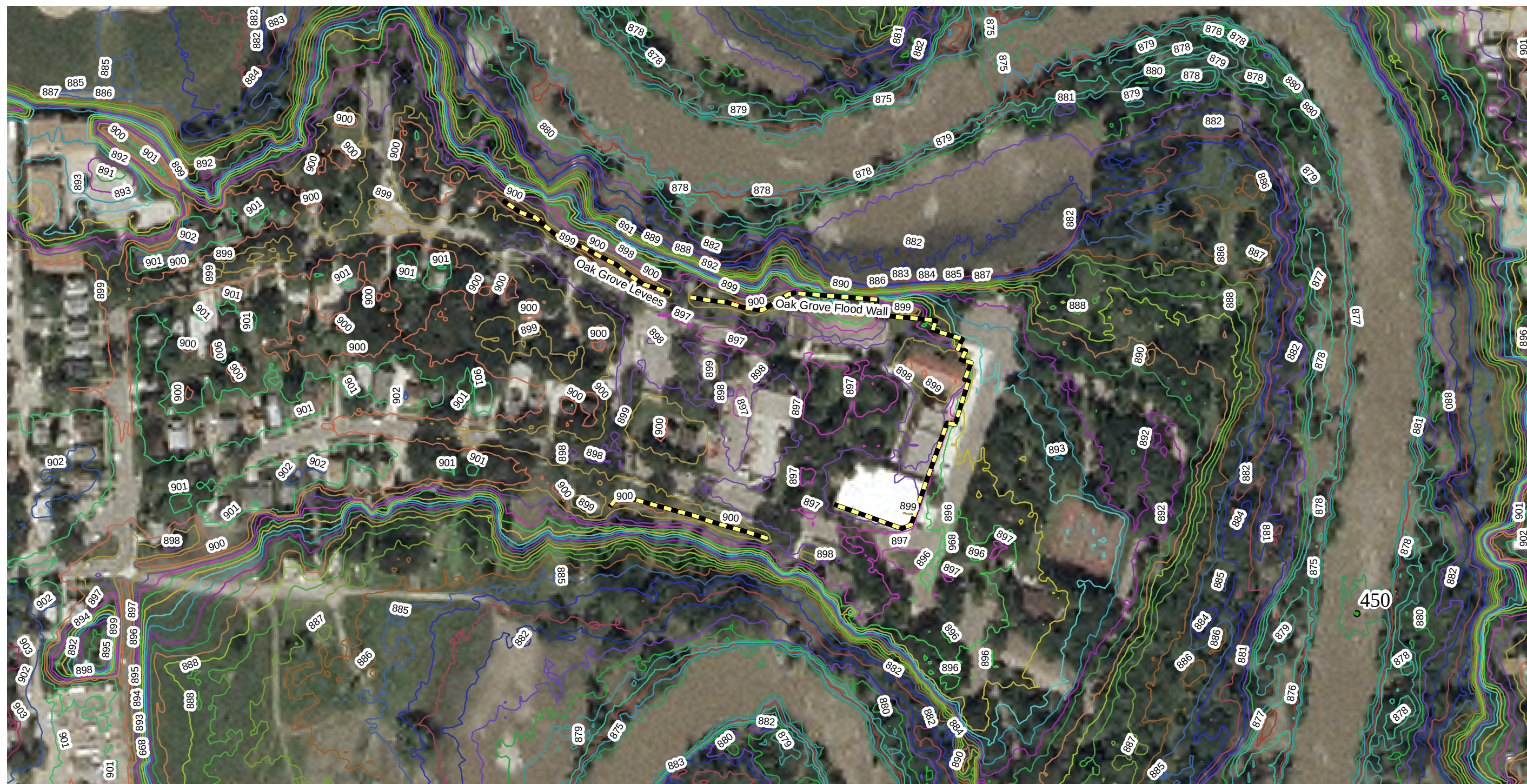


Attachment H-15: Oak Grove Floodwall Information



FMMFS: Credit to Existing Levees Oak Grove (Fargo)



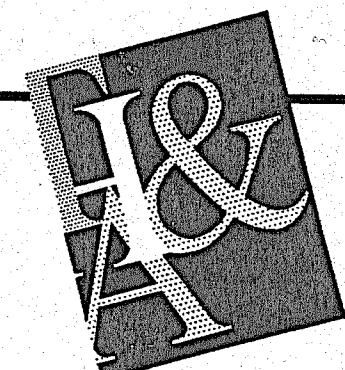
OAK GROVE
FLOODWALL
IMPROVEMENT
PROJECT

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174-ND Project No. 0027

City of Fargo
Special Improvement District #5036

#OA

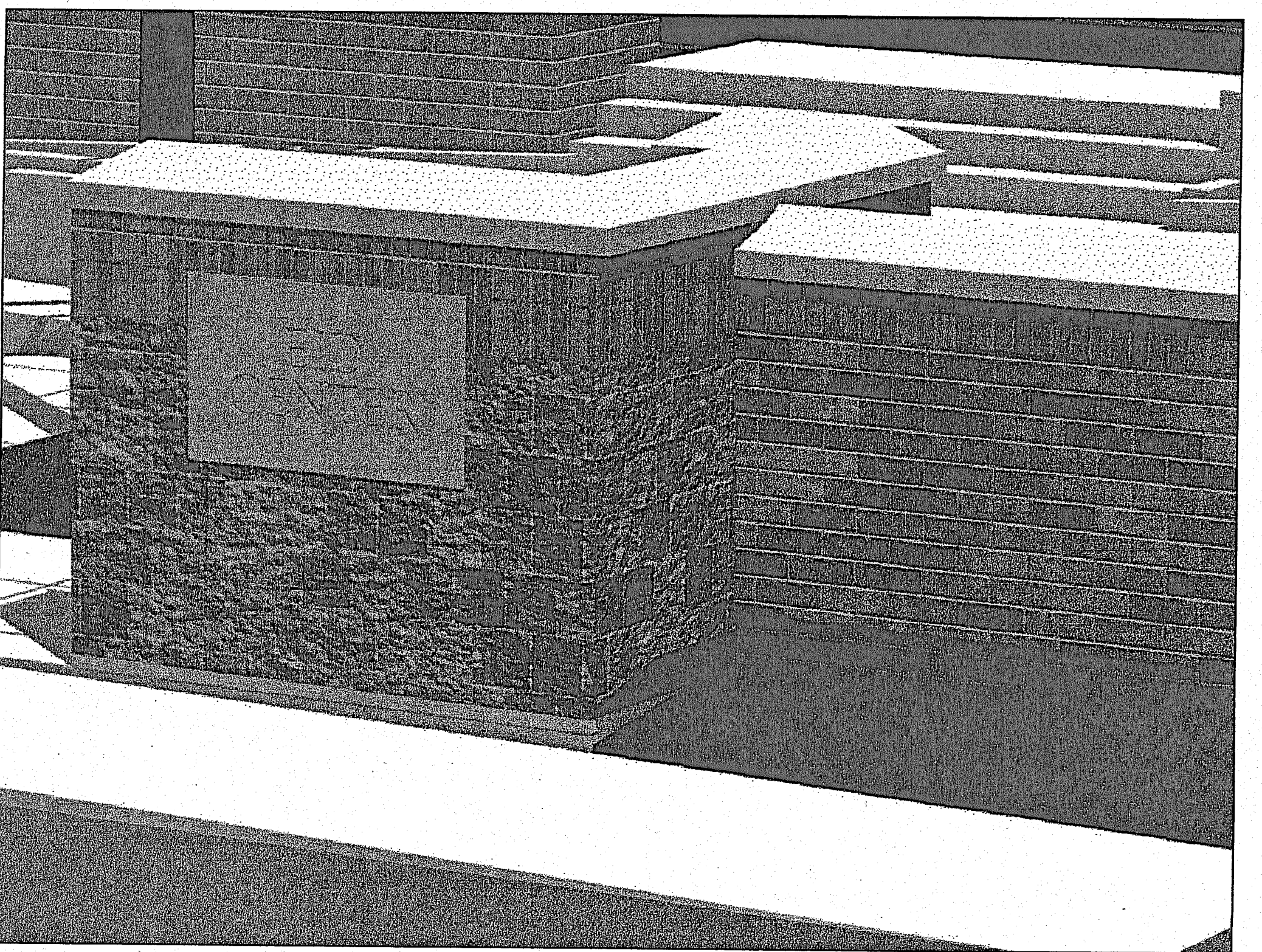
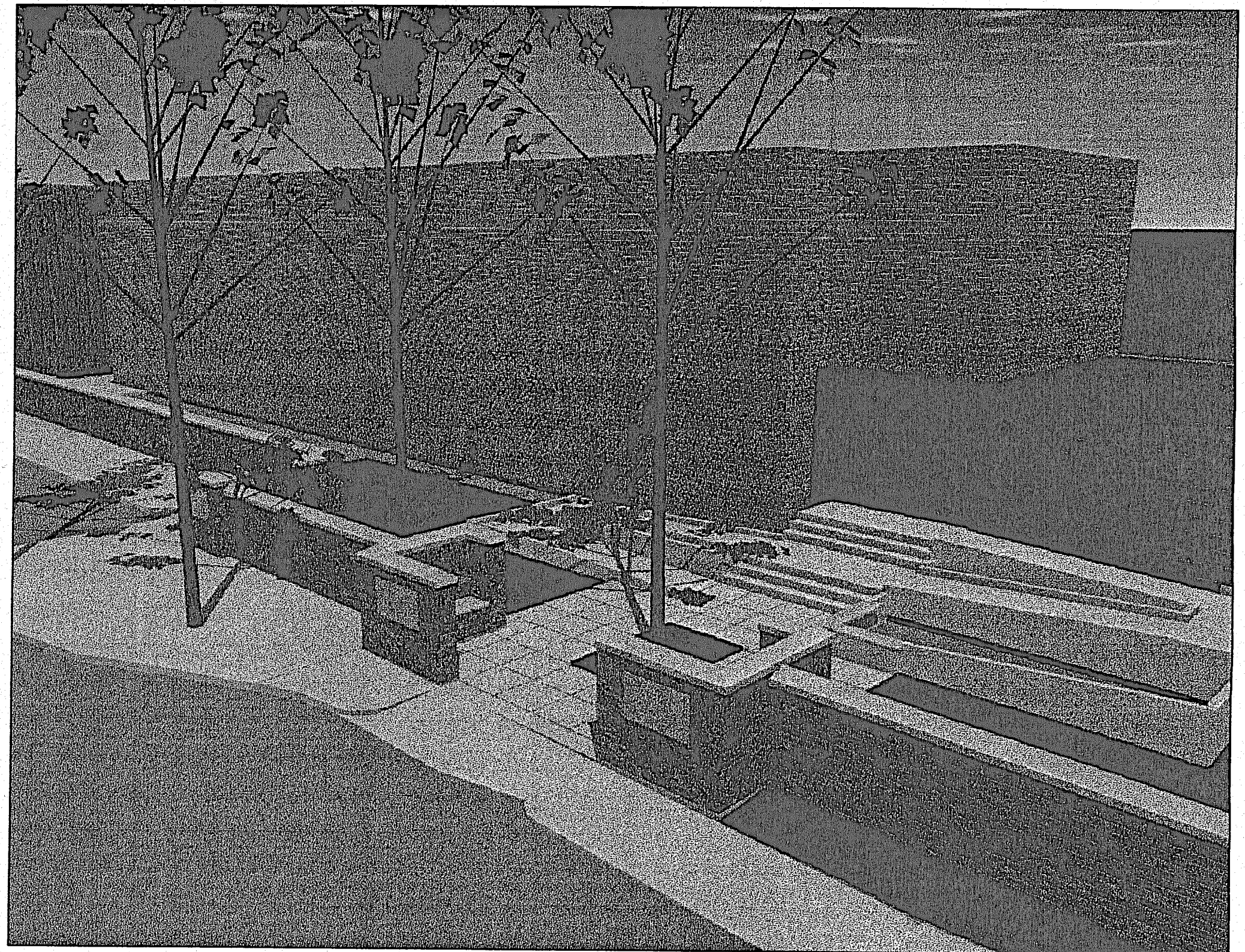


TRIEBWASSER
HELENSKE &
ASSOCIATES, Ltd.

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P.O. BOX 547
MOORHEAD, MINNESOTA
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(216) 236-8593 (Voice)
(701) 232-3271 (Voice)
(701) 232-3272 (Fax)



OAK GROVE FLOODWALL IMPROVEMENT PROJECT

HAZARD MITIGATION GRANT PROGRAM
DR 1174-ND PROJECT No. 0027

CITY OF FARGO
SPECIAL IMPROVEMENT DISTRICT #5036

OAK GROVE LUTHERAN HIGH SCHOOL
FARGO, NORTH DAKOTA

INDEX OF DRAWINGS

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- A1.0 ARCHITECTURAL SITE PLAN
- A1.1 MASTER LANDSCAPING PLAN
- A1.2 PHASE 1 LANDSCAPING PLAN
- A2.0 ELEVATIONS
- A3.0 ELEVATION DETAILS
- A4.0 WALL SECTIONS
- A5.0 ENLARGED PLANS/DETAILS
- A6.0 REMOVABLE FLOODWALL
- A7.0 ALTERNATE 4 - STORAGE BLDG.

CIVIL

- C1.0 SURVEY
- C2.0 SITE DEMOLITION PLAN
- C3.0 GRADING SITE PLAN
- C4.0 PAVING & UTILITY PLAN
- C5.0 DETAILS

STRUCTURAL

- S1.0 PLAN
- S2.0 SECTIONS
- S3.0 SECTIONS/DETAILS

ARCHITECT

I HEREBY CERTIFY THAT
THIS PLAN, SPECIFICATION
OR REPORT WAS
PREPARED BY ME OR
UNDER MY DIRECT
SUPERVISION, AND THAT
I AM A DULY REGISTERED
ARCHITECT UNDER THE
LAWS OF THE STATE OF
NORTH DAKOTA

Wayne E. Larson
WAYNE E. LARSON
APRIL 24, 2000
DATE 4-24-2000 REG NO 710

STRUCTURAL ENGINEERING CONSULTANT

I HEREBY CERTIFY THAT
THIS PLAN, SPECIFICATION
OR REPORT WAS
PREPARED BY ME OR
UNDER MY DIRECT
SUPERVISION, AND THAT
I AM A DULY REGISTERED
PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE
STATE OF NORTH DAKOTA

Wayne E. Larson
WAYNE E. LARSON
APRIL 24, 2000
DATE 4-24-2000 REG NO 1835

CIVIL ENGINEERING CONSULTANT

I HEREBY CERTIFY THAT
THIS PLAN, SPECIFICATION
OR REPORT WAS
PREPARED BY ME OR
UNDER MY DIRECT
SUPERVISION, AND THAT
I AM A DULY REGISTERED
PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE
STATE OF NORTH DAKOTA

Richard L. Anderson
RICHARD L. ANDERSON
APRIL 24, 2000
DATE 4-24-2000 REG NO 4032

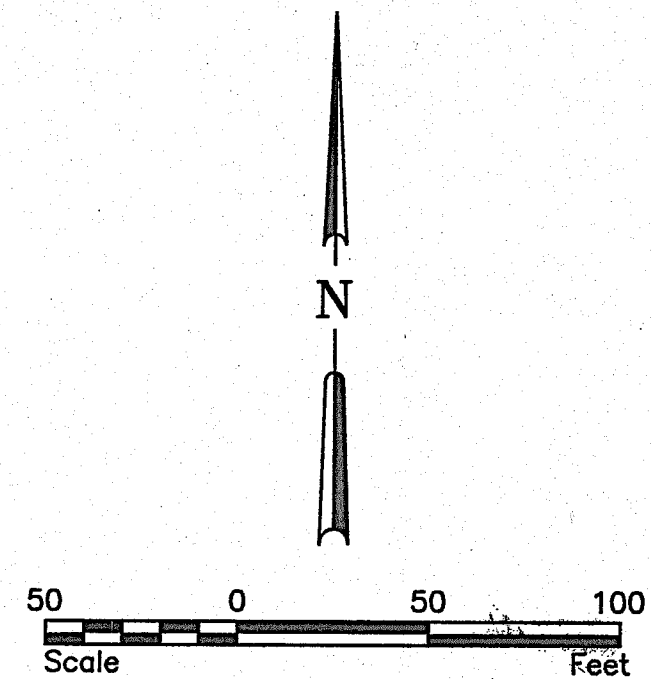
CADD NAME / SCALE

COVER
PROJECT NO.
THA - 98676

DATE:
April 24, 2000

COVER SHEET

ACOVER



LEGEND		EXISTING
STORM SEWER MAIN	---	STS
SANITARY SEWER MAIN	---	SS
WATER MAIN	---	W
GAS MAIN	---	G
STORM INLET	---	SI
CURB STOP	---	CS
MANHOLE	---	MH
FIRE HYDRANT	---	FH
GATE VALVE	---	GV
UTILITY POLE	---	UP
W / GUY WIRE	---	W / GW
LIGHT POLE	---	LP
SIGN	---	S
OVERHEAD POWER LINE	---	OP
UNDERGROUND TELEPHONE	---	UT
UNDERGROUND ELECTRIC	---	UE
UNDERGROUND GAS	---	UG
FIBER OPTIC	---	FO
TELEPHONE RISER	---	TR
FENCE	---	F
DECIDUOUS TREE	---	DT
CONIFEROUS TREE	---	CT
MISC. SHRUBBERY	---	MS
IRON MONUMENT FOUND	---	IM
1/2" I.D. IRON PIPE SET	---	IP
FIELD DISTANCE	523.24'	
PLAT OR RECORDED DISTANCE	(523.12')	
FIELD BEARING	N89°52'30"E	
PLAT OR RECORDED BEARING	(N89°52'30"E)	
CONCRETE	---	
ASPHALT	---	
BUILDING	---	

C 1.0

TOPOGRAPHIC SURVEY					
OAK GROVE SCHOOL					
FARGO, NORTH DAKOTA					
Scale	AS SHOWN	Drawn by	DMR	Checked by	RCH
Project No.	3690-002	Date	12-30-99	Sheet	1 of 1
PREPARED BY					
 HOUSTON ENGINEERING, INC.					
P.O. BOX 5054 FARGO, NORTH DAKOTA 58105					
PHONE: (701) 237-5065 FAX: (701) 237-5101					

No.	Revision	Date	By

PROJECT BENCH MARK
S.E.F.B. HYDRANT
IN ISLAND AT INTERSECTION OF
ASH ST. AND S. TERRACE
ELEVATION 900.14

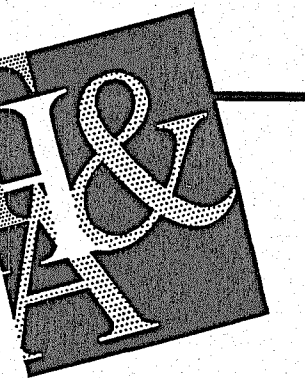
CAD. REF. OAK-GROVE-ELEV

OAK GROVE FLOODWALL IMPROVEMENT PROJECT

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174-ND Project No. 0027

City of Fargo
Special Improvement District #5036



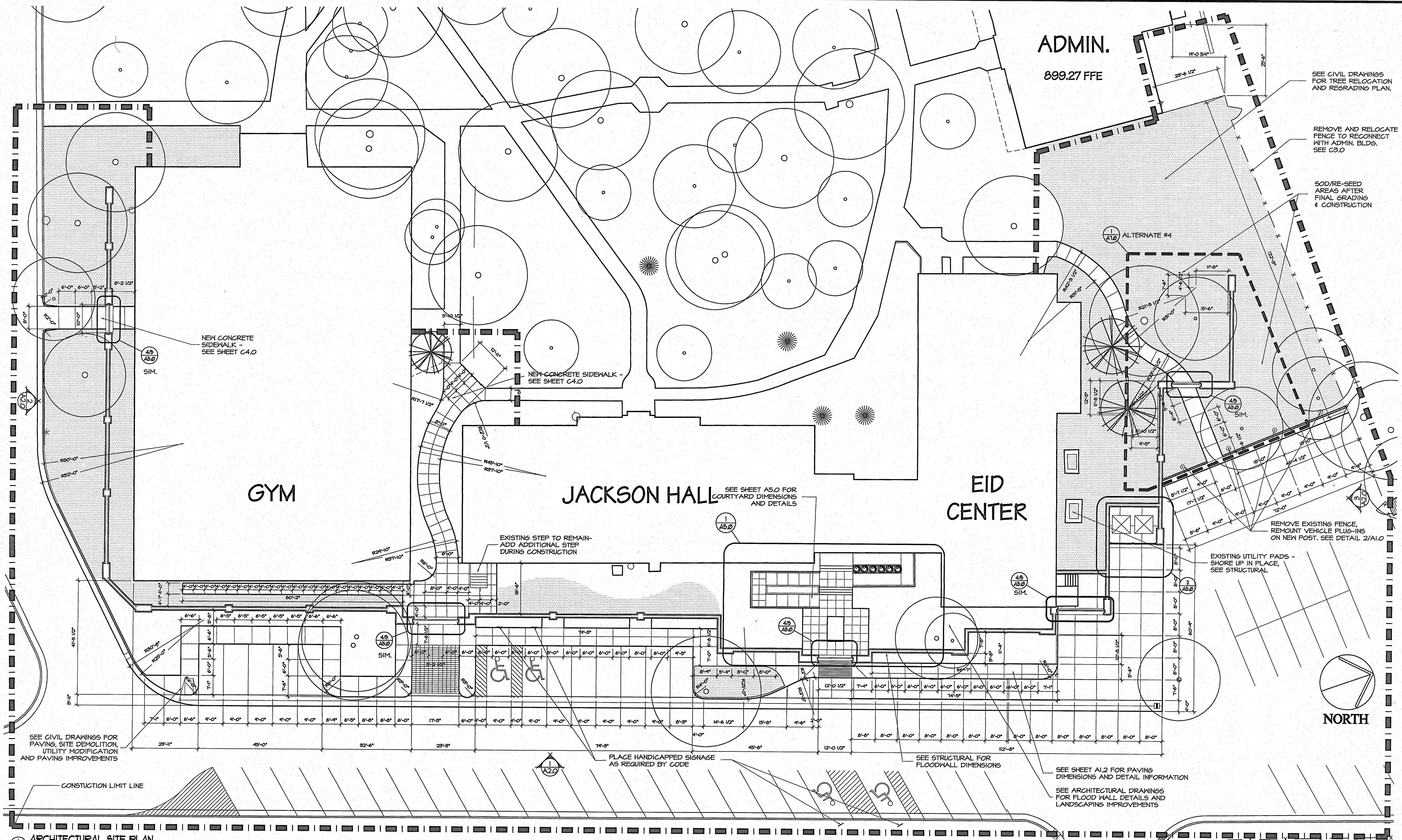
**TRIEBWASSER
HELENSKE &
ASSOCIATES, Ltd.**

