IOWA DEPARTMENT OF NATURAL RESOURCES

CONSTRUCTION DOCUMENTS FOR ELK ROCK STATE PARK ROAD MAINTENANCE

MARION COUNTY, IOWA

PROJECT # 25-05-63-01

IDOT PROJECT # SP-00SP-0(11)—7C-00

LICENSED PROFESSIONAL ENGINEER
MANDI L. ALDRICH PETERS
14439
IOWA

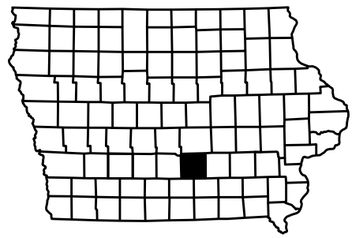
I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED UNDER MY SUPERVISION AND THAT ENGINEERING DECISIONS WITH REGARD TO THE DESIGN WERE MADE BY ME UNDER THE LAWS OF THE STATE OF IOWA.

SIGNATURE DATE

MANDI L. ALDRICH PETERS
PRINTED OR TYPED NAME

MY LICENCE RENEWAL DATE IS DECEMBER 31, 2025

PAGES COVERED BY THIS SEAL: ALL



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811
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DIRECTORY

PROJECT MANAGER		CONSTRUCTION INSPECTOR	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES	COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES
ADDRESS	502 EAST 9TH STREET	ADDRESS	
CITY,STATE,ZIP	DES MOINES, IA, 50319	CITY,STATE,ZIP	
CONTACT	MANDI L. ALDRICH PETERS	CONTACT	JASON KRUSE
TELEPHONE	515-205-1698	TELEPHONE	515-250-3707
FAX		FAX	
EMAIL	Mandi.Aldrich-Peters@dnr.iowa.gov	EMAIL	jason.kruse@dnr.iowa.gov

PROJECT DESCRIPTION

This project consists of placing culverts, patching, overlaying, crack cleaning/sealing and fog sealing 3.26 miles of HMA pavement of varying widths and blading/shaping and placing rock on gravel roads and shoulders at Elk Rock State Park in Marion County.

AUTHORIZATION TO BID

AUTHORIZATION - PARKS | WILDLIFE | FISHERIES | LAW ENFORCEMENT | FORESTRY DATE

ENGINEERING BUREAU CHIEF DATE

SHEET INDEX

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

COVER SHEET

ROAD MAINTENANCE FOR: ELK ROCK STATE PARK

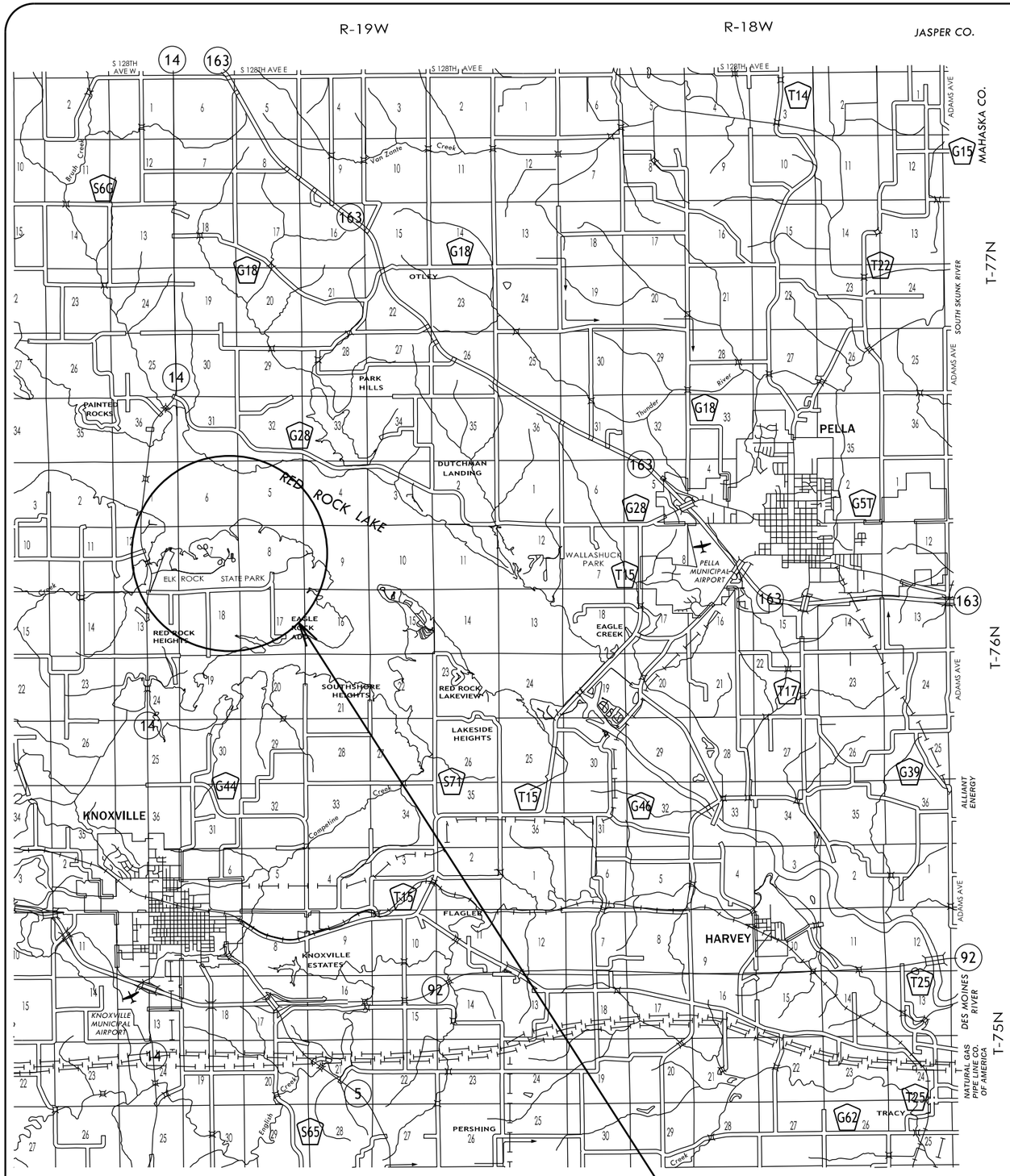
MARION COUNTY

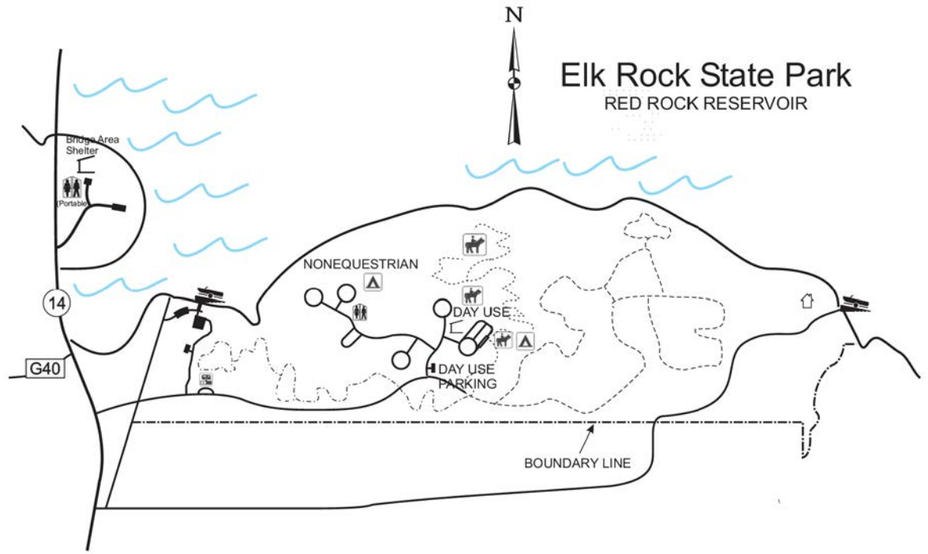
NO.	BY DATE	REVISION

DRAWN BY: PROJECT NUMBER: 25-05-63-01

CHK'D BY: DATE:

SHEET No: A.01





CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

PROJECT LOCATION MAP

ROAD MAINTENANCE FOR:

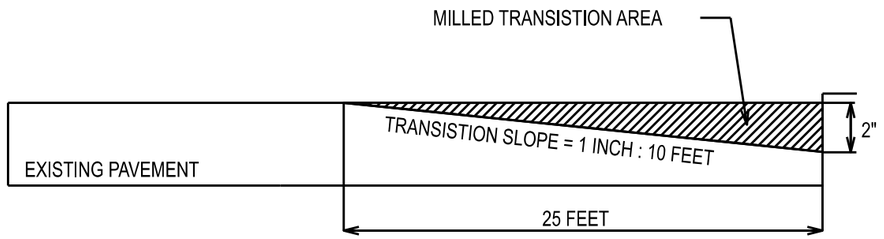
ELK ROCK STATE PARK

MARION COUNTY

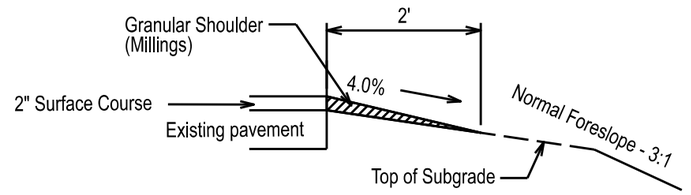
NO	BY	DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 25-05-63-01
CHK'D BY:
DATE:
SHEET No:

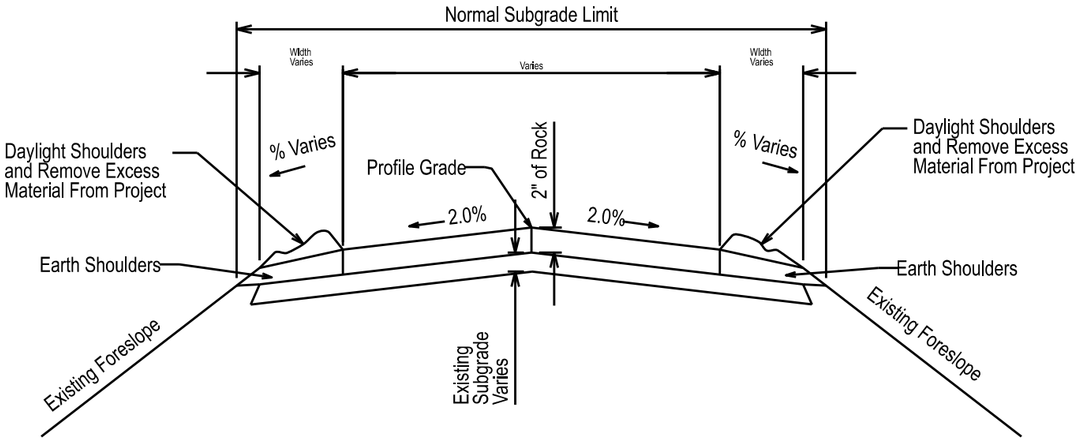
A.02



MILLED HEADER DIMENSIONS AND DETAILS



RESURFACING GRANULAR SHOULDER SECTION



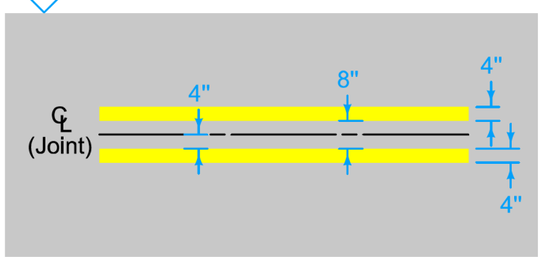
Note:

Normal sections shown may be appropriately modified for areas specifically designated by the Engineer.

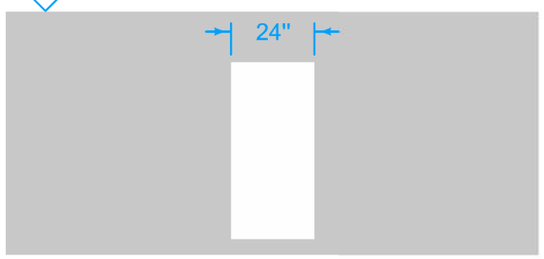
LOCATION	WIDTH (FT)
200 Stationing	22
300 Stationing	22
1500 Stationing	12
1900 Stationing	20
2000 Stationing	20

TYPICAL ROADWAY SECTION - CENTER CROWN

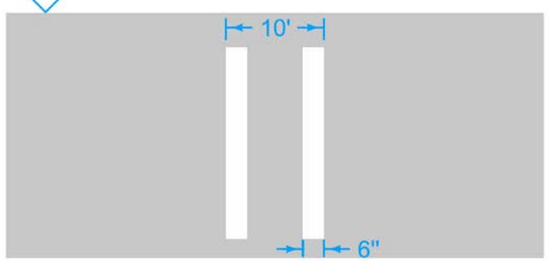
DCY4 DOUBLE CENTERLINE (Yellow)



SLW2 STOP LINE (White)



CLW6 CROSSWALK LINE (White)



PAINT MARKINGS

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:

ELK ROCK STATE PARK

MARION COUNTY

NO.	BY / DATE	REVISION

DRAWN BY:

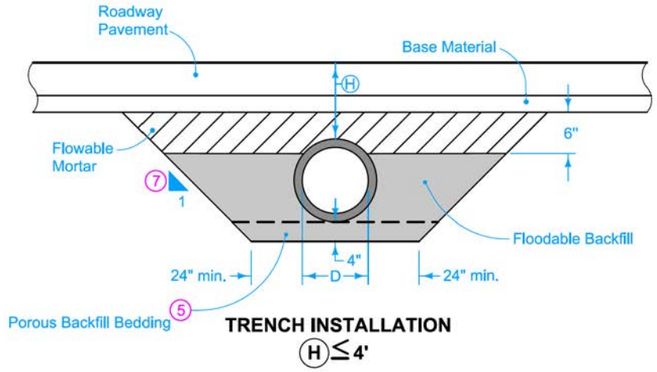
PROJECT NUMBER: 25-05-63-01

CHK'D BY:

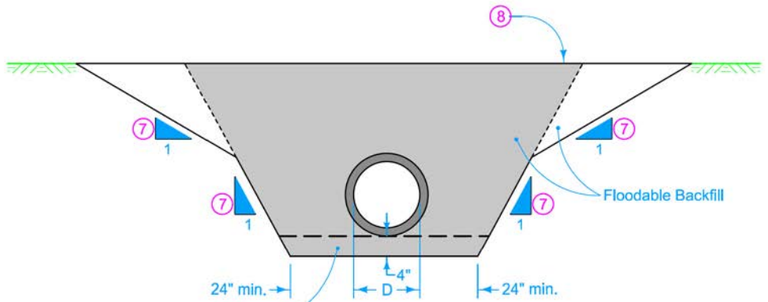
DATE:

SHEET No:

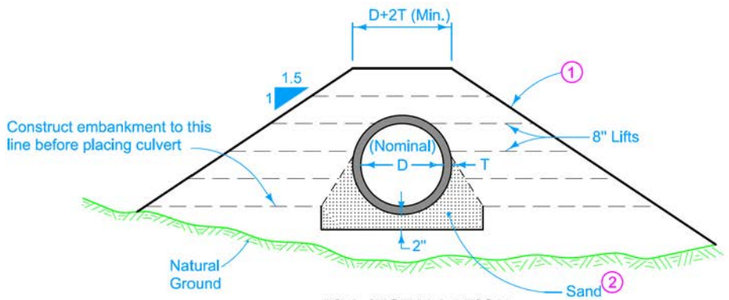
B.01



TRENCH INSTALLATION
(H) ≤ 4'



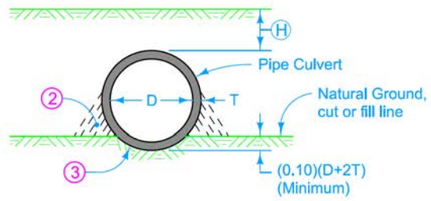
TRENCH INSTALLATION
(H) > 4'



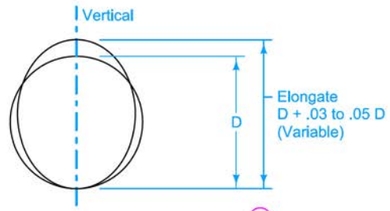
FILL INSTALLATION
(FOR RIGID PIPES ONLY)

CLASS 'B' BEDDING & BACKFILL (4)

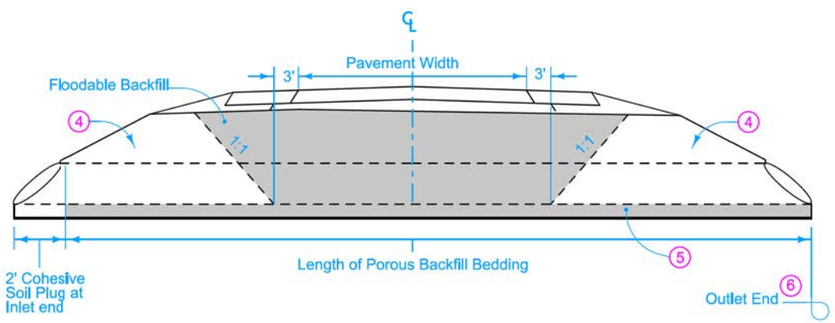
Denotes pay limits for flooded backfill



CLASS 'C' BEDDING & BACKFILL



ELONGATED PIPE (9)



TYPICAL SECTION - SOIL PLUG

Refer to DR-104 for minimum and maximum allowable cover (H) for the particular kind of pipe culvert.

