

IOWA DEPARTMENT OF NATURAL RESOURCES

CONSTRUCTION DOCUMENTS FOR

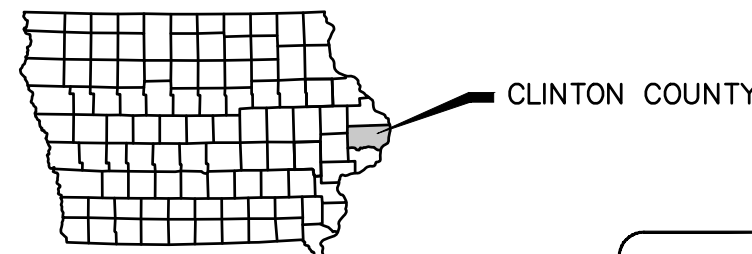
GOOSE LAKE WILDLIFE MANAGEMENT AREA BOAT ACCESS AND WATER CONTROL STRUCTURE CLINTON COUNTY, IOWA PROJECT #23-06-23-01

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5	WATER CONTROL STRUCTURE REPLACEMENT PLAN AND PROFILE
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CONSULTANT:
NONE

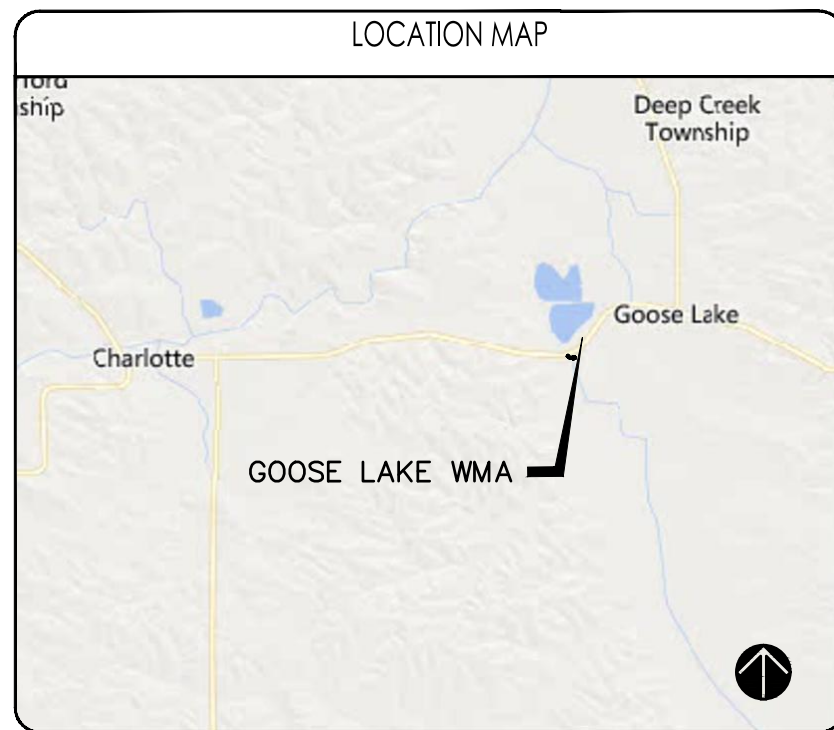
**IOWA DEPARTMENT OF
NATURAL RESOURCES**
ENGINEERING SERVICES - WALLACE BUILDING
502 E. 9TH ST., DES MOINES, IA 50319-0034



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Know what's below. Call before you dig.

DIRECTORY	
PROJECT MANAGER/INSPECTOR	
COMPANY	IOWA DEPARTMENT OF NATURAL RESOURCES
ADDRESS	502 EAST 9TH STREET
CITY, STATE, ZIP	DES MOINES, IA 50319
CONTACT	MARK MOELLER, P.E.
TELEPHONE	515-214-9532
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PROJECT DESCRIPTION

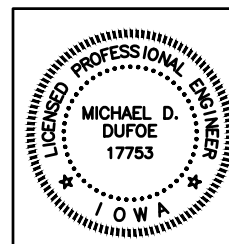
THIS PROJECT WILL CONSTRUCT A NEW GRAVEL PARKING LOT, BOAT ACCESS AND REPLACE A WATER CONTROL STRUCTURE AT GOOSE LAKE WILDLIFE MANAGEMENT AREA, CLINTON COUNTY, IOWA.

