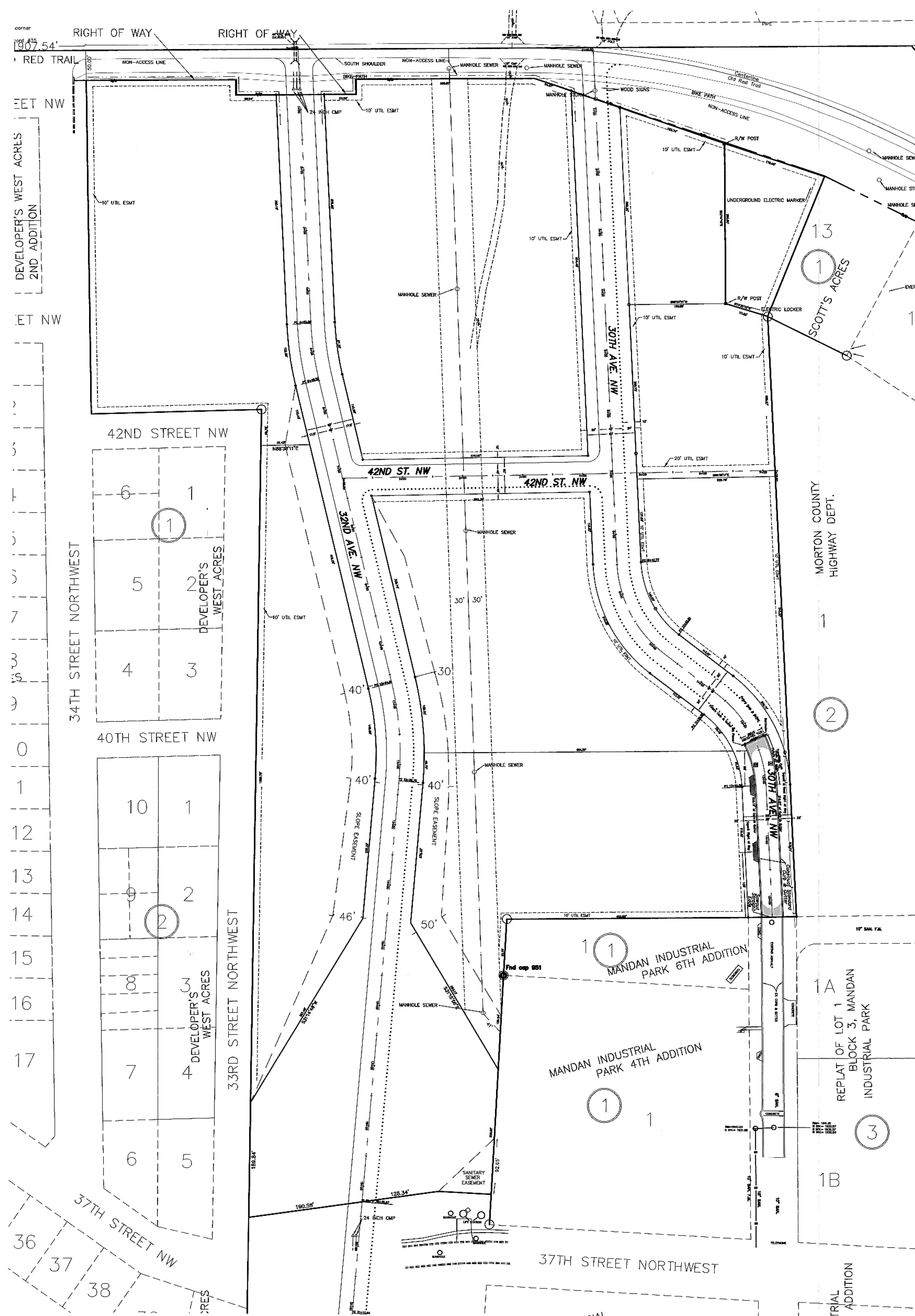


SCALE 1" = 100'  
Overall Schematic  
NOT FOR CONSTRUCTION

GENERAL CONTRACTOR: MARINER  
STREET LIGHT SUBCONTRACTOR: STRATA  
SEEDING " S & B



# CONSTRUCTION PLANS FOR STREET PAVEMENTS AND LIGHTING IMPROVEMENTS IN MANDAN INDUSTRIAL PARK 7TH ADD. PROJECT 2003-11 DISTRICT #117 AREA D MANDAN, NORTH DAKOTA

