

LEGEND

- NOT ALL SYMBOLS APPEAR ON DRAWING
- CENTERLINE
 - PROPERTY LINE
 - EXISTING CONTOURS
 - PROPOSED CONTOURS
 - NATURAL GAS
 - UNDERGROUND TELEPHONE
 - OVERHEAD TELEPHONE
 - FIBER OPTIC
 - UNDERGROUND POWER
 - OVERHEAD POWER
 - UNDERGROUND CABLE TV
 - OVERHEAD CABLE TV
 - SANITARY SEWER
 - SANITARY SEWER CLEAN-OUT
 - STORM SEWER
 - WATER MAIN
 - WATER VALVE
 - FIRE HYDRANT
 - POST INDICATOR VALVE
 - SPRINKLER HEAD
 - POWER POLE
 - TRAFFIC SIGNAL
 - STREET LIGHT
 - ELECTRICAL JUNCT. BOX
 - UTILITY PEDestal
 - POWER TRANSFORMER
 - BENCH MARK
 - PROPERTY PIN
 - BULLARD
 - GIS VALVE
 - SANITARY SEWER MANHOLE
 - SF TYPE DRAIN INLET
 - BT DROP INLET
 - STS JUNCT. BOX
 - STS CATCH BASIN
 - DETECTABLE WARNING PANEL
 - CURB & GUTTER
 - 18" GUT GUTTER
 - CHAIN LINK FENCE
 - BARBED WIRE FENCE
 - WOOD FENCE
 - SILT FENCE
 - CONIFEROUS TREES
 - DECIDUOUS TREES
 - GRASS TURF
 - LANDSCAPED AREA

DETENTION POND #1
 DRAINAGE ANALYSIS - 5YR - 100YR
 (3.17 ACRES UNDEVELOPED)
 RUNOFF COEFF(UNDEVELOPED) 0.20 0.80
 MANNINGS (WOODS-LIGHT UNDERBRUSH) 0.40
 RUNOFF (CFS) 1.6 7.9

DRAINAGE ANALYSIS - 5YR - 100YR
 (3.17 ACRES DEVELOPED)
 RUNOFF COEFF(APART) 0.70 0.80
 MANNINGS 0.011 15.2 35.8
 RUNOFF (CFS)

POND STORAGE
 REQUIRED STORAGE
 (2.00' @ 100YR) = 23,310CF
 PROPOSED STORAGE = 23,500CF
 192 YR STORAGE ELEVATION=3807.3

OUTFLOW DEES
 18" STS(TOP PIPE) @ 3.70% RELEASES 28 CFS
 12" STS(BOTTOM PIPE) @ 3.00% RELEASES 7.9 CFS

COPPER RIDGE, LLC
±54.4 ACRES

DETENTION POND #2
 DRAINAGE ANALYSIS - 5YR - 100YR
 (5.88 ACRES UNDEVELOPED)
 RUNOFF COEFF(UNDEVELOPED) 0.20 0.80
 MANNINGS (WOODS-LIGHT UNDERBRUSH) 0.40
 RUNOFF (CFS) 2.9 14.2

DRAINAGE ANALYSIS - 5YR - 100YR
 (5.88 ACRES DEVELOPED)
 RUNOFF COEFF(APART) 0.70 0.80
 MANNINGS 0.011 25.9 44.7
 RUNOFF (CFS)

POND STORAGE
 REQUIRED STORAGE
 (44.70' @ 100YR) = 40,230CF
 PROPOSED STORAGE = 41,000CF
 190 YR STORAGE ELEVATION=3788.0

OUTFLOW DEES
 24" STS(TOP PIPE) @ 2.42% RELEASES 44.7 CFS
 18" STS(BOTTOM PIPE) @ 1.10% RELEASES 14.2 CFS

PROPOSED DEVELOPMENT

BUILDING #1	51 UNITS x 1.5 =	76.5
BUILDING #2	89 UNITS x 1.5 =	148.5
BUILDING #3	91 UNITS x 1.5 =	136.5
BUILDING #4	43 UNITS x 1.5 =	64.5
BUILDING #5	51 UNITS x 1.5 =	76.5
TOTAL UNITS	335 UNITS =	503 SPACES