CONSTRUCTION PER IOWA DOT SPECIFICATIONS.

AUTHORIZATION TO BID

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

ENGINEERING BUREAU CHIEF DATE



I HEREBY CERTIFY THAT THIS ENGINEERING DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT PERSONAL SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF IOWA.

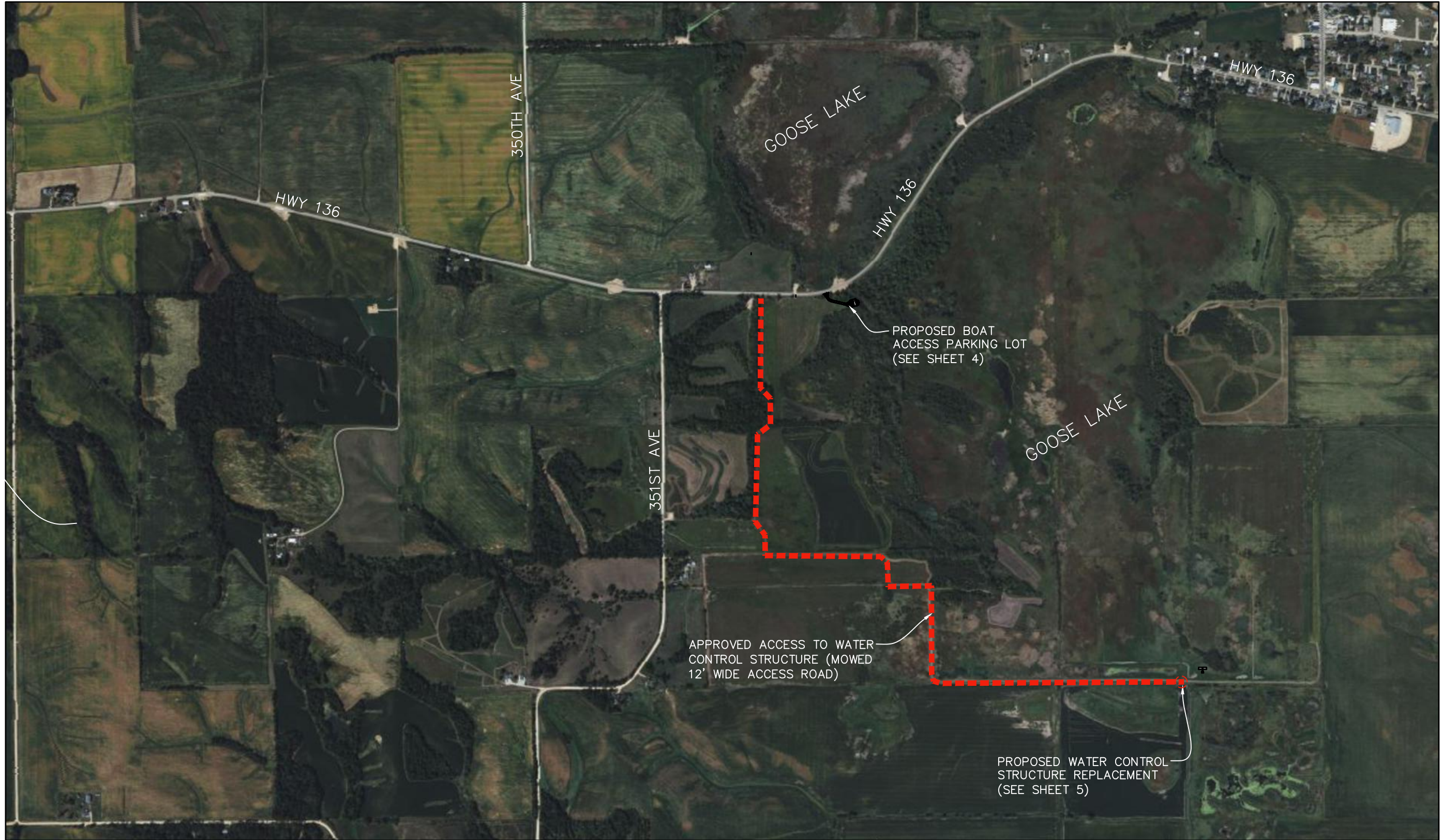
MICHAEL D. DUFOE, IOWA REG. NO. 17753 DATE MY LICENSE RENEWAL DATE IS DECEMBER 31, 2023
PAGES OR SHEETS COVERED BY THIS SEAL:
ALL