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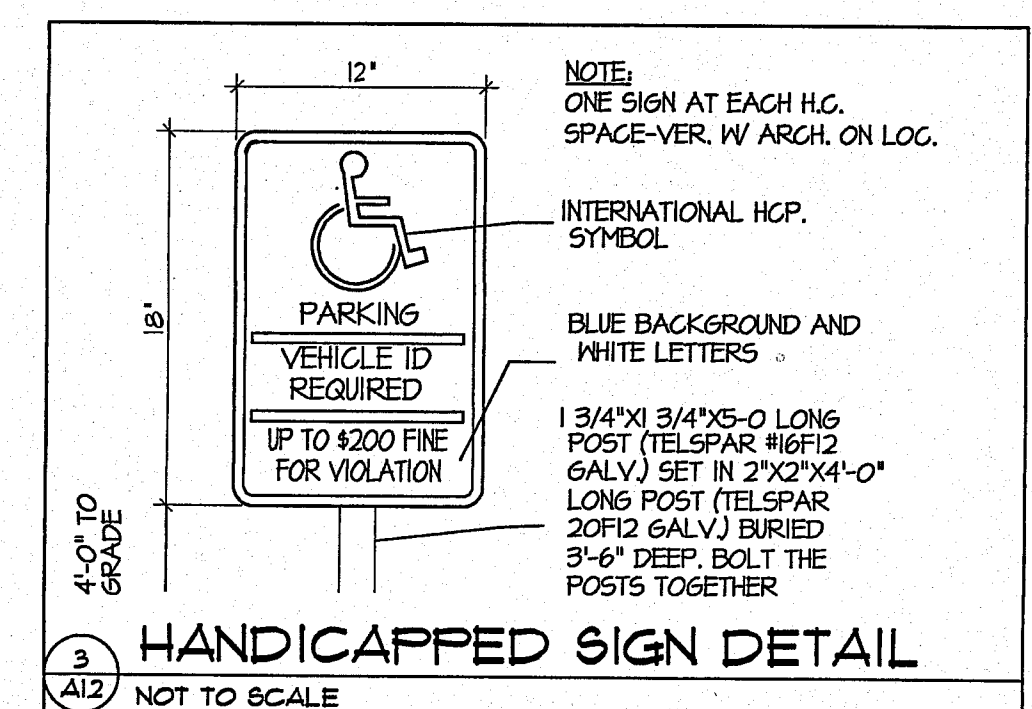
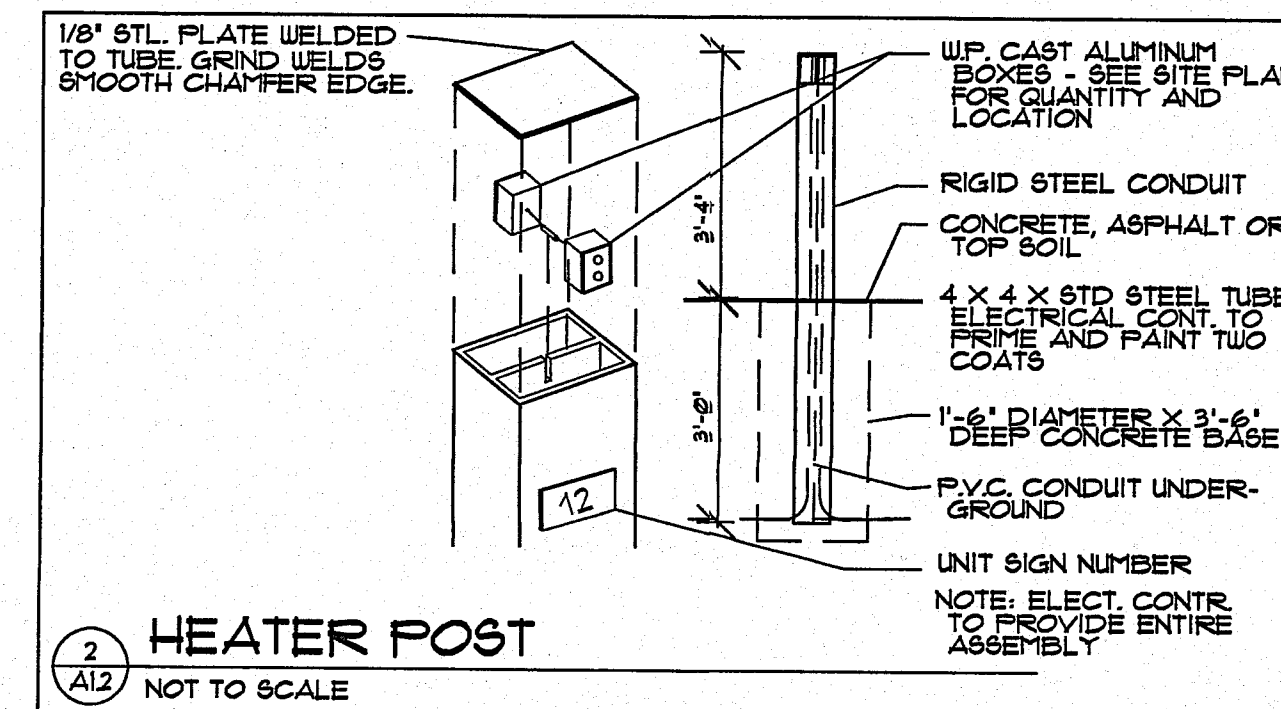


ARCHITECTURAL SITE PLAN

1" = 16'-0"

GENERAL PLAN NOTES

1. HEAVY DASHED LINE ■■■■■ INDICATES PROJECT CONSTRUCTION LIMIT.
2. PROTECT ADJOINING PROPERTIES FROM CONSTRUCTION ACTIVITIES ACCORDING TO CITY OF FARGO SPECS.
3. COORDINATE CONSTRUCTION VEHICLE TRAFFIC AND CONSTRUCTION VEHICLE AND CREW PARKING WITH OWNER AND CITY TRAFFIC ENGINEER.
4. ALTERNATE BID #1 - RESURFACING OF EXISTING LOT. COORDINATE WITH CIVIL DOCUMENTS.
5. ALTERNATE BID #2 - REPLACEMENT OF REMAINDER OF ASPHALT ON ASH STREET IN AREA OF CONSTRUCTION LIMITS. COORDINATE WITH CIVIL.



CADD NAME / SCALE
A1-0.dwg
PROJECT NO.
THA - 98676

DATE:
April 24, 2000
ARCHITECTURAL SITE PLAN

A1.0

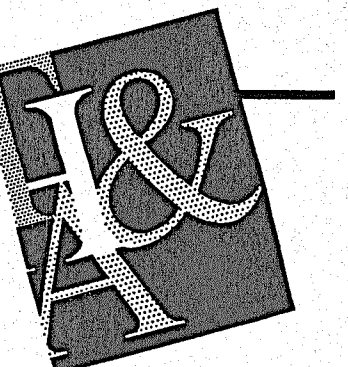
1 OF 8
Attachment H-15, pg 4
Credit to Existing Leaves

OAK GROVE
FLOODWALL
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PROJECT

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174-ND Project No. 0027

City of Fargo
Special Improvement District #5036

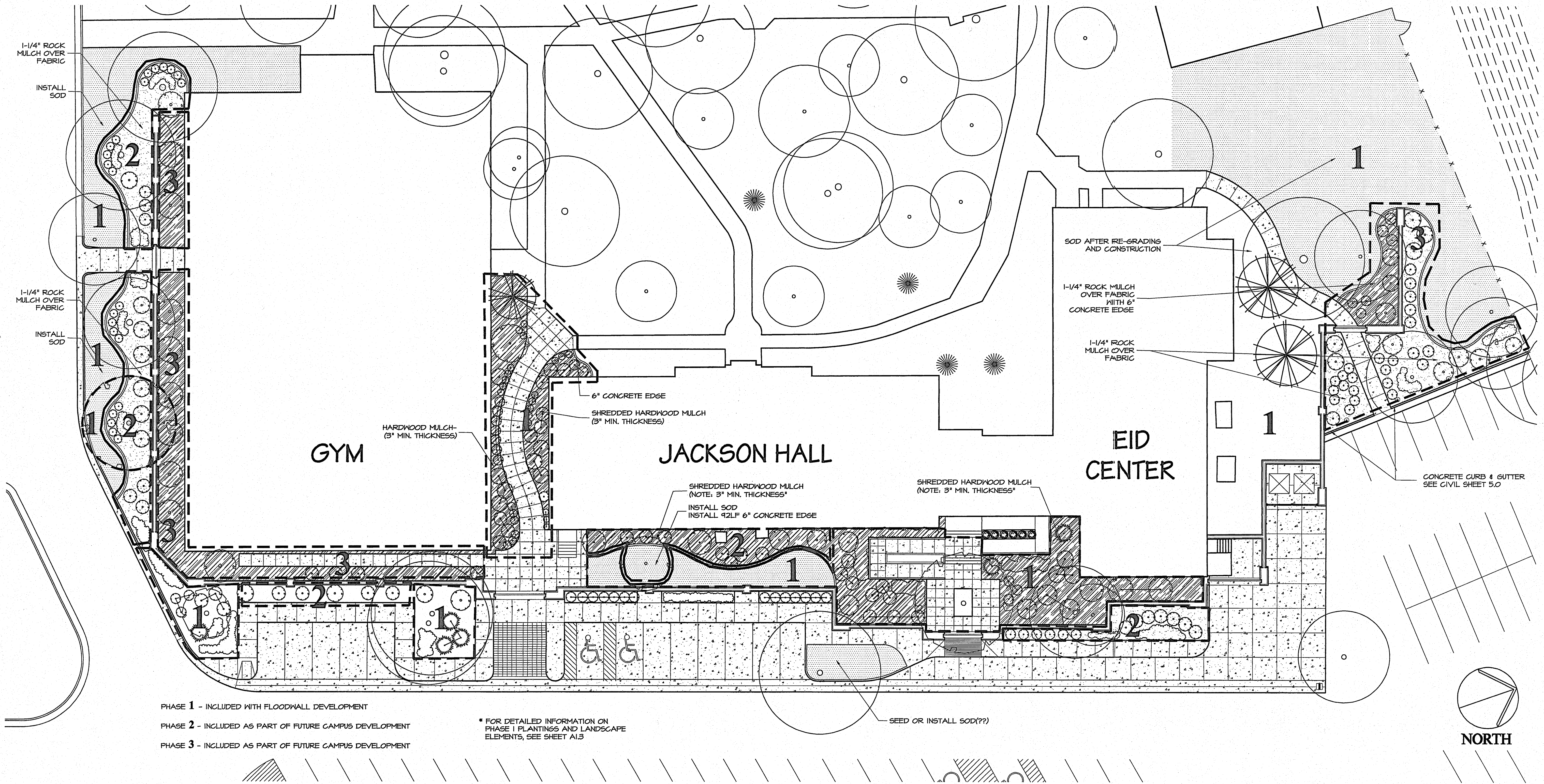


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PHASE 1 - INCLUDED WITH FLOODWALL DEVELOPMENT

PHASE 2 - INCLUDED AS PART OF FUTURE CAMPUS DEVELOPMENT

PHASE 3 - INCLUDED AS PART OF FUTURE CAMPUS DEVELOPMENT

* FOR DETAILED INFORMATION ON
PHASE 1 PLANTINGS AND LANDSCAPE
ELEMENTS, SEE SHEET A1.3

SEED OR INSTALL SOD(??)

NORTH

LANDSCAPE MASTER PLAN
1" = 20'-0"

GENERAL LANDSCAPE NOTES

1. ALL TREES TO BE STAKED WITH MIN. (2 CA) STEEL T-POSTS WITH NYLON STRAPS.
2. ALL TREES OUTSIDE PLANT BEDS TO HAVE 4' MIN. DIAMETER SOIL SAUCER RING WITH 6" MIN. SHREDDED HARDWOOD MULCH PLACED AROUND.
3. ALL PERENNIAL/ORNAMENTAL GRASS PLANTING BEDS SHALL HAVE A MIN. OF 12" SANDY LOAM WITH PEAT MOSS (RATIO 2:1) TILLED IN AND RAISED UP.
4. SHREDDED HARDWOOD MULCH WHERE DESIGNATED SHALL HAVE A MIN. THICKNESS OF 3" IN ALL PLANT BEDS.
5. 2-6" RIVER ROCK MULCH WHERE DESIGNED SHALL HAVE 1-1/4" AGGREGATE PLACED BENEATH AT MIN. DEPTH OF 2".
6. ALL PLANTING BEDS SHALL HAVE WEED BARRIER FABRIC INSTALLED WITHIN THE EDGE PERIMETER.
7. ALL QUANTITIES SHOWN ON PLAN ARE ESTIMATED QUANTITIES ONLY. CONTRACTOR IS RESPONSIBLE FOR ALL MATERIAL REQUIRED TO COMPLETED THE PROJECT AS SHOWN ON THE DRAWINGS.
8. ALL TREES AND SHRUBS SHALL BE WARRANTED FOR A PERIOD OF ONE (1) YEAR FROM DATE OF INSTALLATION.
9. ALL PERENNIALS AND ORNAMENTAL GRASSES SHALL BE WARRANTED FOR A PERIOD OF AT LEAST 60 DAYS.
10. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE INCURRED TO EXISTING IRRIGATION HEADS PRIOR TO LANDSCAPE INSTALLATION.
11. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ENSURING PROPER COVERAGE OF IRRIGATED AREAS FOR SOD AND PLANT BEDS AND TO REPORT ANY PROBLEMS TO THE LANDSCAPE DESIGNER FOR IMMEDIATE REQUIRED ALTERATIONS BY THE IRRIGATION CONTRACTOR.
12. LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE DESIGNER 72 HRS. IN ADVANCE FOR CORRECT PLACEMENT OF PLANTS.

13. LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE DESIGNER 72 HRS. IN ADVANCE FOR MARKING EDGE LINES TO ENSURE PROPER PLACEMENT OF EDGING.
14. OWNER/LANDSCAPE DESIGNER SHALL HAVE THE RIGHT TO ACCEPT OR REJECT ANY PLANT MATERIALS NOT CONSIDERED TO BE QUALITY NURSERY STOCK.
15. ALL PLANT MATERIAL SHALL CONFORM TO THE GUIDELINES ESTABLISHED BY THE CURRENT AMERICAN STANDARD FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION FOR NURSERYMEN OR EQUIVALENT.
16. BARE ROOT STOCK SHALL NOT BE ALLOWED.
17. LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING TREE WRAP IN THE FALL OF THE YEAR, IN WHICH PLANT MATERIAL IS INSTALLED FOLLOWED BY REMOVAL THE FOLLOWING SPRING.
18. SEED MIX SHALL BE NEW GLADE KENTUCKY BLUE (65%), CREEPING RED FESCUE (25%), PERENNIAL RYE (10%). METHOD OF SEED APPLICATION SHALL BE BY DRILL WITH A PLANT FOOD STARTER FERTILIZER (CONSULT SPECIFICATIONS BY SUPPLIER) INCLUDED AS PART OF THE SEED MIX DESIGN. SEEDING MAY TAKE PLACE WHEN SOIL CONDITIONS SUPPORT EQUIPMENT NEEDED TO SUCCESSFULLY PREPARE THE SEED BED AND WHEN THE SOIL TEMPERATURE REMAINS AT FORTY DEGREES OR HIGHER.
19. NO CHANGES OR DEVIATIONS FROM THE DRAWINGS SHALL BE ALLOWED UNLESS PRIOR APPROVAL HAS BEEN GIVEN BY THE OWNER/ LANDSCAPE DESIGNER.
20. ALL CONTRACTORS SHALL BE RESPONSIBLE TO LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.

LEGEND



MASTER PLANTING SCHEDULE

DECIDUOUS TREES

Symbol	Quant.	Common Name	Scientific Name	Size/Cond.
SSC	2	Spring Snow Crab	Malus 'Spring Snow'	2" B & B
OB	1	Ohio Buckeye	Aesculus glabra	2" B & B
CEA	13	Swedish Columnar Aspen	Populus tremula 'Erecta'	6-8' Pot
JTC	1	Japanese Tree Lilac Clump	Malus x. purpurea	2" B & B

DECIDUOUS SHRUBS

Symbol	Quant.	Common Name	Scientific Name	Size/Cond.
ID	26	Isanti Dogwood	Cornus sericea 'Isanti'	#5i Cont.
TBL	10	Tinkerbell Lilac	Syringa 'Bailbelle'	#5i Cont.
DKL	1	Dwarf Korean Lilac	Syringa meyeri 'Pallidin'	#5i Cont.
OV	13	Onondaga Viburnum	Viburnum sargentii 'Onondaga'	#5i Cont.
MY	5	Mohican Viburnum	Viburnum lantana 'Mohican'	#5i Cont.
CAC	4	Compact American Cranberrybush	Viburnum trilobum 'Alfreda'	#5i Cont.
NBY	2	Nannyberry	Viburnum lantana	3' Pot
BQM	3	Buckley's Quill Mockorange	Philadelphus x 'Buckley's Quill'	#5i Cont.
RTD	23	Dwarf Red Tipped Dogwood	Cornus pumila	#2i Cont.
CLS	22	Crisp Leaf Spirea	Spiraea x bumalda 'Crispa'	#2i Cont.
MCS	8	Magik Carpet Spirea	Spiraea japonica 'Magik Carpet'	#2i Cont.
FS	13	Froebel Spirea	Spiraea x bumalda 'Froebelli'	#2i Cont.
JRW	6	Java Red Weigela	Weigela florida 'Java Red'	#5i Cont.
AH	16	Annabelle Hydrangea	Hydrangea arborescens 'Annabelle'	#3i Cont.

MASTER PLANTING SCHEDULE

EVERGREEN SHRUBS

Symbol	Quant.	Common Name	Scientific Name	Size/Cond.
GBS	6	Globe Blue Spruce	Picea pungens glauca 'Glaucia Globosa'	#5 Cont.

PERENNIALS

Symbol	Quant.	Common Name	Scientific Name	Size/Cond.
PDL	84	Daylily	Hemerocallis 'Stella-de-Oro'	6" Pot
PSA	13	Sedum	Sedum 'Autumn Joy'	6" Pot
PSM	46	Sedum	Sedum 'Matrona'	6" Pot
PLK	34	Liatris	Liatris spicata 'Kobold'	6" Pot
PPF	32	Yarrow	Achillea 'Paprika'	6" Pot
PLG	19	Lupine	Lupinus 'Gallery Hybrids'	6" Pot
HP	13	Hosta	Hosta 'Patriot'	#1 Cont.
HF	7	Hosta	Hosta 'Frances'	#1 Cont.
HFH	7	Hosta	Hosta 'Elegans'	#1 Cont.

ORNAMENTAL CLUMP GRASS

Symbol	Quant.	Common Name	Scientific Name	Size/Cond.
GSF	4	Silver Feather Miscanthus	Miscanthus sinensis 'Silverfeather'	#3 Cont.

ESTIMATED HARDSCAPE QUANTITIES

Quant.	Unit	Material
4120	SF	1-1/4" Rock Mulch w/ Fabric
5030	SF	Shredded Hardwood Mulch (Note: 3" Min. Thickness)
304	LF	6" Concrete Edge
115	SY	Sod/Seed

FOR REFERENCE
ONLY

CADD NAME / SCALE
A1-2.dwg
PROJECT NO.
THA - 98676

DATE:
April 24, 2000
MASTER PLAN

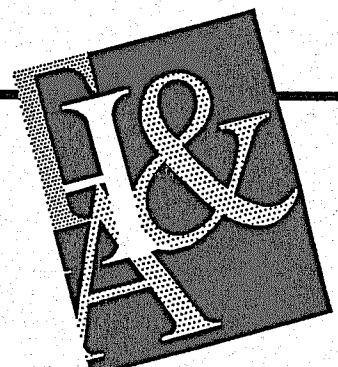
A1.1

OAK GROVE
FLOODWALL
IMPROVEMENT
PROJECT

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174-ND Project No. 0027

City of Fargo
Special Improvement District #5036



TRIEBWASSER
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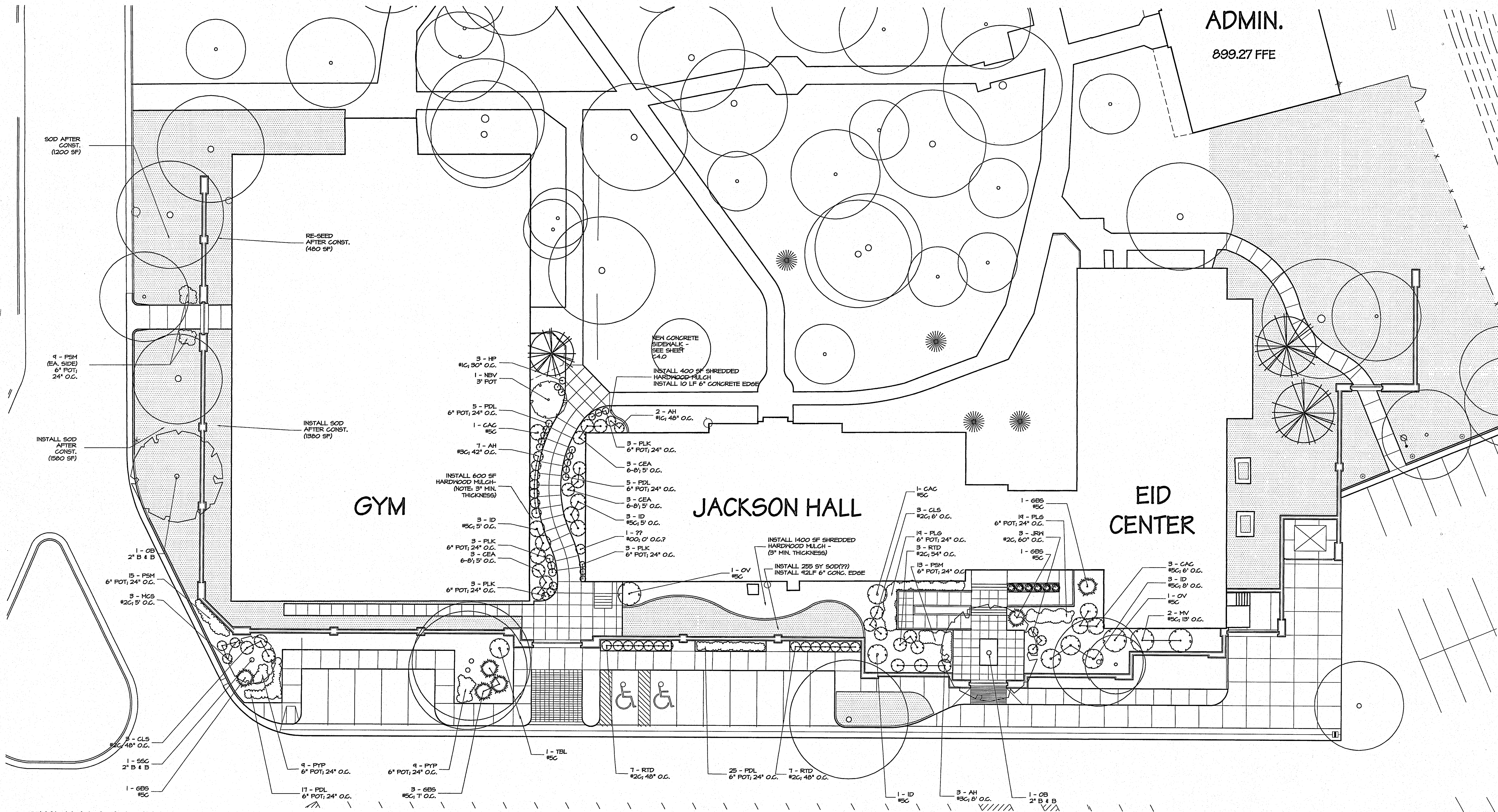
ARCHITECTS AND
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MANAGEMENT

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FARGO, NORTH DAKOTA

(216) 236-8593 (Voice)
(701) 232-3271 (Voice)
(701) 232-3272 (Fax)

ADMIN.

