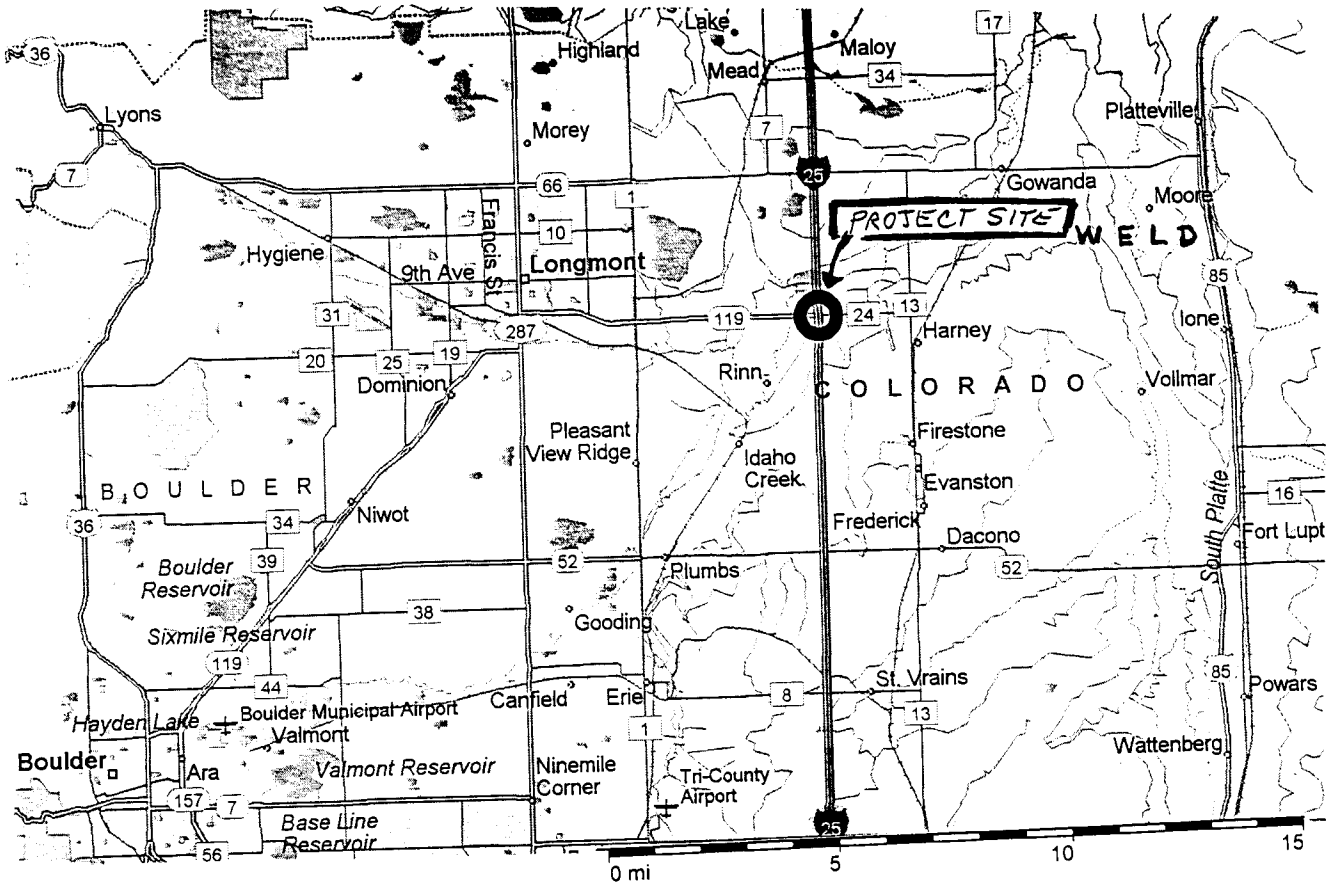

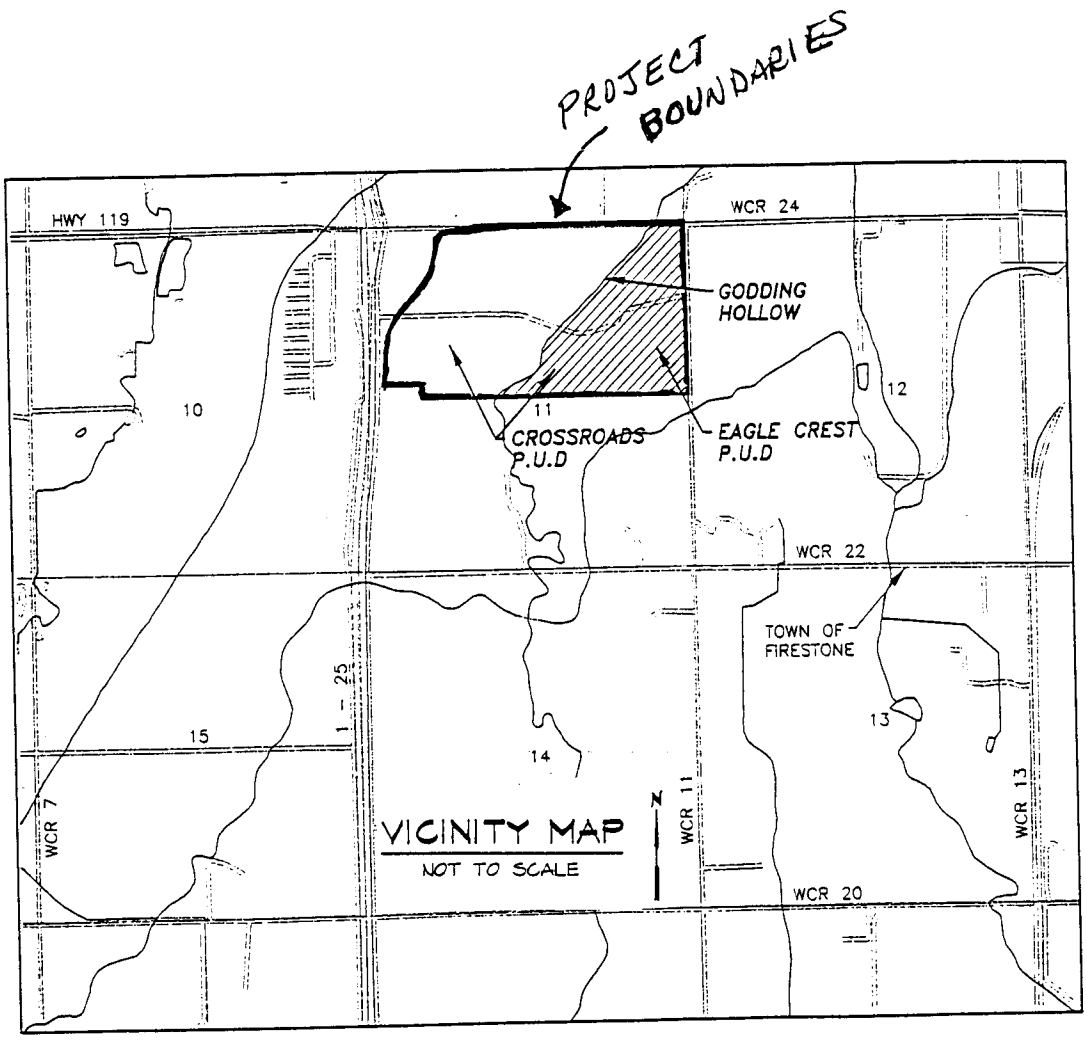

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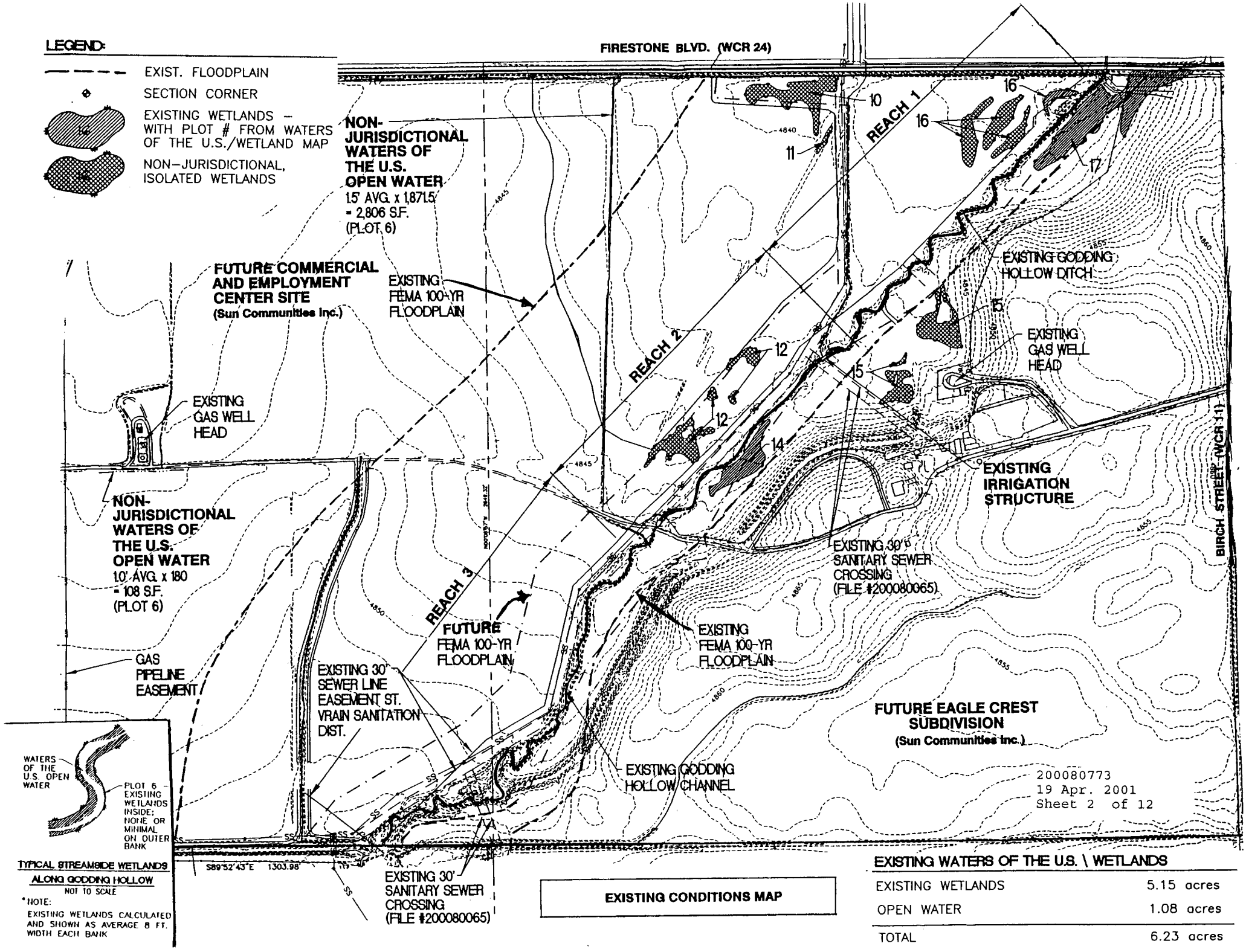
LEGEND:
EXIST. FLOODPLAIN
SECTION CORNER
EXISTING WETLANDS – WITH PLOT # FROM WATERS OF THE U.S./WETLAND MAP
NON-JURISDICTIONAL, ISOLATED WETLANDS
FIRESTONE BLVD. (WCR 24)
NON-JURISDICTIONAL WATERS OF THE U.S. OPEN WATER
1.5' AVG. x 1,871.5 = 2,806 S.F. (PLOT 6)
FUTURE COMMERCIAL AND EMPLOYMENT CENTER SITE
(Sun Communities Inc.)
EXISTING FEMA 100-YR FLOODPLAIN
REACH 1
REACH 2
REACH 3
EXISTING GODDING HOLLOW DITCH
EXISTING GAS WELL HEAD
EXISTING IRRIGATION STRUCTURE
EXISTING 30" SANITARY SEWER CROSSING (FILE #200080065)
EXISTING FEMA 100-YR FLOODPLAIN
FUTURE FEMA 100-YR FLOODPLAIN
EXISTING GAS WELL HEAD