COVER SHEET

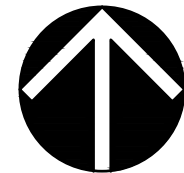
BOAT ACCESS AND WCS IMPROVEMENTS FOR:
GOOSE LAKE WILDLIFE MANAGEMENT AREA
CLINTON COUNTY

NO.	DATE	REVISION
1		

DRAWN BY: MDD
PROJECT NUMBER: 23-06-23-01
CHK'D BY: HD
DATE: JULY 24, 2023
SHEET NO:



PROJECT LOCATION MAP



NORTH

CONSULTANT:
NONE

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



PROJECT LOCATION MAP

BOAT ACCESS AND WCS IMPROVEMENTS FOR:

GOOSE LAKE WILDLIFE MANAGEMENT AREA

CLINTON COUNTY

NO.	BY	REVISION
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DRAWN BY: PROJECT NUMBER:
HD 23-06-23-01

CHK'D BY: DATE:
HD JULY 24, 2023

SHEET No:
2

ESTIMATED PROJECT QUANTITIES

Item No.	Description	Quantity	Unit
1	Mobilization	1	LS
2	Traffic Control	1	LS
3	Silt Fence	400	LF
4	Clearing and Grubbing	0.4	Acre
5	Site Preparation	1	LS
6	Culvert, 18" CMP	40	LF
7	Macadam Stone, 6" Depth	354	TONS
8	Class A Road Stone, 3" Depth	160	TONS
9	PCC Parking, 6" Depth, Reinforced	95	SY
10	Granular Subbase, 6" Depth	34	TONS
11	Striping	1	LS
12	Demolition of Water Control Structure and Pipe	1	LS
13	Water Control Structure	1	Each
14	Aluminum Stop Logs	11	Each
15	Culvert, 36" RCP	45	LF
16	Flared End Section, 36" RCP	1	Each
17	Core Trench - Import (Clay)	74	CY
18	Bentonite Liner	178	SY
19	Engineering Fabric	178	SY
20	Revetment, Class E	120	Tons
21	Site Restoration	1	LS

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.

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.