**ELECTRICAL ENGINEER'S CERTIFICATE**  
I, GREGORY R. DOCKTER, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH DAKOTA, HEREBY CERTIFY THAT THE ELECTRICAL PLANS FOR STREET PAVEMENT AND LIGHTING IMPROVEMENT PROJECT 2003-11, MANDAN, NORTH DAKOTA WERE PREPARED UNDER MY SUPERVISION AND ARE COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Gregory R. Dockter*  
GREGORY R. DOCKTER, P.E.  
REGISTERED PROFESSIONAL ENGINEER  
NORTH DAKOTA REGISTRATION NO. 2315

**CIVIL ENGINEER'S CERTIFICATE**  
I, MARK S. SWENSON, A REGISTERED PROFESSIONAL ENGINEER IN THE STATE OF NORTH DAKOTA, HEREBY CERTIFY THAT THE CIVIL PLANS FOR STREET PAVEMENT AND LIGHTING IMPROVEMENT PROJECT 2003-11, MANDAN, NORTH DAKOTA WERE PREPARED UNDER MY SUPERVISION AND ARE COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

*Mark S. Swenson*  
MARK S. SWENSON, P.E.  
REGISTERED PROFESSIONAL ENGINEER  
NORTH DAKOTA REGISTRATION NO. 3620

**APPROVAL OF CITY ENGINEER**  
I, THOMAS LITTLE, CITY ENGINEER FOR THE CITY OF MANDAN, NORTH DAKOTA, HEREBY APPROVE THESE PLANS FOR STREET PAVEMENT & LIGHTING IMPROVEMENTS, MANDAN, NORTH DAKOTA AS SHOWN ON THE ACCOMPANYING PLANS.

*Thomas Little*  
THOMAS LITTLE, P.E.  
REGISTERED PROFESSIONAL ENGINEER  
CITY ENGINEER  
MANDAN, NORTH DAKOTA

**OWNER**

City of Mandan  
205 2nd Avenue NW  
Mandan, ND 58554

**SHEET INDEX**

TITLE PAGE	SHEET 1
30TH AVENUE NW	SHEET 2
ELECTRICAL SITE PLAN	SHEET 3
ELECTRICAL DETAILS	SHEET 4

**WARRANTY / DISCLAIMER**

The designs represented in these plans are in accordance with established practices of civil engineering. However, neither Swenson, Hagen & Co. nor its personnel can or do warranty these plans as constructed except in the specific cases where Swenson, Hagen & Co. personnel inspect and control the physical construction on a full time basis.

**SAFETY NOTICE TO CONTRACTOR**

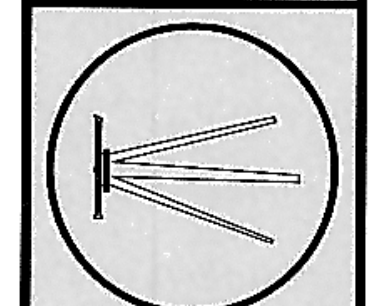
In accordance with generally accepted construction practices the Contractor will be solely and completely responsible for conditions of the job site, including safety of all persons and property during performance of the work. This requirement will apply continuously and not be limited to normal business hours.

**UTILITY NOTICE TO CONTRACTOR**

The location of existing underground utilities are shown in an approximate way only and have not been independently verified by the Owner or its representatives. The Contractor shall determine the exact location of all existing utilities before commencing work, and agrees to be fully responsible for any and all damages which might be occasioned by the Contractor's failure to exactly locate and preserve any and all underground utilities. Underground locates can be made by using the "One Call" number 1-800-795-0555.

STREET PAVEMENTS AND LIGHTING  
PROJECT 2003-11  
DISTRICT 117 AREA D

SWENSON, HAGEN & CO. P.C.  
PLANNING CIVIL ENGINEERING SURVEYING  
SITE DESIGN CONSTRUCTION MANAGEMENT  
909 BASIN AVE P.O. BOX 1155  
BISMARCK, N.D. 58604  
(701) 283-2600  
FAX (701) 283-2606



DRAWN BY: \_\_\_\_\_  
CHECK BY: GJF  
DATE: 5-9-03  
FILE DESC: \_\_\_\_\_  
COMPUTER FILE: \_\_\_\_\_  
SURVEY FILE: \_\_\_\_\_

**SHEET**  
1 OF 4







2

30TH AVE. NW

J1-21

#4

J1-20

#4

J1-1

#3

10" SAN. F.M.