899.27 FFE



PHASE I LANDSCAPE PLAN
1" = 20'-0"

GENERAL LANDSCAPE NOTES

- ALL TREES TO BE STAKED WITH MIN. (2 GA.) STEEL T-POSTS WITH NYLON STRAPS.
- ALL TREES OUTSIDE PLANT BEDS TO HAVE 4" MIN. DIAMETER SOIL SAUCER RING WITH 6" MIN. SHREDDED HARDWOOD MULCH PLACED AROUND.
- ALL PERENNIAL/ORNAMENTAL GRASS PLANTING BEDS SHALL HAVE A MIN. OF 12" SANDY LOAM WITH PEAT MOSS (RATIO 2:1) TILLED IN AND RAISED UP.
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- ALL CONTRACTORS SHALL BE RESPONSIBLE TO LOCATE AND VERIFY THE EXISTENCE OF ALL UTILITIES PRIOR TO STARTING WORK.
- LANDSCAPE CONCRETE EDGING SHOWN SHALL BE 6" WIDE/4" DEEP LOW-SLUMP EXTRUDED CONCRETE EDGING BY CURB-MASTERS OR EQUAL. PORTLAND CEMENT/SAND MIXTURE WITH FIBER-MESH REINFORCING. CONTROL JOINT IS CUT @ 4'-0" CENTER.

PHASE I PLANTING SCHEDULE

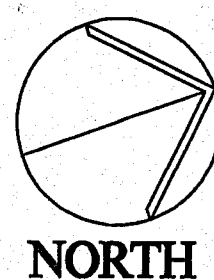
DECIDUOUS TREES				
Symbol	Quant.	Common Name	Scientific Name	Size/Cond.
SSC	1	Spring Snow Crab	Malus 'Spring Snow'	2" B & B
OB	2	Ohio Buckeye	Aesculus glabra	2" B & B
CEA	4	Swedish Columnar Aspen	Populus tremula 'Erecta'	6-8' Pot
JTC	0	Japanese Tree Lilac Clump	Malus x. purpurea	2" B & B
DECIDUOUS SHRUBS				
Symbol	Quant.	Common Name	Scientific Name	Size/Cond.
ID	10	Isanti Dogwood	Cornus sericea 'Isanti'	#5 Cont.
TBL	1	Tinkerbell Lilac	Syringa 'Ballbelle'	#5 Cont.
DKL	0	Dwarf Korean Lilac	Syringa meyeri 'Palibin'	#5 Cont.
OV	2	Onondaga Viburnum	Viburnum sargentii 'Onondaga'	#5 Cont.
MY	2	Mohican Viburnum	Viburnum lantana 'Mohican'	#5 Cont.
CAC	5	Compact American Cranberrybush	Viburnum trilobum 'Alfreda'	#5 Cont.
NBV	1	Nanniberry	Viburnum lantana	3' Plot
BGM	0	Buckley's Quill Mockorange	Philadelphus x 'Buckley's Quill'	#5 Cont.
RTD	17	Dwarf Red Tipped Dogwood	Cornus pumila	#2 Cont.
CLS	6	Crisp Leaf Spirea	Spiraea x bumalda 'Crispa'	#2 Cont.
MCS	3	Magik Carpet Spirea	Spiraea japonica 'Magik Carpet'	#2 Cont.
FS	0	Froebel Spirea	Spiraea x bumalda 'Froebelli'	#2 Cont.
JRW	3	Java Red Weigela	Weigela florida 'Java Red'	#5 Cont.
AH	12	Annabelle Hydrangea	Hydrangea arborescens 'Annabelle'	#3 Cont.

PHASE I PLANTING SCHEDULE

EVERGREEN SHRUBS				
Symbol	Quant.	Common Name	Scientific Name	Size/Cond.
PDL	52	Daylily	Hemerocallis 'Stella-de-Oro'	6" Pot
PSA	0	Sedum	Sedum 'Autumn Joy'	6" Pot
PSM	46	Sedum	Sedum 'Matrona'	6" Pot
PLK	12	Liatris	Liatris spicata 'Kobold'	6" Pot
PYP	18	Yarrow	Achillea 'Paprika'	6" Pot
PLG	14/38	Lupine	Lupinus 'Gallery Hybrids'	6" Pot
HP	3	Hosta	Hosta 'Patriot'	#1 Cont.
HF	0	Hosta	Hosta 'Frances'	#1 Cont.
HFN	0	Hosta	Hosta 'Elegans'	#1 Cont.
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Symbol	Quant.	Common Name	Scientific Name	Size/Cond.
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PSA	0	Sedum	Sedum 'Autumn Joy'	6" Pot
PSM	46	Sedum	Sedum 'Matrona'	6" Pot
PLK	12	Liatris	Liatris spicata 'Kobold'	6" Pot
PYP	18	Yarrow	Achillea 'Paprika'	6" Pot
PLG	14/38	Lupine	Lupinus 'Gallery Hybrids'	6" Pot
HP	3	Hosta	Hosta 'Patriot'	#1 Cont.
HF	0	Hosta	Hosta 'Frances'	#1 Cont.
HFN	0	Hosta	Hosta 'Elegans'	#1 Cont.

CADD NAME / SCALE
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DATE:
April 24, 2000
PHASE I LANDSCAPE PLAN



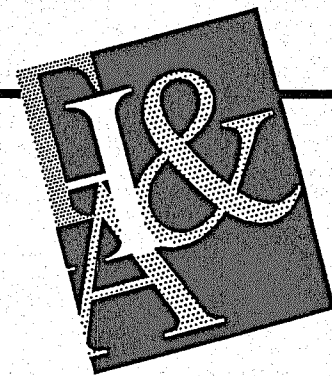
A1.2

OAK GROVE
FLOODWALL
IMPROVEMENT
PROJECT

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174-ND Project No. 0027

City of Fargo
Special Improvement District #5036

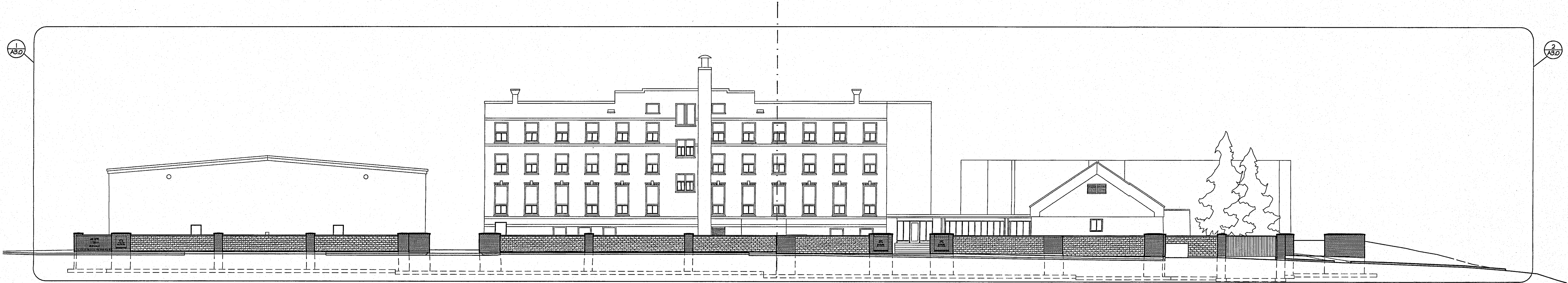


TRIEBWASSER
HELENSKE &
ASSOCIATES, Ltd.

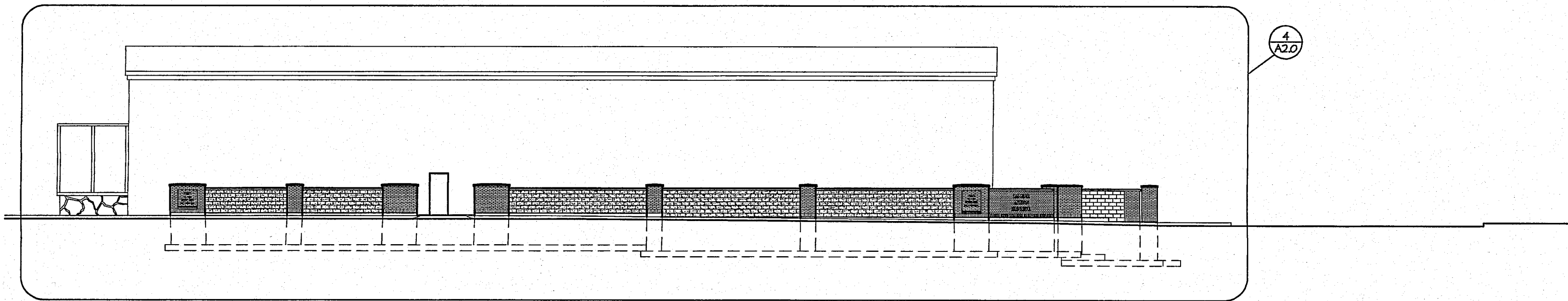
ARCHITECTS AND
CONSTRUCTION
MANAGEMENT

11 RIVER OAKS POINT
P.O. BOX 547
MOORHEAD, MINNESOTA
616 MAIN AVENUE
FARGO, NORTH DAKOTA

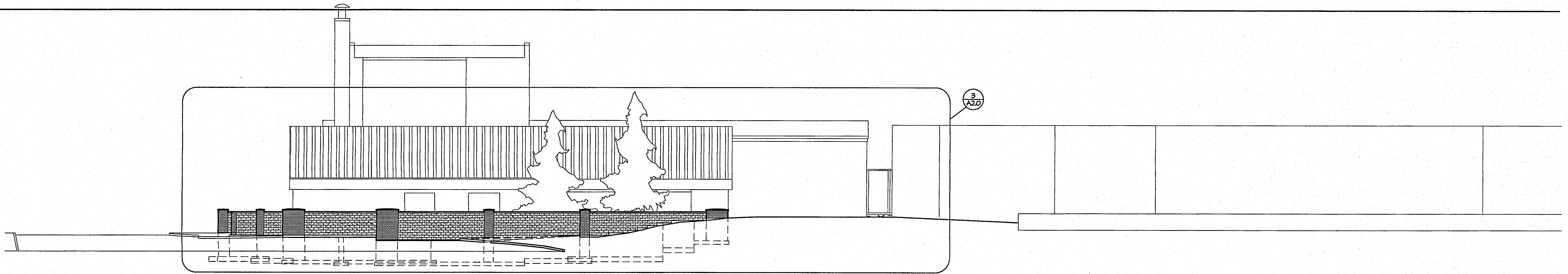
(216) 236-8593 (Voice)
(701) 232-3271 (Voice)
(701) 232-3272 (Fax)



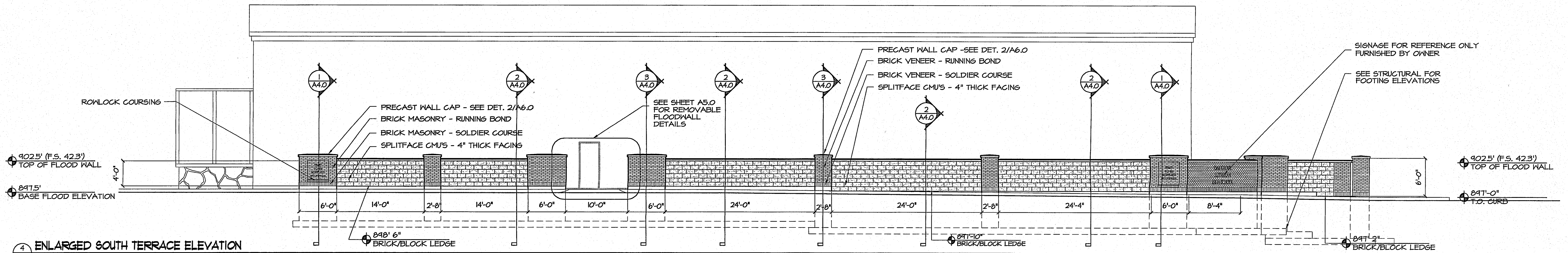
1
A3.0
ASH STREET ELEVATION
1/16" = 1'-0"



2
A3.0
SOUTH TERRACE ELEVATION
1/16" = 1'-0"



3
A3.0
NORTH EID CENTER ELEVATION
1/16" = 1'-0"



4
A2.0
ENLARGED SOUTH TERRACE ELEVATION
1/8" = 1'-0"

CADD NAME / SCALE
A2.dwg
PROJECT NO.
THA - 90676

DATE:
April 24, 2000

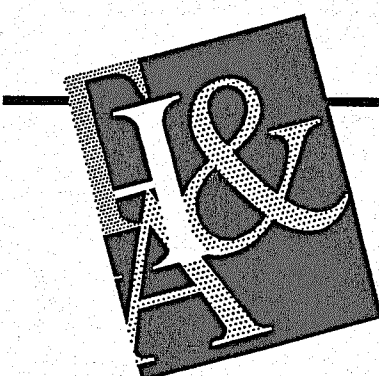
1/4" & 1/8" ELEVATIONS

A2.0

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174- ND Project No. 002

City of Fargo
Special Improvement District #5036

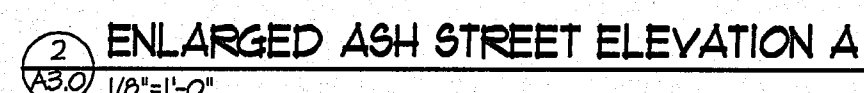
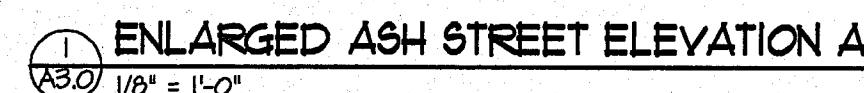


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CADD NAME	/	SCALE
A3.dwg		
PROJECT NO.		
THA - 98676		

DATE: April 24, 2000

1/8" ELEVATIONS ELEVATION DETAILS

A3.0

5 OF 8

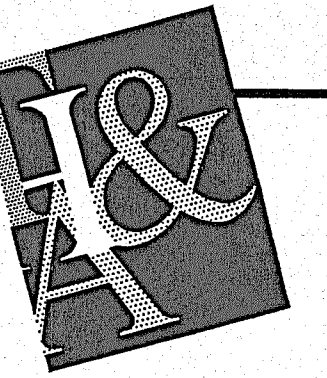
Attachment H-15 pg.8
Credit to Existing Level

OAK GROVE FLOODWALL IMPROVEMENT PROJECT

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174-ND Project No. 0027

City of Fargo
Special Improvement District #5036

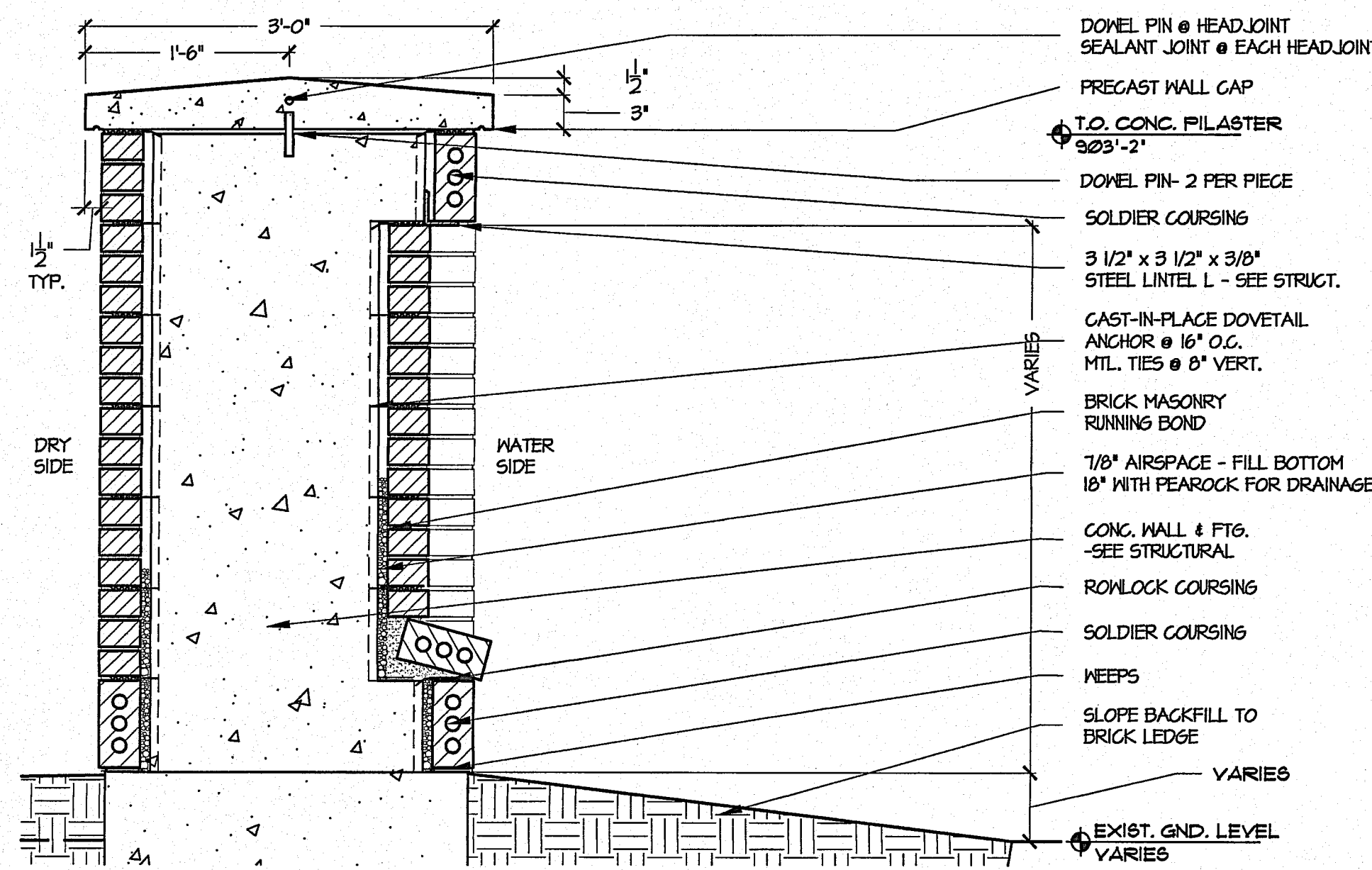


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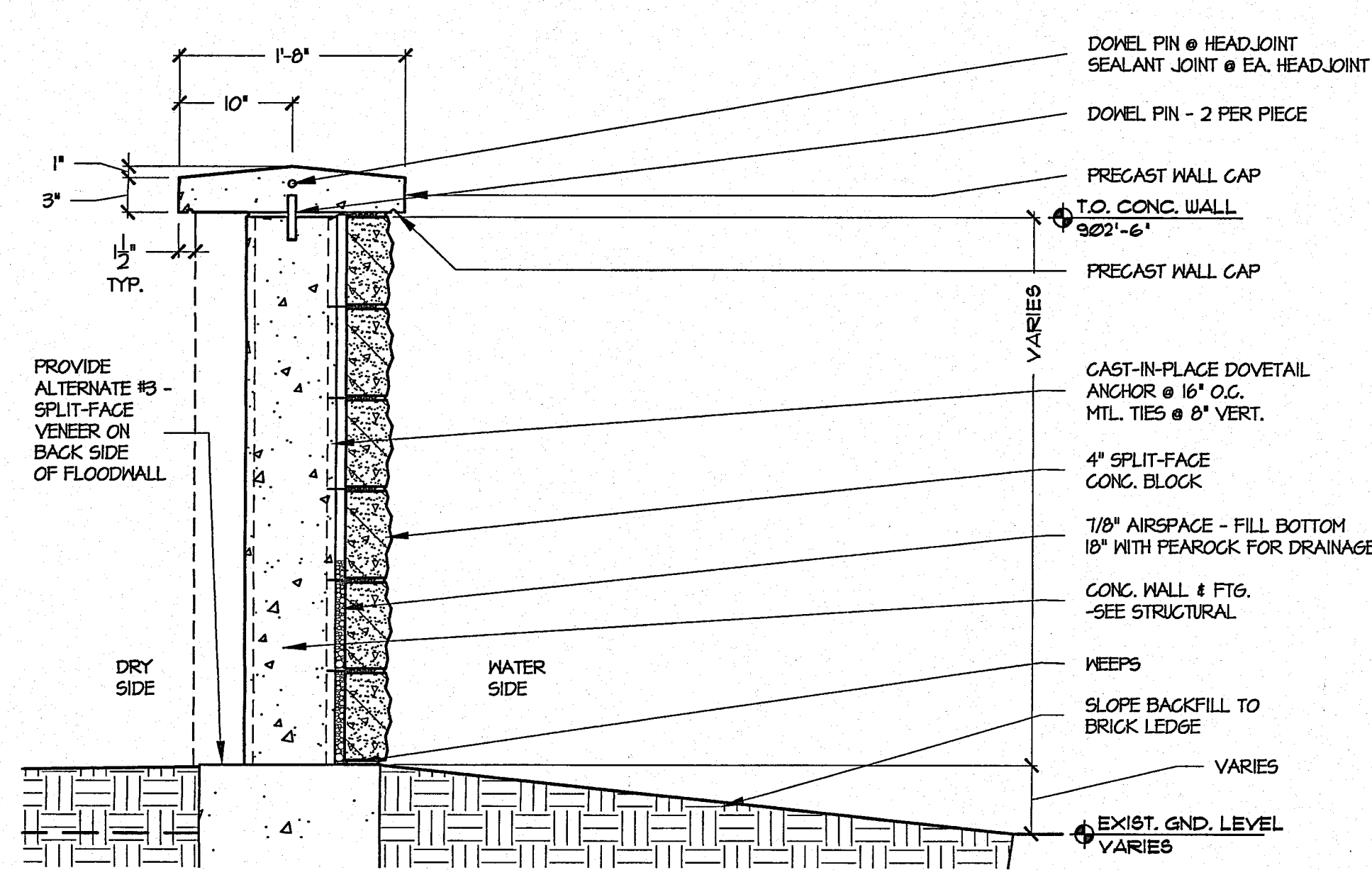
ARCHITECTS AND
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11 RIVER OAKS POINT
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FARGO, NORTH DAKOTA

