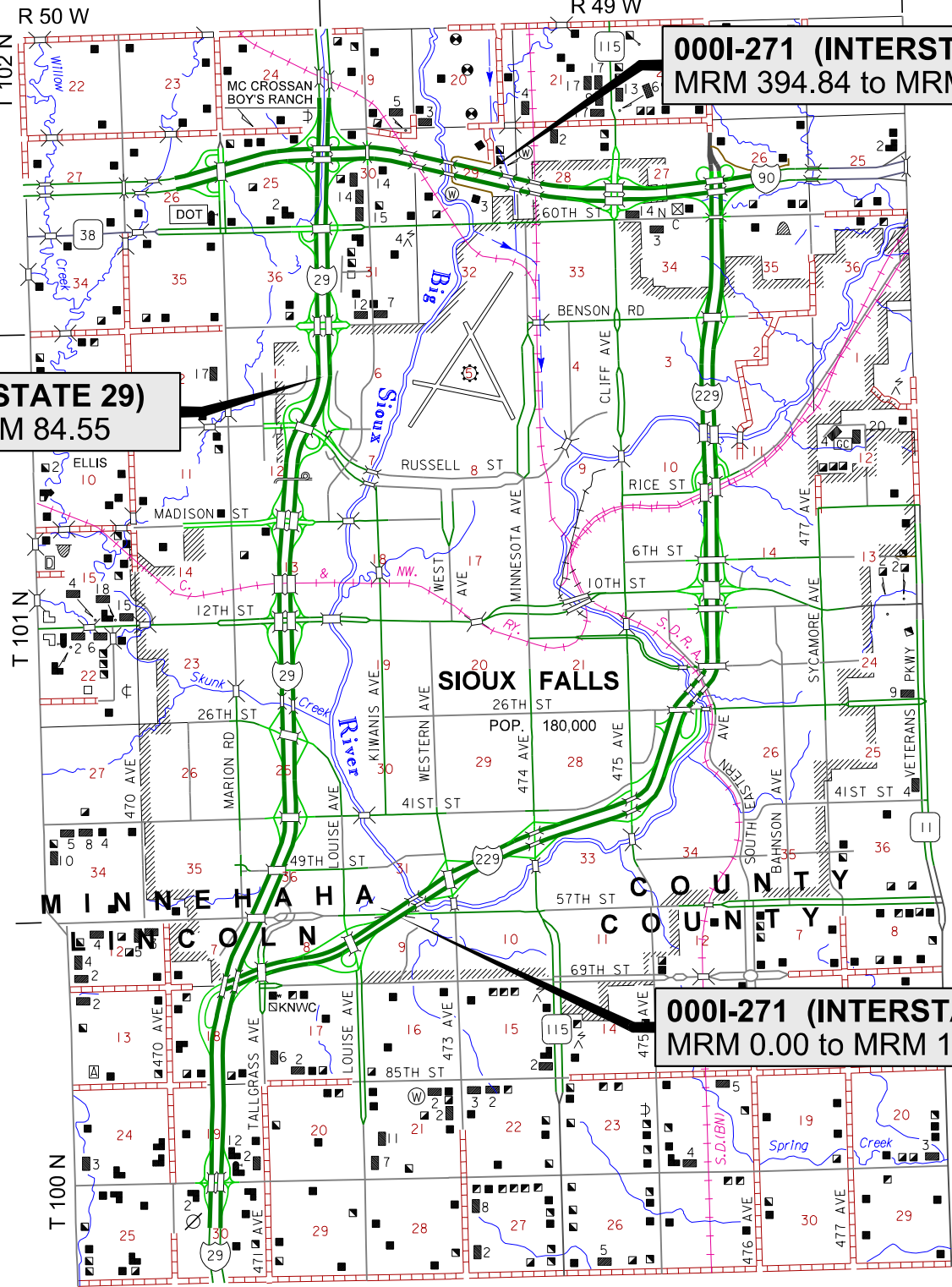


PROJECT

0001-271 (INTERSTATE 29)  
MRM 72.81 to MRM 84.55

0001-271 (INTERSTATE 90)  
MRM 394.84 to MRM 401.00

0001-271 (INTERSTATE 229)  
MRM 0.00 to MRM 11.10



**STORM WATER PERMIT**  
(None required)

	DESIGN DESIGNATION		
ROUTE	I29	I90	I229
ADT(2018)	44,446	18,302	36,150
ADT(2038)	75,312	28,100	60,018
DHV	8,350	3,484	6,602
D	100%	100%	100%
T DHV	6.8%	7.0%	4.6%
T ADT	14.9%	15.4%	10.2%
V	65 MPH	65 MPH	65 MPH

PLOT SCALE - 1"=8750'

PLOTTED FROM - TRMLINT15

FILE - ... \MINN15FN\TTL15FN.DGN

# ESTIMATE OF QUANTITIES & ENVIRONMENTAL COMMITMENTS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	0001-271	2	43

## ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
120E0600	Contractor Furnished Borrow Excavation	30	CuYd
250E0020	Incidental Work, Grading	Lump Sum	LS
450E8900	Cleanout Pipe Culvert	23	Each
634E0110	Traffic Control Signs	115.5	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	1	Each
734E0103	Type 3 Erosion Control Blanket	278	SqYd

## SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal.

## ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Section A Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <http://www.sddot.com/resources/Manuals/EnvironProcManual.pdf>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

## COMMITMENT C: WATER SOURCE

The Contractor will not withdraw water with equipment previously used outside the State of South Dakota or previously used in aquatic invasive species waters within South Dakota without prior approval from the SDDOT Environmental Office. Thoroughly wash all construction equipment to prevent and control the introduction and spread of invasive species into the project vicinity.

The Contractor will not withdraw water directly from streams of the James, Big Sioux, and Vermillion watersheds without prior approval from the SDDOT Environmental Office.

### Action Taken/Required:

The Contractor will obtain the necessary permits from the regulatory agencies such as the South Dakota Department of Environment and Natural Resources (DENR) and the United States Army Corps of Engineers (USACE) prior to water extraction activities.

Additional information and mapping of Aquatic Invasive Species in South Dakota can be accessed at: <http://sdleastwanted.com/maps/default.aspx>.

## COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

### Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

## COMMITMENT H: WASTE DISPOSAL SITE

The Contractor will furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

### Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) will not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Environmental Office and the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements will apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with fences, gates, and placement of a sign or signs at the entrance to the site stating No Dumping Allowed.
2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste will be removed from view of the ROW or buried, and the waste disposal site reclaimed as noted above.

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

Cost associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates and signs), and reclamation of the waste disposal site(s) will be incidental to the various contract items.

## COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

### Action Taken/Required:

All earth disturbing activities require a cultural resource review prior to scheduling the pre-construction meeting. This work includes but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view of which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities will immediately cease, and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

The Contractor is responsible for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

**SCOPE OF WORK**

The project consists of drop inlet cleanout. Locating and cleaning buried and/or silted in culvert outlets.

Work activities will not be allowed during the morning peak from 6:30 AM to 9:00 AM and the afternoon peak from 3:30 PM to 6:00 PM Monday through Friday.

**DETAILS OF EXISTING DROP INLETS**

All details of the existing drop inlets are based on visual inspections and are provided as information only. It is the Contractor's responsibility to inspect and verify the actual field conditions affecting the satisfactory completion of the work required for this project.

**SEQUENCE OF OPERATIONS**

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting.

Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.

**CLEANOUT PIPE CULVERTS AND DROP INLETS**

Cleanout of pipe culverts and drop inlets will be cleaned out by water flushing or other approved methods. Material removed from the pipe culverts will become the property of the Contractor for disposal.

The Contractor will implement appropriate temporary sediment control measures prior to water flushing to prevent discharges from the project boundaries.

The pipe culvert and drop inlets will be cleaned to the satisfaction of the Engineer.

Cost to remove and reset inlet grates, dewater, clean pipes, and dispose of removed material will be incidental to the contract unit price per each for Cleanout Pipe Culvert.

**UTILITIES**

The Contractor will contact the involved utility companies through South Dakota One Call (1-800-781-7474) prior to starting work. It will be the responsibility of the Contractor to coordinate work with the utility owners to avoid damage to existing facilities.

Utilities are not planned to be affected on this project. If utilities are identified near the improvement area, the Contractor will contact the Project Engineer to determine modifications that will be necessary to avoid utility impacts.

**WATER FOR COMPACTION**

Cost for water for compaction of the Contractor Furnished Borrow Excavation will be incidental to the contract unit prices for the various items. The moisture required at the time of compaction will be as directed by the Engineer.

**CONTRACTOR FURNISHED BORROW EXCAVATION**

The Contractor will provide a suitable site for Contractor furnished borrow excavation material. The Contractor is responsible for obtaining all required permits and clearances for the borrow site. The borrow material will be approved by the Engineer. The plans quantity for Contractor Furnished Borrow Excavation as shown in the Estimate of Quantities will be the basis of payment for this item.

Restoration of the Contractor furnished borrow excavation site will be the responsibility of the Contractor.

Interstate 90 Eastbound MRM 397.460 Railroad Bridge Outside Shoulder place 30 cubic yards of Contractor Furnished Borrow.

**INCIDENTAL WORK, GRADING**

**Route: Interstate 90 Eastbound**

MRM 397.460 – Railroad Bridge  
Clean culvert outlet and place approximate 30 CuYds of fill and 278 SqYd of Type 3 Erosion Control Blanket at washout.

MRM 399.460 – Cliff Ave. Bridge  
Clean culvert outlet

MRM 400.550 – Interstate 229  
Clean culvert outlet

**Route: Interstate 90 Westbound**

MRM 397.450 – Railroad Bridge  
Clean Culvert outlet

MRM 398.440 – Big Sioux River inside shoulder  
Remove plastic covering drop inlet lid

MRM 398.440 – Big Sioux River outside shoulder  
Remove plastic covering drop inlet lid

MRM 399.460 – Cliff Ave. Bridge inside shoulder  
Clean culvert outlet

MRM 399.460 – Cliff Ave. Bridge outside shoulder  
Clean culvert outlet

MRM 400.550 – Interstate 229 Bridge inside shoulder  
Clean culvert outlet

MRM 400.550 – Interstate 229 Bridge outside shoulder  
Clean culvert outlet

**Route: Interstate 229 Northbound**

MRM 5.460 – Big Sioux River Bridge  
Clean culvert outlet

MRM 5.550 – Railroad Bridge  
Clean culvert outlet

**Route: Interstate 229 Southbound**

MRM 7.850 – Rice Street Bridge  
Clean culvert outlet

MRM 6.823 – Between 6th and 10th Streets  
Clean culvert outlet

**PERMANENT SEEDING**

Interstate 90 Eastbound - MRM 397.460 – Railroad Bridge  
Clean culvert outlet and place approximate 30 CuYds of fill at washout.

Washout area to be seeded by the Contractor.

Cost for permanent seeding will be incidental to the contract unit prices for the various contract items. Permanent seed mixture will be approved by the Engineer without any further testing.

**GENERAL TRAFFIC CONTROL**

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

Temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

Temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports. Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

Construction operations will be conducted in the general direction of traffic movement.

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness. Overnight lane closures will not be allowed.

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used.

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. Cost for material, labor and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

Fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

Haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. Cost for flashing amber lights will be incidental to the contract unit prices for the various items.

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment will be repaired at no expense to the Department.

Construction vehicles will exit or enter the construction work zone at locations identified by the Engineer. At no time will construction vehicles utilize the maintenance crossovers or the Interstate median to exit or enter Interstate traffic.

**SHEETING FOR TRAFFIC CONTROL SIGNS**

All fluorescent orange background material on traffic control signs, all temporary delineators, and all temporary STOP (R1-1), YIELD (R1-2), DO NOT ENTER (R5-1), and WRONG WAY (R5-1a) signs will conform to the requirements of ASTM D4956 Type IX or XI. All other traffic control signs and background colors will conform to the requirements of ASTM D4956 Type IV.

**TRAFFIC CONTROL SIGNS**

Sufficient traffic control devices have been included in these plans to sign one workspace on each route. If the Contractor elects to work on additional locations simultaneously, the cost for additional traffic control devices will be incidental to the contract unit price per square foot for Traffic Control Signs.

**ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS**

SIGN CODE	SIGN DESCRIPTION	CONVENTIONAL ROAD			
		NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
W7-3aP	NEXT ___ MILES (plaque)	2	36" x 30"	7.5	15.0
W20-1	ROAD WORK AHEAD	2	48" x 48"	16.0	32.0
W21-5a	LEFT or RIGHT SHOULDER CLOSED	2	48" x 48"	16.0	32.0
W21-5b	LEFT or RIGHT SHOULDER CLOSED AHEAD	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	1	36" x 18"	4.5	4.5
<b>CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT</b>					<b>115.5</b>

**TABLES FOR DROP INLET WORK**

Station    Route: Interstate 29 Southbound lanes					
	MRM	Interchange/Bridge	Shoulder	Drop Inlet (Each)	For Information Only
156+42	82.508	Benson Road	Outside	1	Drop Inlet 50% full
142+82	82.305	Benson Road	Outside	1	Drop Inlet 90% full
142+82	80.406	Madison	Outside	1	Drop Inlet 70% full
138+78	80.325	Madison	Outside	1	Drop Inlet 70% full
88+39	79.300	12th Street	Inside	1	Drop Inlet 100% full
88+39	79.300	12th Street	Outside	1	Drop Inlet 100% full
84+35	79.263	12th Street	Outside	1	Drop Inlet 100% full
191+49	78.383	Skunk Creek	Outside	1	Drop Inlet 50% full
188+08	78.324	Skunk Creek	Outside	1	Drop Inlet 50% full
59+00	73.500	Tea	Outside	1	Drop Inlet 60% full
4026+39	73.253	Tea	Outside	1	Drop Inlet 50% full
4014+30	73.190	Tea	Outside	1	Drop Inlet 70% full
<b>DROP INLET CLEANOUT TOTALS</b>				<b>12</b>	

Station    Route: Interstate 29 Northbound lanes					
	MRM	Interchange/Bridge	Shoulder	Drop Inlet (Each)	For Information Only
84+17	79.230	12th Street	Outside	1	Drop Inlet 80% full
88+21	79.300	12th Street	Outside	1	Drop Inlet 90% full
100+58	79.530	Railroad	Outside	1	Drop Inlet 60% full
138+78	80.250	Madison Street	Outside	1	Drop Inlet 50% full
142+82	80.330	Madison Street	Outside	1	Drop Inlet 60% full
<b>DROP INLET CLEANOUT TOTALS</b>				<b>5</b>	

Outside Shoulder refers to the wide shoulder adjacent to the driving lane.  
 Inside Shoulder refers to the narrow shoulder adjacent to the passing lane.  
 Percentage of drop inlet full is for information only and not for bidding purposes  
 The percentage of debris in the drop inlet will not be adjusted for payment.

Outside Shoulder refers to the wide shoulder adjacent to the driving lane.  
 Inside Shoulder refers to the narrow shoulder adjacent to the passing lane.  
 Percentage of drop inlet full is for information only and not for bidding purposes.  
 The percentage of debris in the drop inlet will not be adjusted for payment.

**TABLES FOR DROP INLET WORK (CONTINUED)**

Station Route: Interstate 229 Southbound lanes				
Station	MRM	Interchange/Bridge	Shoulder	Drop Inlet For Information Only (Each)
156+89	7.850	Rice Street	Outside	0
		*Incidental Work Grading - Clean culvert out		
343+80	6.823	Between 6th & 10th Streets		0
		*Incidental Work Grading - Clean culvert out		
42+16	5.460	Big Sioux River Bridge N of 26th	Outside	1 Drop Inlet 60% full
		*Incidental Work Grading - Remove 3 trees and clean culvert outlet.		
152+45	3.010	Minnesota Ave.	Outside	1 Drop Inlet 80% full
<b>DROP INLET CLEANOUT</b>			<b>TOTALS</b>	<b>2</b>

Outside Shoulder refers to the wide shoulder adjacent to the driving lane.  
 Inside Shoulder refers to the narrow shoulder adjacent to the passing lane.  
 Percentage of drop inlet full is for information only and not for bidding purposes.  
 The percentage of debris in the drop inlet will not be adjusted for payment.

Station Route: Interstate 229 Northbound lanes				
Station	MRM	Interchange/Bridge	Shoulder	Drop Inlet For Information Only (Each)
42+16	5.460	Big Sioux River Bridge N of 26	Outside	0
		*Incidental Work Grading - Clean culvert outlet.		
51+57	5.550	Railroad		0
		*Incidental Work Grading - Clean culvert outlet.		
<b>DROP INLET CLEANOUT</b>			<b>TOTALS</b>	<b>0</b>

Outside Shoulder refers to the wide shoulder adjacent to the driving lane.  
 Inside Shoulder refers to the narrow shoulder adjacent to the passing lane.  
 Percentage of drop inlet full is for information only and not for bidding purposes.  
 The percentage of debris in the drop inlet will not be adjusted for payment.

**TABLES FOR DROP INLET WORK (CONTINUED)**

**Route: Interstate 90 Eastbound lanes**

STATION	MRM	Interchange/Bridge	Shoulder	Drop Inlet (Each)	For Information Only
125+54	397.460	Railroad	Outside	1	Drop Inlet 80% full *Incidental Work Grading - Clean plugged culvert outlet and place 30 cu yds of fill and 278 SqYd of Type 3 Erosion Control blanket at washout.
146+54	397.860	Big Sioux River	Outside	1	Drop Inlet 90% full
146+57	397.860	Big Sioux River	Inside	1	Drop Inlet 70% full
177+72	398.450	Big Sioux River	Inside	1	Drop Inlet 70% full
56+13	399.460	Cliff Ave.	Inside	0	*Incidental Work Grading- Clean culvert outlet.
332+08	400.550	Interstate 229	Inside	0	*Incidental Work Grading- Clean culvert outlet.
<b>DROP INLET CLEANOUT</b>			<b>TOTALS</b>	<b>4</b>	

Outside Shoulder refers to the wide shoulder adjacent to the driving lane.  
 Inside Shoulder refers to the narrow shoulder adjacent to the passing lane.  
 Percentage of drop inlet full is for information only and not for bidding purposes.  
 The percentage of debris in the drop inlet will not be adjusted for payment.

**Route: Interstate 90 Westbound lanes**

STATION	MRM	Interchange/Bridge	Shoulder	Drop Inlet (Each)	For Information Only
124+59	397.450	Railroad	Outside	0	*Incidental Work Grading - Clean culvert outlet.
177+09	398.440	Big Sioux River	Inside	0	*Incidental Work Grading-Remove plastic covering drop inlet lid.
177+09	398.440	Big Sioux River	Outside	0	*Incidental Work Grading-Remove plastic covering drop inlet lid.
56+13	399.460	Cliff Ave.	Inside	0	*Incidental Work Grading- Clean culvert outlet.
56+13	399.460	Cliff Ave.	Outside	0	*Incidental Work Grading- Clean culvert outlet.
332+14	400.550	Interstate 229	Inside	0	*Incidental Work Grading- Clean culvert outlet.
332+19	400.550	Interstate 229	Outside	0	*Incidental Work Grading- Clean culvert outlet.
<b>DROP INLET CLEANOUT</b>			<b>TOTALS</b>	<b>0</b>	

Outside Shoulder refers to the wide shoulder adjacent to the driving lane.  
 Inside Shoulder refers to the narrow shoulder adjacent to the passing lane.  
 Percentage of drop inlet full is for information only and not for bidding purposes.  
 The percentage of debris in the drop inlet will not be adjusted for payment.

**TEA INTERCHANGE  
INTERSTATE 29 SOUTHBOUND**

Sta. 59+00-66'L  
Sta. 4026+39-31-R  
4014+30-40'L

4026+39-32.13' R to  
4026+39-50' L  
Install 18" - 42' R C Pipe  
18" R C Pipe to C M Pipe Transition  
(Std. Plate 450.50)  
Install 18" - 35' C M Pipe Downspout  
(25' & 10' Str. Pipe)  
and 2 - 37.5° Elbows  
& 1 Sloped End

4026+39-31.93' R  
Install Type M Median Drain  
Grate El. = 1515.66

4014+30-31' L  
Install Bank and Channel  
Protection Gabions  
(27.0 CY) Ramp C

.54	PI	4010+22.82
76	N	428748.03
.71	E	2906854.12
"R	Del	1°03'23"L

4027+69-7' L to  
4027+69-44' L  
Install 24" - 36' C M Pipe  
(26' & 10' Str. Pipe)  
and 1 - 30° Elbow  
& 1 Sloped End

4027+69-7' L  
Install Type C Drop Inlet  
Grate Elev. = 1515.44

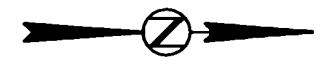
4025+45-19' L  
Install Bank and Channel  
Protection Gabions  
(4.5 CY) Ramp C

PI	4022+95.14
N	430019.97
E	2906823.12
Del	1°22'15"L
Dc	0°30'00"
T	137.08
L	274.15
R	11459.16

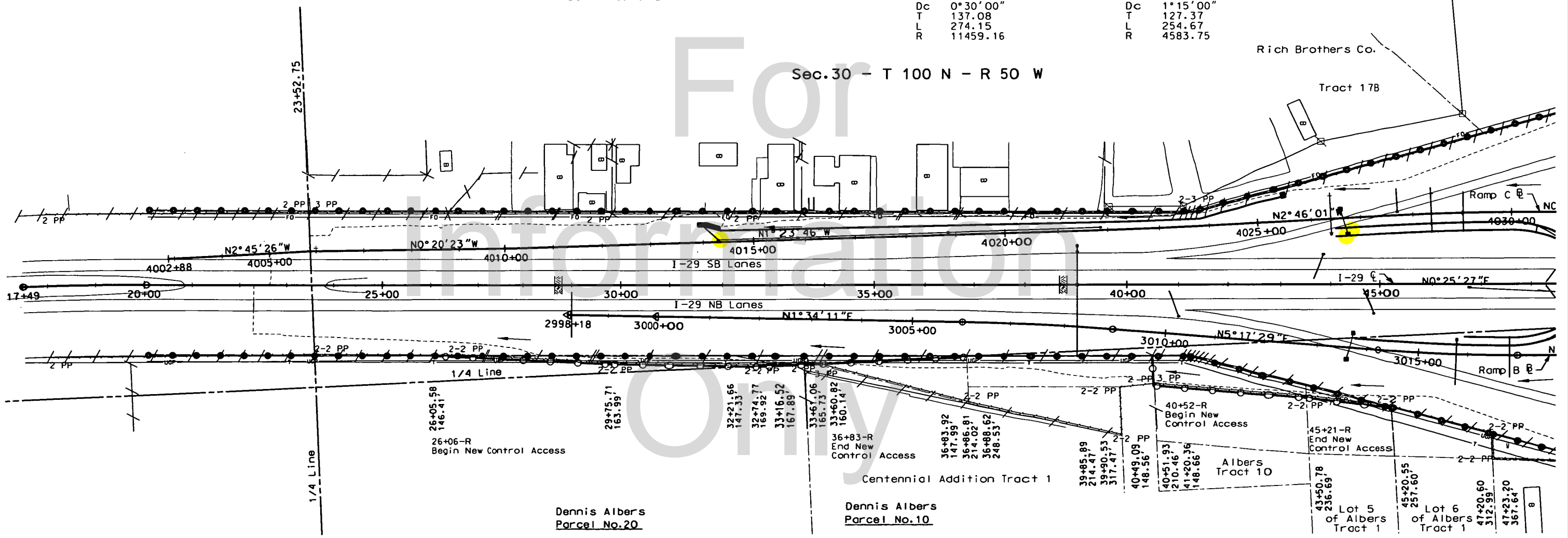
4028+37-20.37' R to  
4028+37-43' L  
Install 24" - 24' R C Pipe  
24" R C Pipe to C M Pipe Transition  
(Std. Plate 450.50)  
Install 24" - 37' C M Pipe Downspout  
(27' & 10' Str. Pipe)  
and 1 - 25° Elbow  
and 1 - 27.5° Elbow  
& 1 Sloped End

4028+37 20.67' R  
Install Type B Drop Inlet/w  
6" Concrete Collar  
Grate El. = 1514.98

PI	4028+81.11
N	430605.27
E	2906794.84
Del	3°11'00"R
Dc	1°15'00"
T	127.37
L	254.67
R	4583.75



Sec. 30 - T 100 N - R 50 W



10/07/2004 08:44:09 AM g:\work\03\2016\road\4000.dgn



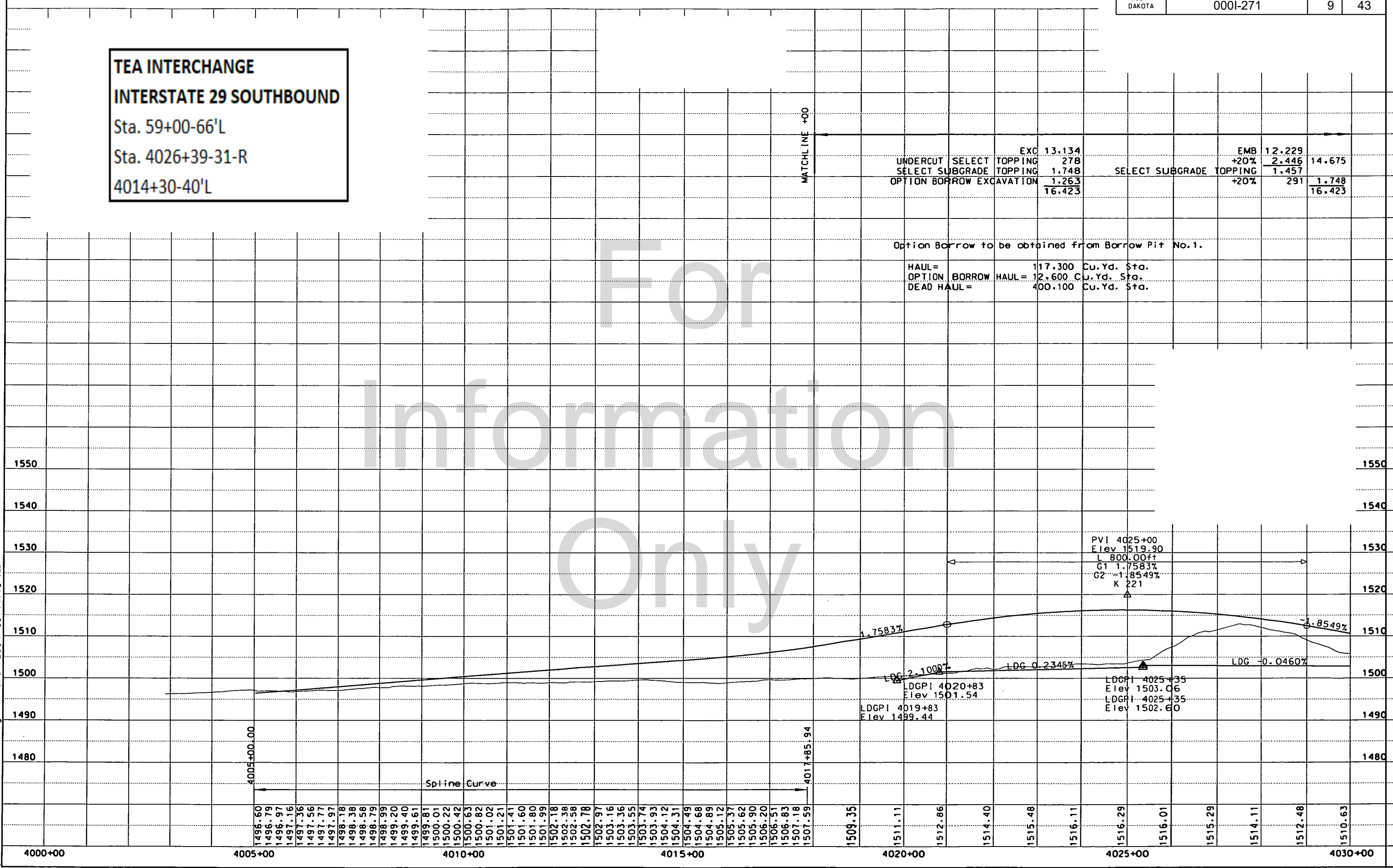
**TEA INTERCHANGE**  
**INTERSTATE 29 SOUTHBOUND**  
 Sta. 59+00-66'L  
 Sta. 4026+39-31-R  
 4014+30-40'L

EXC	13.134	EMB	12.229
UNDERCUT SELECT TOPPING	278	+20%	2.446
SELECT SUBGRADE TOPPING	1.748		1.457
OPTION BORROW EXCAVATION	1.263	+20%	291
	16.423		1.748
			16.423

Option Borrow to be obtained from Borrow Pit No. 1.