1A

AT OF LOT 1  
BLOCK 3, MANDAN  
INDUSTRIAL PARK

MANDAN INDUSTRIAL  
PARK 6TH ADDITION

INDUSTRIAL  
PARK 4TH ADDITION

ELECTRICAL PLAN  
1" = 30'-0"

**WARRANTY/ DISCLAIMER**

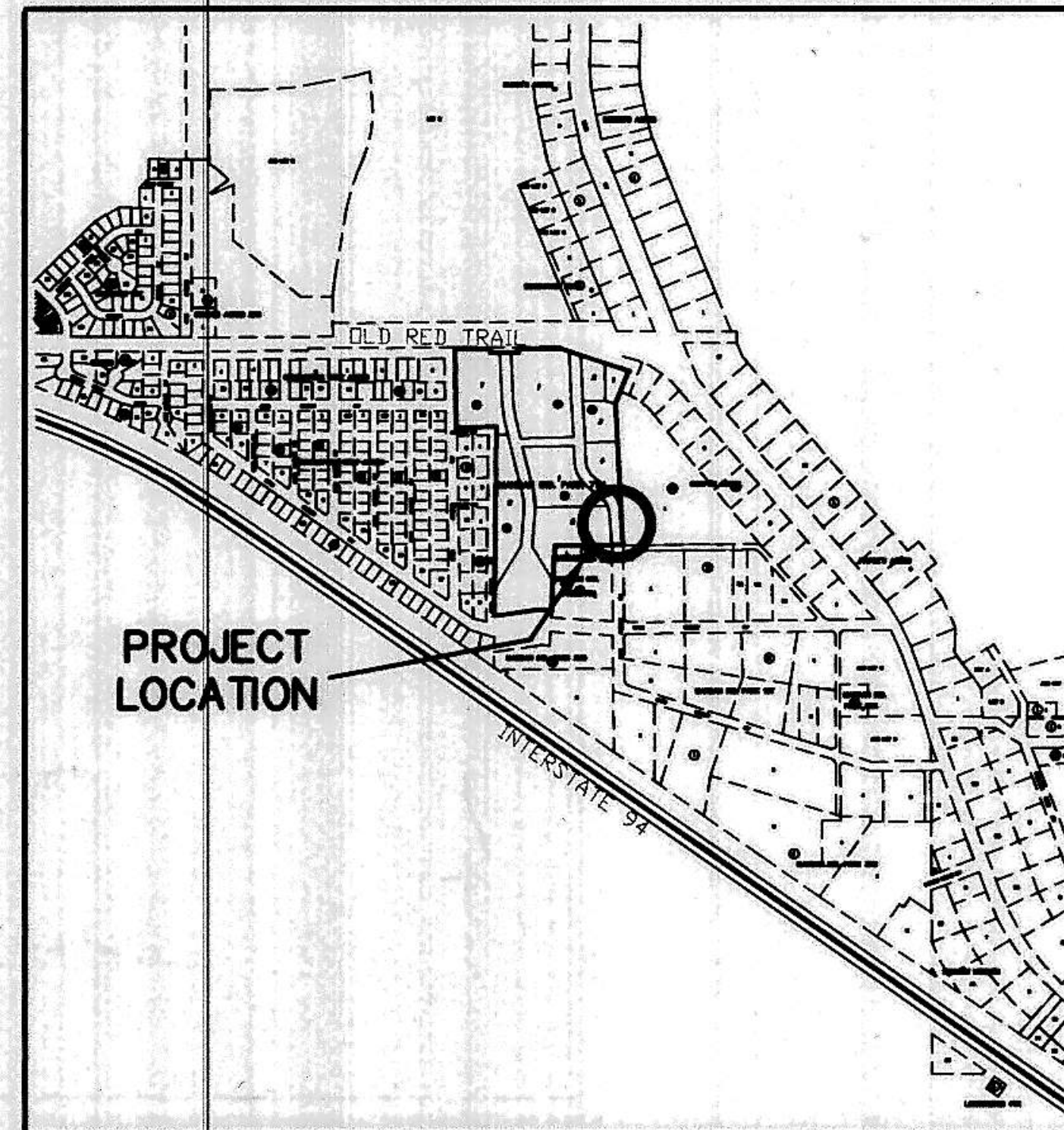
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**SYMBOLS & LEGEND**

- EXISTING STREET LIGHT
- NEW STREET LIGHT UNIT, NOMENCLATURE TYPE A, RELAY #1, FIXTURE #2, ODD NUMBERS PHASE A, EVEN NUMBERS PHASE B
- FEEDPOINT - EXISTING
- △ EXISTING JUNCTION BOX
- ▲ JUNCTION BOX - NEW
- UNDERGROUND CONDUCTOR (DIRECT BURIAL)
- ≡ UNDERGROUND CONDUCTOR (CONDUIT ENCASED)
- ⊕ NUMBER OF CONDUCTORS (PLUS GROUND CONDUCTOR)  
EXAMPLE 3 #4 AVG
- ≡≡≡ EXISTING UNDERGROUND CIRCUITRY (CONDUIT ENCASED)

**NOTES: DETAIL 1/3**

- ① REPLACE EXISTING ALUMINUM WIRE WITH 3 #4 AVG COPPER (PLUS GROUND CONDUCTOR).
- ② CONTINUE CIRCUIT FROM FIXTURE J1-1 TO NEW FIXTURES.
- ③ EXISTING COPPER CIRCUITRY.