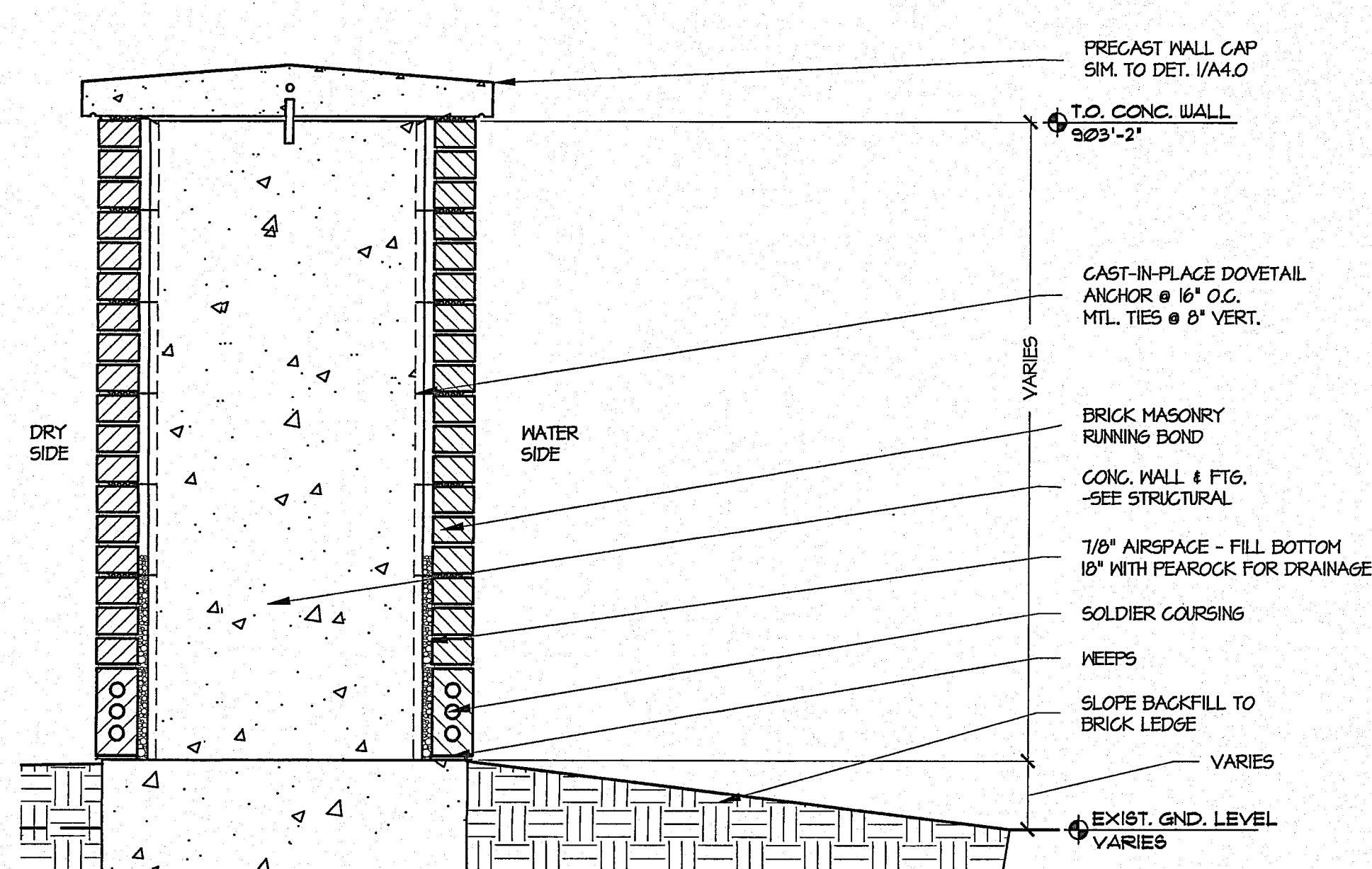
(216) 236-8593 (Voice)
(701) 232-3271 (Voice)
(701) 232-3272 (Fax)



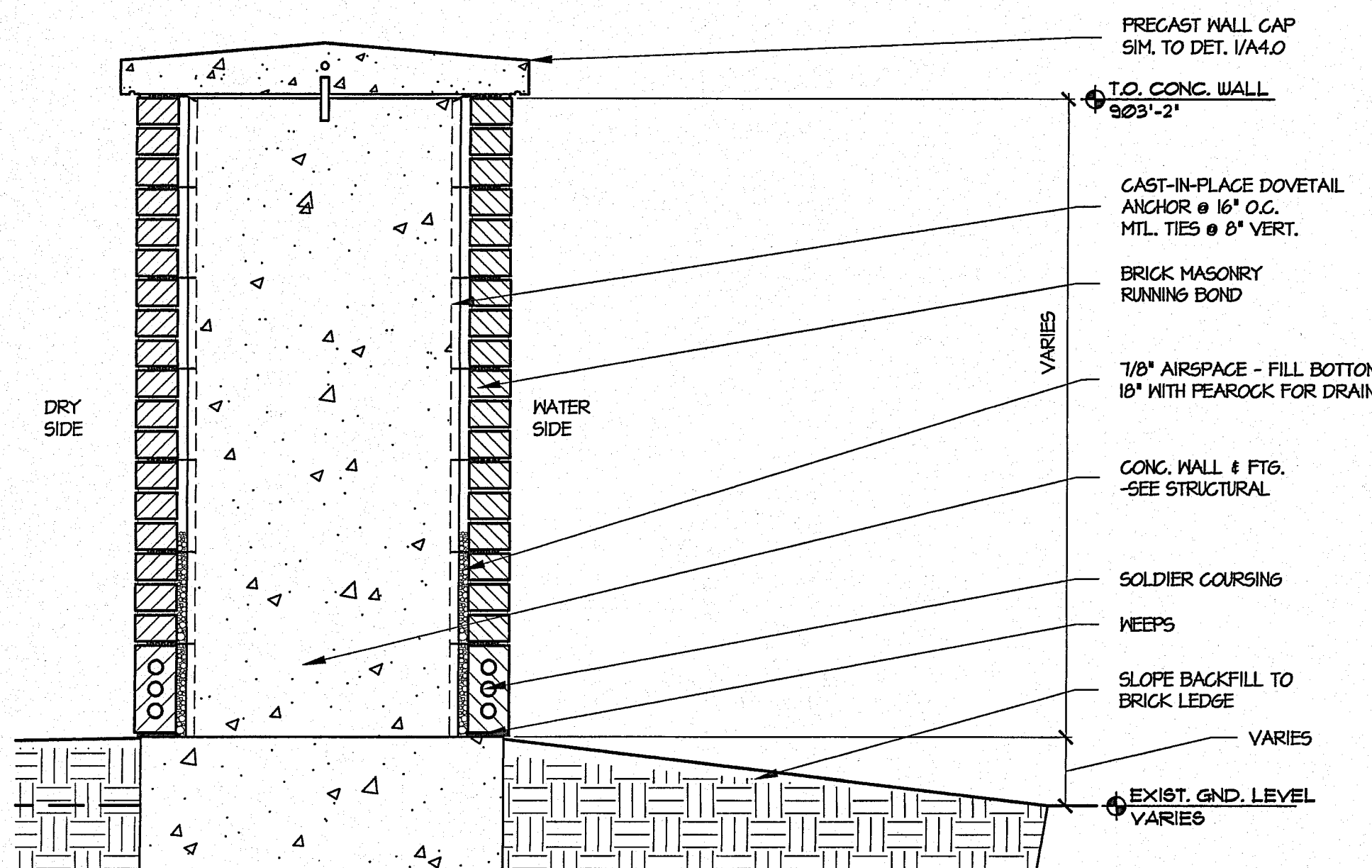
1 WALL SECTION
1" = 1'-0"



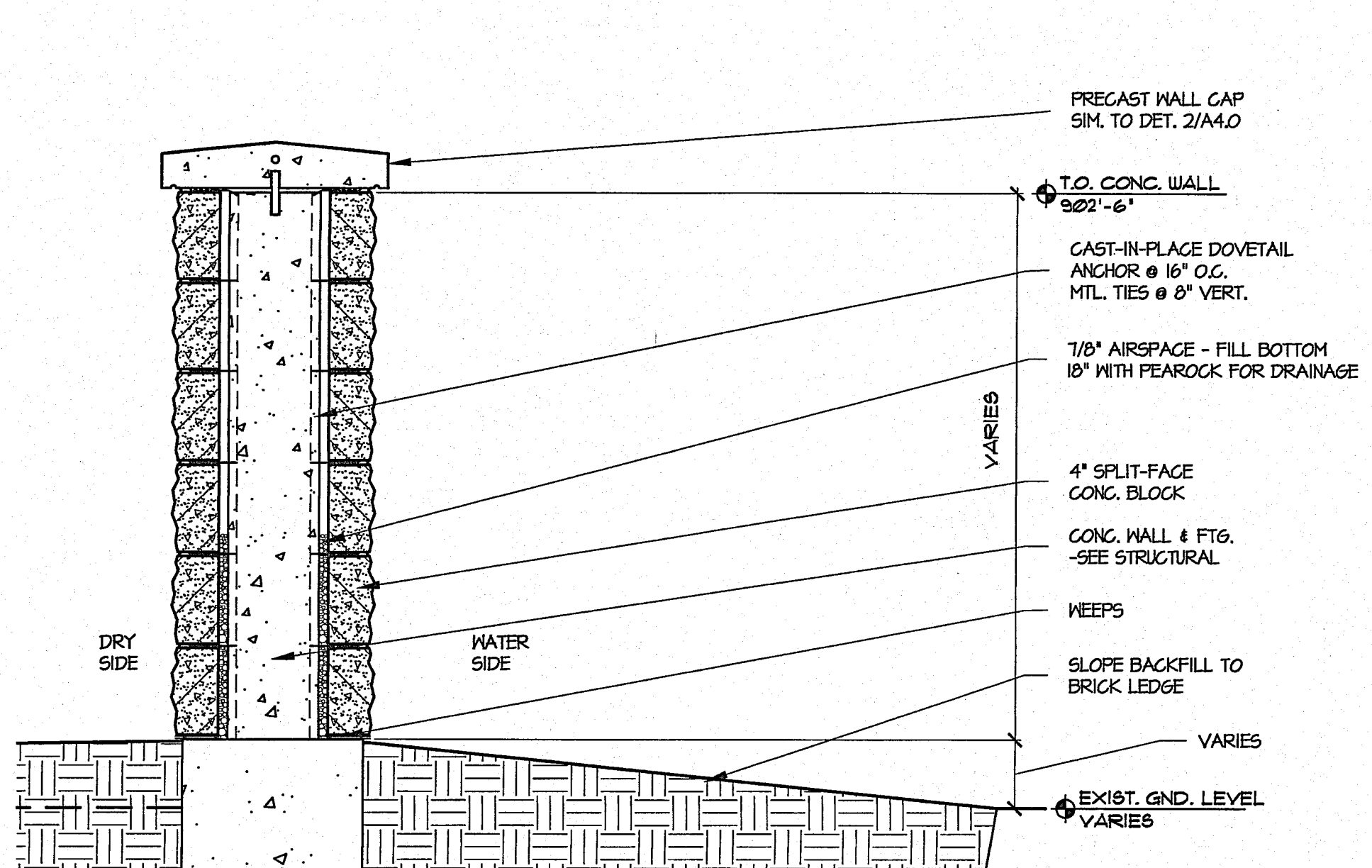
2 WALL SECTION
1" = 1'-0"



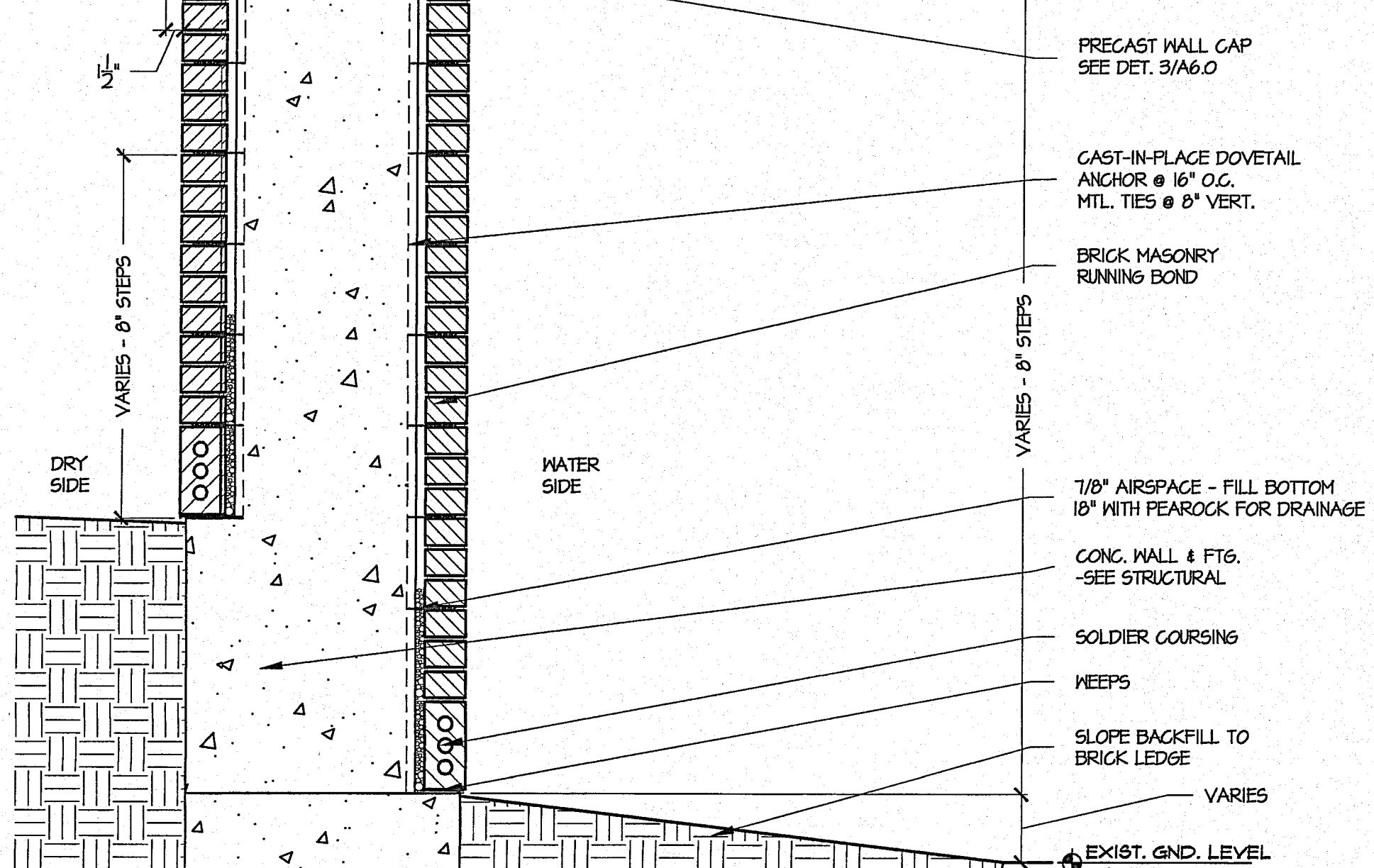
3 WALL SECTION
1" = 1'-0"



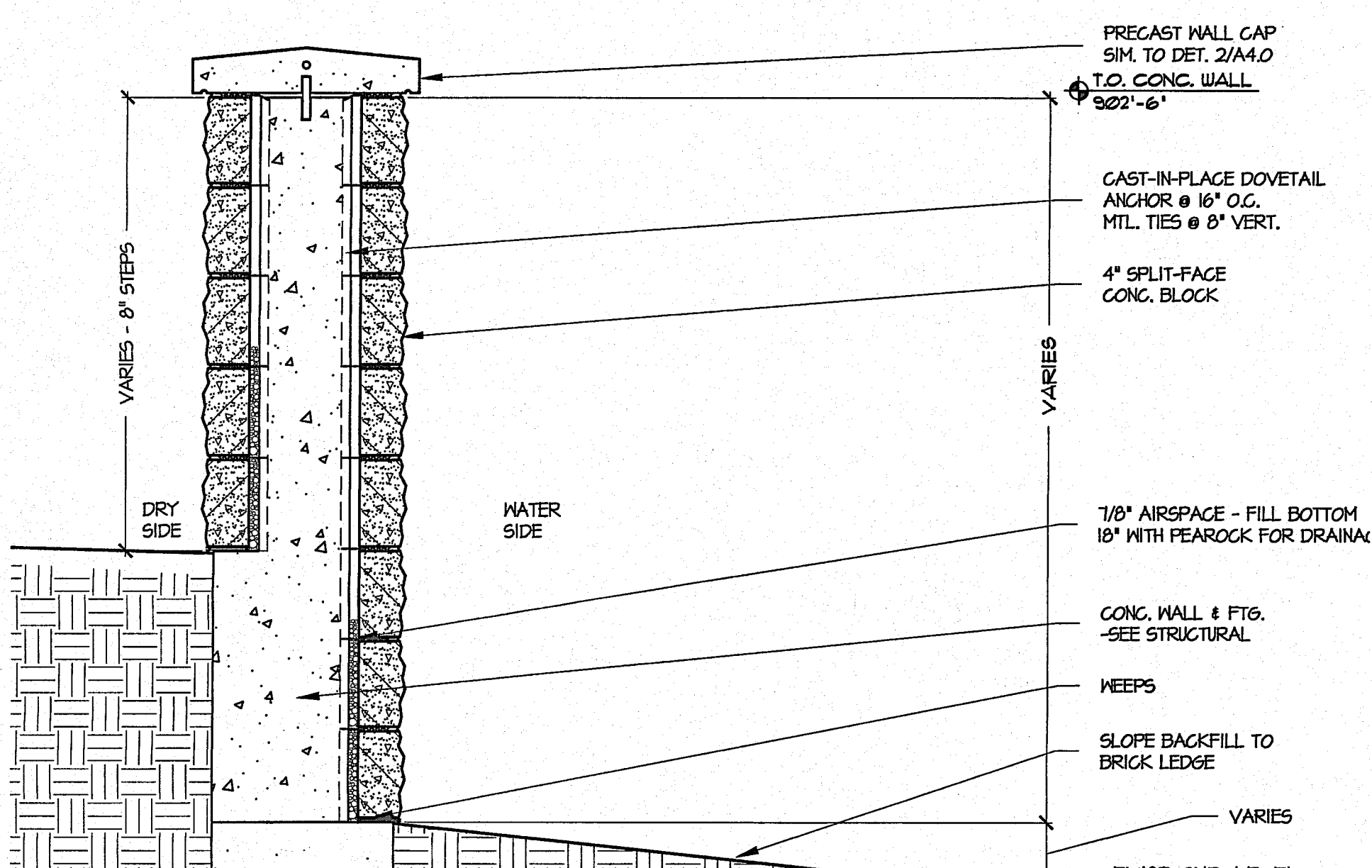
4 WALL SECTION
1" = 1'-0"



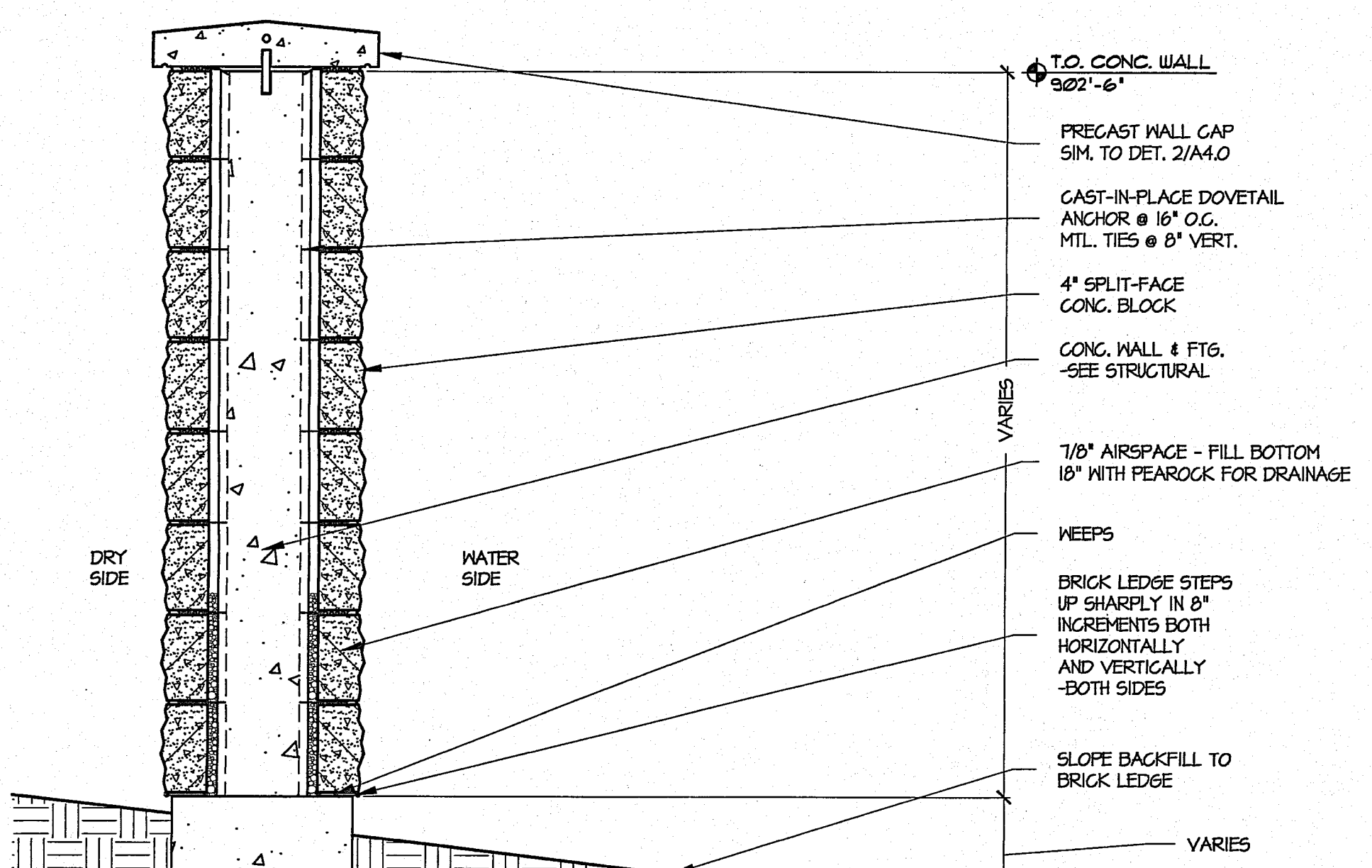
5 WALL SECTION
1" = 1'-0"