HAUL =	117.300	Cu.Yd. Sta.
OPTION BORROW HAUL =	12.600	Cu.Yd. Sta.
DEAD HAUL =	400.100	Cu.Yd. Sta.

g:\m03\*2016\*road#4000v.dgn 10/07/2004 08:44:10 AM



For  
Information  
Only

**TEA INTERCHANGE**  
**INTERSTATE 29 SOUTHBOUND**  
 Sta. 59+00-66'L  
 Sta. 4026+39-31-R  
 4014+30-40'L

49+59 L to 50+33 L  
 Take out 30"-58'  
 R C Pipe & 2 FES  
 (Incidental Work)

49+67 R to 50+40 R  
 Take out 30"-60'  
 R C Pipe & 2 FES  
 (Incidental Work)

48+67-56.35' R  
 Install Type C Inlet  
 Grate Elev = 1535.49

48+67-56.35' L  
 Install Type C Inlet  
 Grate Elev = 1535.49

50+63-L  
 Begin Type 4 Fence

Clarence and Margaret Bakker  
 SW 1/4 Sec. 19-T100N-R50W  
 of the 5th P.M.  
 Parcel No. 1  
 0.26 acre, 11431 Sq. Ft.  
 R.O.W. Taking  
 and  
 0.23 acre, 10064 Sq. Ft.  
 R.O.W. Taking

**Sec. 19 - T 100 N - R 50 W**

Install M.S.E. Retaining Wall  
 at the Following Locations:  
 31+95.30, 114.31' L to 43+00.52, 183.03' L  
 44+11.42, 99.37' L to 46+65.45, 110.53' R  
 53+15.17, 111.13' L to 56+10.97, 98.13' R

Parcel A2 & A6 Deleted

57+00.00-62.6' R to 57+18.83-11.9' R  
 Install 18" - 52' R C Pipe @  
 20° Skew LHF  
 & 1 Safety End

57+00-63.6' R  
 Install Type C Drop Inlet  
 Grate Elev. = 1532.88

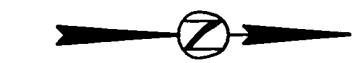
59+00.66.6' L  
 Install Type C Drop Inlet  
 Grate Elev. = 1529.88

59+00.00-65.6' L to 59+19.52-12.9' L  
 Install 18" - 52' R C Pipe @  
 20° Skew RHF  
 & 1 Safety End

61+75-70' R  
 Install Type C Drop Inlet  
 Grate Elev. = 1525.41

61+75.00-69.0' R to 61+94.50-16.3' R  
 Install 18" - 54' R C Pipe @  
 20° Skew LHF  
 & 1 Safety End

62+72-L  
 End New Control Access



59+43 R & 60+43 R  
 Modify Chain Link Fence with  
 new posts to new right-of-way line.

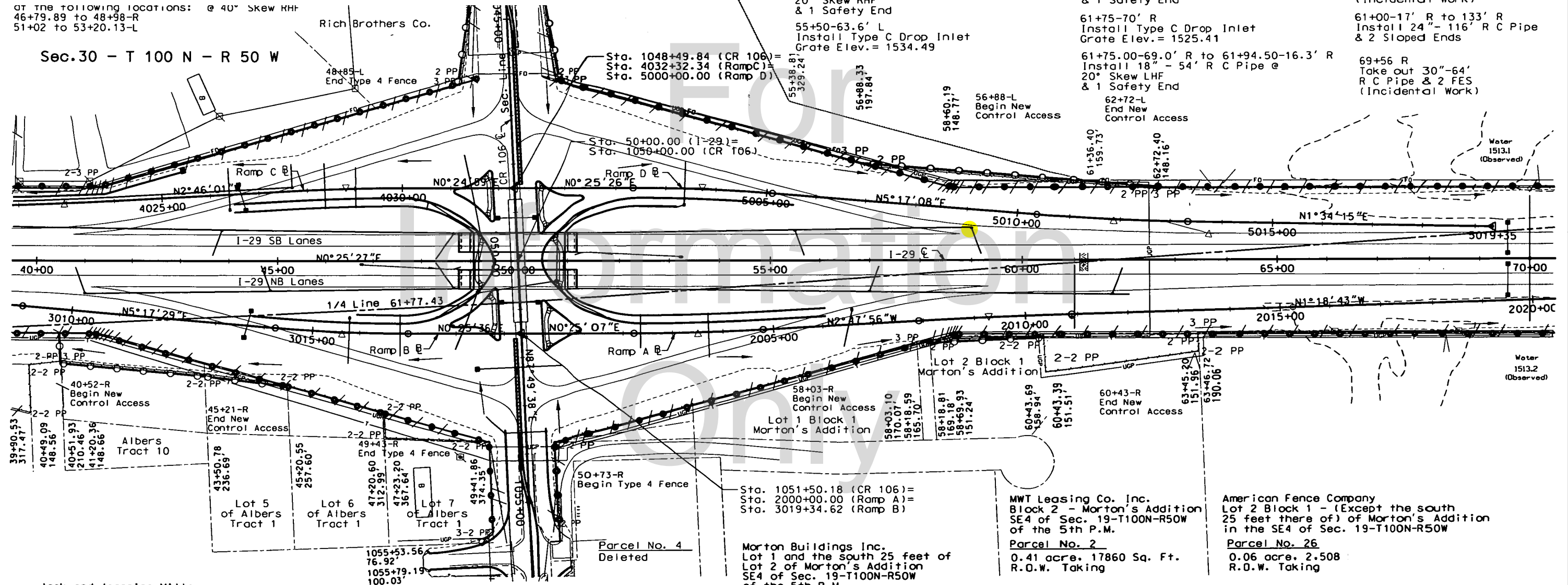
69+56 L  
 Take out 30"-64'  
 R C Pipe & 2 FES  
 (Incidental Work)

61+00-17' R to 133' R  
 Install 24" - 116' R C Pipe  
 & 2 Sloped Ends

69+56 R  
 Take out 30"-64'  
 R C Pipe & 2 FES  
 (Incidental Work)

at the following locations: @ 40° Skew HH  
 46+79.89 to 48+98-R  
 51+02 to 53+20.13-L

**Sec. 30 - T 100 N - R 50 W**



Sta. 1051+50.18 (CR 106) =  
 Sta. 2000+00.00 (Ramp A) =  
 Sta. 3019+34.62 (Ramp B)

Morton Buildings Inc.  
 Lot 1 and the south 25 feet of  
 Lot 2 of Morton's Addition  
 SE4 of Sec. 19-T100N-R50W  
 of the 5th P.M.  
 Parcel No. 3  
 0.01 acre, 29 Sq. Ft.  
 R.O.W. Taking

MWT Leasing Co. Inc.  
 Block 2 - Morton's Addition  
 SE4 of Sec. 19-T100N-R50W  
 of the 5th P.M.  
 Parcel No. 2  
 0.41 acre, 17860 Sq. Ft.  
 R.O.W. Taking

American Fence Company  
 Lot 2 Block 1 - (Except the south  
 25 feet there of) of Morton's Addition  
 in the SE4 of Sec. 19-T100N-R50W  
 Parcel No. 26  
 0.06 acre, 2,508  
 R.O.W. Taking

Jack and Jeannine Mills  
 Lot 5 of Albers Tract 1 of the  
 NE4 of Sec. 30-T100N-R50W  
 of the 5th P.M.  
 Parcel No. 6  
 0.05 acre, 2244 Sq. Ft.  
 R.O.W. Taking

Jack and Jeannine Mills  
 Albers Tract 10 of the  
 NE4 of Sec. 30-T100N-R50W  
 of the 5th P.M.  
 Parcel No. 7  
 0.36 acre, 15574 Sq. Ft.  
 R.O.W. Taking

Rich Brothers Co.  
 Lot 7 of Albers Tract 1 of  
 the NW4 of the NE4 of  
 Sec. 30-T100N-R50W  
 of the 5th P.M.  
 Parcel No. 5 & 5A  
 0.14 acre, 6098 Sq. Ft.  
 R.O.W. Taking  
 and  
 0.01 acre, 313 Sq. Ft.  
 R.O.W. Taking

g:\m03\2016\road\40.dgn 10/07/2004 08:43:59 AM

**TEA INTERCHANGE  
INTERSTATE 29 SOUTHBOUND**  
Sta. 59+00-66'L  
Sta. 4026+39-31-R  
4014+30-40'L

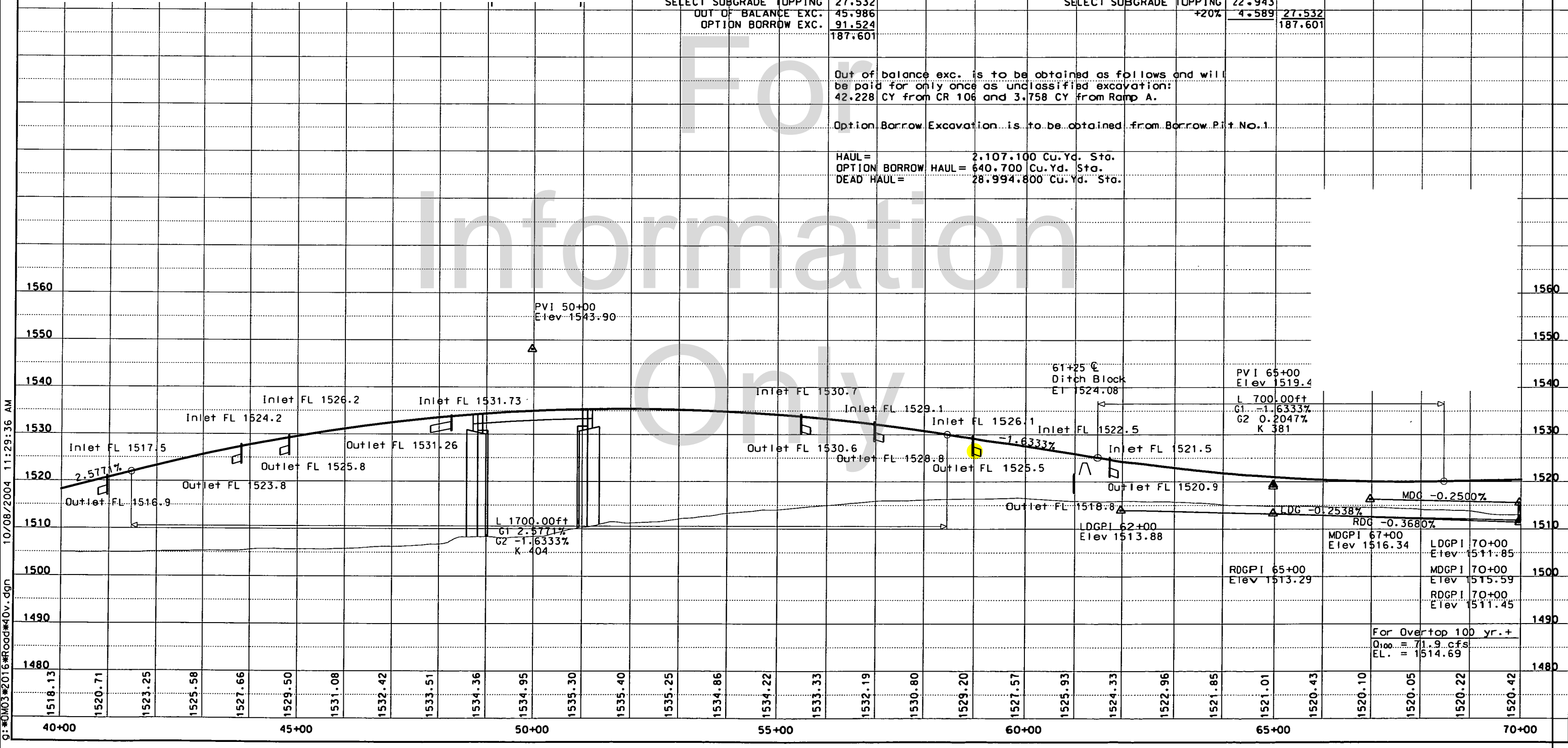
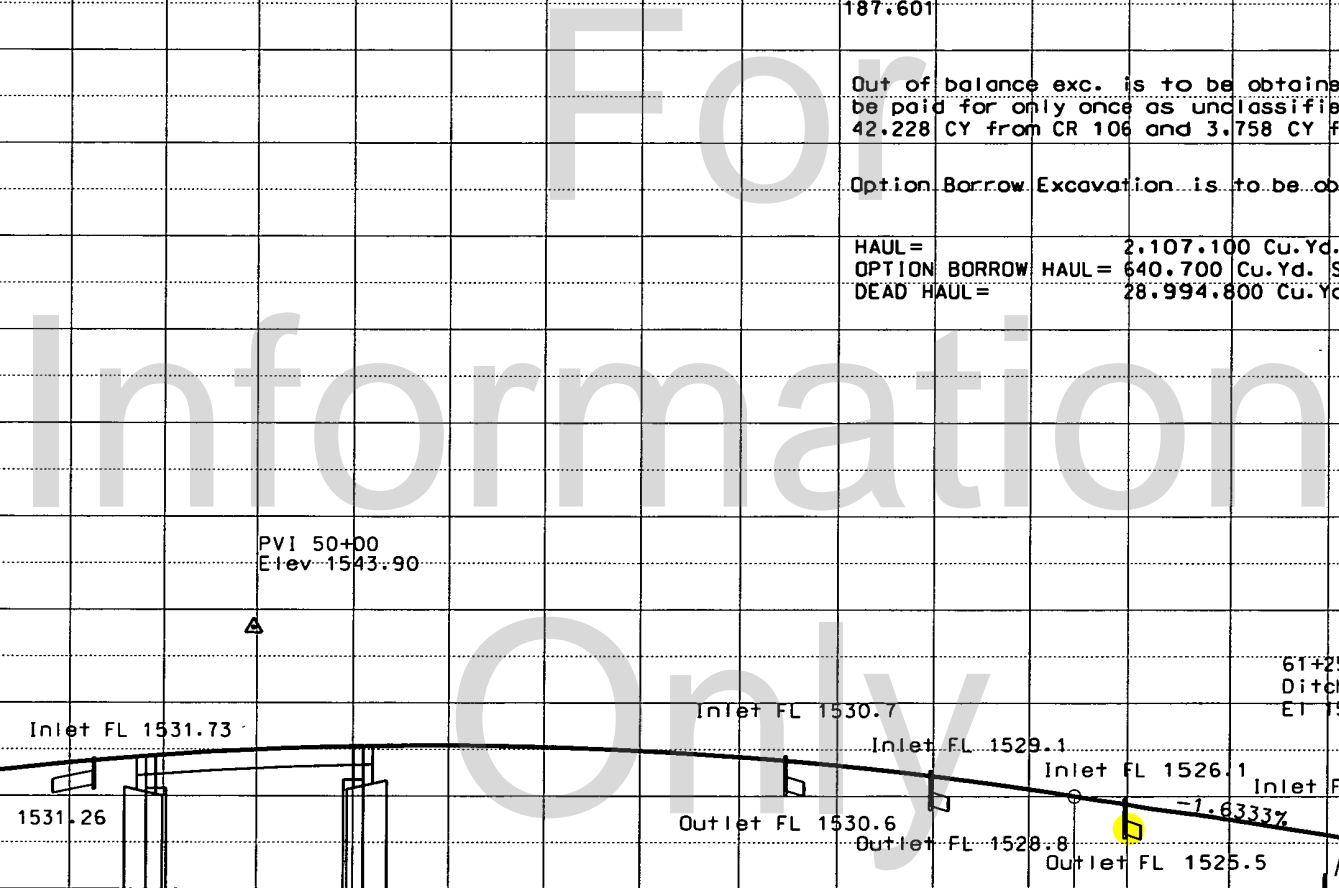
I-29

EXC	13.816	EMB	133.391
UNDERCUT SELECT TOPPING	8.743	+20%	26.678
SELECT SUBGRADE TOPPING	27.532		160.069
OUT OF BALANCE EXC.	45.986	SELECT SUBGRADE TOPPING	22.943
OPTION BORROW EXC.	91.524	+20%	4.589
	187.601		27.532
			187.601

Out of balance exc. is to be obtained as follows and will be paid for only once as unclassified excavation:  
42.228 CY from CR 106 and 3.758 CY from Ramp A.

Option Borrow Excavation is to be obtained from Borrow Pit No. 1

HAUL = 2,107.100 Cu.Yd. Sta.  
OPTION BORROW HAUL = 640.700 Cu.Yd. Sta.  
DEAD HAUL = 28,994.800 Cu.Yd. Sta.



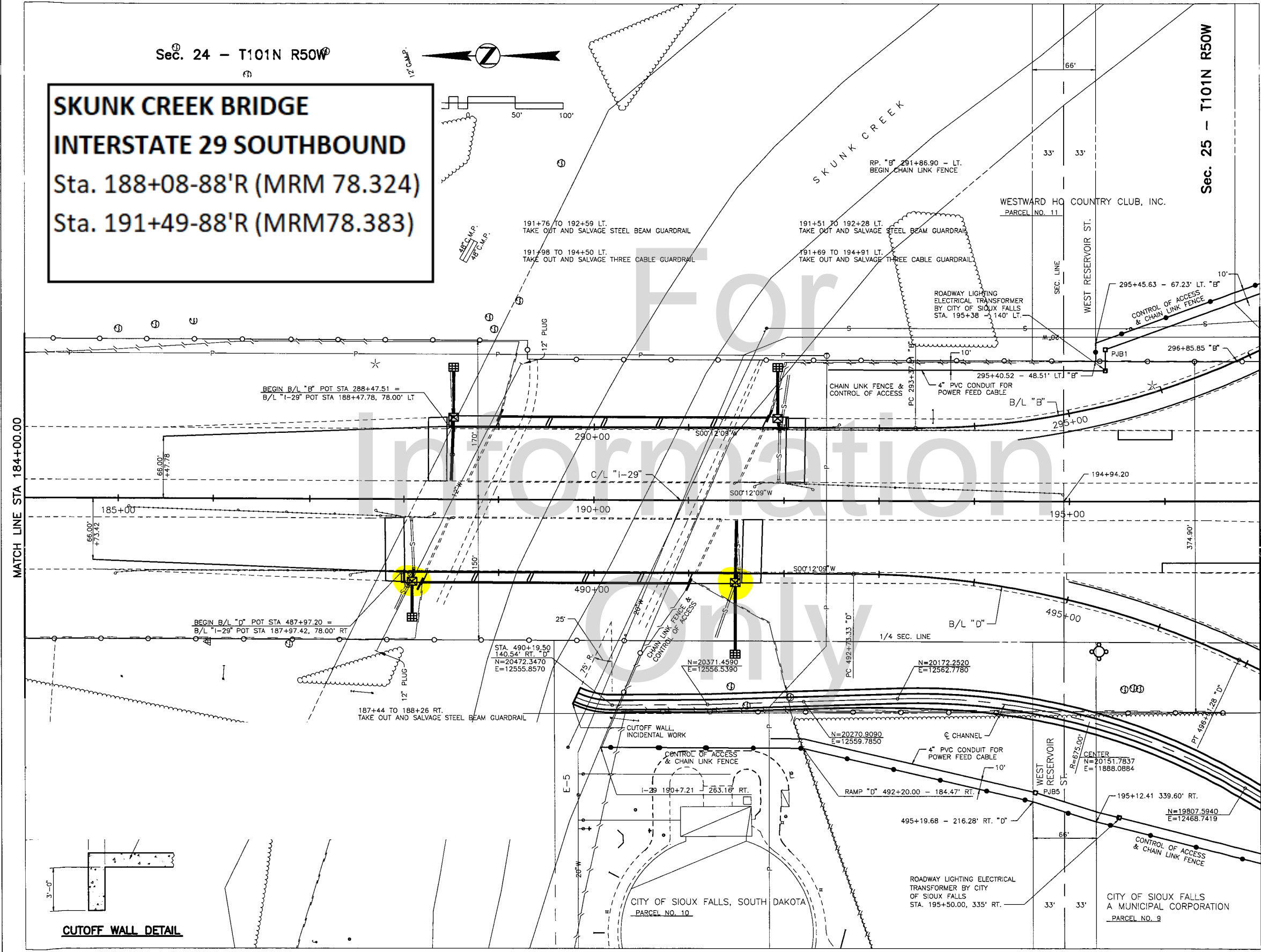
10/08/2004 11:29:36 AM  
G:\Q103\2016\Road\40v.dgn

For Overtop 100 yr. +  
Q<sub>100</sub> = 71.9 cfs  
EL. = 1514.69

**SKUNK CREEK BRIDGE  
INTERSTATE 29 SOUTHBOUND**  
Sta. 188+08-88'R (MRM 78.324)  
Sta. 191+49-88'R (MRM 78.383)

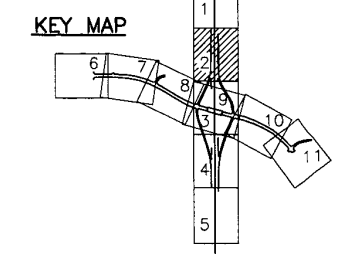
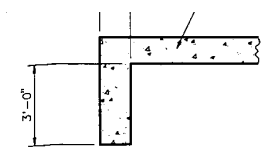
Sec. 24 - T101N R50W

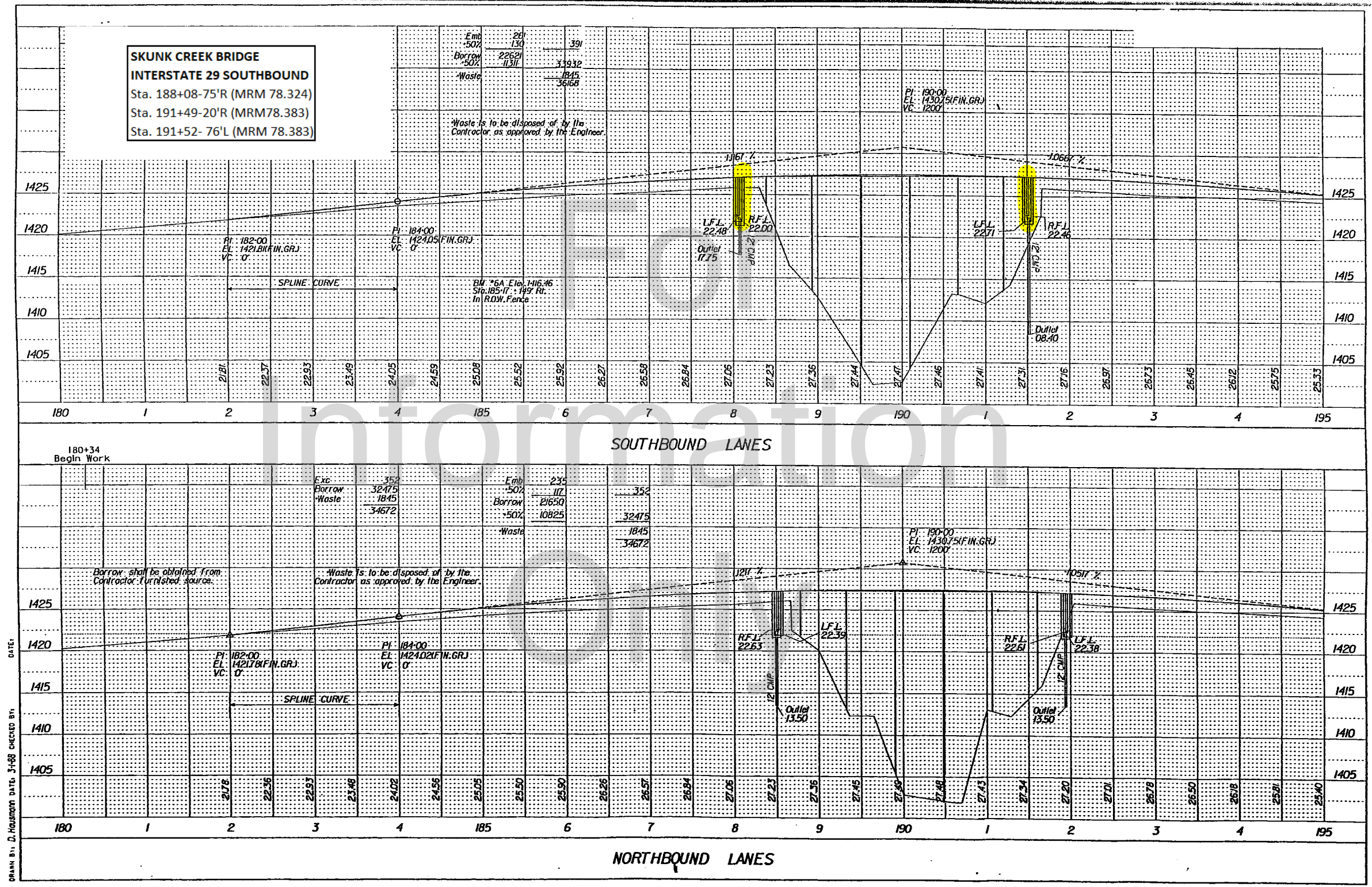
Sec. 25 - T101N R50W



**NOTES:**  
INSTALL TYPE D DROP INLET WITH PRECAST DROP INLET COLLAR AND TYPE D FRAME & GRATE AT THE FOLLOWING LOCATIONS:  
188+08.64 - 87.69' RT.  
188+52.70 - 87.69' LT.  
191+49.30 - 87.69' RT.  
191+93.34 - 87.69' LT.