NON-JURISDICTIONAL WATERS OF THE U.S. OPEN WATER
1.0' AVG. x 180 = 108 S.F. (PLOT 6)
GAS PIPELINE EASEMENT
EXISTING 30" SEWER LINE EASEMENT ST. VRAIN SANITATION DIST.
EXISTING GODDING HOLLOW CHANNEL
FUTURE EAGLE CREST SUBDIVISION
(Sun Communities Inc.)
BIRCH STREET (WCR 11)
S89°52'43"E 1303.98
EXISTING 30" SANITARY SEWER CROSSING (FILE #200080065)
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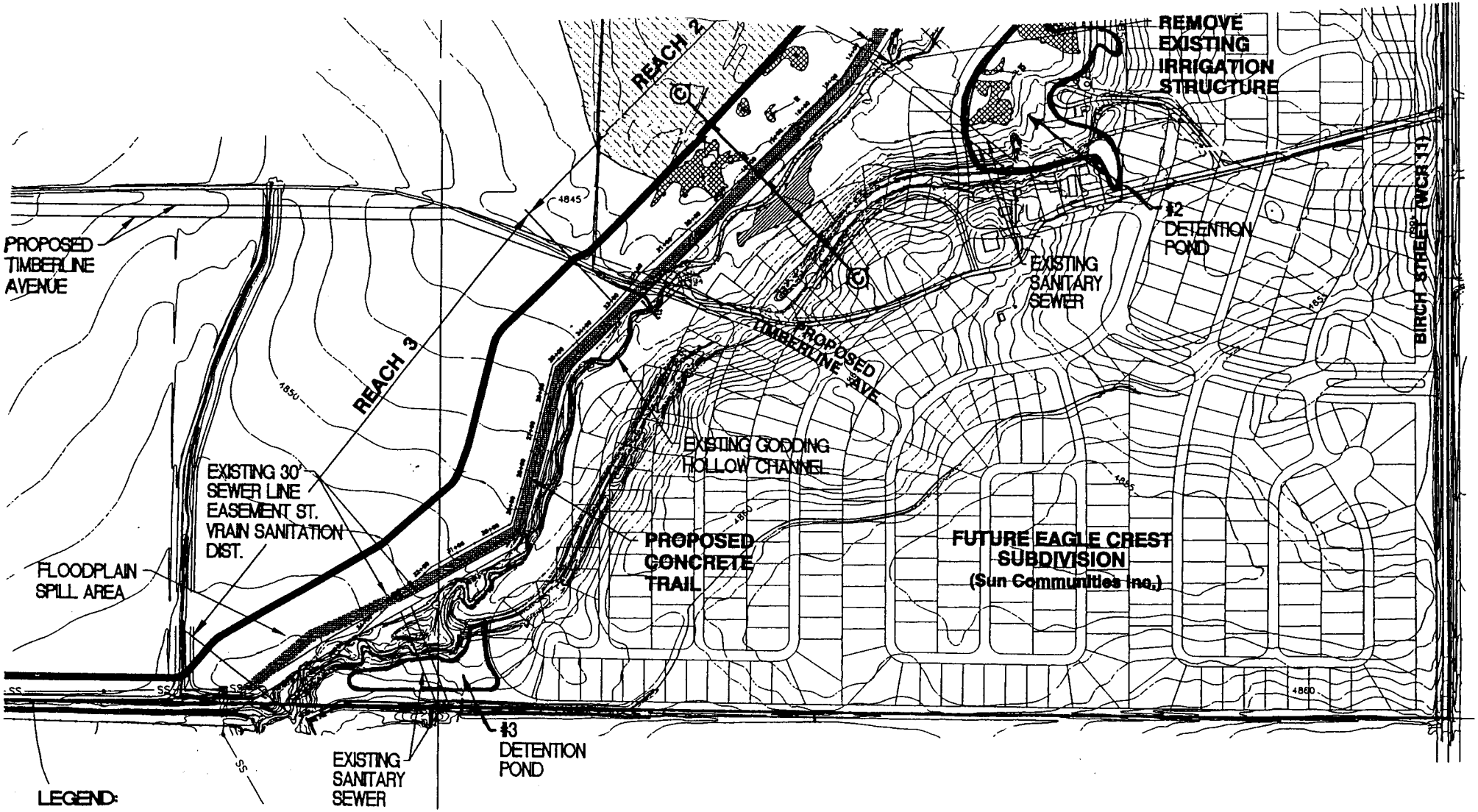
WATERS OF THE U.S. OPEN WATER
PLOT 6 – EXISTING WETLANDS INSIDE; NONE OR MINIMAL ON OUTER BANK
TYPICAL STREAMSIDE WETLANDS ALONG GODDING HOLLOW
NOT TO SCALE
*NOTE:
EXISTING WETLANDS CALCULATED AND SHOWN AS AVERAGE 8 FT. WIDTH EACH BANK
EXISTING CONDITIONS MAP
EXISTING WATERS OF THE U.S. \ WETLANDS
EXISTING WETLANDS 5.15 acres
OPEN WATER 1.08 acres
TOTAL 6.23 acres