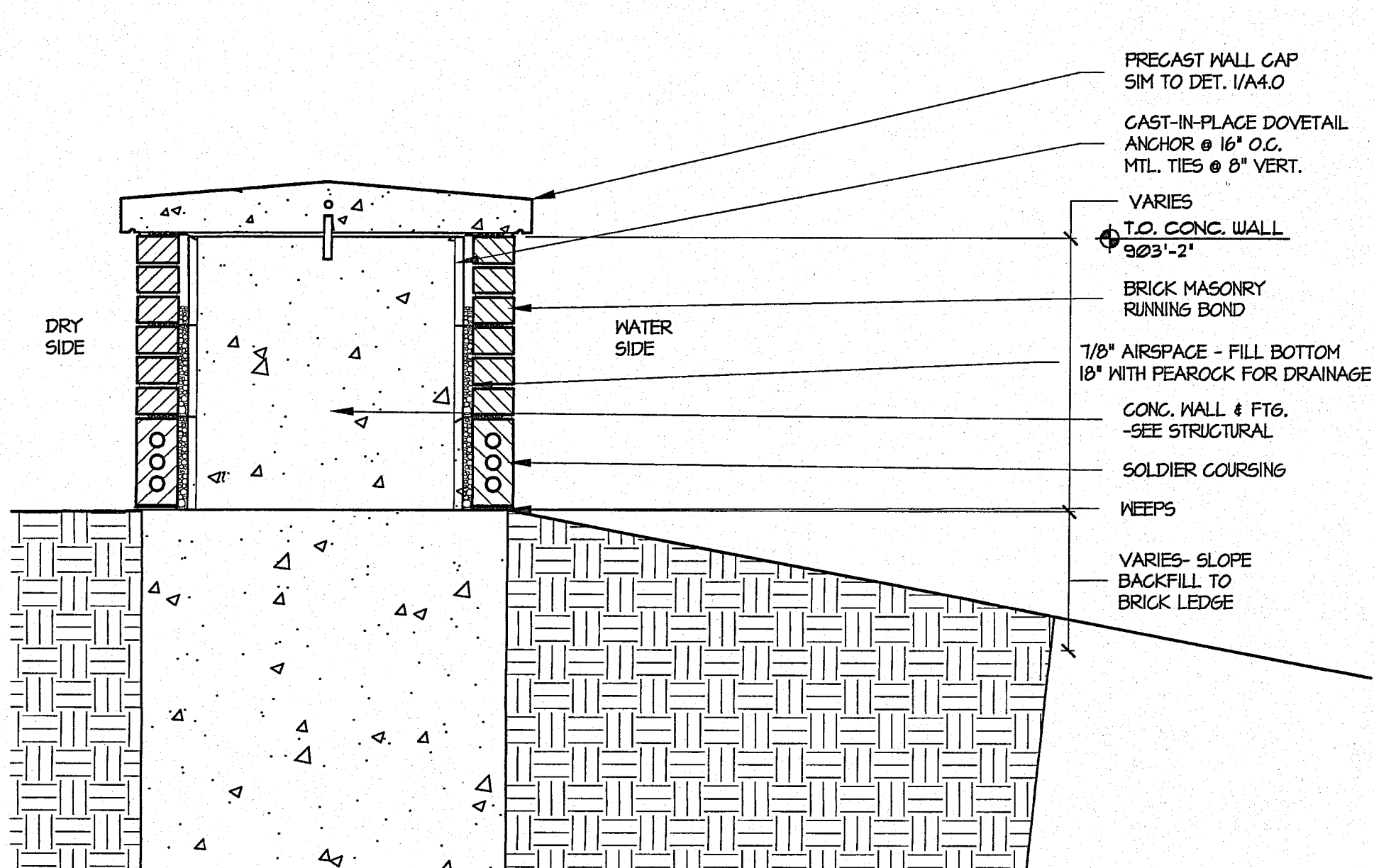
6 WALL SECTION
1" = 1'-0"



7 WALL SECTION
1" = 1'-0"



8 WALL SECTION
1" = 1'-0"



9 WALL SECTION
1" = 1'-0"

CADD NAME / SCALE

A4.dwg

PROJECT NO.

THA - 98676

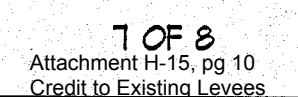
DATE:

April 24, 2000

WALL SECTIONS

A4.0

(216) 236-8593 (Voice)
(701) 232-3271 (Voice)
(701) 232-3272 (Fax)

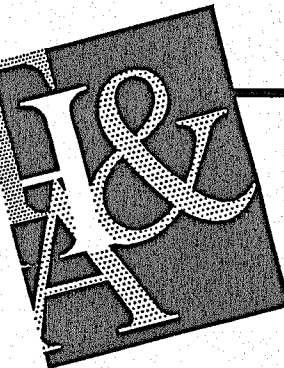


OAK GROVE
FLOODWALL
IMPROVEMENT
PROJECT

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174-ND Project No. 0027

City of Fargo
Special Improvement District #5036

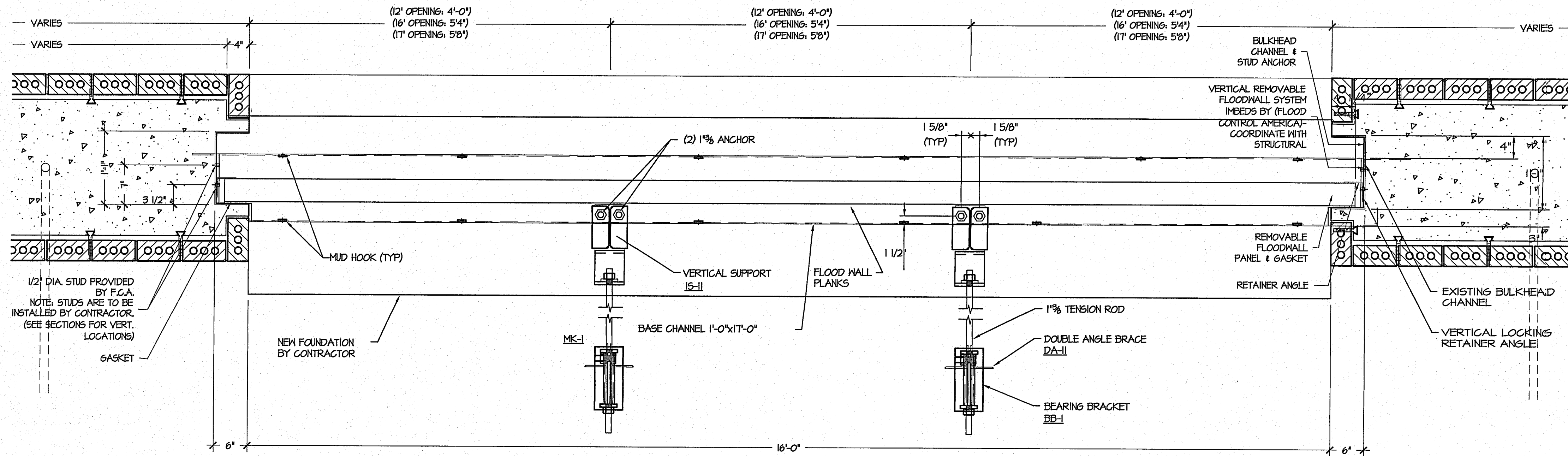


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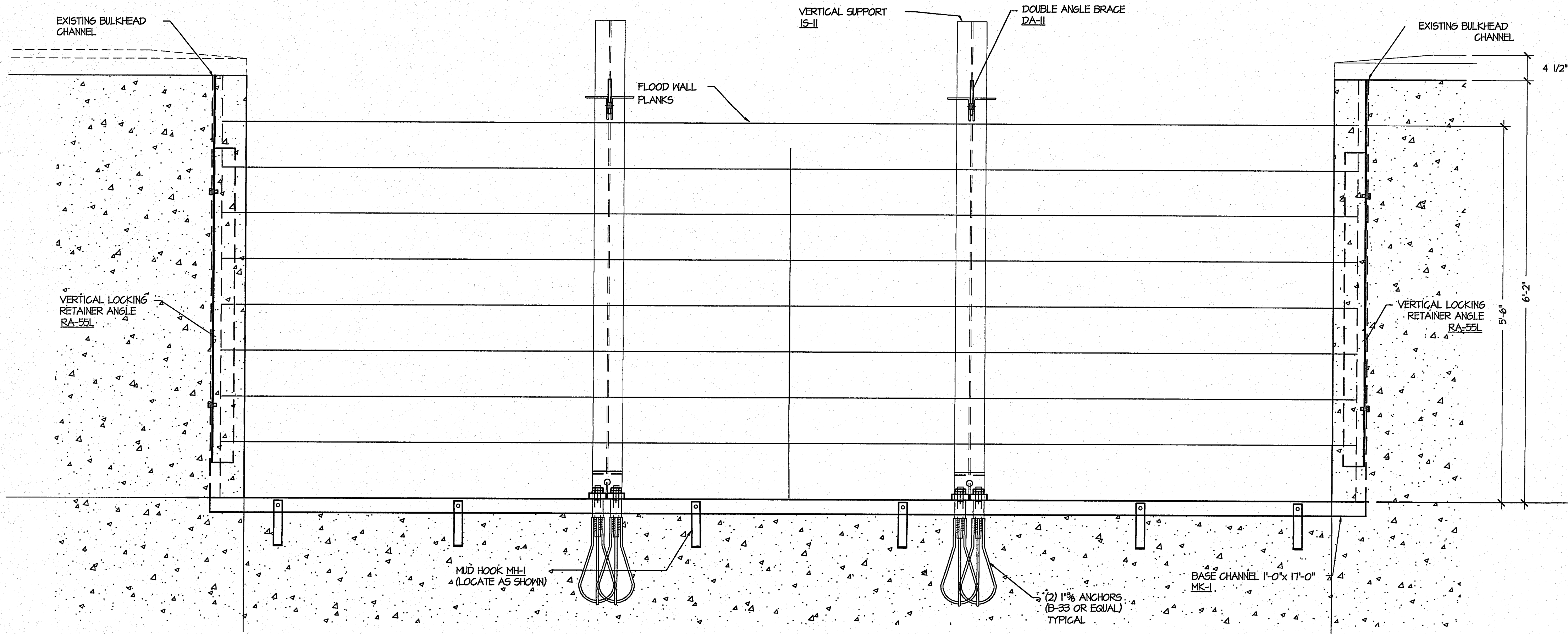
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11 RIVER OAKS POINT
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MOORHEAD, MINNESOTA
616 MAIN AVENUE
FARGO, NORTH DAKOTA

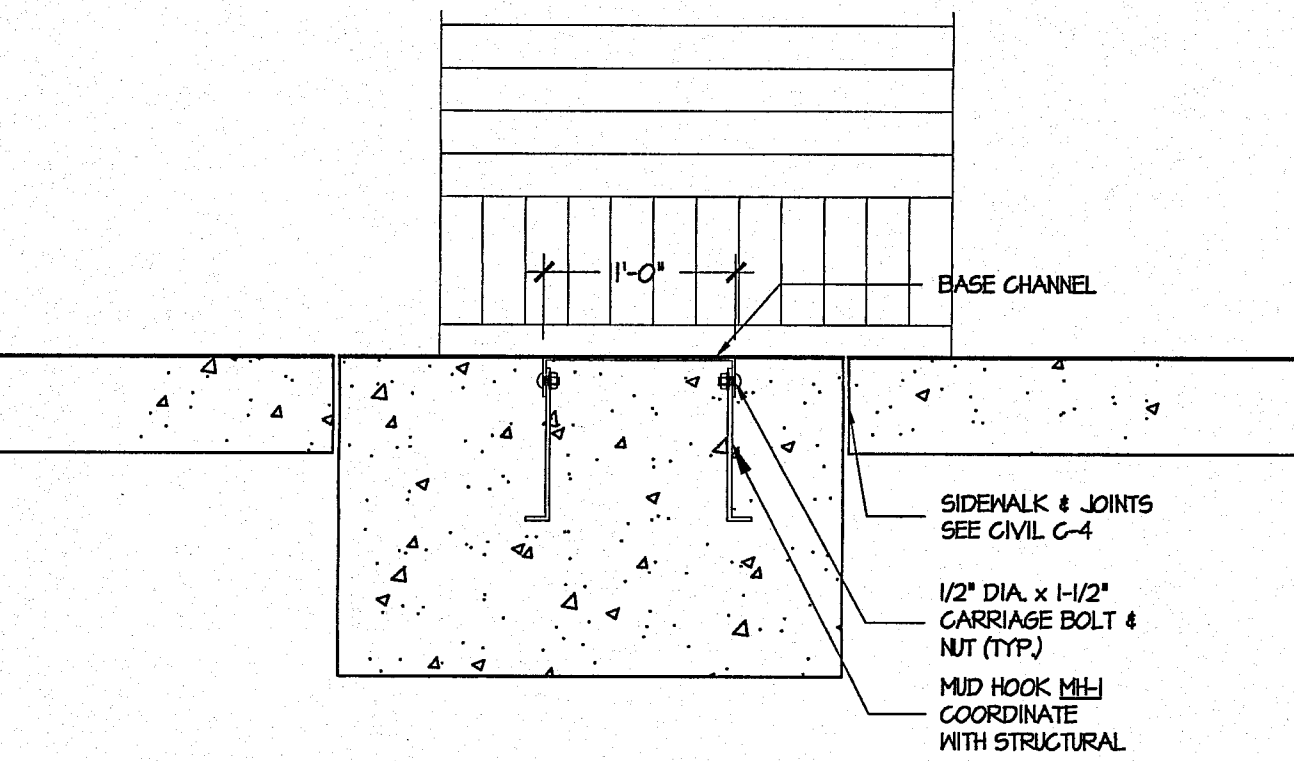
(216) 236-8593 (Voice)
(701) 232-3271 (Voice)
(701) 232-3272 (Fax)



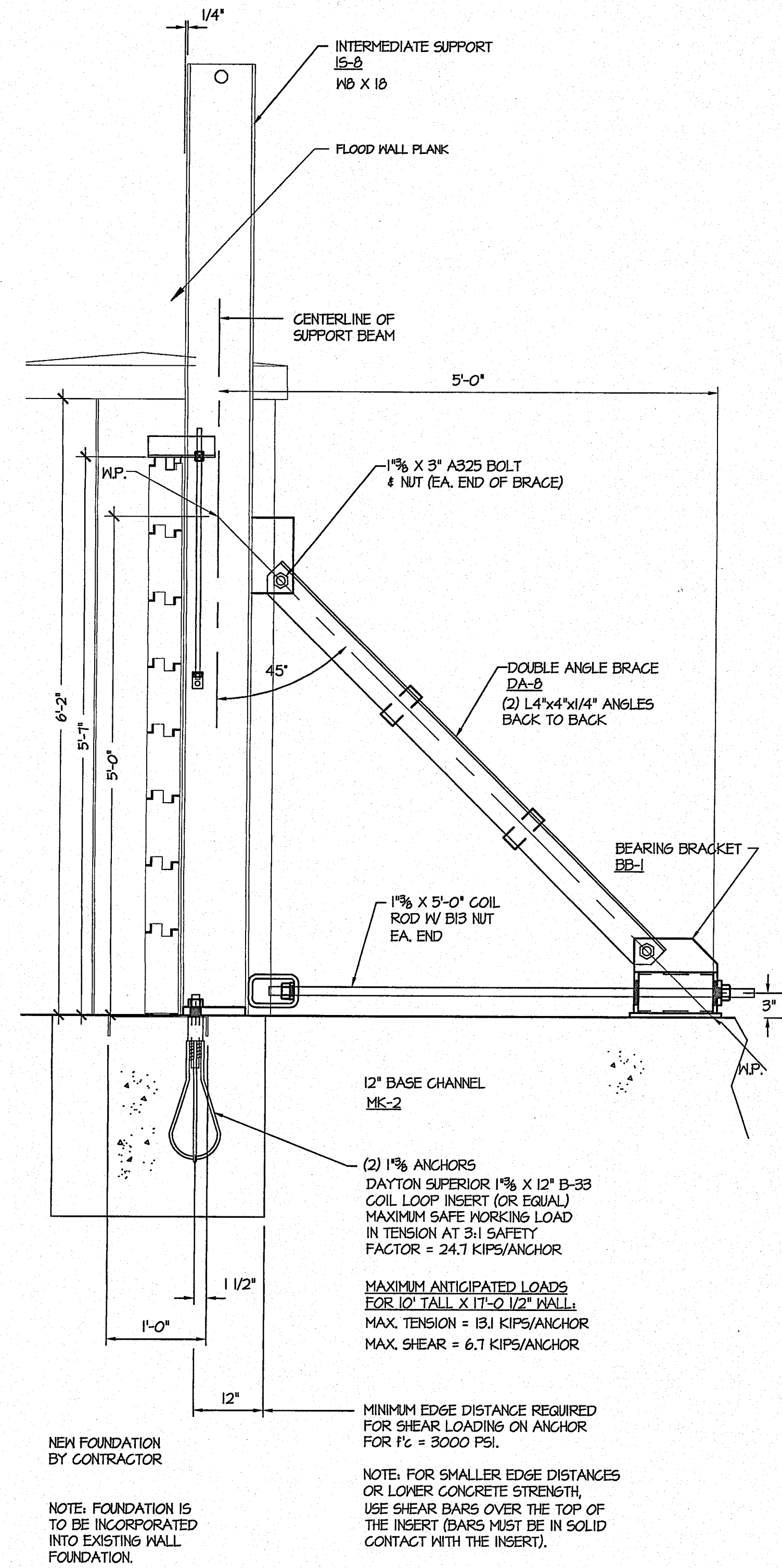
1 REMOVABLE FLOODWALL ELEVATION - 16' OPENING SHOWN
A6.0 1" = 1'-0"



2 REMOVABLE FLOODWALL PLAN VIEW - 16' OPENING SHOWN
A6.0 1" = 1'-0"



3 MUD HOOK DETAIL
A6.0 1" = 1'-0"



3 SECTION AT CENTER SUPPORT
A6.0 1" = 1'-0"

CADD NAME / SCALE
A5.dwg
PROJECT NO.
THA - 90676

DATE:
April 24, 2000

REMOVABLE FLOODWALL DWGS.