**CUTOFF WALL DETAIL**



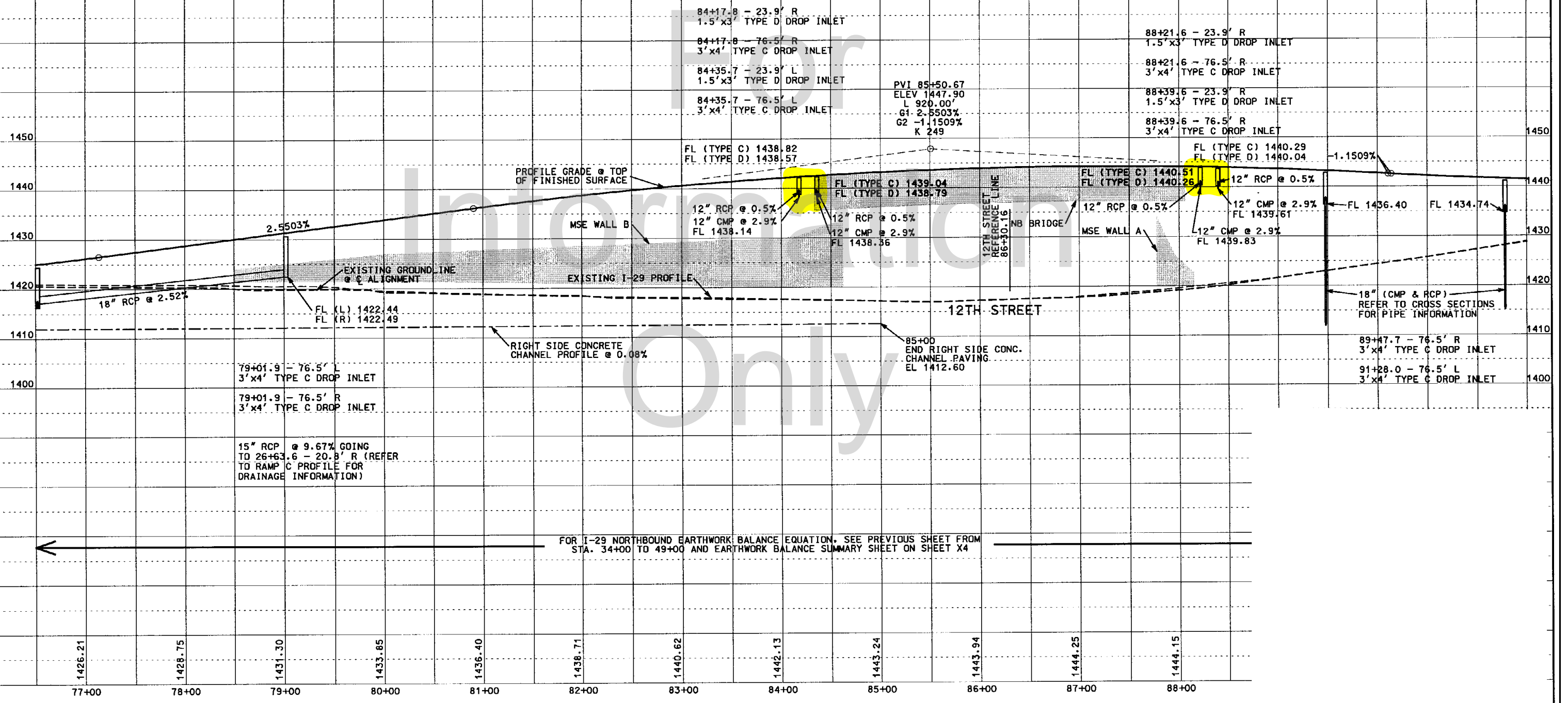




# INTERSTATE 29

STATE OF SOUTH DAKOTA	PROJECT 0001-271	SHEET 15	TOTAL SHEETS 43
-----------------------	---------------------	-------------	--------------------

FOR I-29 SOUTHBOUND EARTHWORK BALANCE EQUATION, SEE PREVIOUS SHEET FROM STA. 34+00 TO 49+00 AND EARTHWORK BALANCE SUMMARY SHEET ON SHEET X4



FOR I-29 NORTHBOUND EARTHWORK BALANCE EQUATION, SEE PREVIOUS SHEET FROM STA. 34+00 TO 49+00 AND EARTHWORK BALANCE SUMMARY SHEET ON SHEET X4

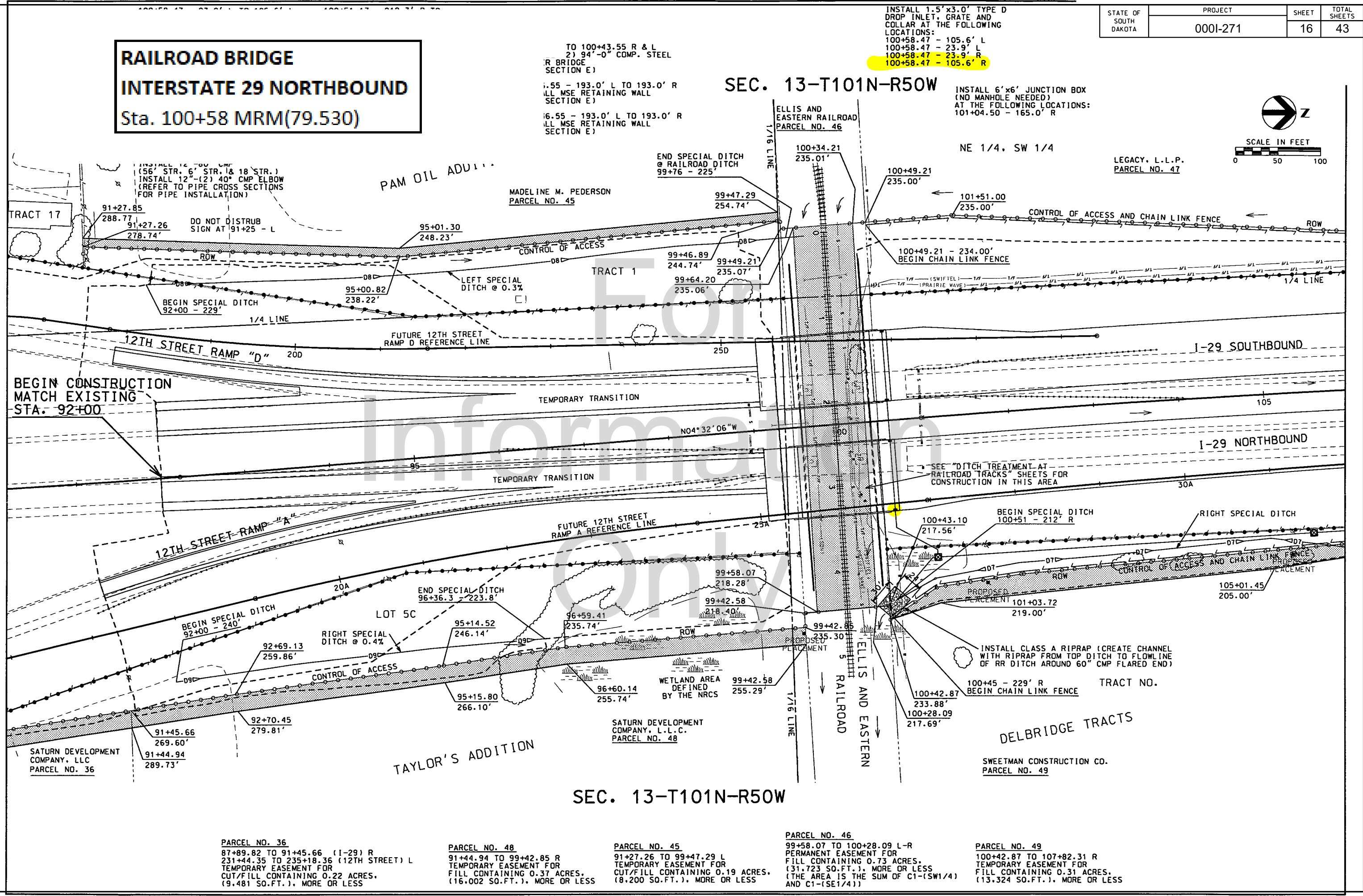
1426.21	1428.75	1431.30	1433.85	1436.40	1438.71	1440.62	1442.13	1443.24	1443.94	1444.25	1444.15
77+00	78+00	79+00	80+00	81+00	82+00	83+00	84+00	85+00	86+00	87+00	88+00

**RAILROAD BRIDGE**  
**INTERSTATE 29 NORTHBOUND**  
 Sta. 100+58 MRM(79.530)

**SEC. 13-T101N-R50W**



SCALE IN FEET  
 0 50 100



TO 100+43.55 R & L  
 2) 94'-0" COMP. STEEL  
 R BRIDGE  
 SECTION E)  
 100+55 - 193.0' L TO 193.0' R  
 ALL MSE RETAINING WALL  
 SECTION E)  
 100+65.55 - 193.0' L TO 193.0' R  
 ALL MSE RETAINING WALL  
 SECTION E)

INSTALL 1.5'x3.0' TYPE D  
 DROP INLET, GRATE AND  
 COLLAR AT THE FOLLOWING  
 LOCATIONS:  
 100+58.47 - 105.6' L  
 100+58.47 - 23.9' L  
 100+58.47 - 23.9' R  
 100+58.47 - 105.6' R

INSTALL 6'x6' JUNCTION BOX  
 (NO MANHOLE NEEDED)  
 AT THE FOLLOWING LOCATIONS:  
 101+04.50 - 165.0' R

LEGACY, L.L.P.  
 PARCEL NO. 47

TRACT 17  
 INSTALL 12" DIA. CMP  
 (56' STR. 6' STR. 18' STR.)  
 INSTALL 12" (2) 40° CMP ELBOW  
 (REFER TO PIPE CROSS SECTIONS  
 FOR PIPE INSTALLATION)

DO NOT DISTURB  
 SIGN AT 91+25 - L

PAM OIL ADDITION

MADELINE M. PEDERSON  
 PARCEL NO. 45

END SPECIAL DITCH  
 @ RAILROAD DITCH  
 99+76 - 225'

ELLIS AND  
 EASTERN RAILROAD  
 PARCEL NO. 46

NE 1/4, SW 1/4

100+49.21  
 235.00'

101+51.00  
 235.00'

CONTROL OF ACCESS AND CHAIN LINK FENCE

ROW

100+49.21 - 234.00'  
 BEGIN CHAIN LINK FENCE

1/4 LINE

12TH STREET RAMP "D"

FUTURE 12TH STREET  
 RAMP D REFERENCE LINE

I-29 SOUTHBOUND

BEGIN CONSTRUCTION  
 MATCH EXISTING  
 STA. 92+00

TEMPORARY TRANSITION

N04°32'06"W

TEMPORARY TRANSITION

I-29 NORTHBOUND

12TH STREET RAMP "A"

FUTURE 12TH STREET  
 RAMP A REFERENCE LINE

SEE "DITCH TREATMENT AT  
 RAILROAD TRACKS" SHEETS FOR  
 CONSTRUCTION IN THIS AREA

BEGIN SPECIAL DITCH  
 100+51 - 212' R

RIGHT SPECIAL DITCH

BEGIN SPECIAL DITCH  
 92+00 - 240'

RIGHT SPECIAL  
 DITCH @ 0.4%

END SPECIAL DITCH  
 96+36.3 - 223.8'

99+58.07  
 218.28'

99+42.58  
 218.40'

100+43.10  
 217.56'

105+01.45  
 205.00'

92+69.13  
 259.86'

92+70.45  
 279.81'

95+14.52  
 246.14'

96+59.41  
 235.74'

99+42.85  
 235.30'

100+42.87  
 233.88'

100+28.09  
 217.69'

INSTALL CLASS A RIPRAP (CREATE CHANNEL  
 WITH RIPRAP FROM TOP DITCH TO FLOWLINE  
 OF RR DITCH AROUND 60" CMP FLARED END)

100+45 - 229' R  
 BEGIN CHAIN LINK FENCE

TRACT NO.

SATURN DEVELOPMENT  
 COMPANY, LLC  
 PARCEL NO. 36

91+45.66  
 269.60'

91+44.94  
 289.73'

TAYLOR'S ADDITION

SATURN DEVELOPMENT  
 COMPANY, L.L.C.  
 PARCEL NO. 48

99+42.58  
 255.29'

96+60.14  
 255.74'

WETLAND AREA  
 DEFINED  
 BY THE NRCS

99+42.85  
 235.30'

99+42.85  
 235.30'

100+42.87  
 233.88'

100+28.09  
 217.69'

DELBRIDGE TRACTS

SWEETMAN CONSTRUCTION CO.  
 PARCEL NO. 49

**SEC. 13-T101N-R50W**

PARCEL NO. 36  
 87+89.82 TO 91+45.66 (I-29) R  
 231+44.35 TO 235+18.36 (12TH STREET) L  
 TEMPORARY EASEMENT FOR  
 CUT/FILL CONTAINING 0.22 ACRES.  
 (9,481 SQ.FT.), MORE OR LESS

PARCEL NO. 48  
 91+44.94 TO 99+42.85 R  
 TEMPORARY EASEMENT FOR  
 FILL CONTAINING 0.37 ACRES.  
 (16,002 SQ.FT.), MORE OR LESS

PARCEL NO. 45  
 91+27.26 TO 99+47.29 L  
 TEMPORARY EASEMENT FOR  
 CUT/FILL CONTAINING 0.19 ACRES.  
 (8,200 SQ.FT.), MORE OR LESS

PARCEL NO. 46  
 99+58.07 TO 100+28.09 L-R  
 PERMANENT EASEMENT FOR  
 FILL CONTAINING 0.73 ACRES.  
 (31,723 SQ.FT.), MORE OR LESS  
 (THE AREA IS THE SUM OF C1-(SW1/4)  
 AND C1-(SE1/4))

PARCEL NO. 49  
 100+42.87 TO 107+82.31 R  
 TEMPORARY EASEMENT FOR  
 FILL CONTAINING 0.31 ACRES.  
 (13,324 SQ.FT.), MORE OR LESS



**RAILROAD BRIDGE  
INTERSTATE 29 NORTHBOUND  
Sta. 100+58**

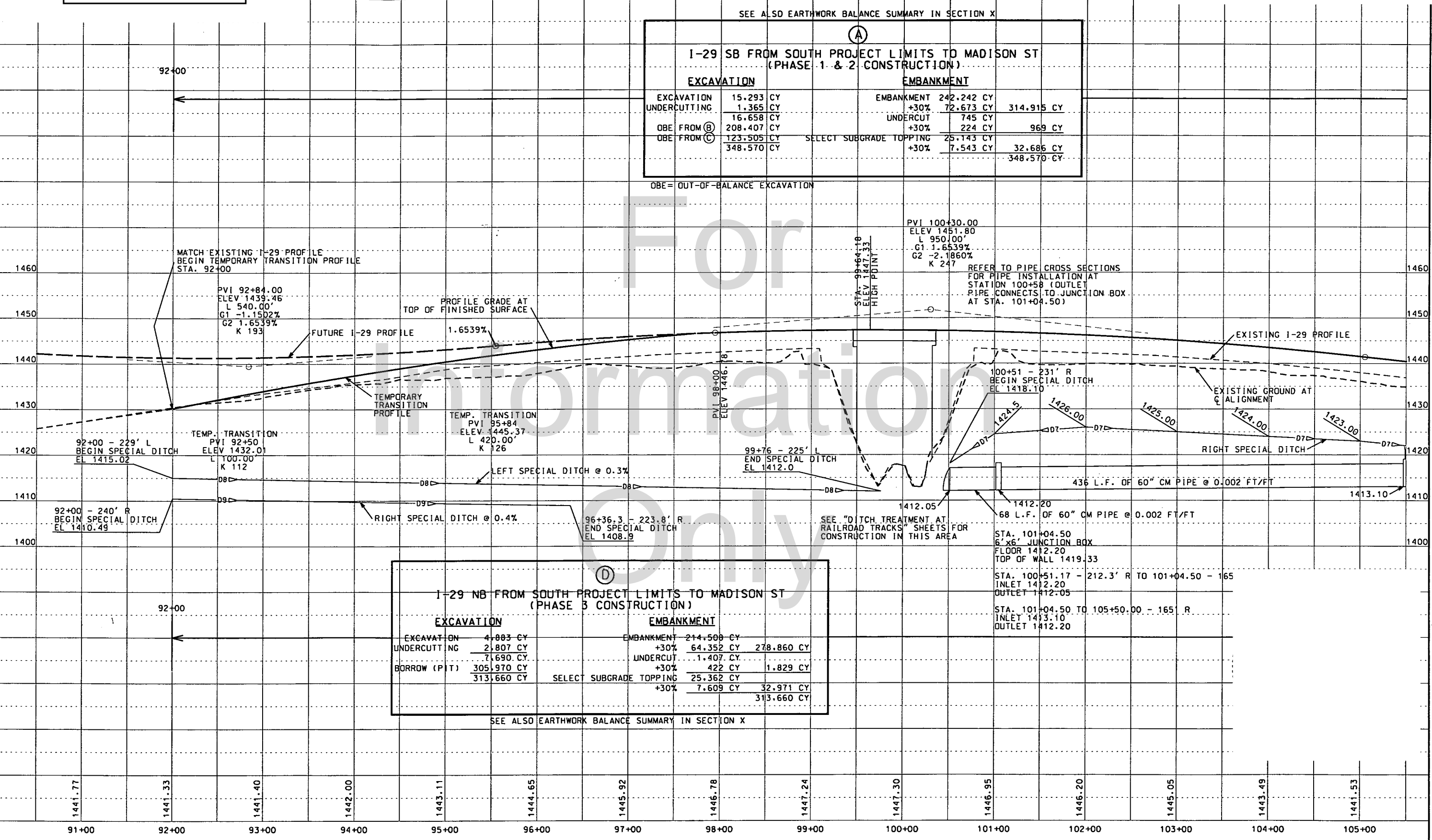
SEE ALSO EARTHWORK BALANCE SUMMARY IN SECTION X

(A)

**I-29 SB FROM SOUTH PROJECT LIMITS TO MADISON ST  
(PHASE 1 & 2 CONSTRUCTION)**

EXCAVATION		EMBANKMENT	
EXCAVATION	15.293 CY	EMBANKMENT	242.242 CY
UNDERCUTTING	1.365 CY	+30%	72.673 CY
OBE FROM (B)	16.658 CY	UNDERCUT	745 CY
OBE FROM (C)	208.407 CY	+30%	224 CY
	123.505 CY	SELECT SUBGRADE TOPPING	25.143 CY
	348.570 CY	+30%	7.543 CY
			32.686 CY
			348.570 CY

OBE = OUT-OF-BALANCE EXCAVATION



(D)

**I-29 NB FROM SOUTH PROJECT LIMITS TO MADISON ST  
(PHASE 3 CONSTRUCTION)**

EXCAVATION		EMBANKMENT	
EXCAVATION	4.883 CY	EMBANKMENT	214.508 CY
UNDERCUTTING	2.807 CY	+30%	64.352 CY
	7.690 CY	UNDERCUT	1.407 CY
BORROW (PIT)	305.970 CY	+30%	422 CY
	313.660 CY	SELECT SUBGRADE TOPPING	25.362 CY
		+30%	7.609 CY
			32.971 CY
			313.660 CY

SEE ALSO EARTHWORK BALANCE SUMMARY IN SECTION X

1441.77    1441.33    1441.40    1442.00    1443.11    1444.65    1445.92    1446.78    1447.24    1447.30    1446.95    1446.20    1445.05    1443.49    1441.53

91+00    92+00    93+00    94+00    95+00    96+00    97+00    98+00    99+00    100+00    101+00    102+00    103+00    104+00    105+00

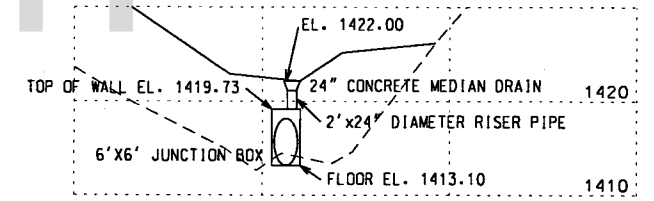
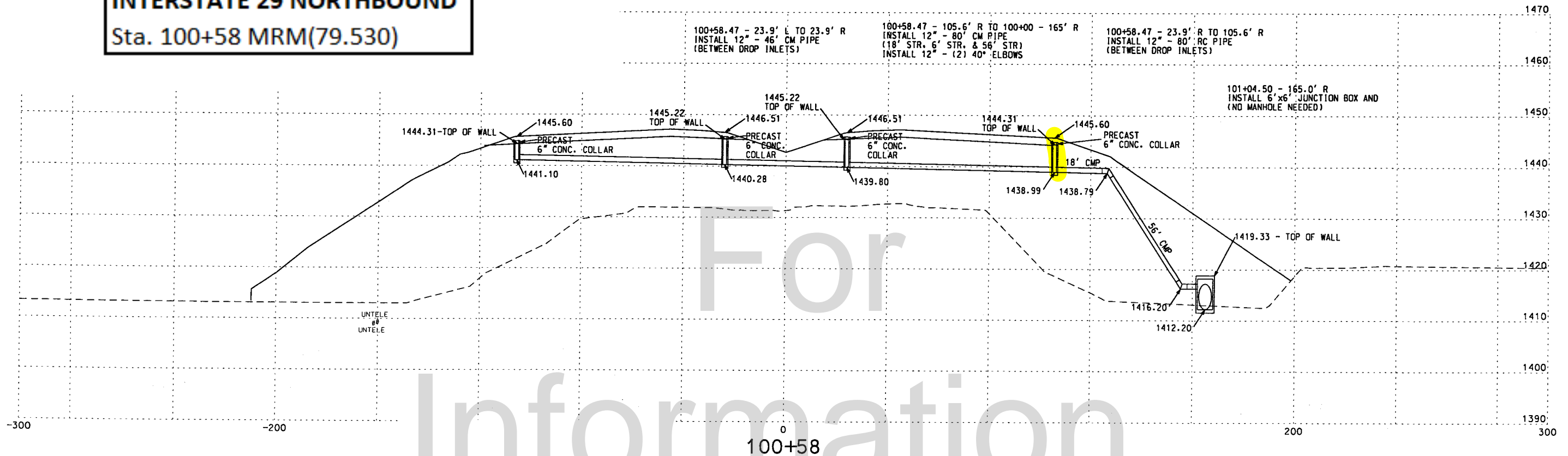
**RAILROAD BRIDGE  
INTERSTATE 29 NORTHBOUND**  
Sta. 100+58 MRM(79.530)

100+58.47 - 23.9' L TO 23.9' R  
INSTALL 12" - 46' CM PIPE  
(BETWEEN DROP INLETS)

100+58.47 - 105.6' R TO 100+00 - 165' R  
INSTALL 12" - 80' CM PIPE  
(18' STR, 6' STR, & 56' STR)  
INSTALL 12" - (2) 40° ELBOWS

100+58.47 - 23.9' R TO 105.6' R  
INSTALL 12" - 80' RC PIPE  
(BETWEEN DROP INLETS)

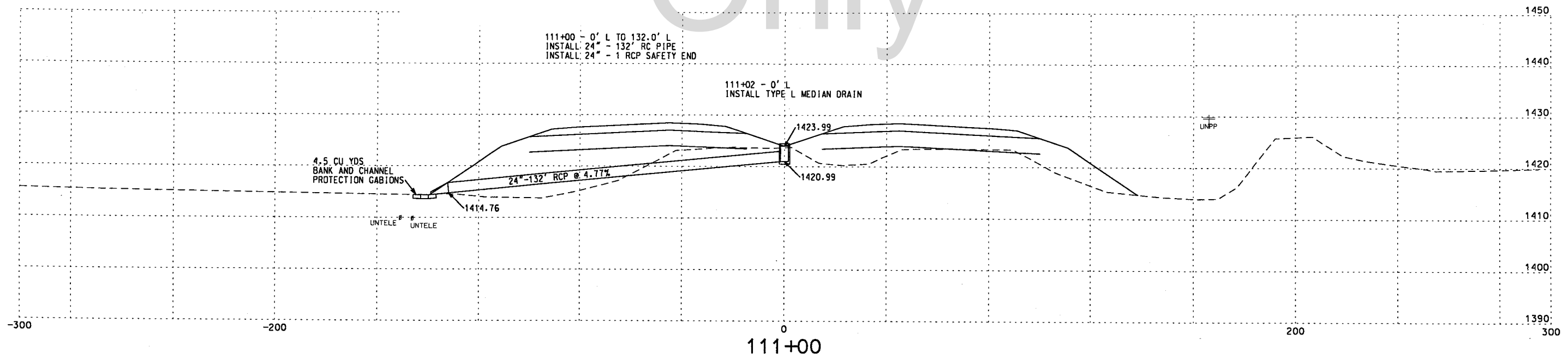
101+04.50 - 165.0' R  
INSTALL 6'x6' JUNCTION BOX AND  
(NO MANHOLE NEEDED)



JUNCTION BOX @ 105+50

111+00 - 0' L TO 132.0' L  
INSTALL 24" - 132' RC PIPE  
INSTALL 24" - 1 RCP SAFETY END

111+02 - 0' L  
INSTALL TYPE L MEDIAN DRAIN



4.5 CU. YDS  
BANK AND CHANNEL  
PROTECTION GABIONS

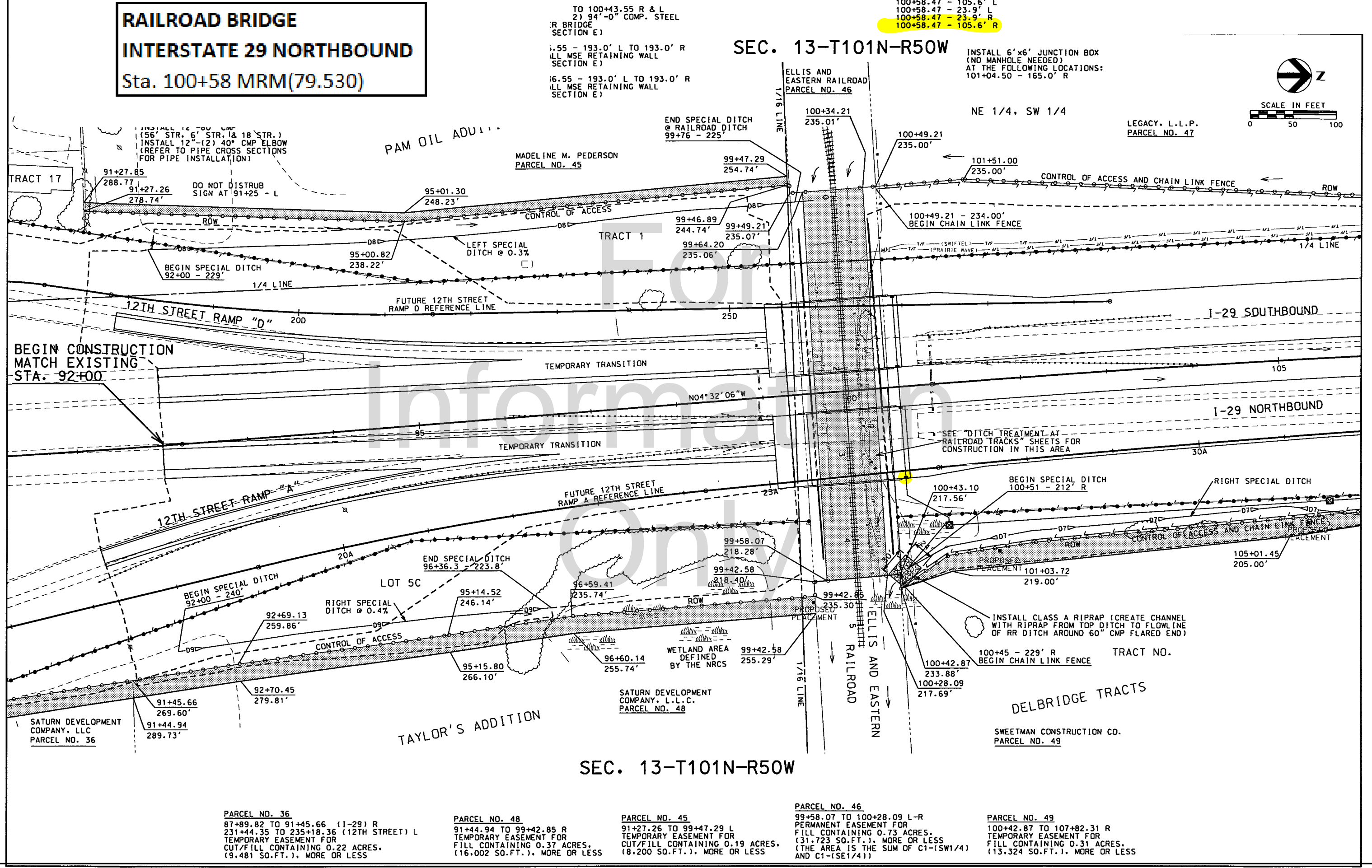
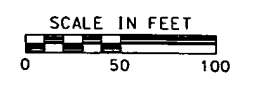
UNPP

**RAILROAD BRIDGE**  
**INTERSTATE 29 NORTHBOUND**  
 Sta. 100+58 MRM(79.530)

SEC. 13-T101N-R50W

INSTALL 1.5'x3.0' TYPE D DROP INLET, GRATE AND COLLAR AT THE FOLLOWING LOCATIONS:  
 100+58.47 - 105.6' L  
 100+58.47 - 23.9' L  
 100+58.47 - 23.9' R  
 100+58.47 - 105.6' R