LEGEND:

EXISTING WETLANDS – WITH PLOT # FROM WATERS OF THE U.S./WETLAND MAP

NON-JURISDICTIONAL, ISOLATED WETLANDS

DETENTION POND

GRADING CROSS SECTION

PROPOSED IMPACTS

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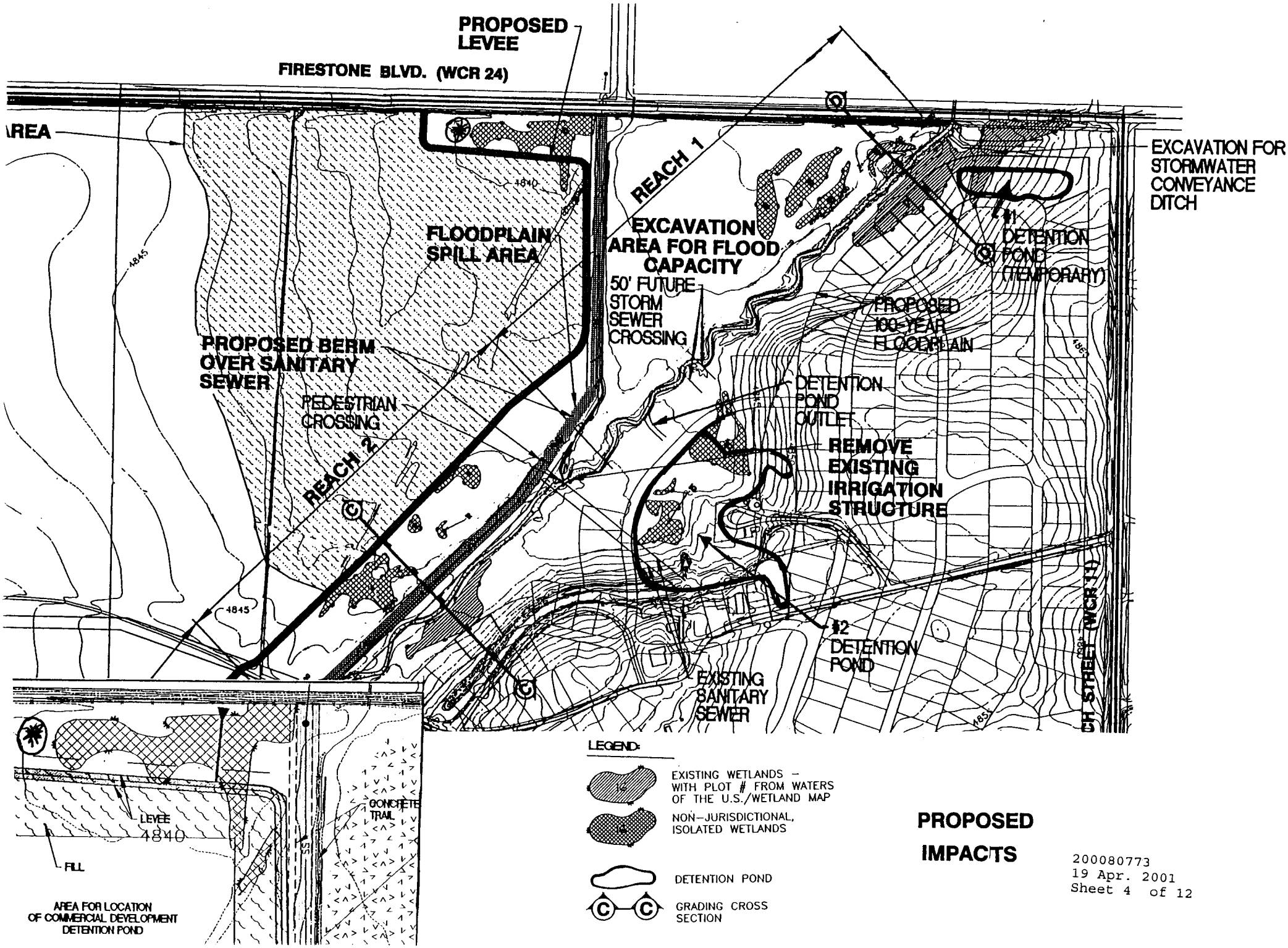