1. The backfill adjacent to and above the pipe culvert may be placed in conjunction with normal embankment construction. Thoroughly tamp the embankment within the limits shown.
2. Take extra care to ensure complete and satisfactory tamping of backfill material in the area immediately adjacent to the lower portion of pipe.
3. Carefully shape excavation below groundline either using a template conforming to actual dimension and shape of the pipe or using other means. If using other means, check with a template conforming to the actual dimension and shape of the pipe.
4. For culverts backfilled by flooding, place a cohesive soil plug at the inlet, outlet, and, when necessary, sides, prior to flooding.
5. 4-inch Porous Backfill bedding. 2-inch Floodable Backfill bedding may be used under unsealed rigid pipe.
6. Extend Porous Backfill through the outlet end soil plug when used for bedding.
7. Quantity calculations are based upon a 1:1 slope and minimum trench dimension. Actual slope of trench may vary based upon Contractor's operations.
8. Ground Line at time of pipe installation. When existing ground exceeds 5 feet depth over pipe, backfill and compaction by flooding is not required more than 5 feet above the pipe.
9. Where a corrugated metal pipe culvert requiring elongation is to be installed (to counteract deformation caused by backfill), complete elongation using a means approved by the Engineer. Elongation may be developed either as part of shop fabrication or field installation. Install with elongated axis vertical.

Possible Contract Items:
Flowable Mortar
Flooded Backfill
Excavation, Class 20

Possible Tabulations:
104-3
104-4

IOWADOT

REVISION 2 04-18-17

STANDARD ROAD PLAN

DR-101

SHEET 1 of 1

REVISIONS: Changed "Porous Backfill" to "Porous Backfill Bedding" for clarity. Modified trench installation detail for H>4' to clarify pay limits.

APPROVED BY DESIGN METHODS ENGINEER

PIPE CULVERT (BEDDING AND BACKFILL)

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

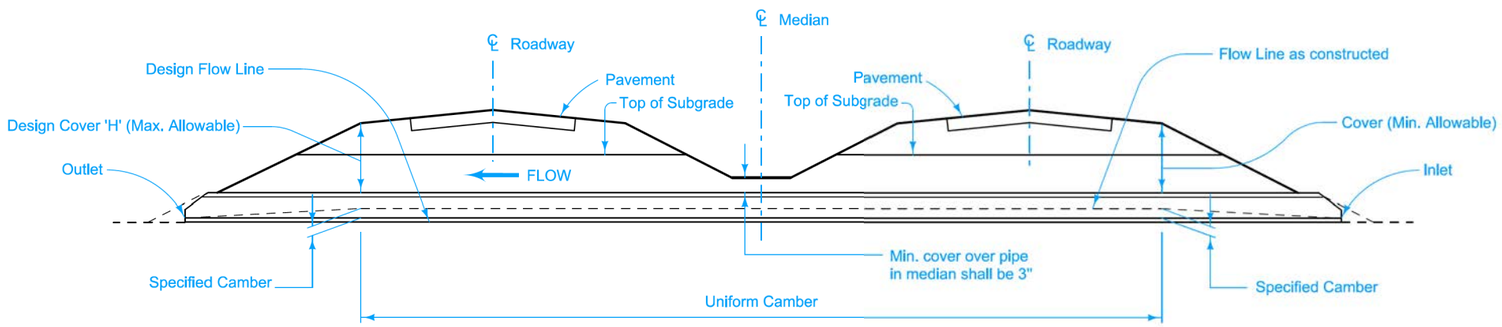
TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:
ELK ROCK STATE PARK
MARION COUNTY

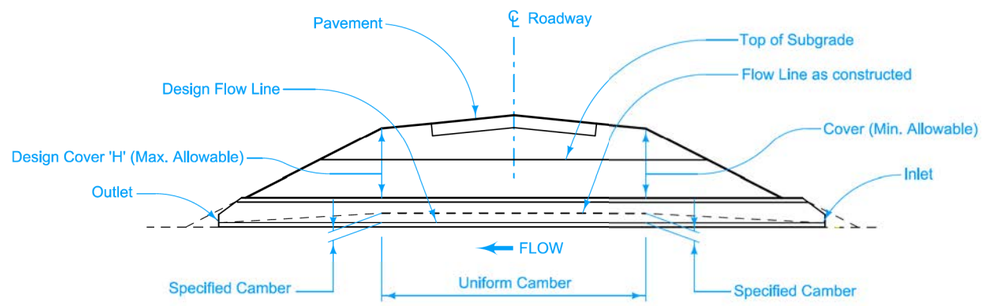
NO.	BY / DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 25-05-63-01
CHK'D BY:
DATE:

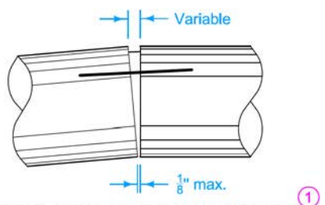
SHEET No: **B.02**



TYPICAL INSTALLATION DUAL ROADWAY



TYPICAL INSTALLATION SINGLE ROADWAY



TYPICAL JOINT IN CAMBERED PIPE (1)

Design Cover 'H' (feet)	Normal Camber (feet)
5	0.08
10	0.17
15	0.25
20	0.33
25	0.42
30	0.50
35	0.58

Pipe Size 'D'	Maximum Camber (feet)
24"	1.1
30"	1.2
36"	1.3
42"	1.4
48"	1.5
60"	1.6
84"	1.7

ALLOWABLE CAMBER TABLES

Refer to DR-121 for pipe joint connection and wrapping.

Refer to DR-101 for culvert bedding and backfill.

COVER

Refer to DR-104 for minimum and maximum allowable cover for the particular kind of culvert.

CAMBER

Camber is the dimension line between inlet and outlet elevation. Some settlement of the structure is usually anticipated, resulting in the design flow line between inlet and outlet. Camber is developed uniformly from inlet and outlet to a point beneath the outside shoulder lines of the roadway and is uniform between those points, as indicated. The Normal Camber indicated in the "Allowable Camber Tables" should be used unless specific camber values are indicated elsewhere in the plans.

(1) Camber for concrete pipe is created by placing pipe sections tight at the bottom of the joint with variable opening at top of joint. Camber for corrugated metal pipe to be done as directed by the Engineer.

IOWADOT

STANDARD ROAD PLAN

REVISION: New 04-21-15

DR-102

SHEET 1 of 1

REVISIONS: New. Replaces RF-30B.