INSTALL 6'x6' JUNCTION BOX (NO MANHOLE NEEDED) AT THE FOLLOWING LOCATIONS:  
 101+04.50 - 165.0' R



TO 100+43.55 R & L  
 2) 94'-0" COMP. STEEL  
 R BRIDGE  
 SECTION E)  
 100+55 - 193.0' L TO 193.0' R  
 ALL MSE RETAINING WALL  
 SECTION E)  
 100+65.55 - 193.0' L TO 193.0' R  
 ALL MSE RETAINING WALL  
 SECTION E)

INSTALL 12" DIA. CMP (56' STR. 6' STR. 1 & 18' STR.)  
 INSTALL 12" (2) 40° CMP ELBOW  
 (REFER TO PIPE CROSS SECTIONS  
 FOR PIPE INSTALLATION)

DO NOT DISTURB  
 SIGN AT 91+25 - L

BEGIN CONSTRUCTION  
 MATCH EXISTING  
 STA. 92+00

SATURN DEVELOPMENT  
 COMPANY, LLC  
 PARCEL NO. 36

PARCEL NO. 36  
 87+89.82 TO 91+45.66 (I-29) R  
 231+44.35 TO 235+18.36 (12TH STREET) L  
 TEMPORARY EASEMENT FOR  
 CUT/FILL CONTAINING 0.22 ACRES.  
 (9,481 SQ.FT.), MORE OR LESS

PARCEL NO. 48  
 91+44.94 TO 99+42.85 R  
 TEMPORARY EASEMENT FOR  
 FILL CONTAINING 0.37 ACRES.  
 (16,002 SQ.FT.), MORE OR LESS

PARCEL NO. 45  
 91+27.26 TO 99+47.29 L  
 TEMPORARY EASEMENT FOR  
 CUT/FILL CONTAINING 0.19 ACRES.  
 (8,200 SQ.FT.), MORE OR LESS

PARCEL NO. 46  
 99+58.07 TO 100+28.09 L-R  
 PERMANENT EASEMENT FOR  
 FILL CONTAINING 0.73 ACRES.  
 (31,723 SQ.FT.), MORE OR LESS  
 (THE AREA IS THE SUM OF C1-(SW1/4)  
 AND C1-(SE1/4))

PARCEL NO. 49  
 100+42.87 TO 107+82.31 R  
 TEMPORARY EASEMENT FOR  
 FILL CONTAINING 0.31 ACRES.  
 (13,324 SQ.FT.), MORE OR LESS

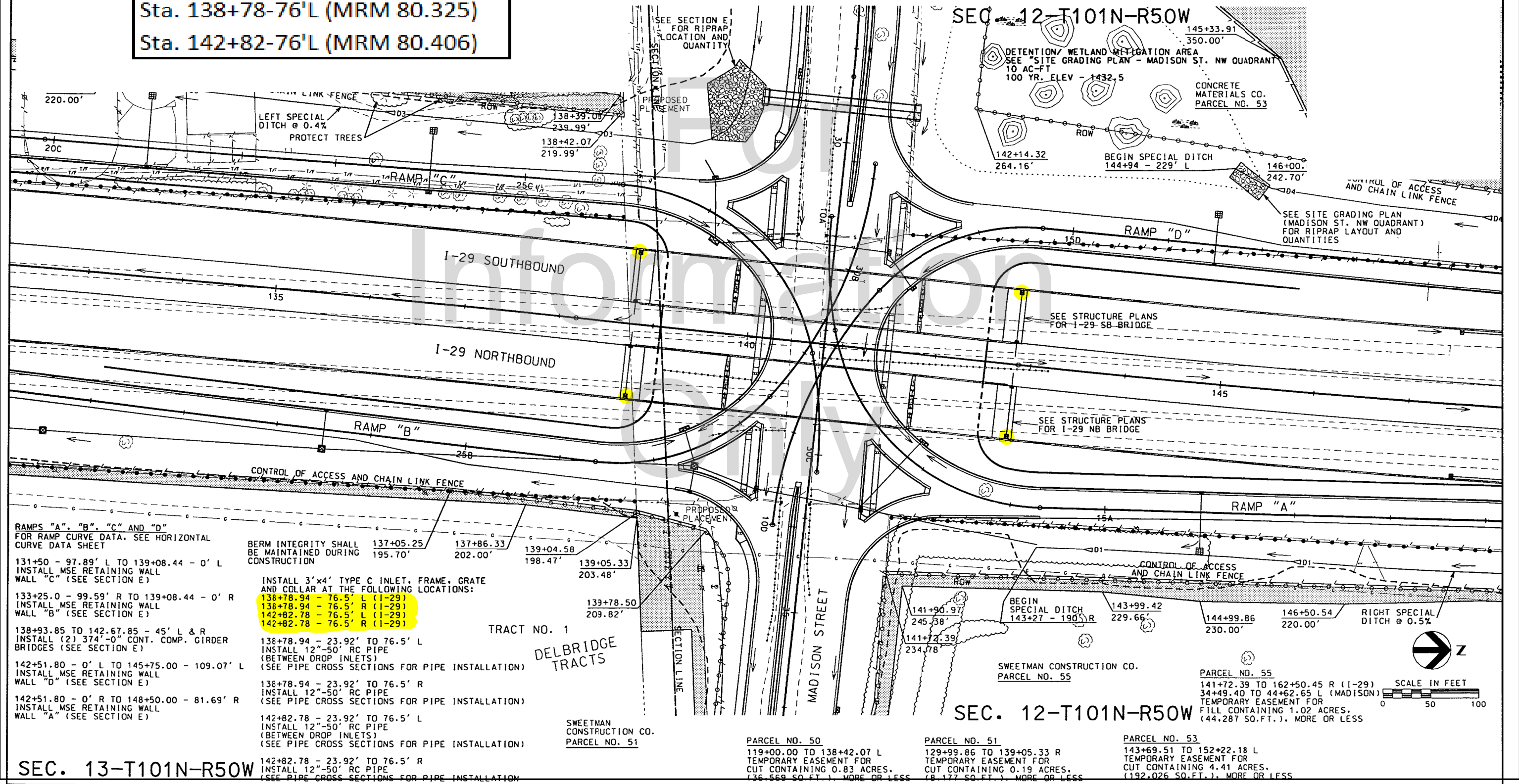
SEC. 13-T101N-R50W

**MADISON STREET INTERCHANGE  
INTERSTATE 29 NORTHBOUND**  
Sta. 138+78-76'R (MRM 80.250)  
Sta. 142+82-76'R (MRM 80.330)  
**INTERSTATE 29 SOUTHBOUND**  
Sta. 138+78-76'L (MRM 80.325)  
Sta. 142+82-76'L (MRM 80.406)

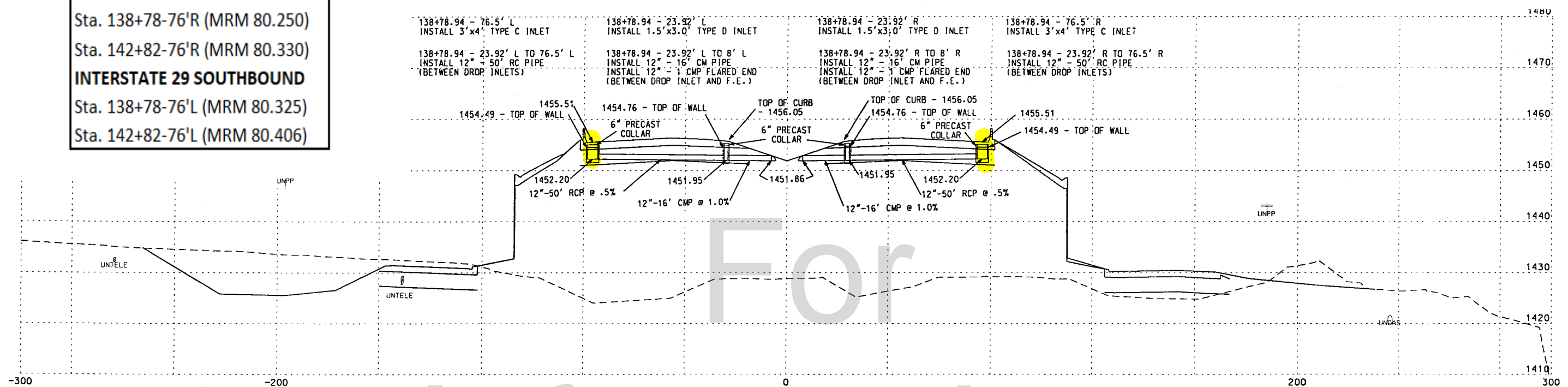
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	0001-271	20	43

- I**
- 136+49.9 - 117.1' L TO 169.9' L  
INSTALL 18"-52' RC PIPE  
INSTALL 18"-1 RCP SAFETY END
  - 138+78.94 - 8' TO 23.92' L  
INSTALL 12"-16' CM PIPE  
INSTALL 12"-1 CMP FLARED END  
(SEE PIPE CROSS SECTIONS FOR PIPE INSTALLATION)
  - 138+78.94 - 8' TO 23.92' R  
INSTALL 12"-16' CM PIPE  
INSTALL 12"-1 CMP FLARED END  
(SEE PIPE CROSS SECTIONS FOR PIPE INSTALLATION)
  - 142+82.78 - 8' TO 23.92' L  
INSTALL 12"-16' CM PIPE  
INSTALL 12"-1 CMP FLARED END  
(SEE PIPE CROSS SECTIONS FOR PIPE INSTALLATION)
  - 144+81.2 - 126.2' L TO 186.6' L  
INSTALL 18"-62' RC PIPE  
INSTALL 18"-1 RCP SAFETY END  
(SEE PIPE CROSS SECTIONS FOR PIPE INSTALLATION)
  - 144+90.9 - 115.8' TO 164.0' R  
INSTALL 18"-48' RC PIPE  
INSTALL 18"-1 RCP SAFETY END  
(SEE PIPE CROSS SECTIONS FOR PIPE INSTALLATION)
  - INSTALL 2'x3' TYPE B INLET, FRAME, GRATE AND COLLAR AT THE FOLLOWING LOCATION:  
133+51.6 - 115.4' L (RAMP "C" STA 21+00 - 20.8' R)
  - INSTALL 5'x5' JUNCTION BOX AND TYPE A7 MANHOLE AND LID AT THE FOLLOWING LOCATIONS:  
135+64.8 - 164.3' R (RAMP "B" STA 23+50 - 20.6' R)  
139+59.5 - 142.4' R (RAMP "B" STA 27+38.3 - 17.3' R)

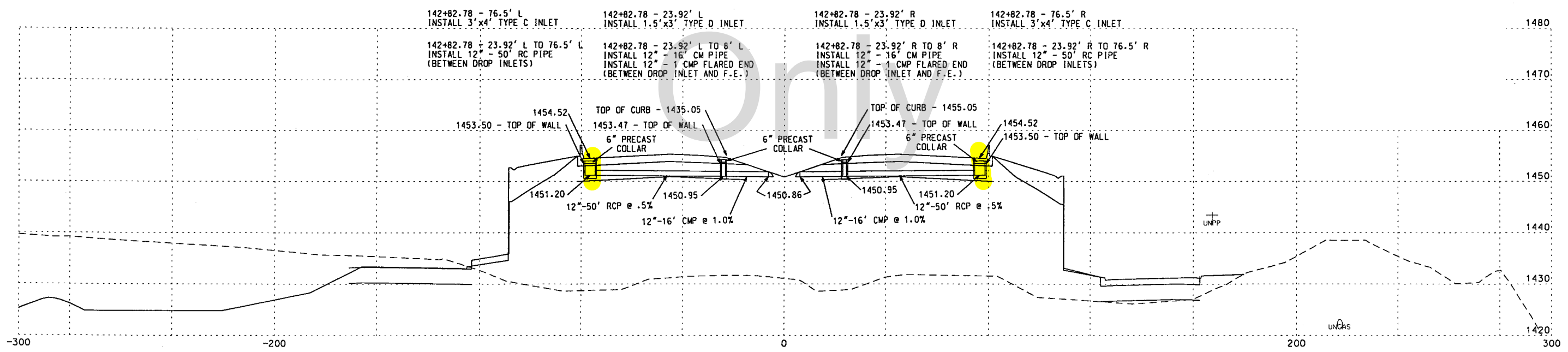
- INSTALL 1.5'x3.0' TYPE D INLET, FRAME, GRATE AND COLLAR AT THE FOLLOWING LOCATIONS:  
135+65.7 - 123.2' R (RAMP "B" STA 23+50 - 20.5' L)  
138+78.94 - 23.92' L (I-29)  
138+78.94 - 23.92' R (I-29)  
142+82.78 - 23.92' L (I-29)  
142+82.78 - 23.92' R (I-29)  
144+81.2 - 126.2' L (RAMP "D" STA 16+50 - 20.5' R)  
144+90.9 - 115.8' R (RAMP "A" STA 16+00 - 20.5' L)
- INSTALL 3'x5' TYPE S DROP INLET AND TYPE S MANHOLE FRAME AND LID AT THE FOLLOWING LOCATION:  
136+49.9 - 117.1' L (RAMP "C" STA 24+00 - 23.3' R)



**MADISON STREET INTERCHANGE**  
**INTERSTATE 29 NORTHBOUND**  
Sta. 138+78-76'R (MRM 80.250)  
Sta. 142+82-76'R (MRM 80.330)  
**INTERSTATE 29 SOUTHBOUND**  
Sta. 138+78-76'L (MRM 80.325)  
Sta. 142+82-76'L (MRM 80.406)



138+79



142+83

For  
Information Only

# BENSON ROAD INTERCHANGE INTERSTATE 29 SOUTHBOUND Sta. 156+42 (MRM 82.305)

STATE OF SOUTH DAKOTA	PROJECT 0001-271	SHEET 22	TOTAL SHEETS 43
-----------------------	---------------------	-------------	--------------------

SLOPE SHOULDER PAVEMENT TO DRAIN TO INLET AT THE FOLLOWING LOCATIONS:  
 144+06-76.5' R  
 141+06-76.5' R  
 144+82.5-76.5' L  
 142+82.5-76.5' L

142+75 - 79' R  
 INSTALL CRASH ATTENUATOR

141+06 - 76.5' R TP 129.7' R  
 18"-50' RCP AND (1) RCP TO CMP TRANSITION  
 (INLET CONNECTED TO DROP INLET)

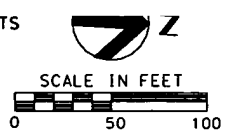
141+06 - 129.7' R TO 170.5' R  
 18"-36' CMP AND (2) 12.5° ELBOWS AND (1) SAFETY END

142+82.5 - 76.5' L TO 163.7' L  
 18"-86' RCP AND (1) SAFETY END  
 (INLET CONNECTED TO DROP INLET)

147+08 - 152.66' L TO 148+02.20 - 155.37' R  
 INSTALL M.S.E. RETAINING WALL  
 (SEE SECTION E)

152+38.61 - 148.86' L TO 152+46.28 - 153.95' R  
 INSTALL M.S.E. RETAINING WALL  
 (SEE SECTION E)

INSTALL (3'x4') TYPE C DROP INLETS AND TYPE C FRAME AND GRATE AT THE FOLLOWING LOCATIONS:  
 144+06 - 76.5' R  
 141+06 - 76.5' R  
 144+82.5 - 76.5' L  
 142+82.5 - 76.5' L



SEC. 36-102-50

MARC W. TOBIAS  
PARCEL NO. 125

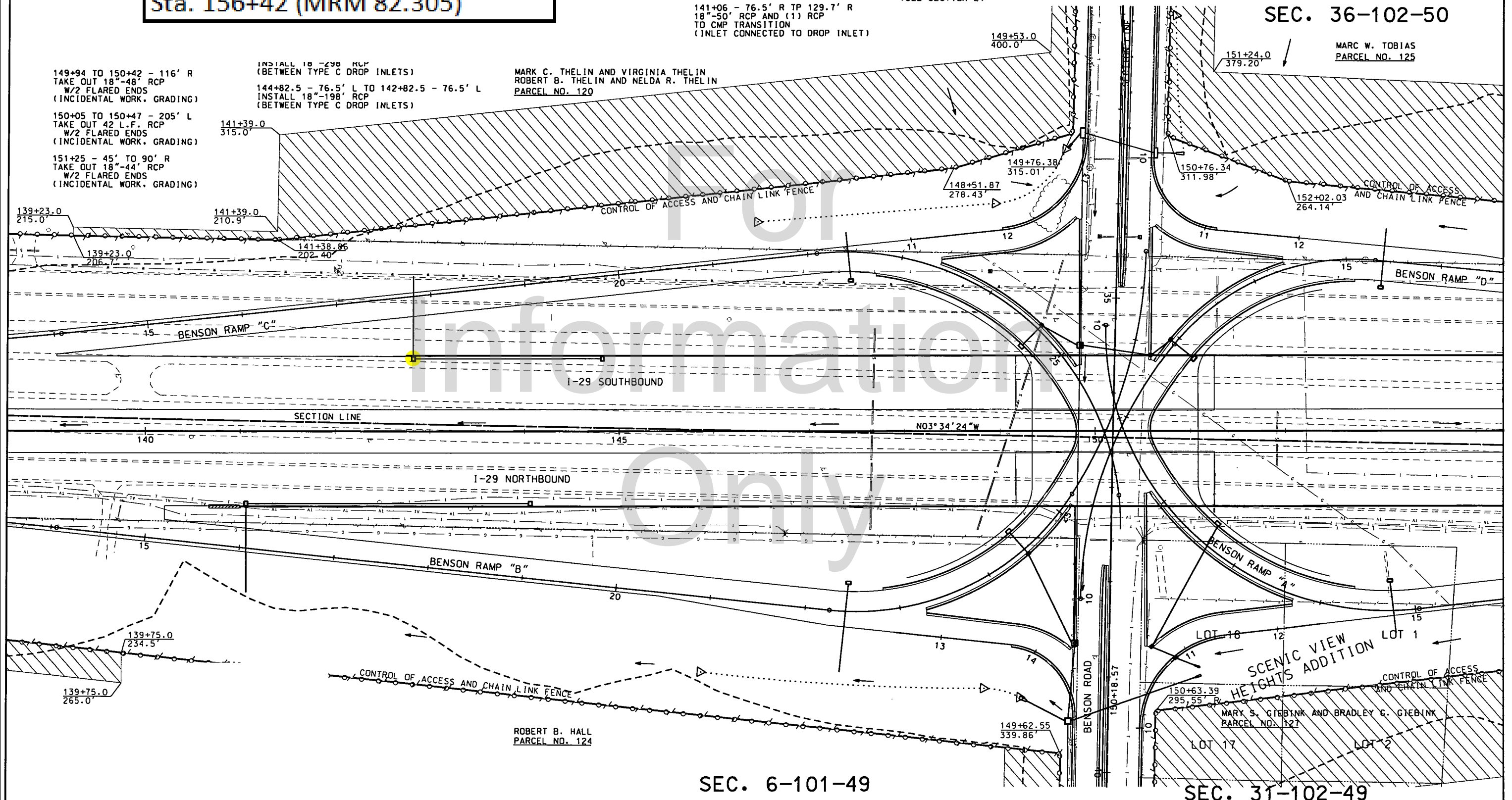
MARK C. THELIN AND VIRGINIA THELIN  
ROBERT B. THELIN AND NELDA R. THELIN  
PARCEL NO. 120

INSTALL 18"-198' RCP (BETWEEN TYPE C DROP INLETS)  
 144+82.5 - 76.5' L TO 142+82.5 - 76.5' L  
 INSTALL 18"-198' RCP (BETWEEN TYPE C DROP INLETS)

149+94 TO 150+42 - 116' R  
 TAKE OUT 18"-48' RCP W/2 FLARED ENDS (INCIDENTAL WORK, GRADING)

150+05 TO 150+47 - 205' L  
 TAKE OUT 42 L.F. RCP W/2 FLARED ENDS (INCIDENTAL WORK, GRADING)

151+25 - 45' TO 90' R  
 TAKE OUT 18"-44' RCP W/2 FLARED ENDS (INCIDENTAL WORK, GRADING)



SEC. 6-101-49

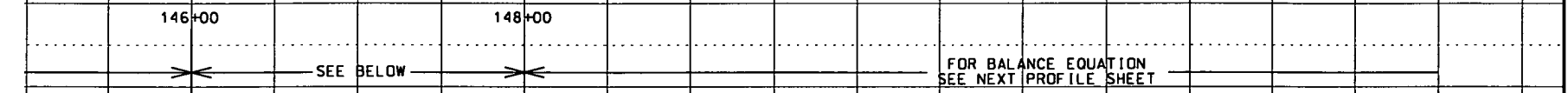
SEC. 31-102-49

139+23.0 TO 149+91.4 L  
 TEMPORARY EASEMENT FOR CUT CONTAINING 2.4 ACRES.  
 (106,529 SQ.FT.), MORE OR LESS

PARCEL NO. A115  
 151+95.00 TO 153+62.96  
 TEMPORARY EASEMENT FOR CUT CONTAINING 0.05 ACRES.  
 (1,951 SQ.FT.), MORE OR LESS

150+55.21 TO 153+70.30 R  
 TEMPORARY EASEMENT FOR CUT CONTAINING 1.2 ACRES.  
 (51,367 SQ.FT.), MORE OR LESS

**BENSON ROAD INTERCHANGE  
INTERSTATE 29 SOUTHBOUND  
Sta. 156+42 (MRM 82.305)**



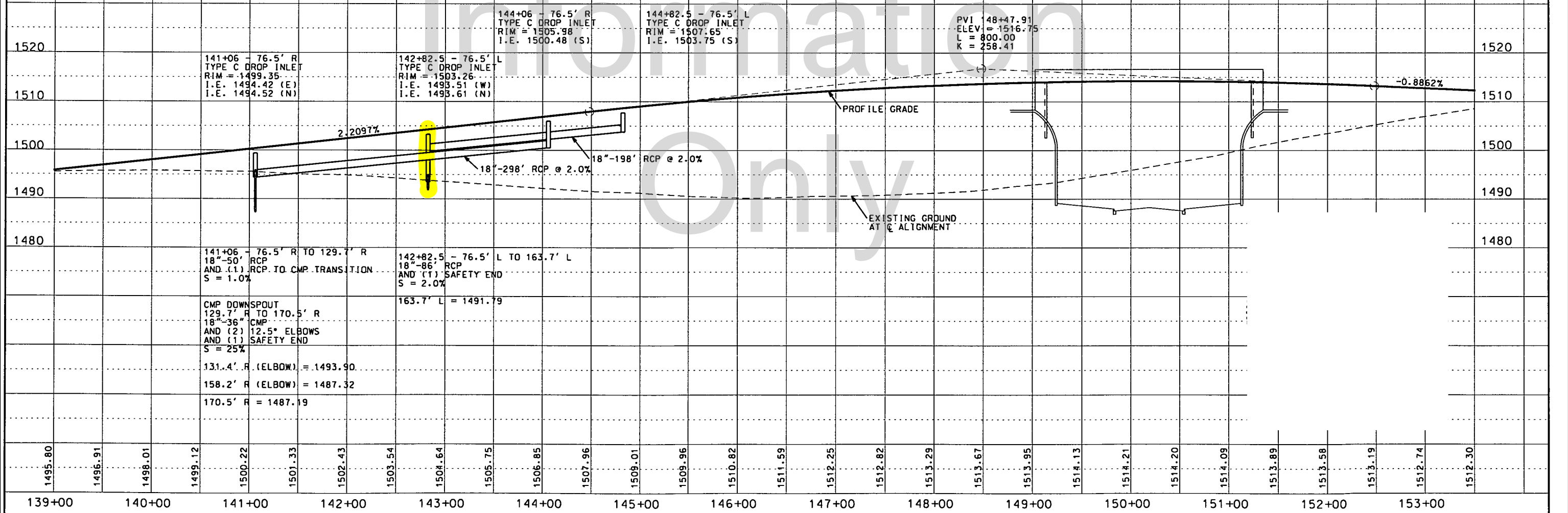
EXC.	0 CY	EMB.	23.279 CY
UNDERCUT	0 CY	+20%	4.656 CY
UNDERCUT SEL. TOP.	0 CY	UNDERCUT	0 CY
SEL. TOP. EXC.	0 CY	+20%	0 CY
+BORROW	29.130 CY	SEL. TOP. EXC.	996 CY
	29.130 CY	+20%	199 CY
			1.195 CY
			29.130 CY

BORROW HAUL = 400,000 C.Y. x STA.

UNDERCUT SELECT TOPPING IS TOP 2" OF 3" UNDERCUT AND IS TO BE USED BELOW THE TOP 2" OF EARTH SUBGRADE AND IS INCLUDED IN THE BID ITEM "UNDERCUTTING".

SELECT TOPPING EXCAVATION IS TO BE OBTAINED FROM BLENDED MATERIAL CONSISTING OF SALVAGED CONCRETE SURFACING, SALVAGED SUBBASE AND SELECT MATERIAL.

THE BORROW SHALL BE OBTAINED FROM BENSON ROAD RAMP "A".