PROPOSED IMPACTS

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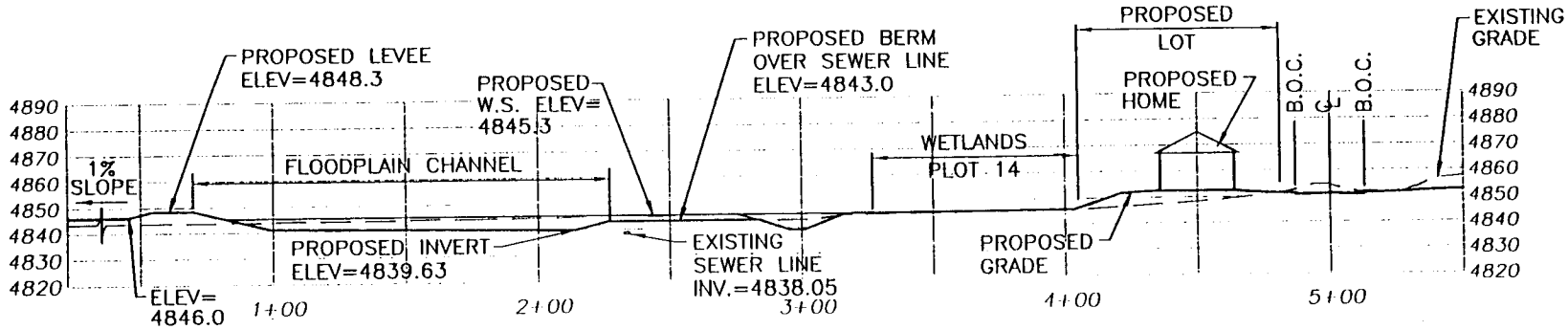
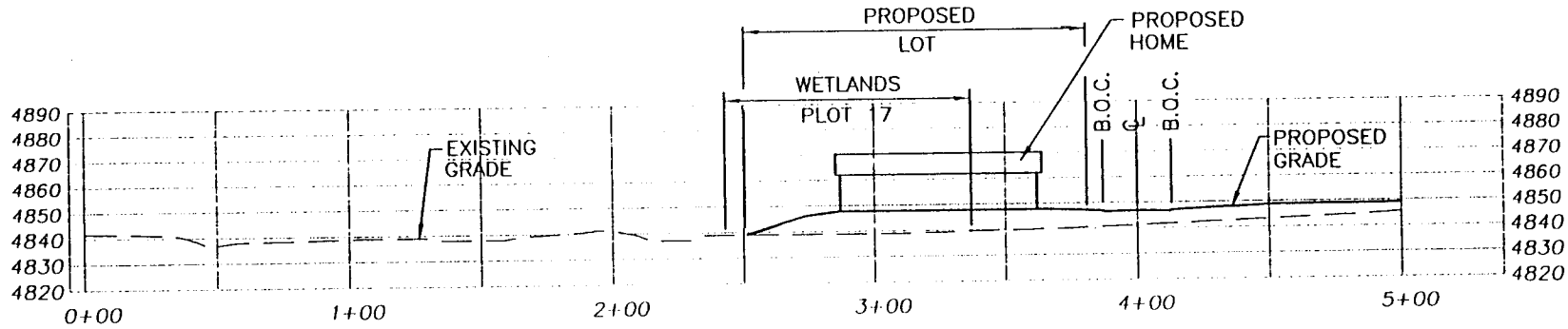
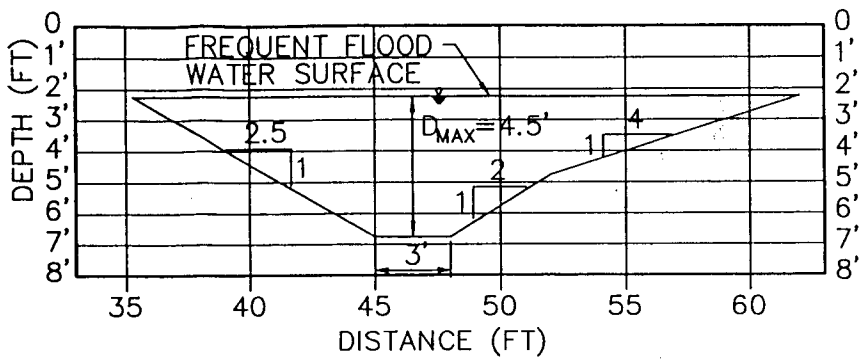


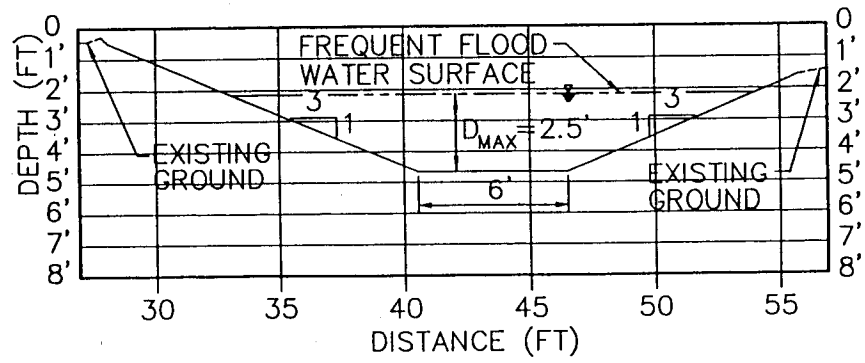
C CROSS-SECTION
SCALE: 1"=60'



D CROSS-SECTION
SCALE: H: 1"=60'