SWENSON, HAGEN & CO. P.C.

PLANNING CIVIL ENGINEERING SURVEYING  
SITE DESIGN CONSTRUCTION MANAGEMENT  
500 MAIN AVE. P.O. BOX 1100 (701) 552-3000  
MANDAN, N.D. 58504 FAX (701) 552-3000  
E-mail: shag@shagco.com

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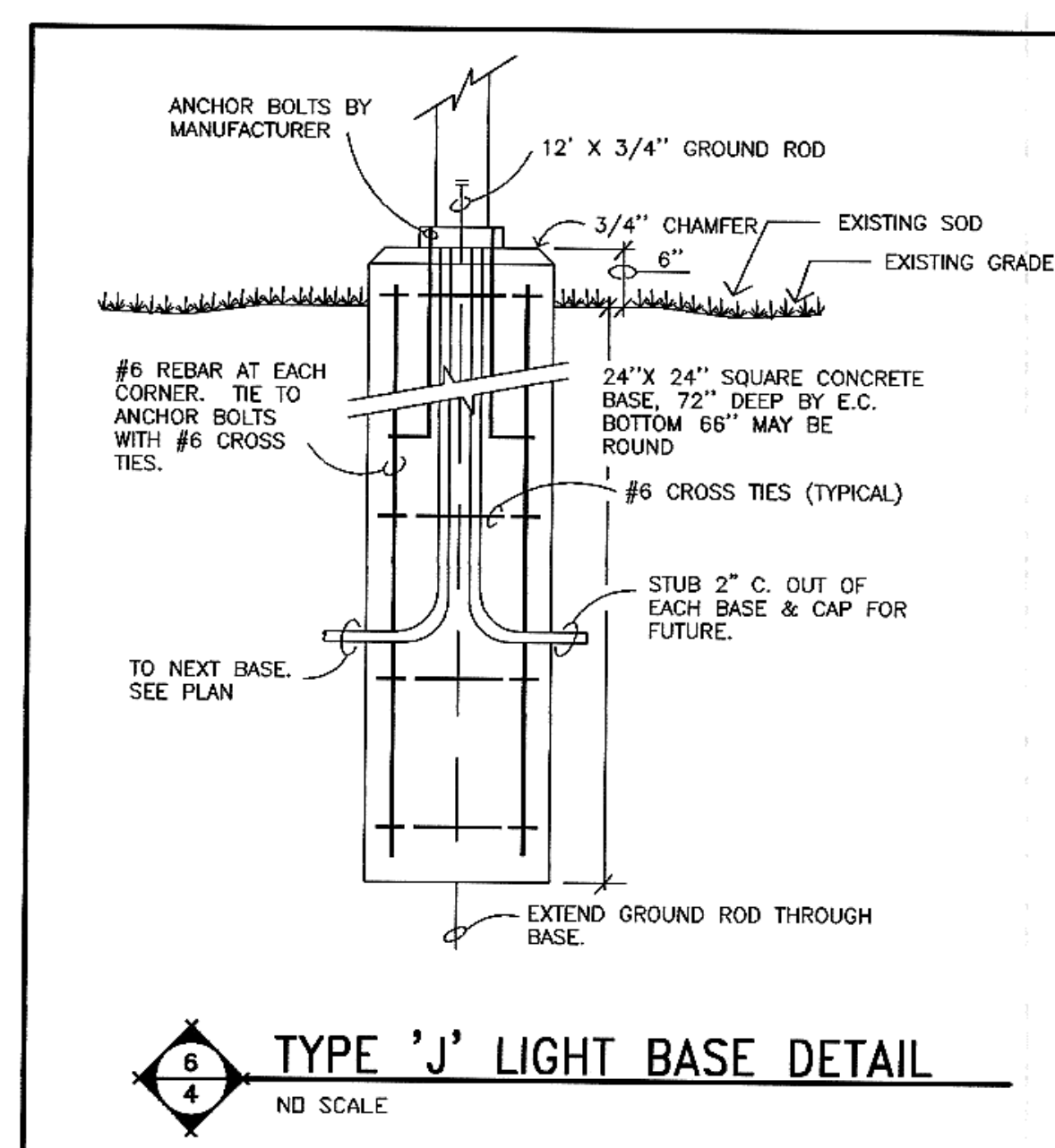