139+00 140+00 141+00 142+00 143+00 144+00 145+00 146+00 147+00 148+00 149+00 150+00 151+00 152+00 153+00

**BENSON ROAD INTERCHANGE  
INTERSTATE 29 SOUTHBOUND**  
Sta. 156+42 (MRM 82.305)

STATE OF SOUTH DAKOTA	PROJECT 0001-271	SHEET 24	TOTAL SHEETS 43
-----------------------	---------------------	-------------	--------------------

154+45.5 - 76.5' R TO 156+45.5 - 76.5' R  
INSTALL 18"-198' RCP  
(BETWEEN TYPE C DROP INLETS)

156+42.5 - 76.5' L TO 159+42.5 - 76.5' L  
INSTALL 18"-298' RCP  
(BETWEEN TYPE C DROP INLETS)

156+45.5 - 76.5' R TO 117.8' R  
INSTALL 18"-36' CMP  
AND (2) 15° ELBOWS

156+45.5 - 117.8' R TO 177.2' R  
INSTALL 18"-58' RCP  
AND (1) CMP TO RCP TRANSITION  
AND (1) SAFETY END

159+42.5 - 76.5' L TO 140' L  
INSTALL 18"-62' RCP  
AND (1) SAFETY END

161+00-8.5' L TO 121.5' L (2.5 Ac.)  
INSTALL 24"-114' RCP AND (2)  
SLOPED ENDS (WITHOUT BARS)

166+42-9.0' L TO 107' L (3.3 Ac)  
INSTALL 30"-98' RCP  
AND (2) SLOPED ENDS  
(WITHOUT BARS)

SLOPE SHOULDER PAVEMENT TO  
DRAIN TO INLET AT THE FOLLOWING  
LOCATIONS:  
154+45.5 - 76.5' R  
156+45.5 - 76.5' R  
156+42.5 - 76.5' L  
159+42.5 - 76.5' L

168+50 - 120' R TO 169+23.4 - 134.6' L  
INSTALL 24"-262' RCP AND (1) SLOPED END  
(INLET END CONNECTED TO TYPE L DRAIN)  
CENTERLINE STATION 168+84.79

166+42 - L  
INSTALL BANK AND CHANNEL  
PROTECTION GABIONS  
(6.0 CU YDS)

169+23.4 - L  
INSTALL BANK AND CHANNEL  
PROTECTION GABIONS  
(4.5 CU YDS)

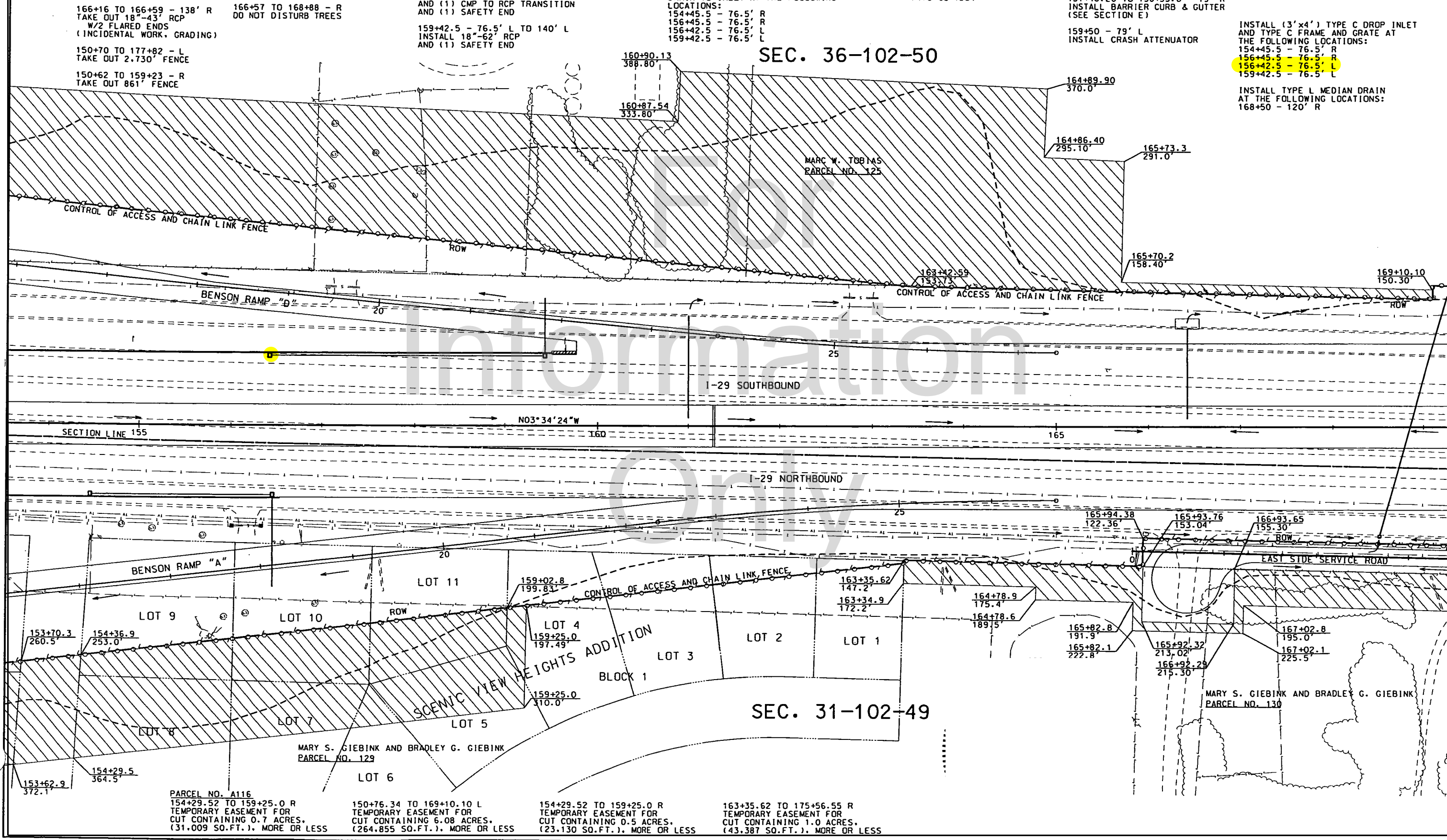
151+48.20 TO 159+50 - 79' L  
INSTALL BARRIER CURB & GUTTER  
(SEE SECTION E)

151+48.20 TO 156+53.0 - 79' R  
INSTALL BARRIER CURB & GUTTER  
(SEE SECTION E)

159+50 - 79' L  
INSTALL CRASH ATTENUATOR

INSTALL (3'x4') TYPE C DROP INLET  
AND TYPE C FRAME AND GRATE AT  
THE FOLLOWING LOCATIONS:  
154+45.5 - 76.5' R  
156+42.5 - 76.5' L  
159+42.5 - 76.5' L

INSTALL TYPE L MEDIAN DRAIN  
AT THE FOLLOWING LOCATIONS:  
168+50 - 120' R



**SEC. 36-102-50**

**SEC. 31-102-49**

PARCEL NO. A116  
154+29.52 TO 159+25.0 R  
TEMPORARY EASEMENT FOR  
CUT CONTAINING 0.7 ACRES.  
(31,009 SQ.FT.). MORE OR LESS

150+76.34 TO 169+10.10 L  
TEMPORARY EASEMENT FOR  
CUT CONTAINING 6.08 ACRES.  
(264,855 SQ.FT.). MORE OR LESS

154+29.52 TO 159+25.0 R  
TEMPORARY EASEMENT FOR  
CUT CONTAINING 0.5 ACRES.  
(23,130 SQ.FT.). MORE OR LESS

163+35.62 TO 175+56.55 R  
TEMPORARY EASEMENT FOR  
CUT CONTAINING 1.0 ACRES.  
(43,387 SQ.FT.). MORE OR LESS



**BENSON ROAD INTERCHANGE  
INTERSTATE 29 SOUTHBOUND  
Sta. 156+42 (MRM 82.305)**

EXC.	24,008 CY	EMB.	38,195 CY
UNDERCUT	2,608 CY	+20%	7,639 CY
SEL. TOP.	3,617 CY	UNDERCUT	2,608 CY
TOP. EXC.	18,898 CY	+20%	522 CY
+BORROW	18,781 CY	SEL. TOP. EXC.	15,748 CY
	67,912 CY	+20%	3,150 CY
			18,898 CY
			67,912 CY

HAUL = 300,000 C.Y. x STA.  
BORROW HAUL = 110,000 C.Y. x STA.  
TOPPING IS TOP 2' OF 3' UNDERCUT AND IS TO BE USED BELOW THE TOP BGRADE AND IS INCLUDED IN THE BID ITEM "UNDERCUTTING".

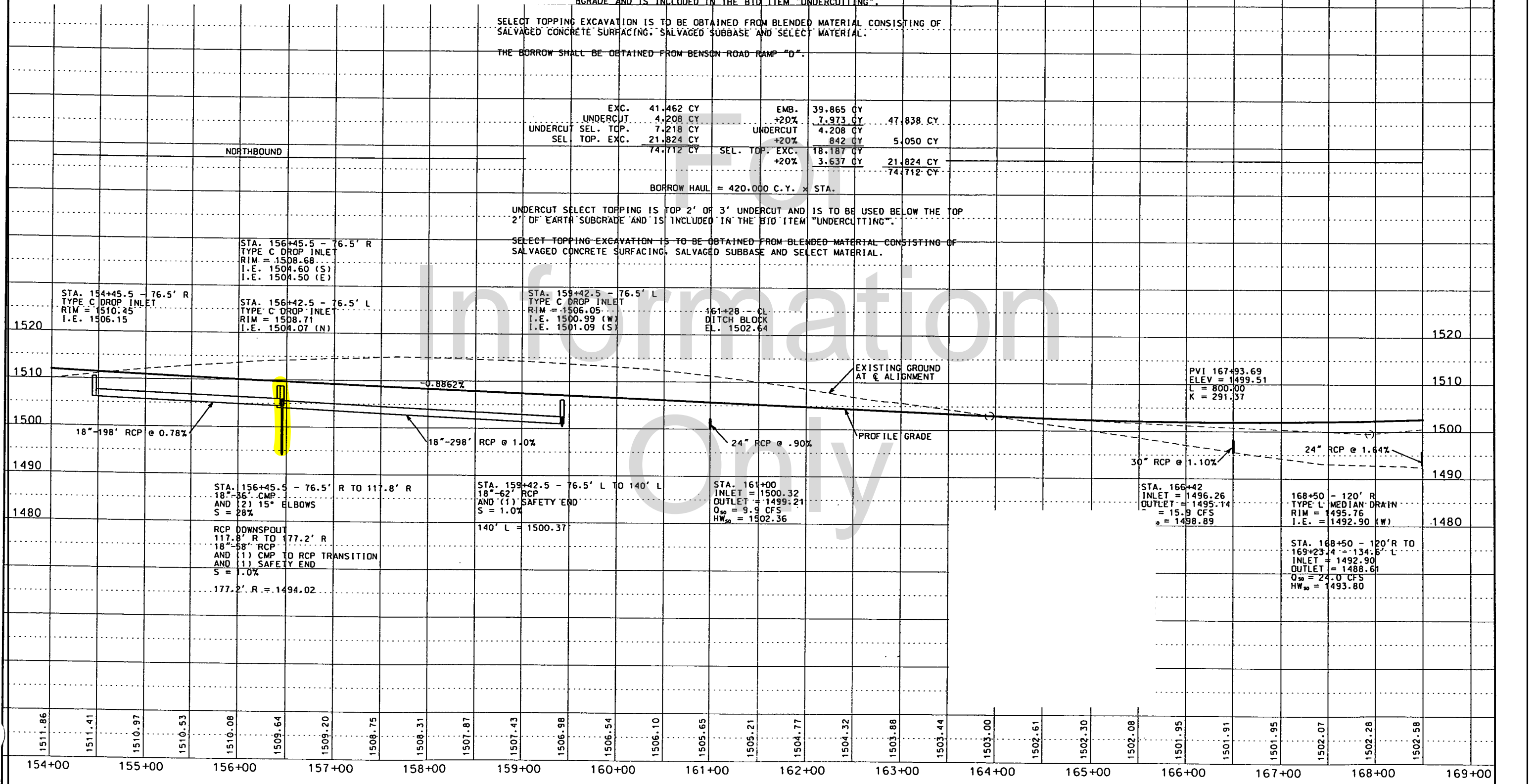
SELECT TOPPING EXCAVATION IS TO BE OBTAINED FROM BLENDED MATERIAL CONSISTING OF SALVAGED CONCRETE SURFACING, SALVAGED SUBBASE AND SELECT MATERIAL.  
THE BORROW SHALL BE OBTAINED FROM BENSON ROAD RAMP "D".

EXC.	41,462 CY	EMB.	39,865 CY
UNDERCUT	4,208 CY	+20%	7,973 CY
SEL. TOP.	7,218 CY	UNDERCUT	4,208 CY
SEL. TOP. EXC.	21,824 CY	+20%	842 CY
	74,712 CY	SEL. TOP. EXC.	18,187 CY
		+20%	3,637 CY
			21,824 CY
			74,712 CY

BORROW HAUL = 420,000 C.Y. x STA.

UNDERCUT SELECT TOPPING IS TOP 2' OF 3' UNDERCUT AND IS TO BE USED BELOW THE TOP 2' OF EARTH SUBGRADE AND IS INCLUDED IN THE BID ITEM "UNDERCUTTING".

SELECT TOPPING EXCAVATION IS TO BE OBTAINED FROM BLENDED MATERIAL CONSISTING OF SALVAGED CONCRETE SURFACING, SALVAGED SUBBASE AND SELECT MATERIAL.



STA. 154+45.5 - 76.5' R  
TYPE C DROP INLET  
RIM = 1510.45  
I.E. 1506.15

STA. 156+45.5 - 76.5' R  
TYPE C DROP INLET  
RIM = 1508.68  
I.E. 1504.60 (S)  
I.E. 1504.50 (E)

STA. 156+42.5 - 76.5' L  
TYPE C DROP INLET  
RIM = 1508.71  
I.E. 1504.07 (N)

STA. 159+42.5 - 76.5' L  
TYPE C DROP INLET  
RIM = 1506.05  
I.E. 1500.99 (W)  
I.E. 1501.09 (S)

161+28 - CL  
DITCH BLOCK  
EL. 1502.64

PVI 167+93.69  
ELEV = 1499.51  
L = 800.00  
K = 291.37

STA. 156+45.5 - 76.5' R TO 117.8' R  
18"-36" CMP  
AND (2) 15" ELBOWS  
S = 2.8%

RCP DOWNSPOUT  
117.8' R TO 177.2' R  
18"-58" RCP  
AND (1) CMP TO RCP TRANSITION  
AND (1) SAFETY END  
S = 1.0%  
177.2' R = 1494.02

STA. 159+42.5 - 76.5' L TO 140' L  
18"-62" RCP  
AND (1) SAFETY END  
S = 1.0%  
140' L = 1500.37

STA. 161+00  
INLET = 1500.32  
OUTLET = 1499.21  
Q<sub>50</sub> = 9.9 CFS  
HW<sub>50</sub> = 1502.36

STA. 166+42  
INLET = 1496.26  
OUTLET = 1495.14  
Q<sub>50</sub> = 15.9 CFS  
HW<sub>50</sub> = 1498.89

168+50 - 120' R  
TYPE L MEDIAN DRAIN  
RIM = 1495.76  
I.E. = 1492.90 (W)

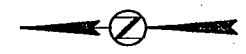
STA. 168+50 - 120' R TO  
169+23.4 - 134.6' L  
INLET = 1492.90  
OUTLET = 1488.61  
Q<sub>50</sub> = 24.0 CFS  
HW<sub>50</sub> = 1493.80

1511.86	1511.41	1510.97	1510.53	1510.08	1509.64	1509.20	1508.75	1508.31	1507.87	1507.43	1506.98	1506.54	1506.10	1505.65	1505.21	1504.77	1504.32	1503.88	1503.44	1503.00	1502.61	1502.30	1502.08	1501.95	1501.91	1501.95	1502.07	1502.28	1502.58
154+00	155+00	156+00	157+00	158+00	159+00	160+00	161+00	162+00	163+00	164+00	165+00	166+00	167+00	168+00	169+00														

**RICE STREET INTERCHANGE  
INTERSTATE 229 SOUTHBOUND  
Sta. 156+89-71'R (MRM 7.850)**

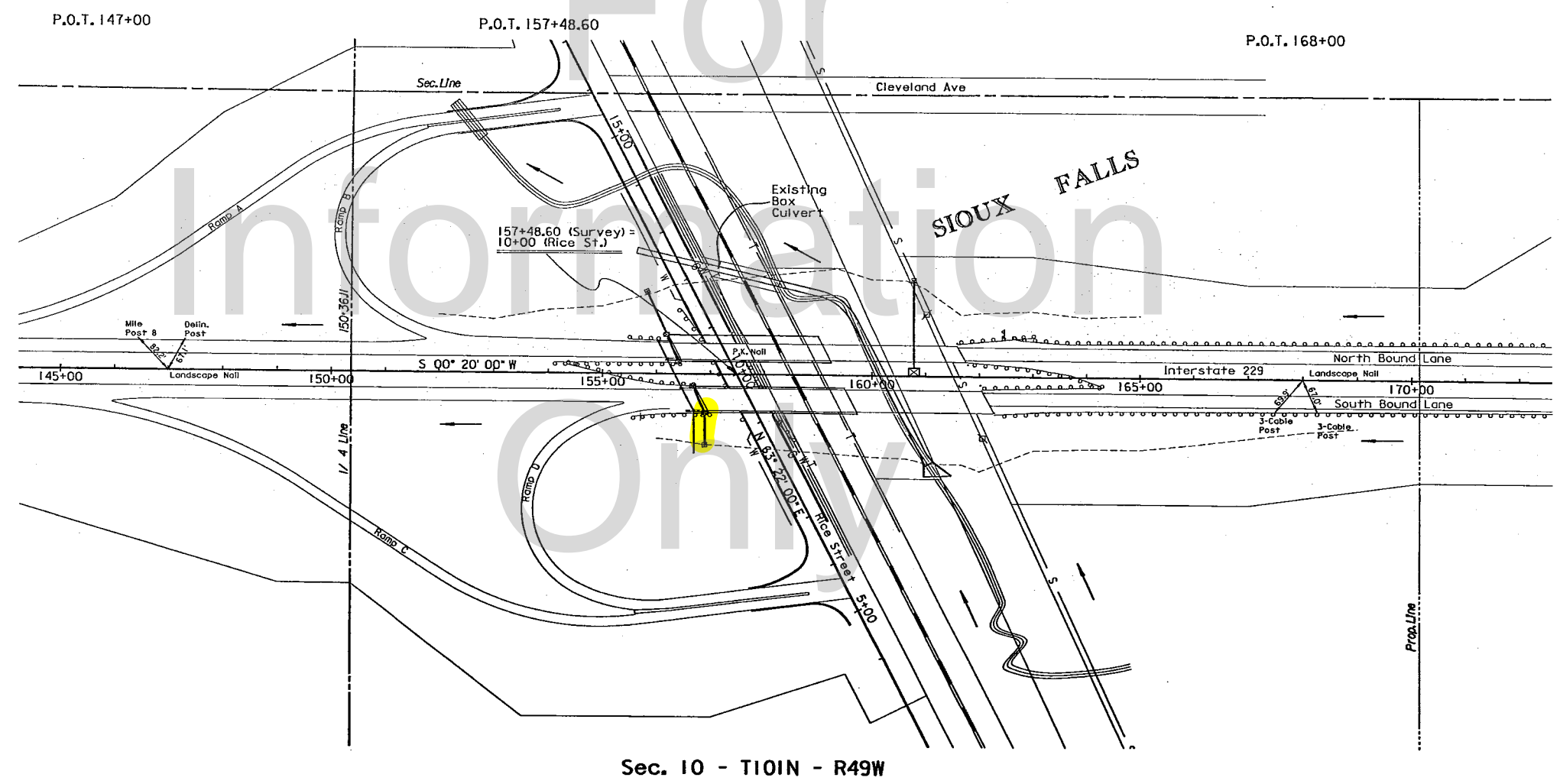
- 156+89.05-71.69'R to 134'R  
Install 12" - 58' C M Pipe Downspout (8' 38' & 8' Str Pipe) (16 Ga)  
And 2 - 20" Elbows & 1 Flared End (Between Drop Inlet & Outlet)
- 156+89.05-132'R  
Install Bank and Channel Protection Baskets (4.5' C.Y.)
- 160+20.31-27'R, H.F. Skew  
Install 10' x 10' - 46' 10 7/8" Box Culvert with Improved Inlet (See Sheets 22 - 3/ )
- 160+78-8'L  
Install Median Drain Type C (See Sheets 99 )
- 160+78-179'L to 8'L  
Install 24" - 60' R C Pipe C12  
Install 24" - 106' C M Pipe Downspout (10' & 88' Str Pipe) (16 Ga)  
And 2 - 20" Elbows & 1-24" Outlet Pipe Transition & 1 CM Flared End (Between Outlet and Median Drain)
- 160+78-177'L  
Install Bank and Channel Protection Baskets (4.5' C.Y.)
- Take out Drop Inlet & Frame & Grate (for Salvage) at the following locations:  
156+03.86-59.5'L  
156+20.14-27'L  
156+41.66-27'R  
156+69.06-69'R (See Sheet 4/ )

Install Type D Drop Inlets with 6" Concrete Collar and Type D Frame & Grate at the following locations:  
156+19-71.69'L  
156+40.80-24.31'L  
156+67.25-24.31'R  
156+89.05-71.69'R (See Sheet 4/ )



8' LOAD, MINN0545  
& G 140170

DATE: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
DRAWN BY: \_\_\_\_\_



**BIG SIOUX RIVER BRIDGE  
NORTH OF 26TH STREET  
INTERSTATE 229 NORTHBOUND  
Sta. 42+16-125'R (MRM 5.460)  
RAILROAD  
Sta. 51+57-161'R (MRM 5.550)  
INTERSTATE 229 SOUTHBOUND  
Sta. 42+16-107'L (MRM 5.460)**

41+89-60' to 115' L  
Take out 12"- 55'  
C M Pipe  
(Incidental Work)

41+89-60' to 119' R  
Take out 12"- 58'  
C M Pipe  
(Incidental Work)

42+22.50 to 45+58.00 (NBL)  
Take out 335.5'  
Cont. Comp. Girder Bridge  
(Incidental Work-Structure)

42+22.50 to 45+58.00 (SBL)  
Take out 335.5'  
Cont. Comp. Girder Bridge  
(Incidental Work-Structure)

45+96-16' to 148' L  
Take out 24"-131'  
C M Pipe  
(Incidental Work)

48+80.50 to 50+  
Take out 171'  
Cont. Concrete  
(Incidental Work)

48+80.50 to 50+  
Take out 171'  
Cont. Concrete  
(Incidental Work)

42+16.54-63.69' L to 107.32' L  
Install 12"-46" C M Pipe Downspout  
(4', 28' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-107.32' L  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

42+16.54-24.31' L to 63.69' L  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-24.31' R to 63.69' R  
Install 12"- 38" R C Pipe  
(CL 2)  
(Between Drop Inlets)

42+16.54-63.69' R to 125.49' R  
Install 12"-64" C M Pipe Downspout  
(10', 40' & 10' Str Pipe) (16Ga)  
And 2 - 17.5° Elbows  
& 1 F End  
(Between Drop Inlet & Outlet)

42+16.54-125.49' R  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

**BEGIN IM 2:  
Station 39+00.  
Approximately  
feet East of  
corner of Sec  
Range 49 West**

PC 26+09.43  
PI 33+04.28  
PT 39+78.81  
Δ 23°57'51"R  
D 01°45'00"  
T 694.85'  
L 1369.38'  
R 3274.04'

45+17-95' L to 100' R  
Install Concrete Sidewalk  
(See Sheet 45)

Take out Drop Inlet  
& Frame & Grate  
at the following locations:  
41+89-60' L 52+03-58' L  
41+89-60' R 0+46-23' L  
48+46-58' L 0+55-21' R  
48+46-57' R 0+55-50' R  
51+32-57' R

Take out Concrete Gutter  
at the following locations:  
42+03 to 42+23-L  
42+03 to 42+23-R  
48+60 to 48+80-L  
48+60 to 48+80-R  
51+55 to 51+75-R  
52+06 to 52+26-L  
(See Sheet 9)

Install Type D Drop Inlets  
with 6" Concrete Collar  
and Type D Frame & Grate  
at the following locations:  
42+16.54-24.31' L 51+57.04-24.31' R  
42+16.54-63.69' L 51+57.04-63.69' R  
42+16.54-24.31' R 52+15.16-24.31' L  
42+16.54-63.69' R 52+15.16-63.69' L  
(See Sheet 11)

45+80.50-4.5' L  
Install Type C Drain &  
Type C Drain Grate Assembly

Reconstruct Manholes  
at the following locations:  
49+44.7-138.82' L  
49+47.3-153.69' R  
50+30.6--167.22' L  
(See Sheet 9)

45+80.50-4.5' L  
Install Type C Drain &  
Type C Drain Grate Assembly

Reconstruct Manholes  
at the following locations:  
49+44.7-138.82' L  
49+47.3-153.69' R  
50+30.6--167.22' L  
(See Sheet 9)

Install (10'-00") SF Type  
Storm Sewer Inlet  
W/Type M Manhole Assembly  
at the following locations:  
0+50-23.17' L (SE Ave)  
0+50-23.17' R (SE Ave)  
(See Sheet 11)

Install 4" PVC Pipe  
at the following bike path locations:  
48+12-240' L to 253' L - 13' of Pipe  
46+50-239' L to 252' L - 13' of Pipe  
45+33.59-150' L to  
45+23.83-157.74' L - 13' of Pipe  
45+58.54-189' L to  
45+53.71-202.79' L - 15' of Pipe  
47+50-240' L to 253' L - 13' of Pipe  
53+94.96-401.07' L to  
53+82.85-405.97' L - 13' of Pipe  
51+20.58-249.51' L to  
51+11.42-261.78' L - 15' of Pipe  
50+73.27-259.42' L to  
50+74.15-246.88' L - 13' of Pipe

48+20-570' R to 56+20-655' L  
Remove Asphalt Surface on  
Old Park Road (Abandoned Railroad)

44+90-700' R to 51+30-260' L  
Remove Asphalt Surface on  
Old Bike Path

48+70-481' R to 48+75-453' R  
Retain Bike Path Bridge

53+07-290' L to 53+18-267' L  
Retain Pipe

53+28-251' L to 53+39-236' L  
Retain Pipe

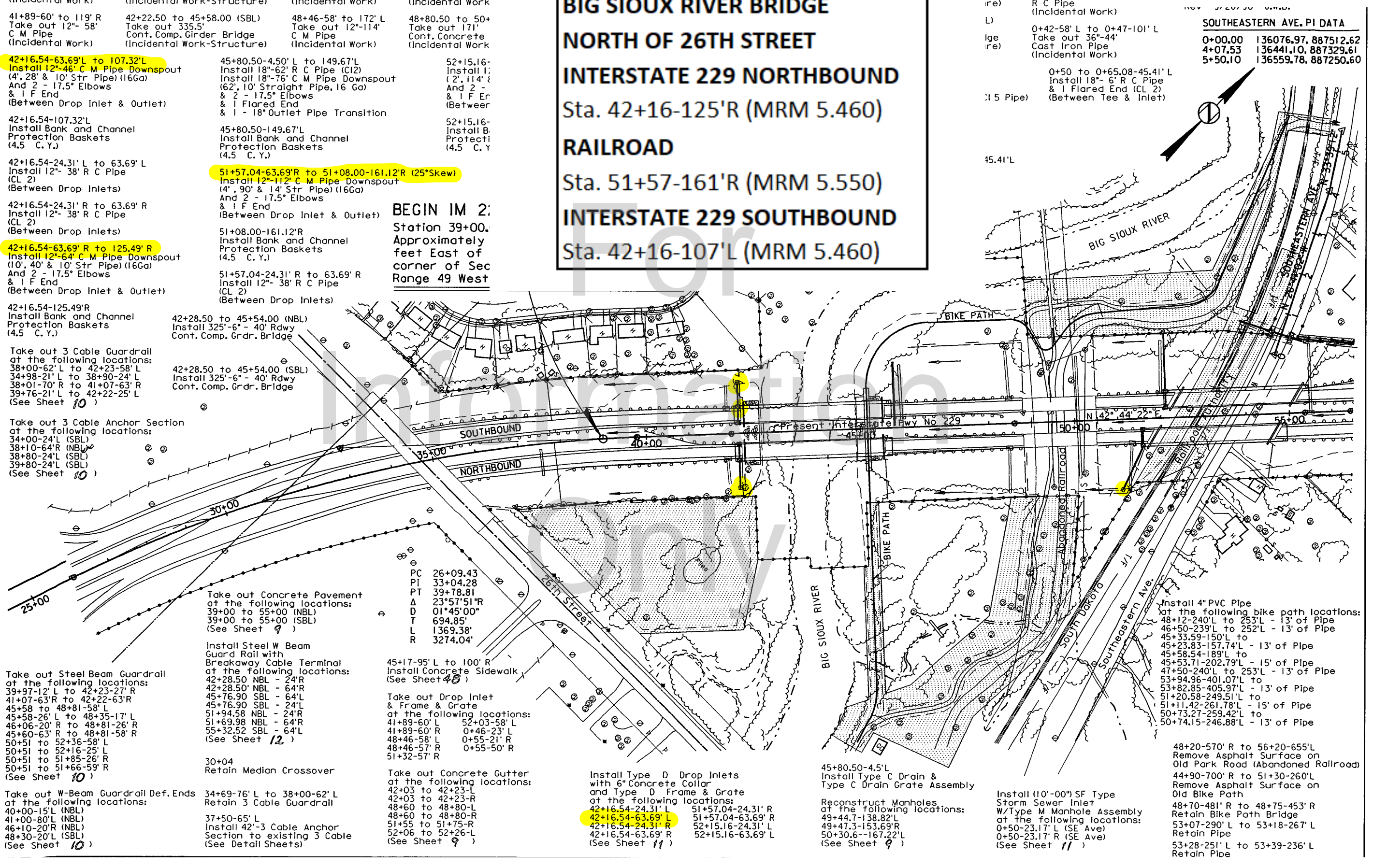
dir minn0548  
file 2555  
plot 2555

DATE:

CHECKED BY:

DATE:

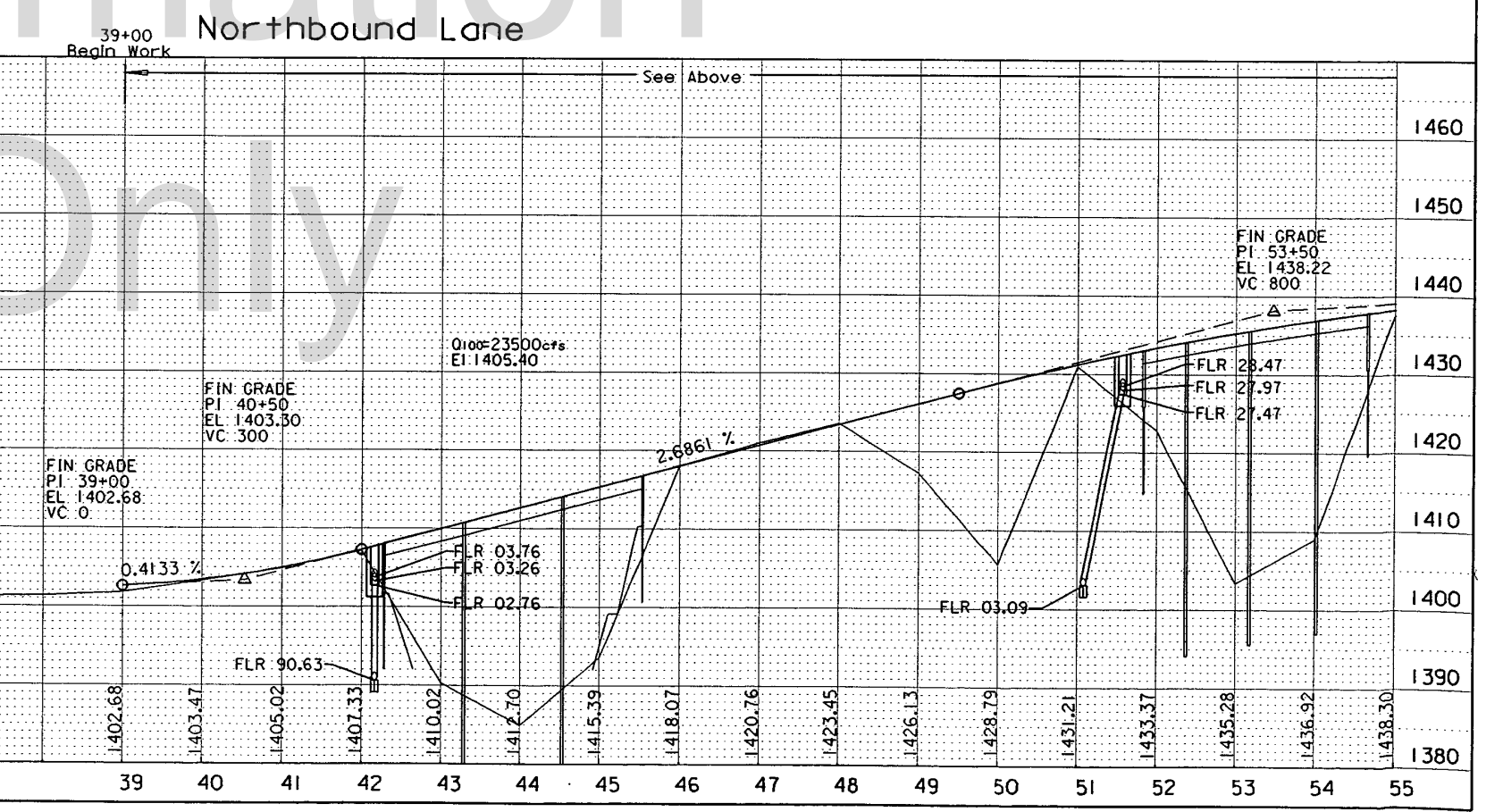
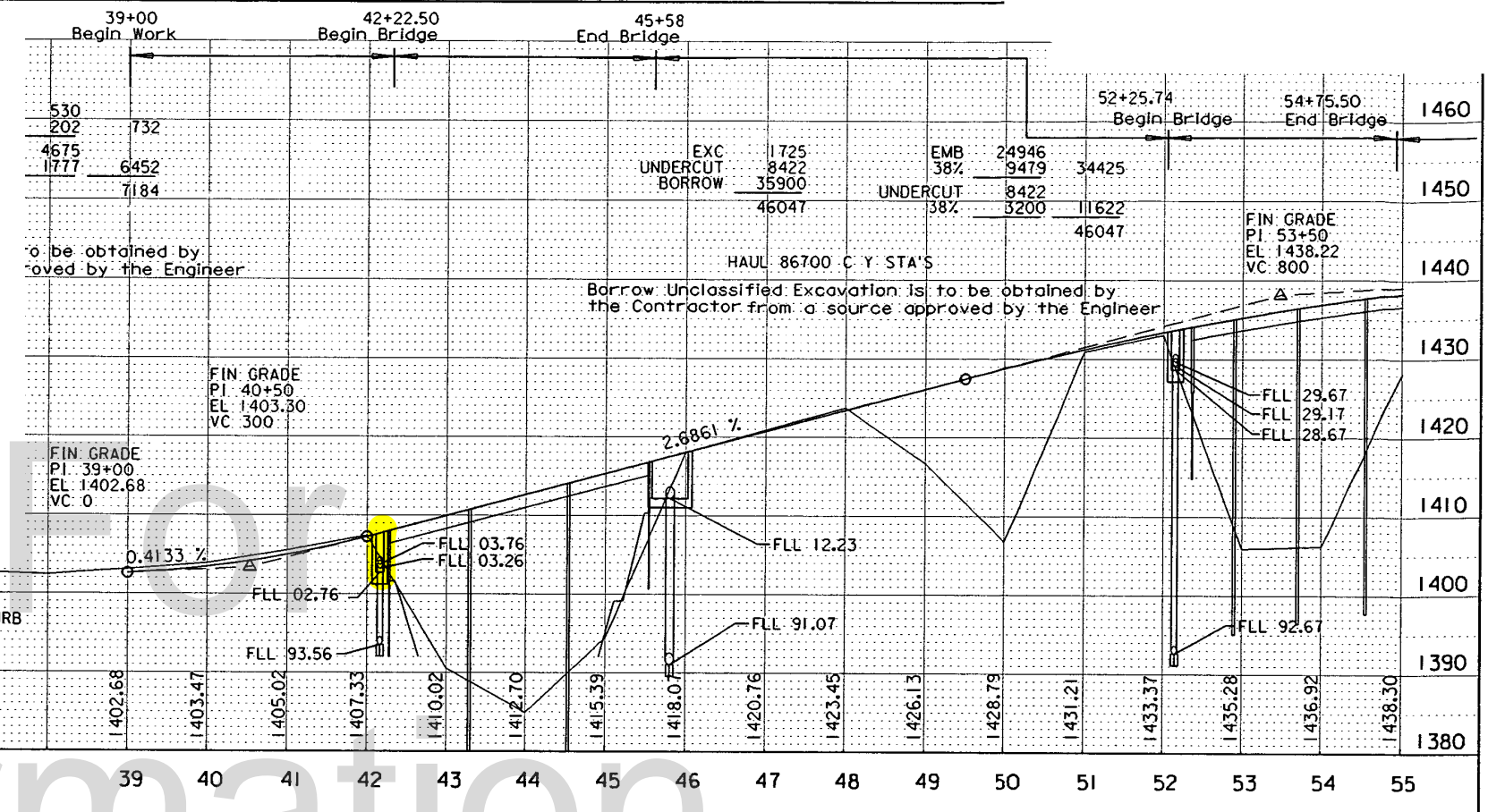
DRAWN BY:



**SOUTHEASTERN AVE. PI DATA**

0+00.00	136076.97, 887512.62
4+07.53	136441.10, 887329.61
5+50.10	136559.78, 887250.60

**BIG SIOUX RIVER BRIDGE  
NORTH OF 26TH STREET  
INTERSTATE 229 NORTHBOUND  
Sta. 42+16-125'R (MRM 5.460)  
Sta. 51+57-161'R (MRM 5.550)  
INTERSTATE 229 SOUTHBOUND  
Sta. 42+16-107'L (MRM 5.460)**



dir minn0548  
file 2555  
plot 2555v

DRAWN BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
CHECKED BY: \_\_\_\_\_  
DATE: \_\_\_\_\_

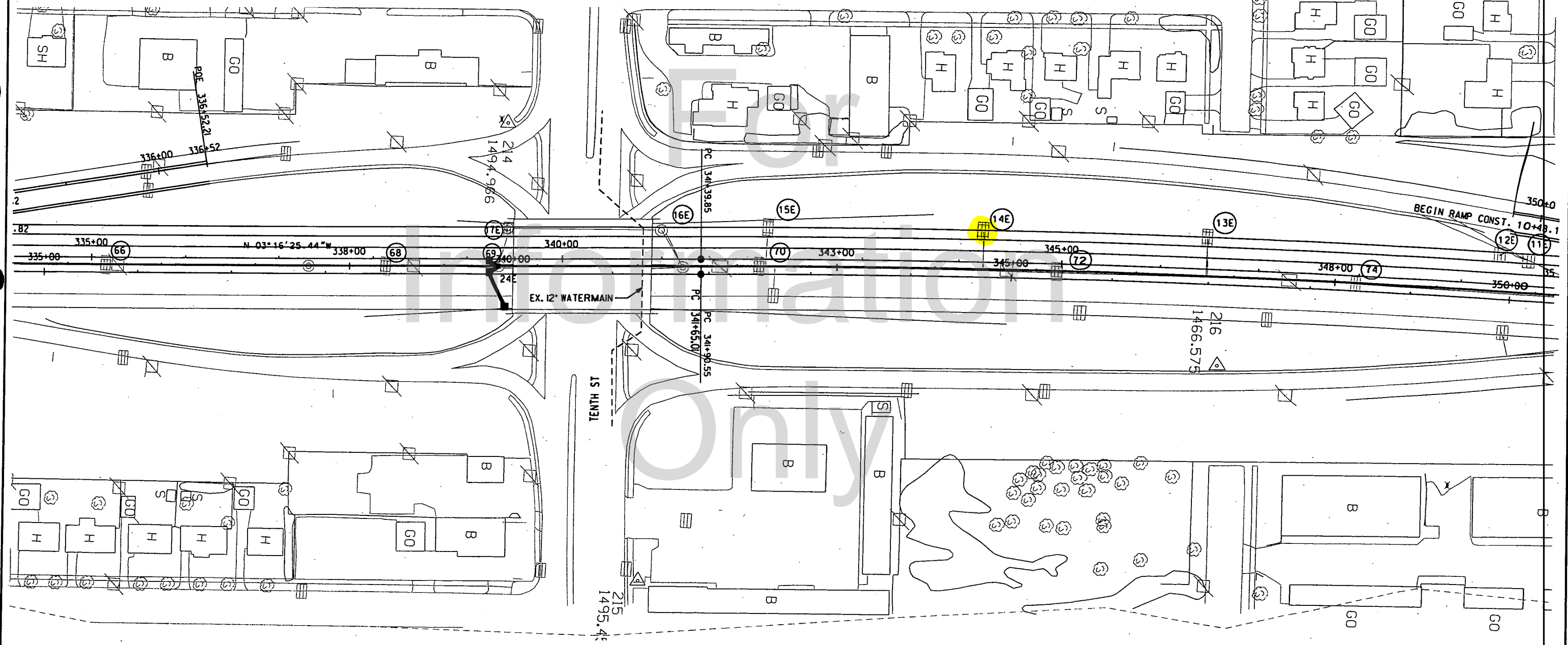
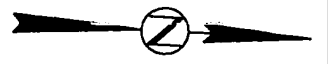
Information Only

**INTERSTATE 229**  
**BETWEEN 6TH & 10TH STREETS**  
**SOUTHBOUND**  
 Sta. 343+80 (MRM 6.823)

ADJUST BARRIER DROP INLET  
 FRAME & GRATE AT STRUCTURES  
 (66, 68, 70, 72, & 74)

REMOVE EX FRAME AND GRATE  
 INSTALL SOLID DROP INLET  
 COVER (PER SD DOT 670.90) (11E)

ADJUST TYPE B FRAME & GRATE  
 (13E, 14E, 15E, 16E, & 17E, 12E)



SCALE = 100'



STA. 152+45.00 - 29.24' LT.  
FURNISH & INSTALL:  
1- TYPE D DROP INLET & COLLAR  
68 LF. 18" CM PIPE  
2 - 18" ELBOWS  
1- 18" FLARED END

**BANK & CHANNEL  
PROTECTION BASKETS**  
STATION QUANTITY  
152+45.00 - 110' LT. 4.5 CY.  
155+32.00 - 110' LT. 4.5 CY.

STA. 155+32.00 - 29.24' LT.  
REMOVE:  
EXISTING DROP INLET, CM PIPE  
AND FLARED END

STA. 155+32.00 - 29.24' LT.  
FURNISH & INSTALL:  
1- TYPE D DROP INLET & COLLAR  
83 LF. 18" CM PIPE  
2 - 18" ELBOWS  
1- 18" FLARED END

151+00

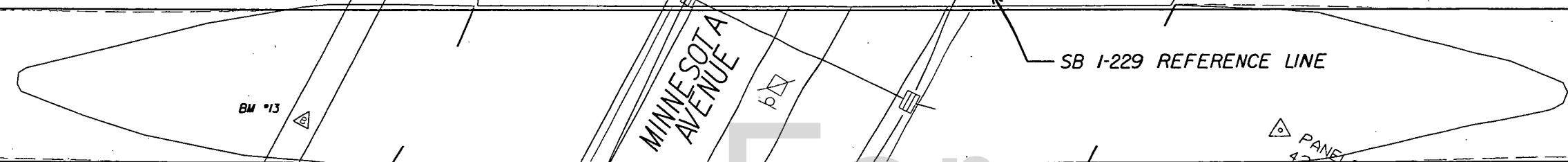
152+00

153+00

154+00

155+00

156+00



BM \*13

MINNESOTA  
AVENUE

SB I-229 REFERENCE LINE

PANEL 32  
434.838

For  
Information  
Only

DRAINAGE PLAN

1430

1430

STA. 152+45.00 - 29.24' LT.  
TYPE D DROP INLET & COLLAR  
TOP OF WALL EL. = 1427.08

F.L. EL. = 1424.38

STA. 155+32.00 - 29.24' LT.  
TYPE D DROP INLET & COLLAR  
TOP OF WALL EL. = 1426.36

1420

DESIGN BY:  
BANNER ASSOCIATES  
AS-BUILT DRAWING BY:  
PARSONS TRANSPORTATION GROUP  
DRAWING NAME: 0:\64388\I-229\SB\_AS-BUILTS\DRAINAGE\B.  
DATE: 07/06/01  
TIME: 09:15:35 AM

**MINNESOTA AVE. INTERCHANGE  
INTERSTATE 229 SOUTHBOUND  
Sta. 154+45-29'L**

151+00

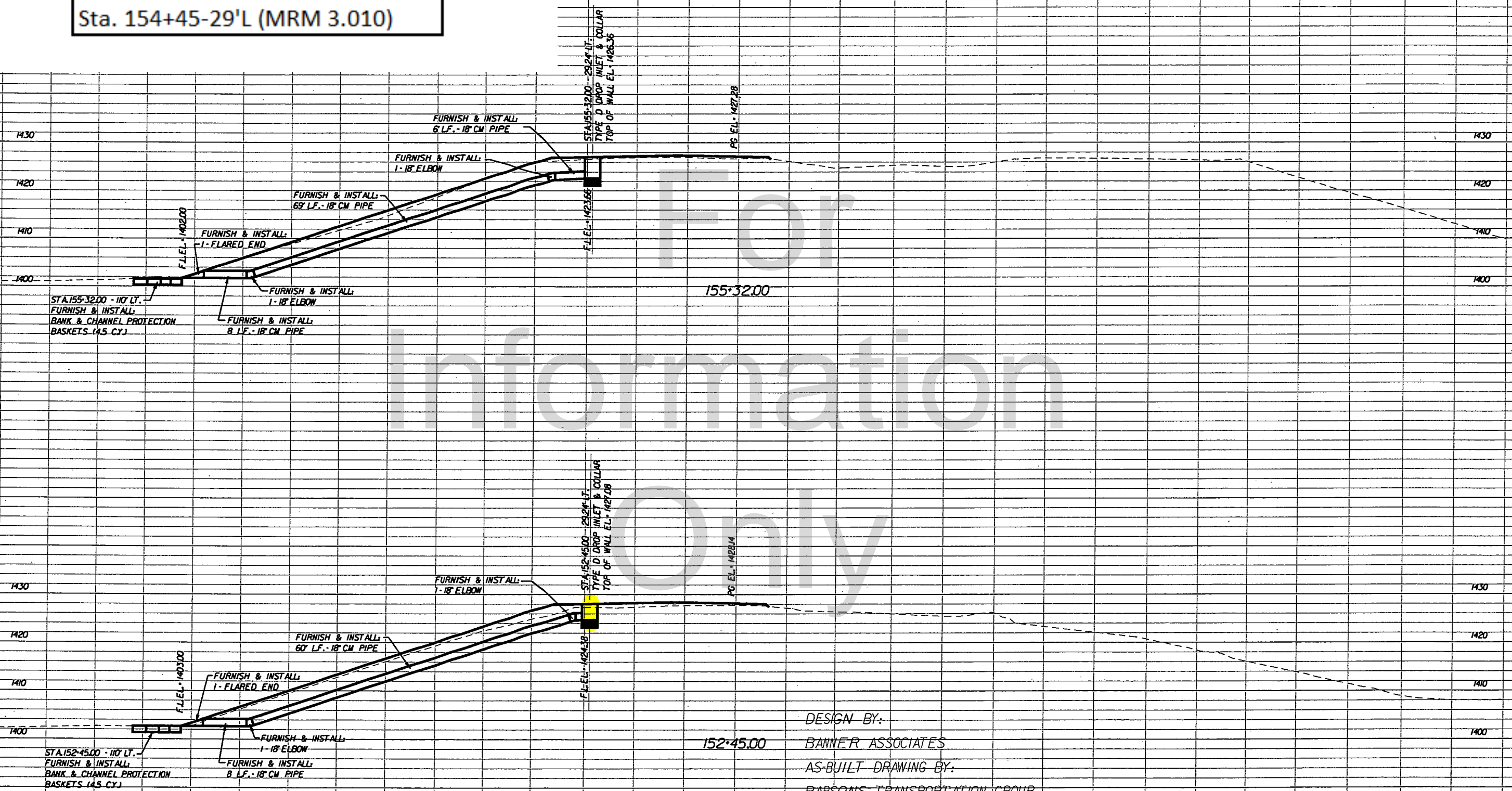
152+00

153+00

154+00



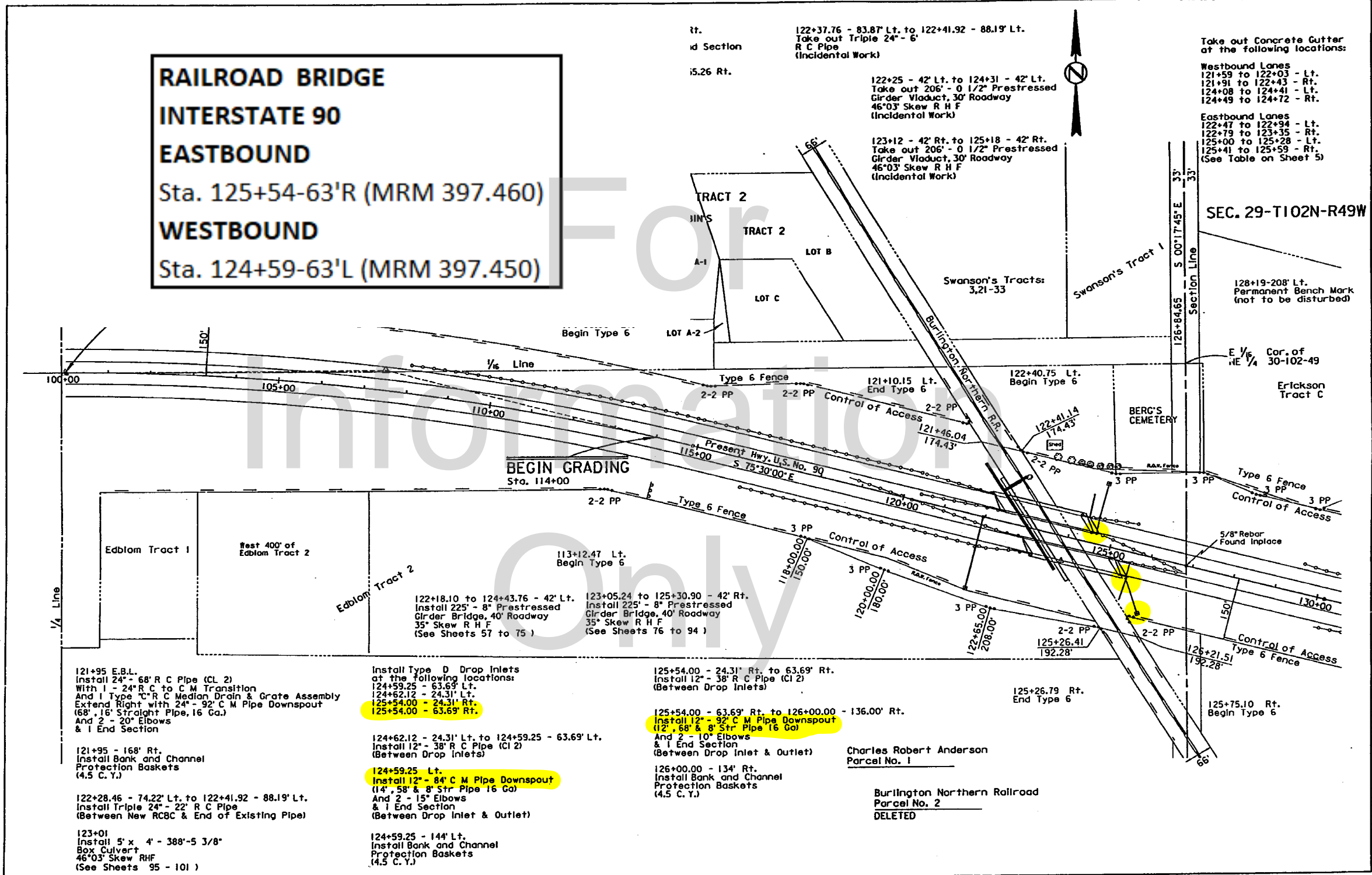
**MINNESOTA AVE. INTERCHANGE  
INTERSTATE 229 SOUTHBOUND**  
Sta. 154+45-29'L (MRM 3.010)



DESIGN BY:  
 BANNER ASSOCIATES  
 AS-BUILT DRAWING BY:  
 PARSONS TRANSPORTATION GROUP  
 DRAWING NAME: O:\643881\1-229\SB\_AS-BUILTS\DRAINAGE\BANNER\MINN-XSEC.DGN  
 DATE: 07/06/01  
 TIME: 09:49:55 AM

**DRAINAGE CROSS SECTION  
AT MINNESOTA AVE.**

**RAILROAD BRIDGE  
INTERSTATE 90  
EASTBOUND  
Sta. 125+54-63'R (MRM 397.460)  
WESTBOUND  
Sta. 124+59-63'L (MRM 397.450)**



\$ G 100130  
 PRF 100130  
 PRF 100130H  
 DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 DRAWN BY: D. Williams

IR 90-9(62)397 PCMS 358W

SHEET OF SHEETS

121+95 E.B.L.  
Install 24" - 68' R C Pipe (CL 2)  
With 1 - 24" R C to C M Transition  
And 1 Type "C" R C Median Drain & Grate Assembly  
Extend Right with 24" - 92' C M Pipe Downspout  
(68' .16" Straight Pipe, 16 Ga.)  
And 2 - 20" Elbows  
& 1 End Section

121+95 - 168' Rt.  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

122+28.46 - 74.22' Lt. to 122+41.92 - 88.19' Lt.  
Install Triple 24" - 22" R C Pipe  
(Between New RCBC & End of Existing Pipe)

123+01  
Install 5' x 4' - 388'-5 3/8"  
Box Culvert  
46°03' Skew R H F  
(See Sheets 95 - 101)

Install Type D Drop Inlets  
at the following locations:  
124+59.25 - 63.69' Lt.  
124+62.12 - 24.31' Lt.  
125+54.00 - 24.31' Rt.  
125+54.00 - 63.69' Rt.

124+62.12 - 24.31' Lt. to 124+59.25 - 63.69' Lt.  
Install 12" - 38' R C Pipe (CI 2)  
(Between Drop Inlets)

124+59.25 Lt.  
Install 12" - 84' C M Pipe Downspout  
(14' .58" & 8' Str Pipe 16 Ga.)  
And 2 - 15" Elbows  
& 1 End Section  
(Between Drop Inlet & Outlet)

124+59.25 - 144' Lt.  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

125+54.00 - 24.31' Rt. to 63.69' Rt.  
Install 12" - 38' R C Pipe (CI 2)  
(Between Drop Inlets)

125+54.00 - 63.69' Rt. to 126+00.00 - 136.00' Rt.  
Install 12" - 38' C M Pipe Downspout  
(12' .58" & 8' Str Pipe 16 Ga.)  
And 2 - 10" Elbows  
& 1 End Section  
(Between Drop Inlet & Outlet)

126+00.00 - 134' Rt.  
Install Bank and Channel  
Protection Baskets  
(4.5 C.Y.)