ESTIMATED PROJECT QUANTITY NOTES

Item No.	Description
1	Mobilization per Iowa DOT Standards.
2	Traffic Control shall be per Iowa DOT Standard Detail TC-202.
3	Silt Fence per Iowa DOT Specifications, locations to be determined in the field by Iowa DNR Engineer.
4	Clearing and Grubbing to consist of: - Removing stumps - Burning and/or burying stumps in locations determined by the Engineer - Grubbing and removing 9" depth of organic material and topsoil in area of Access Road and wasting this material in surrounding areas (as directed by Engineer)
5	Site Preparation includes the following: - Minor grading/fill at the Access Road entrance (this material can be obtained from work at the water control structure and/or material from surrounding area) - Rolling and/or compacting under proposed access road - Grading any diversion ditches to ensure no ponding water
6	Culvert, 18" CMP shall be per Iowa DOT Detail DR-101, DR-102, DR-103, DR-104 installed at ditch flowlines with minimum 1' of cover.
7	Macadam Stone, 6" Depth to be used as base for access road and boat ramp, also to be placed at water control structure for access (as directed by Engineer).
8	Class A Road Stone, 3" Depth to be graded/rolled/compacted for a smooth surface.
9	PCC Parking, 6" Depth, Reinforced. Reinforcement to consist of No. 4 bars placed at 2' centers (both directions).
10	Granular Subbase, 6" Depth to be placed under PCC parking pad.
11	Striping per detail Sheet 6. To be white paint per Iowa DOT standards.
12	Demolition of Water Control Structure and Pipe to include complete removal of existing water control structure and pipe including any concrete base or footings and hauled off-site.
13	New Water Control Structure to include the following: - Any necessary de-watering and removal of unacceptable base material - All labor and materials to build the structure per the details shown on Sheet 7 - Granular subbase - Bentonite mixed with backfill per Sheet 7 - Two stop bar lifting hooks Reinforcing shall be in accordance with "The ACE Detailing Manual, SP-66" including: - Submittal of shop drawings for fabrication and placement of concrete reinforcement including schedules and diagrams of bent bars and arrangement of reinforcing. Engineer's review of shop drawings will be for compliance with design requirements, the Contractor shall be responsible for verifying dimensions and quantities relative to reinforcing steel. - Concrete shall be air-entrained C-4 mix. - Reinforcing bars shall be Grade 40.
14	Aluminum Stop Logs per detail on Sheet 7. Contractor to ensure proper fit in-field prior to payment.
15	Culvert, 36" RCP to be gasketed and connected the entire length and includes bentonite backfill 2' around pipe for the first 25' of pipe length mixed into impervious backfill material at 300 lbs per CY (approximately 3.5 tons)
16	Flared End Section, 36" RCP, Includes an Agri Drain RG36 rat guard (or approved equal) and a concrete footer per Iowa DOT specifications.
17	Core Trench - Import (Clay) includes excavating a 5'x5'x80' core trench at the water control structure dike. Imported material shall be clay compacted at 6' lifts. The existing material may be wasted at the Access Road entrance (as approved by Iowa DNR) and/or disposed of off-site. Includes bringing the dike back to it's original dimensions with proper compaction.
18	Bentonite Liner shall be 6 inch depth spread over the 80' long section of front of dike as shown on Sheet 5 mixed at 0.5 lbs per SF (approximately 2 Tons).
19	Engineering Fabric to be placed on top of bentonite liner underneath Class E Revetment per Iowa DOT specifications.
20	Revetment, Class E to be placed per plan Sheet 5.
21	Site Restoration shall include removing any ruts (including access road to water control structure), seeding, fertilizing and mulching all disturbed areas with Iowa DOT rural mix. This also shall include using a temporary erosion control mix if outside the seeding windows.

CONSULTANT:
NONE

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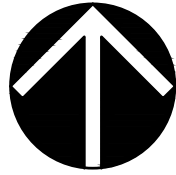
QUANTITIES AND GENERAL NOTES