A6.0

8 OF 8
Attachment H-15, pg 11
Credit to Existing Layouts

6: VACTIVE\90676\DWGS\MDVA5

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174- ND Project No. 0027



ARCHITECTS AND CONSTRUCTION MANAGEMENT

616 MAIN AVENUE
FARGO, NORTH DAKOTA

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UNDER THE LAWS OF THE
STATE OF NORTH DAKOTA

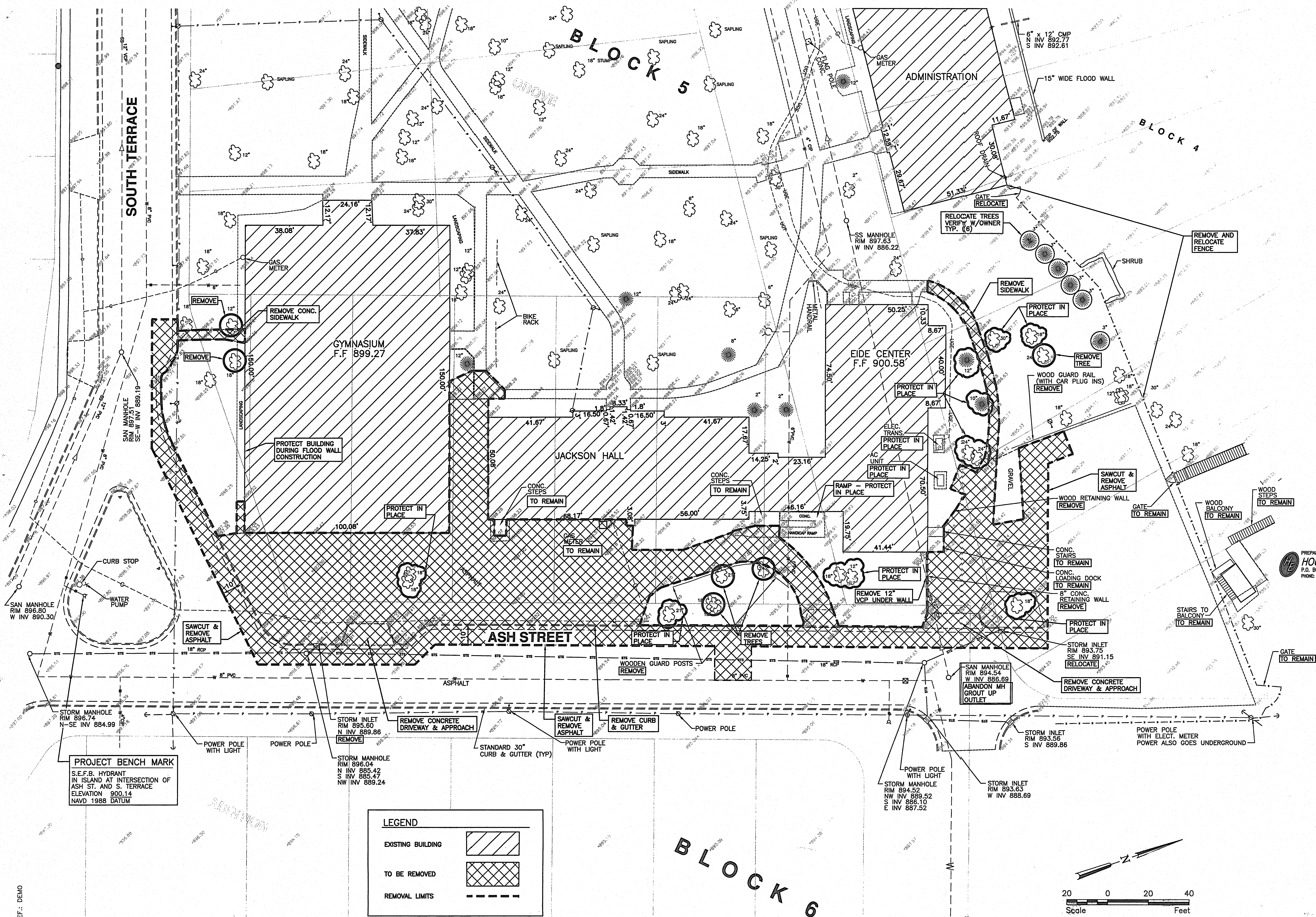
Richard L. Gunderson
RICHARD L. GUNDERSON
APRIL 18, 2000 4032
DATE REG NO

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DEMO
PROJECT NO.
3906.01

DATE:
APRIL 18, 2000

C 2.0

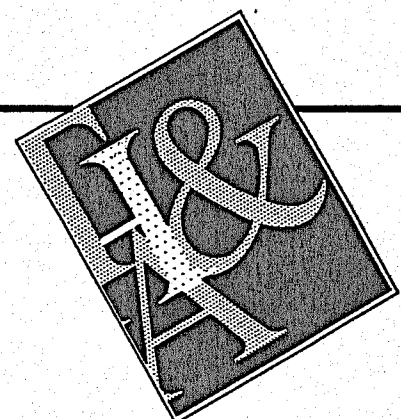


OAK GROVE
FLOODWALL
IMPROVEMENT
PROJECT

FARGO
NORTH DAKOTA

HAZARD MITIGATION
GRANT PROGRAM
DR 1174-ND Project No. 0027

City of Fargo
Special Improvement District #5036



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HOUSTON ENGINEERING, INC.
P.O. BOX 5054 FARGO, NORTH DAKOTA 58105
PHONE: (701) 237-5085 FAX: (701) 237-5101

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UNDER THE LAWS OF THE
STATE OF NORTH DAKOTA

Richard L. Gunderson
RICHARD L. GUNDERSON
APRIL 20, 2000 4032
DATE REG NO

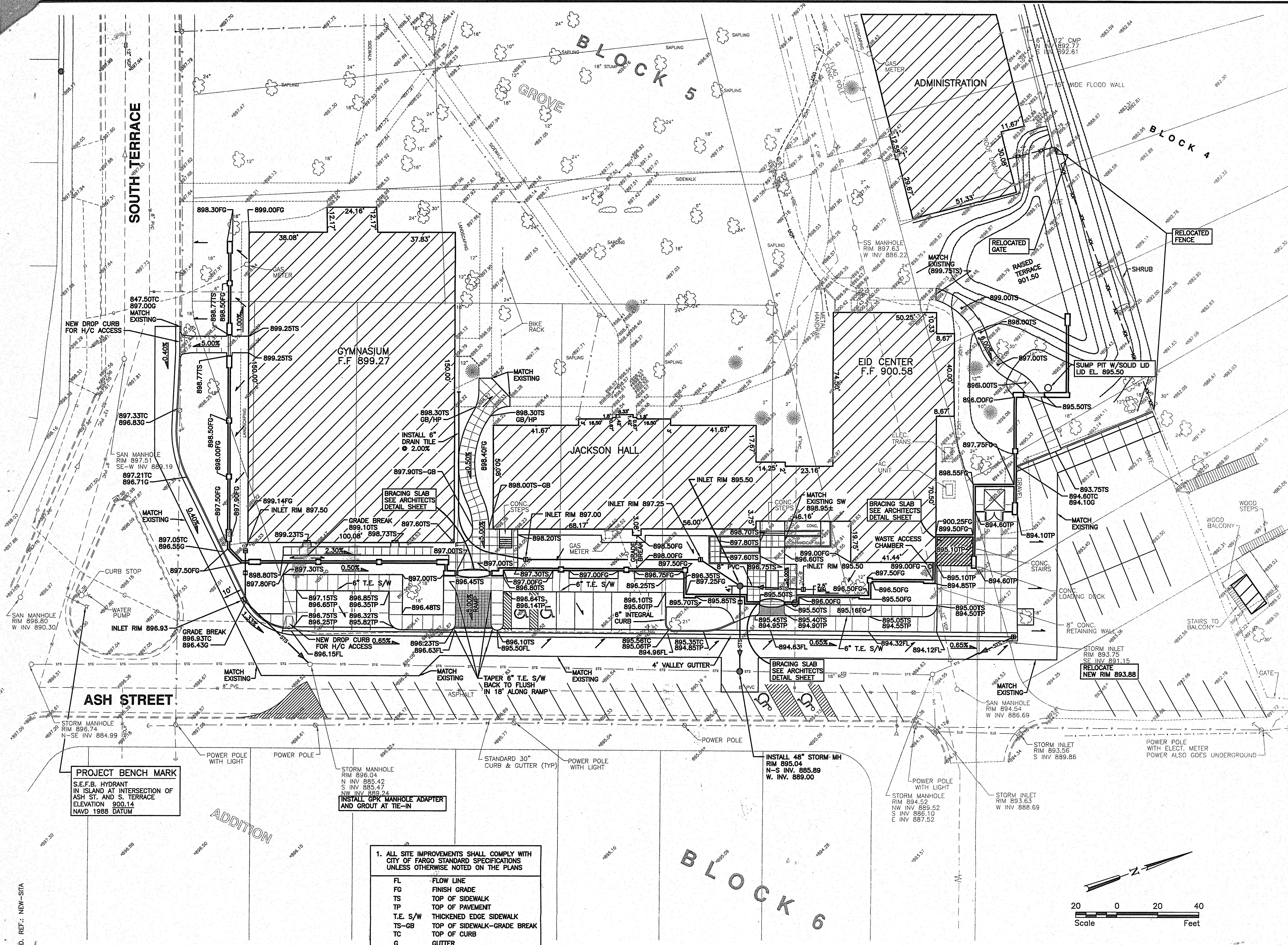
GRADING
SITE PLAN

CADD NAME / SCALE

NEW-SITA
PROJECT NO.
3690.002

DATE:
APRIL 20, 2000

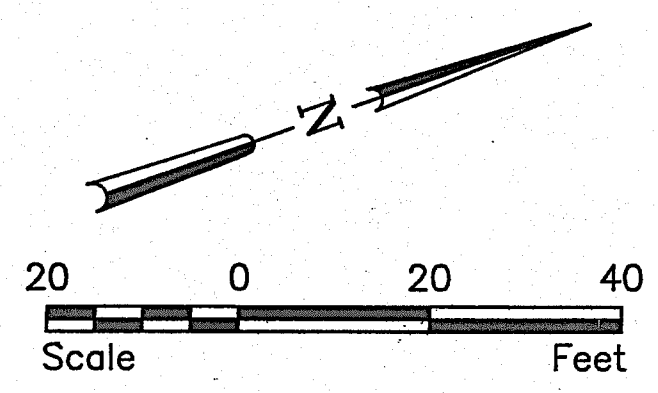
C 3.0



PROJECT BENCH MARK
S.E.F.B. HYDRANT
IN ISLAND AT INTERSECTION OF
ASH ST. AND S. TERRACE
ELEVATION 900.14
NAVD 1988 DATUM

INSTALL GPK MANHOLE ADAPTER
AND GROUT AT TIE-IN

1. ALL SITE IMPROVEMENTS SHALL COMPLY WITH CITY OF FARGO STANDARD SPECIFICATIONS UNLESS OTHERWISE NOTED ON THE PLANS	
FL	FLOW LINE
FG	FINISH GRADE
TS	TOP OF SIDEWALK
TP	TOP OF PAVEMENT
T.E. S/W	THICKENED EDGE SIDEWALK
TS-CB	TOP OF SIDEWALK-GRADE BREAK
TC	TOP OF CURB
G	GUTTER



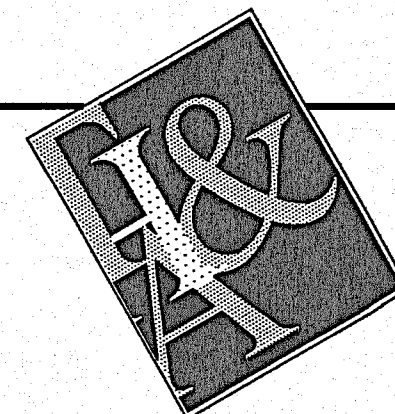
CAD. REF.: NEW-SITA

OAK GROVE FLOODWALL IMPROVEMENT PROJECT

FARGO
NORTH DAKOTA

HAZARD MITIGATION
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DR 1174-ND Project No. 0027

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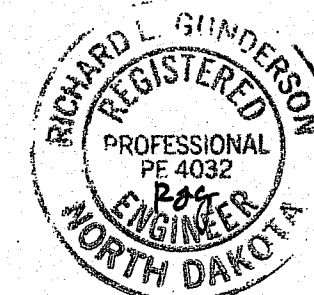


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Richard L. Gunderson
RICHARD L. GUNDERSON
APRIL 20, 2008 4032
DATE REG NO

PAVING & UTILITY PLAN

CADD NAME / SCALE

NEW-SITB

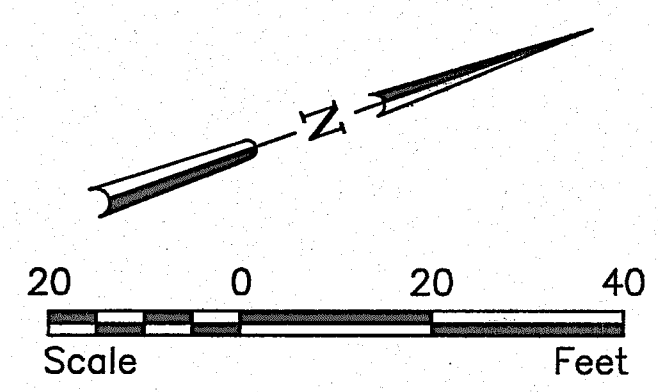
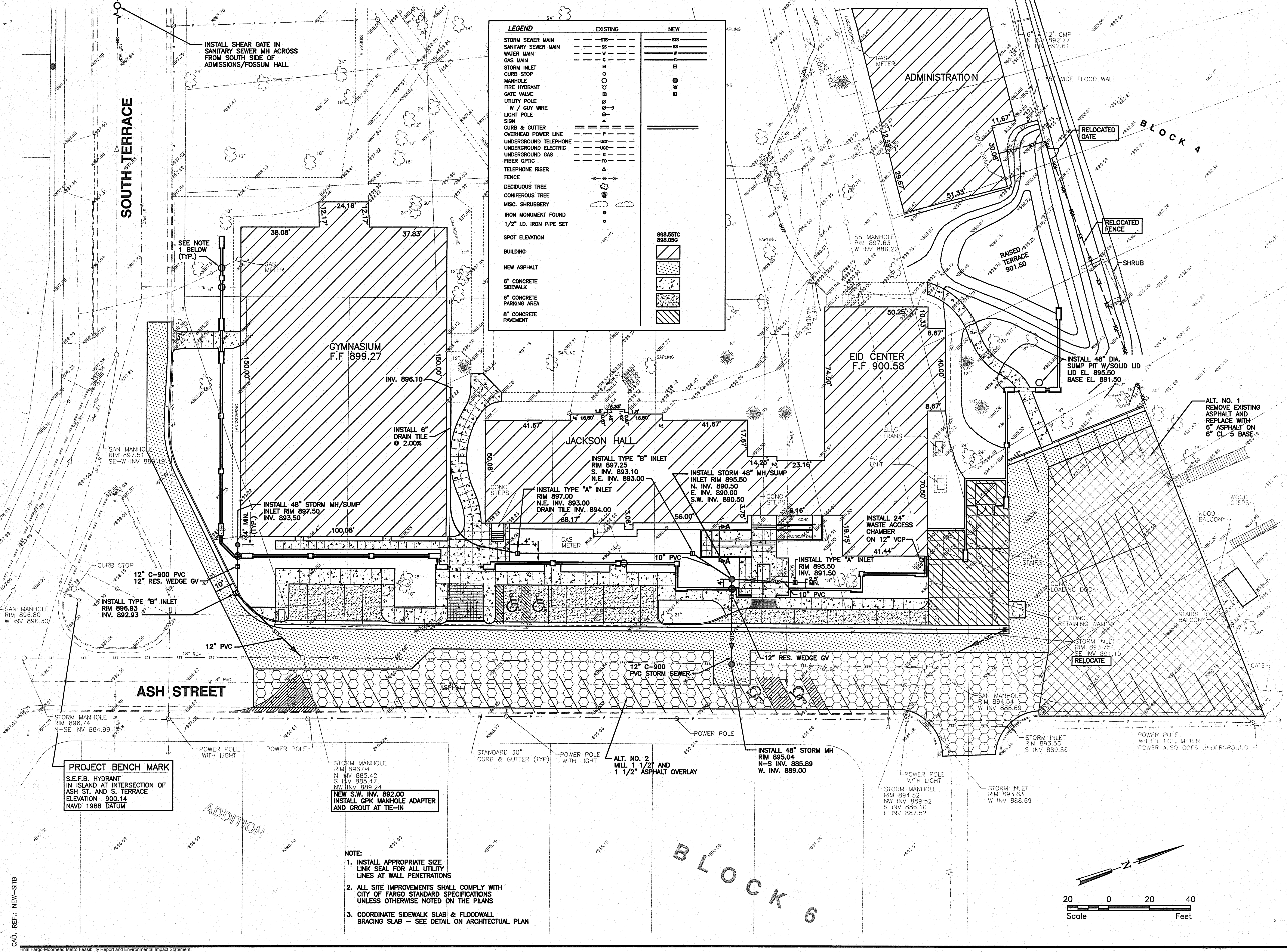
PROJECT NO.

3690.002

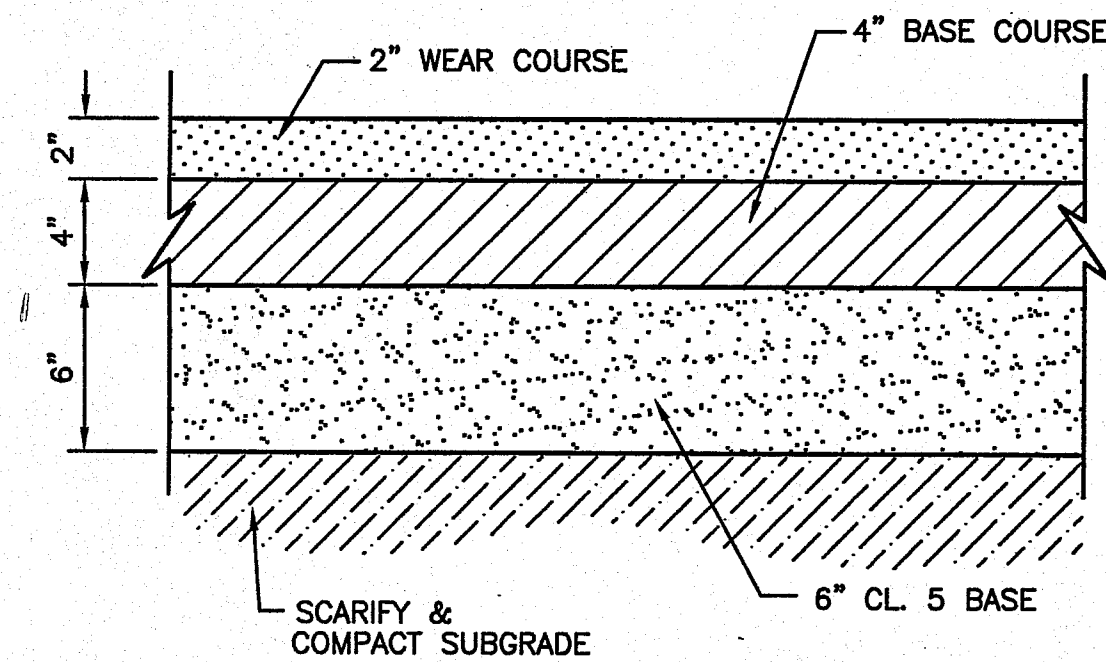
DATE:

APRIL 20, 2000

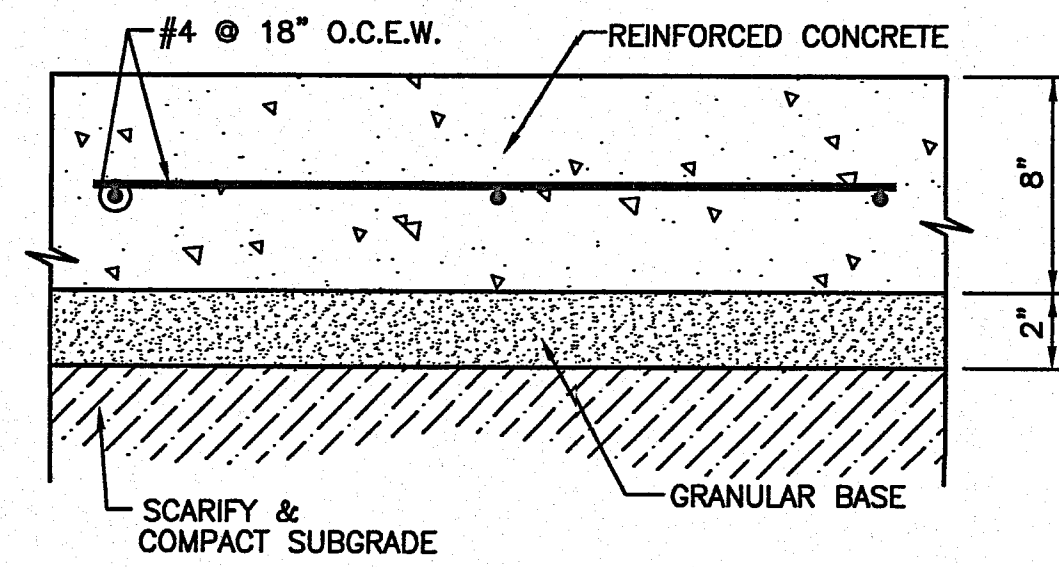
C 4.0



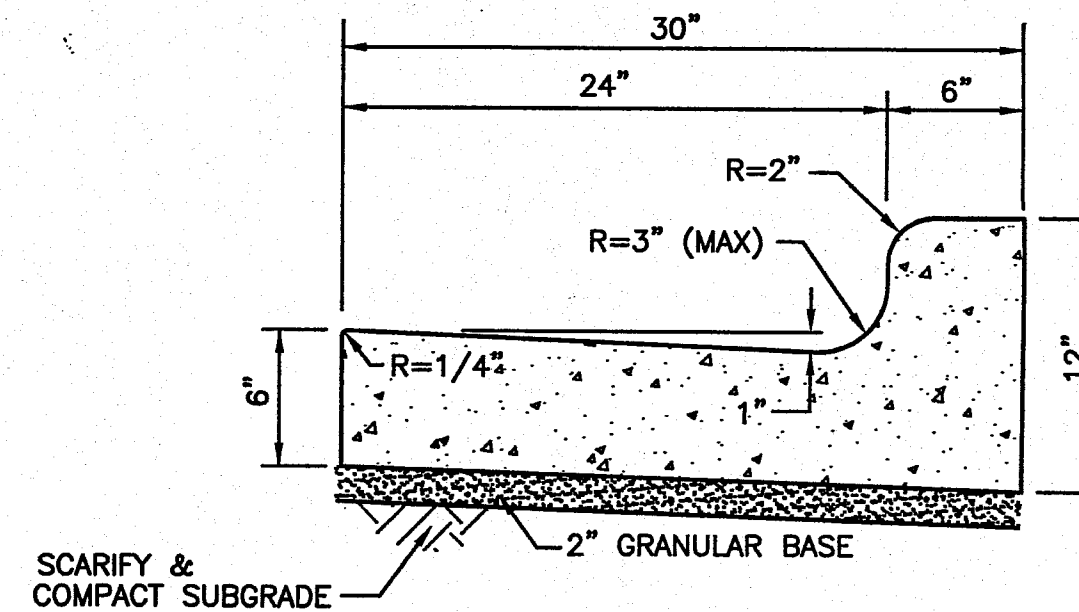
CAD. REF.: NEW-SITB



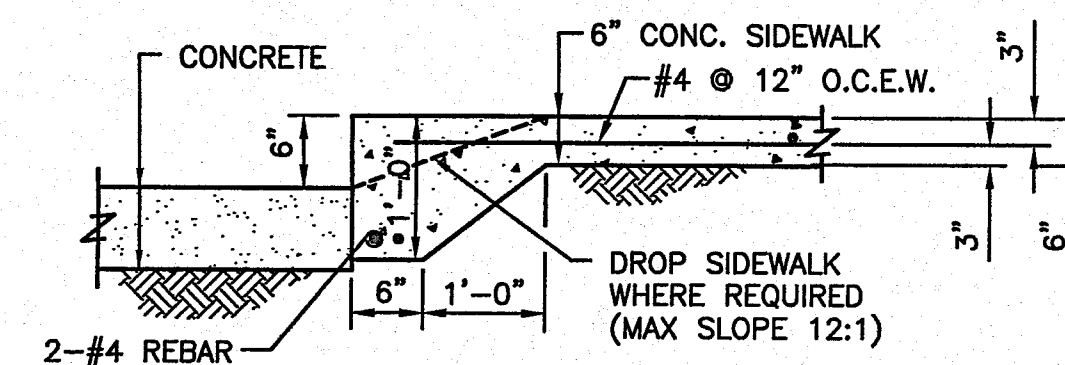
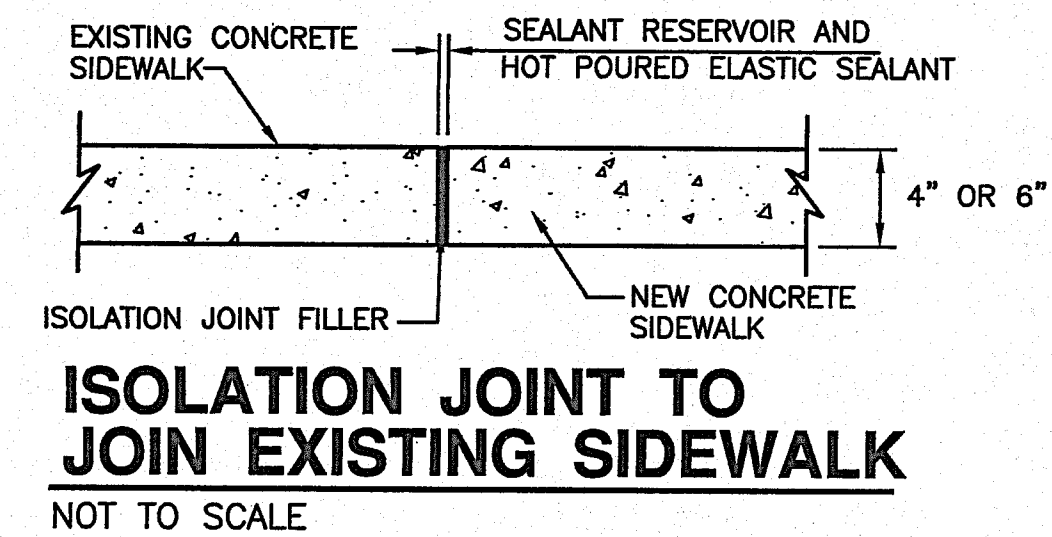
ASPHALT PAVING DETAIL
NOT TO SCALE