Charles Robert Anderson  
Parcel No. 1  
  
Burlington Northern Railroad  
Parcel No. 2  
DELETED



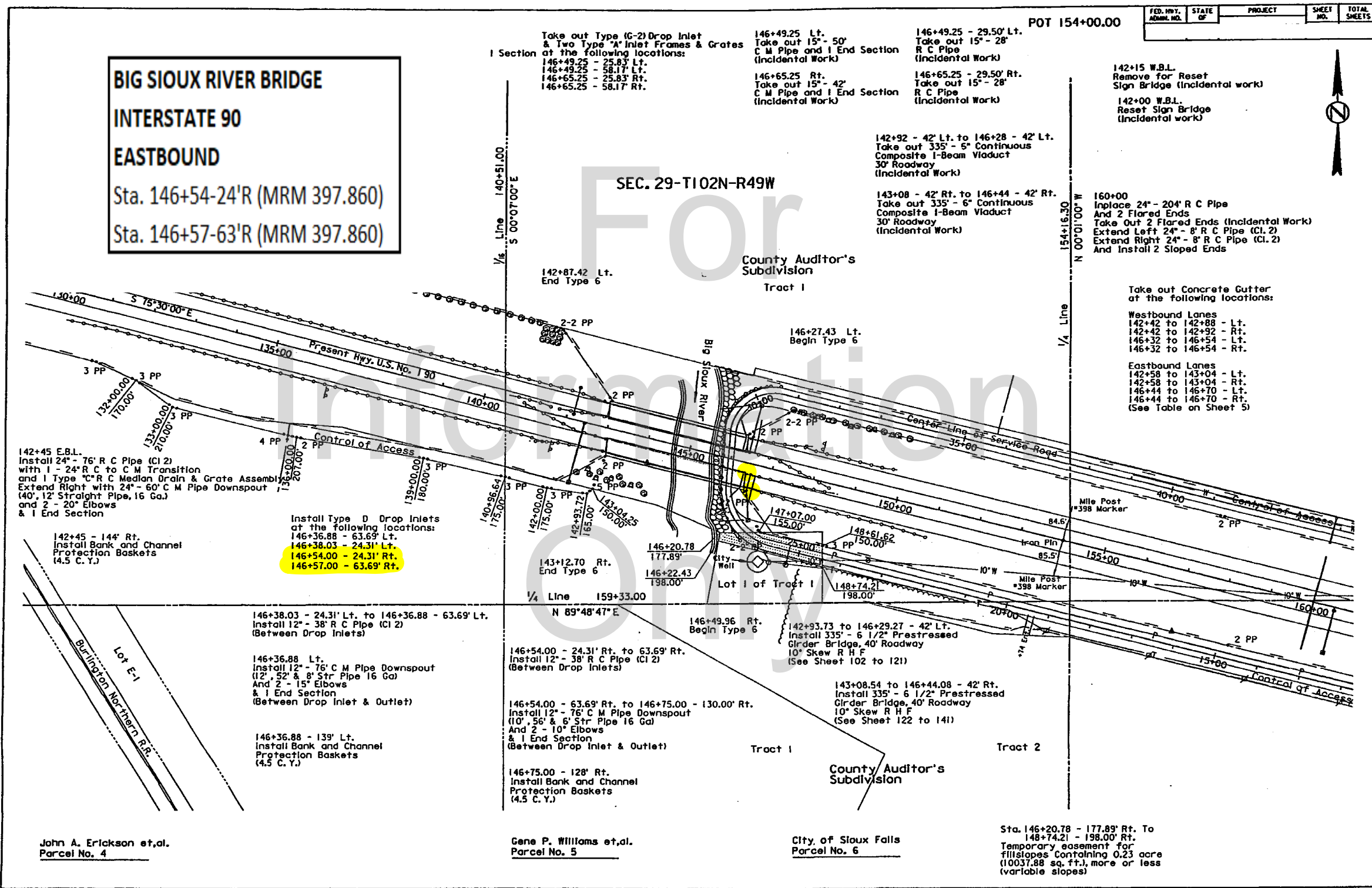




**BIG SIOUX RIVER BRIDGE**  
**INTERSTATE 90**  
**EASTBOUND**  
 Sta. 146+54-24'R (MRM 397.860)  
 Sta. 146+57-63'R (MRM 397.860)

**SEC. 29-T102N-R49W**

County Auditor's  
 Subdivision  
 Tract I



142+45 E.B.L.  
 Install 24" - 76" R C Pipe (CI 2)  
 with 1 - 24" R C to C M Transition  
 and 1 Type "C" R C Median Drain & Grate Assembly  
 Extend Right with 24" - 60" C M Pipe Downspout  
 (40' 12" Straight Pipe, 16 Ga.)  
 and 2 - 20" Elbows  
 & 1 End Section

Install Type D Drop Inlets  
 at the following locations:  
 146+36.88 - 63.69' Lt.  
 146+38.03 - 24.31' Lt.  
 146+54.00 - 24.31' Rt.  
 146+57.00 - 63.69' Rt.

142+45 - 144' Rt.  
 Install Bank and Channel  
 Protection Baskets  
 (4.5 C.Y.)

146+38.03 - 24.31' Lt. to 146+36.88 - 63.69' Lt.  
 Install 12" - 38" R C Pipe (CI 2)  
 (Between Drop Inlets)

146+36.88 Lt.  
 Install 12" - 76" C M Pipe Downspout  
 (12" 52' & 8" Str Pipe 16 Ga)  
 And 2 - 15" Elbows  
 & 1 End Section  
 (Between Drop Inlet & Outlet)

146+36.88 - 139' Lt.  
 Install Bank and Channel  
 Protection Baskets  
 (4.5 C.Y.)

146+54.00 - 24.31' Rt. to 63.69' Rt.  
 Install 12" - 38" R C Pipe (CI 2)  
 (Between Drop Inlets)

146+54.00 - 63.69' Rt. to 146+75.00 - 130.00' Rt.  
 Install 12" - 76" C M Pipe Downspout  
 (10" 56' & 6" Str Pipe 16 Ga)  
 And 2 - 10" Elbows  
 & 1 End Section  
 (Between Drop Inlet & Outlet)

146+75.00 - 128' Rt.  
 Install Bank and Channel  
 Protection Baskets  
 (4.5 C.Y.)

146+49.96 Rt.  
 Begin Type 6

142+93.73 to 146+29.27 - 42' Lt.  
 Install 335' - 6 1/2" Prestressed  
 Girder Bridge, 40' Roadway  
 10' Skew R H F  
 (See Sheet 102 to 121)

143+08.54 to 146+44.08 - 42' Rt.  
 Install 335' - 6 1/2" Prestressed  
 Girder Bridge, 40' Roadway  
 10' Skew R H F  
 (See Sheet 122 to 141)

Take out Type (G-2) Drop Inlet  
 & Two Type "A" Inlet Frames & Grates  
 at the following locations:  
 146+49.25 - 25.83' Lt.  
 146+49.25 - 58.17' Lt.  
 146+65.25 - 25.83' Rt.  
 146+65.25 - 58.17' Rt.

146+49.25 Lt.  
 Take out 15" - 50"  
 C M Pipe and 1 End Section  
 (Incidental Work)

146+65.25 Rt.  
 Take out 15" - 42"  
 C M Pipe and 1 End Section  
 (Incidental Work)

146+49.25 - 29.50' Lt.  
 Take out 15" - 28"  
 R C Pipe  
 (Incidental Work)

146+65.25 - 29.50' Rt.  
 Take out 15" - 28"  
 R C Pipe  
 (Incidental Work)

142+92 - 42' Lt. to 146+28 - 42' Lt.  
 Take out 335' - 5" Continuous  
 Composite I-Beam Viaduct  
 30' Roadway  
 (Incidental Work)

143+08 - 42' Rt. to 146+44 - 42' Rt.  
 Take out 335' - 6" Continuous  
 Composite I-Beam Viaduct  
 30' Roadway  
 (Incidental Work)

142+15 W.B.L.  
 Remove for Reset  
 Sign Bridge (Incidental work)

142+00 W.B.L.  
 Reset Sign Bridge  
 (Incidental work)

POT 154+00.00

FED. HWY. ADMIN. NO.	STATE OF	PROJECT	SHEET NO.	TOTAL SHEETS

DRAWN BY: J.A.E./mwm DATE: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_ DATE: \_\_\_\_\_  
 130160 PRF 130160H

John A. Erickson et.al.  
 Parcel No. 4

Gene P. Williams et.al.  
 Parcel No. 5

City of Sioux Falls  
 Parcel No. 6

Sta. 146+20.78 - 177.89' Rt. To  
 148+74.21 - 198.00' Rt.  
 Temporary easement for  
 fill/slopes containing 0.23 acre  
 (10037.88 sq. ft.), more or less  
 (variable slopes)



**BIG SIOUX RIVER BRIDGE  
INTERSTATE 90  
EASTBOUND  
Sta. 177+72-24'R (MRM 398.450)  
WESTBOUND  
Sta. 177+09-24'L (MRM 398.440)  
Sta. 177+09-63'L (MRM 398.440)**

**POT 183+15.72**

sections 188+82.90 - 58.17' Rt. Take out 15" - 7 1/2" C M Pipe and 1 End Section (Incidental Work)

section 188+86.10 W.B.L. Take out 12" - 66" C M Pipe and 1 End Section (Incidental Work)

W.B.L. 188+86.10 W.B.L. Take out 12" - 42" 1/2 C M Pipe (Incidental Work)

E.B.L. 189+05.14 E.B.L. Take out 12" - 72" C M Pipe and 1 End Section (Incidental Work)

E.B.L. 189+05.14 E.B.L. Take out 12" - 42" 1/2 C M Pipe (Incidental Work)

City of Sioux Falls Parcel No. 6A

177+41 - 42' Lt. to 179+11 - 42' Lt. Take out 170" - 0 1/2" Continuous Composite I-Beam Viaduct, 30' Roadway 37°30' Skew R H F (Incidental Work)

178+05 - 42' Rt. to 179+75 - 42' Rt. Take out 170" - 0 1/2" Continuous Composite I-Beam Viaduct, 30' Roadway 37°30' Skew R H F (Incidental Work)

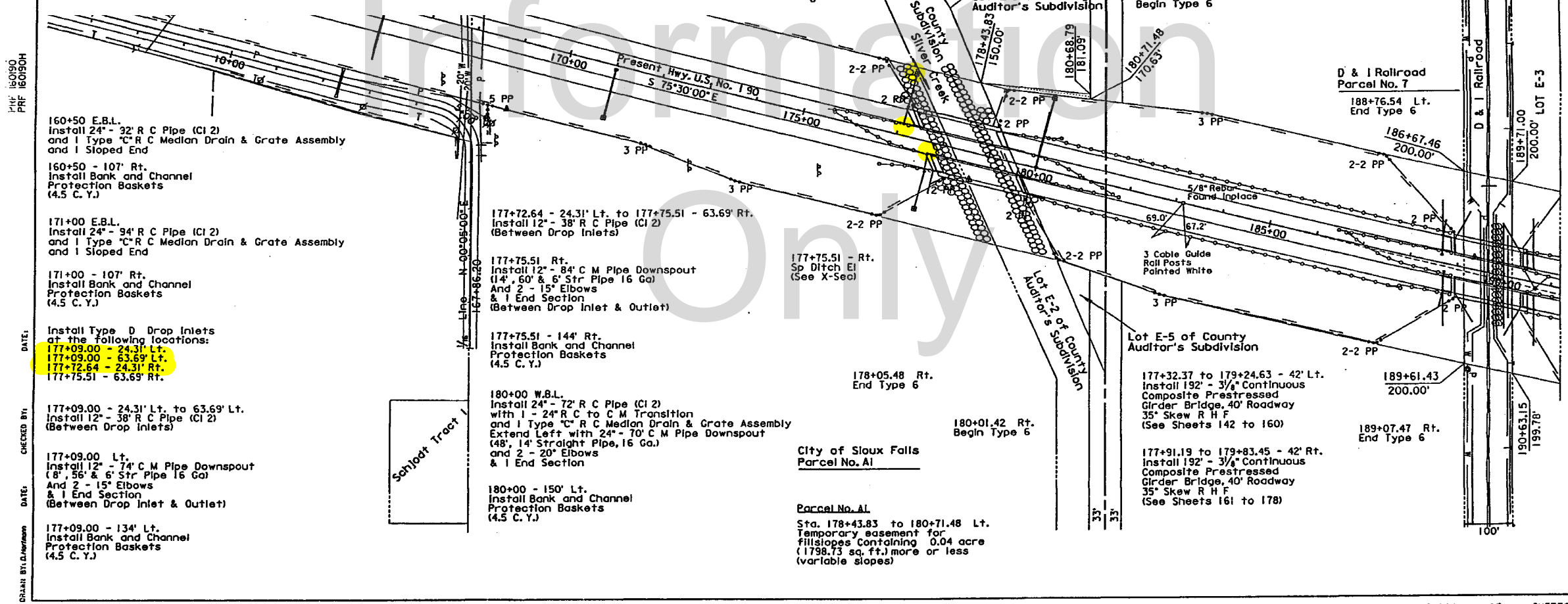
Take out Concrete Gutter at the following locations:

Westbound Lanes  
177+03 to 177+28 - Lt.  
177+28 to 177+54 - Rt.  
179+04 to 179+50 - Lt.  
179+28 to 179+73 - Rt.

Eastbound Lanes  
177+69 to 177+89 - Lt.  
177+91 to 178+14 - Rt.  
179+68 to 180+15 - Lt.  
179+95 to 180+36 - Rt.  
(See Table on Sheet 5)

Take out Type (G-2) Drop Inlet & Two Type "A" Frames & Grates at the following locations:  
177+08.47 - 58.17' Lt.  
177+31.49 - 58.33' Lt.  
177+71.94 - 58.33' Rt.  
177+94.96 - 58.17' Rt.  
188+56.38 - 58.17' Lt.  
188+62.38 - 58.33' Lt.  
188+75.92 - 58.33' Rt.  
188+82.90 - 58.17' Rt.

**SEC. 28-T102N-R49W**



PHF 160190  
 PHF 160190H  
 DATE:  
 CHECKED BY:  
 DATE:  
 DRAWN BY: D. Hermann

- 160+50 E.B.L. Install 24" - 92' R C Pipe (CI 2) and 1 Type "C" R C Median Drain & Grate Assembly and 1 Sloped End
- 160+50 - 107' Rt. Install Bank and Channel Protection Baskets (4.5 C.Y.)
- 171+00 E.B.L. Install 24" - 94' R C Pipe (CI 2) and 1 Type "C" R C Median Drain & Grate Assembly and 1 Sloped End
- 171+00 - 107' Rt. Install Bank and Channel Protection Baskets (4.5 C.Y.)
- Install Type D Drop Inlets at the following locations:  
 177+09.00 - 24.31' Lt.  
 177+09.00 - 63.69' Lt.  
 177+12.64 - 24.31' Rt.  
 177+15.51 - 63.69' Rt.
- 177+09.00 - 24.31' Lt. to 63.69' Lt. Install 12" - 38" R C Pipe (CI 2) (Between Drop Inlets)
- 177+09.00 Lt. Install 12" - 74" C M Pipe Downspout (8" 56" & 6" Str Pipe 16 Ga) And 2 - 15" Elbows & 1 End Section (Between Drop Inlet & Outlet)
- 177+09.00 - 134' Lt. Install Bank and Channel Protection Baskets (4.5 C.Y.)

- 177+72.64 - 24.31' Lt. to 177+75.51 - 63.69' Rt. Install 12" - 38" R C Pipe (CI 2) (Between Drop Inlets)
- 177+75.51 Rt. Install 12" - 84" C M Pipe Downspout (14" 60" & 6" Str Pipe 16 Ga) And 2 - 15" Elbows & 1 End Section (Between Drop Inlet & Outlet)
- 177+75.51 - 144' Rt. Install Bank and Channel Protection Baskets (4.5 C.Y.)
- 180+00 W.B.L. Install 24" - 72" R C Pipe (CI 2) with 1 - 24" R C to C M Transition and 1 Type "C" R C Median Drain & Grate Assembly Extend Left with 24" - 70" C M Pipe Downspout (48" 14" Straight Pipe, 16 Ga.) and 2 - 20" Elbows & 1 End Section
- 180+00 - 150' Lt. Install Bank and Channel Protection Baskets (4.5 C.Y.)

City of Sioux Falls Parcel No. 6A

City of Sioux Falls Parcel No. A1

Parcel No. A1  
Sta. 178+43.83 to 180+71.48 Lt. Temporary easement for fillslopes containing 0.04 acre (1788.73 sq. ft.) more or less (variable slopes)

Lot E-4 of County Auditor's Subdivision

Lot E-5 of County Auditor's Subdivision

Lot E-1

179+07.71 Lt. Begin Type 6

D & I Railroad Parcel No. 7

188+76.54 Lt. End Type 6

186+67.46 200.00'

189+71.00 200.00' LOT E-3

189+61.43 200.00'

189+07.47 Rt. End Type 6

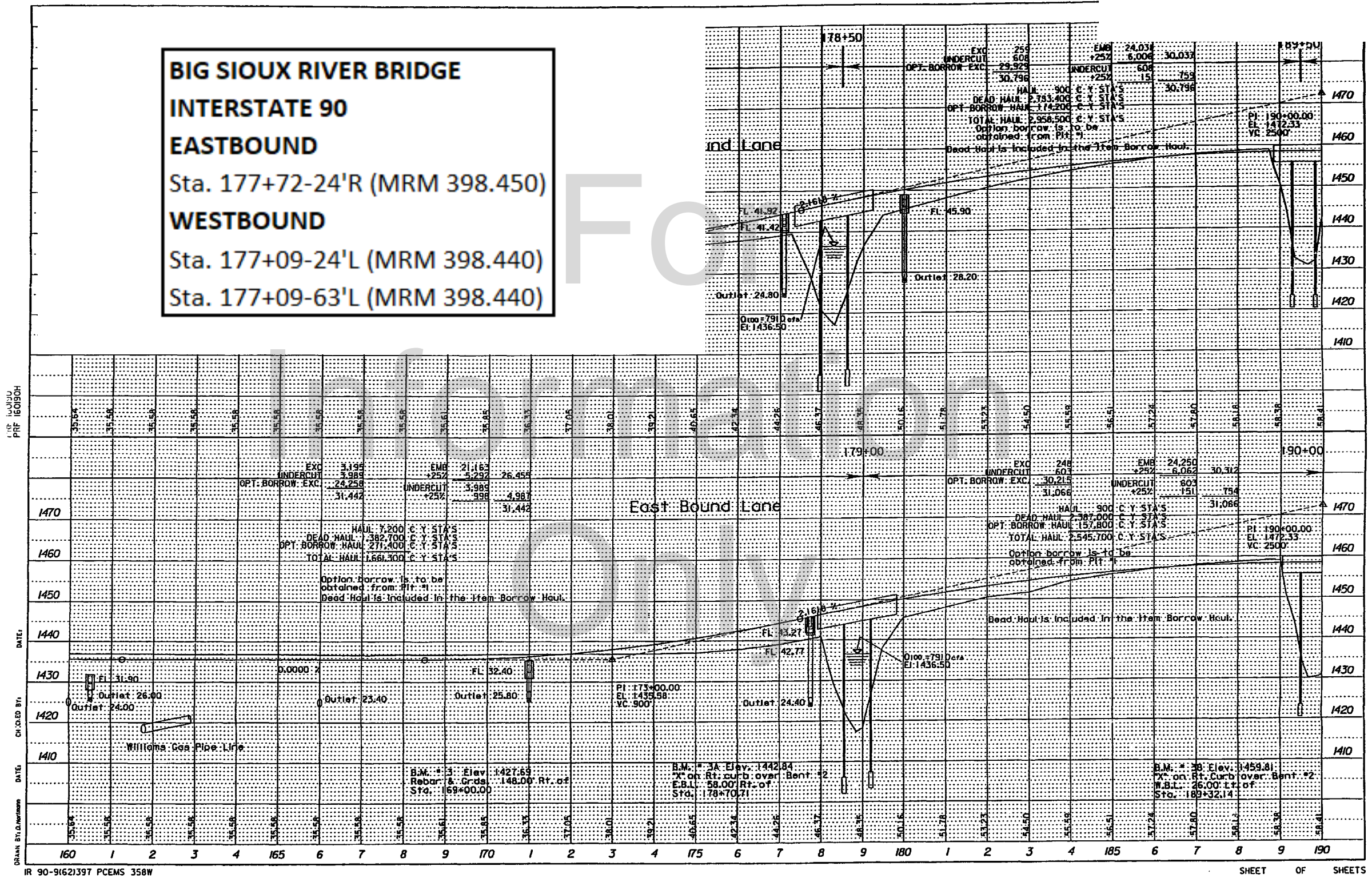
190+63.15 199.78'

190+00' 100'

100'

Section Line 181+49.47 S 00°04'05"E

**BIG SIOUX RIVER BRIDGE**  
**INTERSTATE 90**  
**EASTBOUND**  
 Sta. 177+72-24'R (MRM 398.450)  
**WESTBOUND**  
 Sta. 177+09-24'L (MRM 398.440)  
 Sta. 177+09-63'L (MRM 398.440)



IR 90-91621397 PCEMS 358W

SHEET OF SHEETS

**INTERSTATE 90 CLIFF AVE.**  
**EASTBOUND**  
 Sta. 56+13-24'R (MRM 399.460)  
**WESTBOUND**  
 Sta. 56+13-24'L (MRM 399.460)  
 Sta. 56+13-63'L (MRM 399.460)

5.34' L  
 1+42.1 E-16.14'L to 1+55.7 E-38.99'L  
 Install 24" - 16' RC Pipe  
 & 1 Sloped End

1+42.1 E-16.14'L to 2+00.0 E-12.01'L  
 Install 18" - 44' RC Pipe  
 (Between Junction Box and Drop Inlet)

2+00.0 E-12.01'L to 6+09.1 A-21.01'L  
 (Between Junction Boxes)  
 Install 18" - 188' RC Pipe

6+09.1 A-21.01'L to 6+16.4 A-38.27'R  
 Install 18" - 52' RC Pipe  
 & 1 Safety End

8+26.8 - 52.14' L (Ramp A)  
 Install Bank and Channel  
 Protection Gabions (4.5 CY)

56+45.7 to 60+19.7  
 Install (2) 374' - 0" Cont. Comp. Girder Bridge  
 (See Section E)

59+08 - 329'  
 Take Out Ch

59+07 - 332'R to 74+83 - 150'  
 Take Out Fence

68+68-167' R  
 Plug Well  
 (Incidental Work, Grading)

**SEC 27 - T102N - R49W**

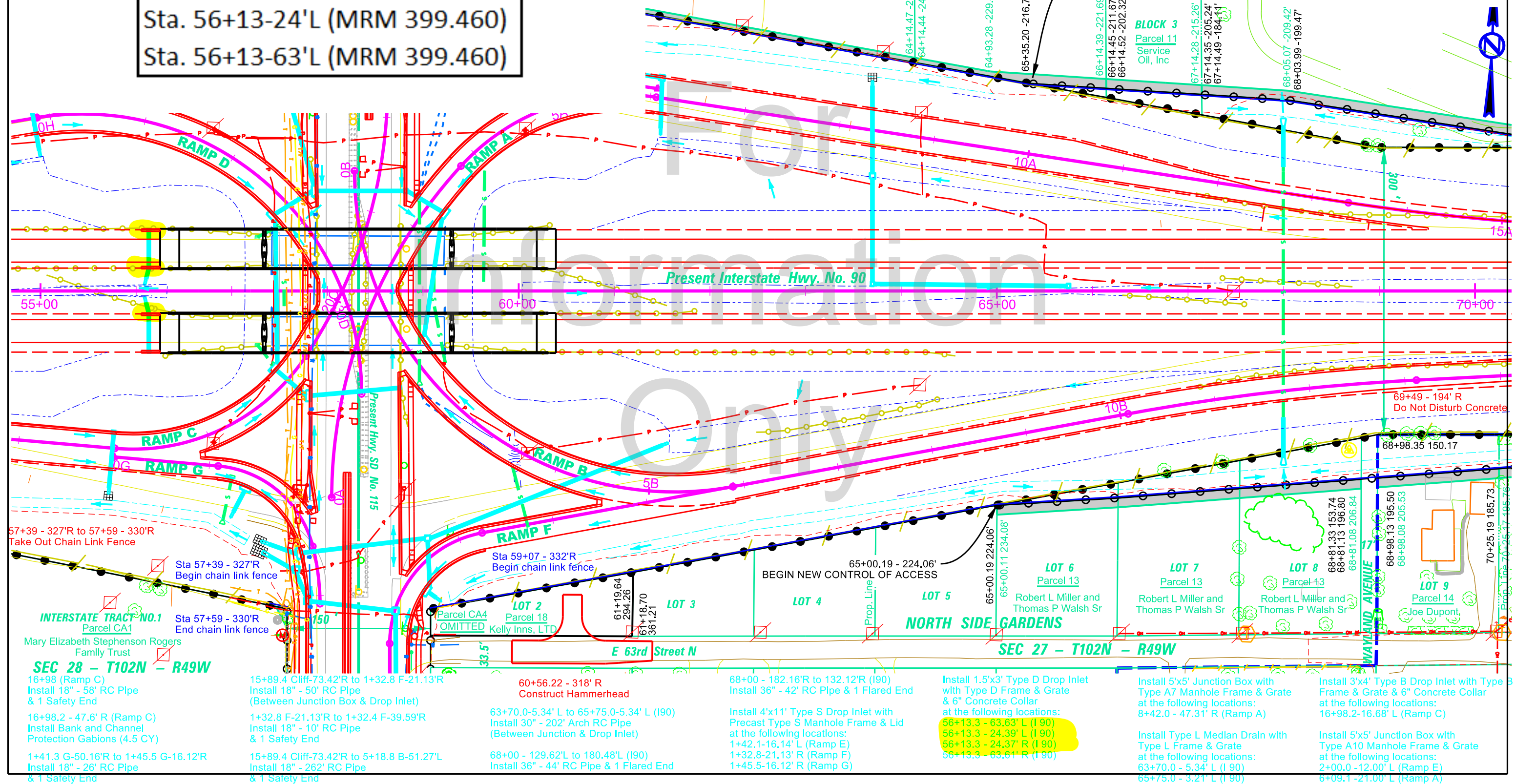
**BLOCK 1**  
 Parcel CA6  
 Service Oil, Inc

See Sheet B15  
 For Horizontal  
 Alignment Data

**T.M. JARC'S SUBDIVISION**

**BLOCK 2**  
 Parcel 10  
 Service  
 Oil, Inc

**BLOCK 3**  
 Parcel 11  
 Service  
 Oil, Inc



57+39 - 327'R to 57+59 - 330'R  
 Take Out Chain Link Fence

Sta 57+39 - 327'R  
 Begin chain link fence

Sta 57+59 - 330'R  
 End chain link fence

**INTERSTATE TRACT NO.1**  
 Parcel CA1  
 Mary Elizabeth Stephenson Rogers  
 Family Trust

**SEC 28 - T102N - R49W**

16+98 (Ramp C)  
 Install 18" - 58' RC Pipe  
 & 1 Safety End

16+98.2 - 47.6' R (Ramp C)  
 Install Bank and Channel  
 Protection Gabions (4.5 CY)

1+41.3 G-50.16'R to 1+45.5 G-16.12'R  
 Install 18" - 26' RC Pipe  
 & 1 Safety End

15+89.4 Cliff-73.42'R to 1+32.8 F-21.13'R  
 Install 18" - 50' RC Pipe  
 (Between Junction Box & Drop Inlet)

1+32.8 F-21.13'R to 1+32.4 F-39.59'R  
 Install 18" - 10' RC Pipe  
 & 1 Safety End

15+89.4 Cliff-73.42'R to 5+18.8 B-51.27'L  
 Install 18" - 262' RC Pipe  
 & 1 Safety End

60+56.22 - 318' R  
 Construct Hammerhead

63+70.0-5.34' L to 65+75.0-5.34' L (I90)  
 Install 30" - 202' Arch RC Pipe  
 (Between Junction & Drop Inlet)

68+00 - 129.62'L to 180.48'L (I90)  
 Install 36" - 44' RC Pipe & 1 Flared End

68+00 - 182.16'R to 132.12'R (I90)  
 Install 36" - 42' RC Pipe & 1 Flared End

Install 4'x11' Type S Drop Inlet with  
 Precast Type S Manhole Frame & Lid  
 at the following locations:  
 1+42.1-16.14' L (Ramp E)  
 1+32.8-21.13' R (Ramp F)  
 1+45.5-16.12' R (Ramp G)

Install 1.5'x3' Type D Drop Inlet  
 with Type D Frame & Grate  
 & 6" Concrete Collar  
 at the following locations:  
 56+13.3 - 63.63' L (I90)  
 56+13.3 - 24.39' L (I90)  
 56+13.3 - 24.37' R (I90)  
 56+13.3 - 63.61' R (I90)

Install 5'x5' Junction Box with  
 Type A7 Manhole Frame & Grate  
 at the following locations:  
 8+42.0 - 47.31' R (Ramp A)

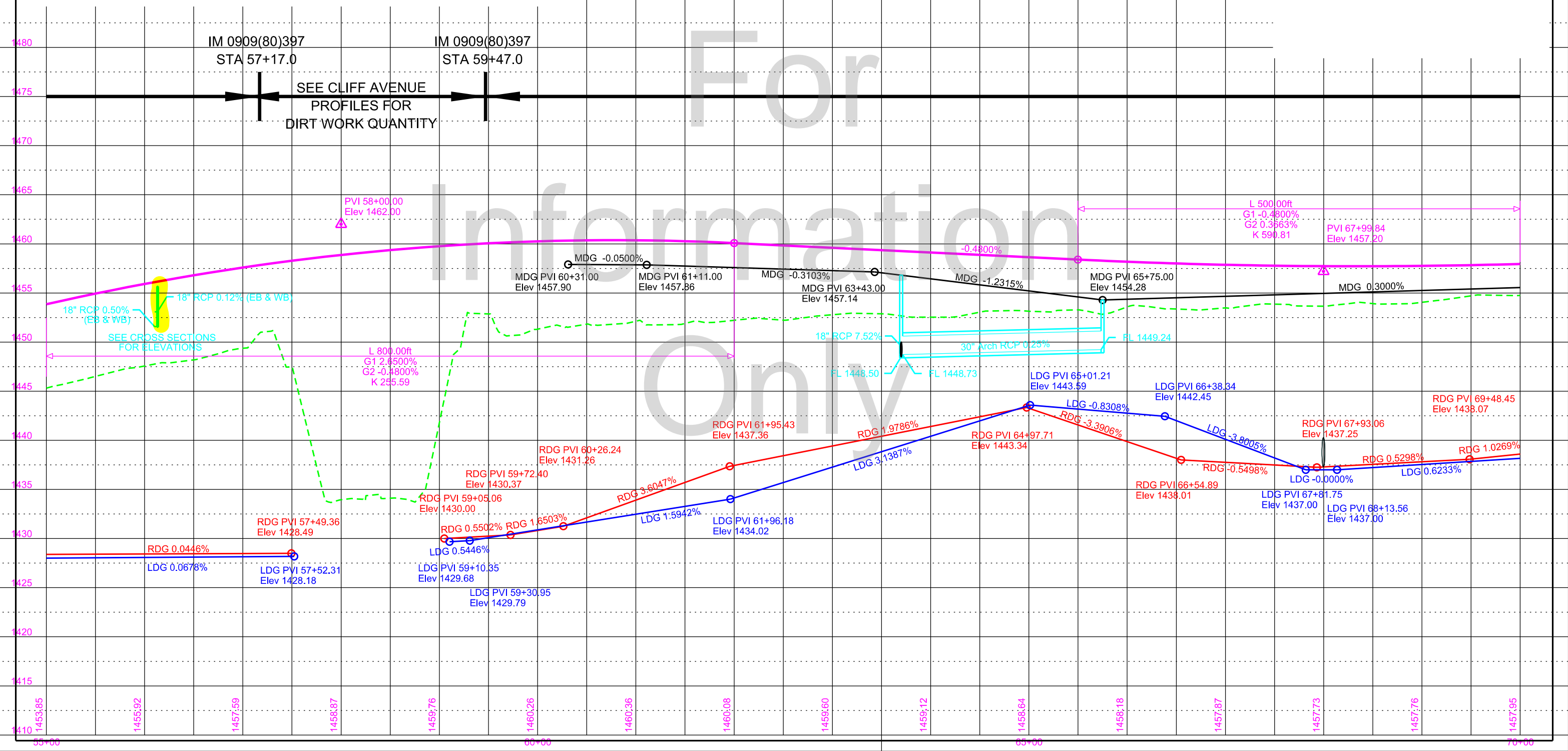
Install Type L Median Drain with  
 Type L Frame & Grate  
 at the following locations:  
 63+70.0 - 5.34' L (I90)  
 65+75.0 - 3.21' L (I90)

Install 3'x4' Type B Drop Inlet with Type B  
 Frame & Grate & 6" Concrete Collar  
 at the following locations:  
 16+98.2-16.68' L (Ramp C)

Install 5'x5' Junction Box with  
 Type A10 Manhole Frame & Grate  
 at the following locations:  
 2+00.0-12.00' L (Ramp E)  
 6+09.1-21.00' L (Ramp A)

**INTERSTATE 229 CLIFF AVE.**  
**EASTBOUND**  
 Sta. 56+13-24'R (MRM 399.460)  
**WESTBOUND**  
 Sta. 56+13-24'L (MRM 399.460)  
 Sta. 56+13-63'L (MRM 399.460)

# I-90 MAINLINE





329 + 47 - 113' Rt.  
Remove for reset I Fl. End  
Extend Rt. 24" - 24' RCP pipe  
& Reset Flared End

329 + 89.04 to 332 + 18.06 - 42' R  
Take out 229' - 0 1/4" Cont. Comp.  
Girder Bridge (E.B.L.)  
(Incidental Work - Structure )

329 + 99.14 to 332 + 28.16 - 42' L  
Take out 229' - 0 1/4" Cont. Comp.  
Girder Bridge (W.B.L.)  
(Incidental Work - Structure )

For Guardrail Details  
See Guardrail Layout.