PROPOSED PARKING - PHASE 1

REGULAR PARKING SPACES	= 194 SPACES
GARAGE SPACES	= 101 SPACES
TOTAL SPACES PROVIDED	= 295 SPACES

PROPOSED PARKING - PHASE 2

REGULAR PARKING SPACES	= 110 SPACES
GARAGE SPACES	= 41 SPACES
TOTAL SPACES PROVIDED	= 151 SPACES

PROPOSED PARKING - PHASE 3

REGULAR PARKING SPACES	= 23 SPACES
TOTAL SPACES PROVIDED	= 23 SPACES

PROPOSED PARKING - PHASE 4

REGULAR PARKING SPACES	= 73 SPACES
TOTAL SPACES PROVIDED	= 73 SPACES

TOTAL PROPOSED PARKING

REGULAR PARKING SPACES	= 397 SPACES
GARAGE SPACES	= 142 SPACES
TOTAL SPACES PROVIDED	= 539 SPACES

LANDSCAPING CALCULATIONS

LOT DEVELOPMENT SIZE:	644,128 SF
BUILDING AREAS:	-138,411 SF
TOTAL POINTS REQUIRED:	505,717 POINTS
PROPOSED GRASS AREAS:	277,929 SF
277,929 SF @ 30.881 SF/PT	= 308,810 POINTS
PROPOSED TREES PER SCHEDULE:	-197,000 POINTS
EXTRA POINTS PROVIDED	= 93 POINTS

LANDSCAPE SCHEDULE

QUANTITY	PLANT TYPE	POINTS REQUIRED	POINTS PROPOSED
20	A	2,000	40,000
24	B	2,000	48,000
14	C	2,000	28,000
12	D	2,000	24,000
20	E	2,000	40,000
17	F	1,000	17,000
30,881 SY	G	10,100	308,810

LANDSCAPE POINTS REQUIRED = 505,717
 LANDSCAPE POINTS PROPOSED = 505,810

RECEIVED
 JUN 24 2015
ENGINEERING SERVICES

6-24-2015
Eric P. Willadsen



I, ERIC P. WILLADSEN, P.E., HEREBY ACKNOWLEDGE THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF SOUTH DAKOTA.
 eric.willadsen@willadsen.com

REVISIONS: _____ DATE: _____



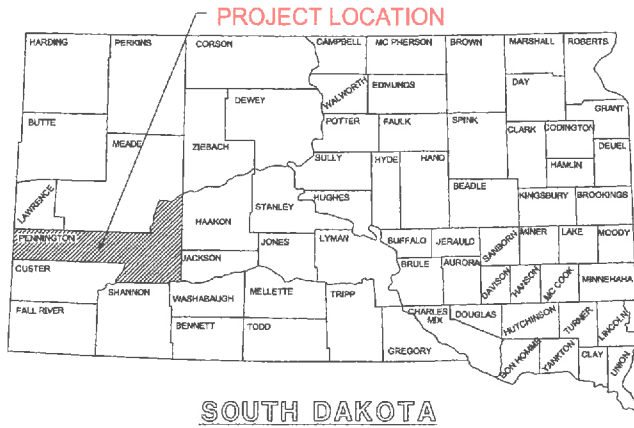
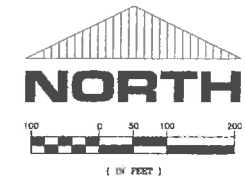
WILLADSEN LUND ENGINEERING
 902 SOUTH CLEVELAND AVENUE
 SIOUX FALLS, SOUTH DAKOTA 57103
 www.willadsenlund.com
 (605)338-6990