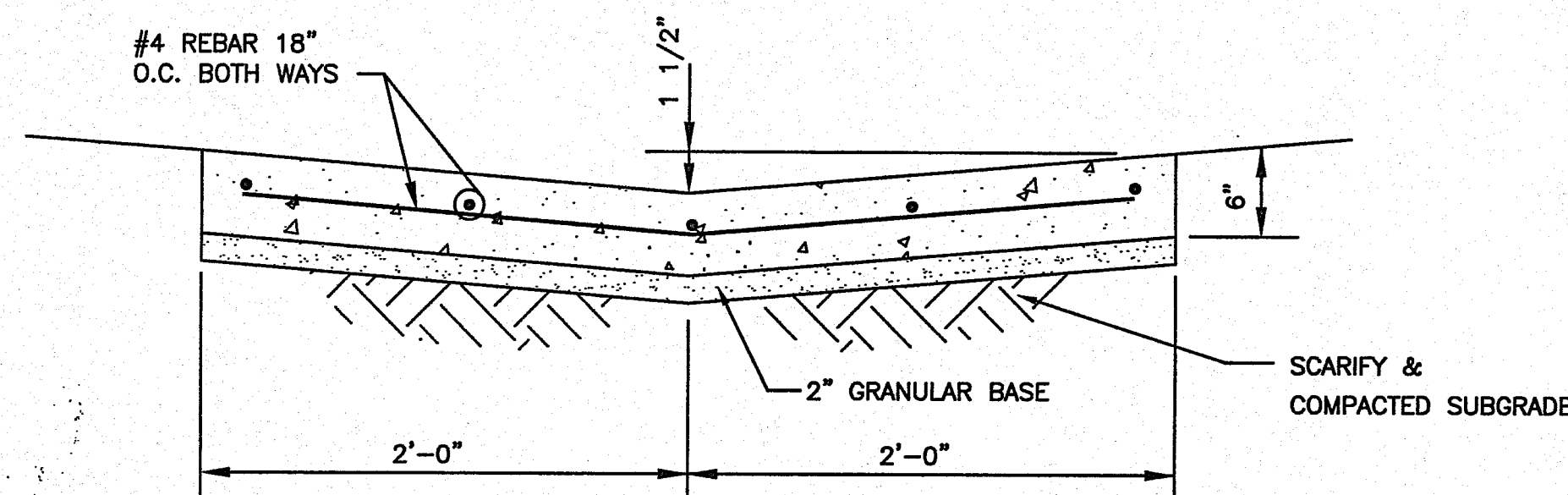
8" CONCRETE SECTION
NOT TO SCALE



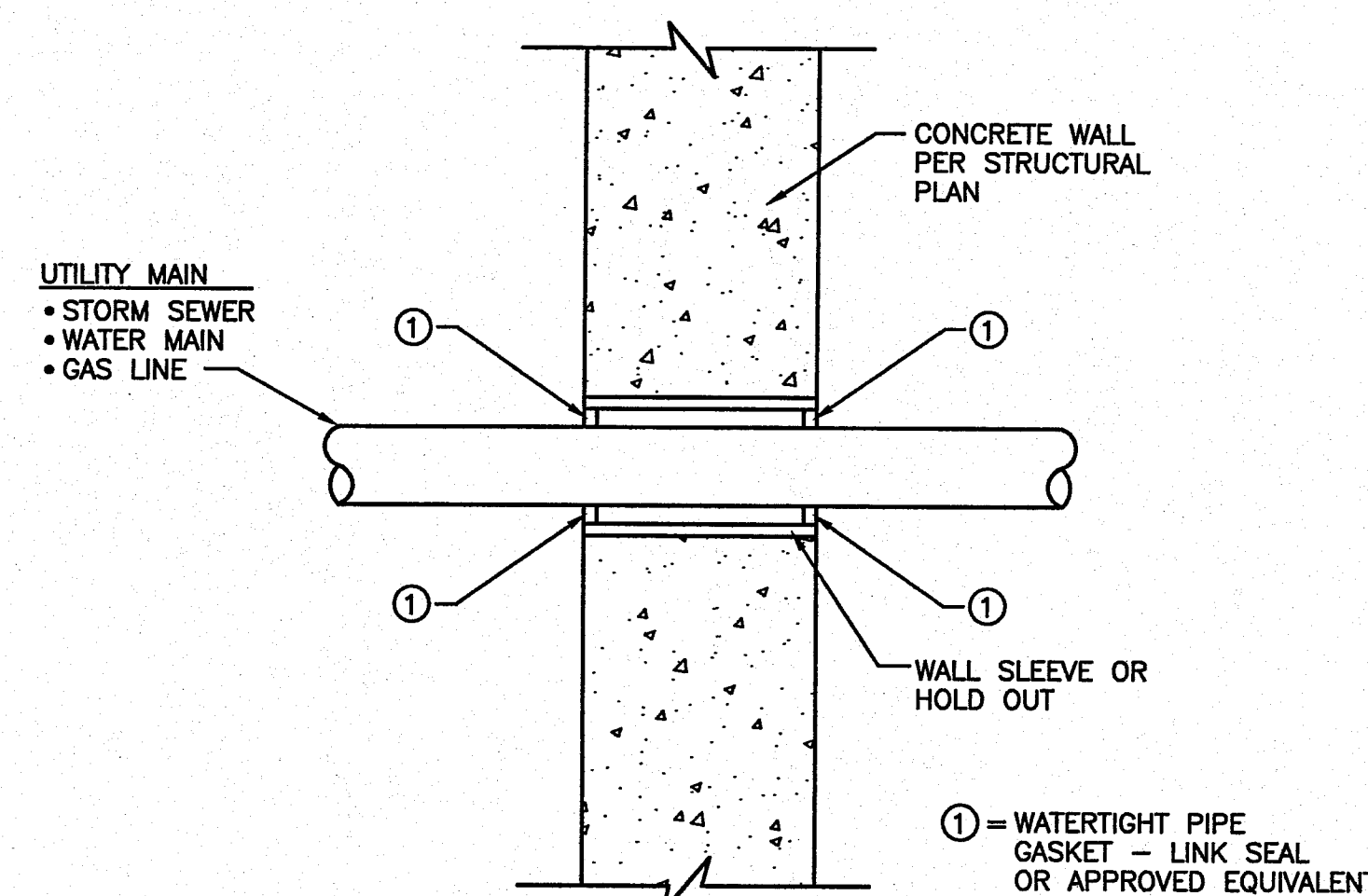
STANDARD CURB & GUTTER DETAIL
NOT TO SCALE



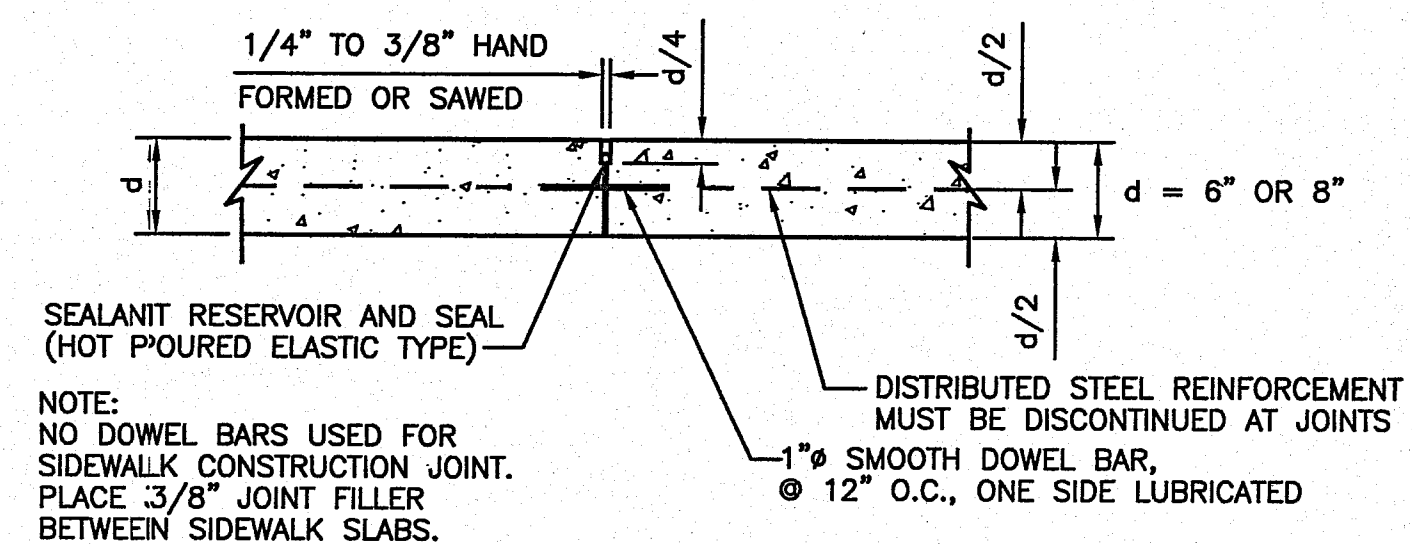
**TYPICAL SIDEWALK
WITH THICKENED EDGE**
NOT TO SCALE



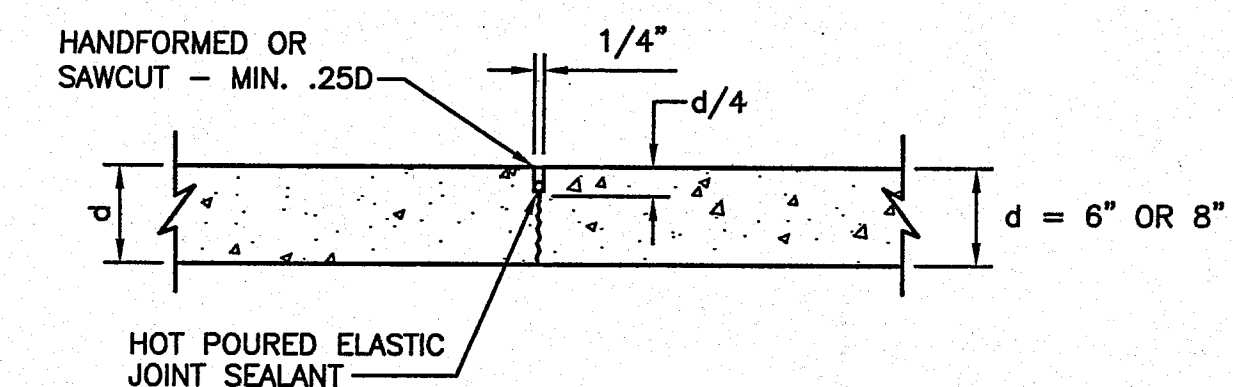
VALLEY GUTTER DETAIL
NOT TO SCALE



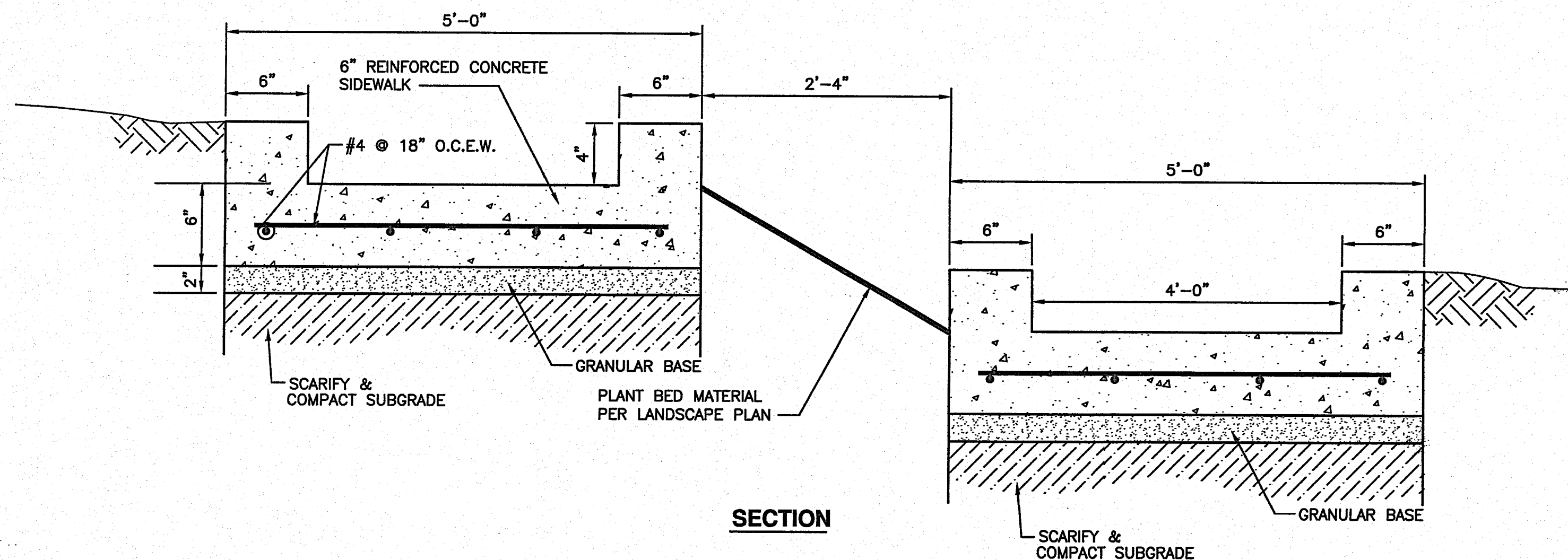
WALL PENETRATION SEAL DETAIL
NOT TO SCALE



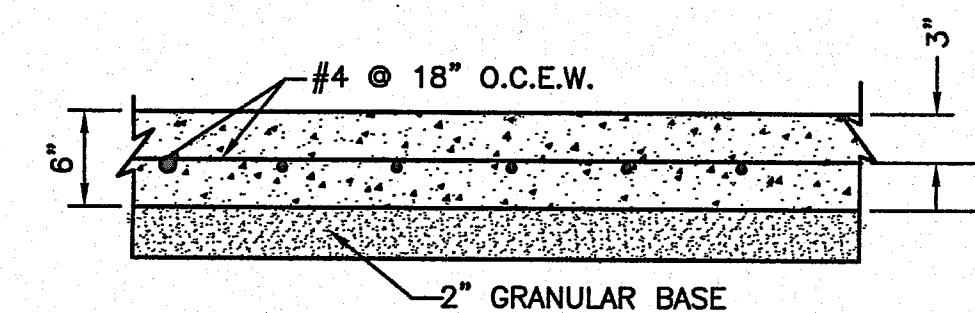
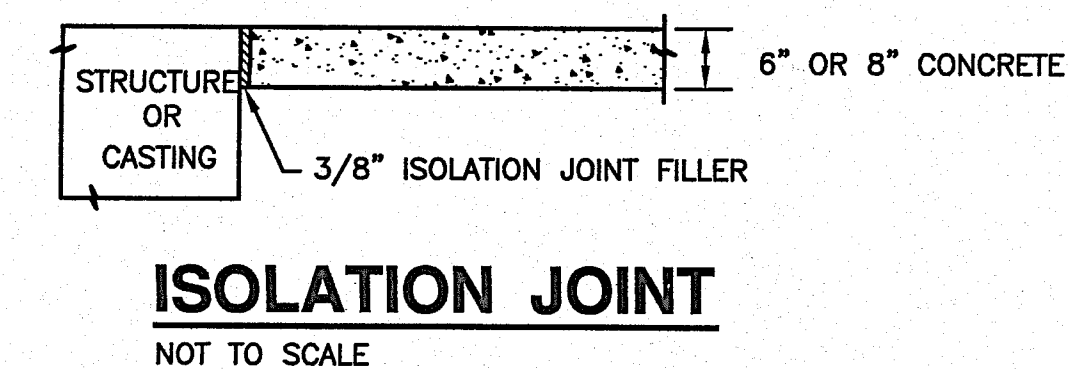
CONSTRUCTION JOINT
NOT TO SCALE



**CONTRACTION JOINT DETAIL
(LONGITUDINAL OR TRANSVERSE)**
NOT TO SCALE



RAMP DETAIL
NOT TO SCALE



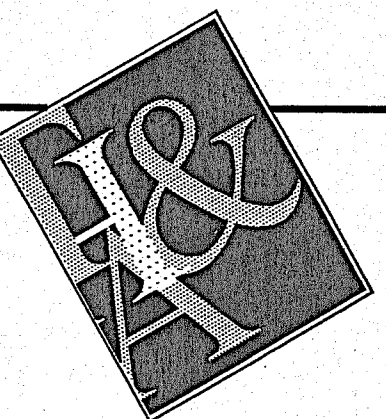
6" CONCRETE SIDEWALK
NOT TO SCALE

OAK GROVE FLOODWALL IMPROVEMENT PROJECT

FARGO
NORTH DAKOTA

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DR 1174-ND Project No. 0027

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RICHARD L. GUNDERSON
APRIL 20, 2000 4032
DATE REG NO

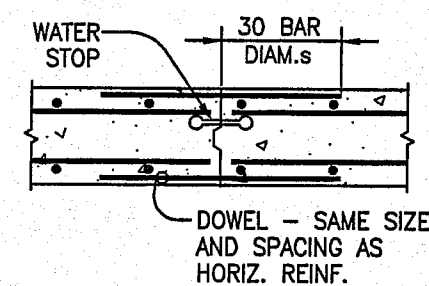
DETAILS

CADD NAME	SCALE
DETAILS	NONE
PROJECT NO.	3690.002
DATE:	APRIL 20, 2000

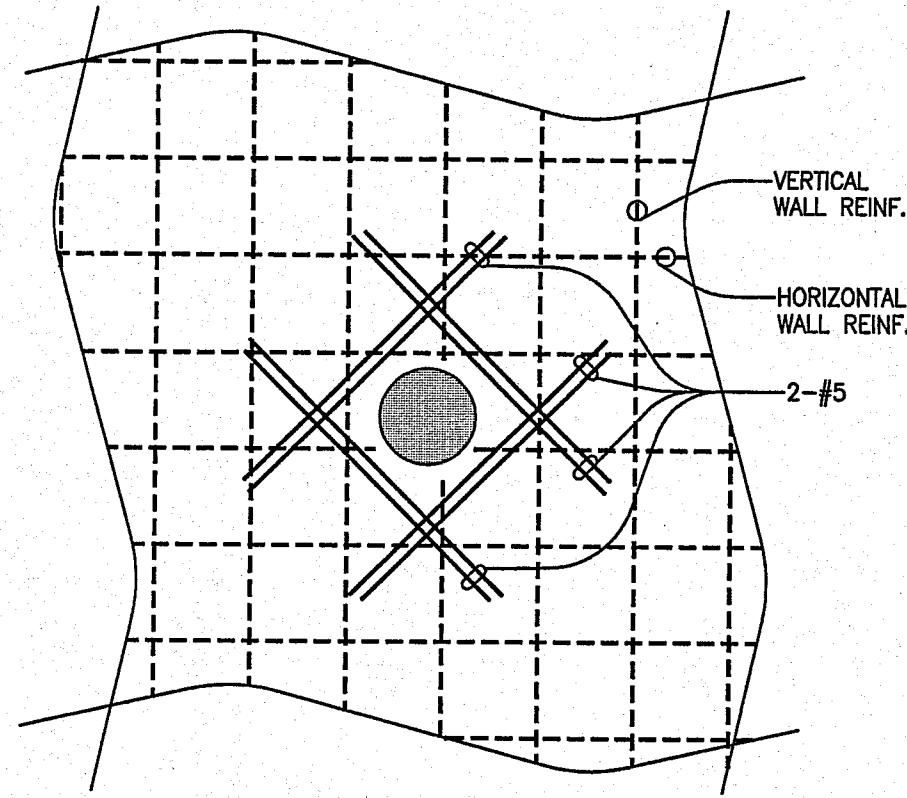
C 5.0

GENERAL STRUCTURAL NOTES

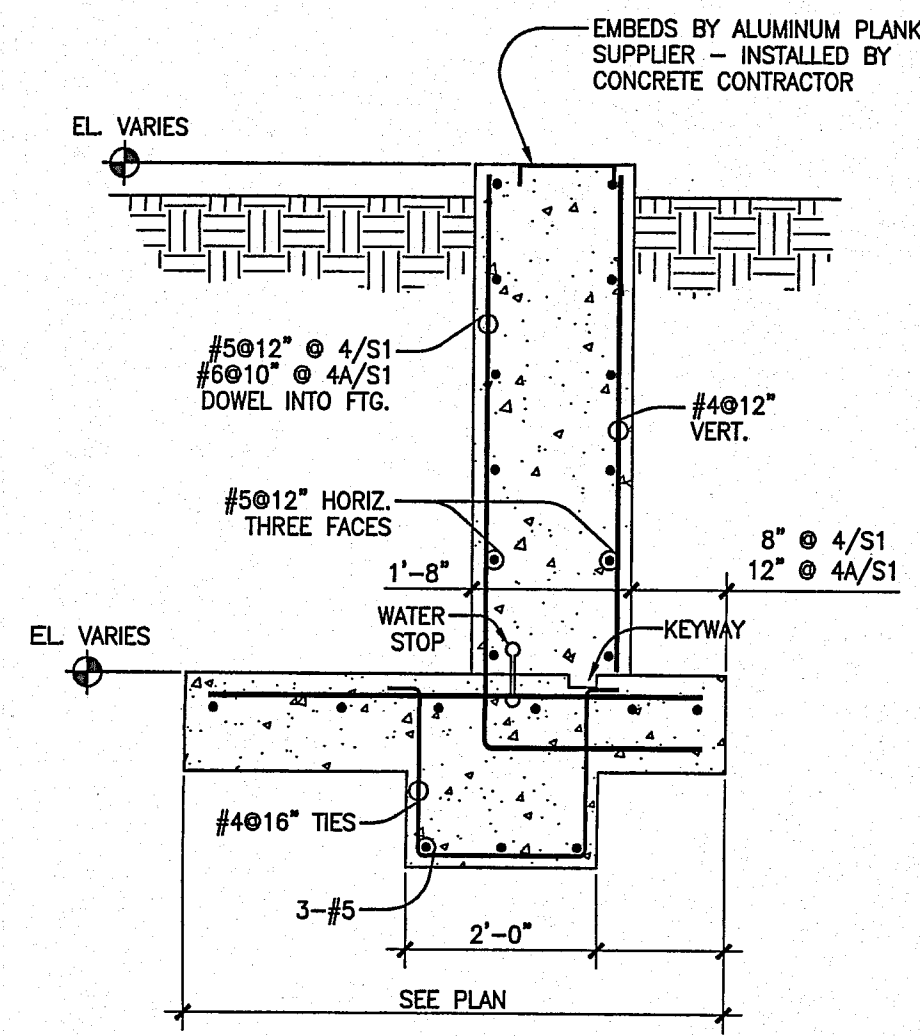
- Design Codes Used:
Uniform Building Code
ACI Concrete Code
- Design Stresses Used:
Concrete 4000 PSI @ 28 days
Reinforcing Steel 60 KSI (ASTM A615-60)
Soil Bearing Pressure 2000 PSF
- FOOTINGS to rest on undisturbed soil or engineered backfill.
All walls and piers to center on footing unless otherwise noted.
All footing elevations are given to the top of footings.
- ALL FOUNDATION WALLS to be laterally supported before backfilling.
Vertical construction joints to be keyed.
- OPENINGS in concrete FOUNDATION WALLS shall be reinforced with 2-#5 bars each side, extending 2'-0" past the face of the opening unless otherwise noted.
- CONCRETE COVERAGE for reinforcing shall be as follows:
Footings 3 inches
Columns, Piers, & Walls 1 1/2 inches
- REINFORCING STEEL to be bent and placed in accordance with ACI code. All tension splices to be 36 bar diameters and compression splices to be 30 bar diameters.