TYPICAL POOL SECTION



TYPICAL RIFFLE SECTION

GODDING HOLLOW

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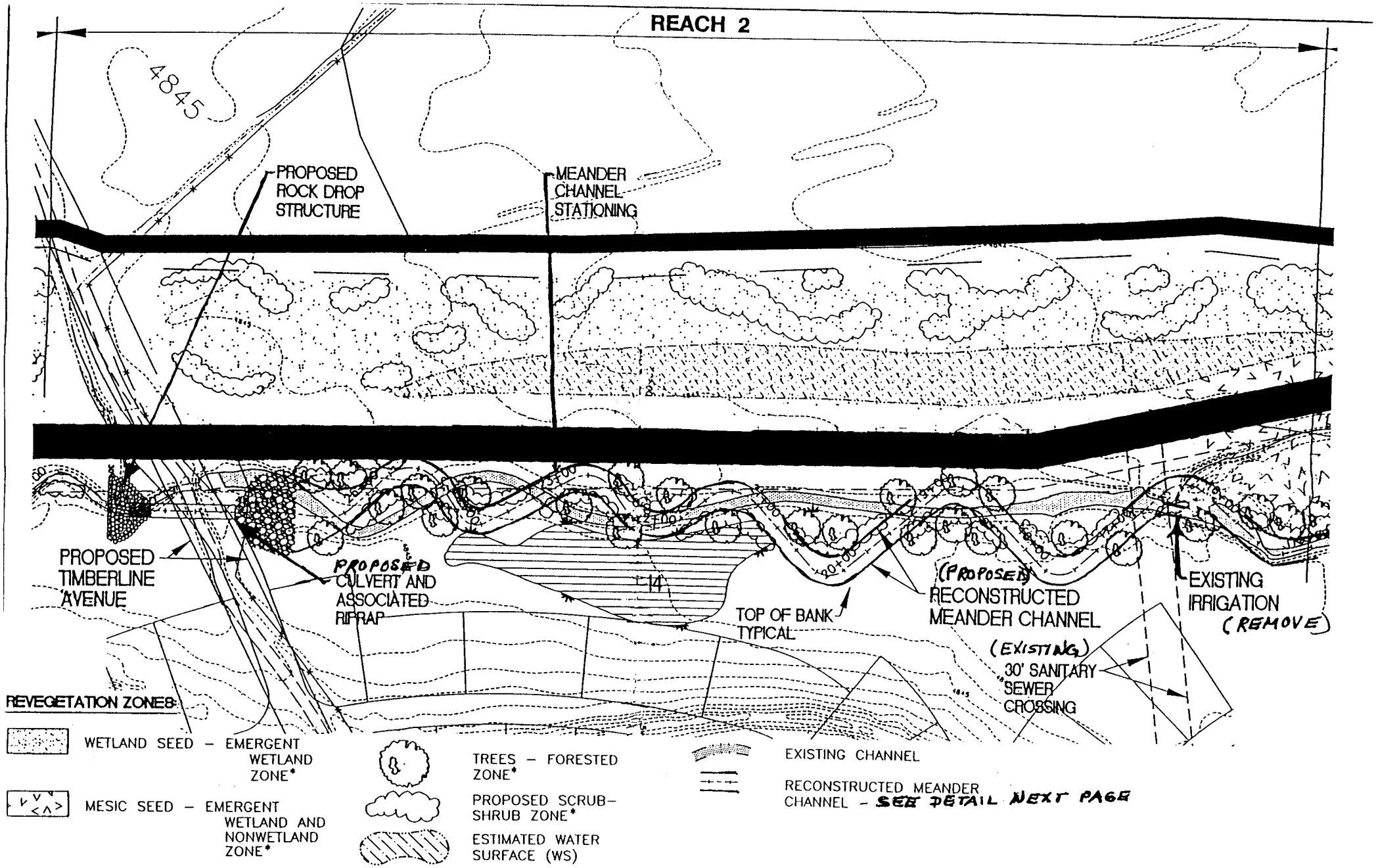

* Reference: "Classification of Wetlands and Deepwater Habitats of the United States" (U.S. Fish and Wildlife Service, 1992)

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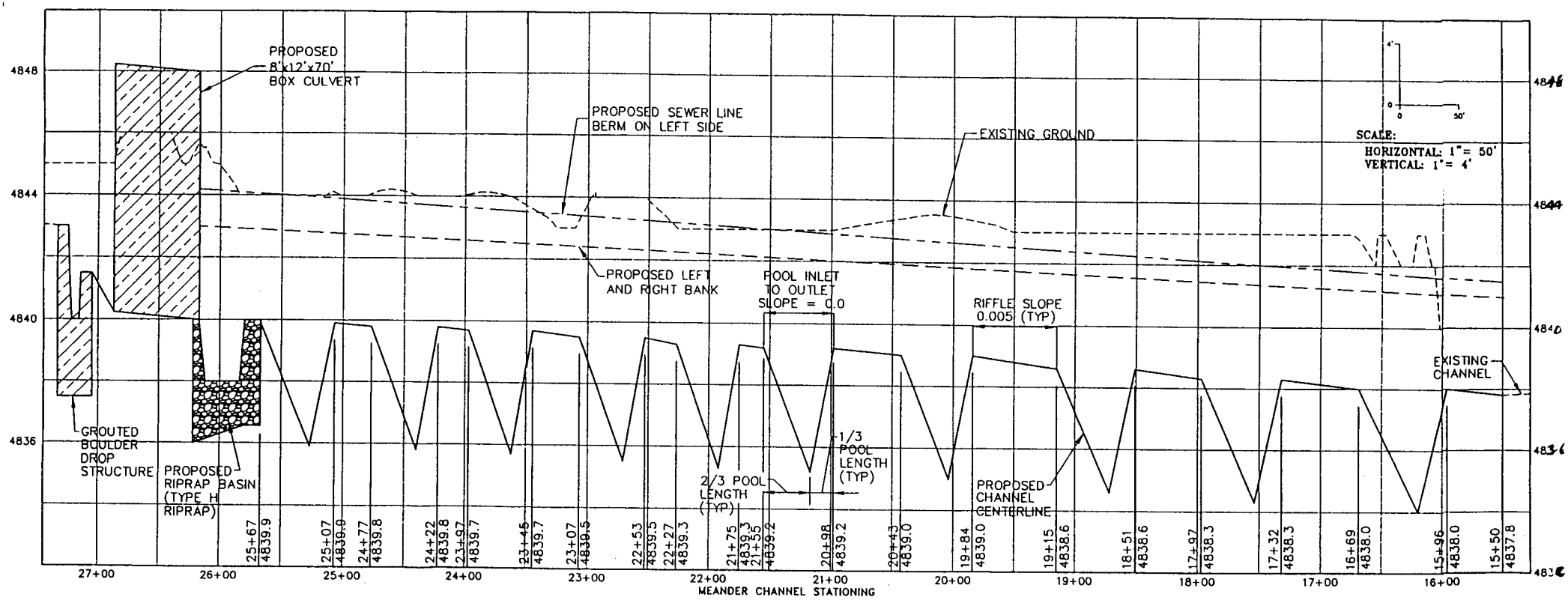