BOAT ACCESS AND WCS IMPROVEMENTS FOR:
GOOSE LAKE WILDLIFE MANAGEMENT AREA

CLINTON COUNTY

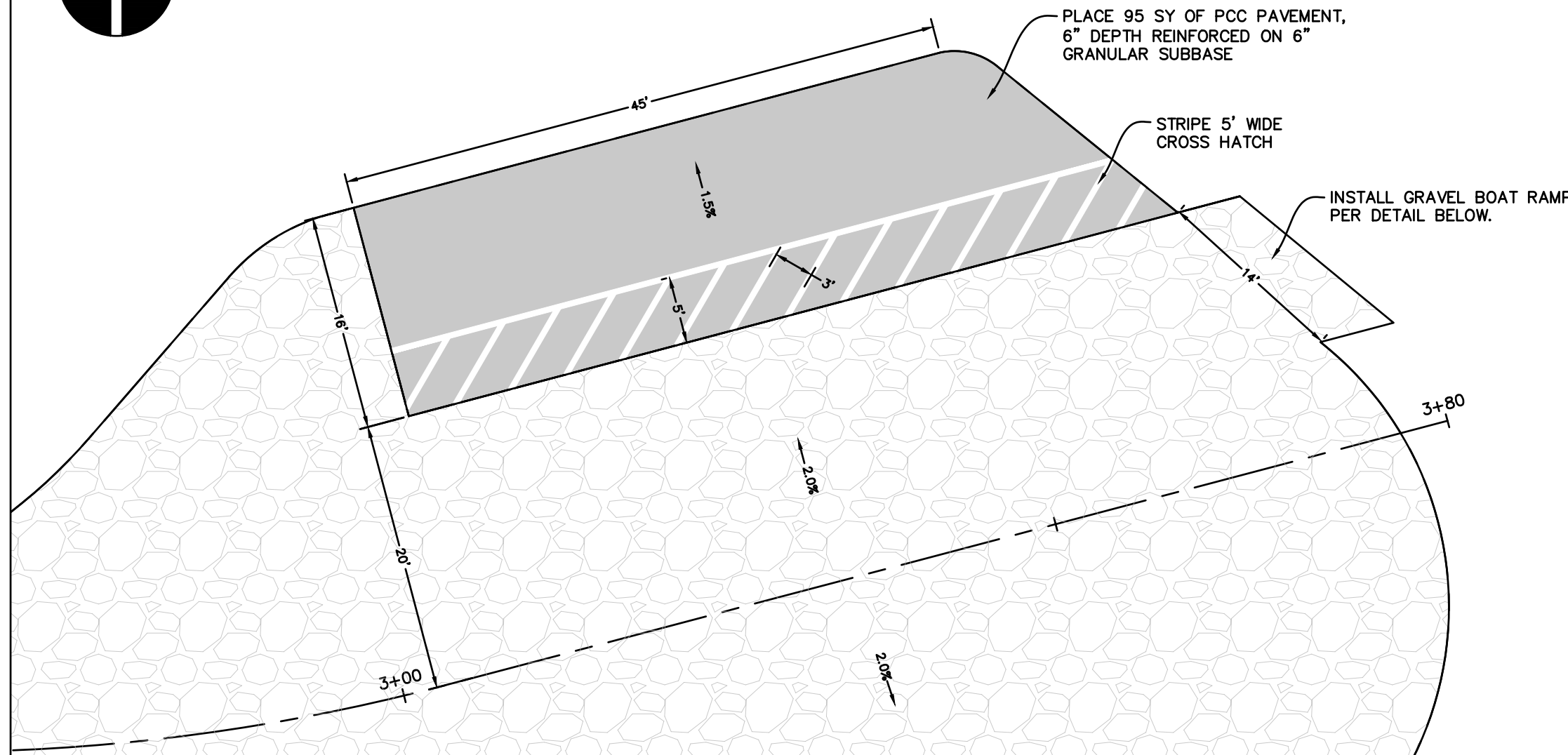
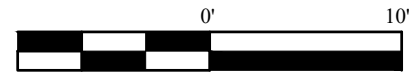
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MD	23-06-23-01	
CHECKED BY:	DATE:	
HD	JULY 24, 2023	

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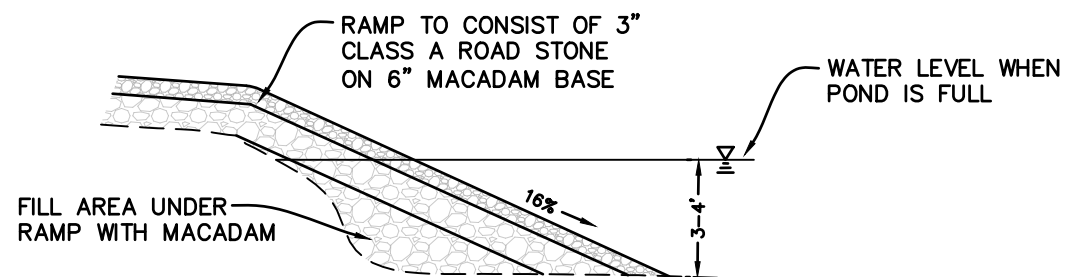


NORTH

SCALE: 1" = 10'



ADA PARKING SPACE PLAN DETAIL



BOAT RAMP DETAIL

N.T.S.