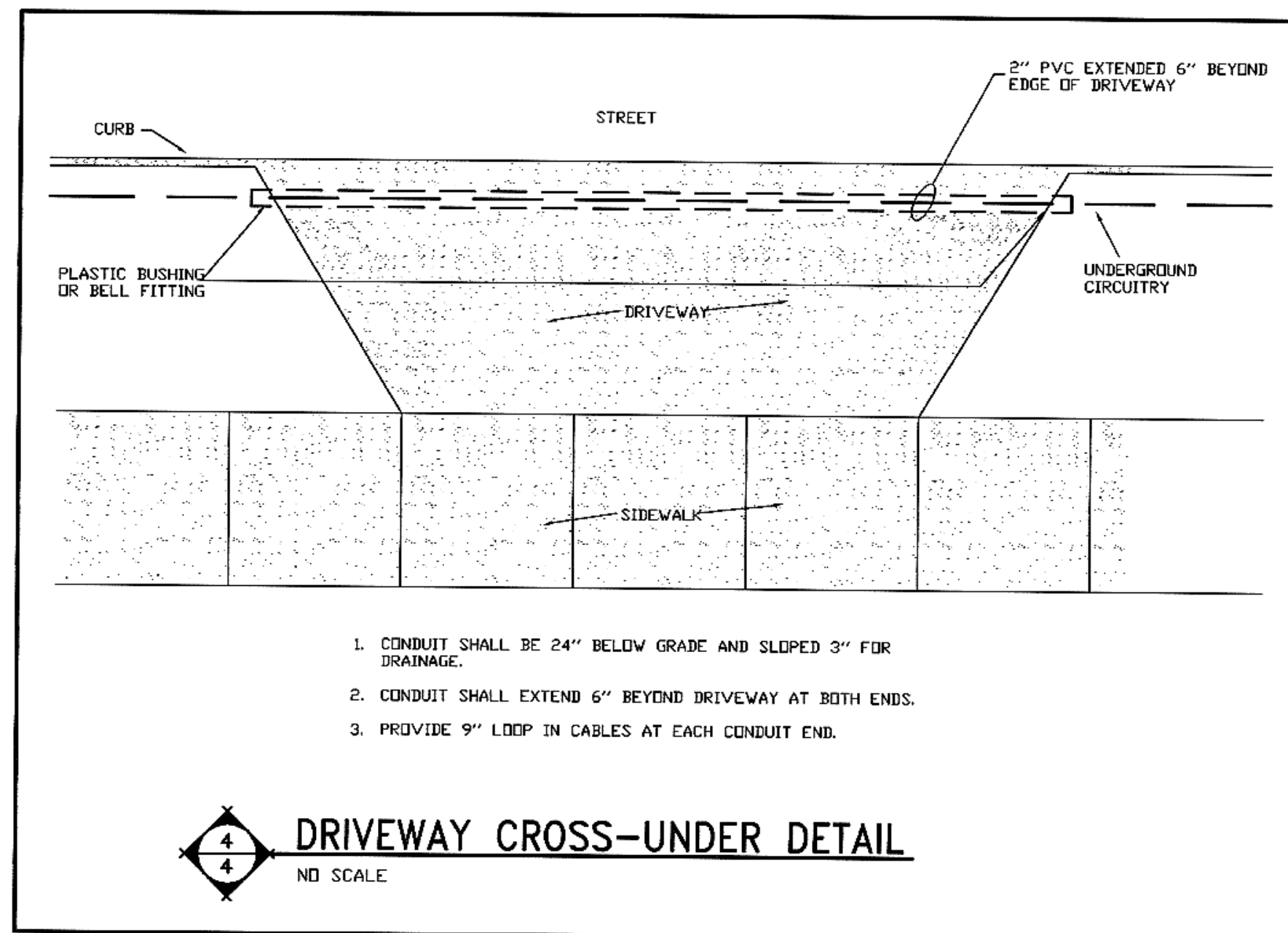
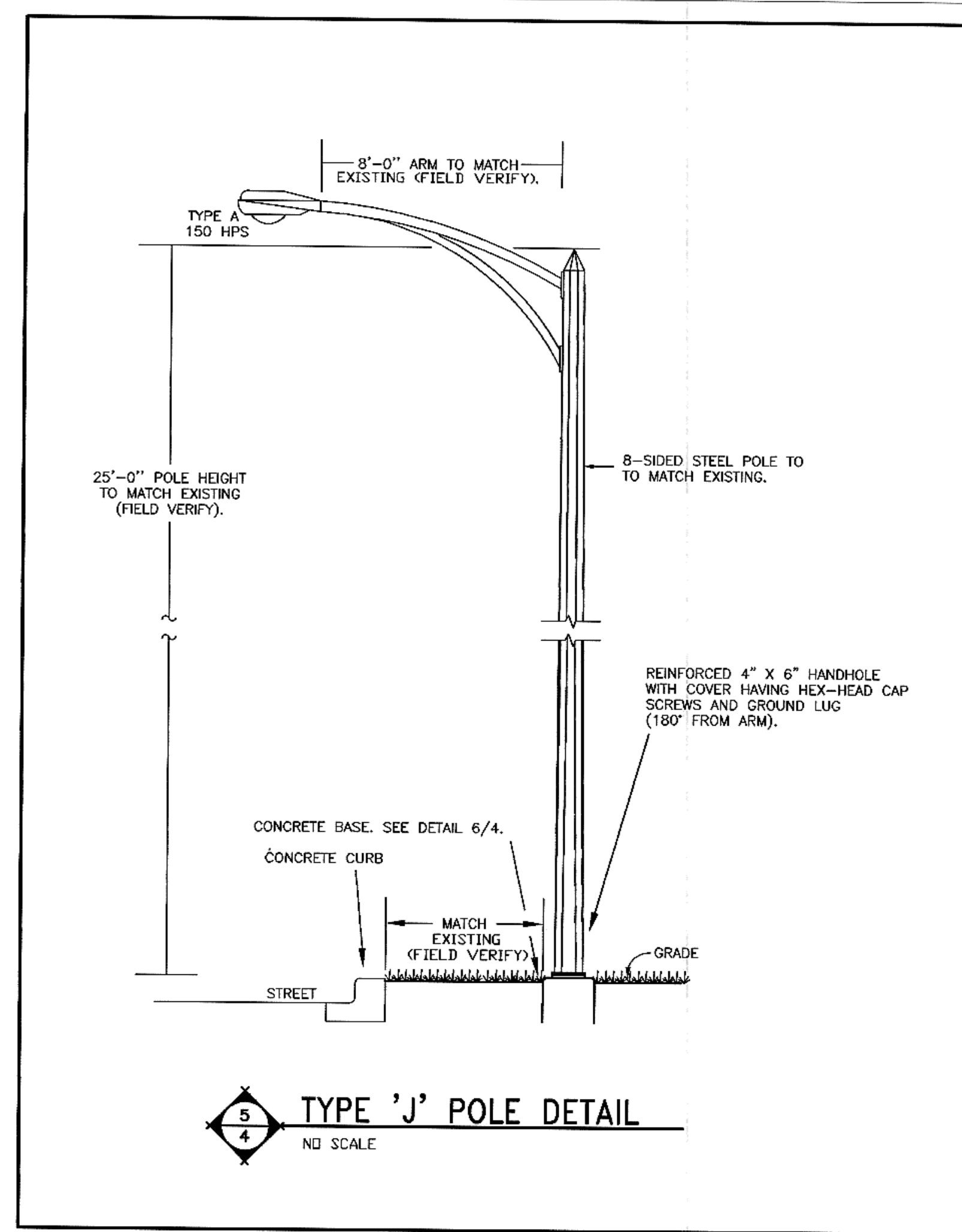
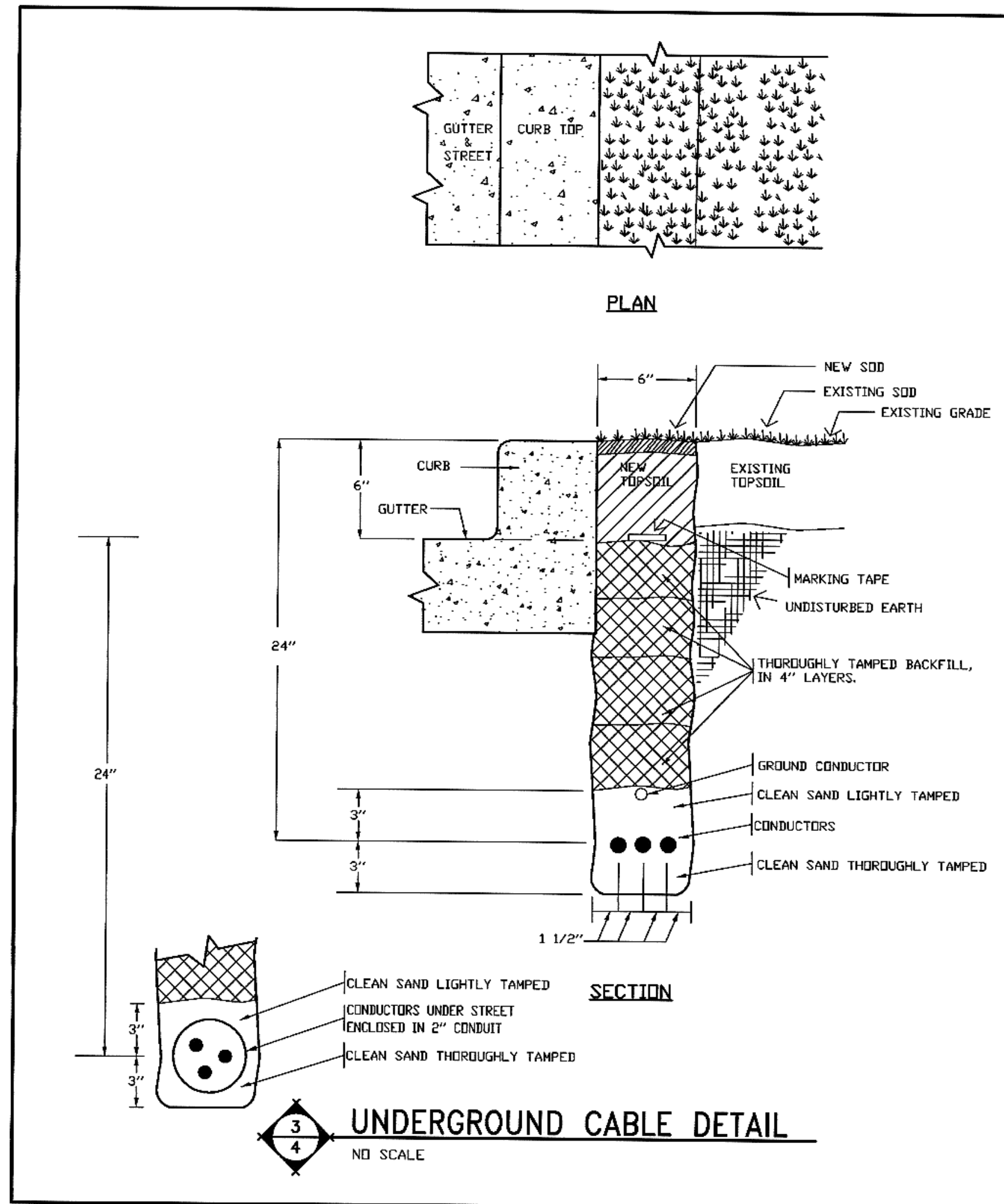