APPROVED BY DESIGN METHODS ENGINEER

PIPE CULVERT (COVER AND CAMBER)

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:

ELK ROCK STATE PARK

MARION COUNTY

NO.	BY / DATE	REVISION

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PROJECT NUMBER: 25-05-63-01

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DATE:

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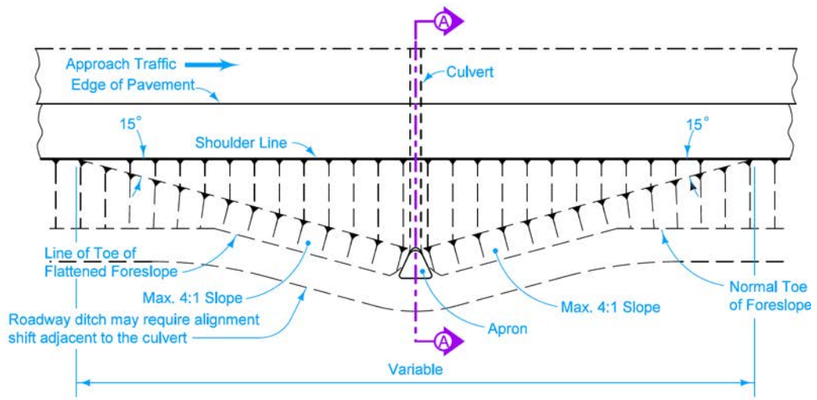
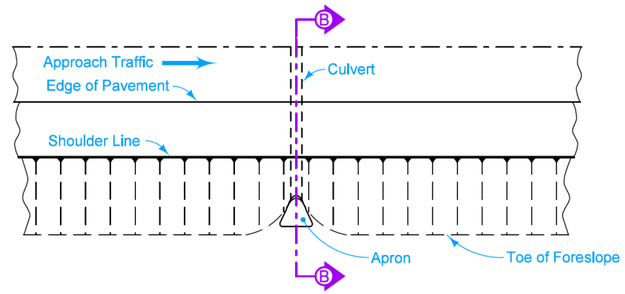
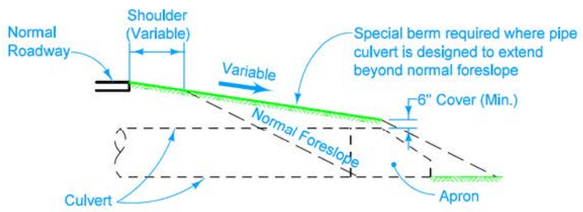
B.03



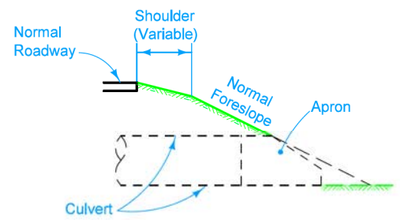
TYPICAL INSTALLATION PLAN
WHERE SPECIAL BERM IS REQUIRED



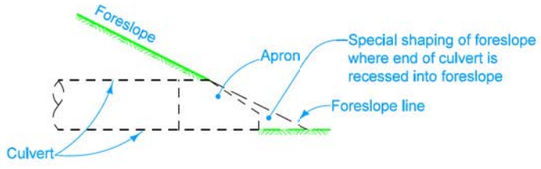
TYPICAL INSTALLATION PLAN
WHERE CULVERT MATCHES NORMAL FORESLOPE



SECTION A-A



SECTION B-B



DETAIL OF SHAPING EARTH FORESLOPE
AT CULVERT END

IOWADOT

STANDARD ROAD PLAN

REVISION	
New	04-21-15

DR-103

SHEET 1 of 1

REVISIONS: New. Replaces RF-30C.

APPROVED BY DESIGN METHODS ENGINEER

PIPE CULVERT
(INSTALLATION DETAILS)

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:
ELK ROCK STATE PARK
MARION COUNTY

NO.	BY	DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 25-05-63-01
CHK'D BY:
DATE:

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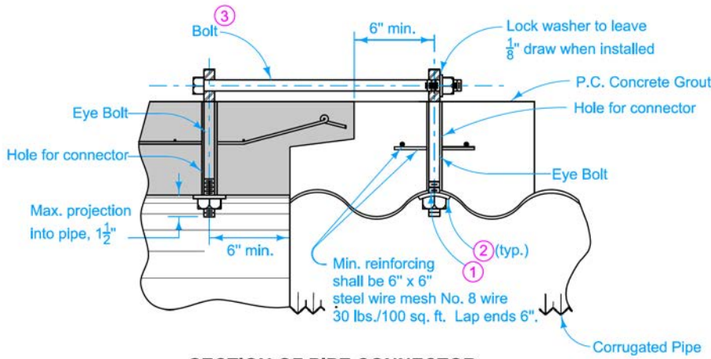
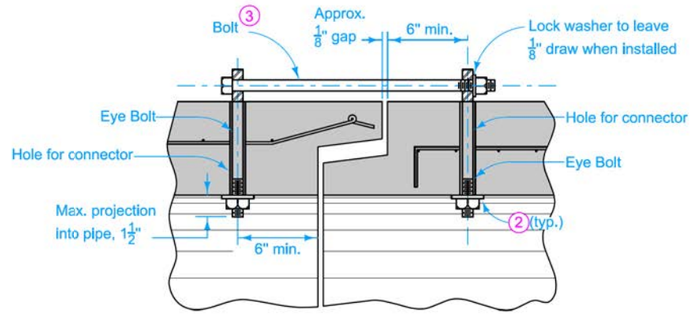
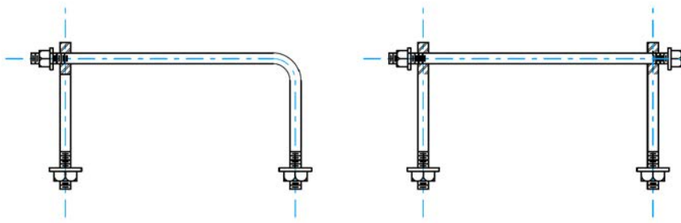
B.04



SECTION OF PIPE CONNECTOR
(Concrete Pipe to Corrugated Pipe)

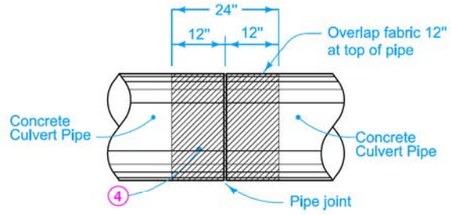


SECTION OF PIPE CONNECTOR
(Concrete Pipe to Concrete Pipe)



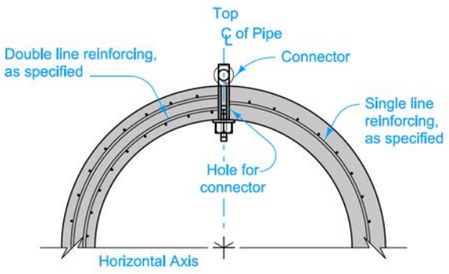
ONE BEND END **THREADED AT BOTH ENDS**

OPTIONAL BOLTS/CONNECTORS

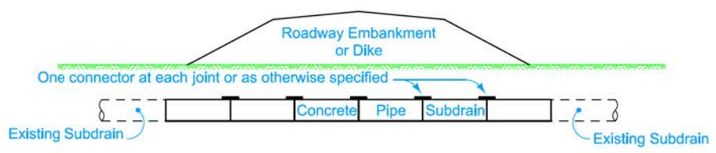


PIPE JOINT WRAPPING

PIPE SIZE (in)	CONNECTOR AND BOLT SIZE (in.)	HOLE FOR CONNECTOR (in.)
12 to 27	5/8	7/8
30 to 60	3/4	1.0
66 to 132	1.0	1 1/4



TYPICAL SECTION
(Non-Sealed Joint)



TYPICAL INSTALLATION

TYPE 1 CONNECTION

Wrap all joints on concrete roadway pipe culverts.

Use Type 3 Connections on all culvert pipes, unless specified otherwise. Refer to Materials I.M. 445.01 for Connector requirements.

Minimum 2 threads showing at all threaded ends.

Connections not required on pipe sections installed by trenchless methods.

For belled concrete pipe joints, connectors may be installed on the inside of the pipe.

TYPE 1

One connector at the top of the pipe section.

TYPE 2 (Sealed Joint)

Two connectors near the top of the pipe section. For details of reinforcement, refer to AASHTO M 170 for the class of pipe required. Refer to Materials I.M. 491.09 for seal requirements.

TYPE 3 (Non - Sealed Joint)

Two connectors near the top of the pipe section. For details of reinforcement, refer to AASHTO M 170 for the class of pipe required.

(1) If holes are field drilled, place a ribbon of butyl sealant around bolts before placing 3 in. x 3 in. x 1/4 in. plate on bolts through corrugated metal pipe and tightening nuts.

(2) 1 3/4 inch round x 9/64 inch thick washer or 3 in. x 3 in. x 1/4 in. square plate (shaped to pipe radius).

(3) Connectors with One Bend End and Bell End spacers allowed per Materials I.M. 451. Refer to Optional Bolts detail.

(4) Engineering fabric for embankment erosion control.