OWNER: **COPPER RIDGE, LLC**

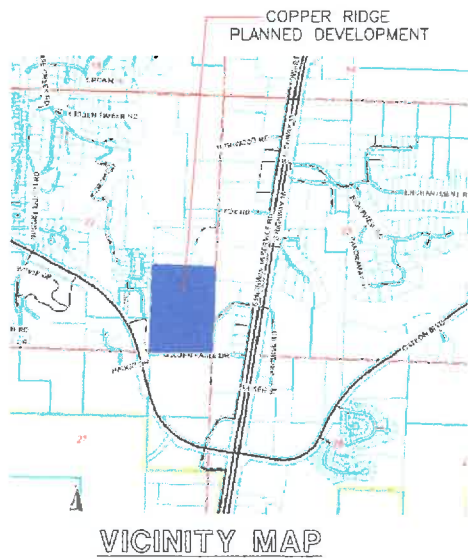
COPPER RIDGE PLANNED DEVELOPMENT

DRAWING No.	2011-099	SHEET
DRAWN BY	TWL	C2
APPROVED BY	EPW	
DATE	FEB 2015	

COPPER RIDGE PRELIMINARY SUBDIVISION PLANS



SOUTH DAKOTA



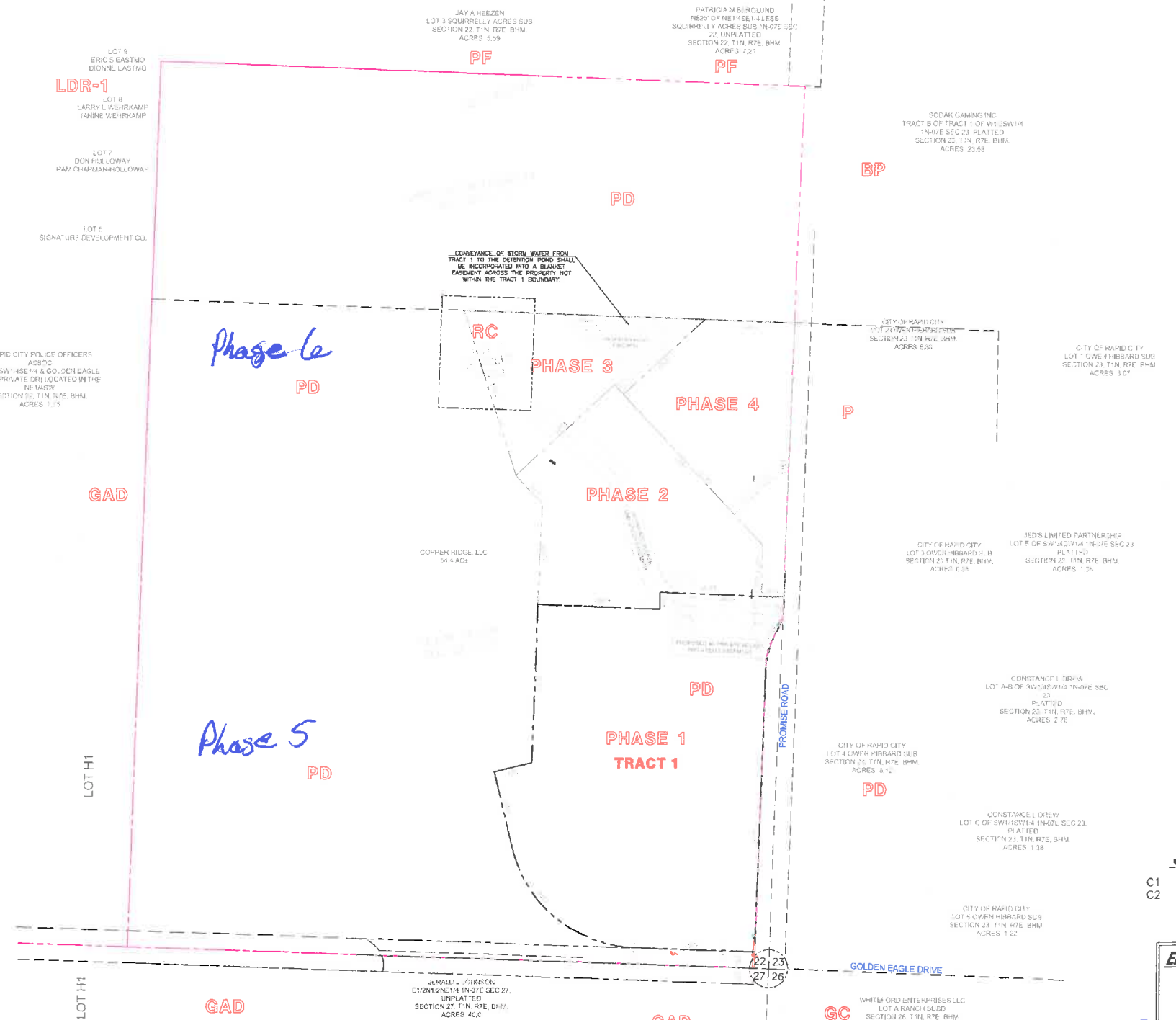
RECEIVED

JUN 24 2015

**ENGINEERING
SERVICES**

PROPERTY DESCRIPTION

SOUTH 495' NE1/4 SE1/4 & SE1/4 SE1/4 (EXCEPT LOT 1 BENDERT SUBD.) SEC 22-T1N-R7E OF BLACK HILLS MERIDIAN, RAPID CITY, PENNINGTON COUNTY, SOUTH DAKOTA.



SHEET INDEX

- C1 SITE LOCATION
- C2 PRELIMINARY SUBDIVISION PLAN

ENGINEER:



6-24-2015
Eric P. Willadsen

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REVISIONS:	DATE:



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OWNER: **COPPER RIDGE, LLC**

**COPPER RIDGE
PLANNED DEVELOPMENT**

DRAWING No.	2011-069	SHEET
DRAWN BY	TWL	C1
APPROVED BY	EPW	
DATE	FEB 2015	