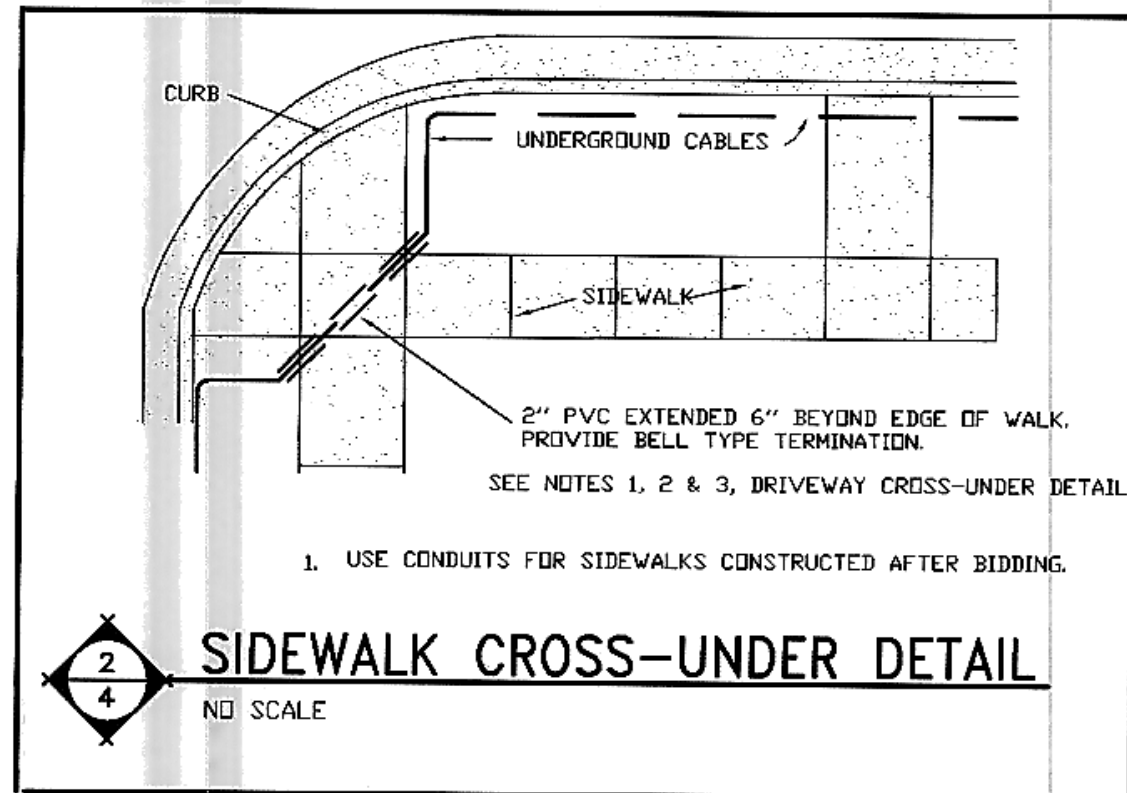
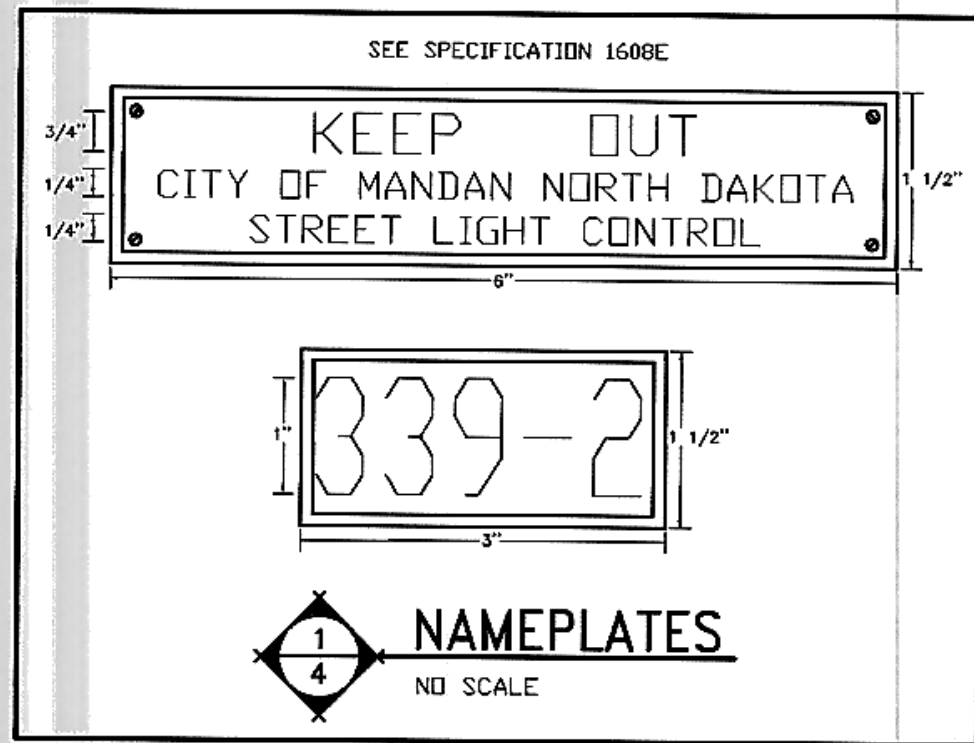
**Mandan Industrial Park 7th Addition  
STREET LIGHTING PLAN**