Possible Tabulations:
104-3
104-5B

IOWADOT

STANDARD ROAD PLAN

REVISION	
4	04-18-23

DR-121

SHEET 1 of 2

REVISIONS: Corrected title.

APPROVED BY DESIGN METHODS ENGINEER

CONNECTED PIPE JOINTS

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

TYPICAL CROSS SECTIONS AND DETAILS

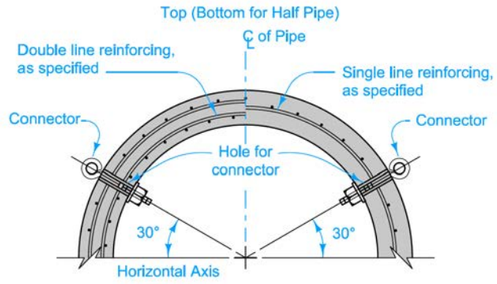
ROAD MAINTENANCE FOR: ELK ROCK STATE PARK

MARION COUNTY

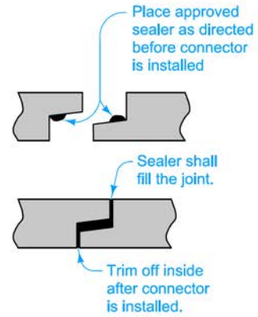
NO.	BY	DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 25-05-63-01
CHK'D BY:
DATE:

SHEET No: **B.05**

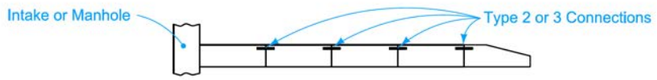


TYPICAL SECTION
TYPE 2 CONNECTION
TYPE 3 CONNECTION

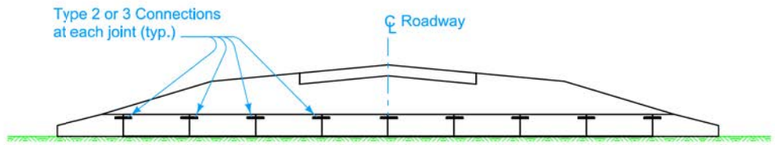


SEALED JOINT
TYPE 2 CONNECTION

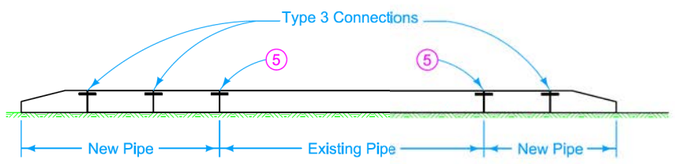
(5) On culvert extensions, connect all new joints including the joint between the old and new culvert pipe. Holes may need to be drilled into existing pipes.



TYPICAL INSTALLATION
STORM SEWER OUTLET - TYPE 2 OR TYPE 3 CONNECTION



TYPICAL INSTALLATION
NEW CONSTRUCTION - TYPE 2 or 3 CONNECTION



TYPICAL INSTALLATION
PIPE EXTENSION - TYPE 3 CONNECTION

TYPE 2 AND TYPE 3 CONNECTIONS

IOWA DOT
STANDARD ROAD PLAN

REVISION	
4	04-18-23

DR-121
SHEET 2 of 2

REVISIONS: Corrected title.

APPROVED BY DESIGN METHODS ENGINEER

CONNECTED PIPE JOINTS

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR:
ELK ROCK STATE PARK
MARION COUNTY

NO.	BY / DATE	REVISION

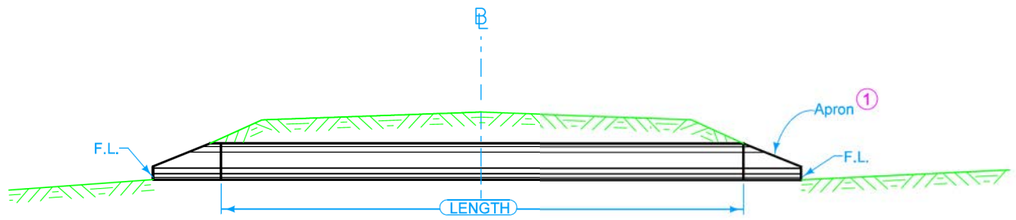
DRAWN BY:
PROJECT NUMBER: 25-05-63-01
CHK'D BY:
DATE:

SHEET No:
B.06

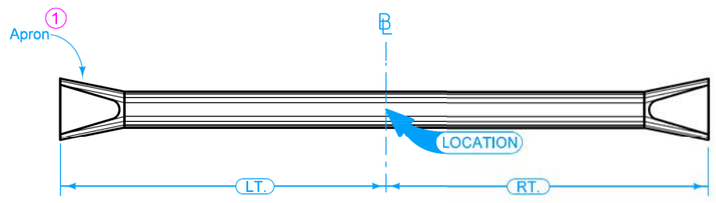
℄ is ℄ of roadway, dike, survey, or other as detailed on plans.

Skew angle is the angle which one end of the pipe is ahead (by stationing) of line perpendicular to the ℄.
(Example: skew Rt. ahead 30 degrees)

① Refer to the following:
DR-201 for circular concrete.
DR-202 for low clearance concrete.
DR-203 for circular metal.
DR-205 for circular concrete with end wall.
DR-206 for low clearance concrete with end wall.



SECTION



PLAN

Possible Tabulation:
104-3

IOWADOT

STANDARD ROAD PLAN

REVISION 2 04-18-17

DR-601

SHEET 1 of 1

REVISIONS: Modified note 1 to include references to additional apron types.

APPROVED BY DESIGN METHODS ENGINEER

REINFORCED CONCRETE PIPE CULVERT

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

TYPICAL CROSS SECTIONS AND DETAILS

ROAD MAINTENANCE FOR: ELK ROCK STATE PARK

MARION COUNTY

NO.	BY	DATE	REVISION

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SHEET No:
B.07

ESTIMATED PROJECT QUANTITIES

ITEM NO.	ITEM	UNIT	TOTAL
1	Asphalt Emulsion-Fog Seal (Pavement)	GAL	1,868
2	Patches, Full-Depth Finish, 6-inch, by Area, HMA	SY	130.3
3	Patches, Full-Depth Finish, by Area (Greater than 50 ft in length)	SY	53.4
4	Patches, Full-Depth Finish, 6-inch, by Count, HMA	EACH	7
5	Patches, Full-Depth Repair, by Area, HMA	SY	66.7
6	Patches, Full-Depth Repair, by Area (Greater than 50 ft in length)	SY	152.7
7	Patches By Count Repair HMA	EACH	6
8	Subbase (Patches)	CY	44.8
9	Pavement Scarification	SY	366.9
10	Hot Mix Asphalt High Traffic, Surface Course, 1/2 In. Mix, No Special Friction Requirement	TON	166
11	Asphalt Binder, PG 58-28H, High Traffic	TON	9
12	Transverse Joint Repair	TON	157
13	Crack and Joint Clean and Seal (HMA Surfaces)	MILES	3.26
14	Sealer Material (HMA Surfaces)	LBS	3,260
15	Blade and Shape Shoulder Material	STA	1.50
16	Reconstruction of Roadbed, Blade and Shape	STA	62.15
17	Granular Surface On Road, 1 1/4"	TON	1,357
18	Granular Shoulder, Type B	TON	14
19	Revetment, Class E	TON	30
20	Culvert, Concrete Roadway Pipe, 18"	LF	24
21	Culvert, Concrete Roadway Pipe, 36"	LF	150
22	Apron, Concrete, 18"	EACH	2
23	Apron, Concrete, 36"	EACH	2
24	Painted Pavement Marking, High-Build Waterborne	STA	137.9
25	Reshaping Ditch	STA	1
26	Traffic Control	LS	1
27	Mobilization	LS	1

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
1	Asphalt Emulsion-Fog Seal (Pavement) A. Dilute with water - 2 parts water, 1 part emulsion. Apply at 0.15 gal/sy B. Do not place asphalt emulsion on a damp or wet surface. C. Do not apply asphalt emulsion when either the pavement temperature or the air temperature is below 60°F. Do not apply asphalt emulsion after August 31 without the Engineer's permission. D. Iowa DOT Standard Specifications for Highway and Bridge Construction, Series 2015, Section 2506.
2 3	Patches, Full-Depth Finish, 6-inch, By Area, HMA Patches, Full-Depth Finish, by Area (Greater than 50 ft in length) A. Minimum 48-hour notice to DNR Field Engineer before pouring. B. Iowa DOT Standard Specifications for Highway and Bridge Construction, Series 2015, Section 2529.
4	Patches, Full-Depth Finish, 6-inch, By Count, HMA A. Off site disposal of removed material is the responsibility of the contractor. B. No payment for overhaul will be allowed. C. Iowa DOT Standard Specifications for Highway and Bridge Construction, Series 2015, Section 2529.
5 6	Patches, Full-Depth Repair, By Area, HMA Patches, Full-Depth Repair, by Area (Greater than 50 ft in length) A. Minimum 48-hour notice to DNR Field Engineer before pouring. B. Iowa DOT Standard Specifications for Highway and Bridge Construction, Series 2015, Section 2529.
7	Patches By Count Repair HMA A. Off site disposal of removed material is the responsibility of the contractor. B. No payment for overhaul will be allowed. B. Iowa DOT Standard Specifications for Highway and Bridge Construction, Series 2015, Section 2529.
8	Subbase (Patches) A. Contractor shall install 6" Modified Subbase under all patches. B. Excavation of existing material and preparation of subgrade shall be incidental. C. Off site disposal of removed material is the responsibility of the contractor. D. No payment for overhaul will be allowed.