CONSULTANT:
NONE

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DETAILS

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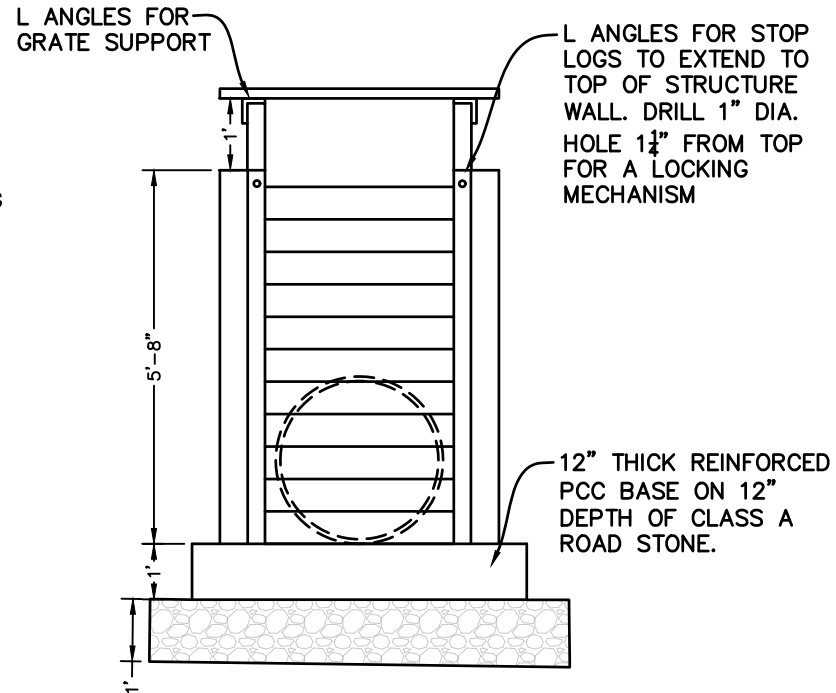
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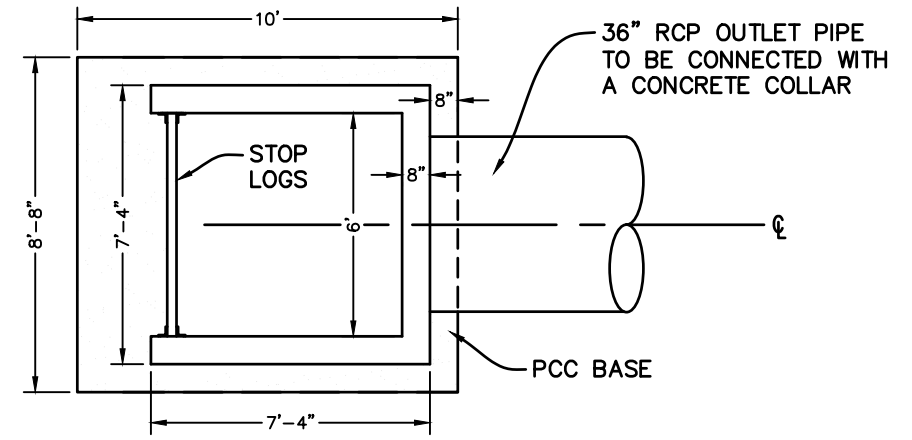
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WATER CONTROL STRUCTURE NOTES:

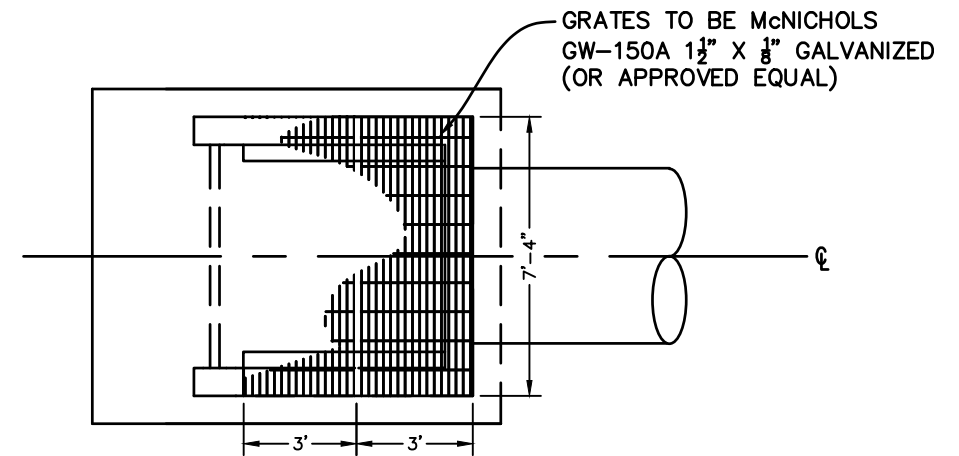
- CONCRETE FOR INTAKE STRUCTURE SHALL MEET THE REQUIREMENTS FOR AIR-ENTRAINED C-4 MIX WITH TYPE 1 CEMENT.
- THE WALLS AND FOUNDATION OF THE INTAKE STRUCTURE SHALL BE REINFORCED WITH #5 BARS PLACED AT 12" CENTERS EACH WAY. REINFORCING STEEL SHALL TIE FOUNDATION TO THE WALLS WITH STANDARD 90 DEGREE BENDS.
- GRATE TOP SHALL CONSIST OF TWO 3' WIDE GRATES SPANNING THE FULL WIDTH OF THE STRUCTURE, TO BE SECURED WITH STAINLESS STEEL FASTENERS AND/OR GALVANIZED ANGLE BRACKETS. GRATES SHALL BE ABLE TO BE REMOVED.
- THE STOP LOG CHANNEL SHALL BE CONSTRUCTED OF CONTINUOUS L BRACKETS 3X3X $\frac{3}{8}$ ANCHORED WITH $\frac{1}{2}$ " WEDGE ANCHORS 12" ON CENTER FOR THE ENTIRE HEIGHT OF THE STRUCTURE. THE GAP BETWEEN THE L SHAPES SHALL BE 2- $\frac{3}{8}$ ". L SHAPES SHALL BE GALVANIZED AND ANCHORS SHALL BE STAINLESS STEEL.
- STOP LOGS SHALL BE 6061 ALUMINUM RECTANGULAR TUBE. FINISHED SURFACES SHALL BE SMOOTH TO PROVIDE A FLAT SURFACE FOR THE STOP LOG ABOVE IT. LIFTING HOLES SHALL BE CUT INTO EACH STOP LOG. THE $\frac{5}{8}$ " DIMENSION IS CRITICAL TO AVOID LEAKAGE. THE LOGS SHALL BE PLACED AND TESTED FOR LEAKAGE PRIOR TO PAYMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY ADJUSTMENTS NEEDED FOR A PROPER SEAL.
- CONTRACTOR SHALL PROVIDE TWO STOP LOG LIFTING HOOKS AT 6' LONG PER THE BELOW DETAIL..
- COMPACT BACKFILL AROUND STRUCTURE WITH IMPERVIOUS BACKFILL AND GRANULAR BENTONITE MIXTURE (10% BENTONITE BY DRY WEIGHT - MINIMUM 300 POUNDS OF BENTONITE PER CUBIC YARD OF BACKFILL).