REACH 2

RECONSTRUCTED
MEANDER CHANNEL

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Wetlands or Waters of the US (Jurisdictional wetlands shown in caps)	Fill Surface Area (Acres)	Description of Area
GODDING HOLLOW PLOT 6	0.3	Impact to wetlands occur during channel re-configuration, construction of new turn lanes, removal of irrigation structure, 3 outfalls for detention ponds and one storm drainage outfall.
GODDING HOLLOW PLOT 6	<0.01	Riprap at detention pond outlets
GODDING HOLLOW PLOT 6	0.1	Riprap at south end of property
Plot 10	0.5	Small portion of this wetland area (0.04 ac.) filled by fill dirt from levee construction and fill area just south of levee. Change in hydrologic sources to this wetland may result in replacement of existing vegetation with upland vegetation. Possible outfall for detention pond for commercial development to cross this plot (0.04 ac.).
Plot 11	<0.01	Small wetland in fill area just south of levee at north end of property.
Plot 12	0.5	Flood channel excavation along east side of Godding Hollow channel & St. Vrain Sanitary Sewer

Wetlands or Waters of the US (Jurisdictional wetlands shown in caps)	Fill Surface Area (Acres)	Description of Area
PLOT 14	<0.01	Fill for creation of lots or drain from channel and flood plain re-configuration
Plot 15	0.5	Fill for creation of lots and detention ponds
Plot 16 with exception of oxbow adjacent to stream	0.5	Lower ± 1 ft. as part of flood plain construction; Area will be above water table until dewatering associated with gravel mining to the north is halted.
PLOT 16 OXBOW ADJACENT TO STREAM	0.1	Lower ± 1 ft. as part of flood plain construction; Area will be above water table until dewatering associated with gravel mining to the north is halted.
PLOT 17	1.1	Fill for creation of lots and grade for storm water conveyance
TOTAL	3.6	Wetlands defined per 1987 COE Wetlands Manual Definition
JURISDICTIONAL WETLANDS	1.6	Per March 2001 COE determination
Non-Jurisdictional Wetlands	2.0	Per March 2001 COE determination

EXISTING WATERS OF THE U.S. \ WETLANDS

EXISTING WETLANDS	5.15 acres
OPEN WATER	1.08 acres
TOTAL	6.23 acres

WETLANDS MITIGATION INFORMATION:

EXISTING WETLANDS	5.15 acres
IMPACTED JURISDICTIONAL WETLANDS	1.6 acres
COMPENSATORY WETLANDS (1:1 MITIGATION RATIO)	1.6 acres
PLANNED WETLANDS	5.9 acres

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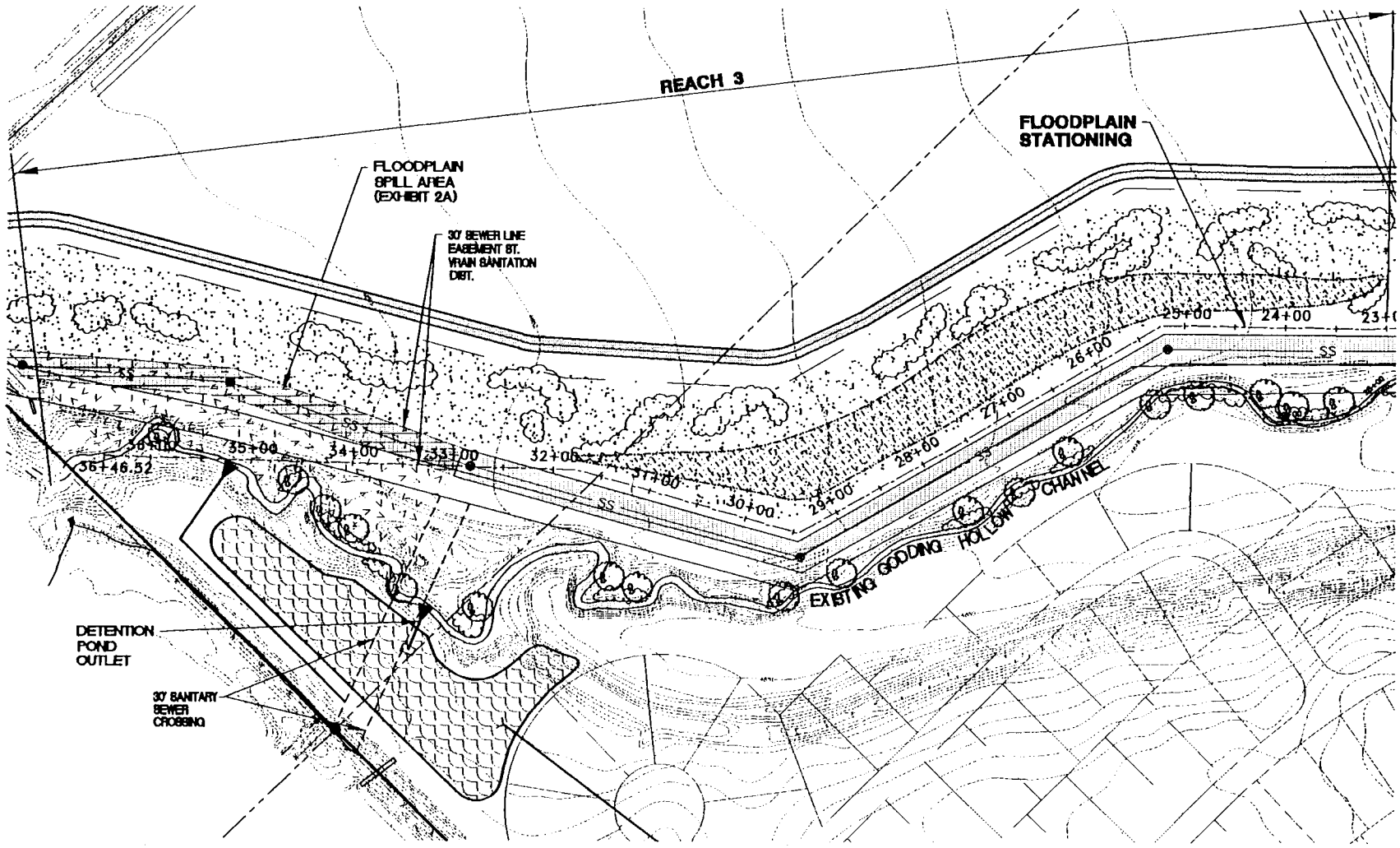
Wetlands or Waters of the US	Amount & Type of Discharge Material	Description of Area
Plot 6 Godding Hollow	351 yds^3 mineral soil fill 87 yds^3 grouted boulders & Type "H" riprap fill	Impact to open water and wetlands occur during channel re-configuration, construction of new road, removal of irrigation structure. Seed mix and mulch will be used to restore wetlands and riparian vegetation along Godding Hollow.
Plot 6 Godding Hollow	40 yds^3 Type M riprap fill	3 detention pond outfalls and 1 storm drainage outfall to Godding Hollow
Plot 6 Godding Hollow	148 yds^3 of Type "M" riprap & riprap soil fill	Riprap in channel at flood spill area at south end of property. Riprap will contain topsoil to support vegetation.
Plot 6 Irrigation Drainage Ditches	2,914 yds^3 mineral soil fill	Fill associated with commercial development west of Godding Hollow
Plot 10	220 yds^3 mineral soil fill	Small portion of this wetland area (0.04 ac.) filled by dirt from levee construction and fill area just south of levee
Plot 10	Possibly 5 ft. diameter pipe and mineral soil fill	Future commercial pond outfall to drainage swale along WCR 24
Plot 11	117 yds^3 mineral soil fill	Small wetland in fill area just south of levee at north end of property. Seed mix and mulch will be applied to re-vegetate area.