ESTIMATE REFERENCE INFORMATION

ITEM NO.	DESCRIPTION
9	Pavement Scarification A. Quantity includes milled headers at the parking lots. B. All millings are to be placed as shoulders in resurfaced areas and spread in rock parking areas along the roadway as directed by the Field Engineer. C. Off site disposal of removed material is the responsibility of the contractor. D. No payment for overhaul will be allowed.
10	Hot Mix Asphalt High Traffic, Surface Course, 1/2 In. Mix, No Special Friction Requirement A. Road Surface temperature shall be at or above those listed for the applicable course and thickness in 2303.03 C.
11	Asphalt Binder, PG 58-28H, High Traffic
12	Transverse Joint Repair A. Nominal size of transverse joint repair will be 2' wide by 3 inches deep. B. Millings to be removed from the park or as directed by the Engineer. OR All millings shall be placed and spread in rock parking areas along the roadway as directed in the plans or by the DNR Field Engineer. C. Off site disposal of removed material is the responsibility of the contractor. D. No payment for overhaul will be allowed.
13	Crack and Joint Clean and Seal (HMA Surfaces) A. Work shall be completed prior to September 30th and when the air and surface temperatures are above 40°F.
14	Sealer Material (HMA Surfaces)
15	Blade and Shape Shoulder Material A. Shape granular shoulders to maintain positive drainage, in conjunction with the pavement scarification and resurfacing operations. The material may be stored in a windrow or neatly spread on the existing shoulders to allow positive drainage.
16	Reconstruction of Roadbed, Blade and Shape A. Repair all potholes and washboards by scarifying surrounding area to depth of pothole and recompacting. B. Remove any material higher than the roadway: 1 % from edge ot roadway to where it daylights the ditch foreslope. C. DO NOT waste material in ditch. Blade/drag/scoop onto roadway and remove from project site. D. Remove any high shoulder areas before spreading new rock. Remove spoil for project location.
17	Granular Surface On Road, 1 1/4" A. Shall be placed at 2" depth.
18	Granular Shoulder, Type B A. Shoulders shall be 1 1/4" Roadstone.
19	Revetment, Class E A. Grading is incidental to rock placement. Spoil of the excess material as directed by the Field Engineer.
20 21	Culvert, Concrete Roadway Pipe, 18" Culvert, Concrete Roadway Pipe, 36" A. Furnishing and placing of Class "B" Bedding shall be considered incidental. B. Trench excavation shall be considered incidental. C. Removal and disposal of unsuitable backfill material encountered during trench excavation shall be considered incidental. D. Placing and compacting backfill material shall be considered incidental. E. Dewatering including, but not limited to, all equipment such as generators, pumps, rock for sump pits, discharge piping, and any extra excavation needed to facilitate dewatering according to storm water regulations, as applicable shall be considered incidental. F. Sheeting, shoring, and bracing shall be considered incidental. G. Temporary support for existing water, sewer, gas, telephone, electric, and other utilities or services that cross the trench shall be considered incidental. H. Type 2 connected pipe joints shall be considered incidental. I. Clearing and Grubbing shall be considered incidental.
24	Painted Pavement Marking, High-Build Waterborne A. See DOT Specification Table 2527.03-1 for the minimum atmospheric and surface temperatures for application of pavement markings.
25	Reshaping Ditch A. Spoil of the excess material as directed by the Field Engineer. B. Includes grading at culvert inlets and outs. C. Seeding, fertilizing and mulching shall be considered incidental. D. All seeding shall be completed using DOT Urban or Class "C" seed mixture. E. Stabilizing Crop seeding, if needed, shall be Type 4 (Urban Temporary Erosion Control Mixture).
26	Traffic Control A. Includes all barricades, signs, pilot cars, and/or flaggers needed to complete the work under traffic per Iowa DOT standard traffic control details.

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

QUANTITIES AND GENERAL INFORMATION

ROAD MAINTENANCE FOR:
ELK ROCK STATE PARK
MARION COUNTY

NO.	BY	DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 25-05-63-01
CHK'D BY:
DATE:

SHEET No:
C.01

GENERAL NOTES

Verify actual locations and elevations with DNR Engineer.

All work shall conform to and be performed in accordance with all applicable codes and ordinances.

The contractor shall visit the site and inspect the project area and thoroughly familiarize themselves with the actual job conditions prior to bidding and the start of work. Failure to visit the project site shall not relieve the contractor from performing the work in accordance to the plans, specification, special provisions and contract.

The contractor shall verify, at the site, all dimensions and conditions shown on the plans and shall notify the DNR Engineer of any discrepancies, omissions, and/or conflicts prior to proceeding with the work.

It shall be the contractor's responsibility to provide waste areas or disposal sites for excess material (excavated material or broken concrete) which is not desirable to be incorporated into the work involved on this project. No payment for overhaul will be allowed for material hauled to these sites. No material shall be placed within the right-of-way, unless specifically stated in the plans or approved by the DNR Engineer.

The contractor shall not disturb desirable grass areas and desirable trees outside the construction limits. The contractor will not be permitted to park or service vehicles and equipment or use these areas for storage of materials. Storage, parking and service areas will be subject to the approval of the DNR Engineer.

Unless otherwise directed by the Plans, Specifications, or the DNR Engineer, all trees with a trunk diameter of three inches or greater when measured at breast height, shall be felled between October 1st and March 31st. Brush and debris removal is not restricted by this note.

Where utilities and fixtures are shown as Existing on the plans or encountered within the construction area, it shall be the responsibility of the contractor to notify the DNR Engineer of those utilities prior to the beginning of any construction. The contractor shall be afforded access to these facilities for necessary modification of services. Underground facilities, structures and utilities have been plotted from available surveys and records and therefore their locations must be considered approximate only. It is possible there may be others, the existence of which is presently not known or shown. It is the contractor's responsibility to determine their existence and exact location and to avoid damage thereto. No claims for additional compensation will be allowed to the contractor for any interference or delay caused by such work.

The contractor shall shape graded area to maintain surface drainage. All elevations are to finish grade.

The contractor is expected to have materials, equipment, and labor available on a daily basis to install and maintain erosion control features on the project. This may involve seeding, silt fence, rock ditch checks, silt basins or silt dikes.