330 + 12.42 to 331 + 94.43 - 42' R  
Install 182' - 0 1/8" Cont. Comp. Girder  
Bridge (E.B.L.)  
(See Bridge Construction Sheets)

330 + 22.57 to 332 + 04.58 - 42' L  
Install 182' - 0 1/8" Cont. Comp. Girder  
Bridge (W.B.L.)  
(See Bridge Construction Sheets)

330 + 24.56 and 331 + 92.42  
Install M. S. E. Retaining Walls  
(See Wall Construction Sheets)

Install Type D Drop Inlets with 6"  
Concrete Collar and Type D Frame  
& Grate at the following locations :

332 + 03.79 - 63.69 R  
332 + 08.59 - 24.31 R  
332 + 14.42 - 24.31 L  
332 + 19.94 - 69.69 L  
(See Standard Plates)

## INTERSTATE 90 & 229

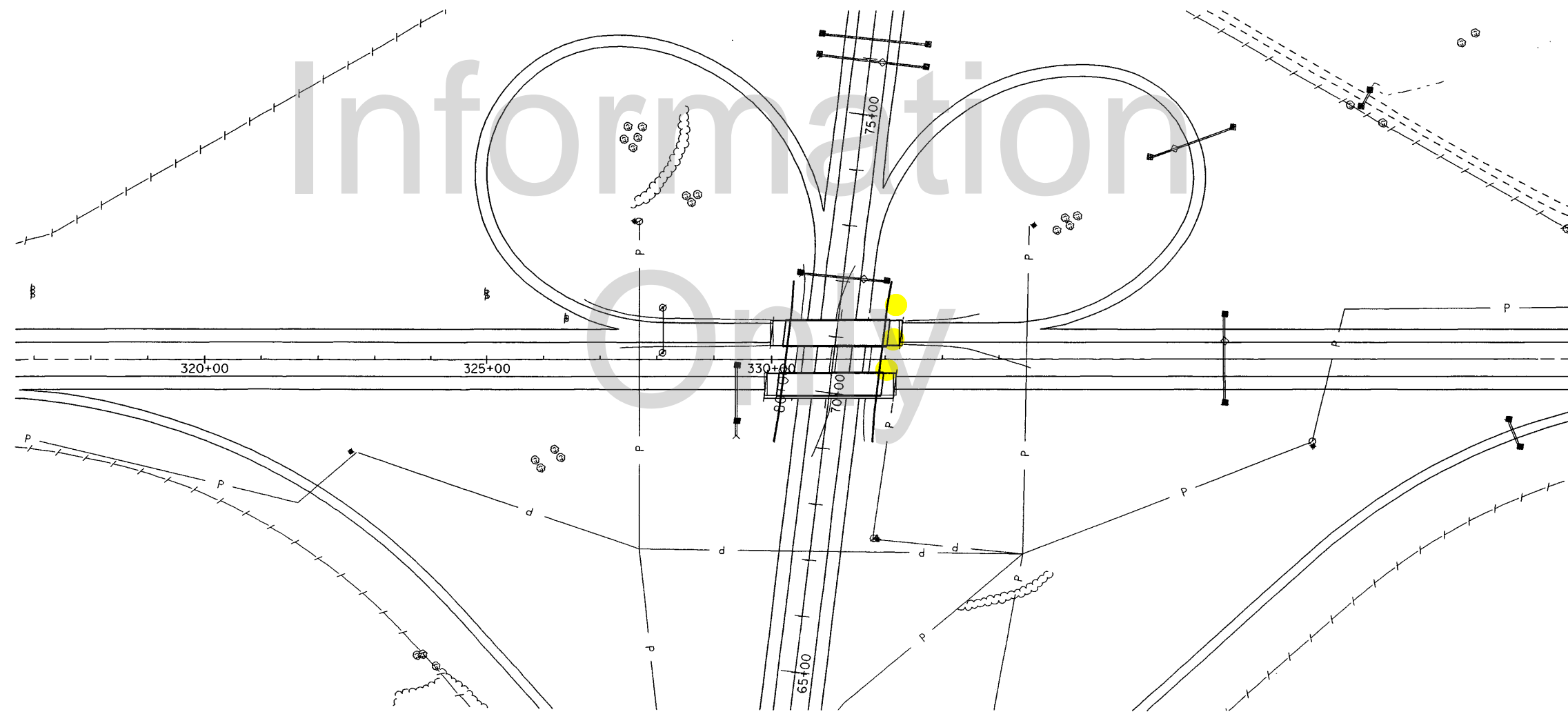
### EASTBOUND

Sta. 332+08-24'R (MRM 400.550)

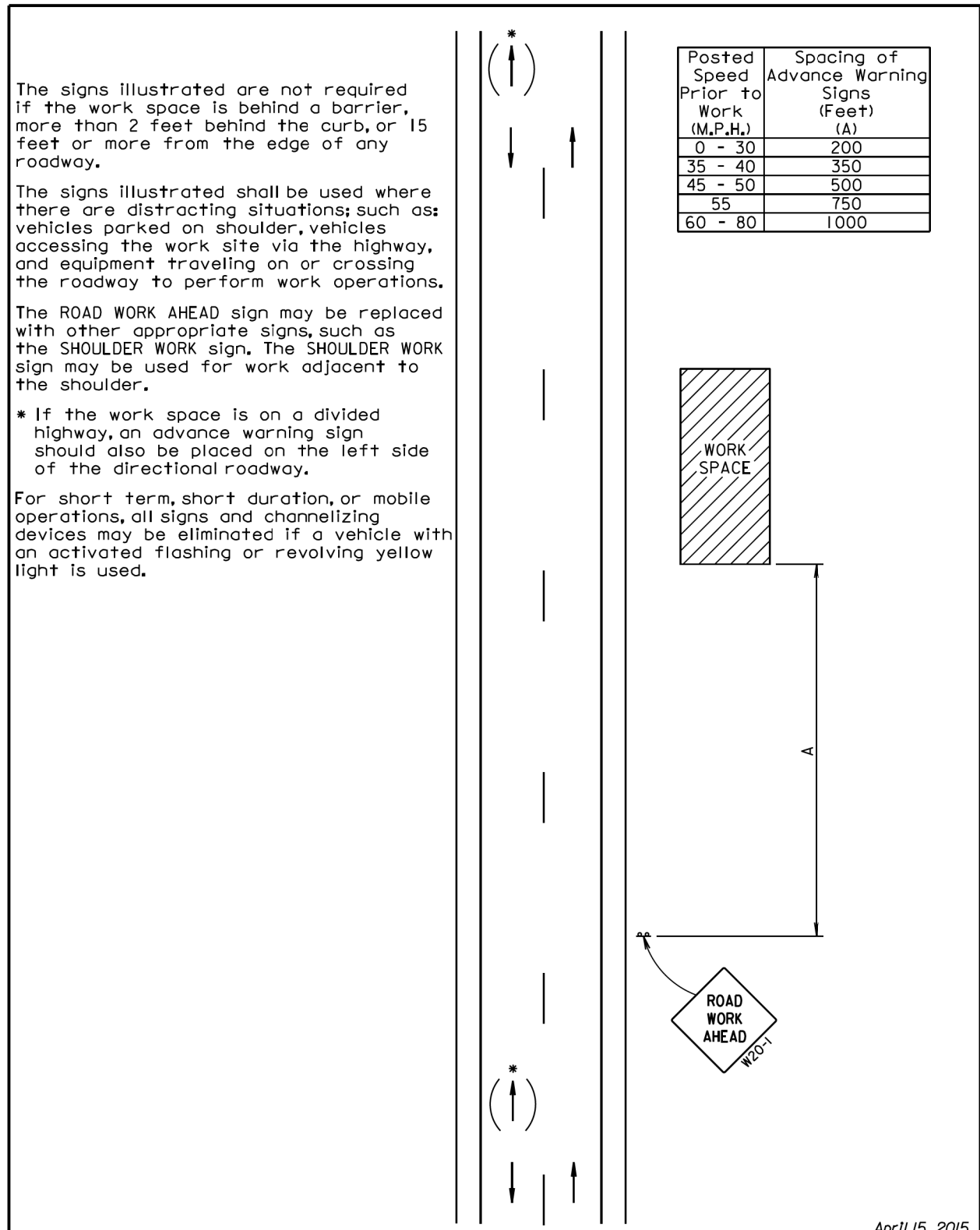
### WESTBOUND

Sta. 332+14-24'L (MRM 400.550)

Sta. 332+19-69'L (MRM 400.550)



Plotting Date: 04/30/2019



The signs illustrated are not required if the work space is behind a barrier, more than 2 feet behind the curb, or 15 feet or more from the edge of any roadway.

The signs illustrated shall be used where there are distracting situations; such as: vehicles parked on shoulder, vehicles accessing the work site via the highway, and equipment traveling on or crossing the roadway to perform work operations.

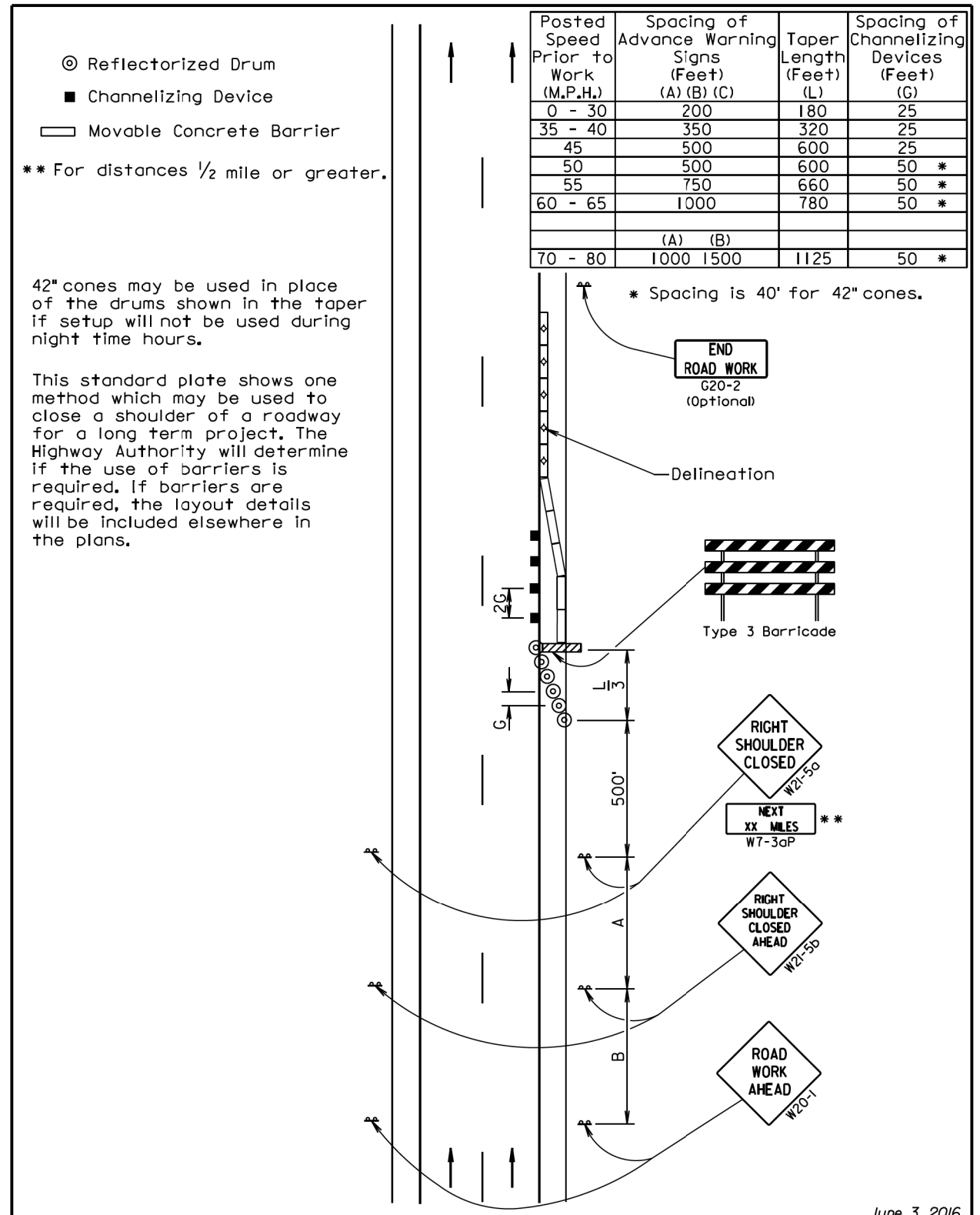
The ROAD WORK AHEAD sign may be replaced with other appropriate signs, such as the SHOULDER WORK sign. The SHOULDER WORK sign may be used for work adjacent to the shoulder.

\* If the work space is on a divided highway, an advance warning sign should also be placed on the left side of the directional roadway.

For short term, short duration, or mobile operations, all signs and channelizing devices may be eliminated if a vehicle with an activated flashing or revolving yellow light is used.

April 15, 2015

<b>S D D O T</b>	<b>GUIDES FOR TRAFFIC CONTROL DEVICES WORK BEYOND THE SHOULDER</b>	PLATE NUMBER <b>634.01</b>
	<i>Published Date: 2nd Qtr. 2019</i>	Sheet 1 of 1



- ⊙ Reflectorized Drum
  - Channelizing Device
  - ▭ Movable Concrete Barrier
- \*\* For distances 1/2 mile or greater.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

This standard plate shows one method which may be used to close a shoulder of a roadway for a long term project. The Highway Authority will determine if the use of barriers is required. If barriers are required, the layout details will be included elsewhere in the plans.

\* Spacing is 40' for 42" cones.

June 3, 2016

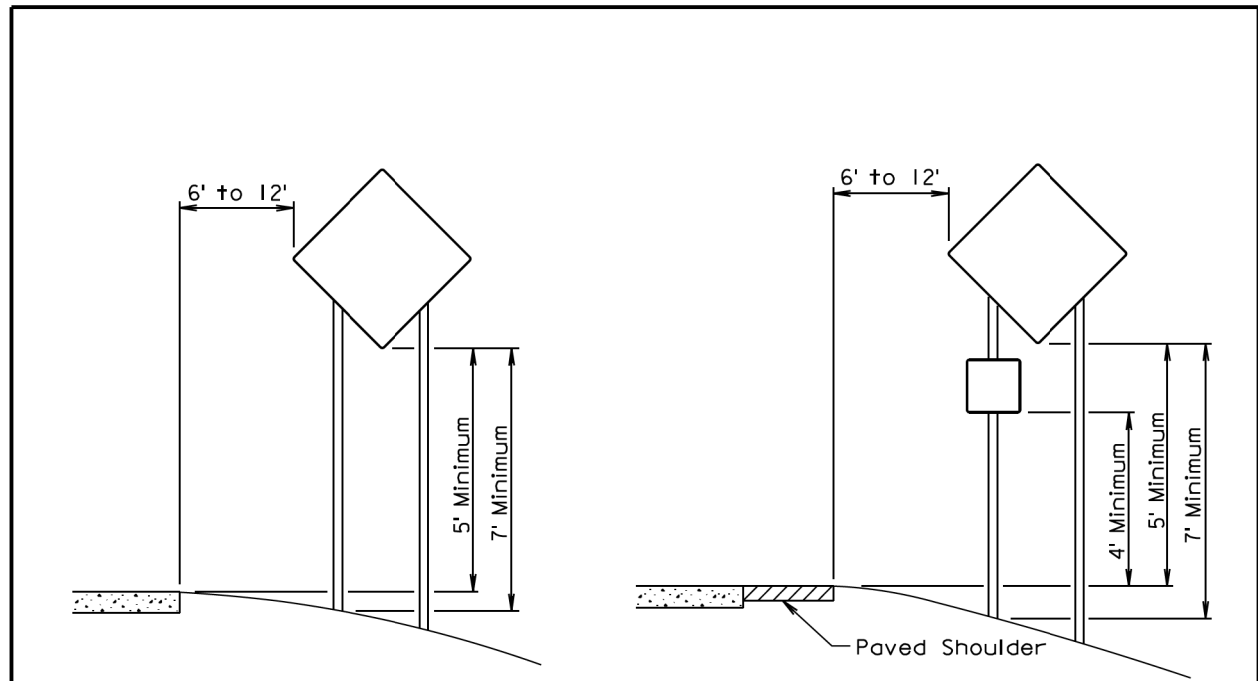
<b>S D D O T</b>	<b>GUIDES FOR TRAFFIC CONTROL DEVICES SHOULDER CLOSED</b>	PLATE NUMBER <b>634.61</b>
	<i>Published Date: 2nd Qtr. 2019</i>	Sheet 1 of 1

Plot Scale - 1:200

- Plotted From - TRM111NT15

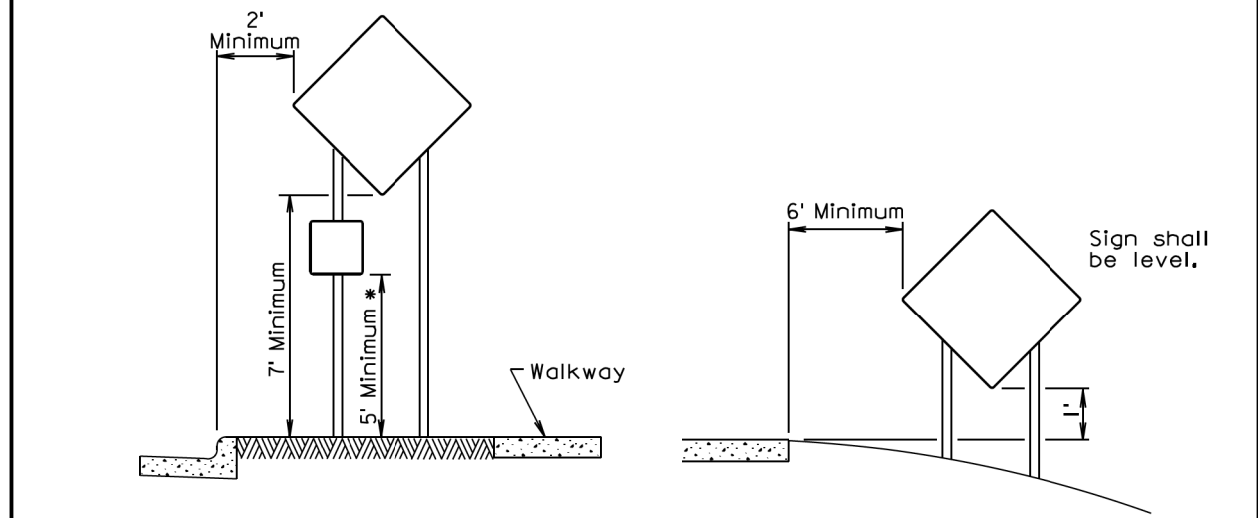
File - ...ISTD Plates 15FN.dgn

Plot Scale - 1:200



RURAL DISTRICT

RURAL DISTRICT WITH  
SUPPLEMENTAL PLATE



URBAN DISTRICT

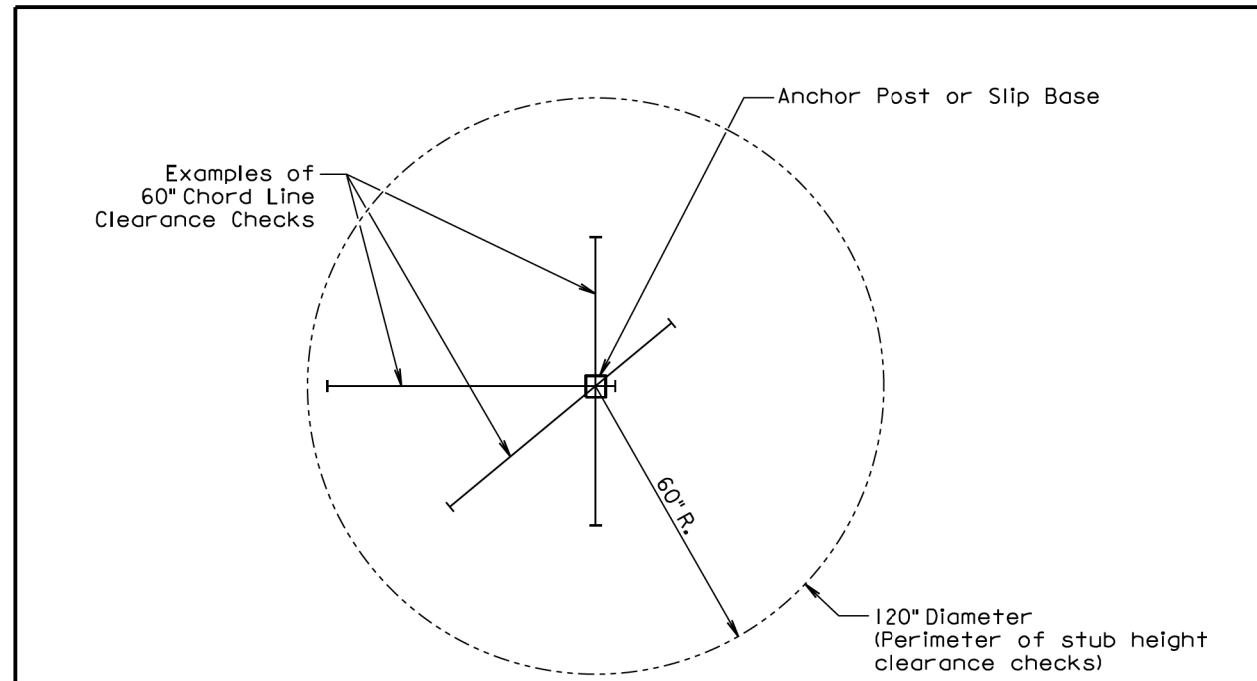
RURAL DISTRICT  
3 DAY MAXIMUM

\* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

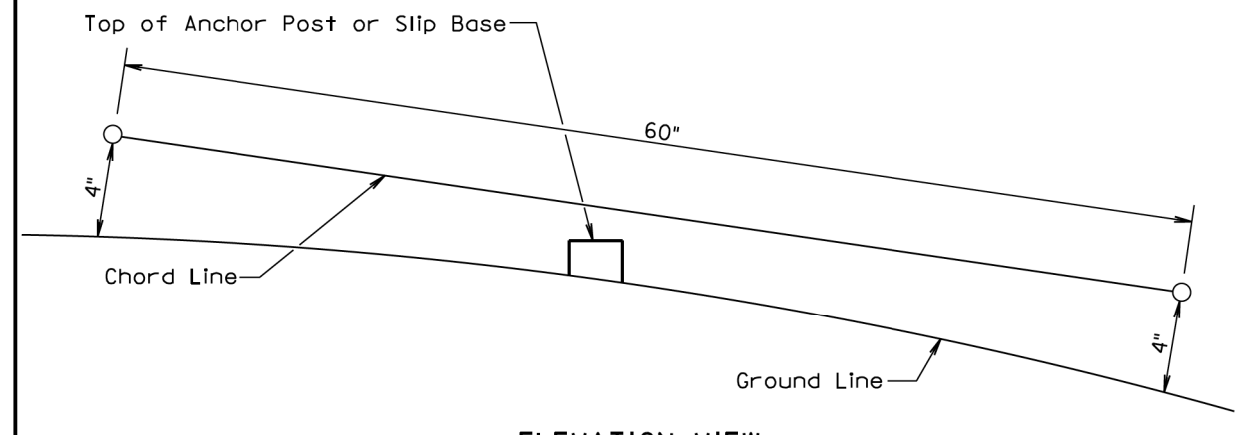
(Not applicable to regulatory signs)

September 22, 2014

Published Date: 2nd Qtr. 2019	S D D O T	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1



PLAN VIEW  
(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height shall be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

July 1, 2005

Published Date: 2nd Qtr. 2019	S D D O T	BREAKAWAY SUPPORT STUB CLEARANCE	PLATE NUMBER 634.99
			Sheet 1 of 1

- Plotted From - TRM111NT15

File - ...ISTD Plates 15FN.dgn