Wetlands or Waters of the US	Amount & Type of Discharge Material	Description of Area
Plot 12	Fill incidental to equipment activity.	Flood channel excavation along east side of Godding Hollow channel & St. Vrain Sanitary Sewer Fill incidental to equipment activities for excavation and clearing for channel and flood plain. Seed mix and mulch will be applied to re-vegetate area.
Plot 14	32 yds^3 mineral soil fill	Fill for creation of lots and excavation and land clearing for channel and flood plain re-configuration Cross section showing fill of lots adjacent to this plot is shown Seed mix and mulch will be applied to re-vegetate area.
Plot 15	Pond: 614 yds^3 mineral soil fill	Fill for creation of detention ponds For the detention pond, 527 yds^3 will be cut and 1,141 yds^3 of mineral soils will be placed, resulting in a net 614 yds^3 of mineral soils placed in this wetland plot.
Plot 16	Fill incidental to equipment activity.	Lower ± 1 ft. as part of flood plain construction; Area will be above water table until dewatering associated with gravel mining to the north is halted. Fill incidental to equipment activities for excavation and clearing for channel and flood plain. Seed mix and mulch will be applied to re-vegetate area.
Plot 17	Pond: 16 yds^3 fill dirt Lots: 5578 yds^3 mineral soil fill Turn lane: 160 yds^3 asphalt and road base	Fill for creation of lots and detention ponds, excavation and grade for storm water conveyance, expanded WCR 24 turn lane For the detention ponds, 79 yds^3 will be cut and 63 yds^3 of mineral soils will be placed, resulting in a net 16 yds^3 of mineral soils placed in this wetland plot. Cross section showing fill of lots adjacent to this plot is shown



LEGEND:

- EXIST. FLOODPLAIN
- EXISTING WETLANDS - WITH PLOT # FROM WATERS FROM WATERS OF THE U.S./WETLAND MAP
- TREES - FORESTED ZONE*
- PROPOSED SCRUB-SHRUB ZONE*
- ESTIMATED WATER SURFACE (WS)
- STORM SYSTEM OUTFALL
- DETENTION POND
- EXISTING CHANNEL

REVEGETATION ZONES:

- WETLAND SEED - EMERGENT WETLAND ZONE*
- MESIC SEED - EMERGENT WETLAND AND NONWETLAND ZONE*

* Reference: "Classification of Wetlands and Deepwater Habitats of the United States" (U.S. Fish and Wildlife Service, 1992)

GRAPHIC SCALE
0 50' 100'
(IN FEET)

ROCKY MOUNTAIN CONSULTANTS INC.

Technical Consultants: and Anderson & Company

REACH 3
PROPOSED IMPROVEMENTS
EAGLE CREST SUBDIVISION
Firestone, Colorado

PLOTTED: 1/30/01
DESIGNED BY: BB
DRAWN BY: SR
CHECKED BY: BB
JOB NUMBER:

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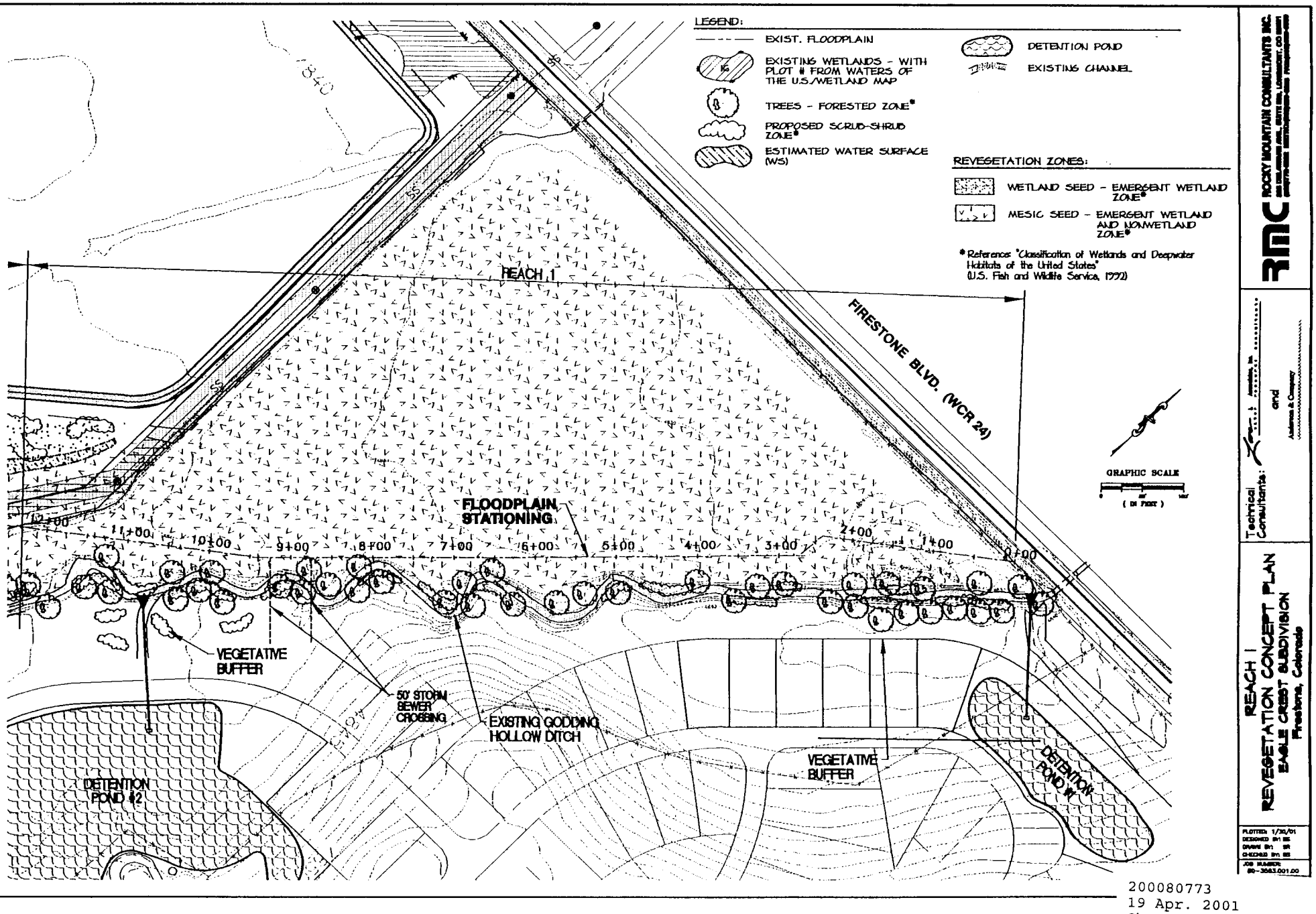