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ENGINEERING SERVICES - WALLACE BUILDING
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QUANTITIES AND GENERAL INFORMATION

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ELK ROCK STATE PARK
MARION COUNTY

NO.	BY	DATE	REVISION

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DATE:

SHEET No:
C.02

PAVEMENT PRESERVATION

LOCATION	WIDTH (FT)	P&I LENGTH (FT)	P&I LENGTH (MILES)	P&I AREA (SY)	INFR LENGTH (FT)	INFR LENGTH (MILES)	INFR AREA (SY)	P&I TRANSVERSE JOINT REPAIRS (COUNT)	P&I TRANSVERSE JOINT REPAIRS (TON)	INFR TRANSVERSE JOINT REPAIRS (COUNT)	INFR TRANSVERSE JOINT REPAIRS (TON)	P&I FULL DEPTH PATCH FINISH (COUNT)	P&I FULL DEPTH PATCH FINISH (SY)	P&I FULL DEPTH PATCH FINISH (>50') (SY)	P&I FULL DEPTH PATCH REPAIR (COUNT)	P&I FULL DEPTH PATCH REPAIR (SY)	P&I FULL DEPTH PATCH REPAIR (>50') (SY)	P&I FOG SEAL (GALS)	INFR FOG SEAL (GALS)	P&I SUBBASE, 6" (CY)
100 Stationing	22	8,206	1.55	20,059.1				112	90			5	111.6	53.4	6	66.7	152.7	1,003.0		41.6
900 Stationing	14				491	0.09	763.8			12	7								38.2	
1000 Stationing	14				159	0.03	247.3			3	2								12.4	
1200 Stationing	20	3,425	0.65	7,611.1				50	37									380.6		
1300 Stationing	12	1,307	0.25	1,742.7				1	1									87.2		
1400 Stationing	14	896	0.17	1,393.8				10	6			2	18.7					69.7		3.2
1600+00-1605+00	20	500	0.09	1,111.1														55.6		
1605+00-1614+00	14	887	0.17	1,379.8														69.0		
1700 Stationing	20	948	0.18	2,106.7				11	8									105.4		
1800 Stationing	20	410	0.08	911.1				1	6									45.6		
		16,579	3.14	36,315.3	650	0.12	1011.11	191	148	15	9	7	130.3	53.4	6	66.7	152.7	1,816.1	50.6	44.8

ROCK ROAD

LOCATION	LENGTH (FT)	WIDTH (FT)	1 1/4" ROADSTONE (TON)
200 Stationing	110.0	22	29
300 Stationing	367.0	22	95
1500 Stationing	1,160.0	12	163
1900 Stationing	4,089.0	20	955
2000 Stationing	489.0	20	115
	6,215.0		1,357

SHOULDER ROCK

LOCATION	LENGTH (FT)	WIDTH (FT)	THICKNESS (IN)	1 1/4" ROADSTONE (TON)
124+50	100.0	3	2	4
162+20	50.0	3	4	4
Various locations as directed by the Field Engineer				6
	150.0			14

PAVEMENT MARKINGS

STATION	STATION	DCY4: Double Center Line (Yellow) @ 1.25	SLW2: Stop Line (White) @ 4.00	CLW6: Crosswalk Line (White) @ 2.00
100+20+/-	---		0.10	
100+25	172+00	71.80		
400+11	415+00	14.90		
1200+11	1223+00	22.90		
154+50	---			
Unfactored Length		109.60	0.10	0.22
Factored Length		137.00	0.40	0.44

BLADE AND SHAPE SHOULDER MATERIAL
* Includes both sides of road

LOCATION	LENGTH (FT)
115+00	50.0
134+00	50.0
155+75	50.0
	150.0

SITE GRADING

LOCATION	LENGTH (FT)	WIDTH (FT)
1706+75	40	20

PIPE

LOCATION	LENGTH (FT)	DIAMETER (IN)	APRON (EACH)	CLASS E REVETMENT (TON)	NOTES
143+40	150	36	2	30	
172+25	24	18	2		
				30	

RESURFACING

LOCATION	LENGTH (FT)	WIDTH (FT)	AREA (SY)	MILES	1" INTERLAYER (TON)	1.5" INTERMEDIATE (TON)	2" SURFACE (TON)	MILLED HEADER SCARIFICATION (SY)
115+00	200.0	22	488.9	0.04			54	122.3
134+00	260.0	22	635.6	0.05			71	122.3
155+75	152.0	22	371.6	0.03			41	122.3
			1,496.1	0.12			166	366.9

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

QUANTITIES AND GENERAL INFORMATION

ROAD MAINTENANCE FOR:
ELK ROCK STATE PARK
MARION COUNTY

NO.	BY	DATE	REVISION

DRAWN BY:
PROJECT NUMBER: 25-05-63-01
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DATE:

SHEET No:
C.03

SITE PLAN

ROAD MAINTENANCE FOR:

ELK ROCK STATE PARK

MARION COUNTY

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

CONSULTANT:

SHEET NO.: D.01

CHK'D BY:

DATE:

DRAWN BY:

PROJECT NUMBER: 25-05-63-01

NO. | ITEM | REVISION

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

DNR

SITE PLAN

ROAD MAINTENANCE FOR:

ELK ROCK STATE PARK

MARION COUNTY

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ENGINEERING SERVICES - WALLACE BUILDING
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SITE PLAN

ROAD MAINTENANCE FOR:
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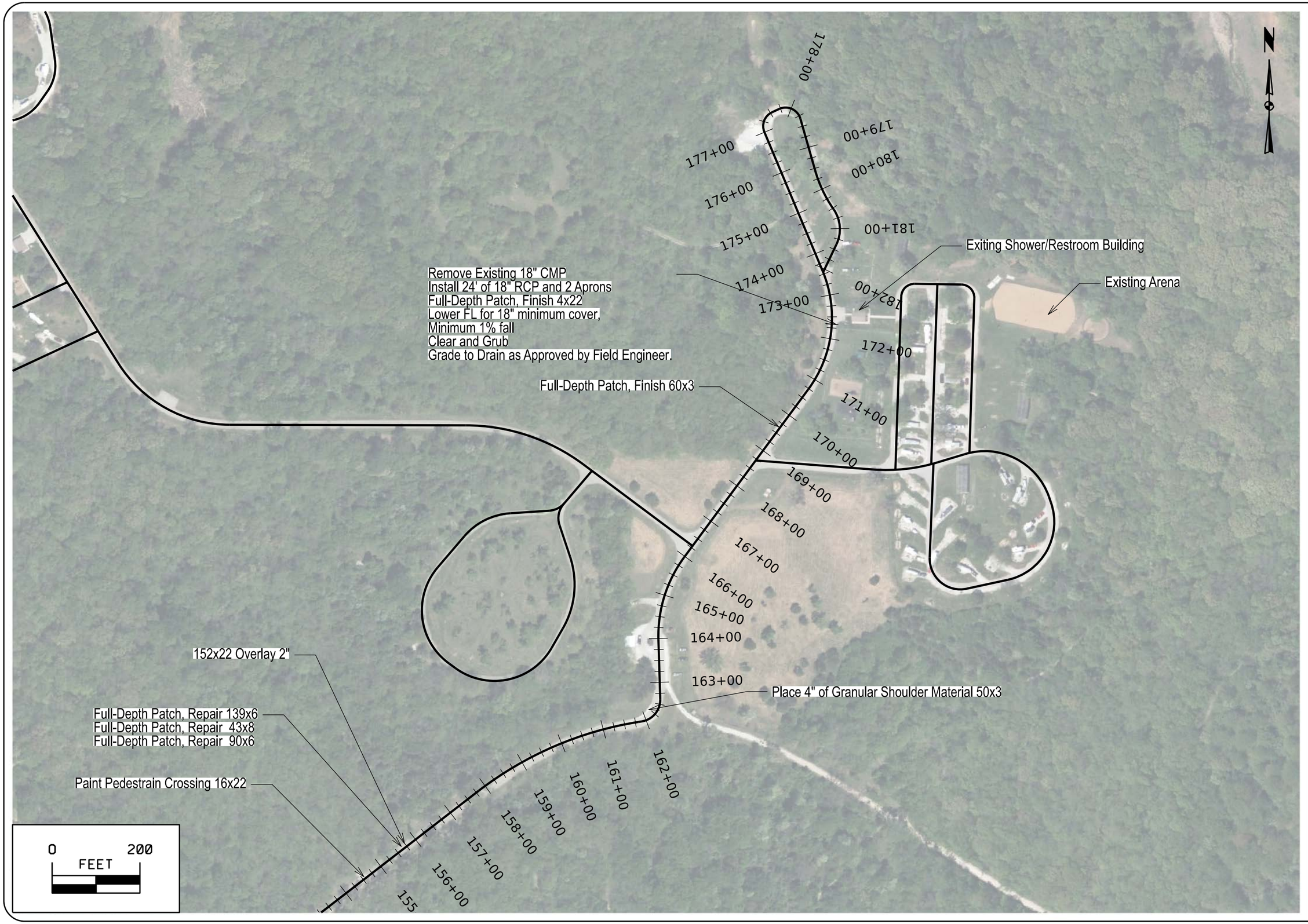
D.03



CONSULTANT:

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502 E. 9TH ST., DES MOINES, IA 50319-0034