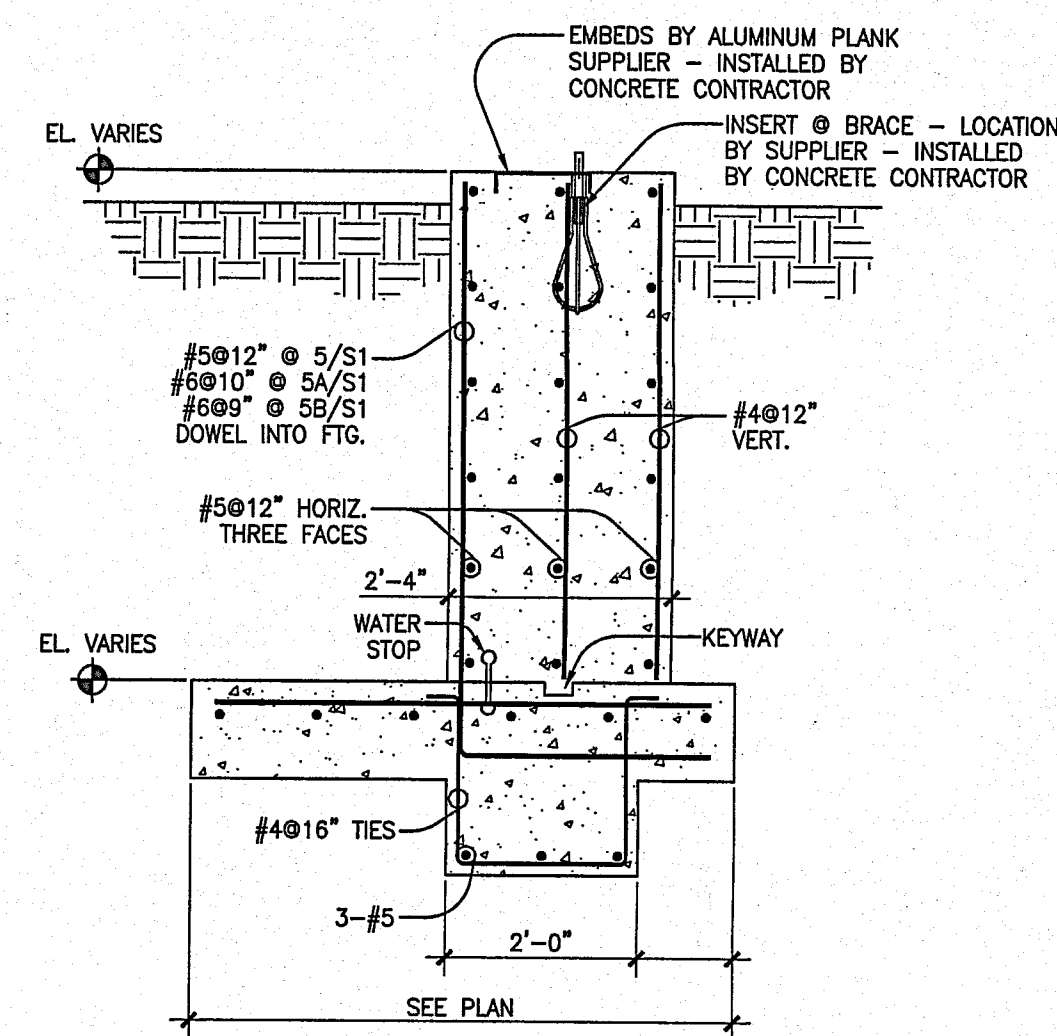
2
S-1
DETAIL
TYP. CONSTRUCTION JOINT
AT FOUNDATION WALL



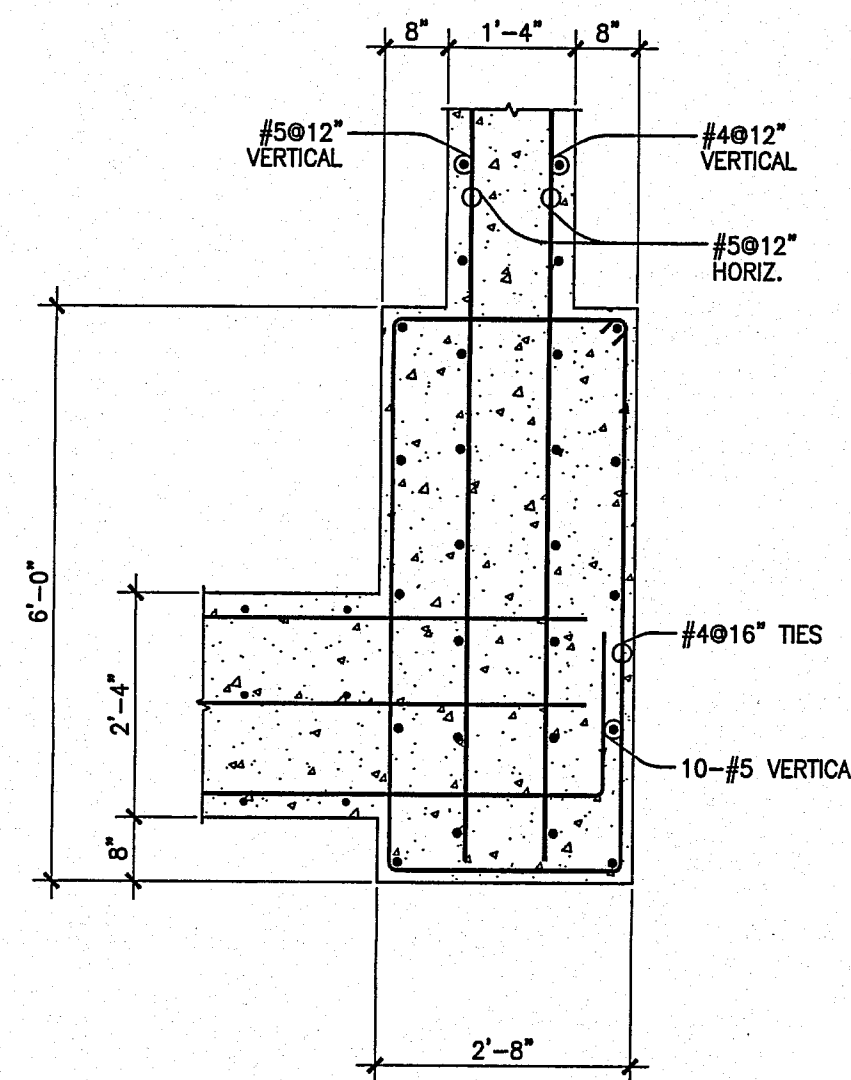
3
S-1
TYPICAL REINFORCING
AT ALL WALL PENETRATIONS
DETAIL
1/2"=1'-0"



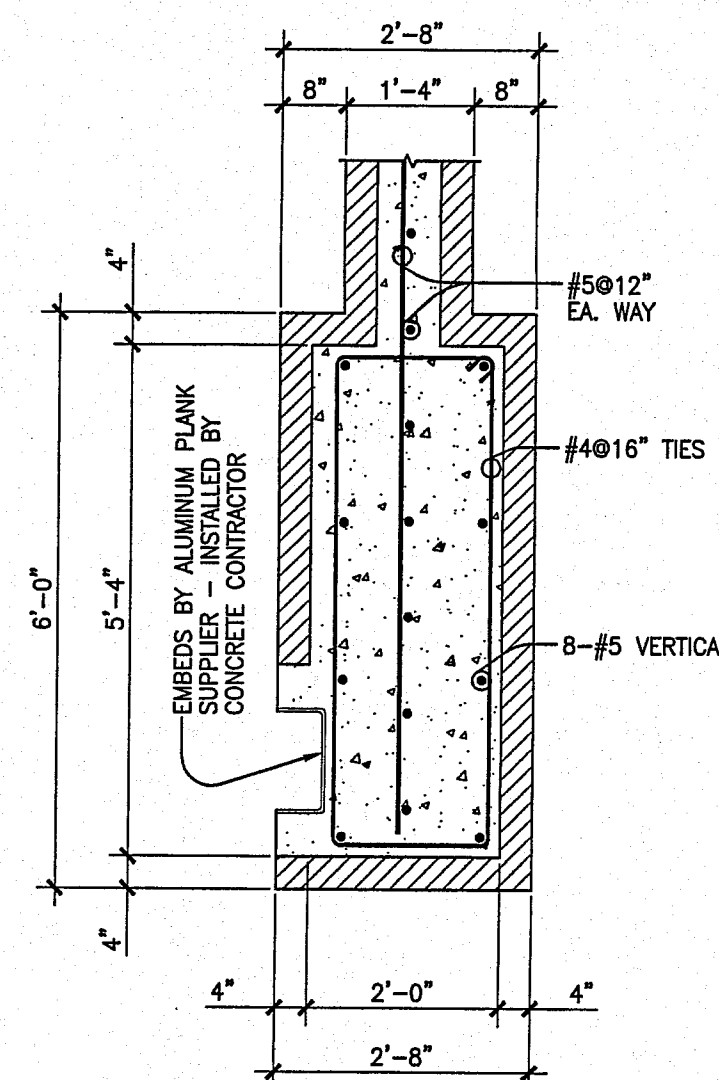
4
S-1
4A
S-1
SECTION
1/2"=1'-0"



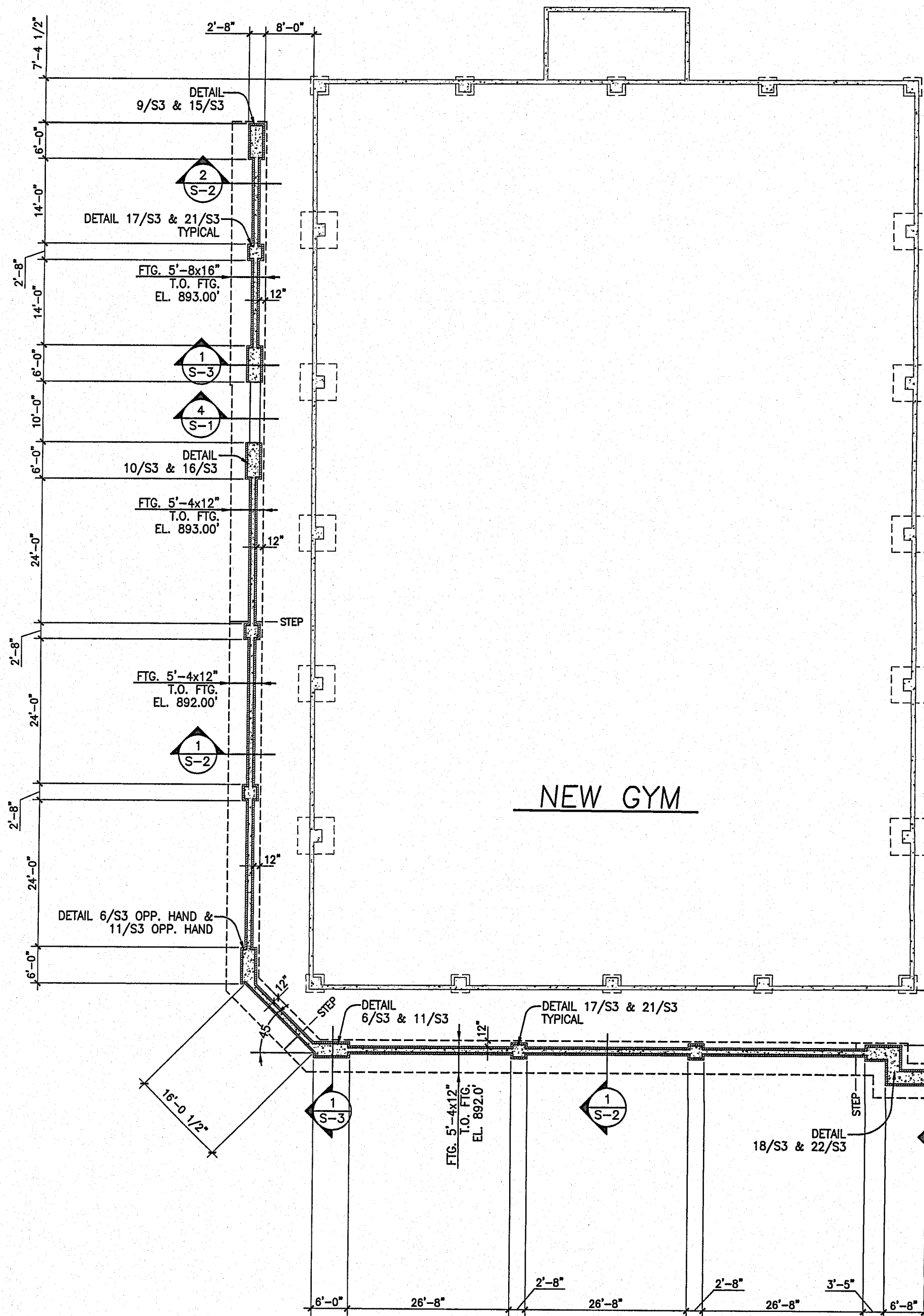
5
S-1
5A
S-1
SECTION
1/2"=1'-0"



6
S-1
DETAIL
1/2"=1'-0"

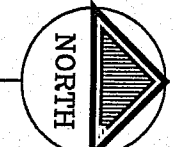


7
S-1
DETAIL
1/2"=1'-0"



1
S-1
FLOODWALL FOUNDATION PLAN
1/6"=1'-0"

NOTES: SEE ARCHITECTURAL DRAWINGS FOR BRICK LEDGE ELEVATIONS
SEE CIVIL DRAWINGS FOR LINK SEALS AT ALL PIPE PENETRATIONS IN FLOODWALL



OAK GROVE
FLOODWALL
IMPROVEMENT
PROJECT

FARGO
NORTH DAKOTA

THA
TRIEBWASSER
HELENSKE
AND
ASSOCIATES, LTD.

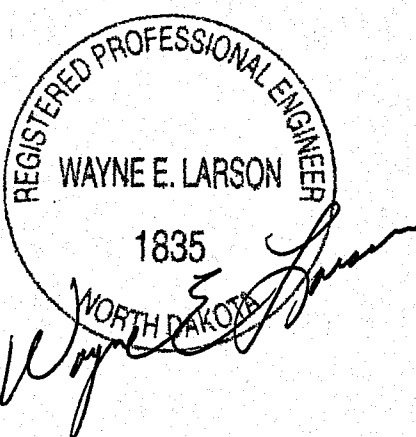
♦ ARCHITECTS ♦

AND
CONSTRUCTION
MANAGEMENT

11 RIVER OAKS POINT
MOOREHEAD, MINNESOTA

616 MAIN AVENUE
FARGO, NORTH DAKOTA

♦
701 232-3271 (P)
701 232-3272 (F)

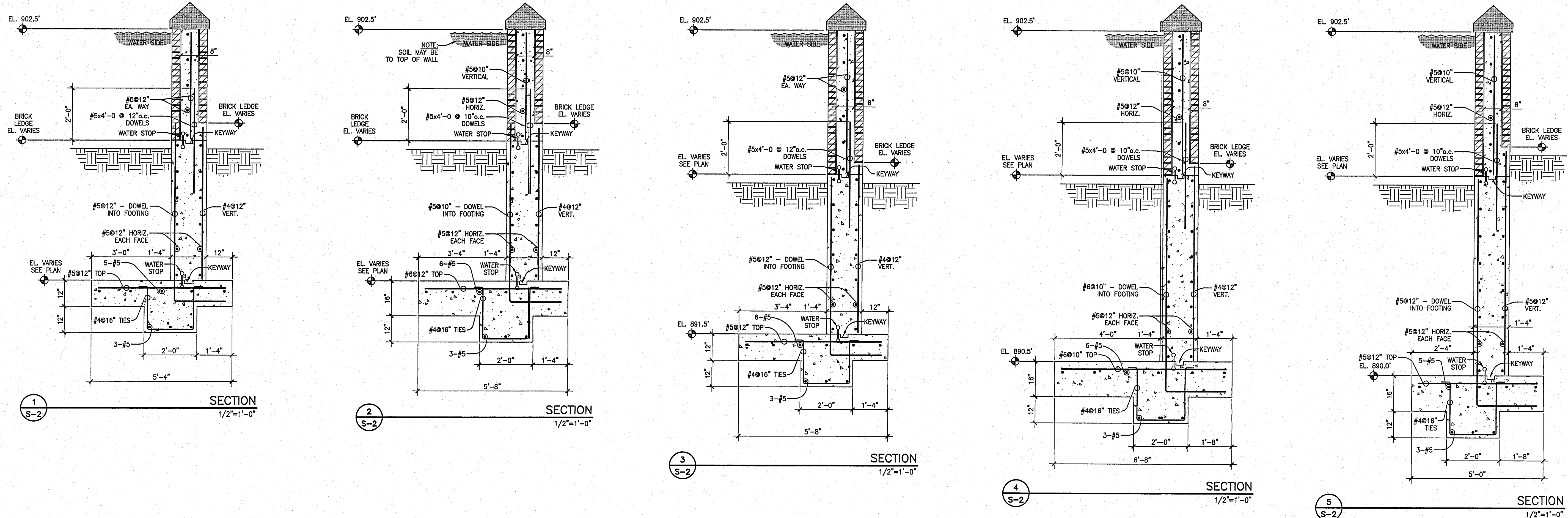
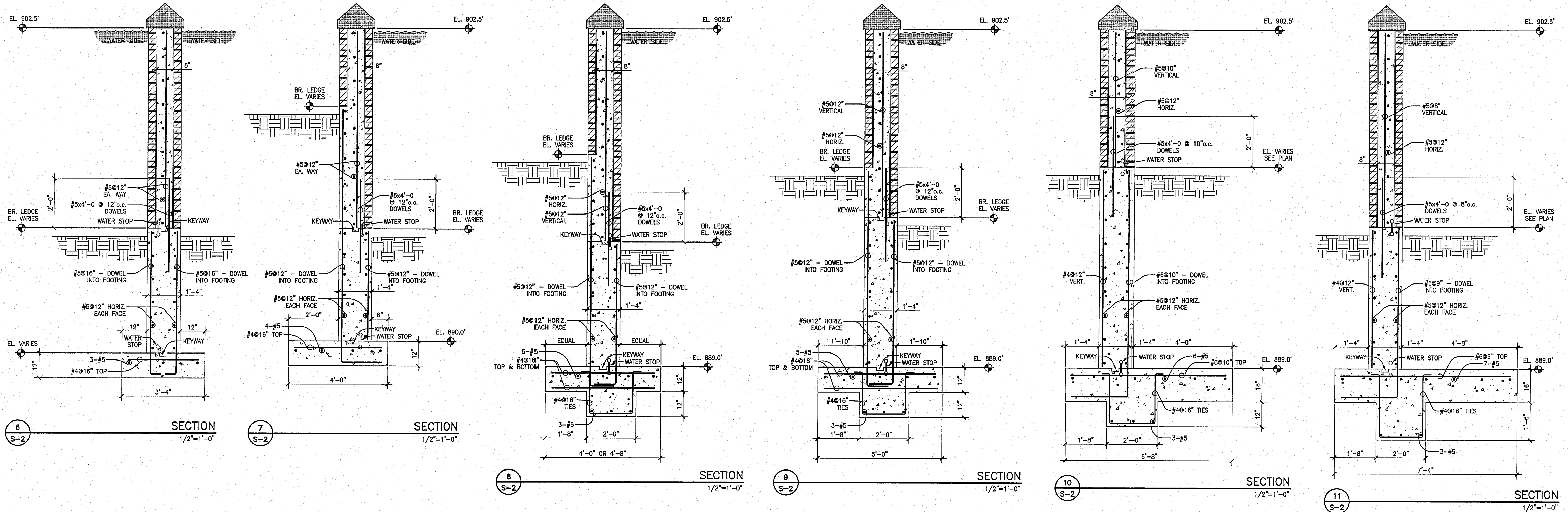


CADD NAME / SCALE
00031-S1 / 1/16

PROJECT NO.
THA - 90676

DATE:
APRIL 24, 2000

S-1



REGISTERED PROFESSIONAL ENGINEER
WAYNE E. LARSON
1835
NORTH DAKOTA
Wayne E. Larson

CADD NAME / SCALE	00031-52 / 1/2"
PROJECT NO.	THA - 98676
DATE:	APRIL 24, 2000

S-2