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NATIVE MESIC SEED

COMMON NAME	SCIENTIFIC NAME
Grasses	
Sideoats Grama	Bouteloua curtipendula
Blue Grama	Bouteloua gracilis, 'Hachita'
Meadow Sedge	Carex praegracilis
Beaked Sedge	Carex rostrata
Inland Saltgrass	Distichlis stricta
Fowl Mannagrass	Glyceria striata
Baltic Rush	Juncus balticus
Switchgrass	Panicum virgatum, 'Trailblazer'
Western Wheatgrass	Pascopyrum smithii (Agropyron smithii) 'Rosanna'
Canby Bluegrass	Poa canbyi, 'Canbar'
Nuttall Alkaligrass	Pucinnelia airoides
Little Bluestem	Schizachyrium scoparium
Green needlegrass	Stipa viridula
Wildflowers, Forbs	
Butterfly Flower	Asclepias tuberosa
Purple Prairie Clover	Dalea purpurea (Petalostemum purpureum), 'Kaneb'
Prairie Coneflower	Echinacea purpurea
Blue Verbena	Verbena hastata
Shrubs	
Saskatoon Serviceberry	Amelanchier alnifolia
Rubber Rabbitbrush	Chrysothamnus nauseosus
Chokecherry	Prunus virginiana
Golden Currant	Ribes aureum
Woods Rose	Rosa woodsii
Mountain Snowberry	Symphoricarpos oreophilus

Woody Species Plant List:

Trees

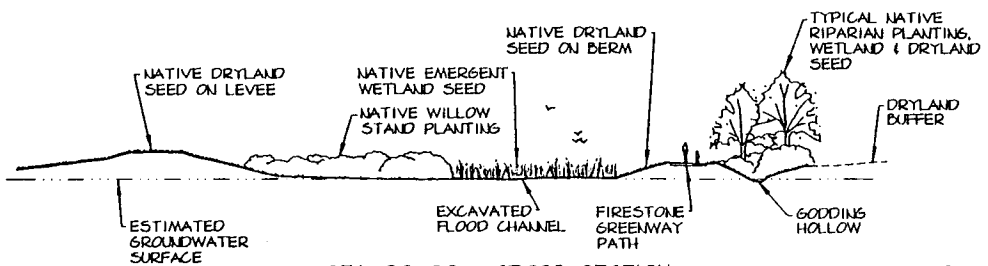
- Plains Cottonwood, Populus deltoides (P. sargentii)
- Peach-leaf Willow, Salix amygdaloides
- Native Plum, Prunus americana
- Rocky Mountain Juniper, Juniperus scopulorum

Shrubs

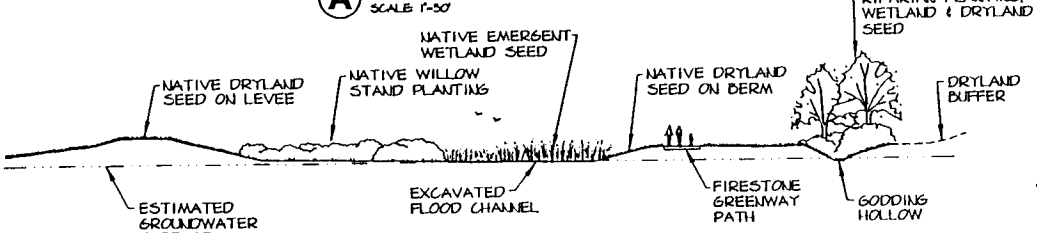
- Coyote Willow, Salix exigua
- Chokecherry, Prunus virginiana
- Oakleaf Sumac, Rhus trilobata
- Golden Currant, Ribes aureum

NATIVE WETLAND SEED MIX

COMMON NAME	SCIENTIFIC NAME
Grasses, Sedges, Rushes	
Woolly Sedge	*Carex lanuginosa*
Nebraska Sedge	*Carex nebrascensis*
Meadow Sedge	*Carex praegracilis*
Beaked Sedge	*Carex rostrata*
Common Spikerush	*Eleocharis palustris*
Streambank Wheatgrass	*Elymus lanceolatus ssp psammophilus*
American Mannagrass	*Glyceria maxima, ssp. grandis*
Fowl Mannagrass	*Glyceria striata*
Baltic Rush	*Juncus balticus*
Switchgrass	*Panicum virgatum*
Nuttall Alkaligrass	*Pucinnelia airoides*
Hardstem Bulrush	*Scirpus acutus*
American Threesquare (Olney Bulrush)	*Scirpus americanus*
Alkali Bulrush	*Scirpus paludosus (Schoenoplectus maritimus)*
Softstem Bulrush	*Scirpus validus (S. lacustris, Schoenoplectus tabernaemontani)*
Wildflowers, Forbs	
Swamp Milkweed	*Asclepias incarnata*
Marsh Sunflower	*Helianthus nuttalli*
Tall Evening Primrose (Riparian Primrose)	*Oenothera hookeri (O. elata)*
Blue Verbena	*Verbena hastata*



A STA. 20+00 - CROSS-SECTION
SCALE 1"=50'



B STA. 19+50 - CROSS-SECTION
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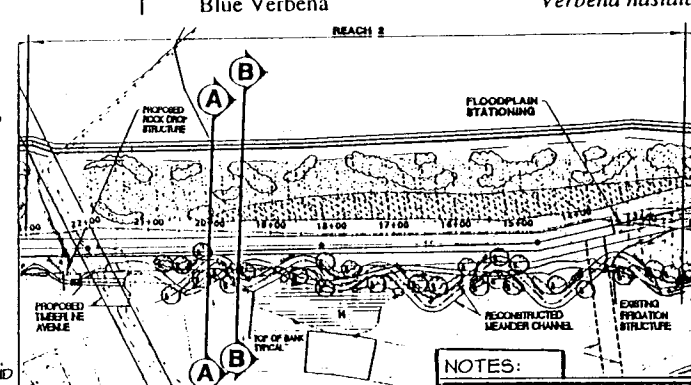

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NOTES:

1. WETLAND SEED WILL BE PLACED BETWEEN 0" AND 24" ABOVE WATER SURFACE WHERE SHOWN AND IN RECONSTRUCTED MEANDER CHANNEL. DRYLAND SEED WILL BE PLACED 18" ABOVE WATER SURFACE AND HIGHER. MESIC SEED WILL BE PLACED IN THE AREA SHOWN.
2. ALL NATIVE SEED SPECIES SPECIFIED ARE COMMERCIALLY AVAILABLE. SUBSTITUTIONS OR DELETIONS MAY BE REQUIRED DUE TO AVAILABILITY AT THE TIME OF CONSTRUCTION. ALL SEED SUBSTITUTIONS WILL BE NATIVE TO THE LIFEZONE AND REGION. IF SOME SPECIES ARE DELETED, OTHERS SPECIFIED WILL BE INCREASED ACCORDINGLY.
3. SEE 404 PERMIT APPLICATION NARRATIVE FOR SEED