STREET IMPROVEMENT PROJECT 2003-11  
DISTRICT # 117 AREA "D" SHEET 3 OF 4  
MANDAN, ND APRIL 30, 2003

PLANNING ENGINEERING, P.C.

DESIGN: JJB DRAFT: JJB



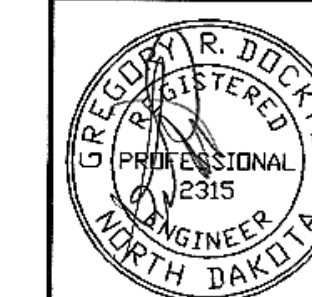


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PRAIRIE ENGINEERING, P.C.



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PLANNING CIVIL ENGINEERING SURVEYING  
SITE DESIGN CONSTRUCTION MANAGEMENT  
505 BASIN AVE. P.O. BOX 1155 (701) 223-2600  
BISMARCK, N.D. 58504 FAX (701) 223-2606  
E-mail: sheng@sigate.com

**Mandan Industrial Park 7th Addition**  
STREET LIGHTING PLAN

STREET IMPROVEMENT PROJECT 2003-11  
DISTRICT # 117 AREA "D" SHEET 4 OF 4  
MANDAN, ND APRIL 30, 2003

DESIGN: JJB DRAFT: JJB