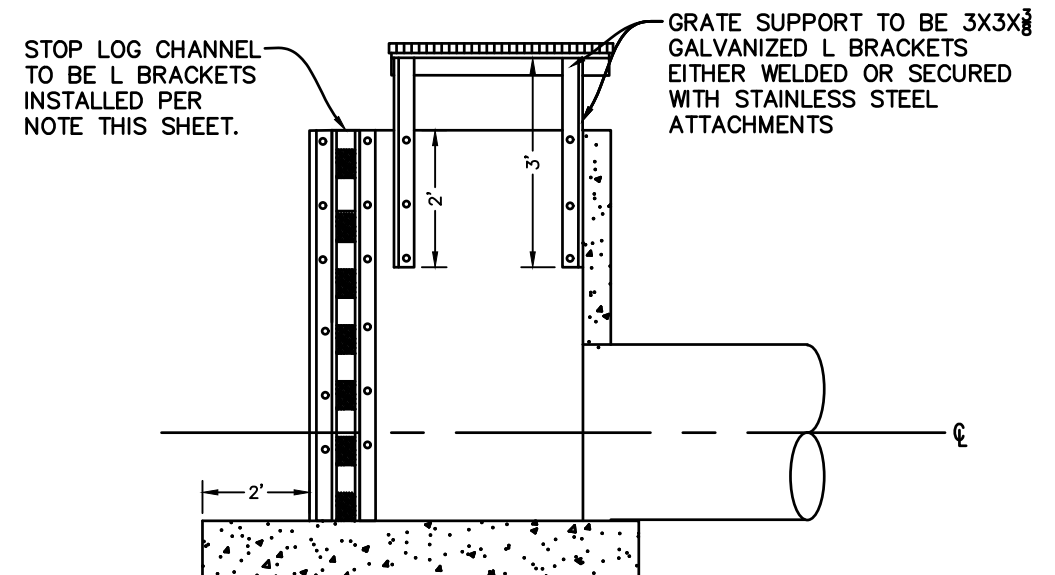
W.C.S. FRONT VIEW
N.T.S.



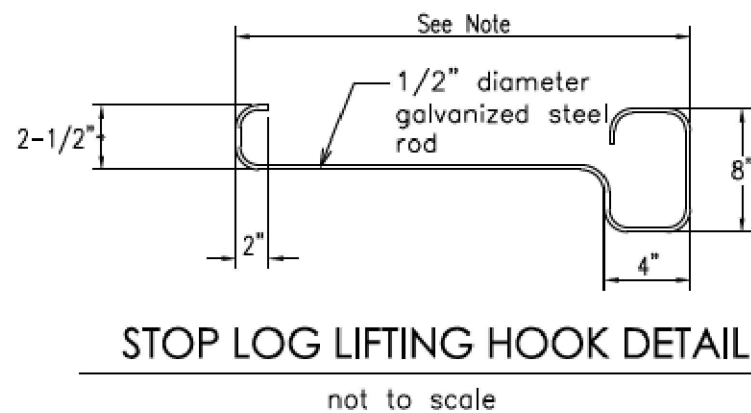
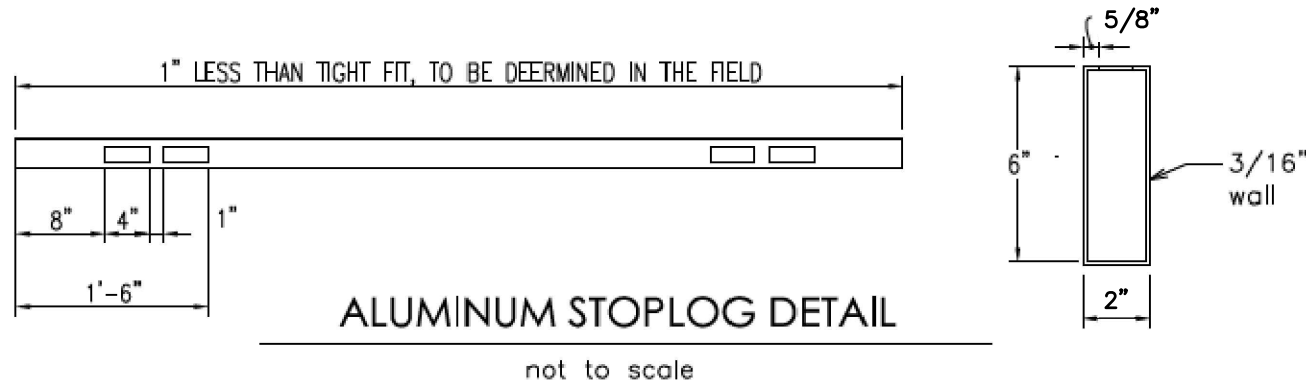
W.C.S. PLAN VIEW
N.T.S.



GRATE DETAIL
N.T.S.



W.C.S. SECTION AT CL
N.T.S.



CONSULTANT:
NONE

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ENGINEERING SERVICES - WALLACE BUILDING
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DETAILS

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