SITE PLAN

ROAD MAINTENANCE FOR:
ELK ROCK STATE PARK
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SITE PLAN

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D.01

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SITE PLAN

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D.06

CONSULTANT:

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SITE PLAN

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SITE PLAN

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D.08

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SITE PLAN

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D.09

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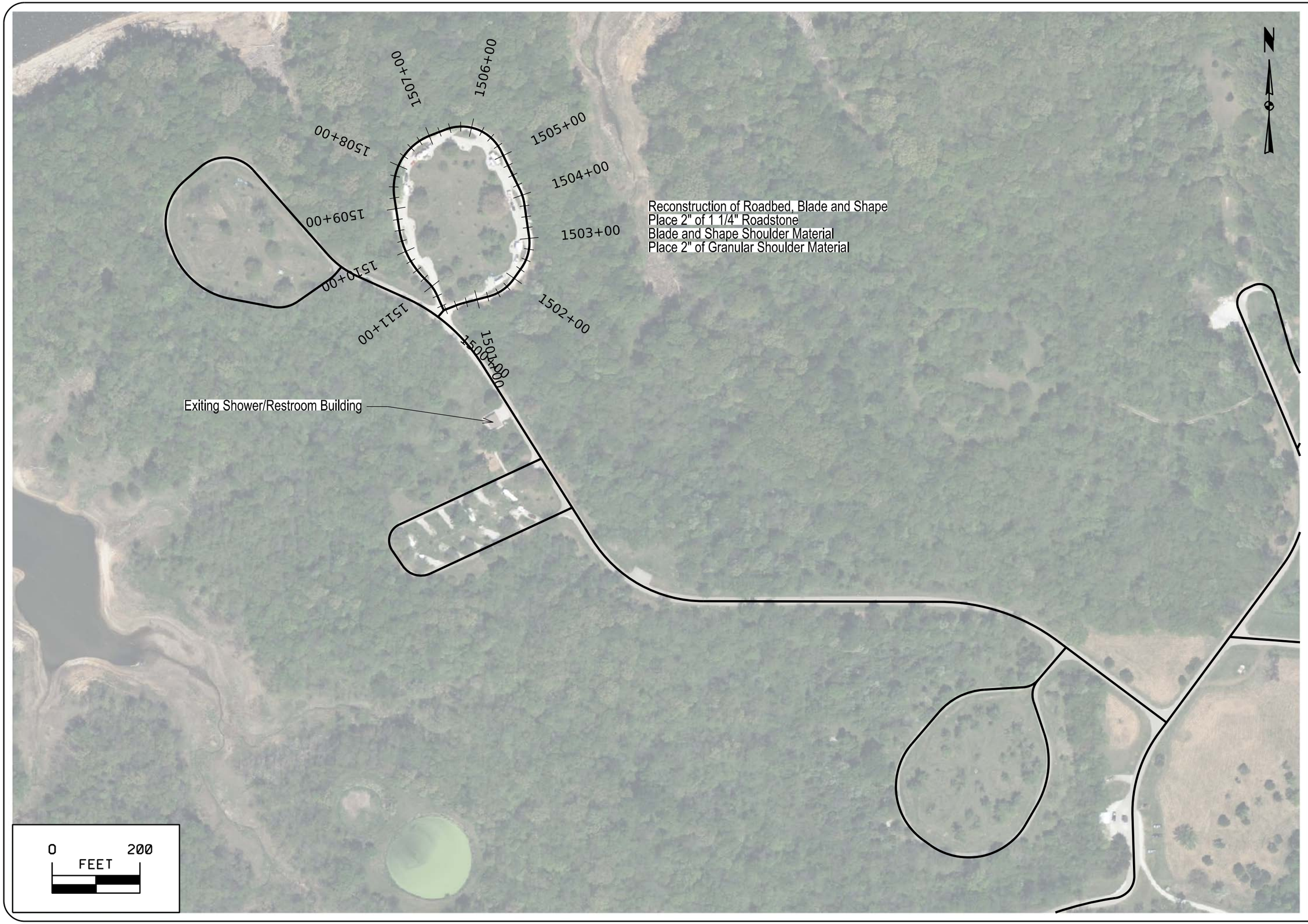
D.10



CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

DNR

SITE PLAN

ROAD MAINTENANCE FOR:

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SHEET No:

D.11

CONSULTANT:

IOWA DEPARTMENT OF NATURAL RESOURCES

ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034

SITE PLAN

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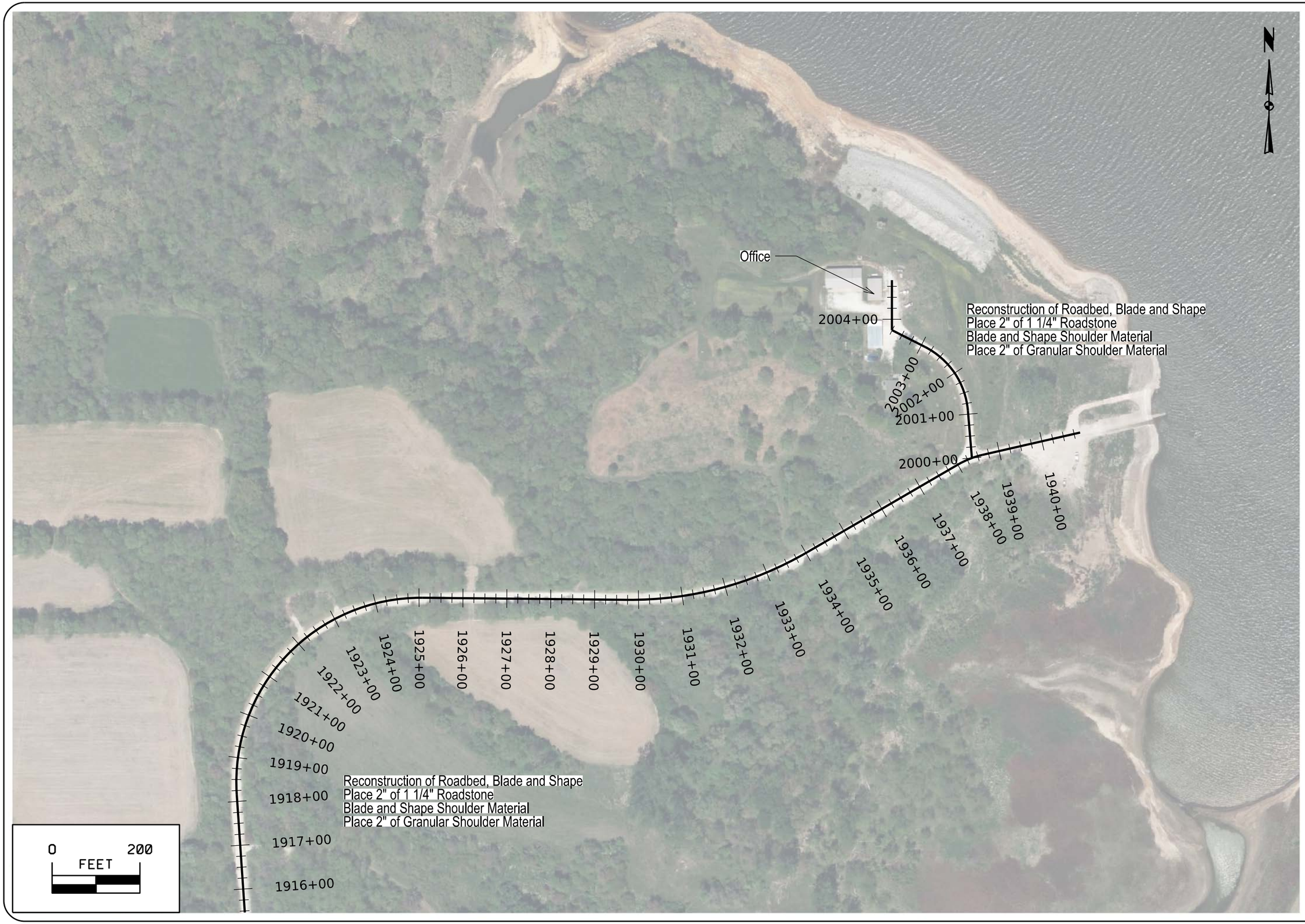
D.12



CONSULTANT:

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502 E. 9TH ST., DES MOINES, IA 50319-0034

SITE PLAN

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D.13